

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------|
| Customer | | | | | |
| Product line | | : W40 JM Pump NEMA Premium Efficiency Three-Phase | | Product code : 14484696 | |
| | | | | Catalog # : 03036OT3E284JM-W40 | |
| Frame | | : 284JM | | 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 : 321 lb | |
| Protection degree | | : IP23 | | Moment of inertia (J) : 1.59 sq.ft.lb | |
| Design | | : B | | | |
| Output [HP] | 30 | 25 | 25 | 25 | 25 |
| Poles | 2 | 2 | 2 | 2 | 2 |
| Frequency [Hz] | 60 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | 230/460 | 380 | 400 | 415 | 415 |
| Rated current [A] | 70.0/35.0 | 35.0 | 34.0 | 33.6 | 33.6 |
| L. R. Amperes [A] | 441/221 | 231 | 238 | 225 | 225 |
| LRC [A] | 6.3x(Code G) | 6.6x(Code G) | 7.0x(Code H) | 6.7x(Code H) | 6.7x(Code H) |
| No load current [A] | 25.8/12.9 | 11.0 | 13.0 | 14.0 | 14.0 |
| Rated speed [RPM] | 3550 | 2940 | 2950 | 2955 | 2955 |
| Slip [%] | 1.39 | 2.00 | 1.67 | 1.50 | 1.50 |
| Rated torque [ft.lb] | 44.4 | 44.7 | 44.5 | 44.4 | 44.4 |
| Locked rotor torque [%] | 180 | 170 | 190 | 200 | 200 |
| Breakdown torque [%] | 260 | 240 | 260 | 270 | 270 |
| Service factor | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | 80 K |
| Locked rotor time | 18s (cold) 10s (hot) | 12s (cold) 7s (hot) | 12s (cold) 7s (hot) | 16s (cold) 9s (hot) | 16s (cold) 9s (hot) |
| Noise level ² | 73.0 dB(A) | | | | |
| Efficiency (%) | 25% | 90.0 | 88.0 | 88.2 | 88.3 |
| | 50% | 90.2 | 89.7 | 89.8 | 89.8 |
| | 75% | 91.7 | 90.7 | 90.8 | 90.8 |
| | 100% | 91.7 | 92.4 | 92.4 | 92.4 |
| Power Factor | 25% | 0.47 | 0.51 | 0.45 | 0.42 |
| | 50% | 0.73 | 0.75 | 0.70 | 0.66 |
| | 75% | 0.82 | 0.83 | 0.80 | 0.77 |
| | 100% | 0.86 | 0.87 | 0.85 | 0.83 |
| Bearing type | : Drive end : 6311 Z C3 | : Non drive end : 6211 Z C3 | Foundation loads | | |
| Sealing | : Without | : Without | Max. traction | | |
| | : Bearing Seal | : Bearing Seal | Max. compression | | |
| Lubrication interval | : 20000 h | : 20000 h | | | |
| Lubricant amount | : 18 g | : 11 g | | | |
| Lubricant type | : Mobil Polyrex EM | | | | |
| Notes | | | | | |
| USABLE @208V 77.4A SF 1.15 SFA 89.0A | | | | | |
| 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



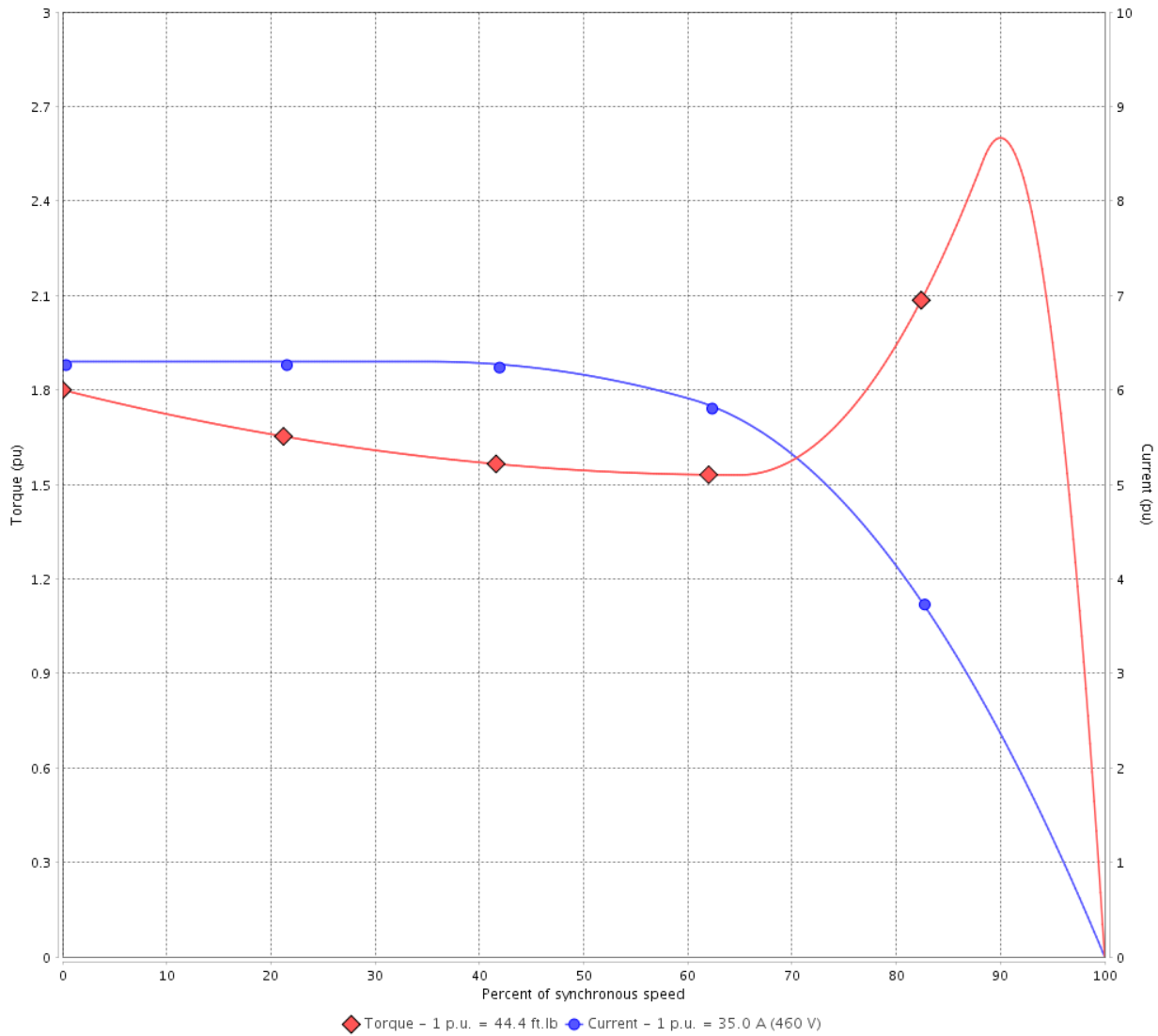
Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14484696

Catalog # : 03036OT3E284JM-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

| | | | |
|---------------------|---------------|-----------------------|-----------------|
| Rated current | : 70.0/35.0 A | Moment of inertia (J) | : 1.59 sq.ft.lb |
| LRC | : 6.3 | Duty cycle | : Cont.(S1) |
| Rated torque | : 44.4 ft.lb | Insulation class | : F |
| Locked rotor torque | : 180 % | Service factor | : 1.25 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 3550 rpm | Design | : B |

Locked rotor time : 18s (cold) 10s (hot)

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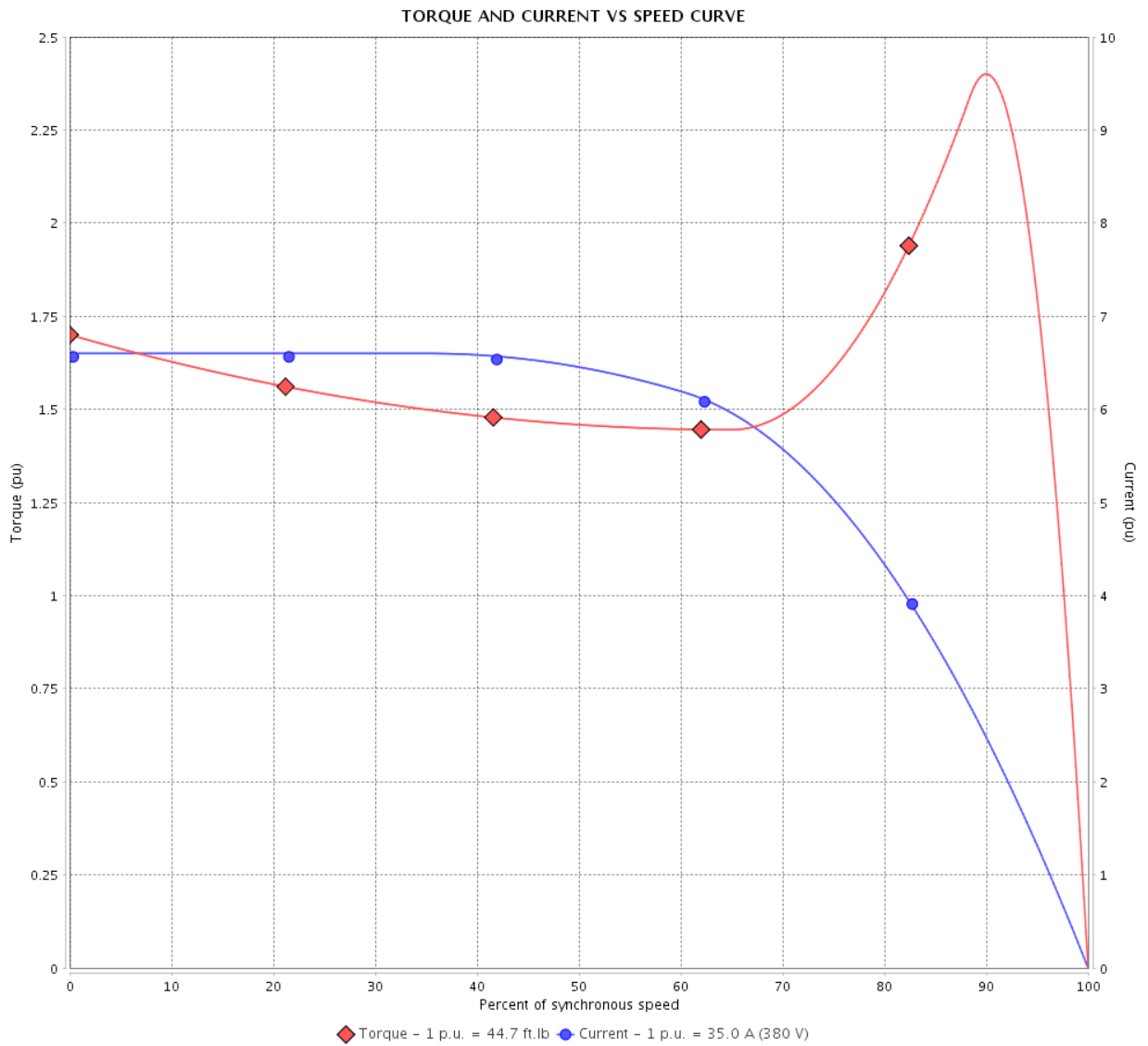
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14484696

Catalog # : 03036OT3E284JM-W40



Performance : 380 V 50 Hz 2P IE3

Rated current : 35.0 A
 LRC : 6.6
 Rated torque : 44.7 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 240 %
 Rated speed : 2940 rpm

Moment of inertia (J) : 1.59 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Locked rotor time : 12s (cold) 7s (hot)

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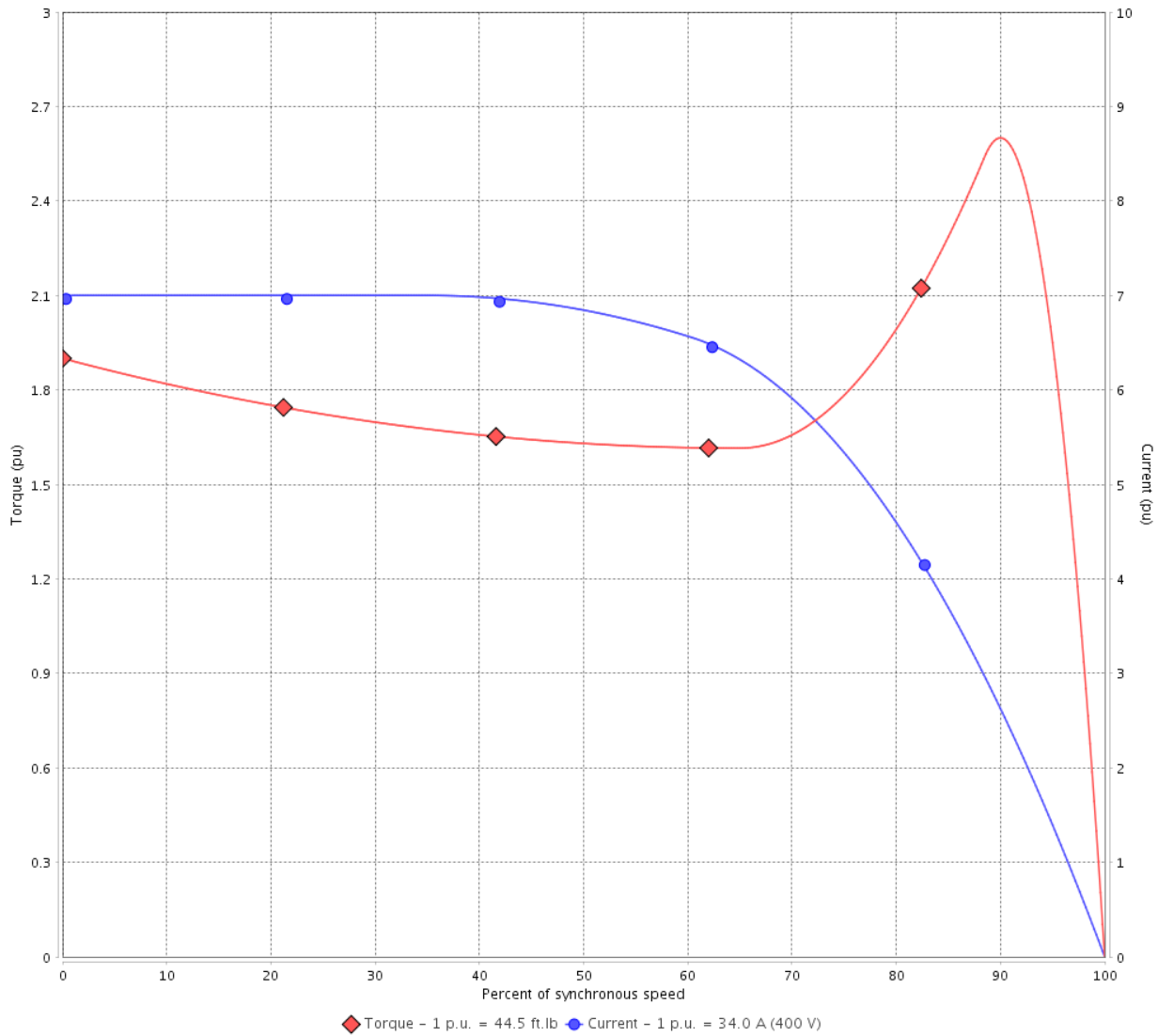
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Product line : W40 JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14484696

Catalog # : 03036OT3E284JM-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 34.0 A | Moment of inertia (J) | : 1.59 sq.ft.lb |
| LRC | : 7.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 44.5 ft.lb | Insulation class | : F |
| Locked rotor torque | : 190 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 2950 rpm | Design | : B |

Locked rotor time : 12s (cold) 7s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



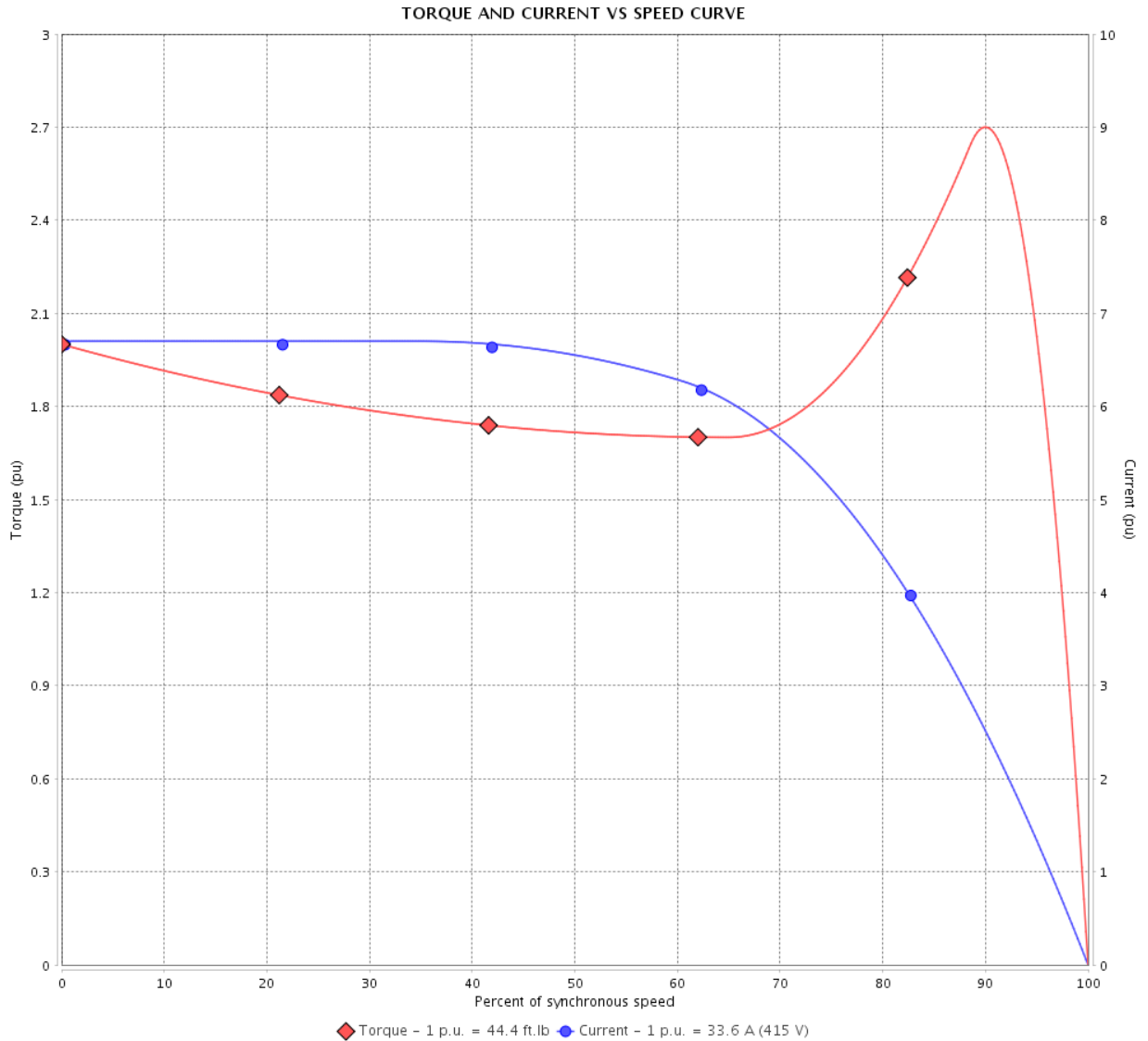
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Performance : 415 V 50 Hz 2P IE3

Rated current : 33.6 A
 LRC : 6.7
 Rated torque : 44.4 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 270 %
 Rated speed : 2955 rpm

Moment of inertia (J) : 1.59 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Locked rotor time : 16s (cold) 9s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



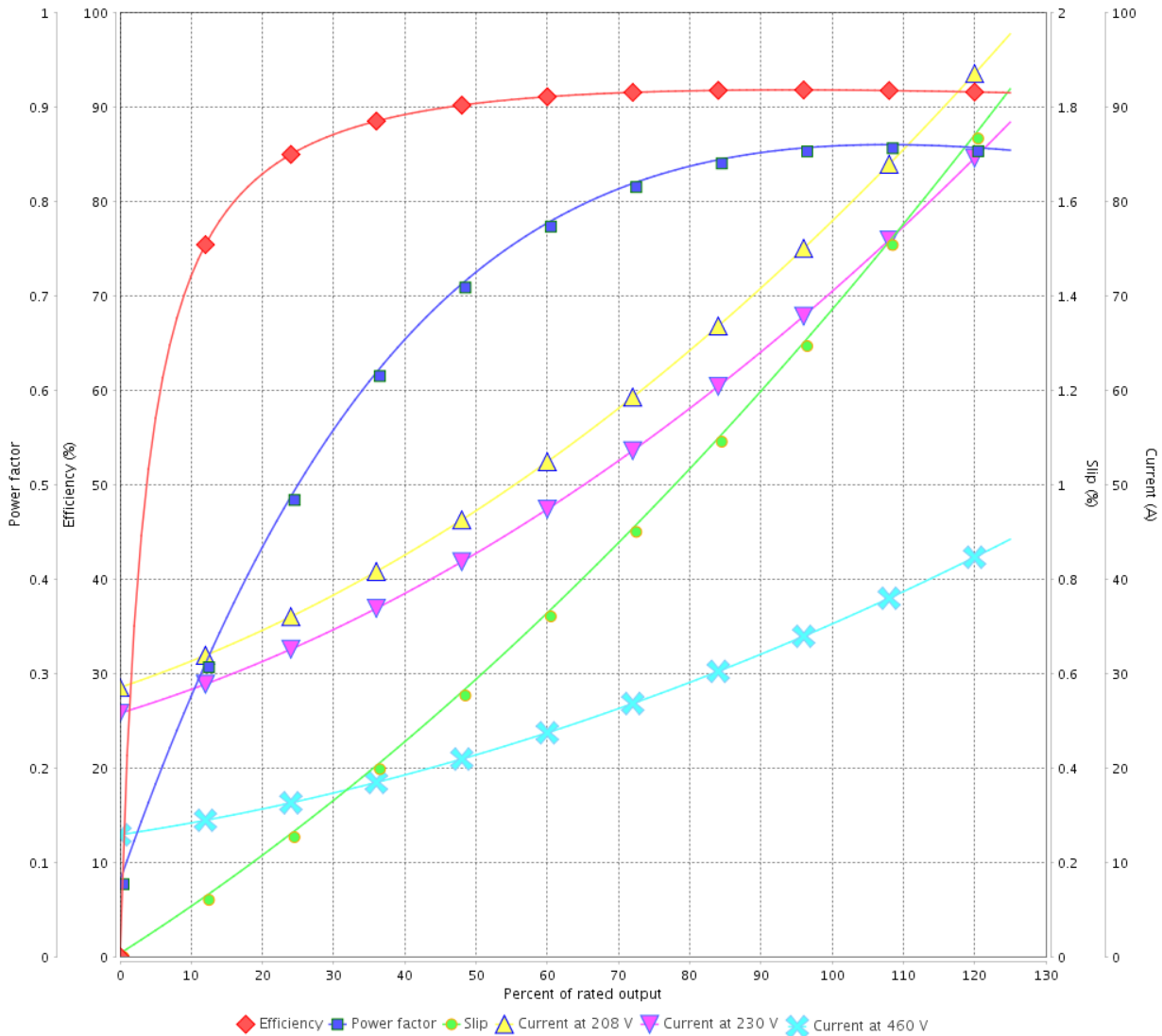
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LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 70.0/35.0 A
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 Locked rotor torque : 180 %
 Breakdown torque : 260 %
 Rated speed : 3550 rpm

Moment of inertia (J) : 1.59 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

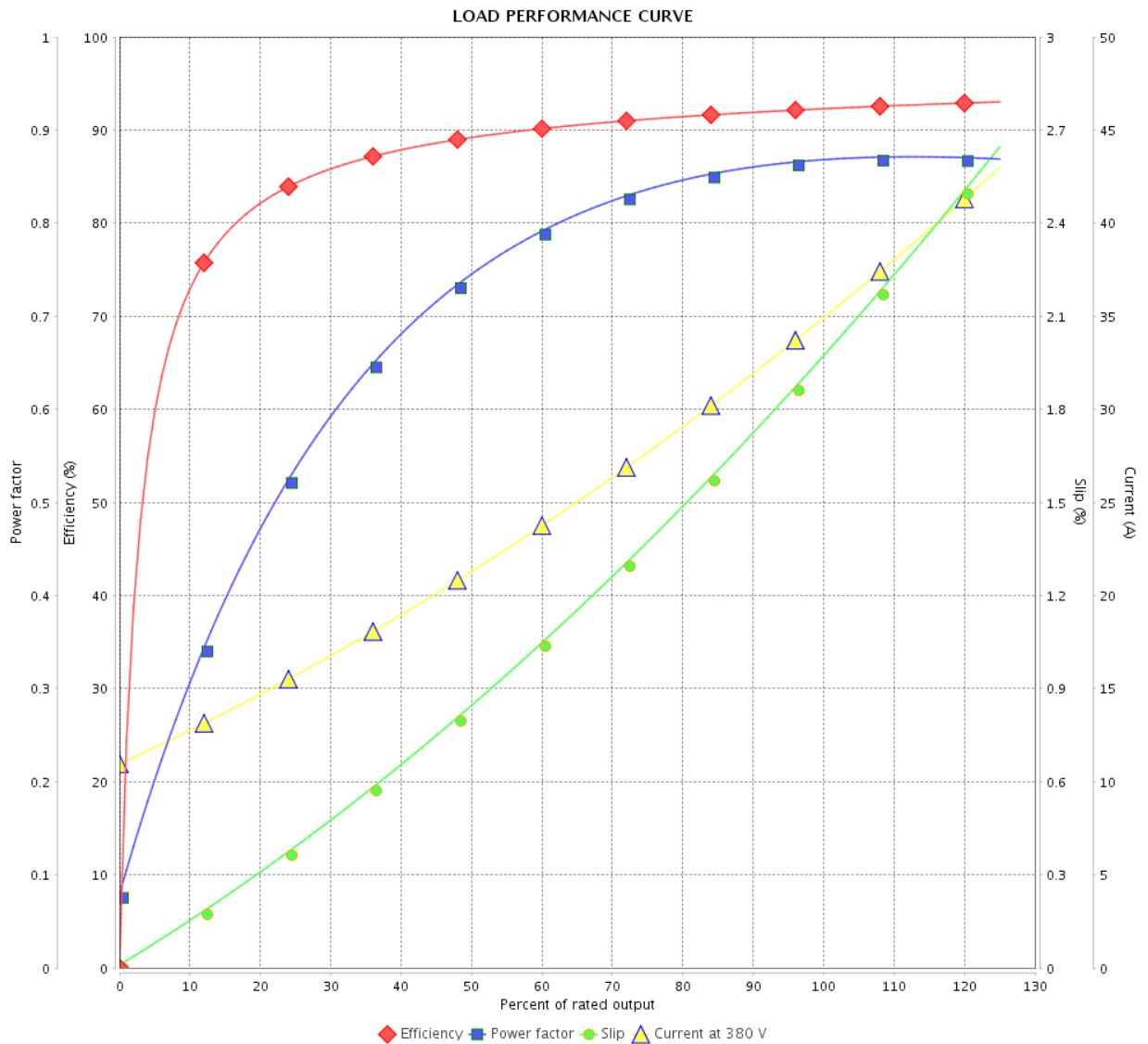


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Efficiency Three-Phase

Product code : 14484696

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Performance : 380 V 50 Hz 2P IE3

Rated current : 35.0 A
LRC : 6.6
Rated torque : 44.7 ft.lb
Locked rotor torque : 170 %
Breakdown torque : 240 %
Rated speed : 2940 rpm

Moment of inertia (J) : 1.59 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

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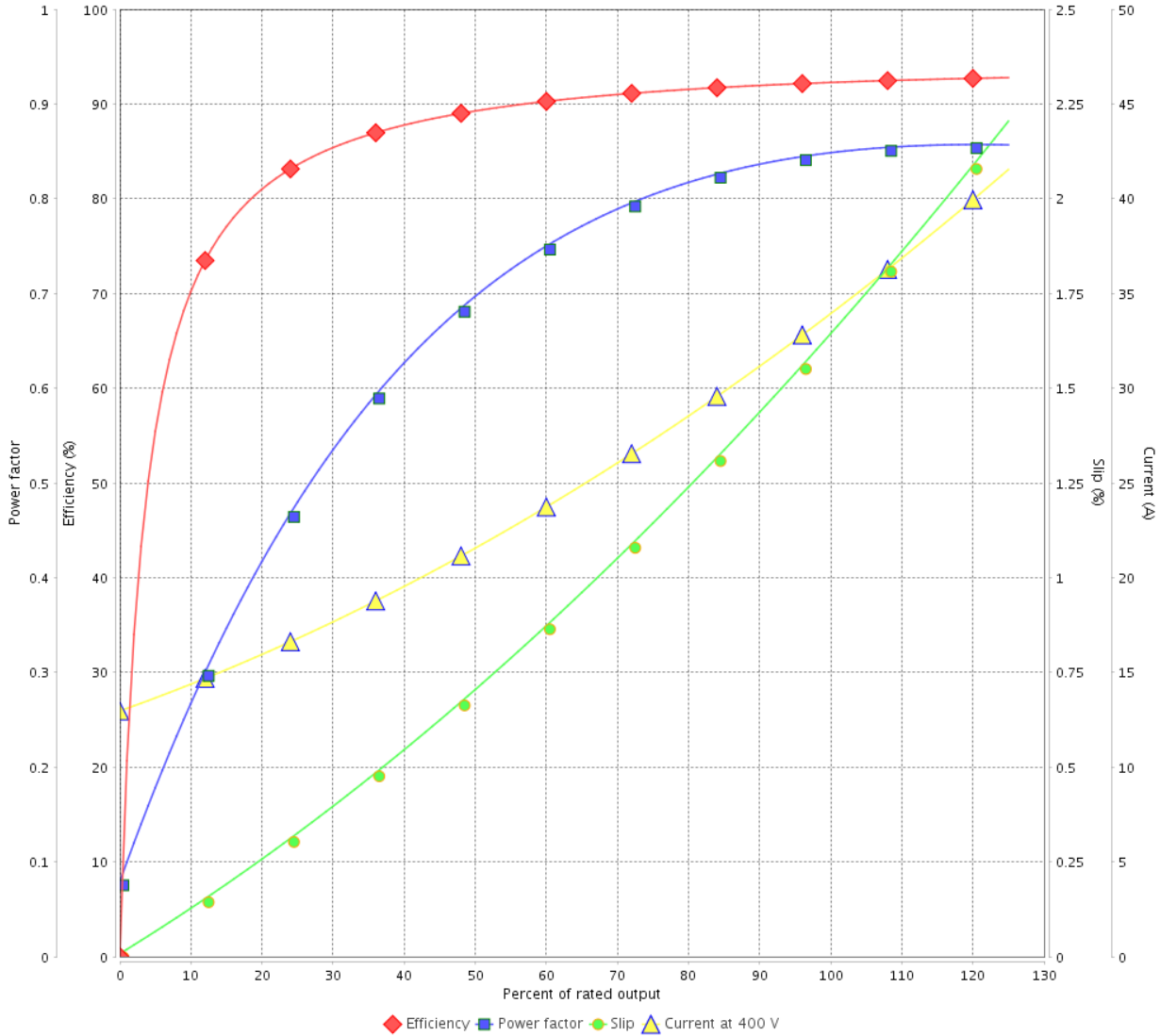
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Performance : 400 V 50 Hz 2P IE3

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 Locked rotor torque : 190 %
 Breakdown torque : 260 %
 Rated speed : 2950 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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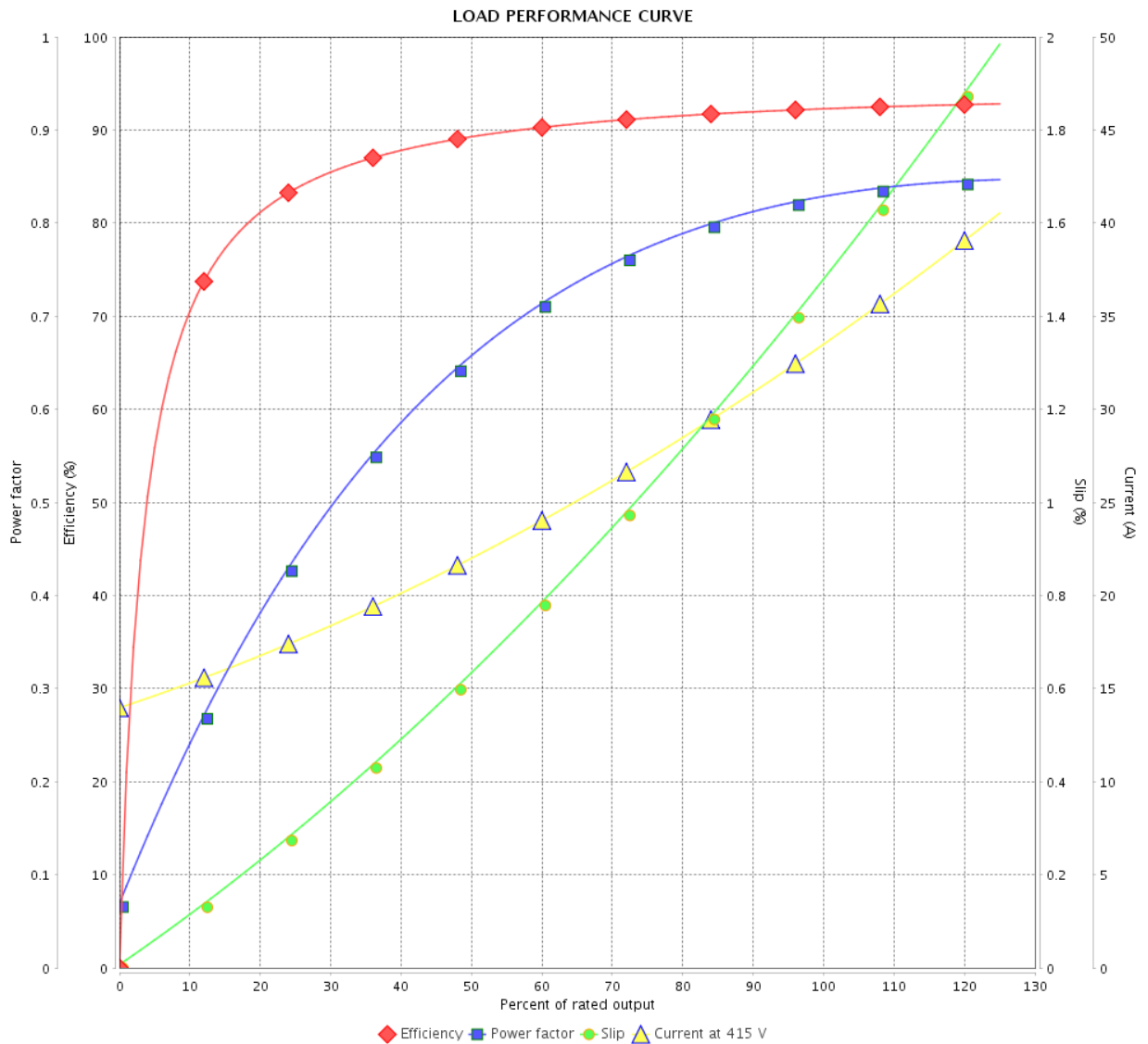


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 Locked rotor torque : 200 %
 Breakdown torque : 270 %
 Rated speed : 2955 rpm

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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

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Performance : 230/460 V 60 Hz 2P

Rated current : 70.0/35.0 A
LRC : 6.3
Rated torque : 44.4 ft.lb
Locked rotor torque : 180 %
Breakdown torque : 260 %
Rated speed : 3550 rpm

Moment of inertia (J) : 1.59 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

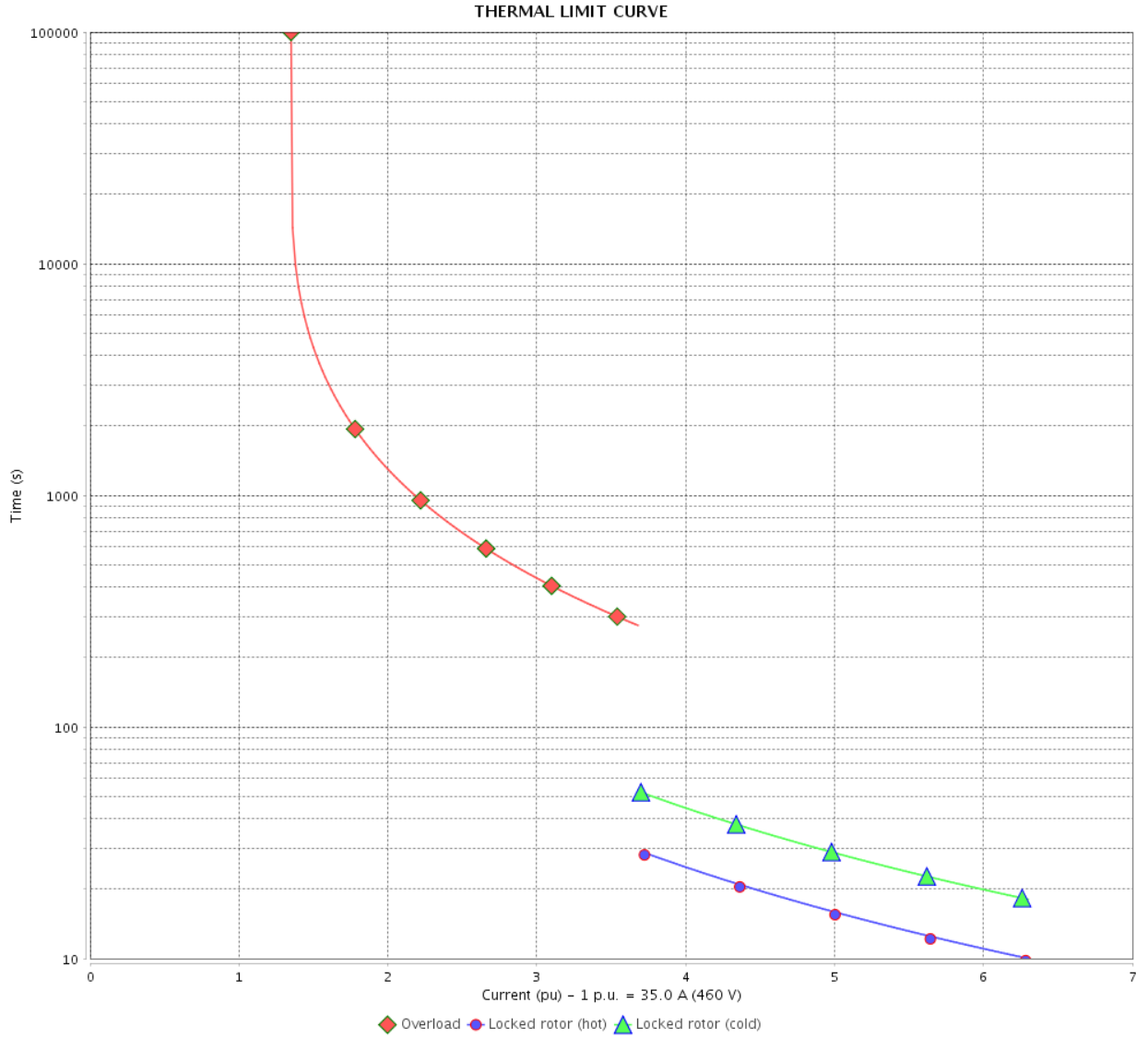
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|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 35.0 A | Moment of inertia (J) | : 1.59 sq.ft.lb |
| LRC | : 6.6 | Duty cycle | : Cont.(S1) |
| Rated torque | : 44.7 ft.lb | Insulation class | : F |
| Locked rotor torque | : 170 % | Service factor | : 1.00 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 2940 rpm | Design | : B |

Heating constant

Cooling constant

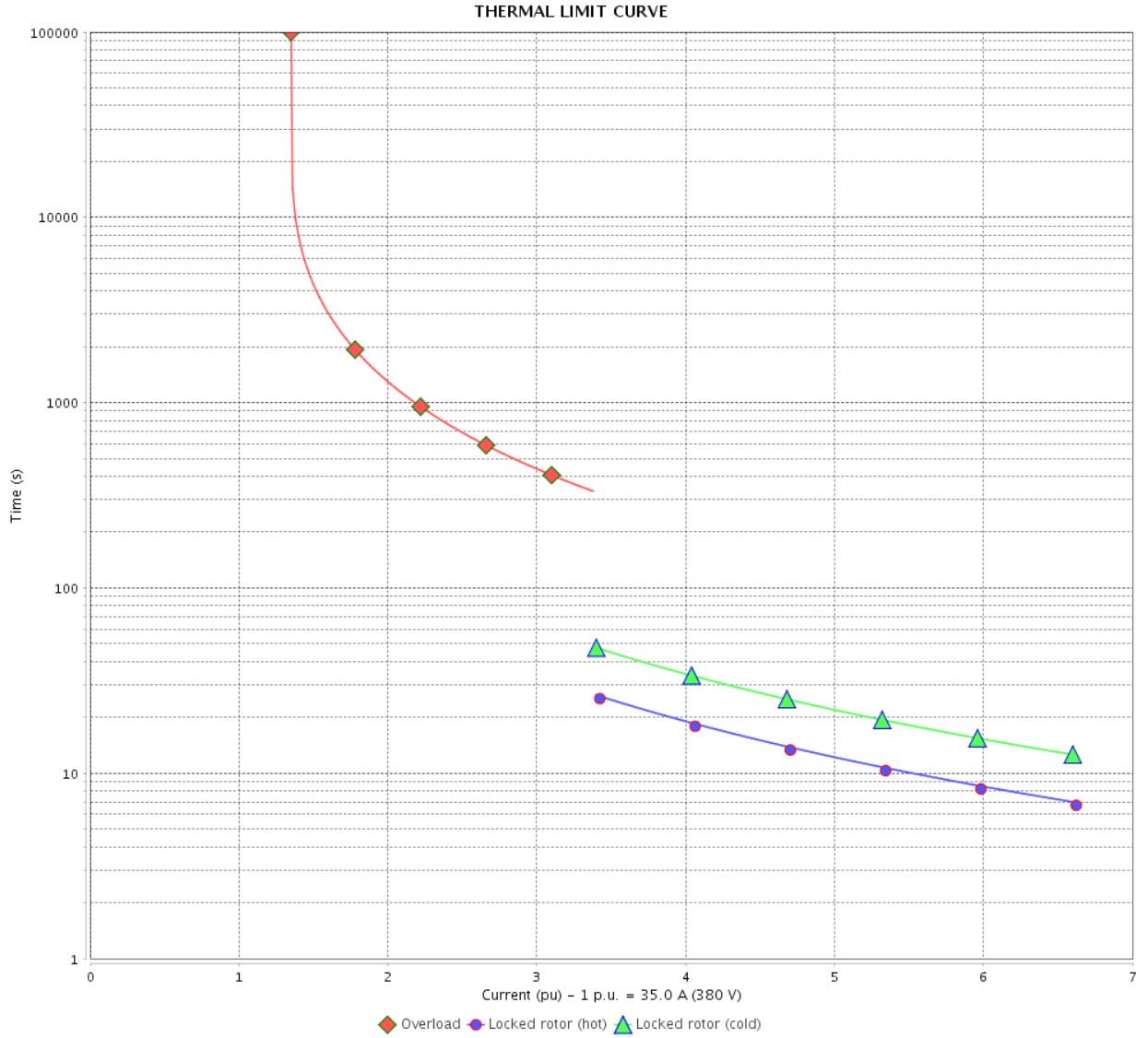
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 14484696

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Performance : 400 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 34.0 A | Moment of inertia (J) | : 1.59 sq.ft.lb |
| LRC | : 7.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 44.5 ft.lb | Insulation class | : F |
| Locked rotor torque | : 190 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 2950 rpm | Design | : B |

Heating constant

Cooling constant

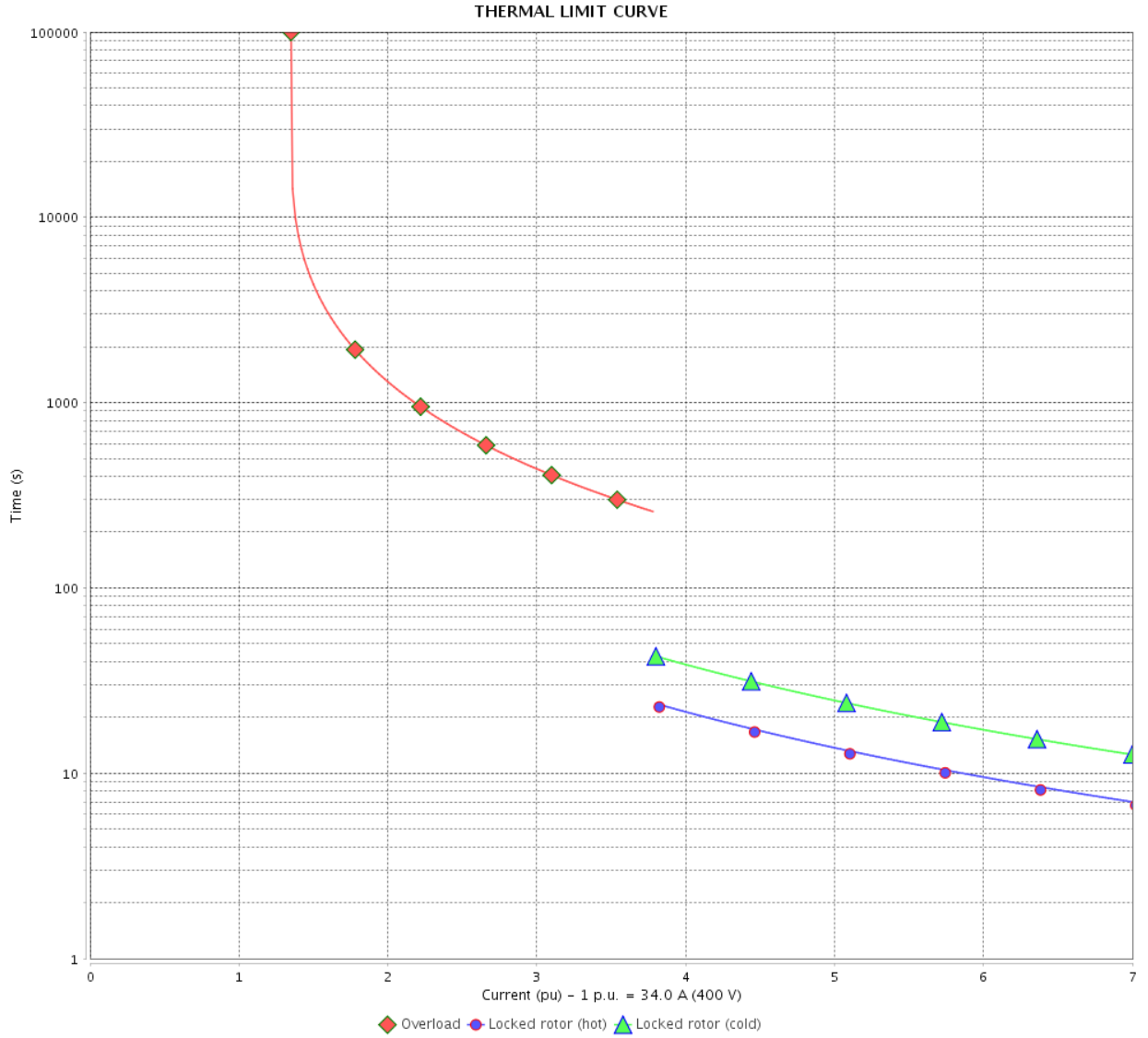
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Performance : 415 V 50 Hz 2P IE3

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|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 33.6 A | Moment of inertia (J) | : 1.59 sq.ft.lb |
| LRC | : 6.7 | Duty cycle | : Cont.(S1) |
| Rated torque | : 44.4 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.00 |
| Breakdown torque | : 270 % | Temperature rise | : 80 K |
| Rated speed | : 2955 rpm | Design | : B |

Heating constant

Cooling constant

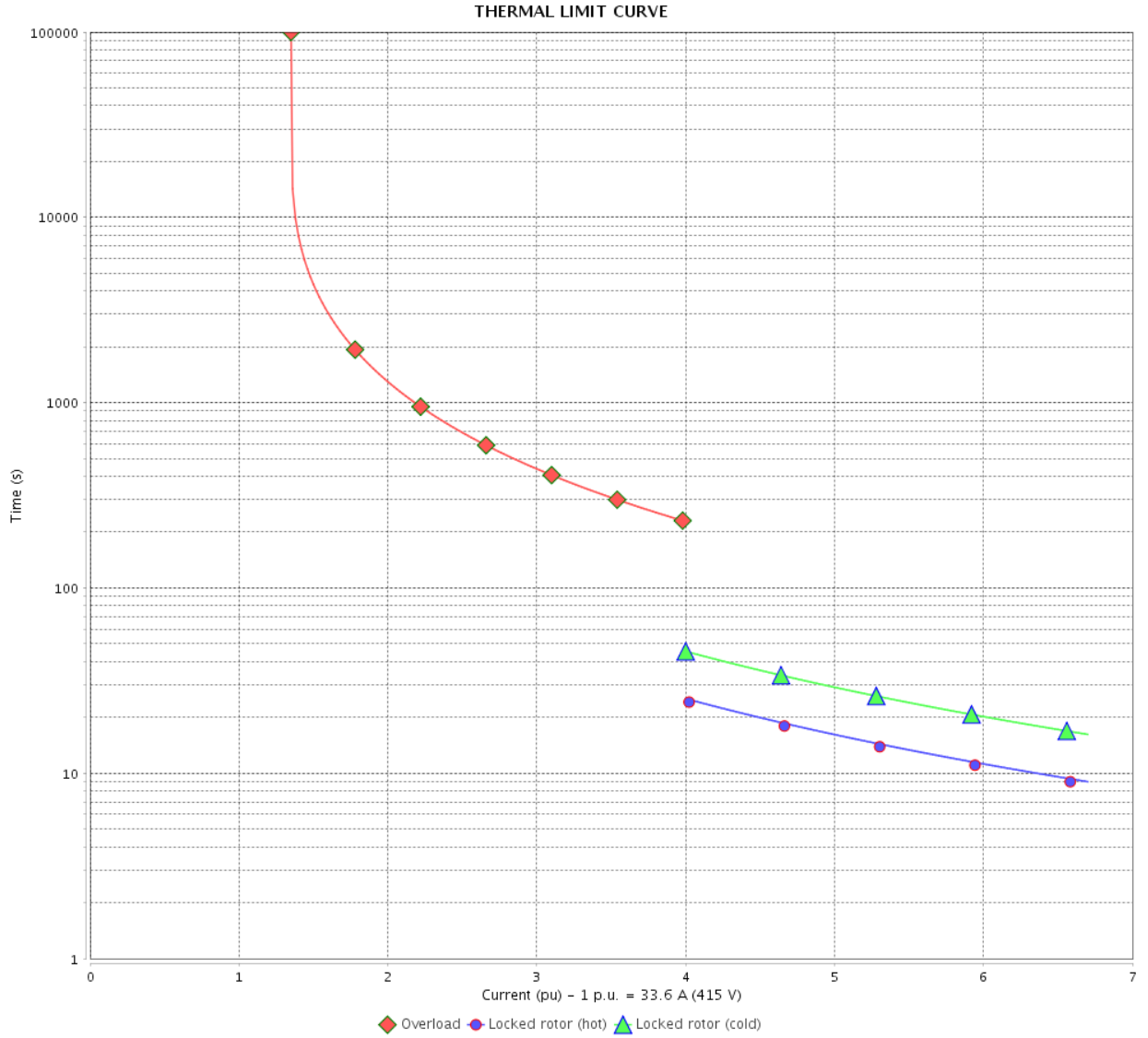
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THERMAL LIMIT CURVE

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



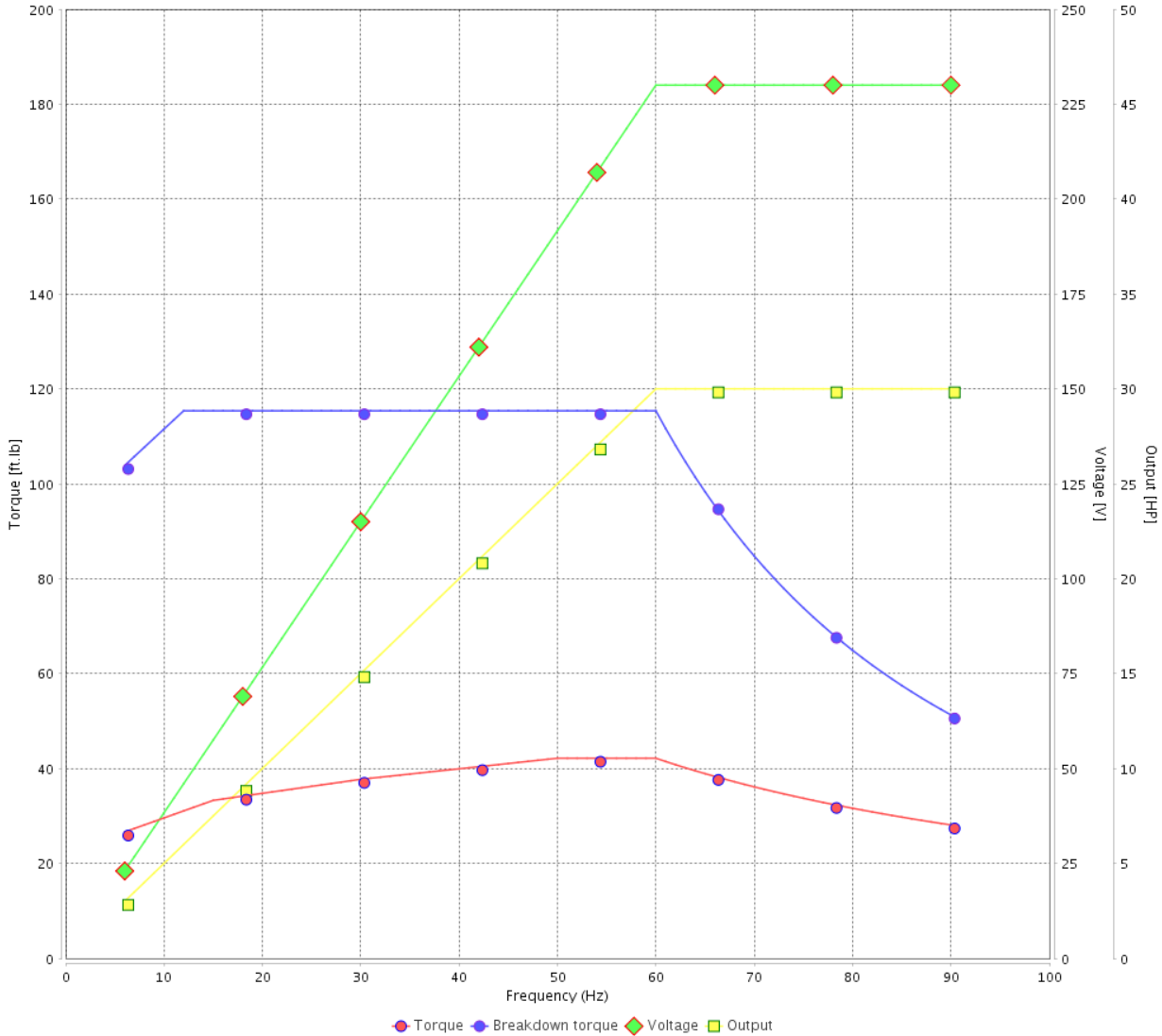
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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 2P

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

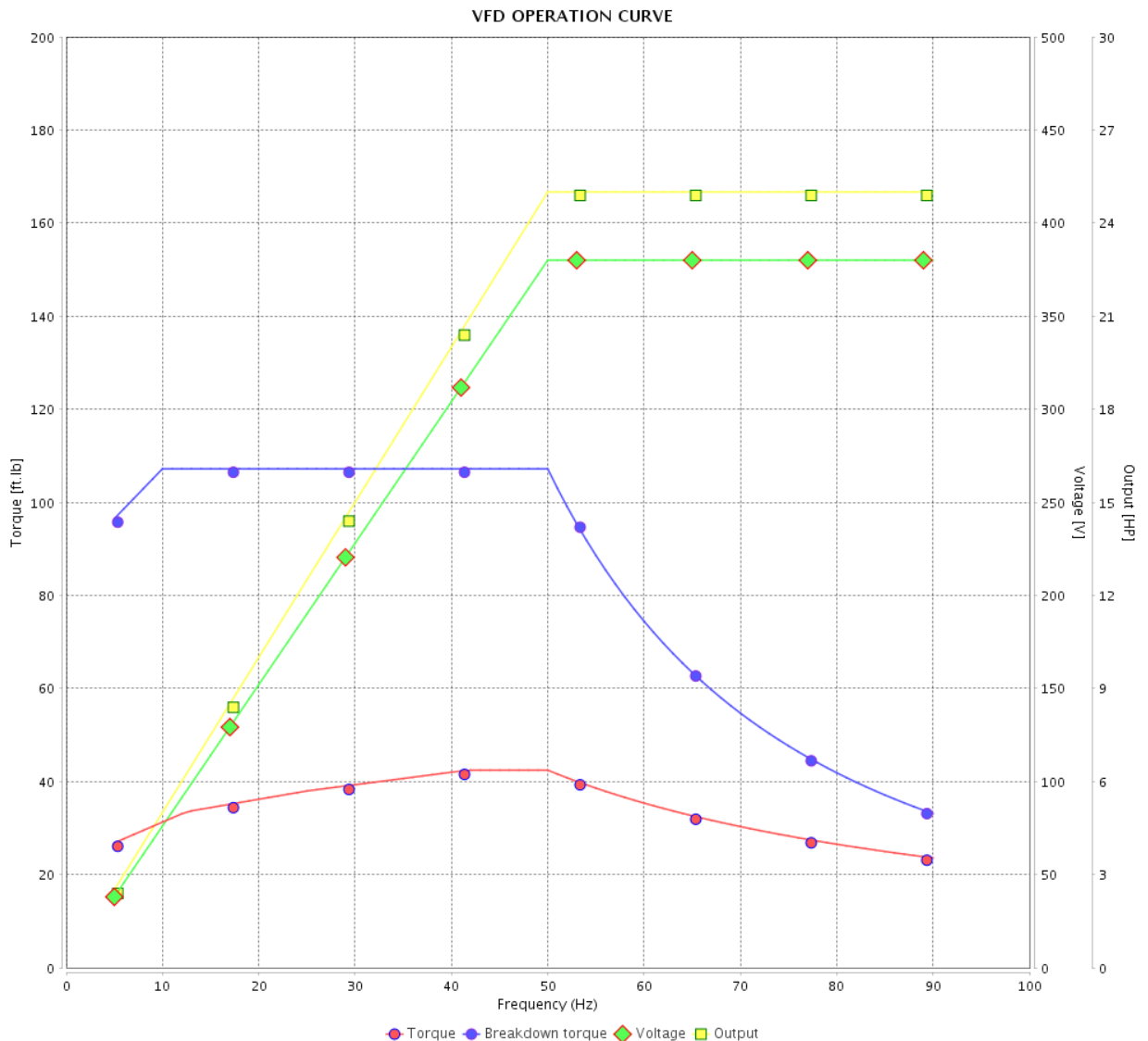


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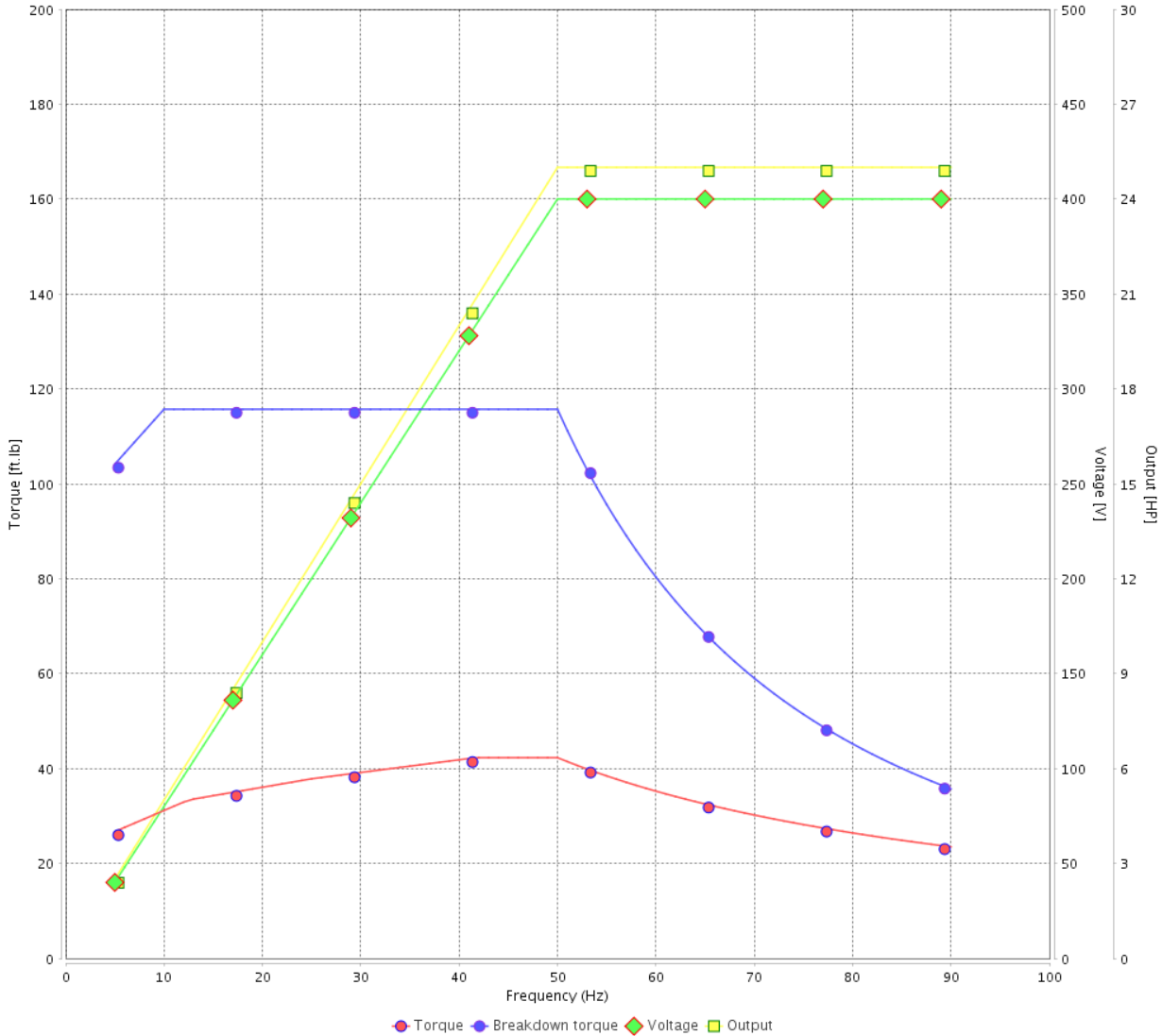
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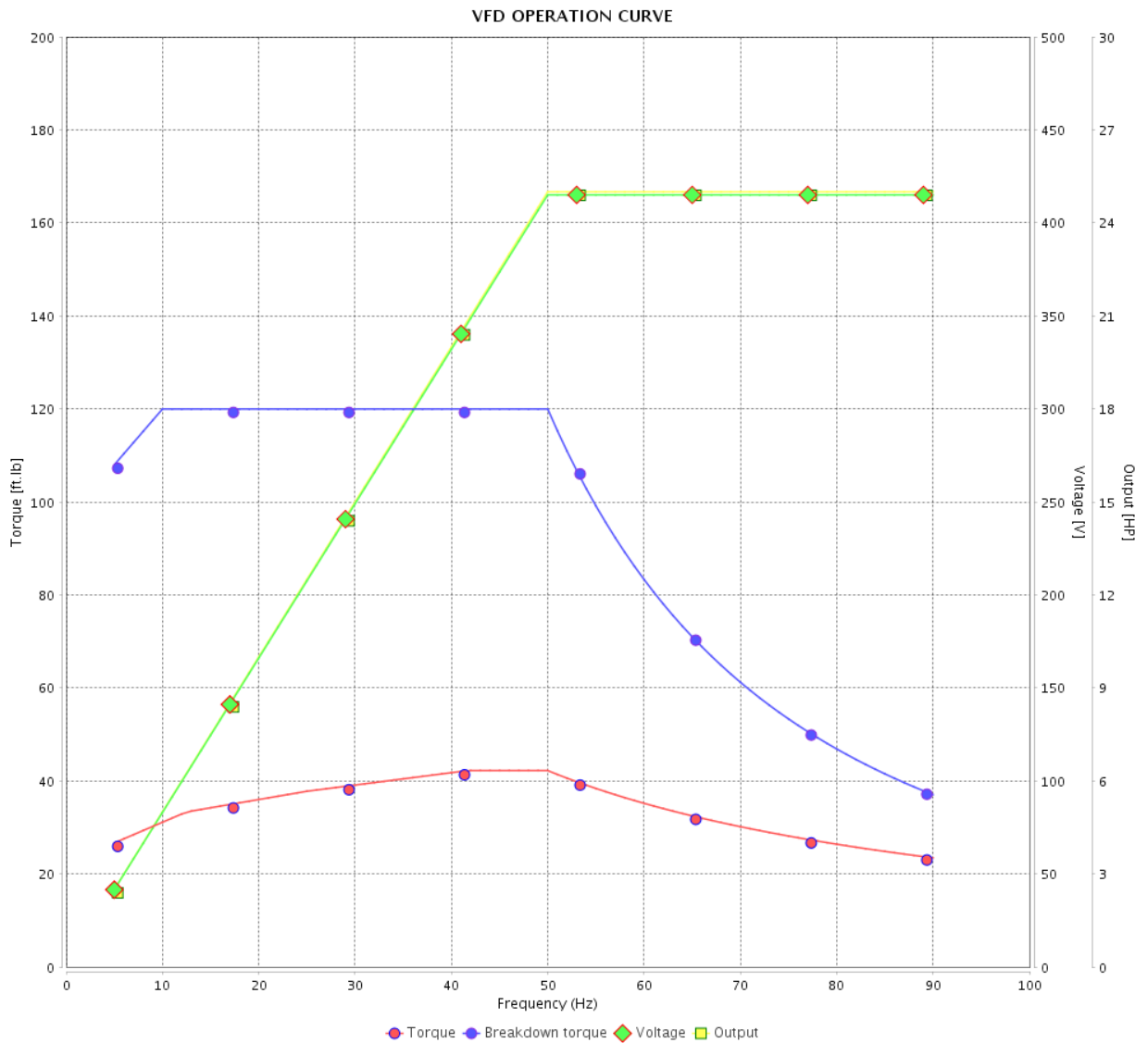


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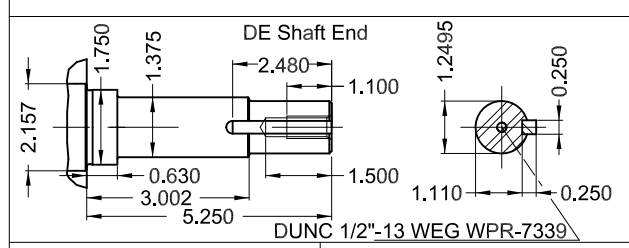
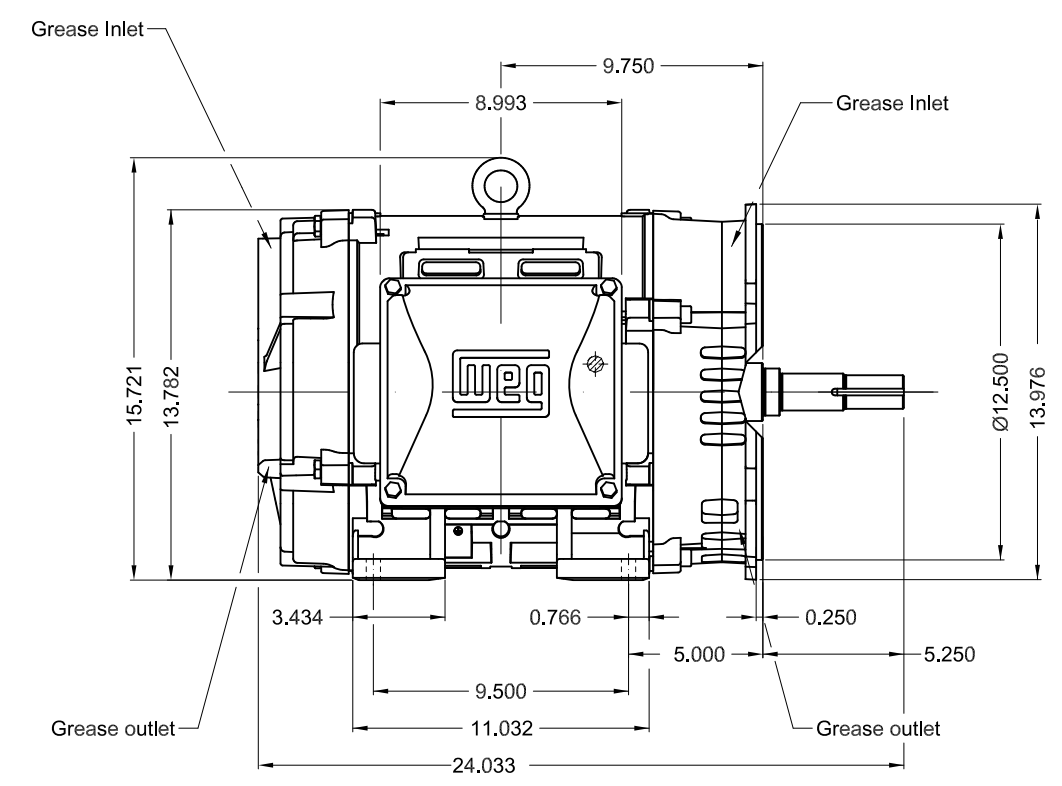
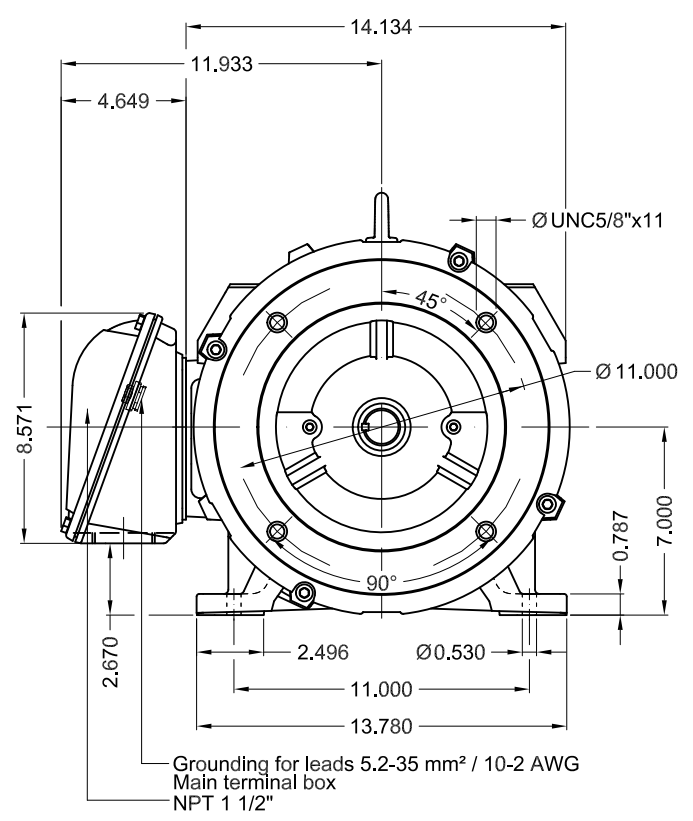


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30 HP 02 Poles 60 Hz A

1:7

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|---------------------------------------------------------|----------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR W40 CLOSE COUPLED PUMP JM TYPE PREM-SET | | | | | |
| CHECKED | | FRAME 284JM IP23 ODP | | | | | |
| RELEASED | | | | | | | |
| REL DT. | | WMO Jaragua do Sul | | | | | |

Color RAL 5009
Painting plan 203A
Mounting NEMA F-1
Mounting B34R(D)

PREVIEW

WDD

SHEET 1 / 1

WEG **W40 NEMA**
CC029A Premium
Inverter Duty Motor



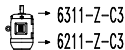
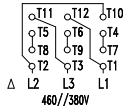
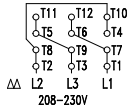
IEC 60034-1
 MOD.T01#FOXON



For 60Hz use on PWM, VT 1000:1, CT 3:1, 1.0SF

MODEL 030360T3E284JM-W40
 MADE IN BRAZIL
 14484696

| | | | |
|------------------------------------------------------------|--------------------|-------------------|---------------|
| PH 3 | FR 284JM | HP(kW) 30.0(22.0) | Hz 60 |
| V 230/460 | A 70.0/35.0 | RPM 3550 | DES B |
| NEMA NOM EFF 91.7 % | INS. CL. F ΔT 80 K | IP23 | |
| ENCL ODP | DUTY CONT. | AMB. 40°C | |
| CODE G | PF 0.86 | SF 1.25 | SFA 87.5/43.8 |
| USABLE @208V 77.4 A | SF 1.15 | SFA 89.0 | |
| 25HP 18.5kW 50Hz 380V 35.0A 2940RPM SF1.00 EFF 92.4% (IE3) | ALT 1000 m.a.s.l. | 322 Lbs | |



MOBIL POLYREX EM
 18 g 20000 h