

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|--|-----------------------------|--|----------------------|----------------------|
| Customer | | | | | |
| Product line | : NEMA Premium Efficiency Three-Phase | Product code | : 12822411 | | |
| | | Catalog # | : 00118ST3QIER143TC-W2 | | |
| Frame | : 143TC | 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 | : 52.3 lb | | |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.1172 sq.ft.lb | | |
| Design | : B | | | | |
| Output [HP] | 1 | 1 | 1 | 1 | 1 |
| Poles | 4 | 4 | 4 | 4 | 4 |
| Frequency [Hz] | 60 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | 460 | 380 | 400 | 415 | 415 |
| Rated current [A] | 1.47 | 1.71 | 1.65 | 1.63 | 1.63 |
| L. R. Amperes [A] | 12.6 | 10.9 | 11.5 | 12.1 | 12.1 |
| LRC [A] | 8.6x(Code M) | 6.4x(Code J) | 7.0x(Code K) | 7.4x(Code K) | 7.4x(Code K) |
| No load current [A] | 0.940 | 0.930 | 1.00 | 1.08 | 1.08 |
| Rated speed [RPM] | 1760 | 1450 | 1455 | 1455 | 1455 |
| Slip [%] | 2.22 | 3.33 | 3.00 | 3.00 | 3.00 |
| Rated torque [ft.lb] | 2.98 | 3.62 | 3.61 | 3.61 | 3.61 |
| Locked rotor torque [%] | 290 | 220 | 240 | 260 | 260 |
| Breakdown torque [%] | 350 | 250 | 290 | 310 | 310 |
| Service factor | 1.25 | 1.25 | 1.25 | 1.25 | 1.25 |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | 80 K |
| Locked rotor time | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) |
| Noise level ² | 51.0 dB(A) | 49.0 dB(A) | 49.0 dB(A) | 49.0 dB(A) | 49.0 dB(A) |
| Efficiency (%) | 25% | 78.4 | 79.6 | 78.4 | 78.4 |
| | 50% | 80.0 | 80.0 | 80.0 | 80.0 |
| | 75% | 84.0 | 82.5 | 82.5 | 82.5 |
| | 100% | 85.5 | 82.5 | 84.0 | 84.0 |
| Power Factor | 25% | 0.31 | 0.36 | 0.33 | 0.31 |
| | 50% | 0.55 | 0.62 | 0.58 | 0.55 |
| | 75% | 0.68 | 0.74 | 0.71 | 0.69 |
| | 100% | 0.75 | 0.81 | 0.78 | 0.76 |
| Bearing type | : Drive end : 6205 C3 Non drive end : 6204 C3 | Foundation loads | | | |
| Sealing | : Inpro/Seal Inpro/Seal | Max. traction : 71 lb | | | |
| Lubrication interval | : 20000 h 20000 h | Max. compression : 123 lb | | | |
| Lubricant amount | : 4 g 4 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



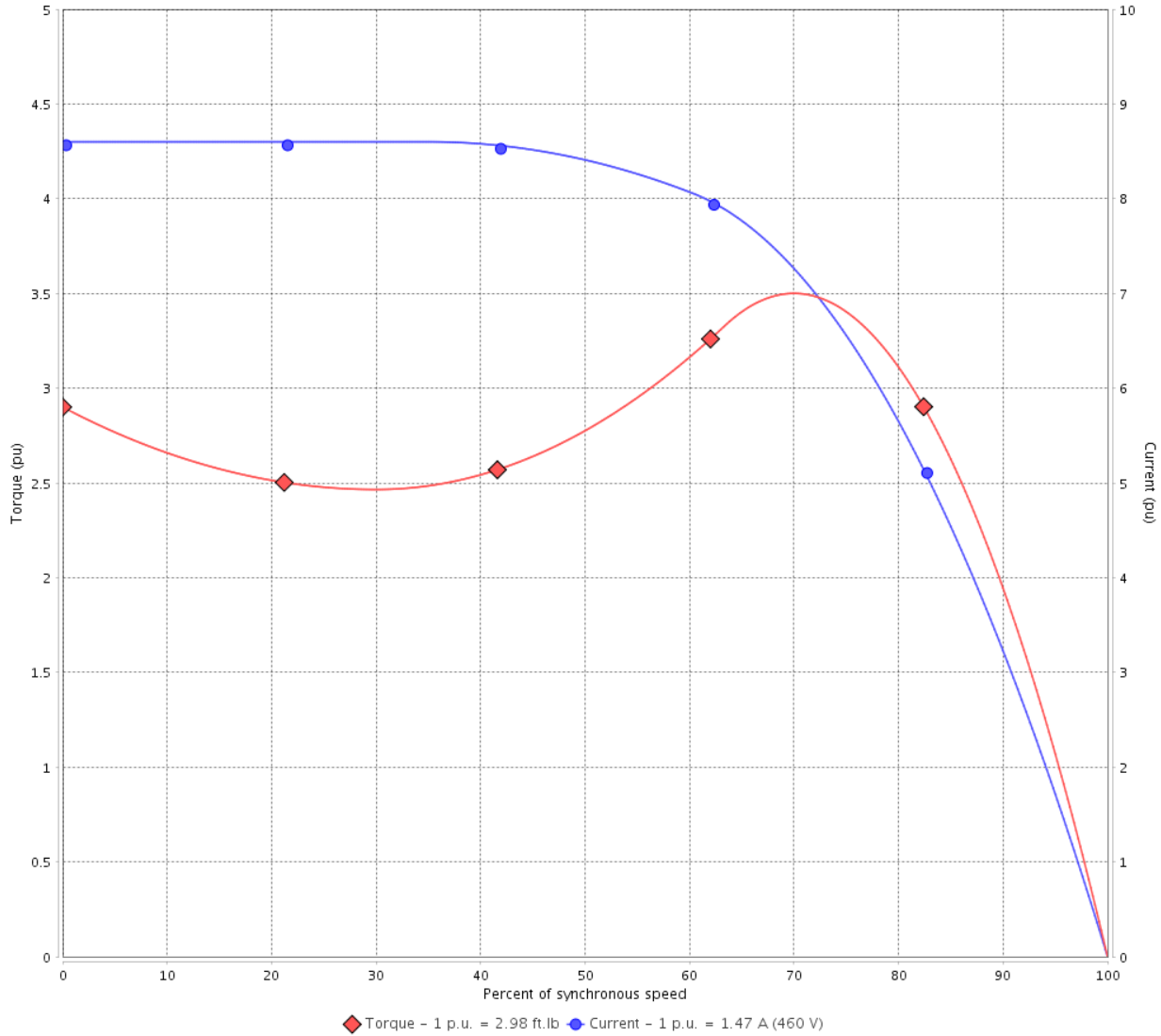
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12822411

Catalog # : 00118ST3QUIER143TC-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 1.47 A | Moment of inertia (J) | : 0.1172 sq.ft.lb |
| LRC | : 8.6 | Duty cycle | : Cont.(S1) |
| Rated torque | : 2.98 ft.lb | Insulation class | : F |
| Locked rotor torque | : 290 % | Service factor | : 1.25 |
| Breakdown torque | : 350 % | Temperature rise | : 80 K |
| Rated speed | : 1760 rpm | Design | : B |

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

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TORQUE AND CURRENT VS SPEED CURVE



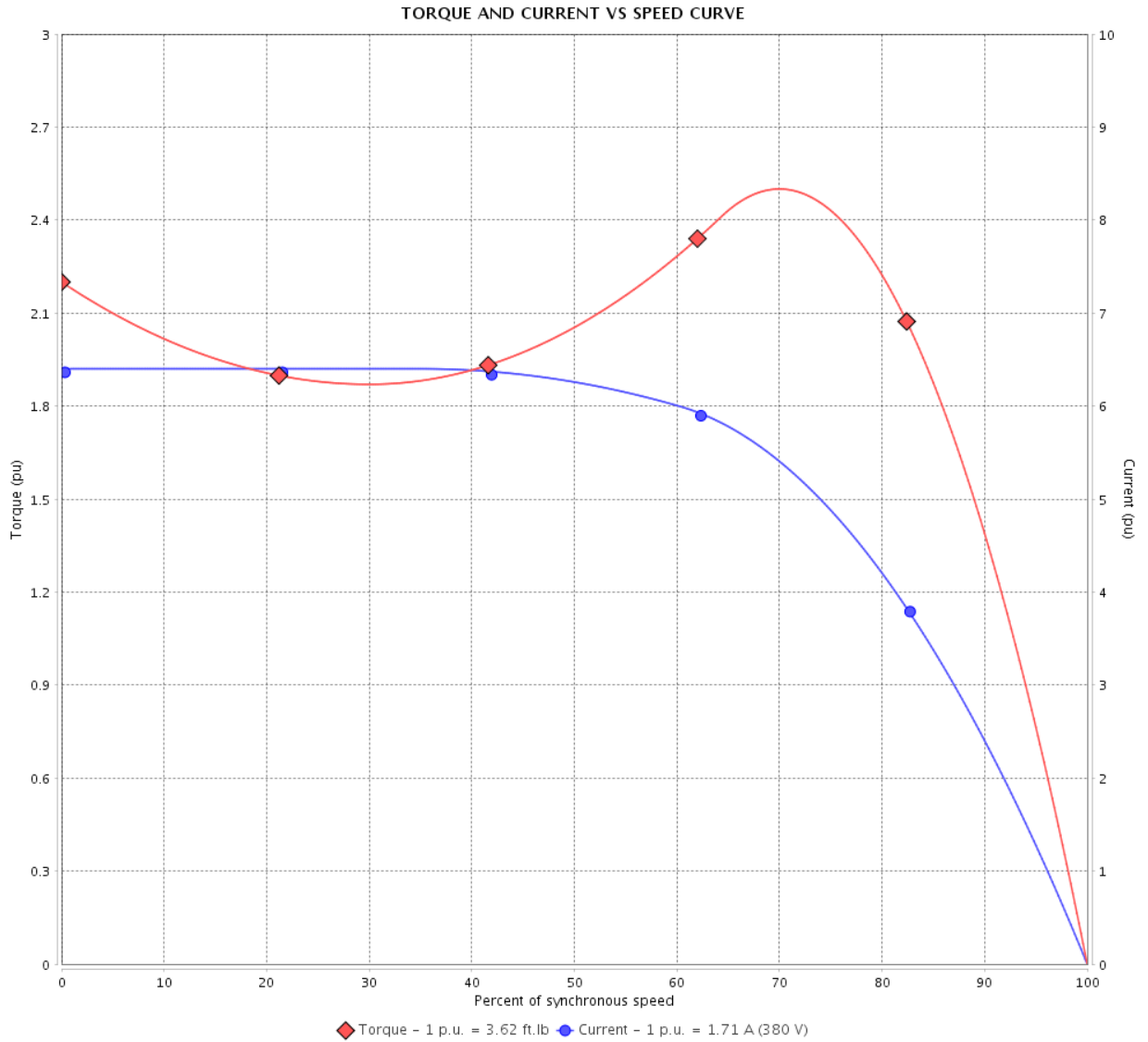
Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 12822411

Catalog # : 00118ST3QIER143TC-W2



Performance : 380 V 50 Hz 4P IE3

Rated current : 1.71 A
 LRC : 6.4
 Rated torque : 3.62 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.1172 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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

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TORQUE AND CURRENT VS SPEED CURVE

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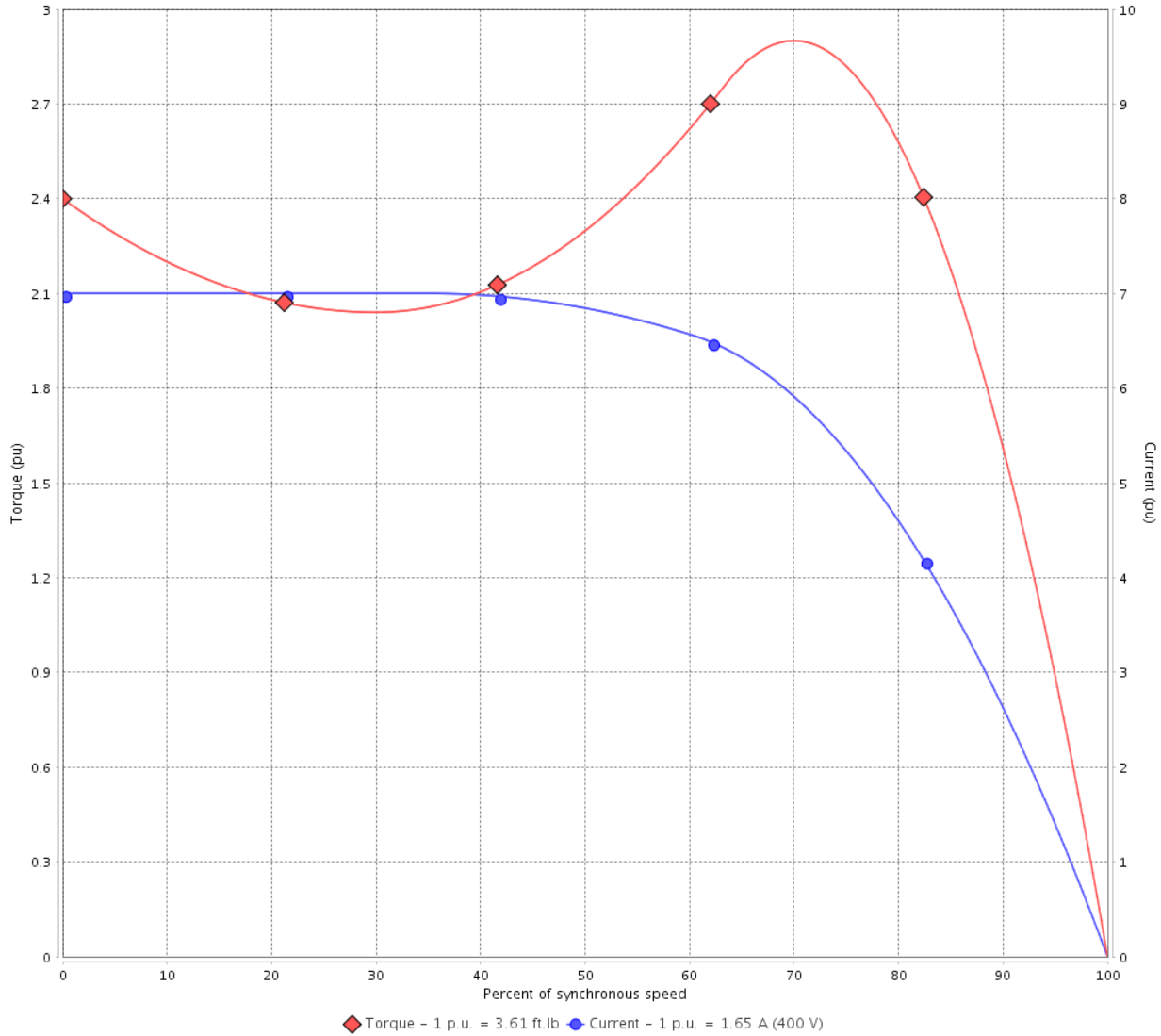
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Catalog # : 00118ST3QUIER143TC-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 1.65 A | Moment of inertia (J) | : 0.1172 sq.ft.lb |
| LRC | : 7.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 3.61 ft.lb | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.25 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1455 rpm | Design | : B |

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

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TORQUE AND CURRENT VS SPEED CURVE



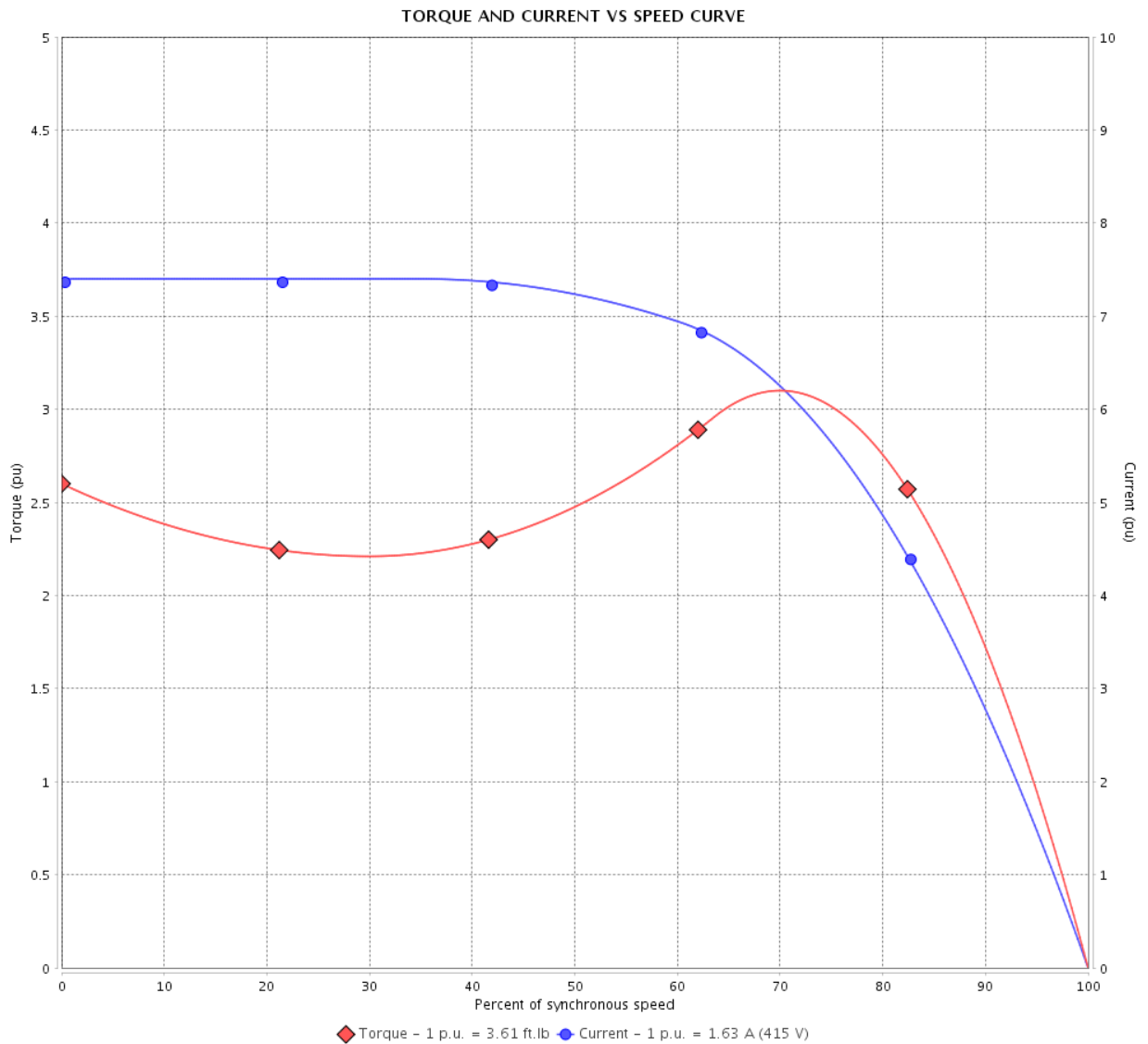
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| Rated current | : 1.63 A | Moment of inertia (J) | : 0.1172 sq.ft.lb |
| LRC | : 7.4 | Duty cycle | : Cont.(S1) |
| Rated torque | : 3.61 ft.lb | Insulation class | : F |
| Locked rotor torque | : 260 % | Service factor | : 1.25 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
| Rated speed | : 1455 rpm | Design | : B |

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

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LOAD PERFORMANCE CURVE

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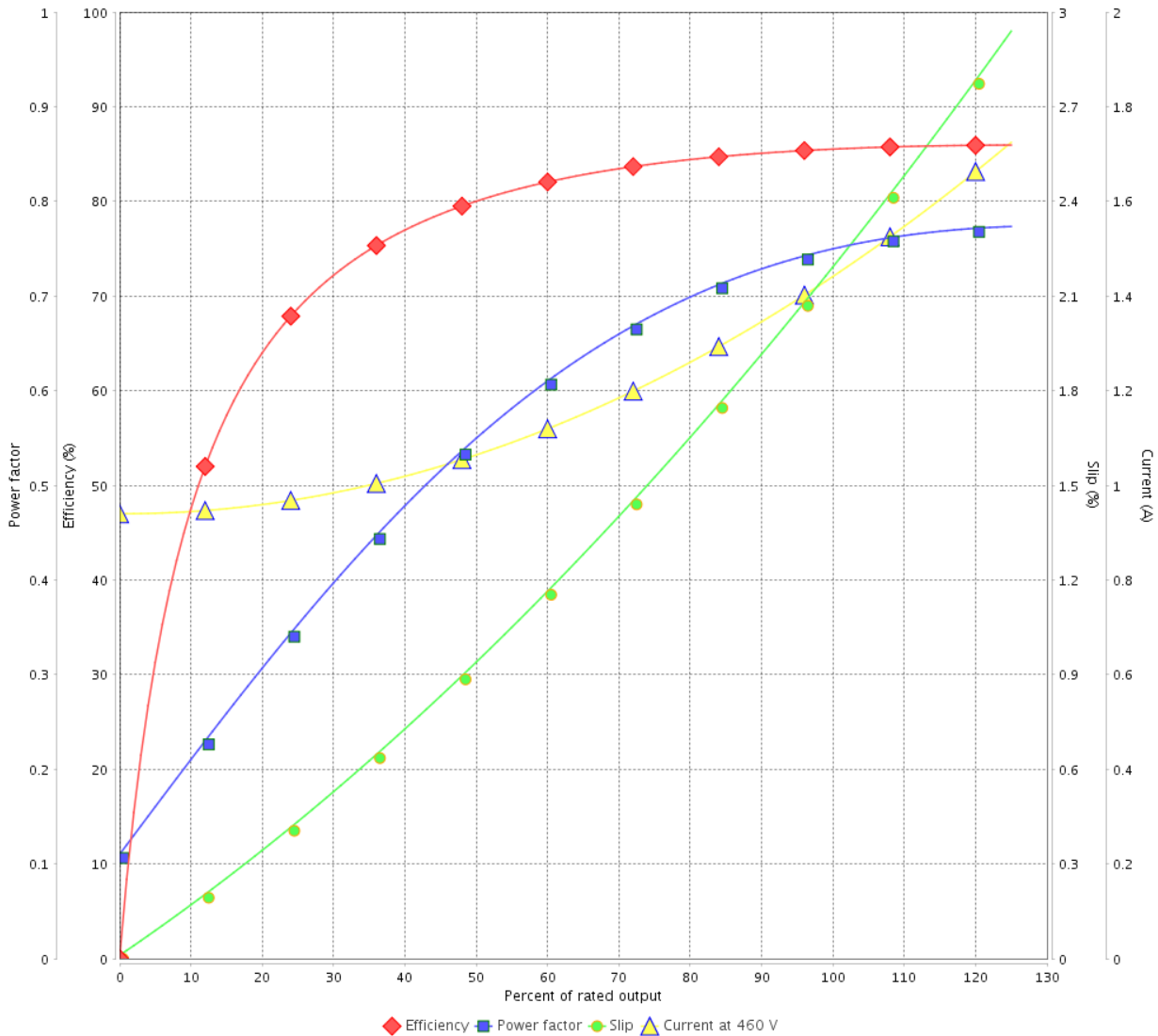
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Performance : 460 V 60 Hz 4P

Rated current : 1.47 A
 LRC : 8.6
 Rated torque : 2.98 ft.lb
 Locked rotor torque : 290 %
 Breakdown torque : 350 %
 Rated speed : 1760 rpm

Moment of inertia (J) : 0.1172 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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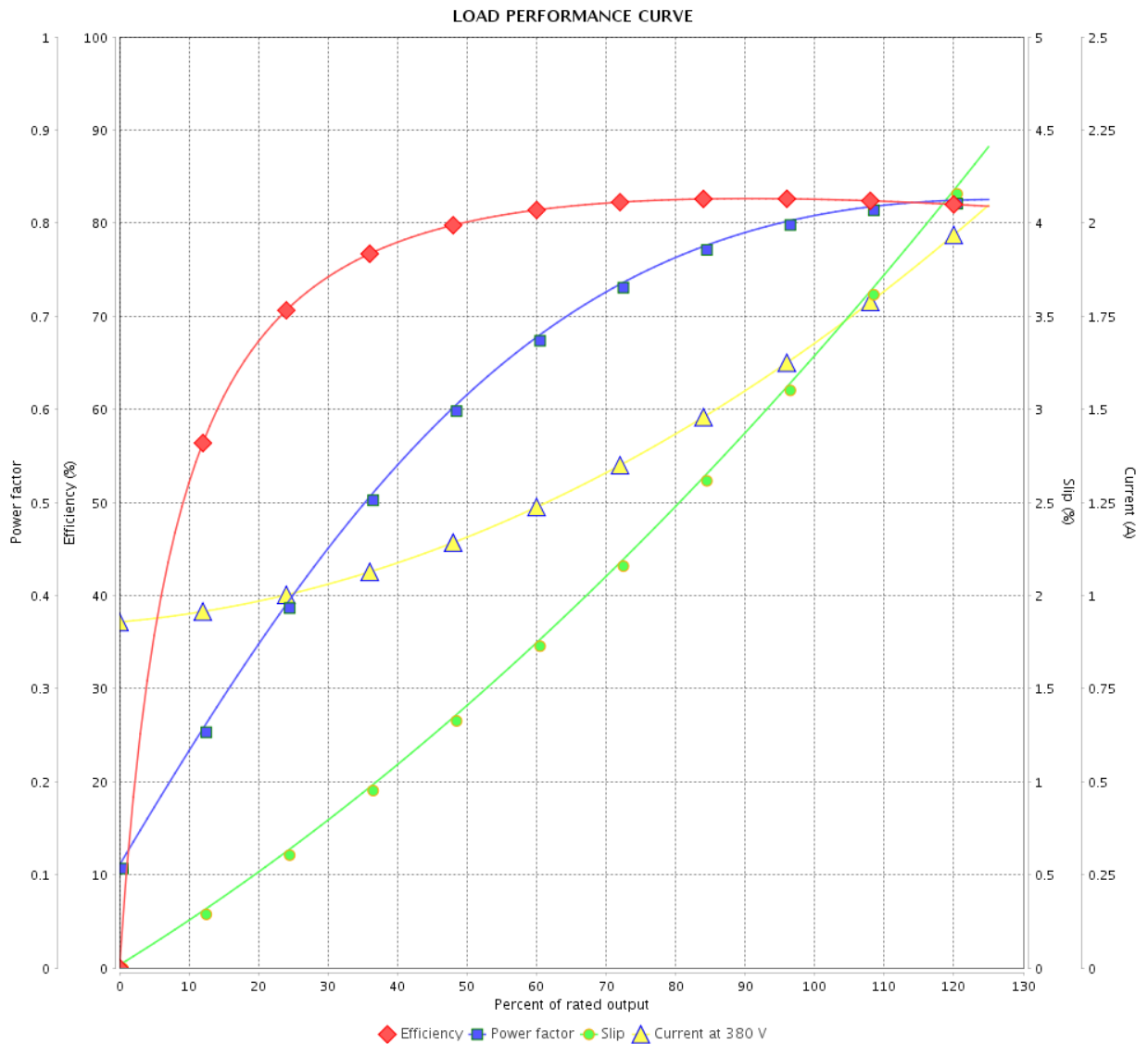


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Rated current : 1.71 A
 LRC : 6.4
 Rated torque : 3.62 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 1450 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



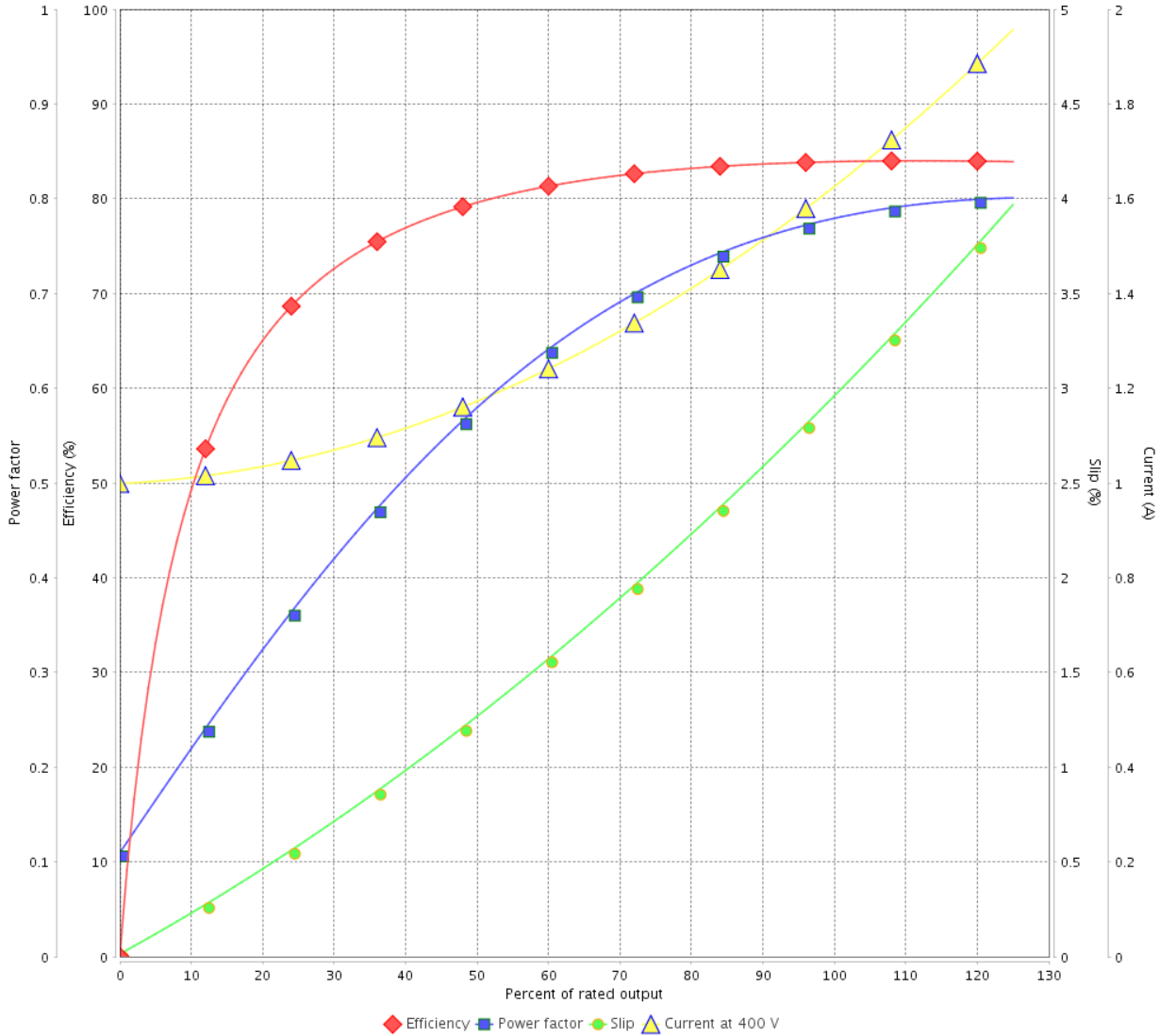
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Rated current : 1.65 A
 LRC : 7.0
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 Locked rotor torque : 240 %
 Breakdown torque : 290 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1172 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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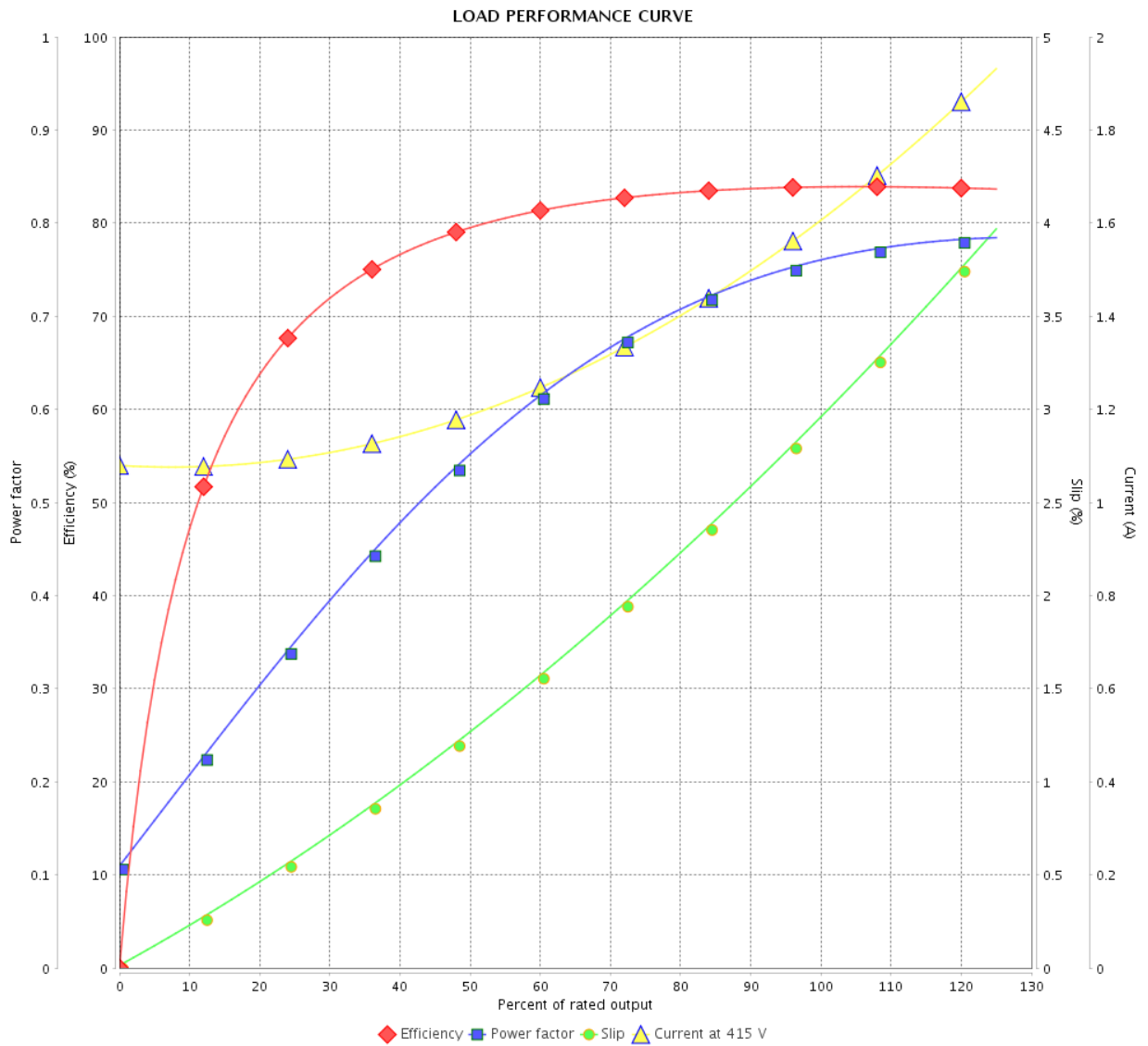


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Performance : 415 V 50 Hz 4P IE3

Rated current : 1.63 A
 LRC : 7.4
 Rated torque : 3.61 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 310 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.1172 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 :

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 Product code : 12822411
 Catalog # : 00118ST3QUIER143TC-W2

Performance : 460 V 60 Hz 4P

| | |
|-----------------------------|---|
| Rated current : 1.47 A | Moment of inertia (J) : 0.1172 sq.ft.lb |
| LRC : 8.6 | Duty cycle : Cont.(S1) |
| Rated torque : 2.98 ft.lb | Insulation class : F |
| Locked rotor torque : 290 % | Service factor : 1.25 |
| Breakdown torque : 350 % | Temperature rise : 80 K |
| Rated speed : 1760 rpm | Design : B |

Heating constant

Cooling constant

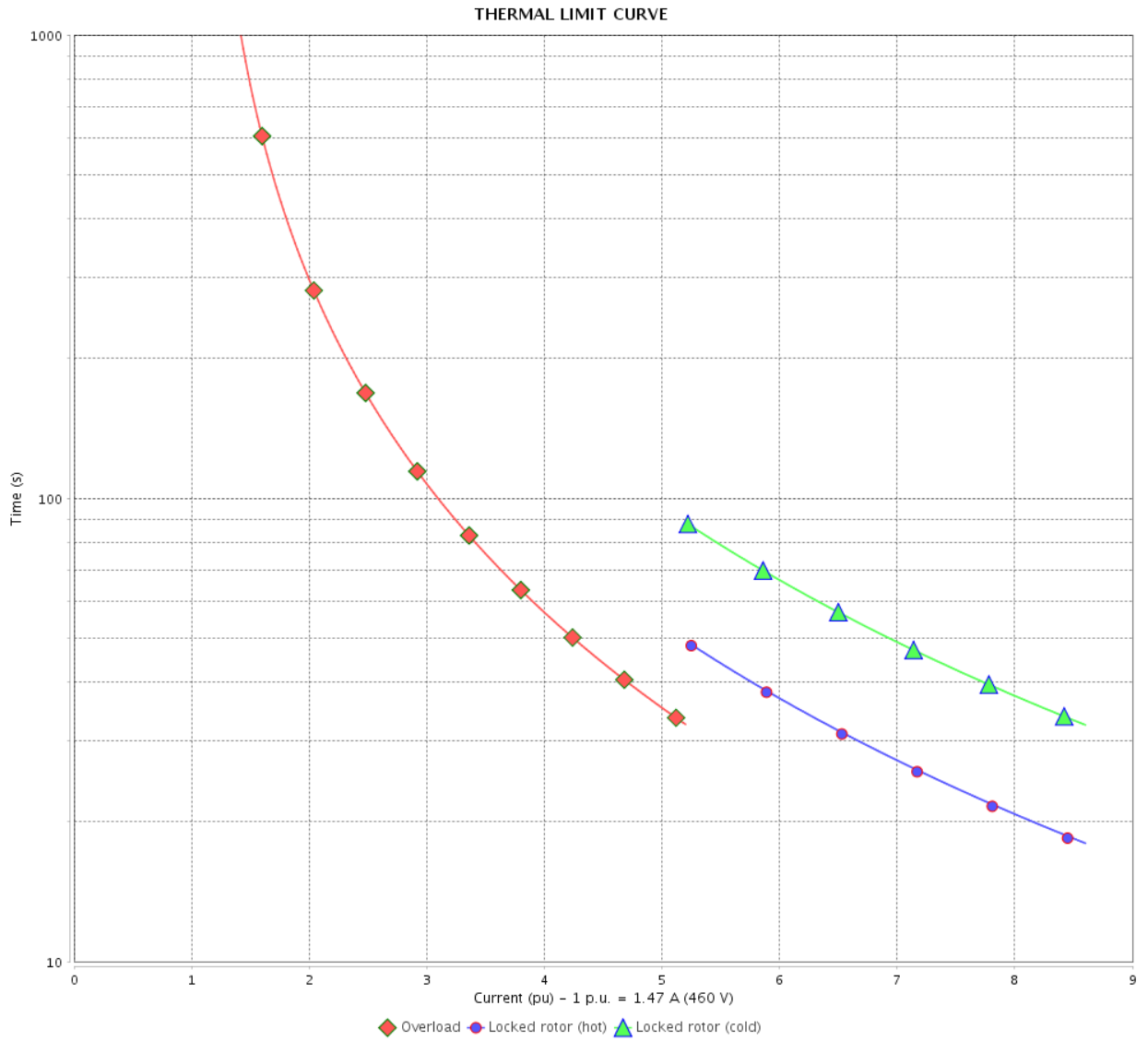
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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 Product code : 12822411
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Performance : 380 V 50 Hz 4P IE3

| | |
|-----------------------------|---|
| Rated current : 1.71 A | Moment of inertia (J) : 0.1172 sq.ft.lb |
| LRC : 6.4 | Duty cycle : Cont.(S1) |
| Rated torque : 3.62 ft.lb | Insulation class : F |
| Locked rotor torque : 220 % | Service factor : 1.25 |
| Breakdown torque : 250 % | Temperature rise : 80 K |
| Rated speed : 1450 rpm | Design : B |

Heating constant

Cooling constant

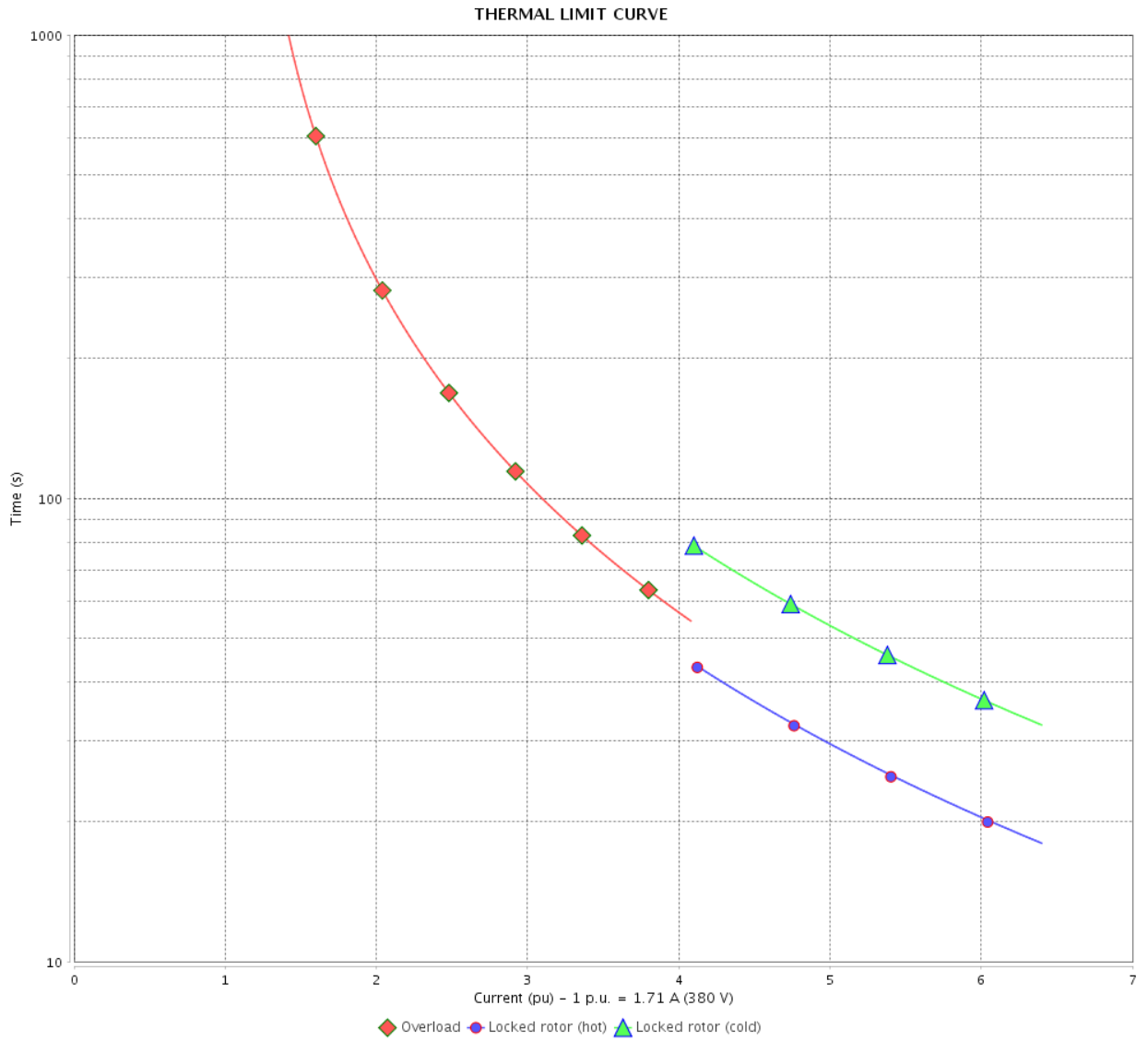
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THERMAL LIMIT CURVE

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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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Performance : 400 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 1.65 A | Moment of inertia (J) | : 0.1172 sq.ft.lb |
| LRC | : 7.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 3.61 ft.lb | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.25 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1455 rpm | Design | : B |

Heating constant

Cooling constant

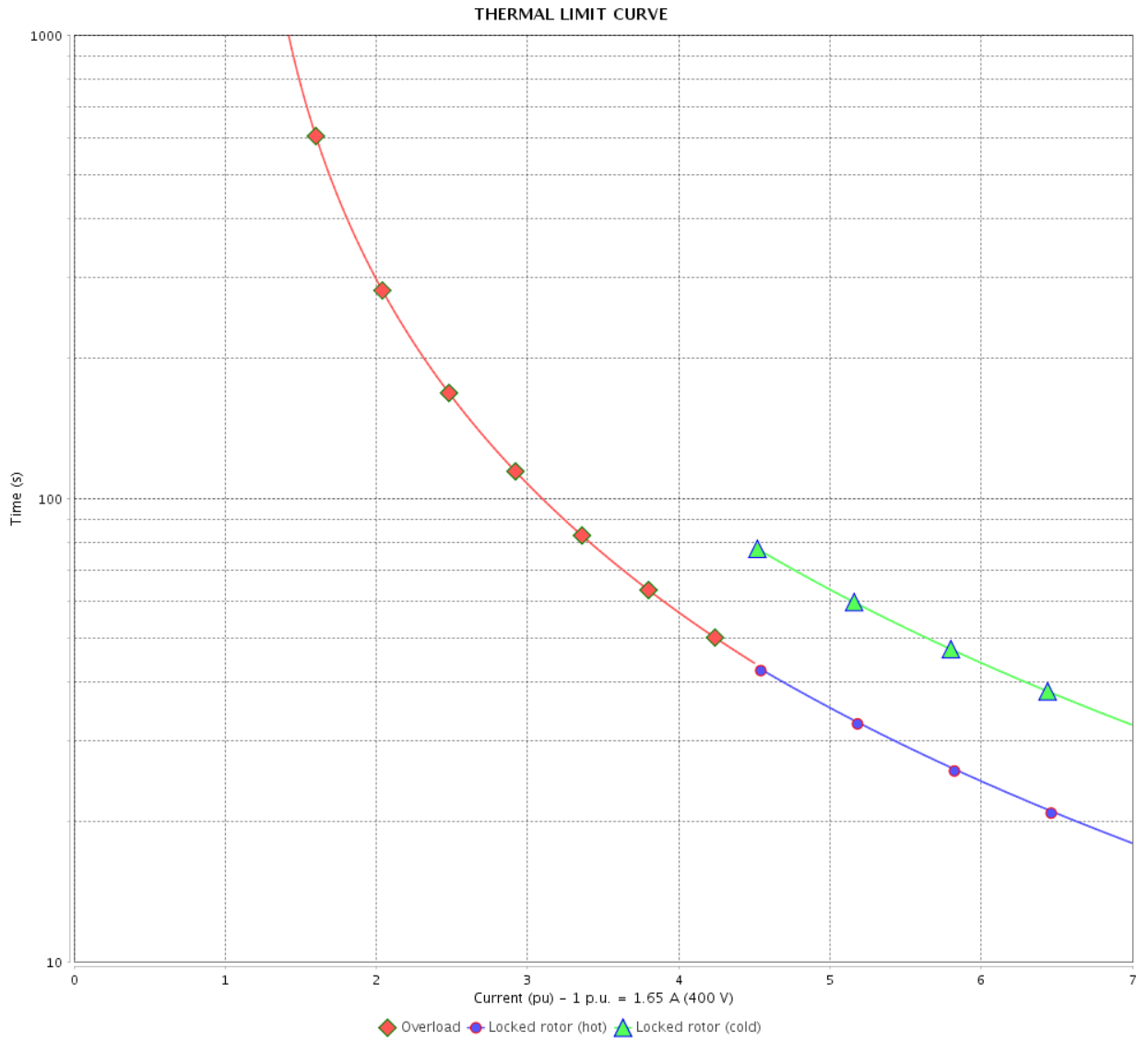
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



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Performance : 415 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-------------------|
| Rated current | : 1.63 A | Moment of inertia (J) | : 0.1172 sq.ft.lb |
| LRC | : 7.4 | Duty cycle | : Cont.(S1) |
| Rated torque | : 3.61 ft.lb | Insulation class | : F |
| Locked rotor torque | : 260 % | Service factor | : 1.25 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
| Rated speed | : 1455 rpm | Design | : B |

Heating constant

Cooling constant

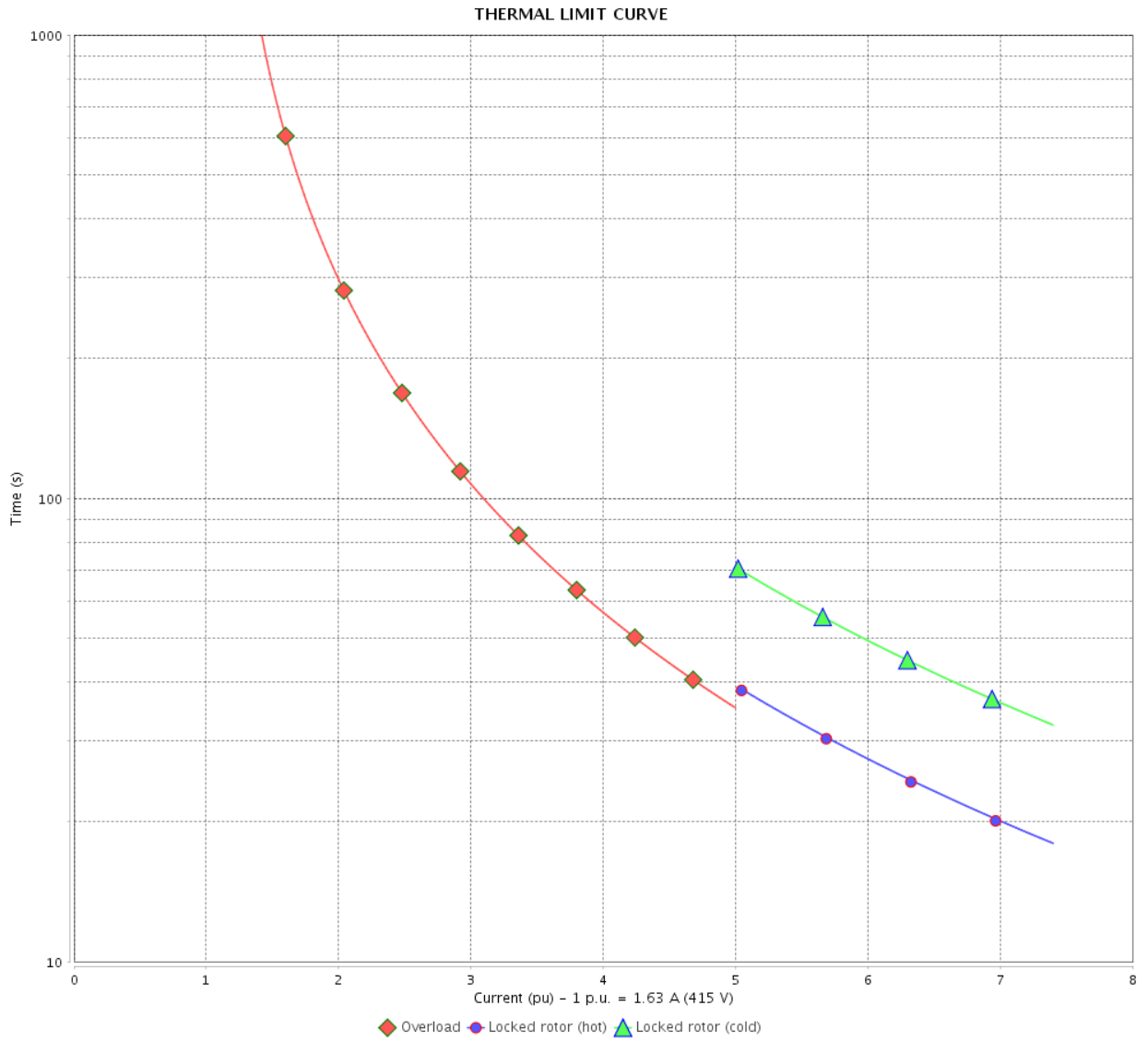
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

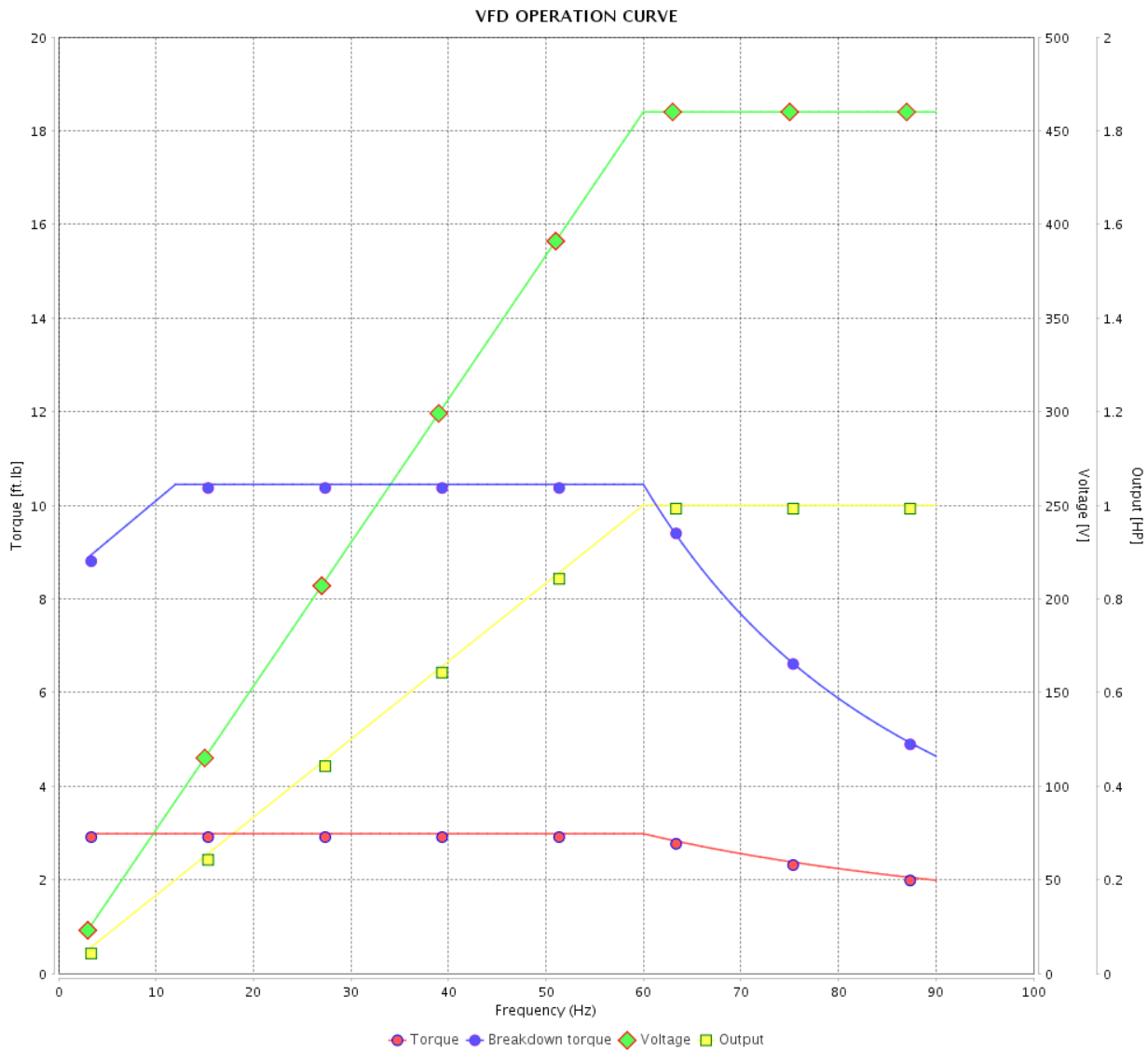


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

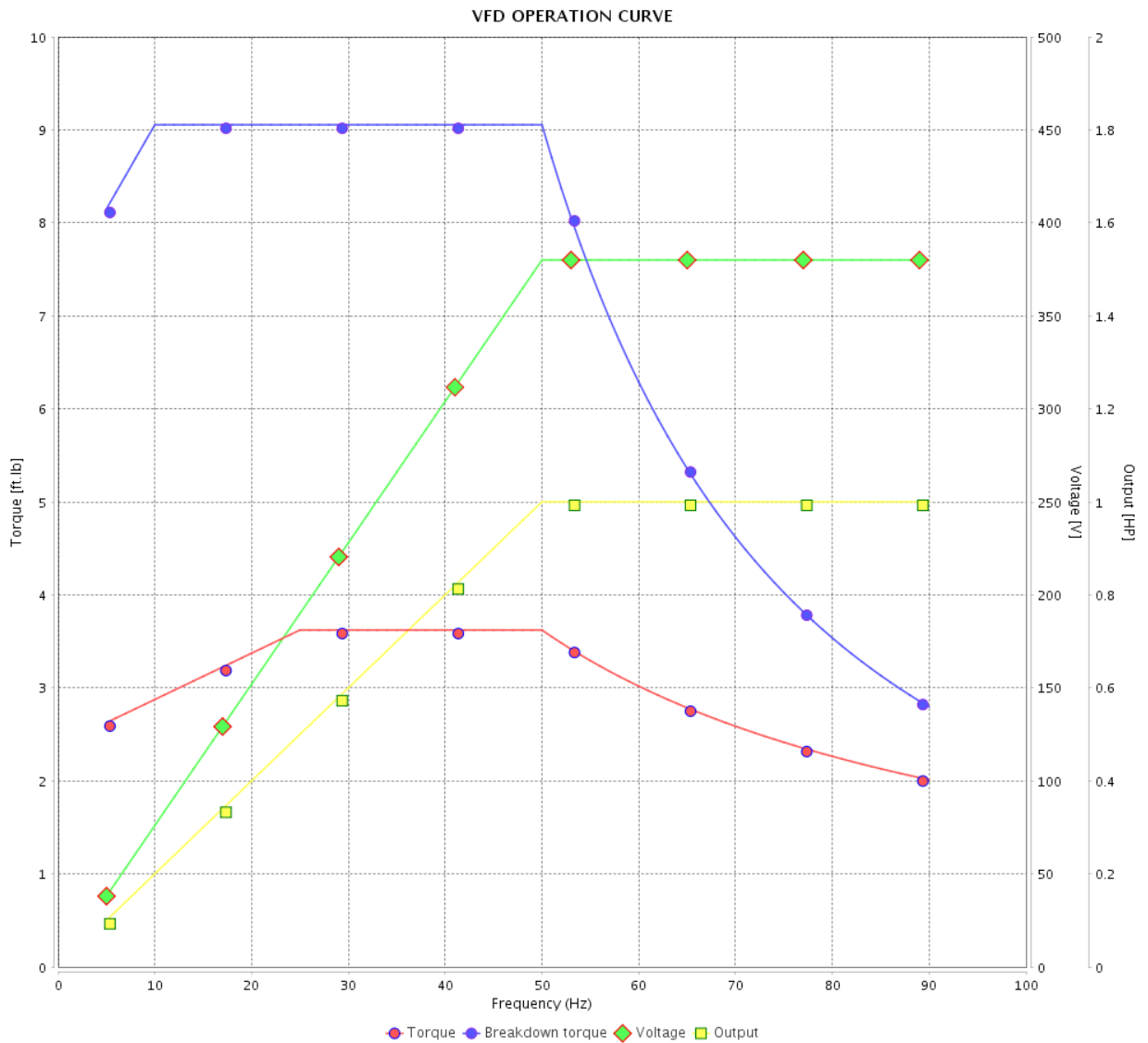


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



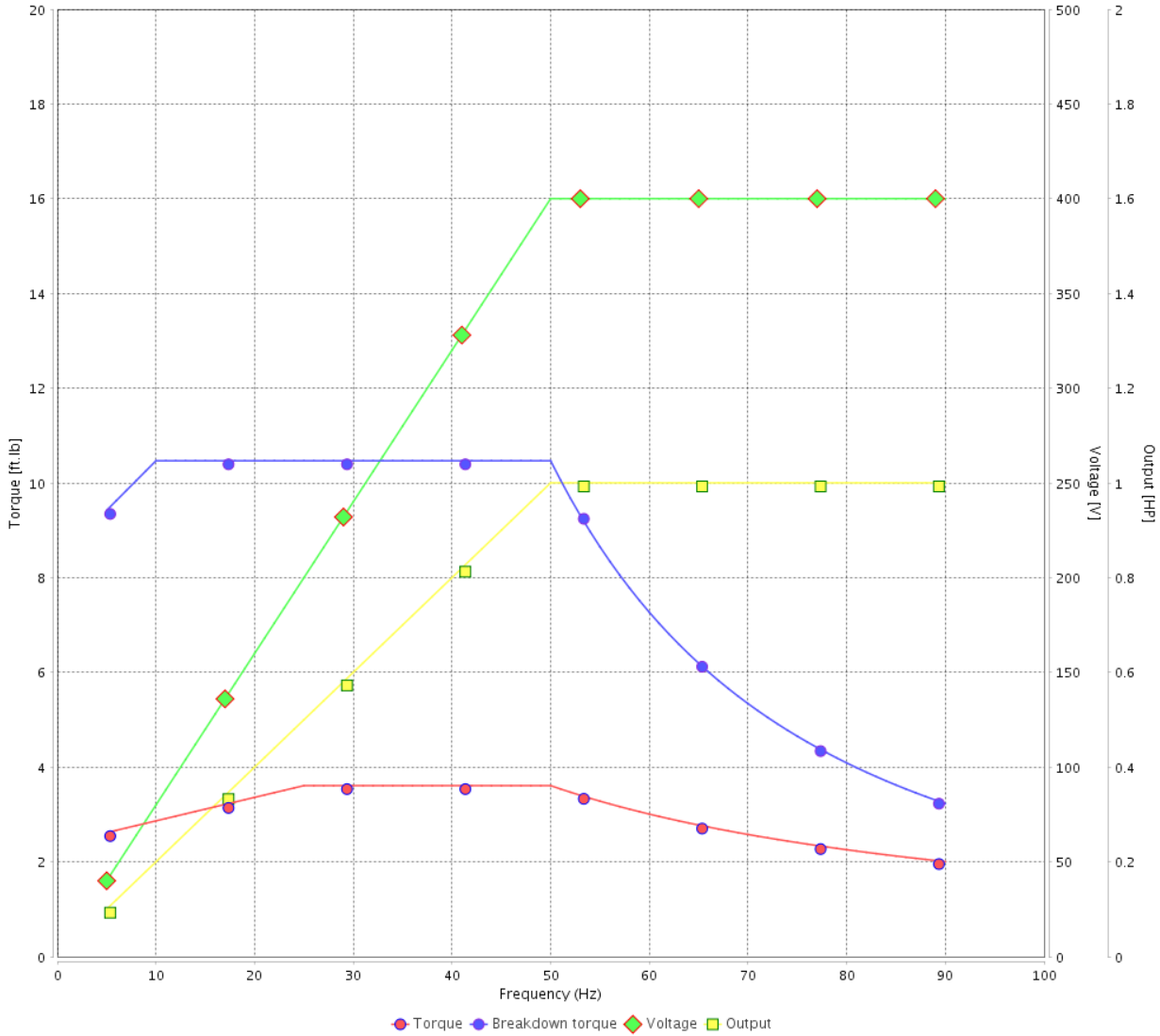
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VFD OPERATION CURVE

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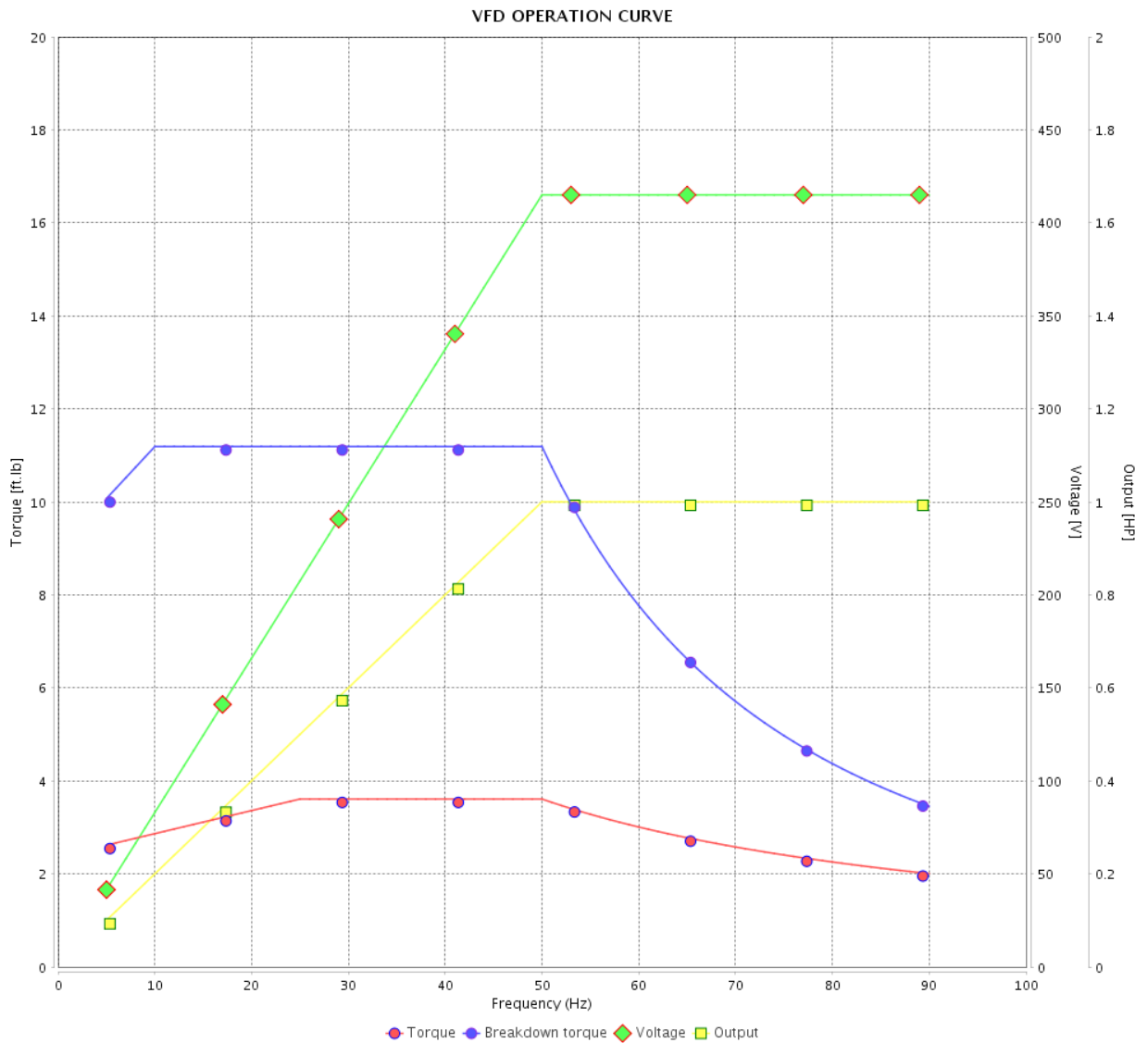


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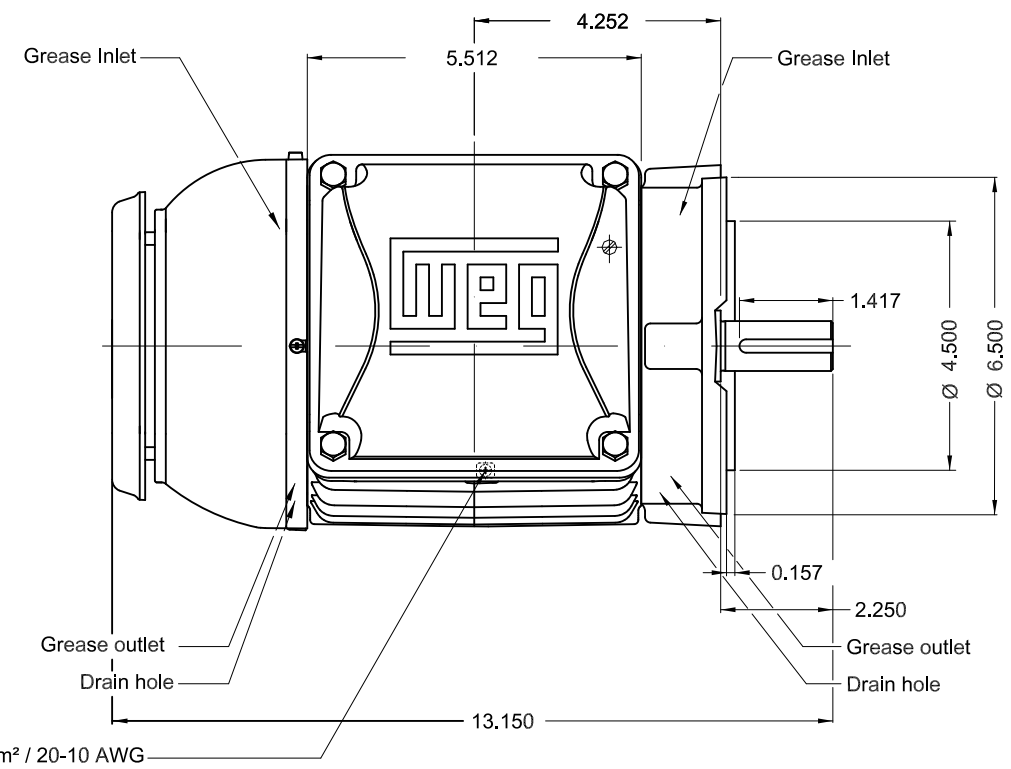
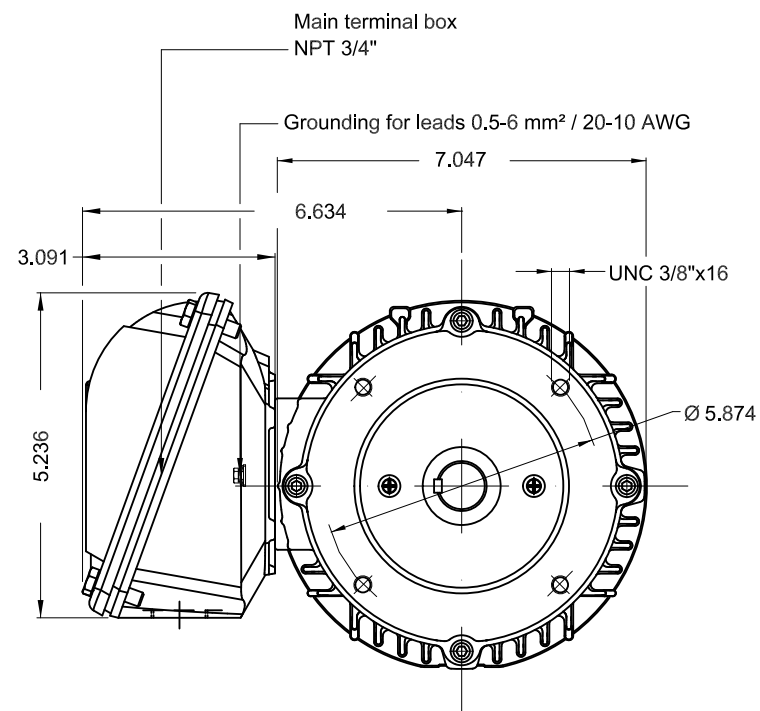


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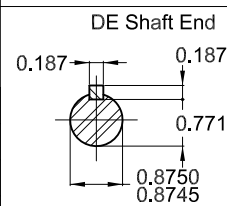
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Color RAL 5009
 Painting plan 202E
 Mounting NEMA W-6
 Mounting V18



1 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. | | | | | |
| CHECKED | | FRAME 143TC IP55 TEFC | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

PREVIEW
 WDD



MADE IN BRAZIL
12822411



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 00118ST3QIER143TC-W2

Inverter Duty Motor
Severe Duty

IEEE
841-2009



FOR SAFE AREA
Mod. TE1BFOXON
CC029A

PH3 60Hz Fr. 143TC 1000m.a.s.l. IP55 TEFC 52lb

V 460

A 1.47

HP 1.0

kW 0.75

SF 1.25

SFA 1.84

RPM 1760

PF 0.75

AMB 40°C

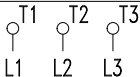
INS cl. F DT80K

NEMA NOM EFF 85.5%

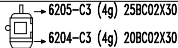
DUTY CONT.

DES B Code M

GUARANT. EFF 82.5%



460V



MOBIL POLYREX EM (20000h)

