

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|---|-----------------------------|--|----------------------|----------|
| Customer : | | | | | |
| Product line | : NEMA Premium Efficiency Three-Phase | Product code : | 11507900 | | |
| | | Catalog # : | 00309ET3E215TC-W22 | | |
| Frame | : 213/5TC | 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 | : 187 lb | | |
| Protection degree | : IP55 | Moment of inertia (J) | : 2.11 sq.ft.lb | | |
| Design | : B | | | | |
| Output [HP] | 3 | 3 | 3 | 3 | |
| Poles | 8 | 8 | 8 | 8 | |
| Frequency [Hz] | 60 | 50 | 50 | 50 | |
| Rated voltage [V] | 230/460 | 380 | 400 | 415 | |
| Rated current [A] | 9.10/4.55 | 5.33 | 5.20 | 5.06 | |
| L. R. Amperes [A] | 61.9/30.9 | 28.2 | 31.2 | 32.9 | |
| LRC [A] | 6.8x(Code K) | 5.3x(Code G) | 6.0x(Code J) | 6.5x(Code J) | |
| No load current [A] | 5.43/2.71 | 2.68 | 2.86 | 3.00 | |
| Rated speed [RPM] | 870 | 710 | 715 | 720 | |
| Slip [%] | 3.33 | 5.33 | 4.67 | 4.00 | |
| Rated torque [ft.lb] | 18.1 | 22.2 | 22.0 | 21.9 | |
| Locked rotor torque [%] | 229 | 180 | 220 | 260 | |
| Breakdown torque [%] | 275 | 200 | 240 | 270 | |
| Service factor | 1.25 | 1.25 | 1.25 | 1.25 | |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | |
| Locked rotor time | 79s (cold) 44s (hot) | 59s (cold) 33s (hot) | 59s (cold) 33s (hot) | 59s (cold) 33s (hot) | |
| Noise level ² | 52.0 dB(A) | 52.0 dB(A) | 52.0 dB(A) | 52.0 dB(A) | |
| Efficiency (%) | 25% | 83.7 | 85.0 | 85.0 | 82.1 |
| | 50% | 84.0 | 84.0 | 84.0 | 82.5 |
| | 75% | 85.5 | 84.0 | 84.0 | 84.0 |
| | 100% | 85.5 | 82.5 | 82.5 | 84.0 |
| Power Factor | 25% | 0.29 | 0.34 | 0.31 | 0.29 |
| | 50% | 0.50 | 0.57 | 0.54 | 0.51 |
| | 75% | 0.63 | 0.70 | 0.67 | 0.64 |
| | 100% | 0.71 | 0.76 | 0.74 | 0.72 |
| Bearing type | : <u>Drive end</u> 6308 ZZ <u>Non drive end</u> 6207 ZZ | Foundation loads | | | |
| Sealing | : V'Ring V'Ring | Max. traction | : 240 lb | | |
| Lubrication interval | : - - | Max. compression | : 426 lb | | |
| Lubricant amount | : - - | | | | |
| Lubricant type | : Mobil Polyrex EM | | | | |
| Notes USABLE @208V 10.1A SF 1.15 SFA 11.6A | | | | | |
| 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 | Date |
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



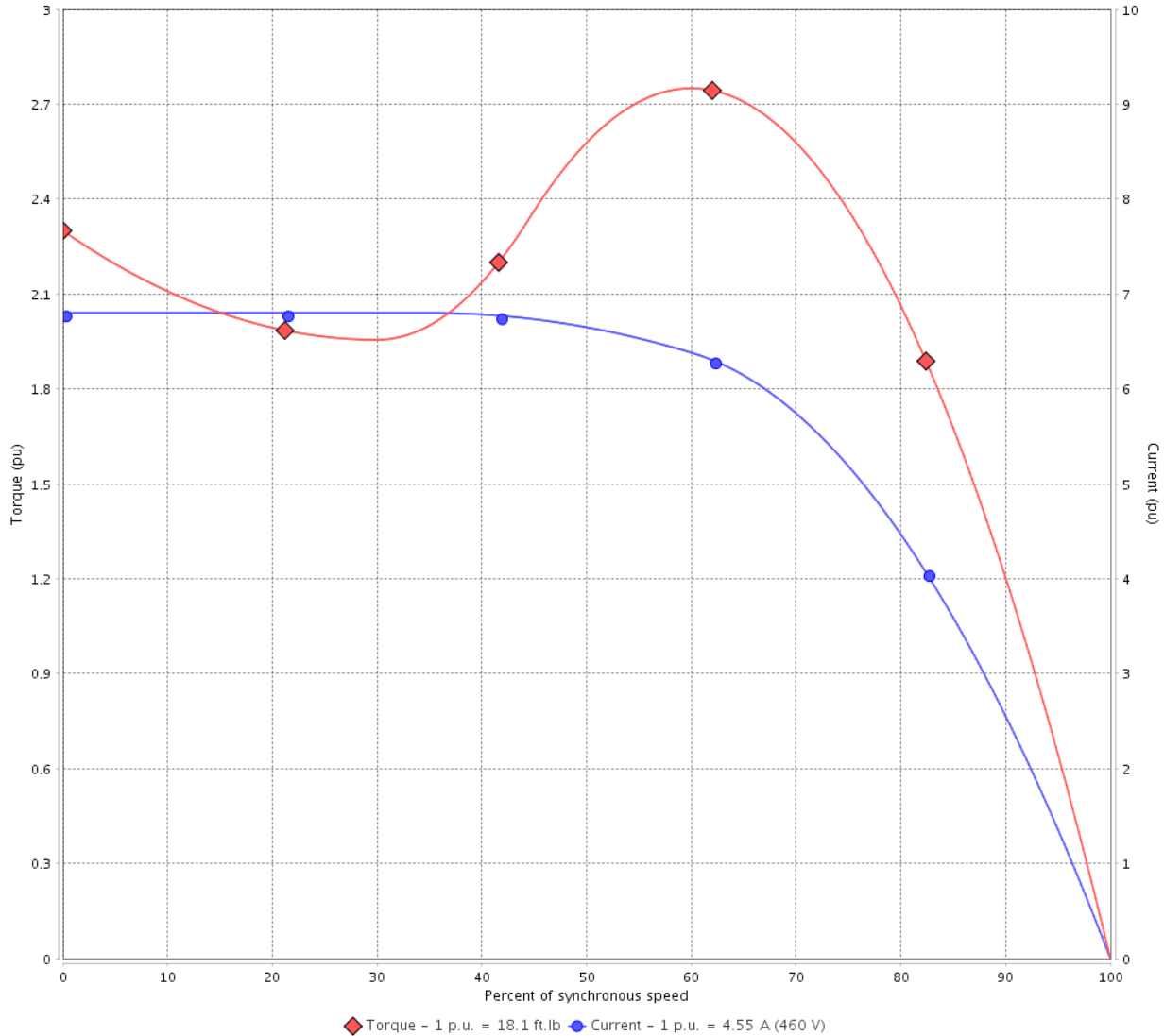
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507900

Catalog # : 00309ET3E215TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 8P

| | | | |
|---------------------|---------------|-----------------------|-----------------|
| Rated current | : 9.10/4.55 A | Moment of inertia (J) | : 2.11 sq.ft.lb |
| LRC | : 6.8 | Duty cycle | : Cont.(S1) |
| Rated torque | : 18.1 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.25 |
| Breakdown torque | : 275 % | Temperature rise | : 80 K |
| Rated speed | : 870 rpm | Design | : B |

Locked rotor time : 79s (cold) 44s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



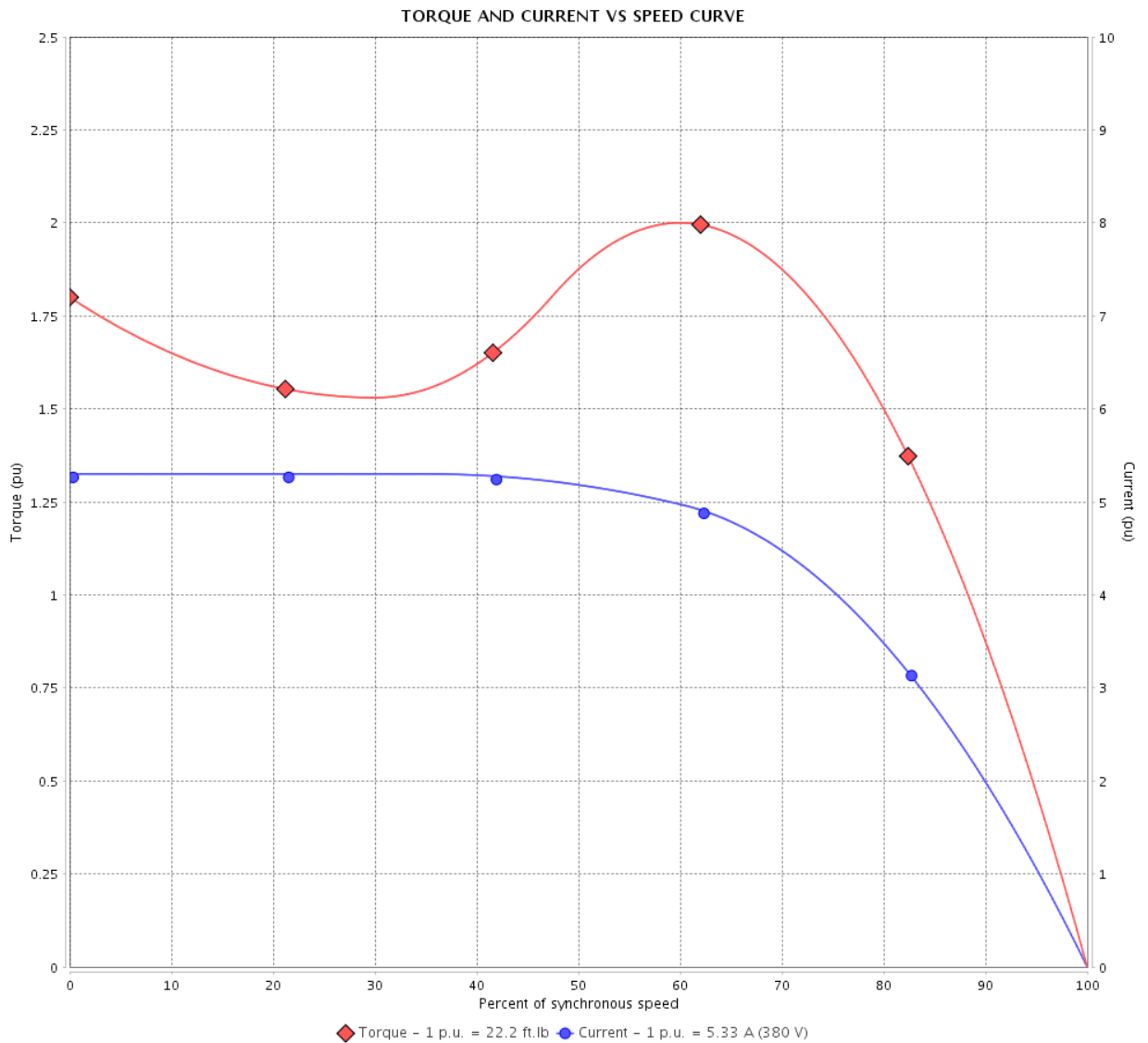
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507900

Catalog # : 00309ET3E215TC-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 5.33 A
 LRC : 5.3
 Rated torque : 22.2 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 200 %
 Rated speed : 710 rpm

Moment of inertia (J) : 2.11 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

Locked rotor time : 59s (cold) 33s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



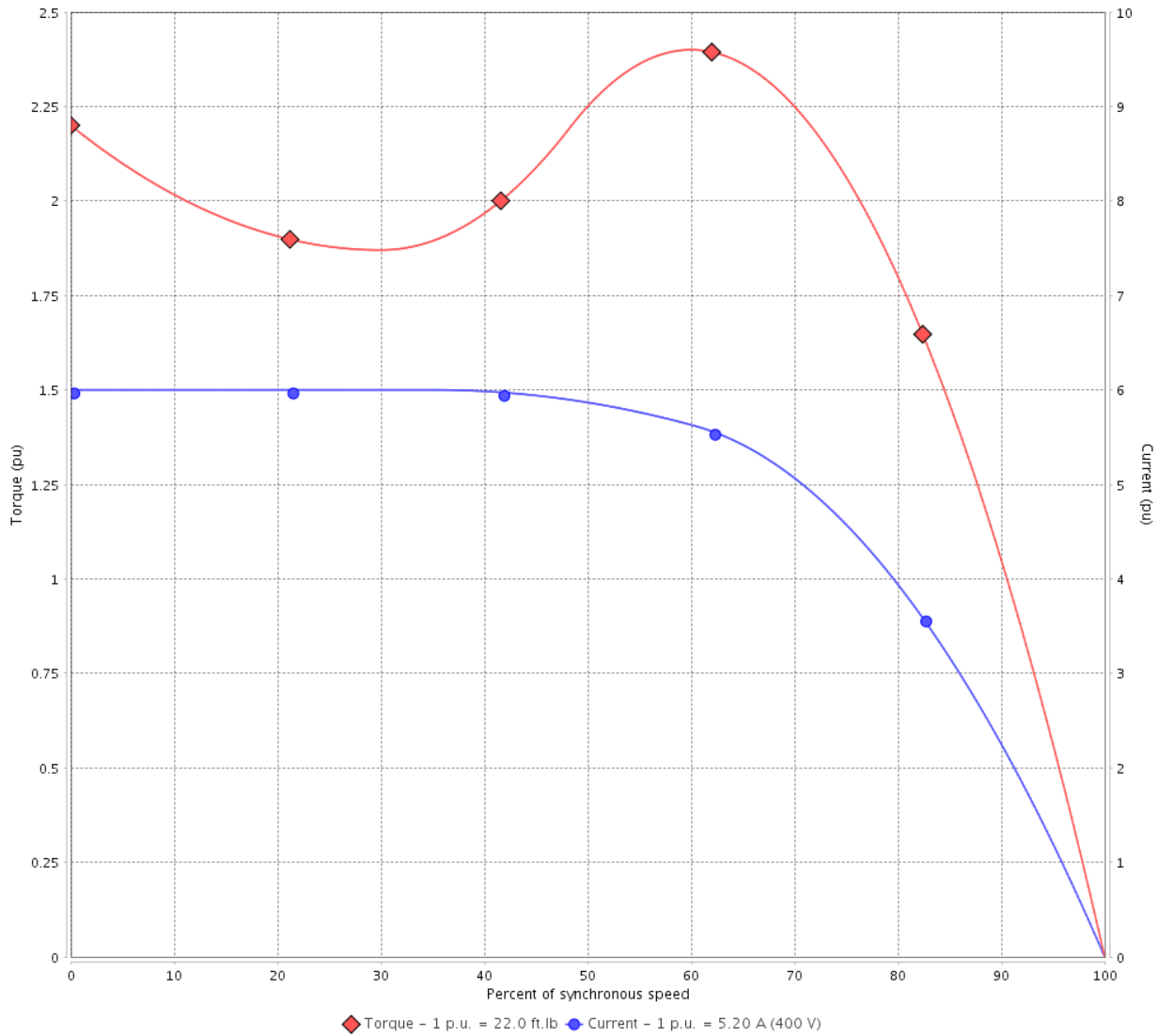
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507900

Catalog # : 00309ET3E215TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 8P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.20 A | Moment of inertia (J) | : 2.11 sq.ft.lb |
| LRC | : 6.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 22.0 ft.lb | Insulation class | : F |
| Locked rotor torque | : 220 % | Service factor | : 1.25 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 715 rpm | Design | : B |

Locked rotor time : 59s (cold) 33s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



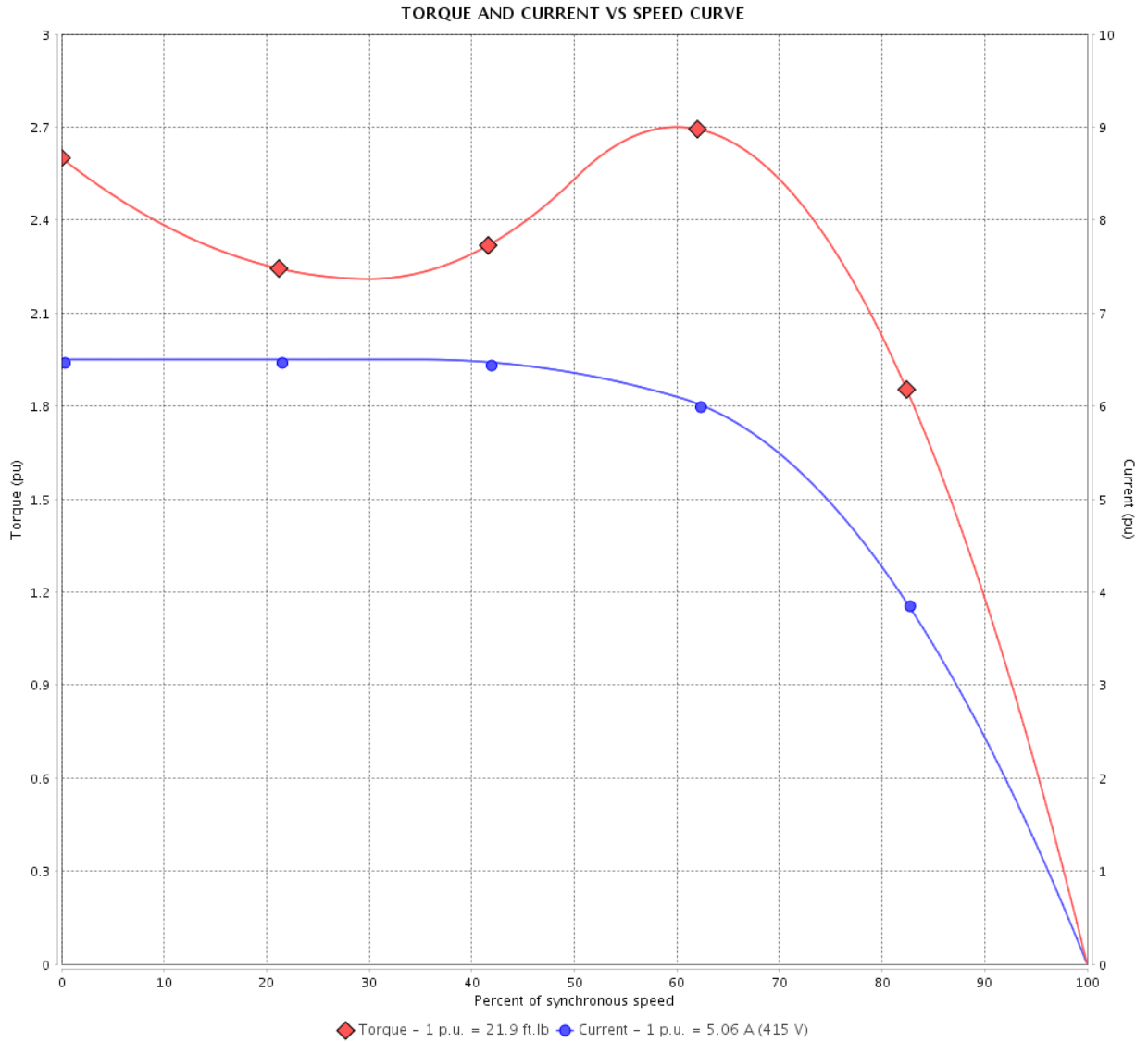
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Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11507900

Catalog # : 00309ET3E215TC-W22



Performance : 415 V 50 Hz 8P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.06 A | Moment of inertia (J) | : 2.11 sq.ft.lb |
| LRC | : 6.5 | Duty cycle | : Cont.(S1) |
| Rated torque | : 21.9 ft.lb | Insulation class | : F |
| Locked rotor torque | : 260 % | Service factor | : 1.25 |
| Breakdown torque | : 270 % | Temperature rise | : 80 K |
| Rated speed | : 720 rpm | Design | : B |

Locked rotor time : 59s (cold) 33s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



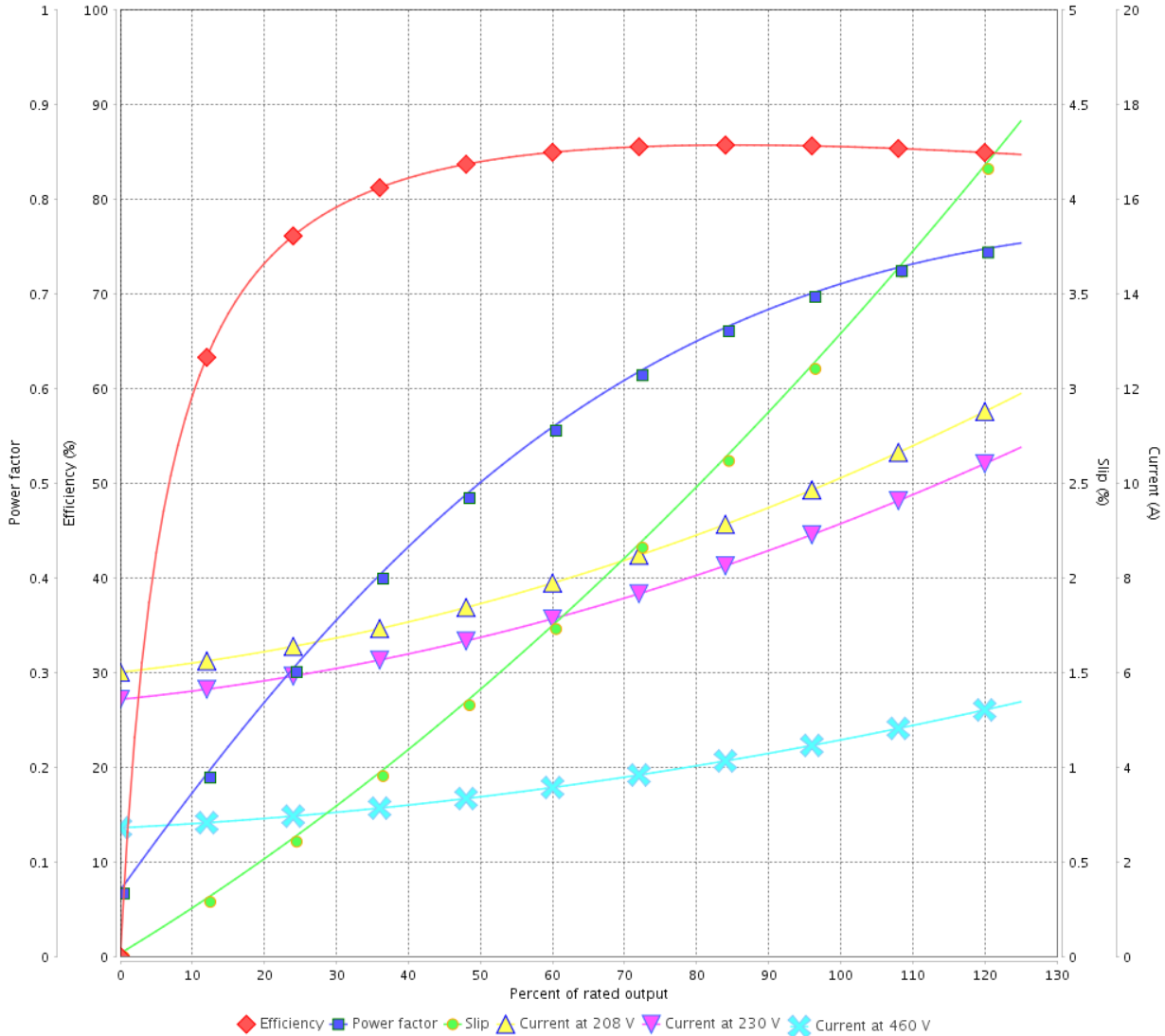
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Product code : 11507900

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LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 8P

Rated current : 9.10/4.55 A
 LRC : 6.8
 Rated torque : 18.1 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 275 %
 Rated speed : 870 rpm

Moment of inertia (J) : 2.11 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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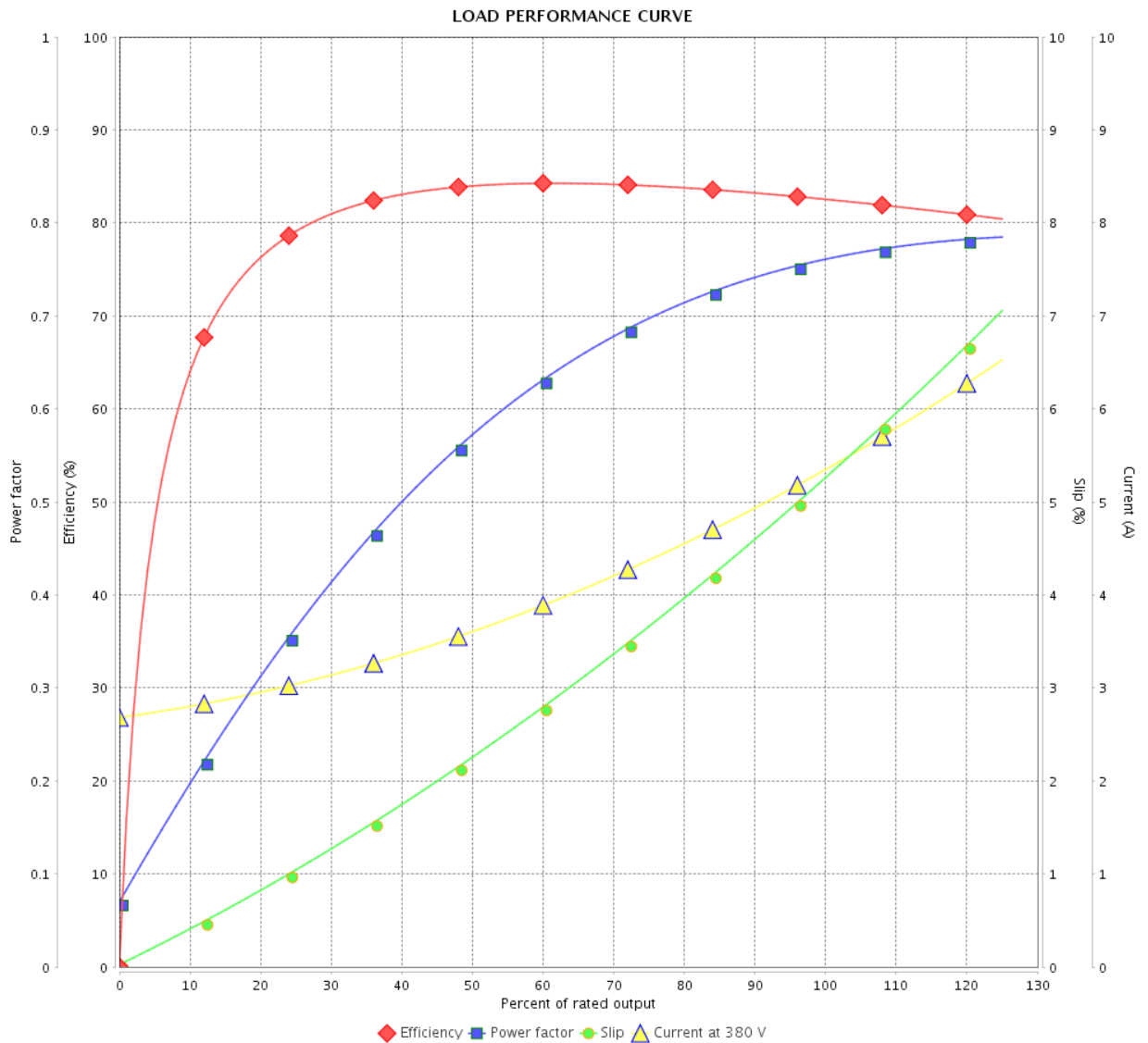


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 Rated torque : 22.2 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 200 %
 Rated speed : 710 rpm

Moment of inertia (J) : 2.11 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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Three Phase Induction Motor - Squirrel Cage



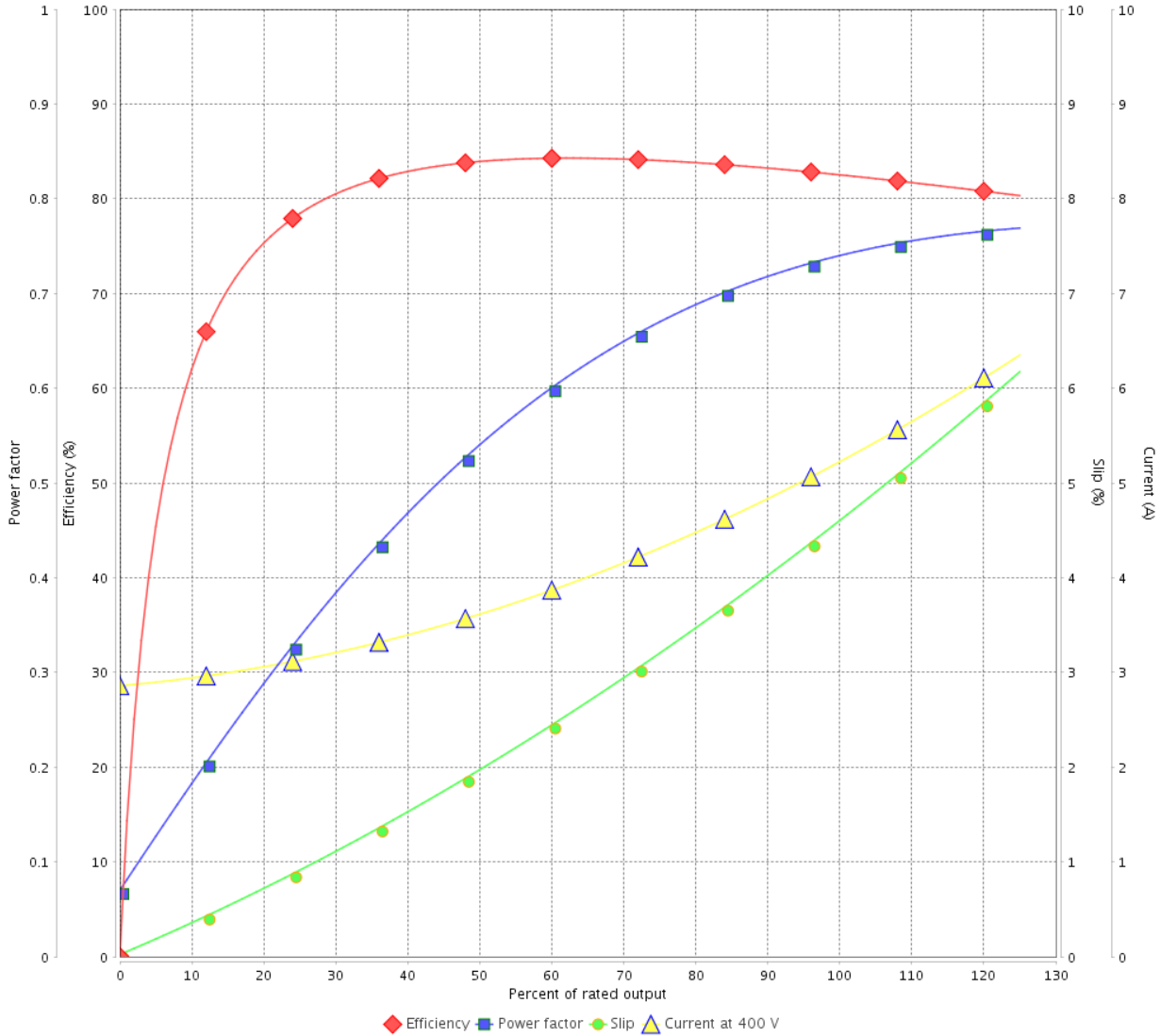
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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current : 5.20 A
 LRC : 6.0
 Rated torque : 22.0 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 240 %
 Rated speed : 715 rpm

Moment of inertia (J) : 2.11 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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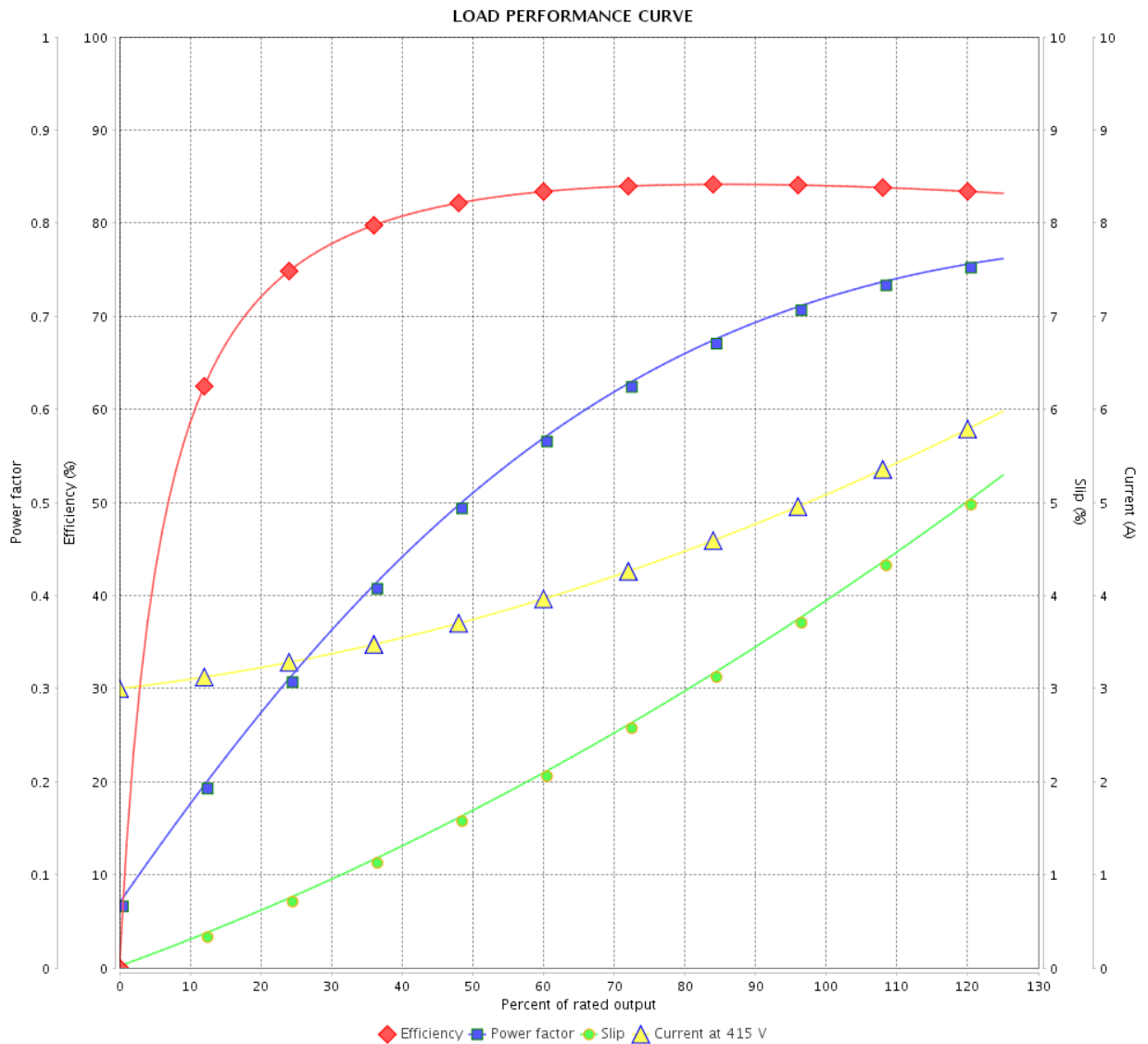


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Performance : 415 V 50 Hz 8P IE3

Rated current : 5.06 A
 LRC : 6.5
 Rated torque : 21.9 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 270 %
 Rated speed : 720 rpm

Moment of inertia (J) : 2.11 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 : 11507900
Catalog # : 00309ET3E215TC-W22

Performance : 230/460 V 60 Hz 8P

| | | | |
|---------------------|---------------|-----------------------|-----------------|
| Rated current | : 9.10/4.55 A | Moment of inertia (J) | : 2.11 sq.ft.lb |
| LRC | : 6.8 | Duty cycle | : Cont.(S1) |
| Rated torque | : 18.1 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.25 |
| Breakdown torque | : 275 % | Temperature rise | : 80 K |
| Rated speed | : 870 rpm | Design | : B |

Heating constant

Cooling constant

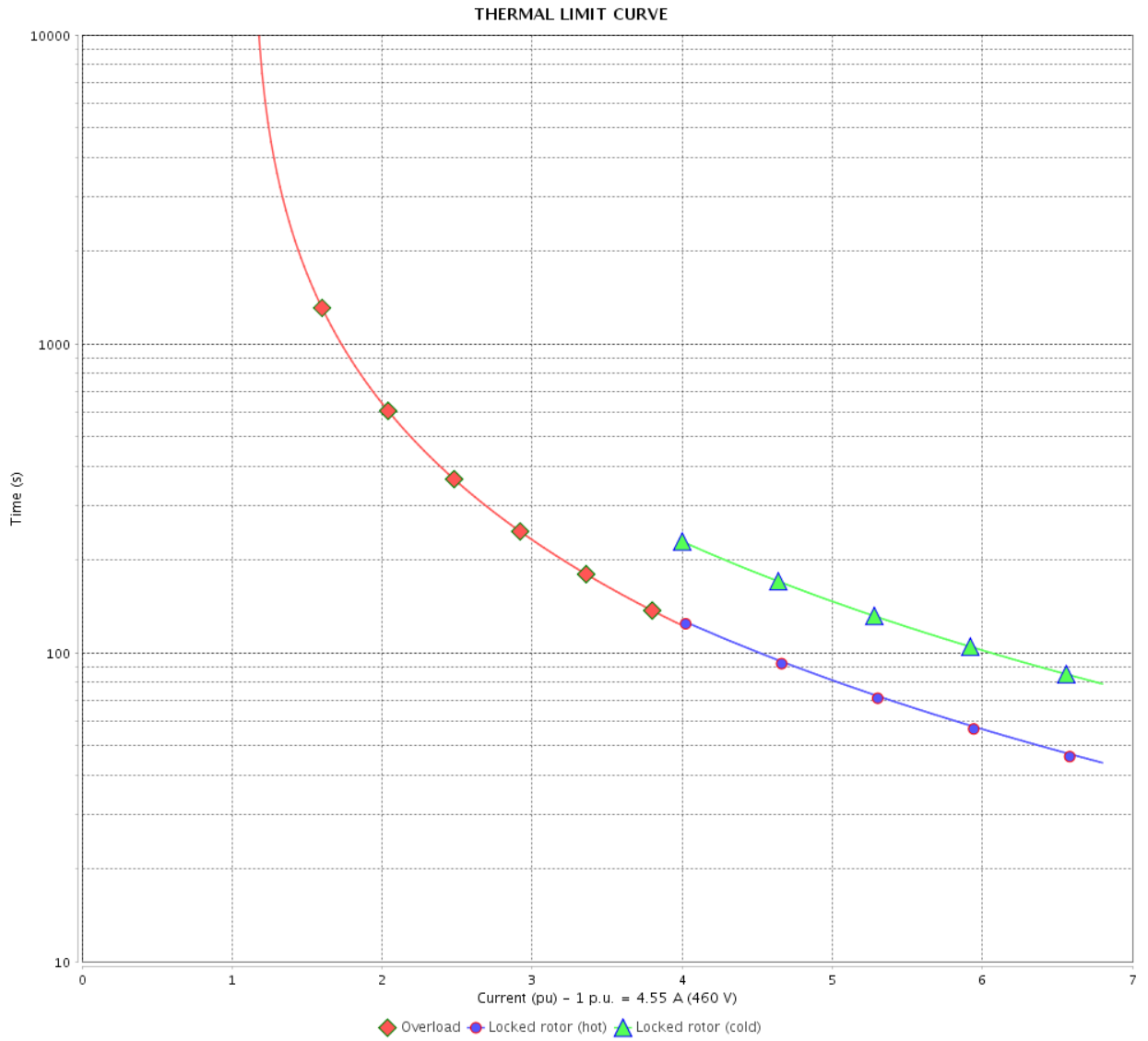
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 8P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.33 A | Moment of inertia (J) | : 2.11 sq.ft.lb |
| LRC | : 5.3 | Duty cycle | : Cont.(S1) |
| Rated torque | : 22.2 ft.lb | Insulation class | : F |
| Locked rotor torque | : 180 % | Service factor | : 1.25 |
| Breakdown torque | : 200 % | Temperature rise | : 80 K |
| Rated speed | : 710 rpm | Design | : B |

Heating constant

Cooling constant

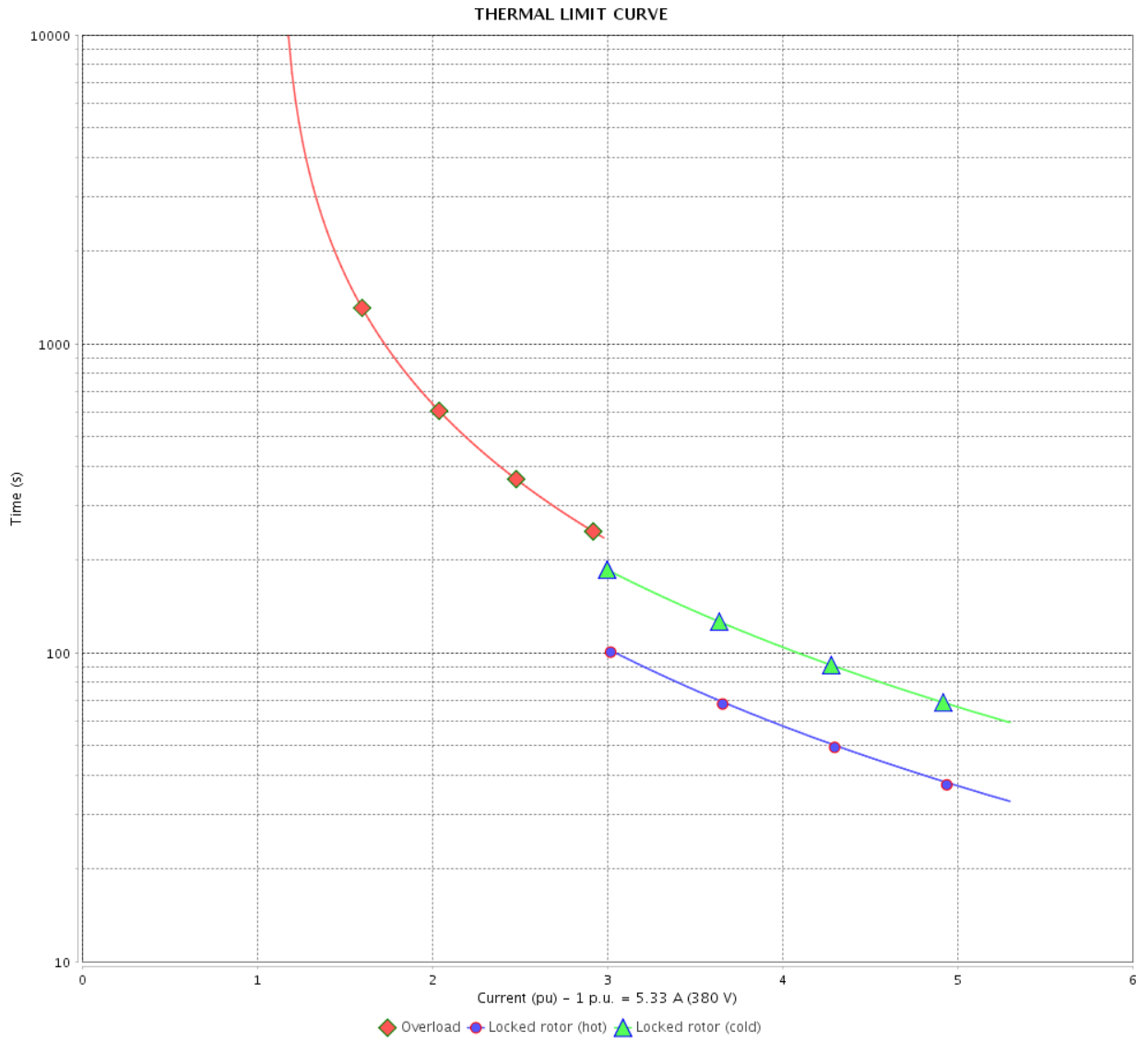
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 11507900
Catalog # : 00309ET3E215TC-W22

Performance : 400 V 50 Hz 8P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 5.20 A | Moment of inertia (J) | : 2.11 sq.ft.lb |
| LRC | : 6.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 22.0 ft.lb | Insulation class | : F |
| Locked rotor torque | : 220 % | Service factor | : 1.25 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 715 rpm | Design | : B |

Heating constant

Cooling constant

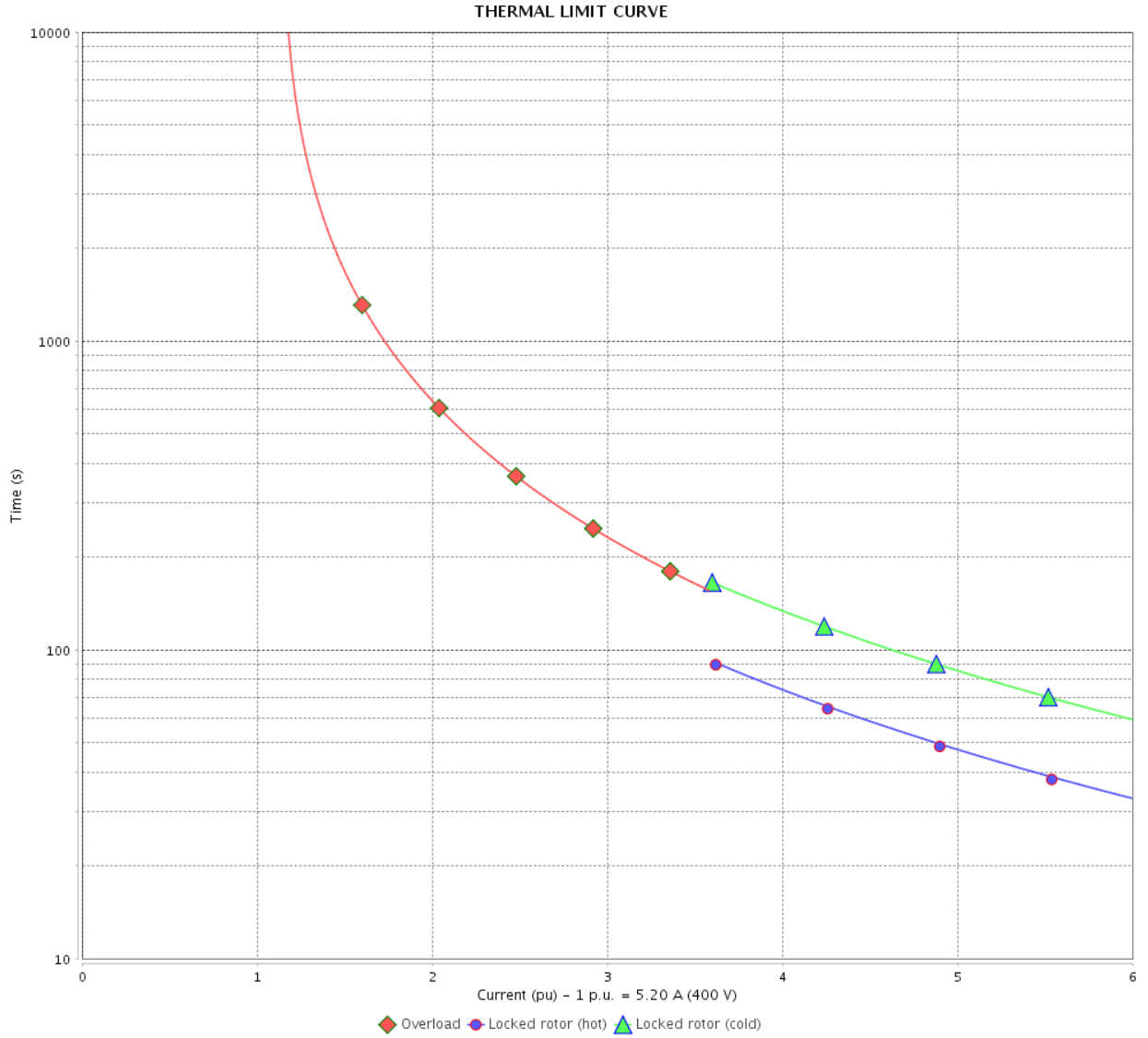
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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 Catalog # : 00309ET3E215TC-W22

Performance : 415 V 50 Hz 8P IE3

| | |
|-----------------------------|---------------------------------------|
| Rated current : 5.06 A | Moment of inertia (J) : 2.11 sq.ft.lb |
| LRC : 6.5 | Duty cycle : Cont.(S1) |
| Rated torque : 21.9 ft.lb | Insulation class : F |
| Locked rotor torque : 260 % | Service factor : 1.25 |
| Breakdown torque : 270 % | Temperature rise : 80 K |
| Rated speed : 720 rpm | Design : B |

Heating constant

Cooling constant

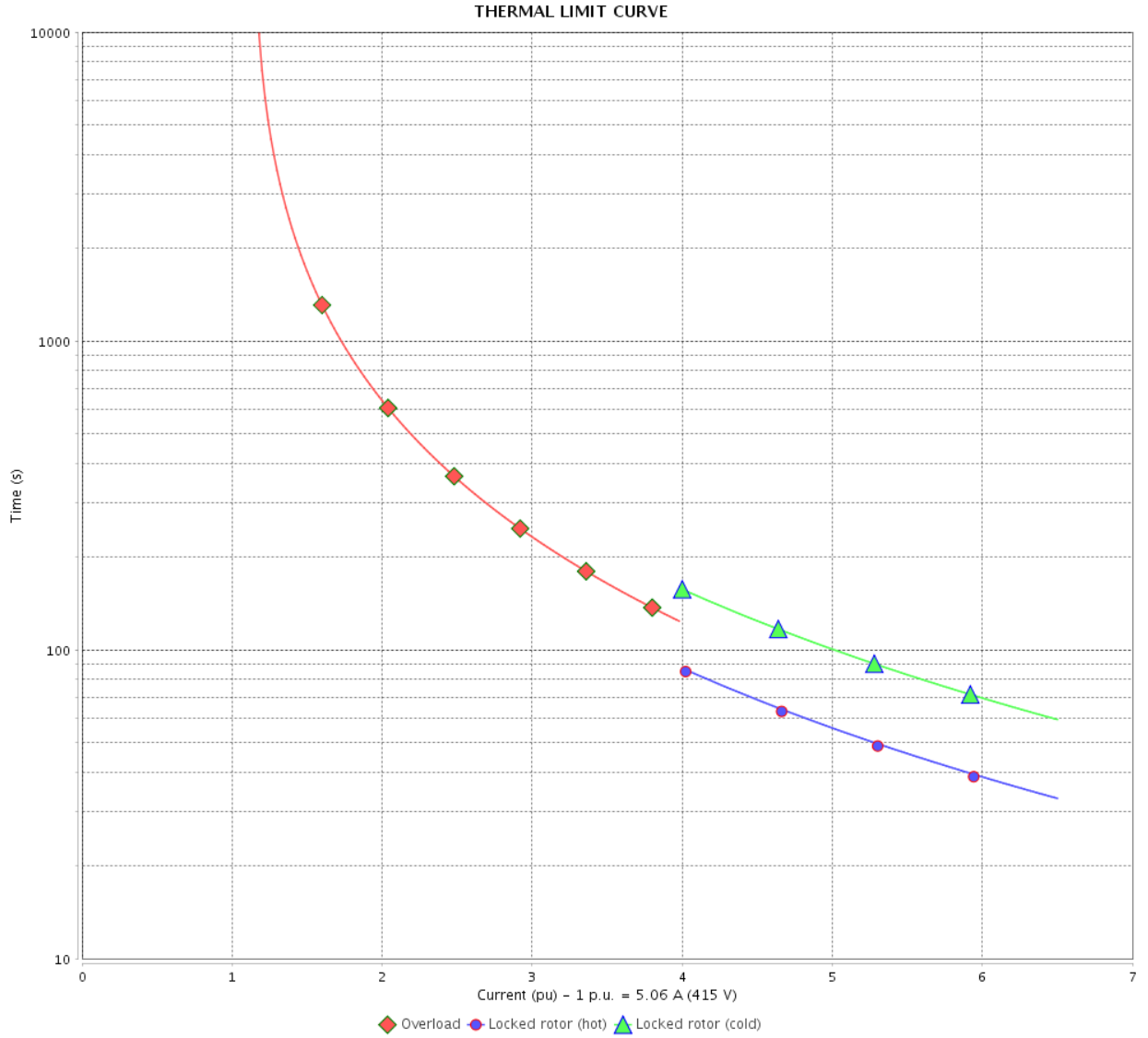
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THERMAL LIMIT CURVE

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

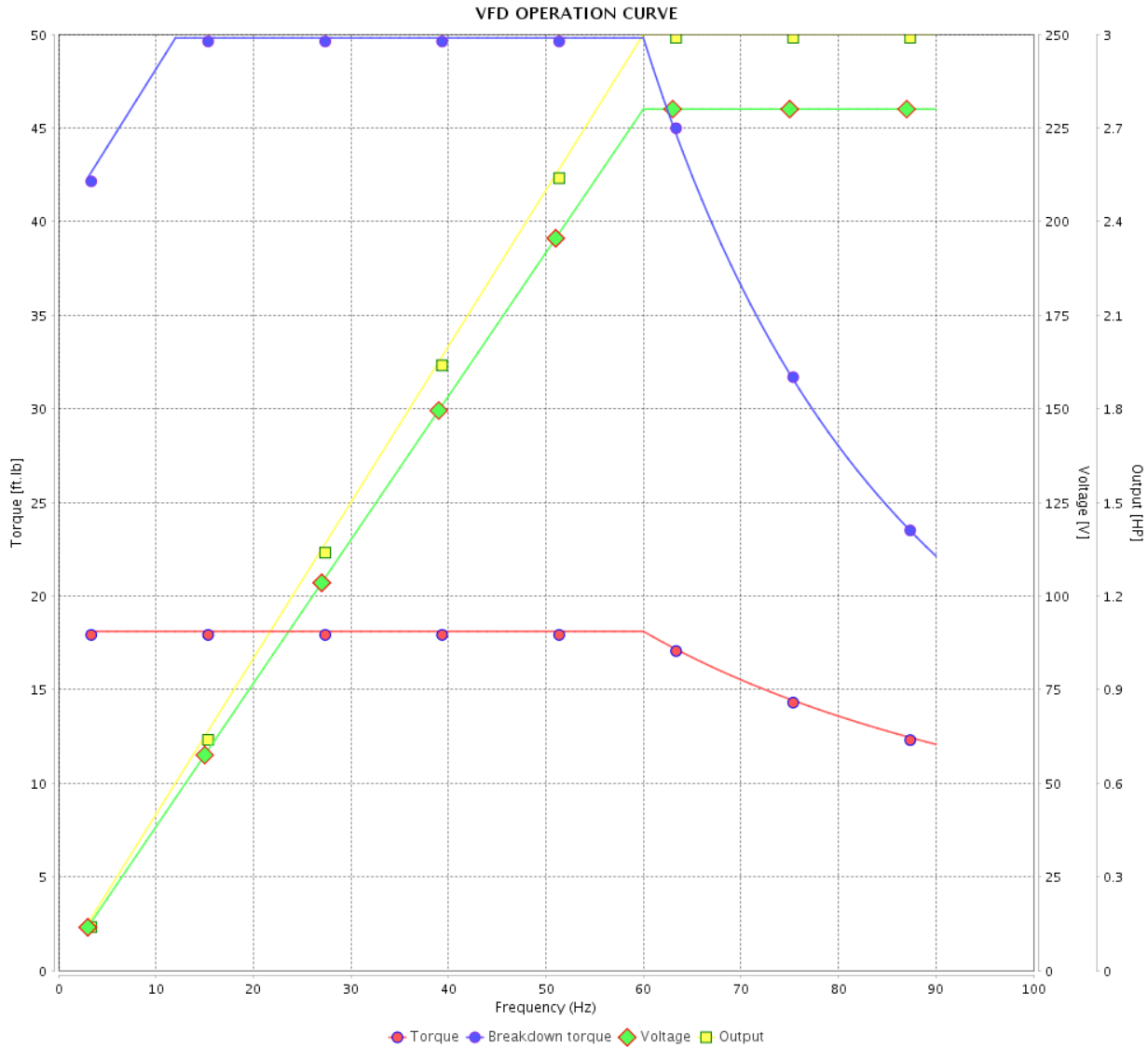


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

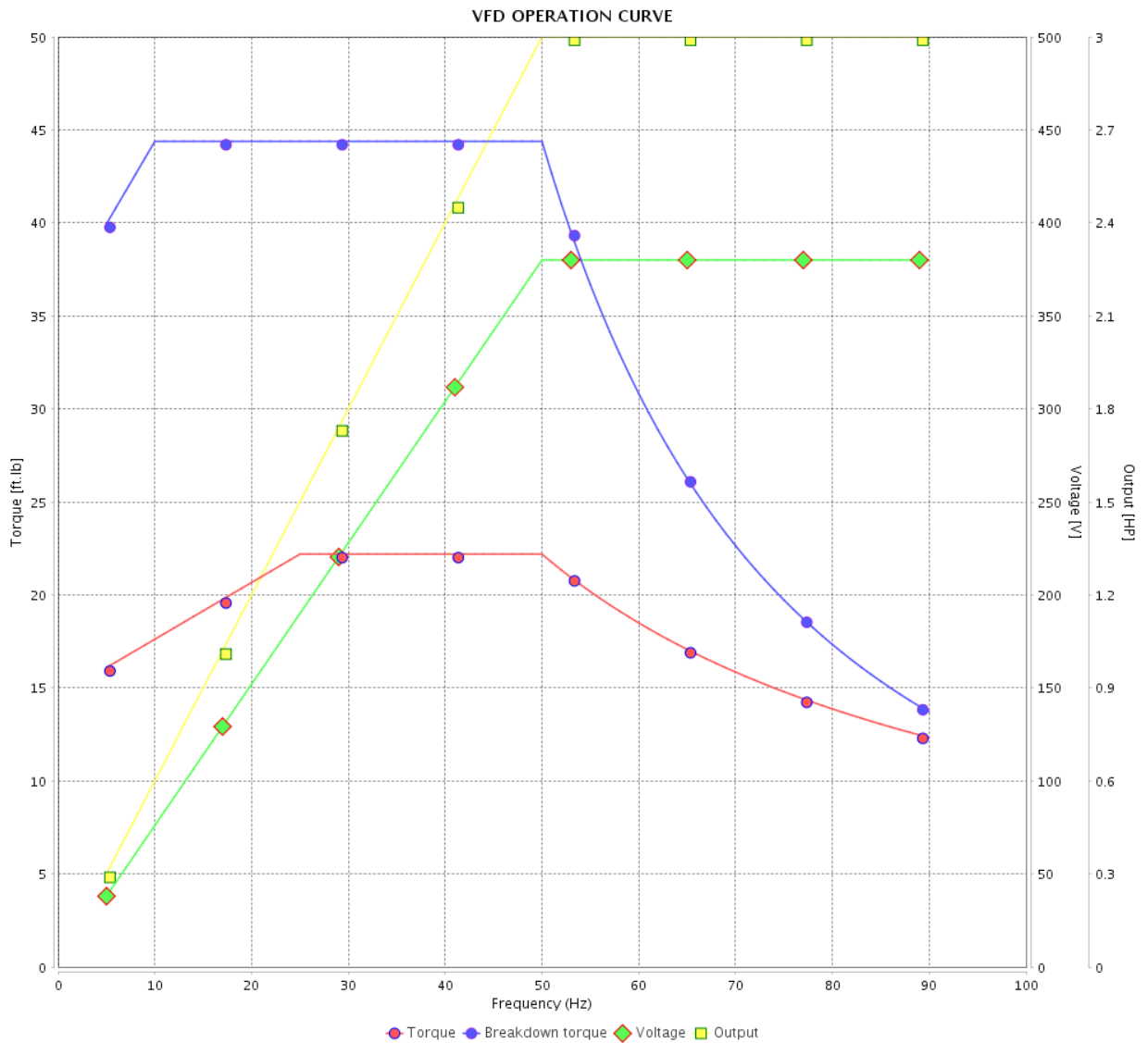


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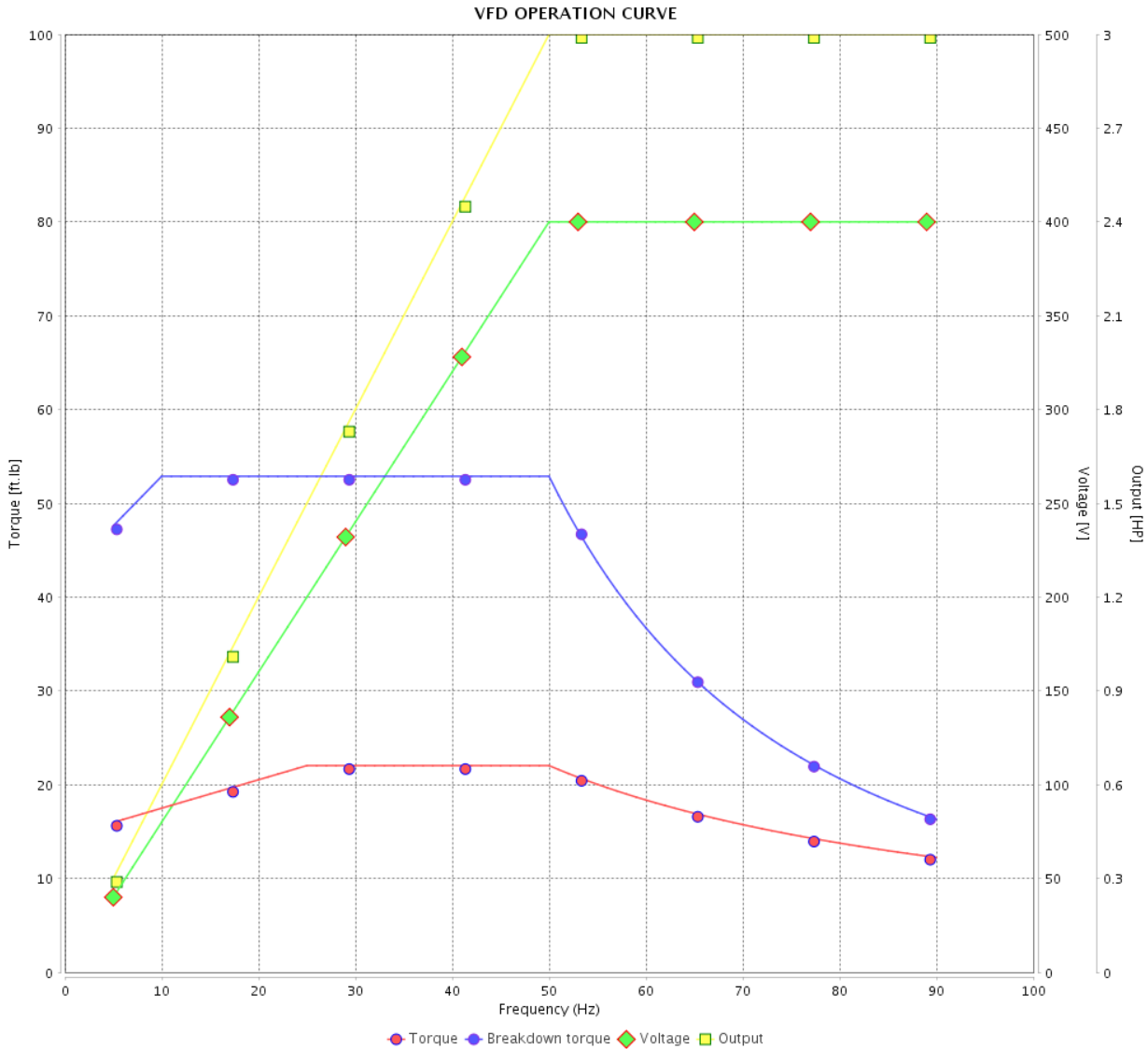


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VFD OPERATION CURVE

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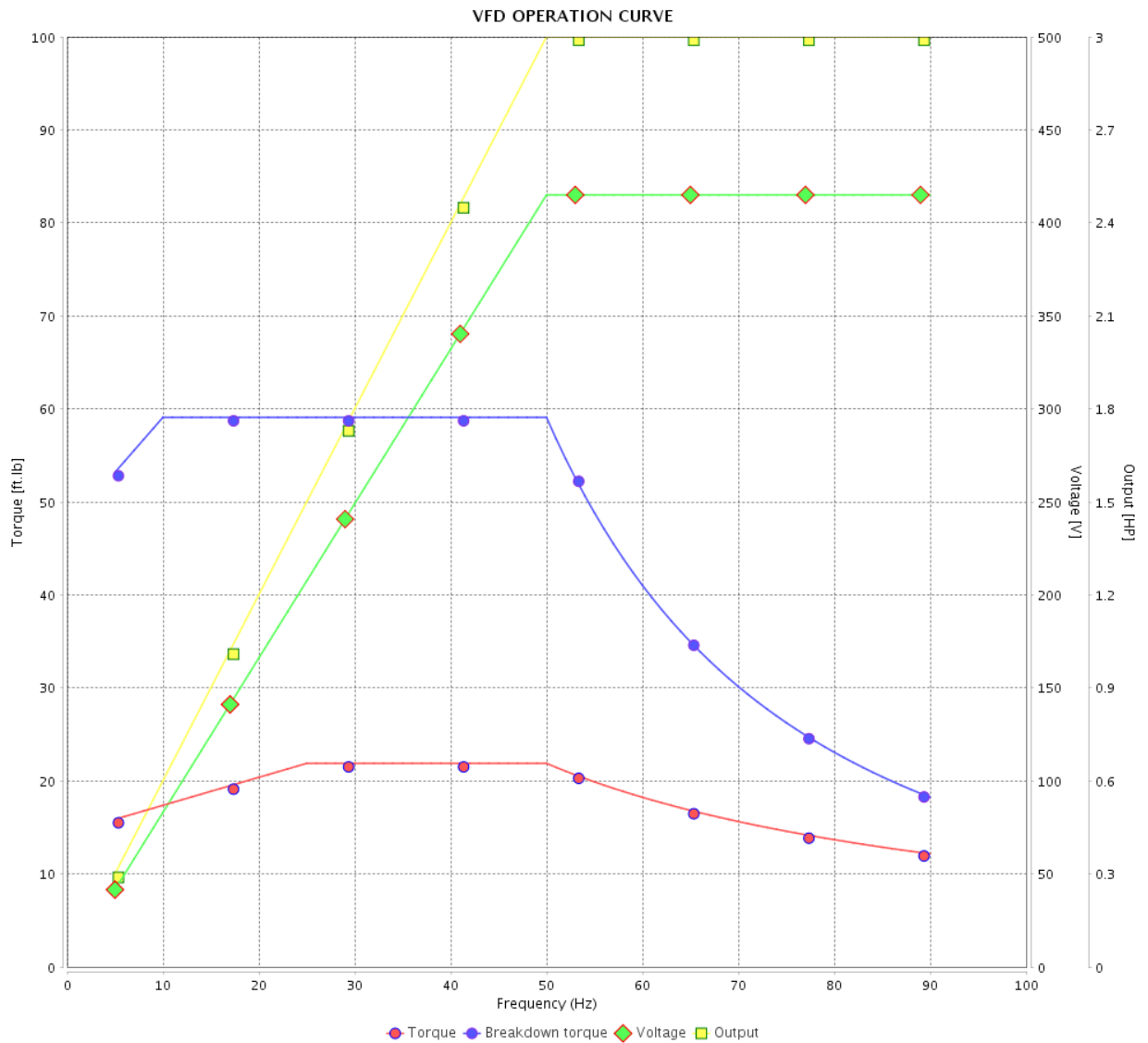


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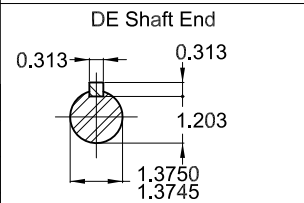
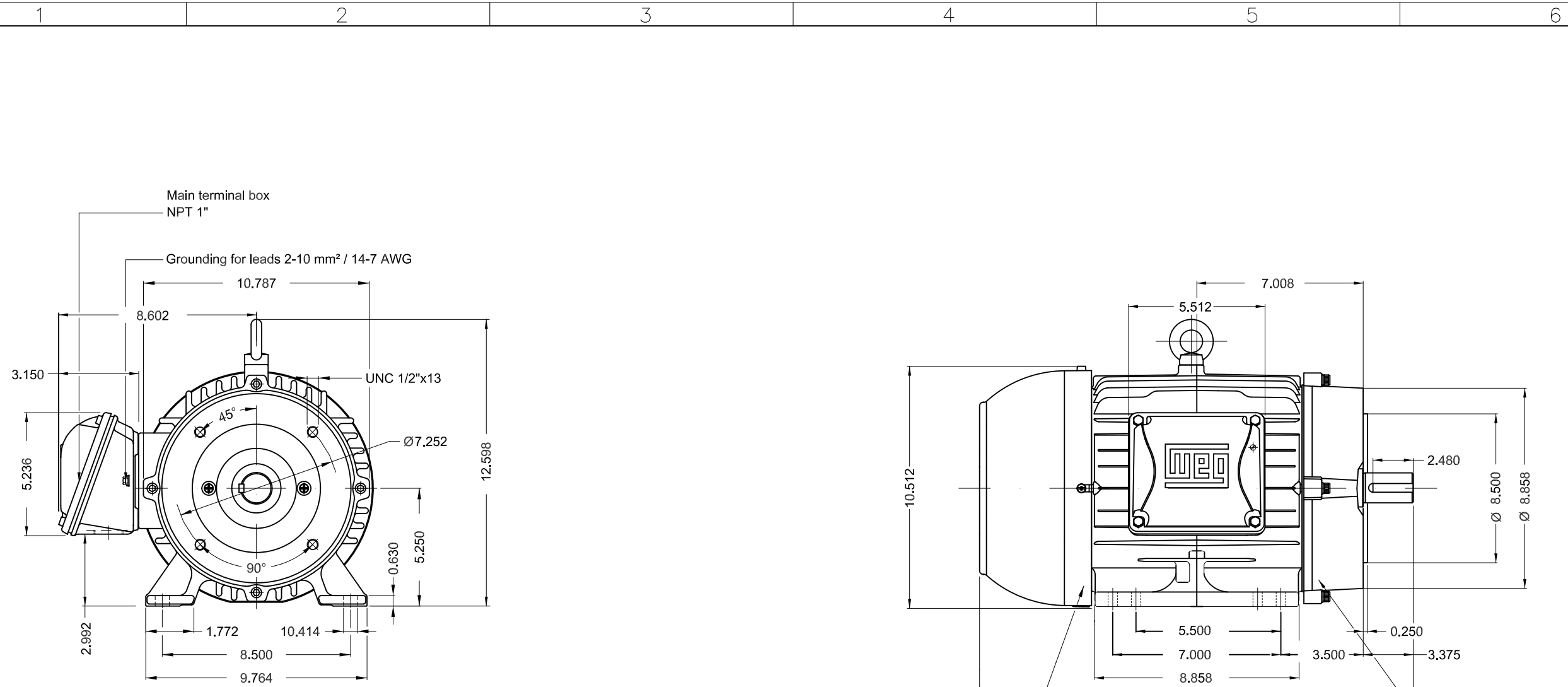


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Bearing cap
 Color RAL 5009
 Painting plan 207A
 Mounting B34R(D)

3 HP 08 Poles 60 Hz A

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--------------------------------|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR W22 PREM. EFF. | | | | | |
| CHECKED | | FRAME 213/5TC IP55 TEFC | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

PREVIEW
 WDD



MADE IN BRAZIL
11507900



W22

MODEL 00309ET3E215TC-W22

Inverter Duty Motor
Severe Duty



For use on 60Hz
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 - T4
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A



FOR SAFE AREA
Mod. TE1BFOXON
CC029A

PH3 60Hz Fr. 213/5TC 1000m.a.s.l. IP55 TEFC 186lb

V 230/460

A 9.10/4.55

HP 3.0

kW 2.2

SF 1.25

SFA 11.4/5.69

RPM 870

PF 0.71

AMB 40°C

INS cl. F DT80K

NEMA NOM EFF 85.5%

DUTY CONT.

DES B Code K

USABLE @208V 10.1A SF 1.15 SFA 11.6

3.0HP 2.2kW 50Hz 380V 5.33A 710RPM SF 1.25 SFA 6.66 EFF 82.5% (IE3)

