

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|--------------------------|--|--|-----------------------------|----------------------|
| Customer | | | | | |
| Product line | | : W40 NEMA Premium Efficiency Three-Phase | | Product code : | 14495057 |
| | | | | Catalog # : | 02518OT3E284TC-W40 |
| Frame | | : 284TC | | 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 | : 358 lb |
| Protection degree | | : IP23 | | Moment of inertia (J) | : 3.71 sq.ft.lb |
| Design | | : B | | | |
| Output [HP] | 25 | 20 | 20 | 20 | 20 |
| Poles | 4 | 4 | 4 | 4 | 4 |
| Frequency [Hz] | 60 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | 230/460 | 380 | 400 | 415 | 415 |
| Rated current [A] | 59.0/29.5 | 29.5 | 28.7 | 28.0 | 28.0 |
| L. R. Amperes [A] | 372/186 | 171 | 192 | 190 | 190 |
| LRC [A] | 6.3x(Code G) | 5.8x(Code G) | 6.7x(Code H) | 6.8x(Code J) | 6.8x(Code J) |
| No load current [A] | 22.0/11.0 | 10.0 | 11.0 | 12.0 | 12.0 |
| Rated speed [RPM] | 1765 | 1465 | 1470 | 1475 | 1475 |
| Slip [%] | 1.94 | 2.33 | 2.00 | 1.67 | 1.67 |
| Rated torque [ft.lb] | 74.2 | 71.4 | 71.2 | 71.2 | 71.2 |
| Locked rotor torque [%] | 250 | 229 | 250 | 270 | 270 |
| Breakdown torque [%] | 270 | 250 | 290 | 300 | 300 |
| 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 | 64s (cold) 36s (hot) | 70s (cold) 39s (hot) | 64s (cold) 36s (hot) | 61s (cold) 34s (hot) | 61s (cold) 34s (hot) |
| Noise level ² | 64.0 dB(A) | | | | |
| Efficiency (%) | 25% | 92.8 | 91.5 | 91.5 | 91.5 |
| | 50% | 93.0 | 91.7 | 91.7 | 91.7 |
| | 75% | 93.6 | 92.1 | 92.1 | 92.1 |
| | 100% | 93.6 | 92.1 | 92.1 | 92.1 |
| Power Factor | 25% | 0.45 | 0.46 | 0.42 | 0.38 |
| | 50% | 0.69 | 0.69 | 0.65 | 0.62 |
| | 75% | 0.80 | 0.79 | 0.77 | 0.74 |
| | 100% | 0.84 | 0.84 | 0.82 | 0.81 |
| 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 65.2A SF 1.15 SFA 75.0A | | | | | |
| 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 |
| Performed by | | | | | |
| Checked by | | | | Page | Revision |
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



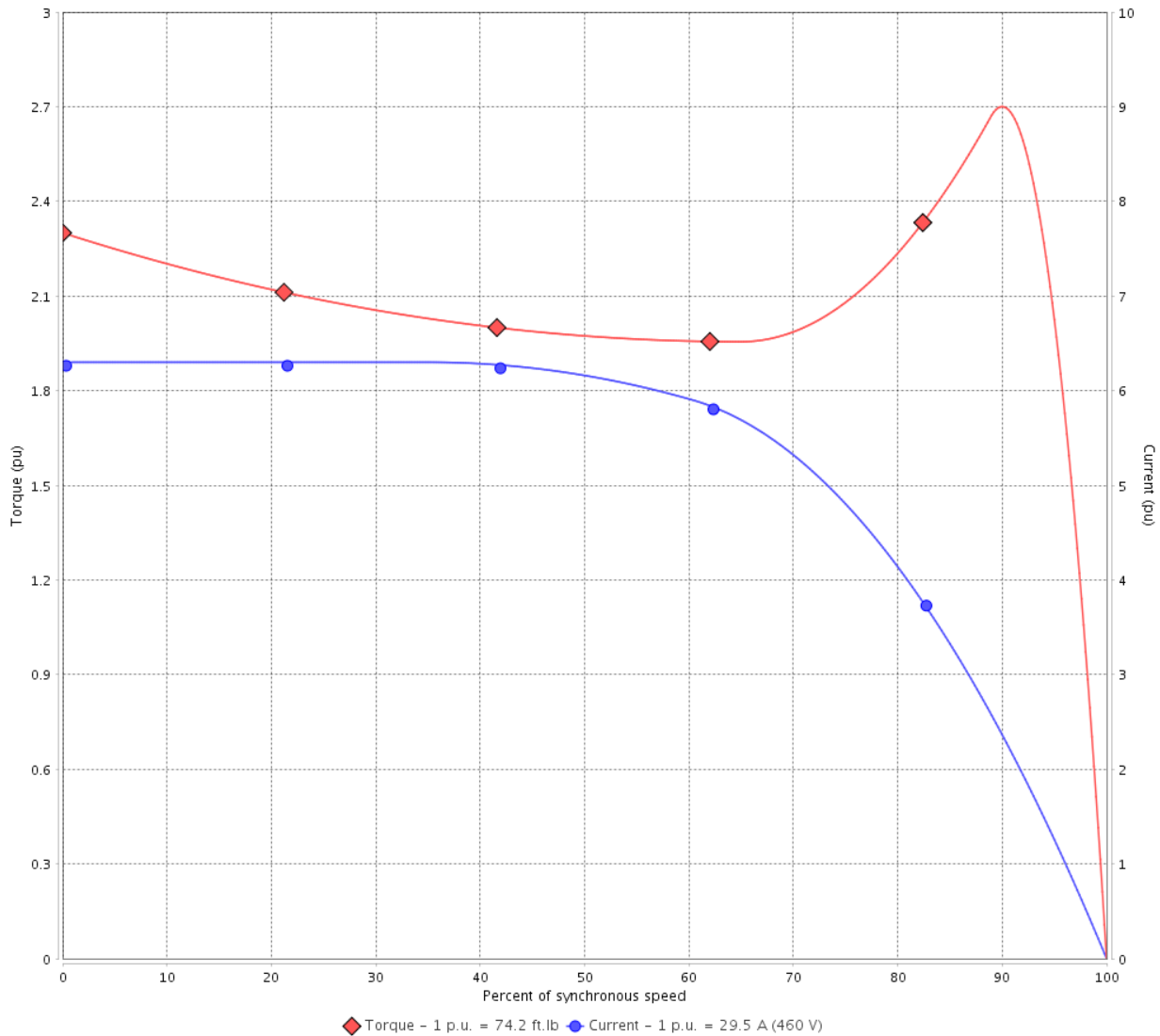
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14495057

Catalog # : 02518OT3E284TC-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A
LRC : 6.3
Rated torque : 74.2 ft.lb
Locked rotor torque : 250 %
Breakdown torque : 270 %
Rated speed : 1765 rpm

Moment of inertia (J) : 3.71 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Locked rotor time : 64s (cold) 36s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



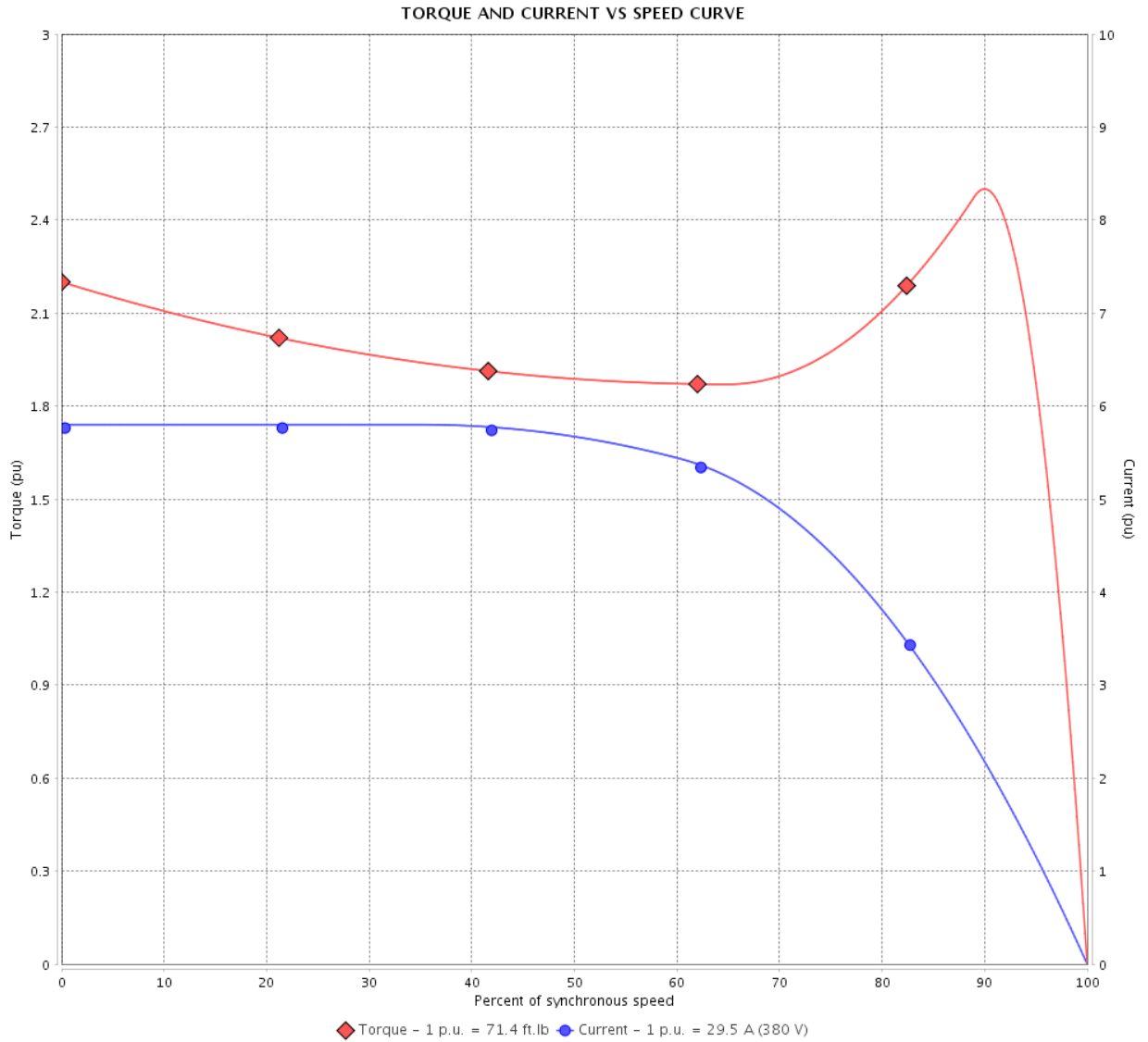
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14495057

Catalog # : 02518OT3E284TC-W40



Performance : 380 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 29.5 A | Moment of inertia (J) | : 3.71 sq.ft.lb |
| LRC | : 5.8 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.4 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.00 |
| Breakdown torque | : 250 % | Temperature rise | : 80 K |
| Rated speed | : 1465 rpm | Design | : B |

Locked rotor time : 70s (cold) 39s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



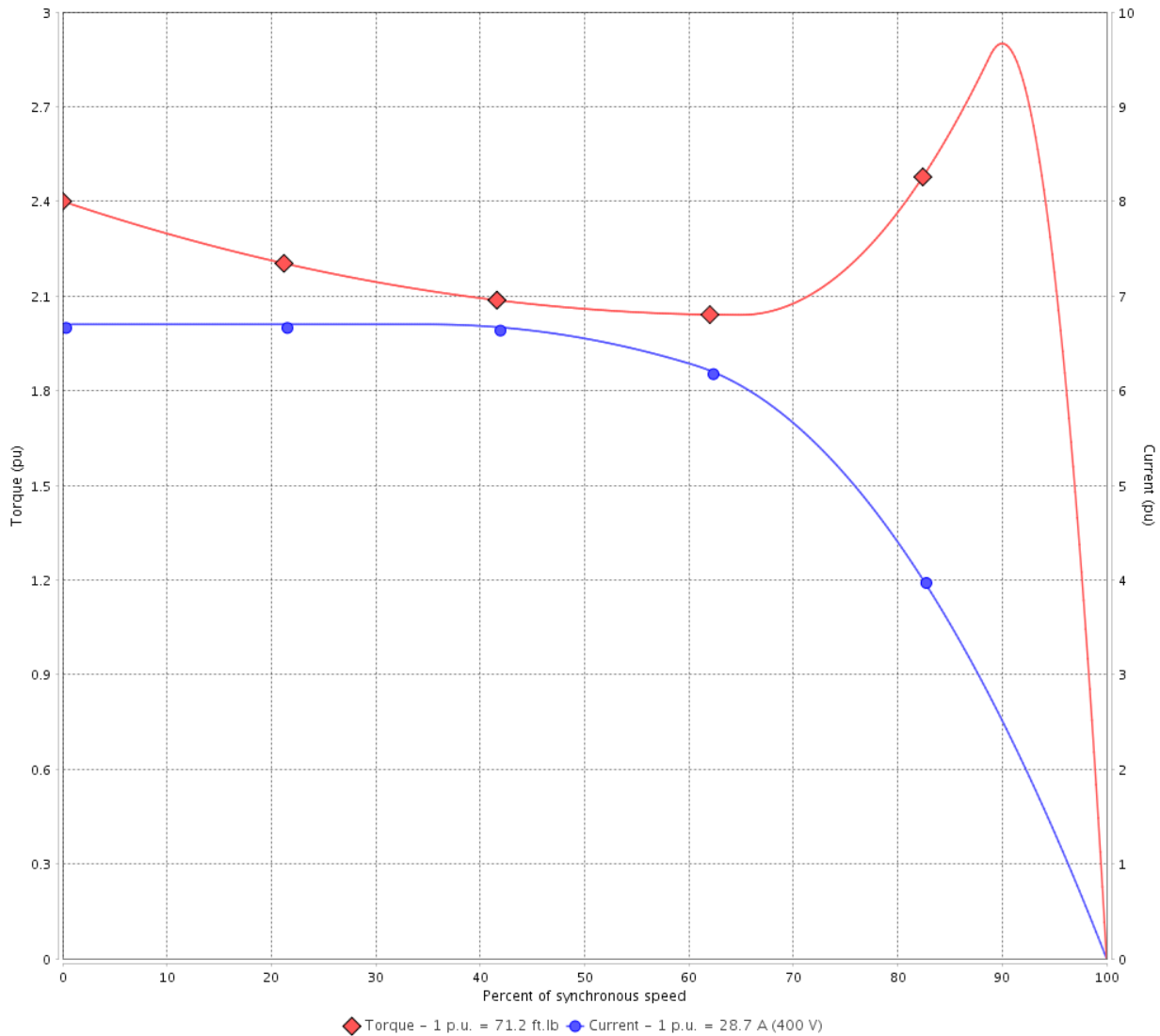
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14495057

Catalog # : 02518OT3E284TC-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 28.7 A | Moment of inertia (J) | : 3.71 sq.ft.lb |
| LRC | : 6.7 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.2 ft.lb | Insulation class | : F |
| Locked rotor torque | : 250 % | Service factor | : 1.00 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1470 rpm | Design | : B |

Locked rotor time : 64s (cold) 36s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



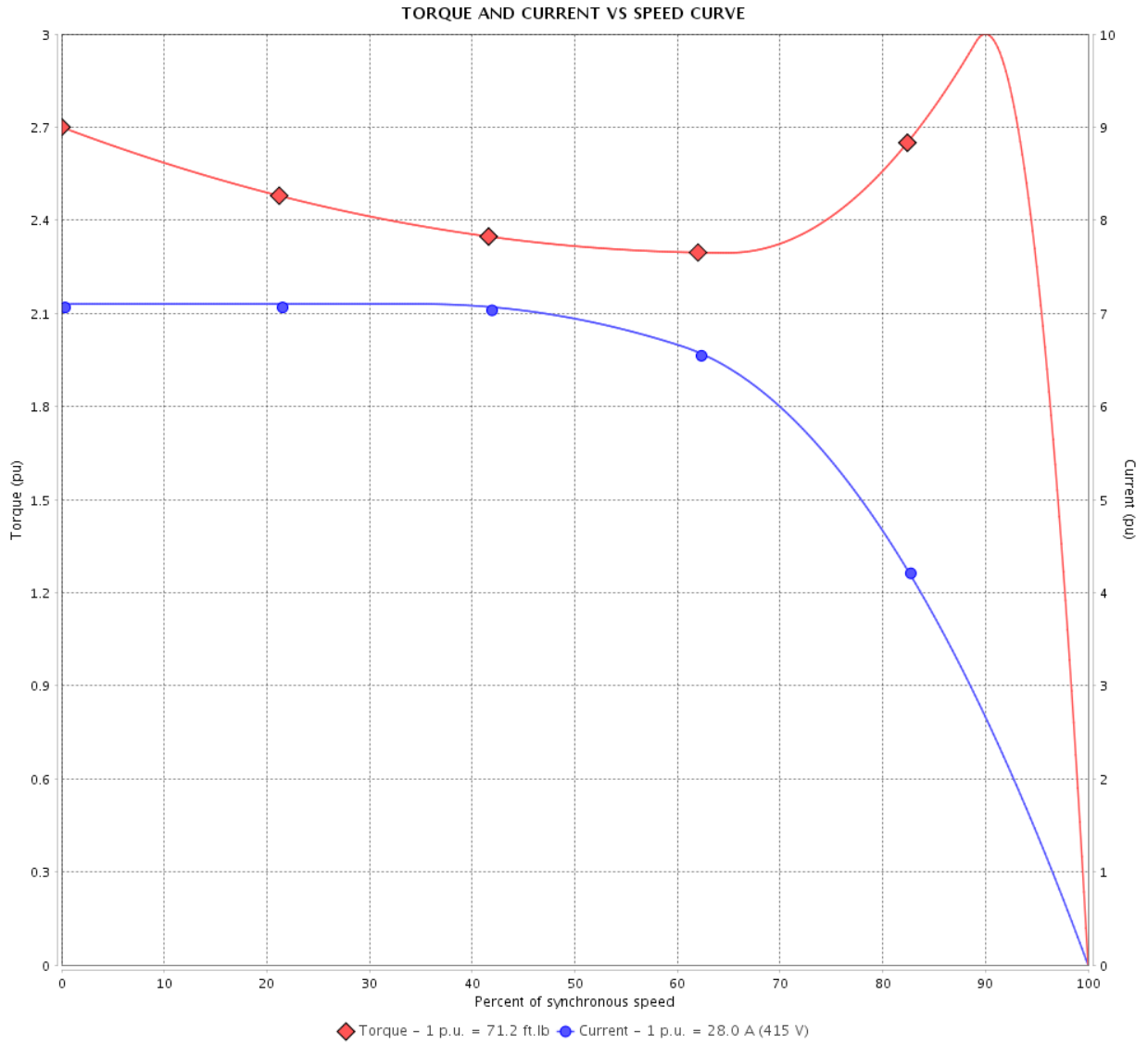
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14495057

Catalog # : 02518OT3E284TC-W40



Performance : 415 V 50 Hz 4P IE3

Rated current : 28.0 A
LRC : 6.8
Rated torque : 71.2 ft.lb
Locked rotor torque : 270 %
Breakdown torque : 300 %
Rated speed : 1475 rpm

Moment of inertia (J) : 3.71 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

Locked rotor time : 61s (cold) 34s (hot)

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



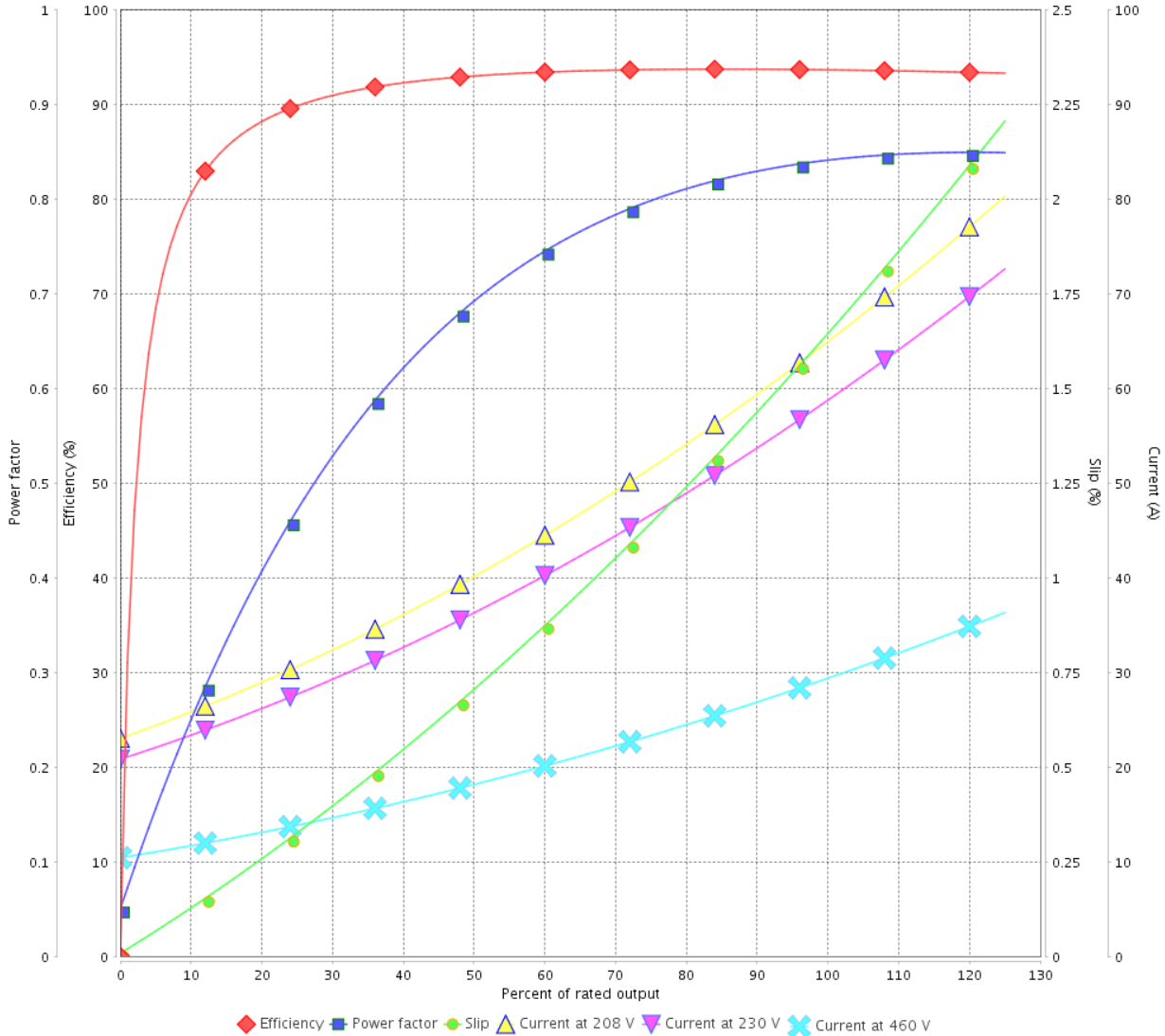
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LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A
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 Rated torque : 74.2 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 270 %
 Rated speed : 1765 rpm

Moment of inertia (J) : 3.71 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

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LOAD PERFORMANCE CURVE

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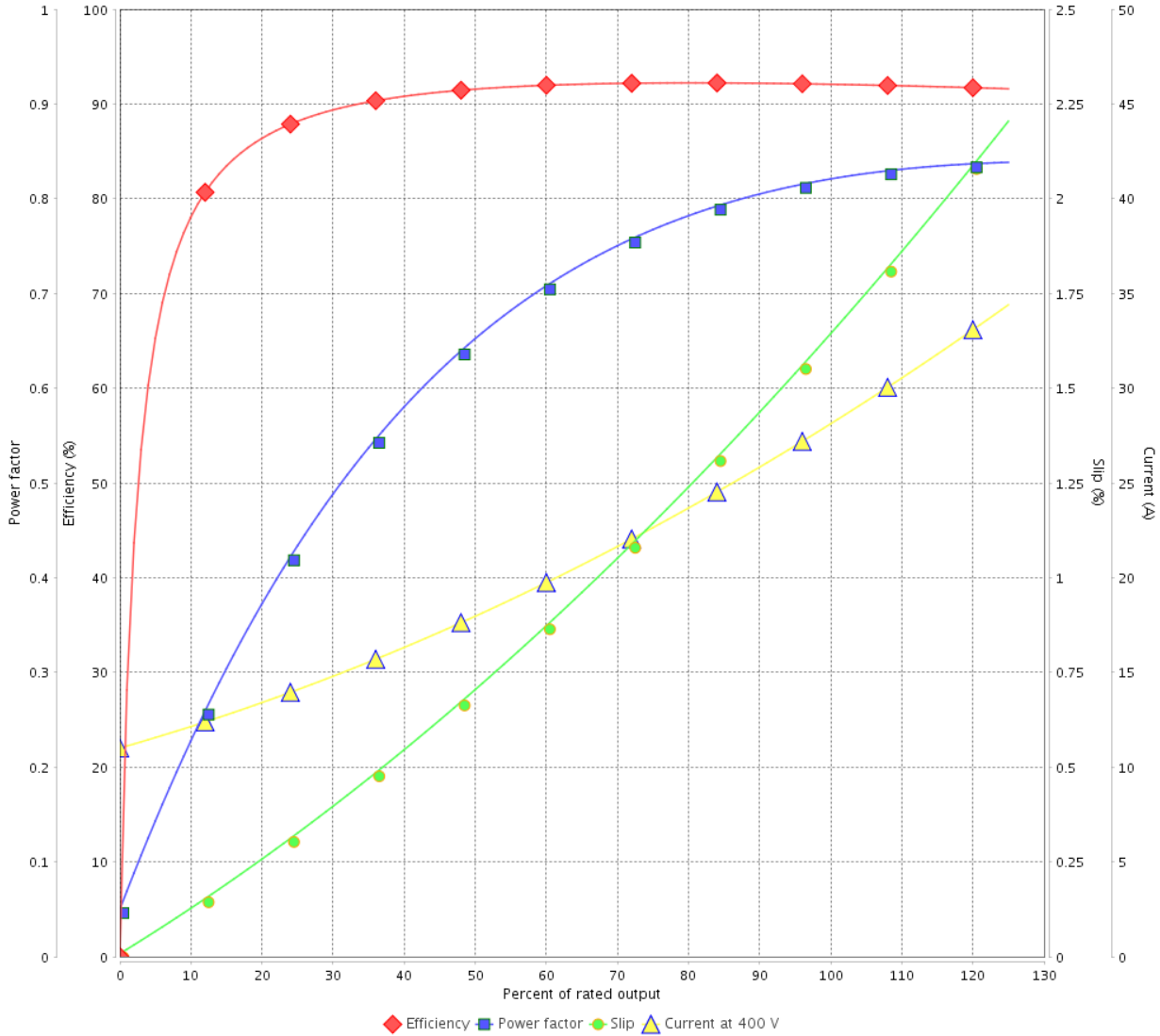
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LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 28.7 A
 LRC : 6.7
 Rated torque : 71.2 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 290 %
 Rated speed : 1470 rpm

Moment of inertia (J) : 3.71 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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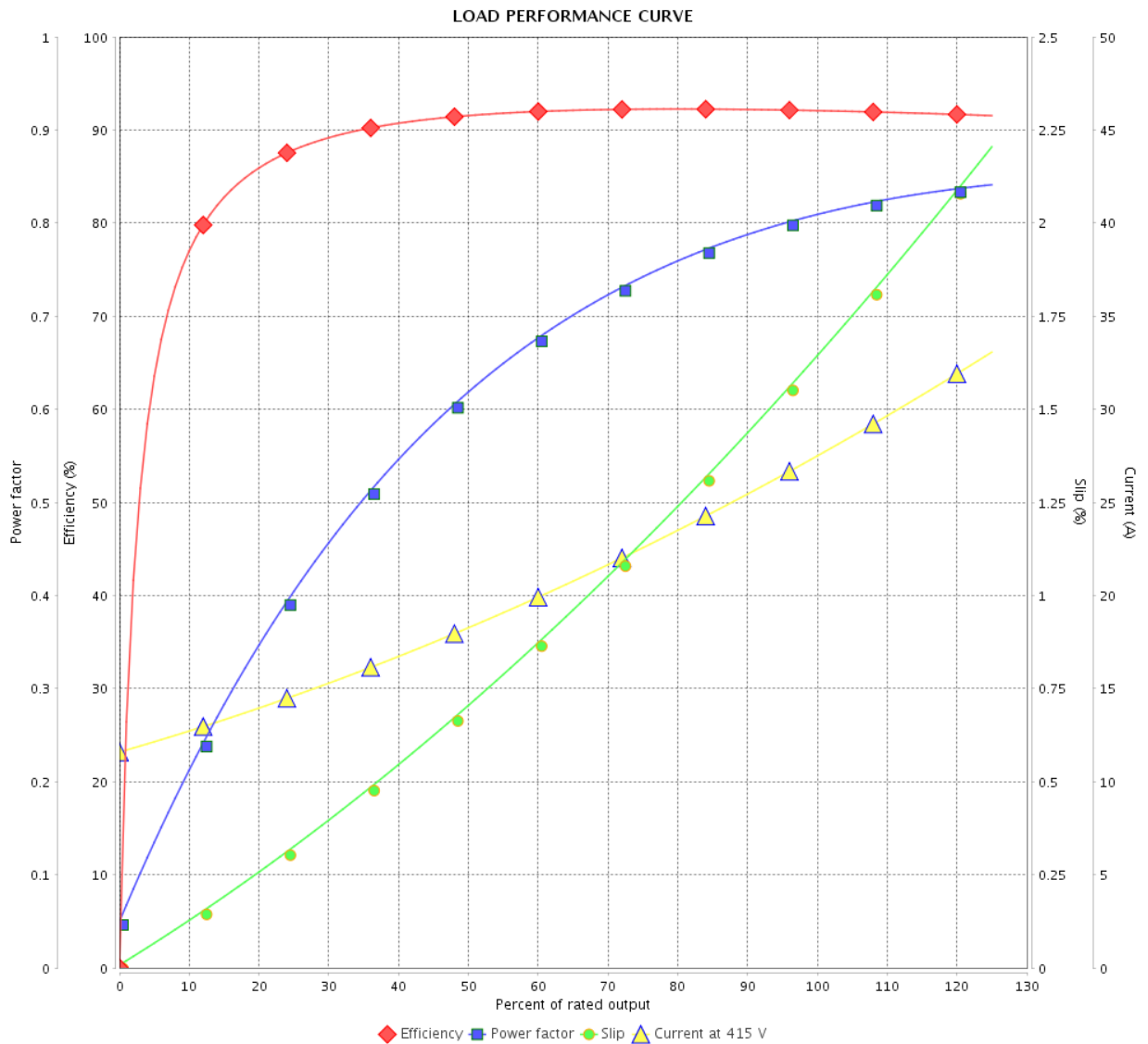


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THERMAL LIMIT CURVE



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Customer :

Product line : W40 NEMA Premium Efficiency
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Product code : 14495057

Catalog # : 02518OT3E284TC-W40

Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A
LRC : 6.3
Rated torque : 74.2 ft.lb
Locked rotor torque : 250 %
Breakdown torque : 270 %
Rated speed : 1765 rpm

Moment of inertia (J) : 3.71 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

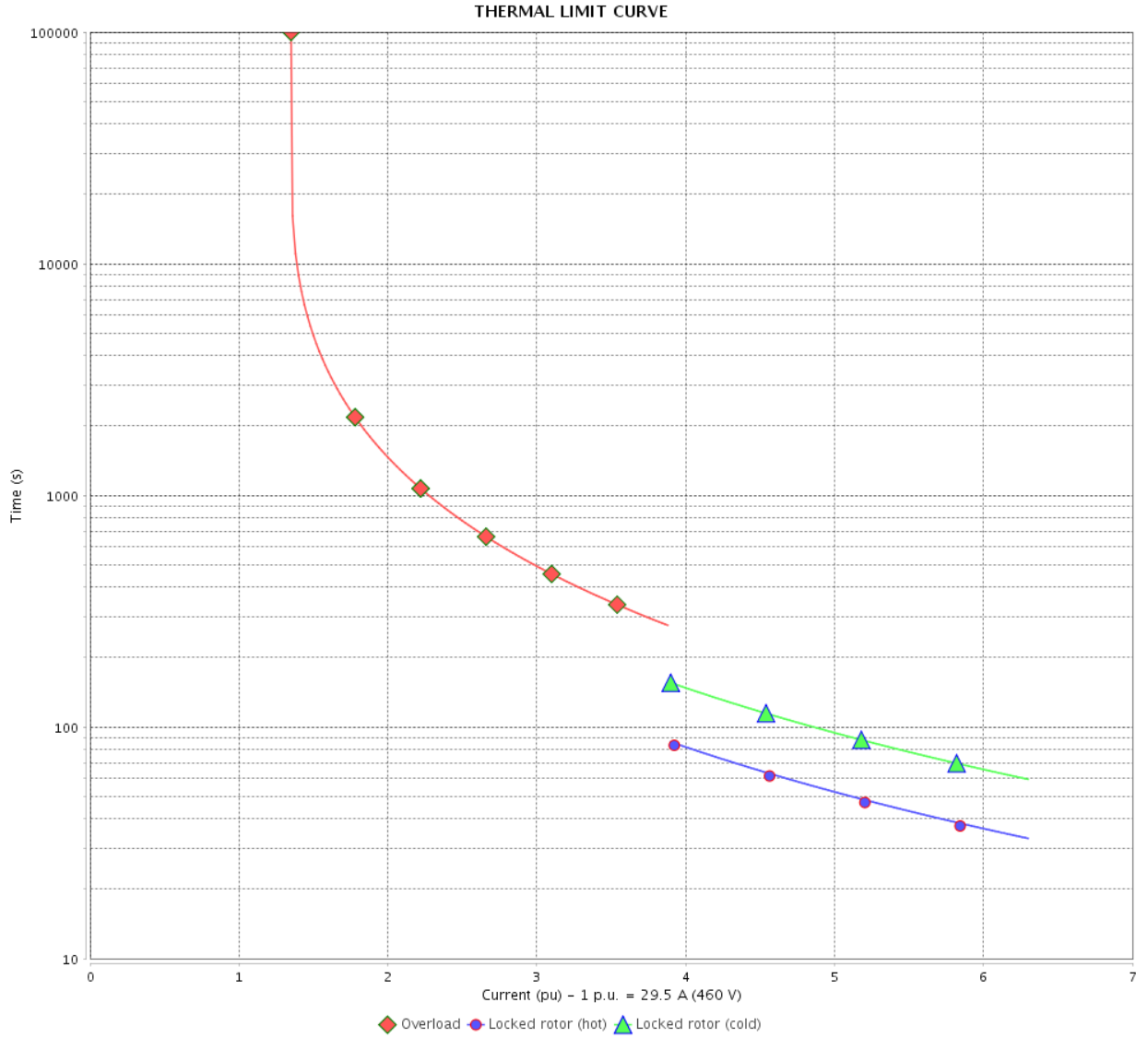
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THERMAL LIMIT CURVE

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| Rated current | : 29.5 A | Moment of inertia (J) | : 3.71 sq.ft.lb |
| LRC | : 5.8 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.4 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.00 |
| Breakdown torque | : 250 % | Temperature rise | : 80 K |
| Rated speed | : 1465 rpm | Design | : B |

Heating constant

Cooling constant

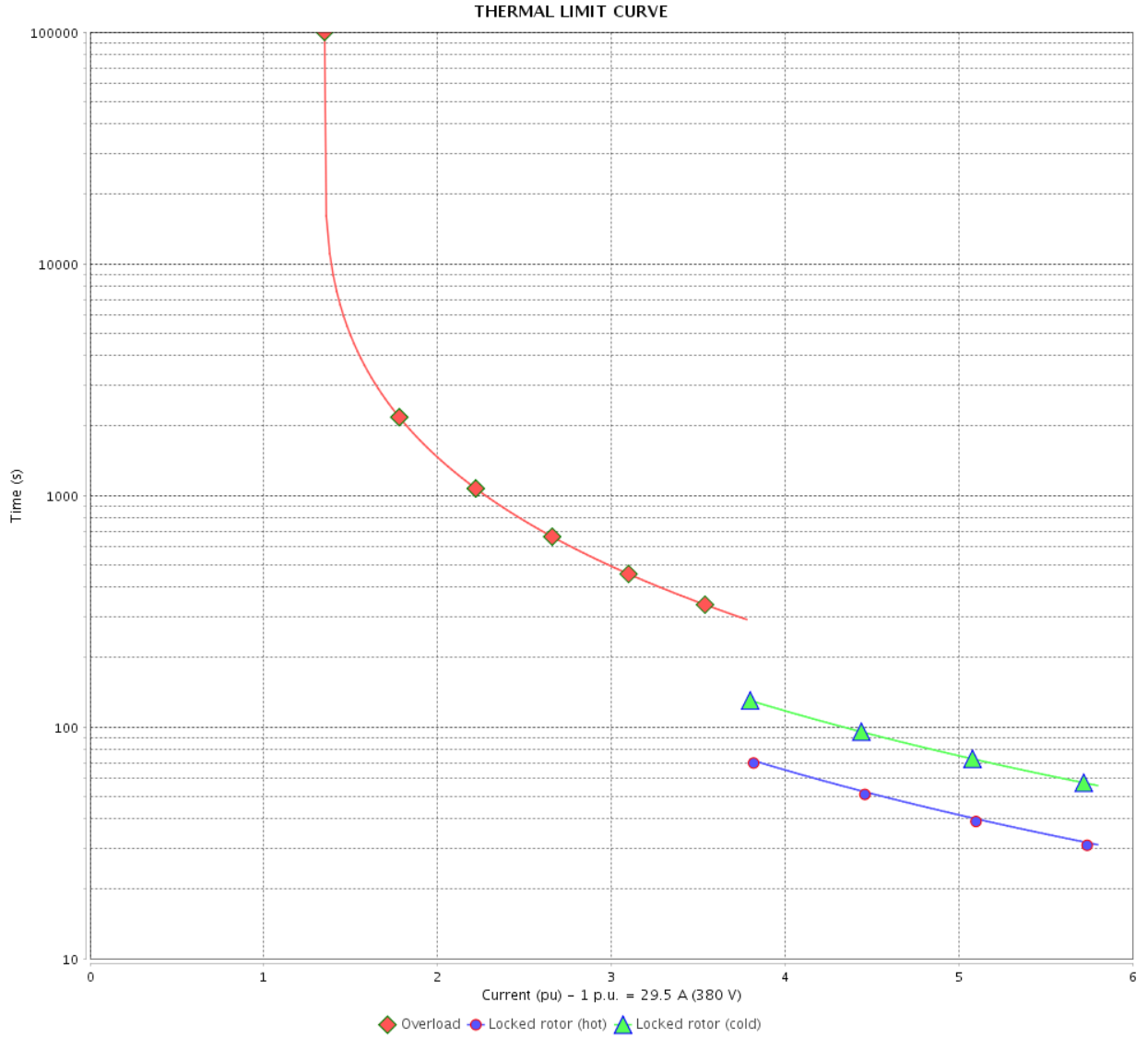
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
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Product code : 14495057

Catalog # : 02518OT3E284TC-W40

Performance : 400 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 28.7 A | Moment of inertia (J) | : 3.71 sq.ft.lb |
| LRC | : 6.7 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.2 ft.lb | Insulation class | : F |
| Locked rotor torque | : 250 % | Service factor | : 1.00 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1470 rpm | Design | : B |

Heating constant

Cooling constant

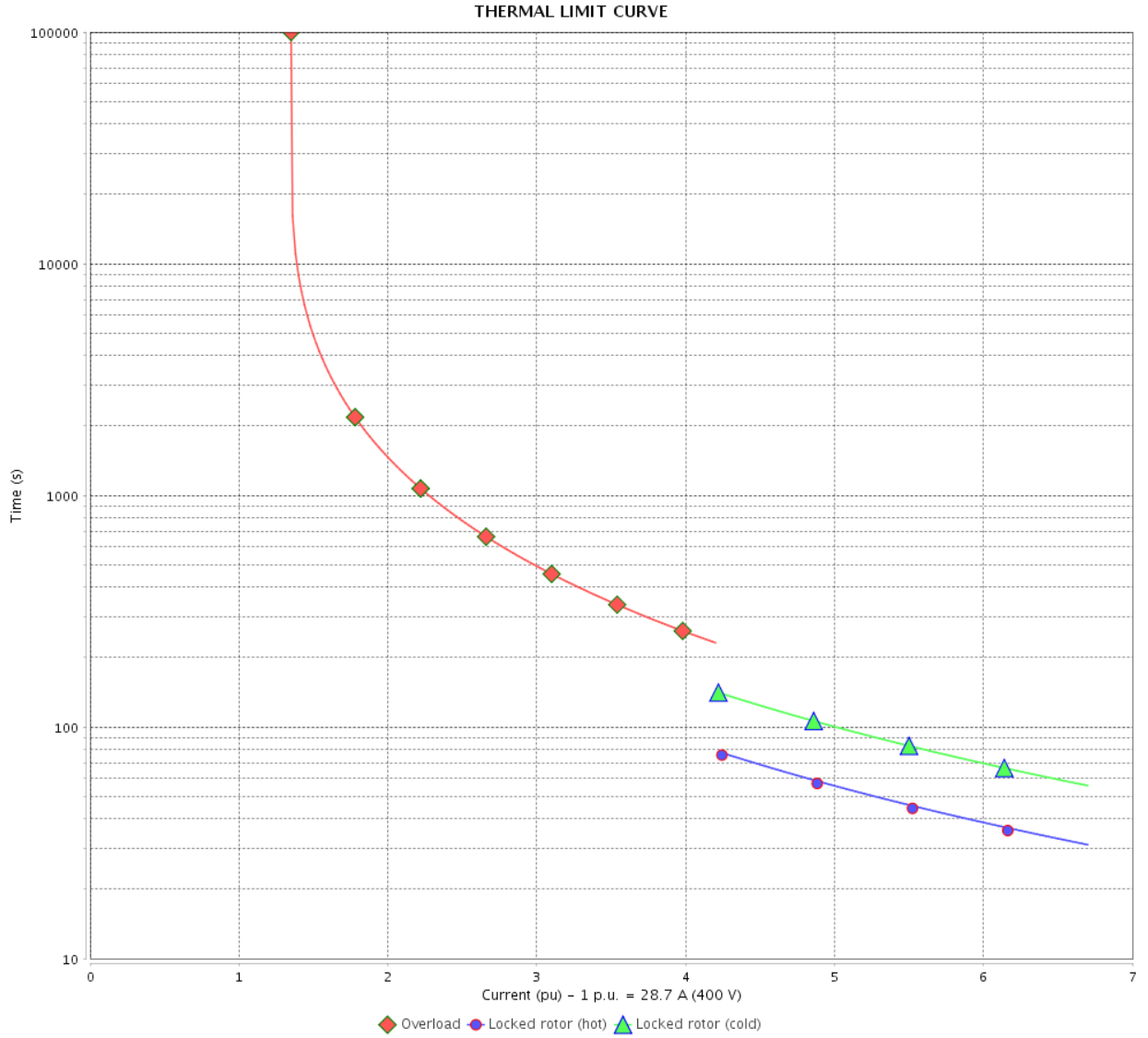
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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THERMAL LIMIT CURVE



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Catalog # : 02518OT3E284TC-W40

Performance : 415 V 50 Hz 4P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 28.0 A | Moment of inertia (J) | : 3.71 sq.ft.lb |
| LRC | : 6.8 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.2 ft.lb | Insulation class | : F |
| Locked rotor torque | : 270 % | Service factor | : 1.00 |
| Breakdown torque | : 300 % | Temperature rise | : 80 K |
| Rated speed | : 1475 rpm | Design | : B |

Heating constant

Cooling constant

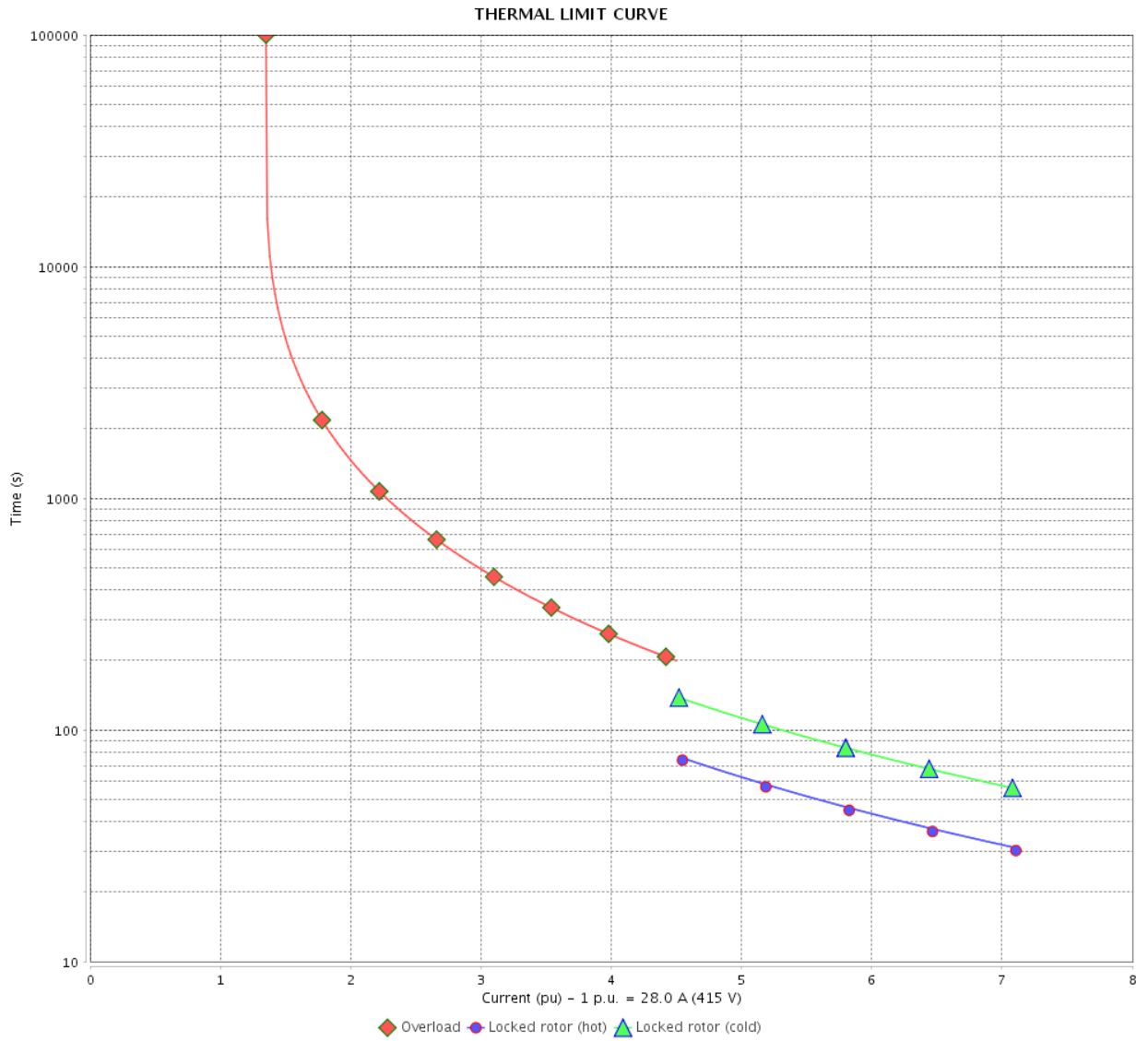
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



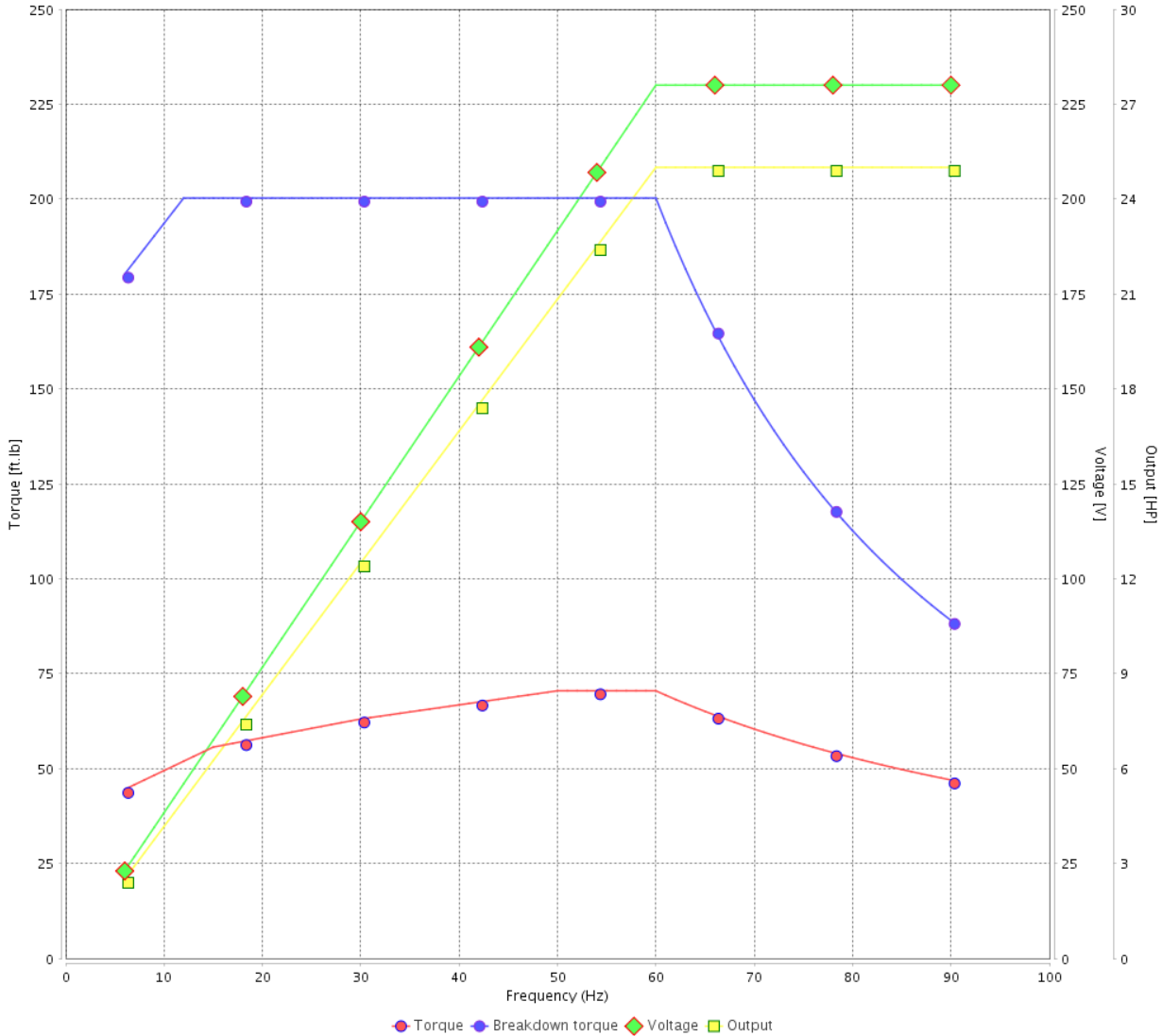
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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 59.0/29.5 A
 LRC : 6.3
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 Locked rotor torque : 250 %
 Breakdown torque : 270 %
 Rated speed : 1765 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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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

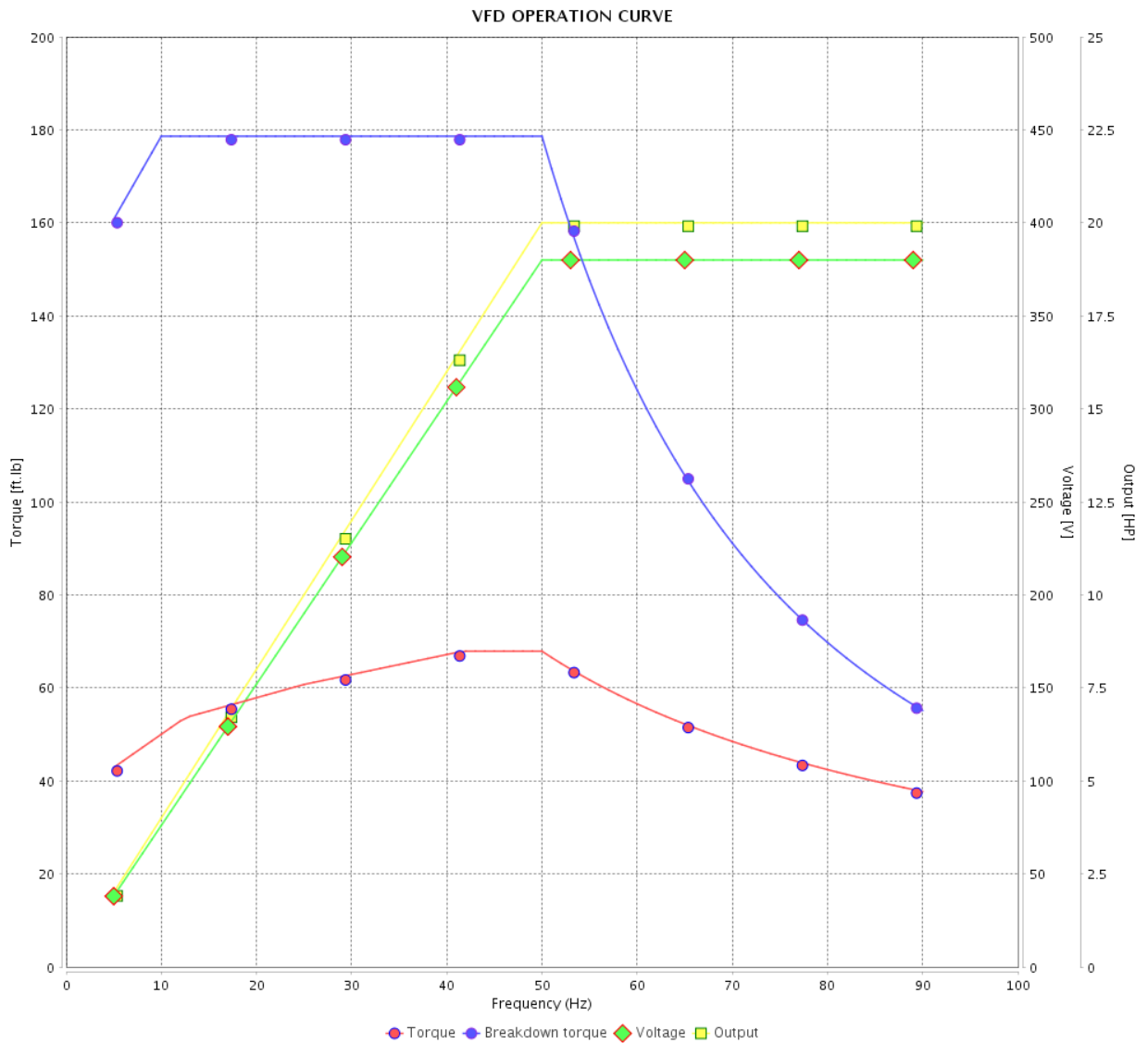


Customer :

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Performance : 380 V 50 Hz 4P IE3

Rated current : 29.5 A
 LRC : 5.8
 Rated torque : 71.4 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 250 %
 Rated speed : 1465 rpm

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



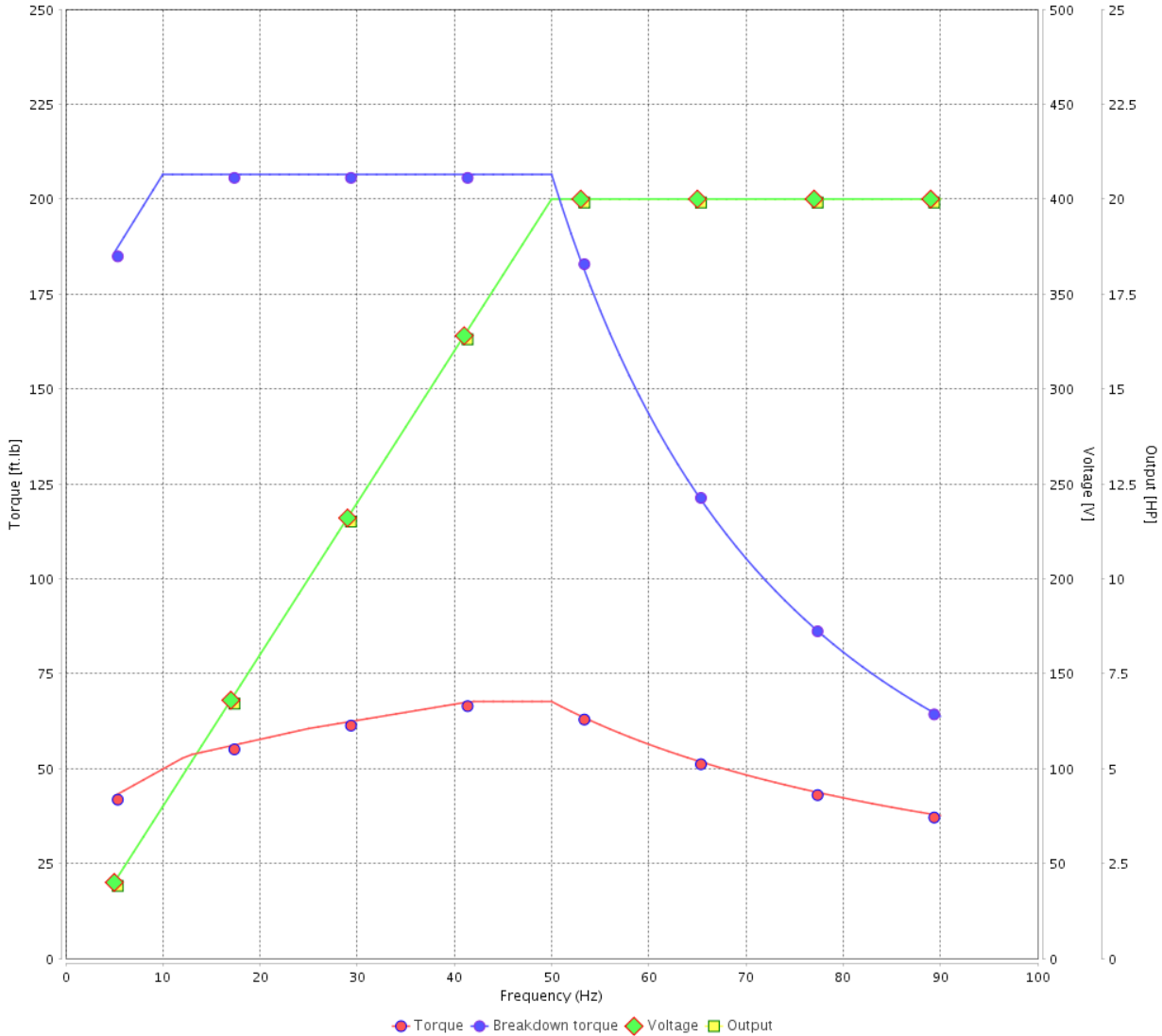
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

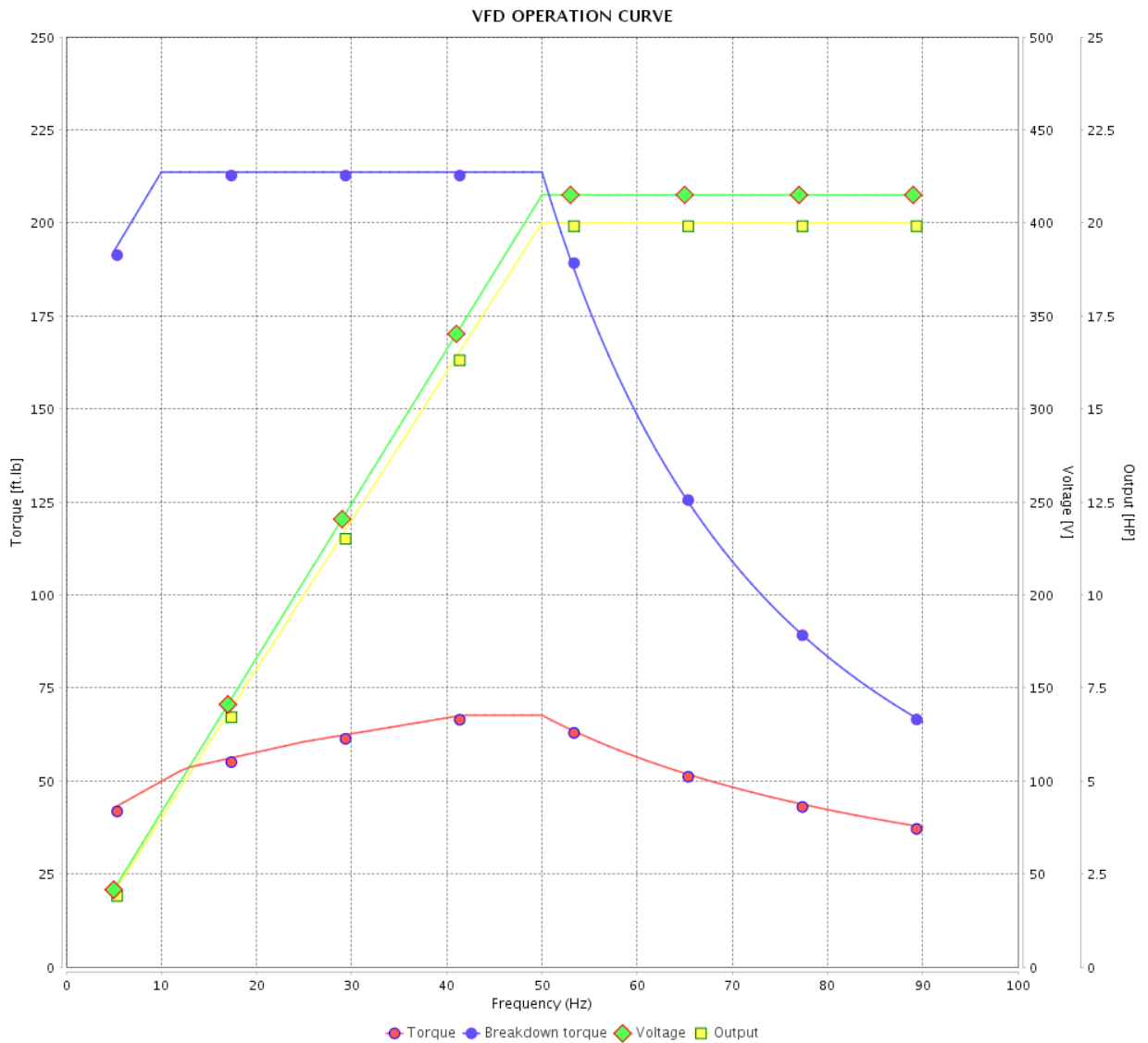


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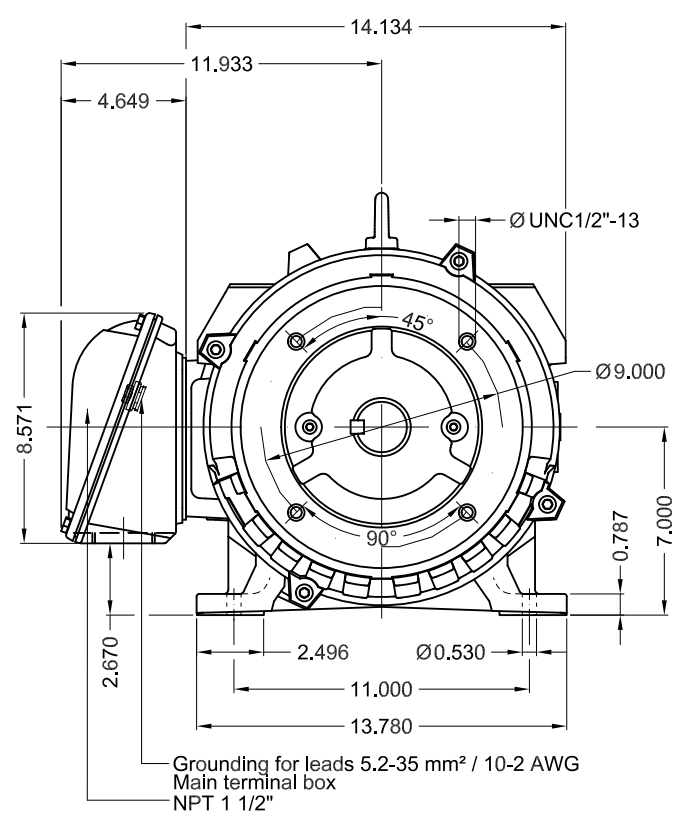


Performance : 415 V 50 Hz 4P IE3

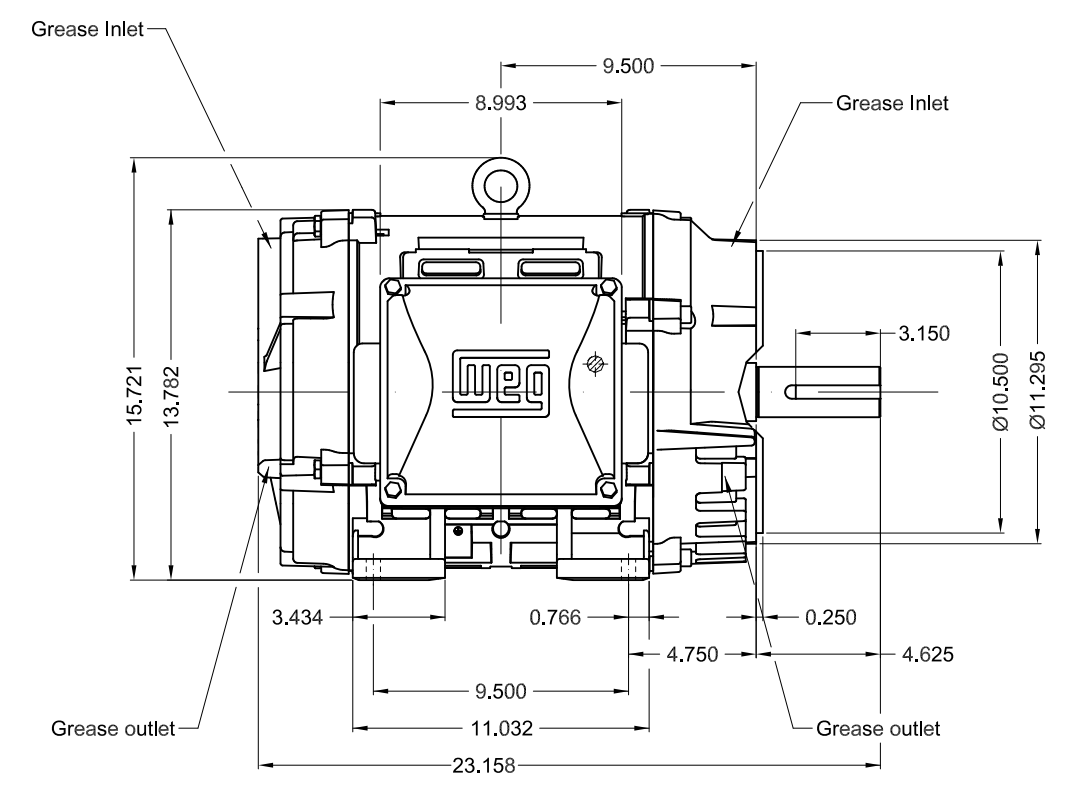
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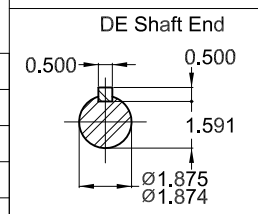
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| Date | 13/04/2022 | | | |
| | | | | Revision |



Grounding for leads 5.2-35 mm² / 10-2 AWG
Main terminal box
NPT 1 1/2"



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



25 HP 04 Poles 60 Hz A

1:7

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--------------------------------|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR W40 PREM. EFF. | | | | | |
| CHECKED | | FRAME 284TC IP23 ODP | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

PREVIEW
WDD



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



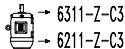
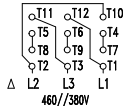
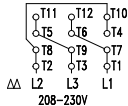
IEC 60034-1
 MOD.T01#FOXON



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

MODEL 025180T3E284TC-W40
 MADE IN BRAZIL
 14495057

| | | | | | |
|--|----------|----------------------------|---------------|-----------|----------|
| PH 3 | FR 284TC | HP(kW) 25.0(18.5) | | Hz 60 | |
| V 230/460 | | A 59.0/29.5 | | RPM 1770 | DES B |
| NEMA NOM EFF 93.6 % | | INS. CL. F Δ T 80 K | | IP23 | |
| ENCL ODP | | DUTY CONT. | | AMB. 40°C | |
| CODE G | PF 0.84 | SF 1.25 | SFA 73.8/36.9 | | |
| USABLE @208V 65.2 A | | SF 1.15 | SFA 75.0 | | |
| 20HP 15kW 50Hz 380V 29.5A 1470RPM SF1.00 EFF 92.1% (IE3) | | | | ALT 1000 | m.a.s.l. |



MOBIL POLYREX EM
 18 g 20000 h

ALT 1000 m.a.s.l. 355 Lbs