

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

| | | | | | | | |
|--|---------------------------------------|-----------------------------|----------------------------|--|-------------------------|-------------------------|-------------------------|
| Customer : | | | | | | | |
| Product line | : NEMA Premium Efficiency Three-Phase | Product code : | 12109400 | | | | |
| | | Catalog # : | 04012ST3QIE364T-W22 | | | | |
| Frame | : 364/5T | 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 | : 901 lb | | | | |
| Protection degree | : IP55 | Moment of inertia (J) | : 29.0 sq.ft.lb | | | | |
| Design | : B | | | | | | |
| Output [HP] | 40 | 30 | 30 | 30 | 40 | 40 | 40 |
| Poles | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Frequency [Hz] | 60 | 50 | 50 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | 460 | 380 | 400 | 415 | 380 | 400 | 415 |
| Rated current [A] | 46.5 | 42.0 | 40.2 | 39.6 | 56.5 | 53.9 | 52.2 |
| L. R. Amperes [A] | 298 | 269 | 289 | 305 | 277 | 296 | 313 |
| LRC [A] | 6.4x(Code G) | 6.4x(Code G) | 7.2x(Code H) | 7.7x(Code J) | 4.9x(Code E) | 5.5x(Code F) | 6.0x(Code G) |
| No load current [A] | 17.0 | 16.8 | 17.9 | 18.7 | 16.8 | 17.9 | 18.7 |
| Rated speed [RPM] | 1185 | 985 | 985 | 990 | 980 | 980 | 985 |
| Slip [%] | 1.25 | 1.50 | 1.50 | 1.00 | 2.00 | 2.00 | 1.50 |
| Rated torque [ft.lb] | 177 | 160 | 160 | 159 | 214 | 214 | 213 |
| Locked rotor torque [%] | 200 | 210 | 240 | 270 | 160 | 180 | 200 |
| Breakdown torque [%] | 240 | 250 | 280 | 310 | 190 | 210 | 229 |
| Service factor | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | 80 K | 80 K | 80 K |
| Locked rotor time | 37s (cold) 21s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) | 32s (cold) 18s (hot) |
| Noise level ² | 66.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) | 63.0 dB(A) |
| Efficiency (%) | 25% | | | | | | |
| | 50% | 93.6 | 92.4 | 92.3 | 91.9 | 93.0 | 93.0 |
| | 75% | 93.6 | 92.8 | 93.1 | 93.0 | 92.4 | 93.0 |
| | 100% | 94.1 | 92.5 | 93.0 | 93.2 | 91.7 | 92.4 |
| Power Factor | 25% | | | | | | |
| | 50% | 0.73 | 0.68 | 0.66 | 0.63 | 0.78 | 0.76 |
| | 75% | 0.82 | 0.80 | 0.79 | 0.76 | 0.85 | 0.84 |
| | 100% | 0.86 | 0.86 | 0.85 | 0.83 | 0.88 | 0.87 |
| Bearing type | : Drive end 6314 C3 | : Non drive end 6314 C3 | Foundation loads | | | | |
| Sealing | : Inpro/Seal | : Inpro/Seal | Max. traction : 1228 lb | | | | |
| Lubrication interval | : 17000 h | : 17000 h | Max. compression : 2129 lb | | | | |
| Lubricant amount | : 27 g | : 27 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. | | | |
| Rev. | Changes Summary | | | Performed | Checked | Date | |
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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



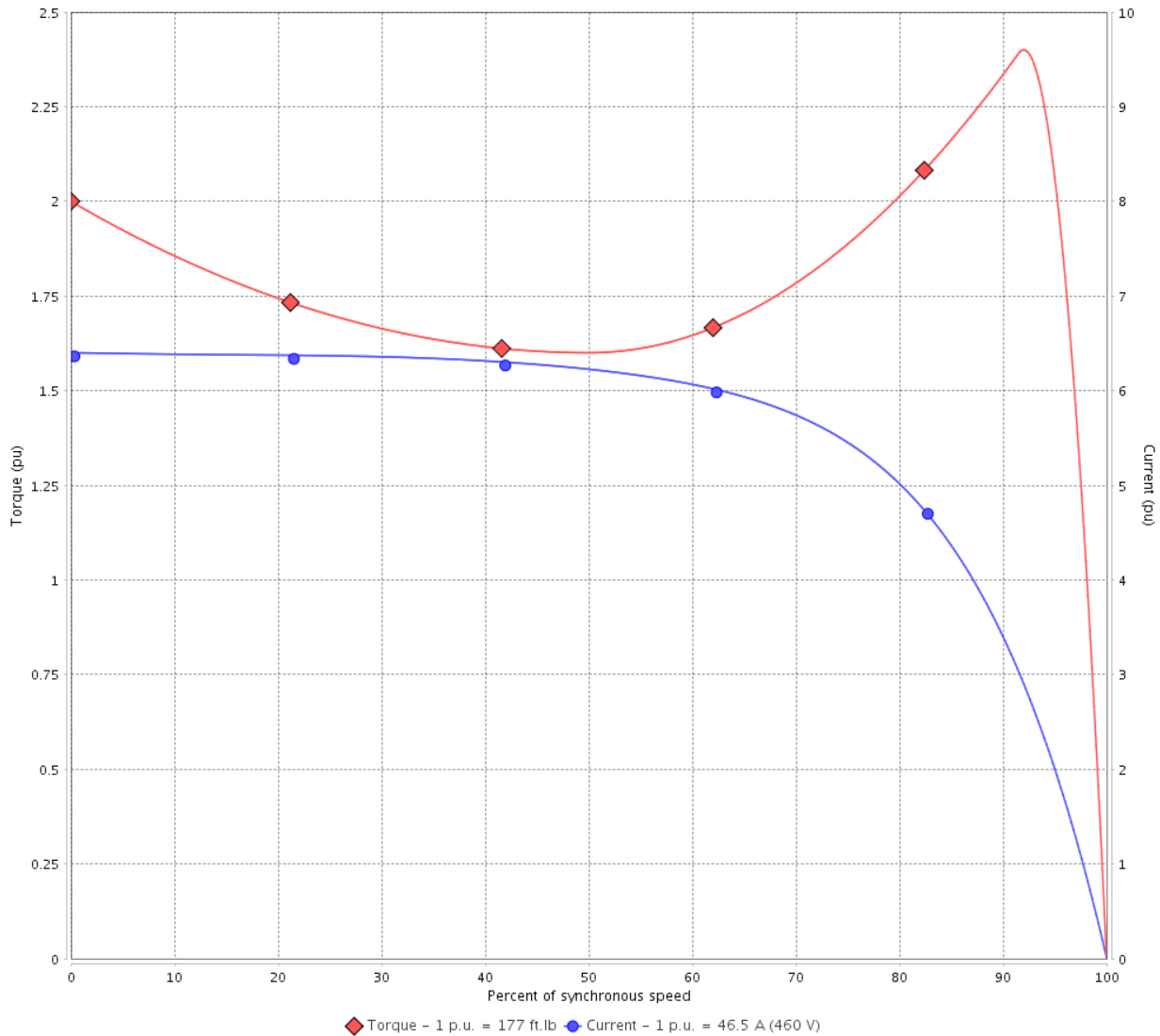
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

| | | | |
|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 46.5 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 6.4 | Duty cycle | : Cont.(S1) |
| Rated torque | : 177 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.25 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 1185 rpm | Design | : B |

Locked rotor time : 37s (cold) 21s (hot)

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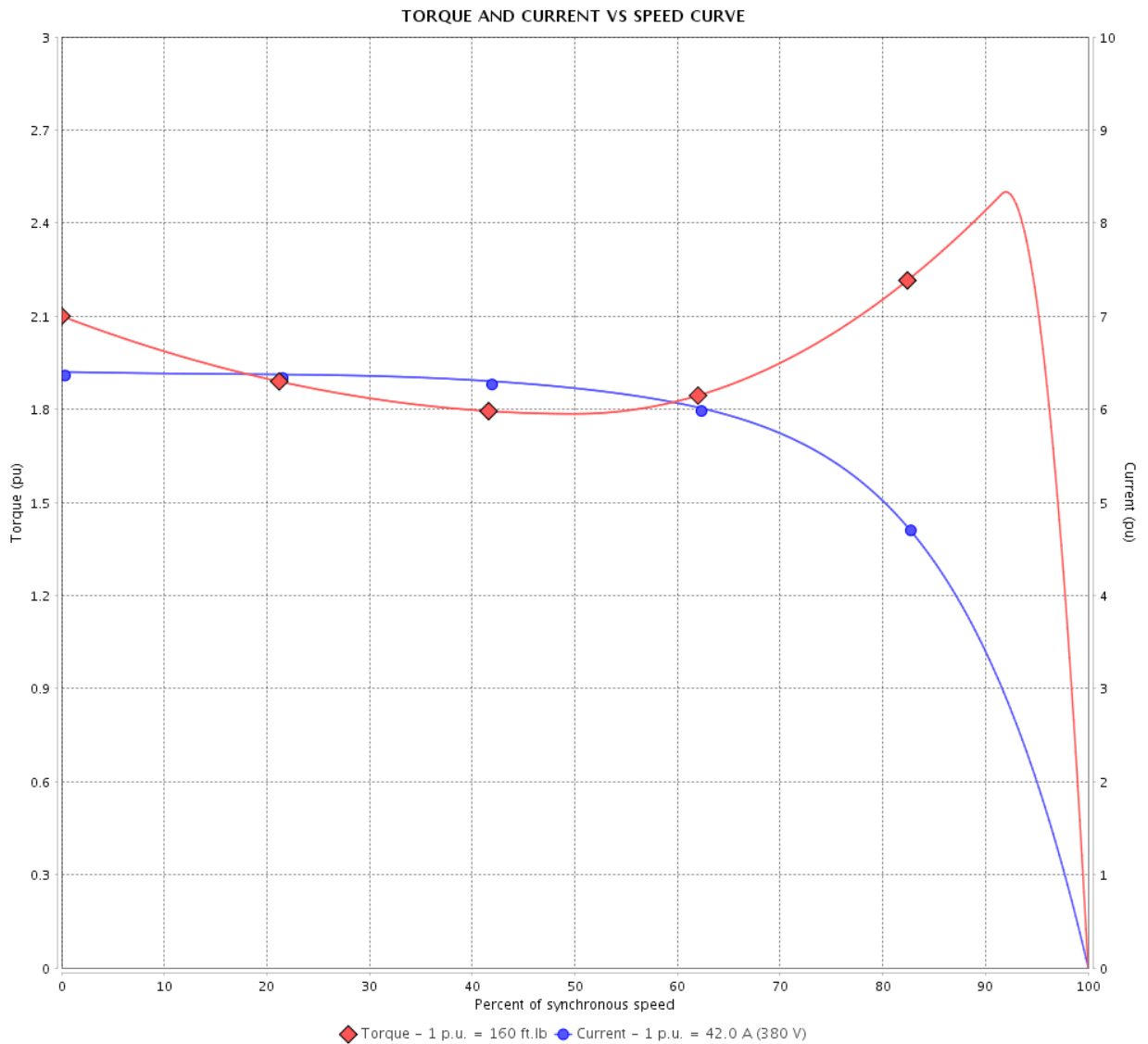
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|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 42.0 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 6.4 | Duty cycle | : Cont.(S1) |
| Rated torque | : 160 ft.lb | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.00 |
| Breakdown torque | : 250 % | Temperature rise | : 80 K |
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Locked rotor time : 32s (cold) 18s (hot)

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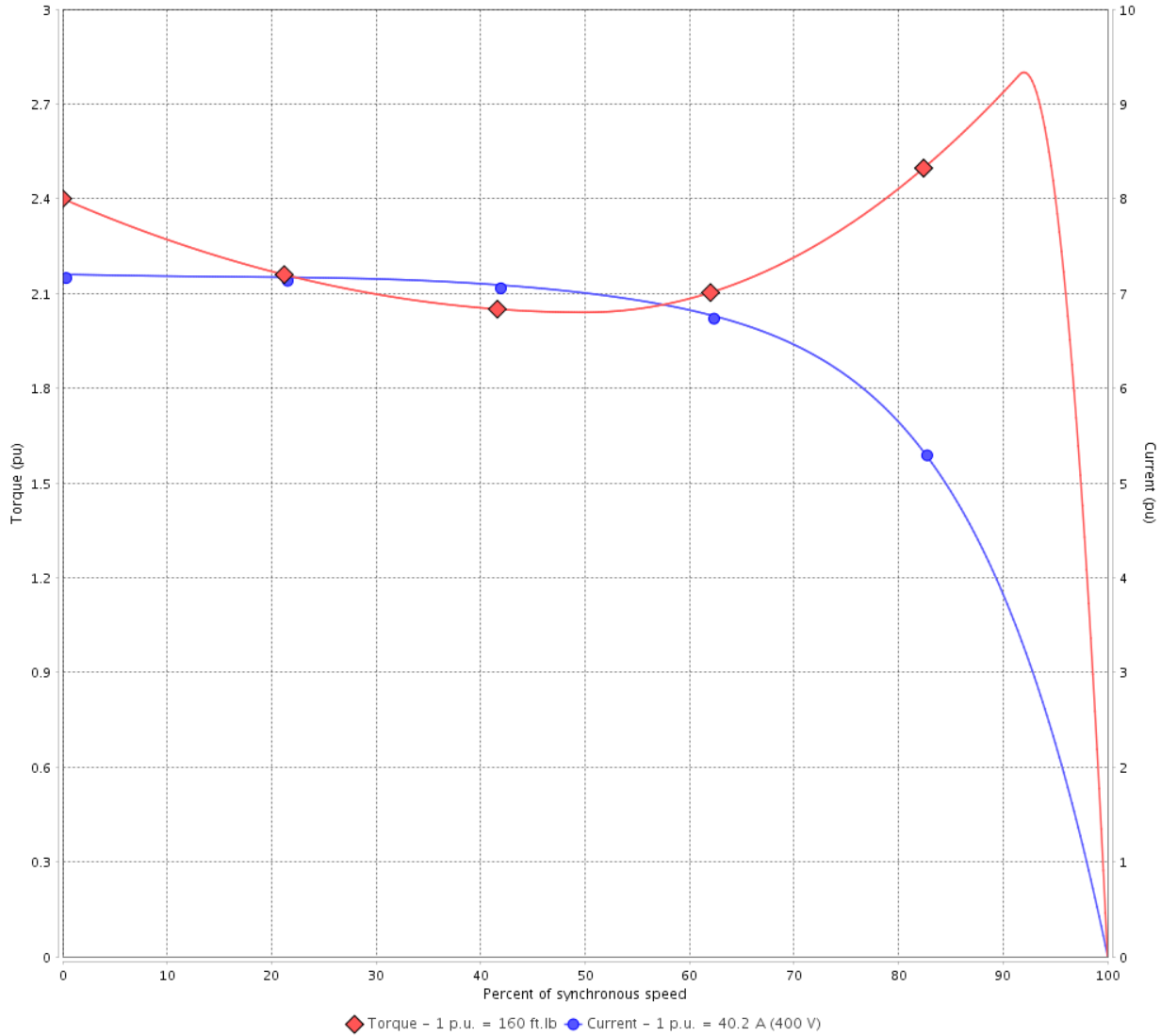
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

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|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 40.2 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 7.2 | Duty cycle | : Cont.(S1) |
| Rated torque | : 160 ft.lb | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.00 |
| Breakdown torque | : 280 % | Temperature rise | : 80 K |
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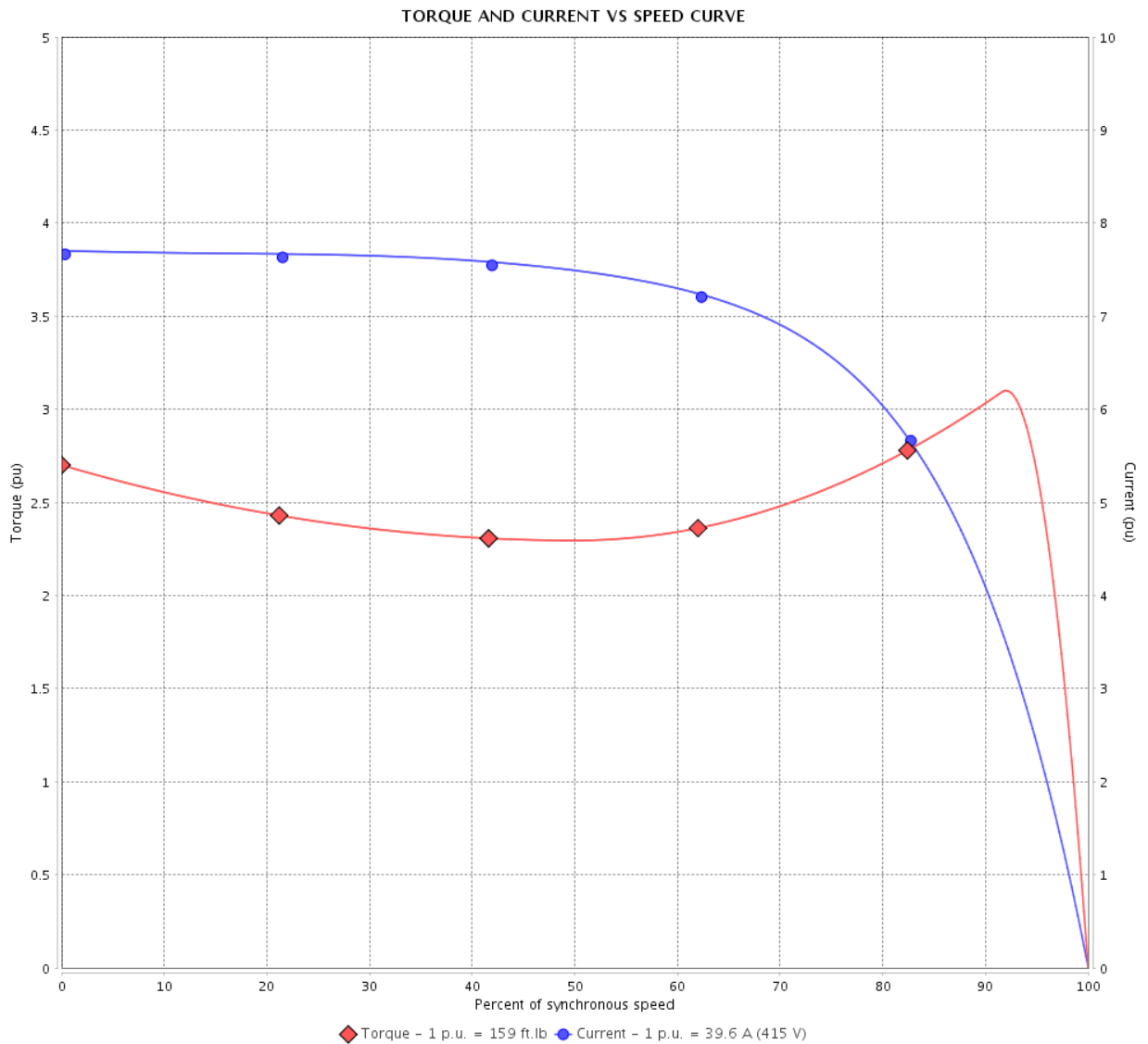
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| Rated torque | : 159 ft.lb | Insulation class | : F |
| Locked rotor torque | : 270 % | Service factor | : 1.00 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
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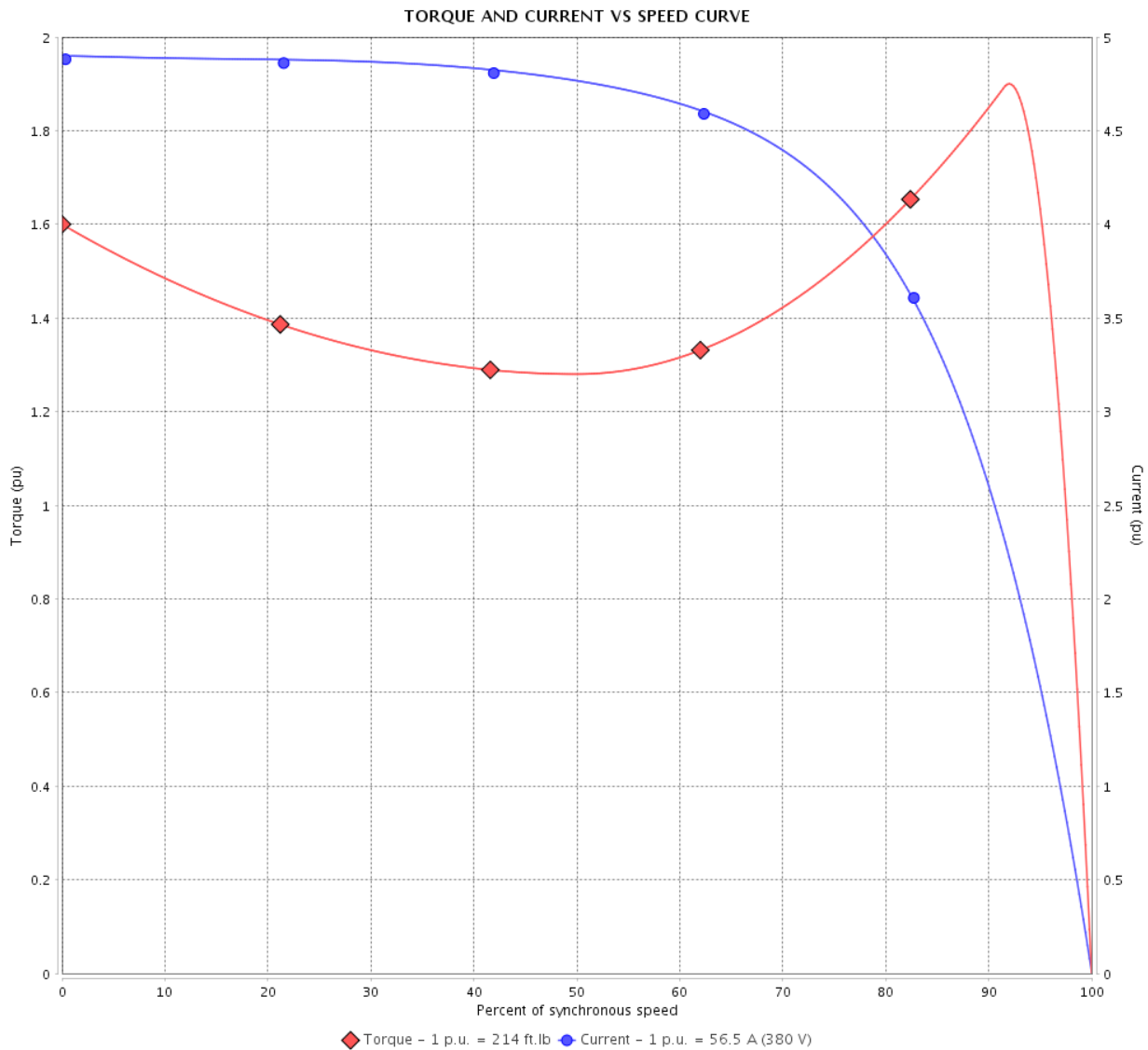


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Performance : 380 V 50 Hz 6P IE2

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|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 56.5 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 4.9 | Duty cycle | : Cont.(S1) |
| Rated torque | : 214 ft.lb | Insulation class | : F |
| Locked rotor torque | : 160 % | Service factor | : 1.00 |
| Breakdown torque | : 190 % | Temperature rise | : 80 K |
| Rated speed | : 980 rpm | Design | : B |

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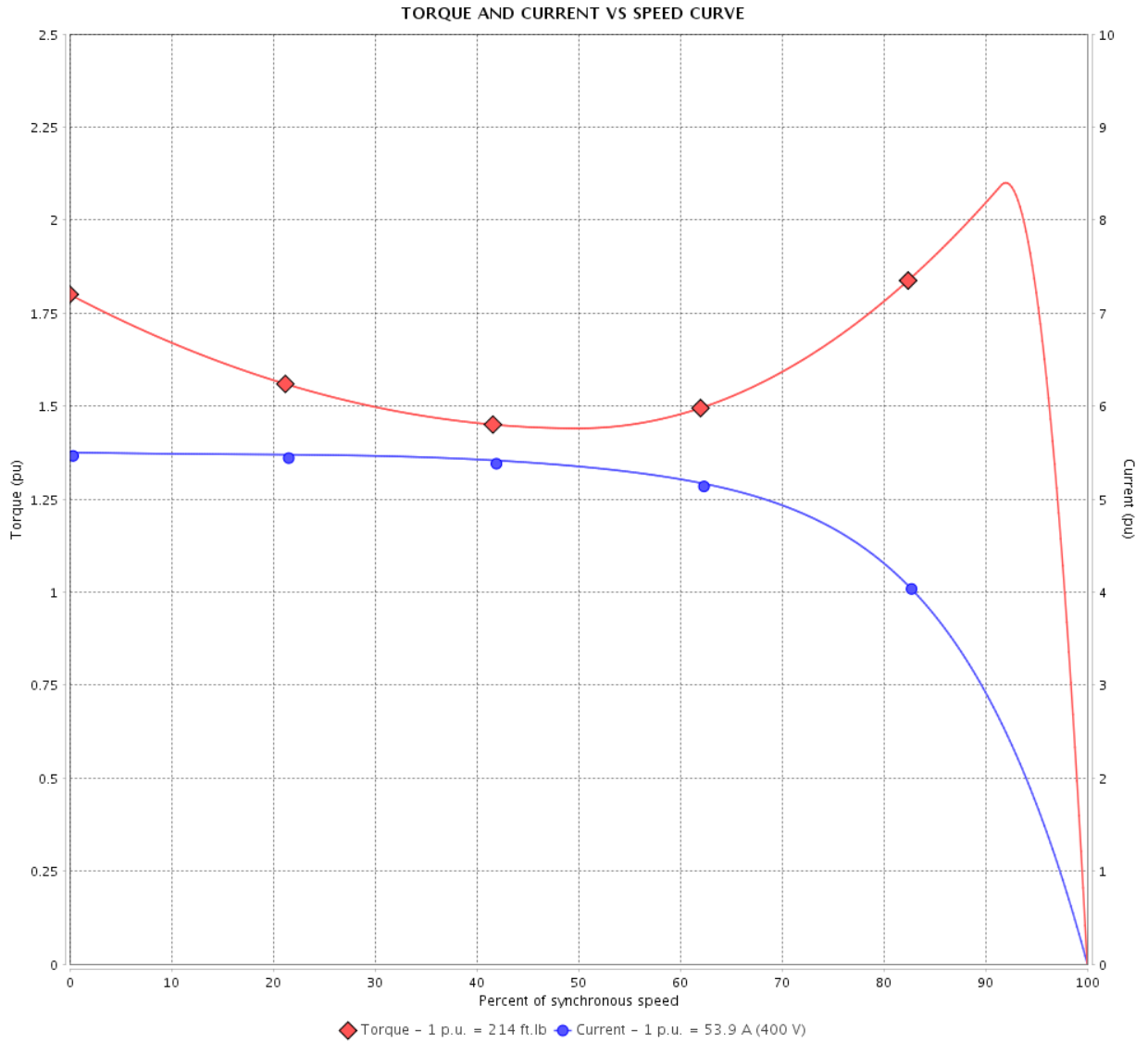
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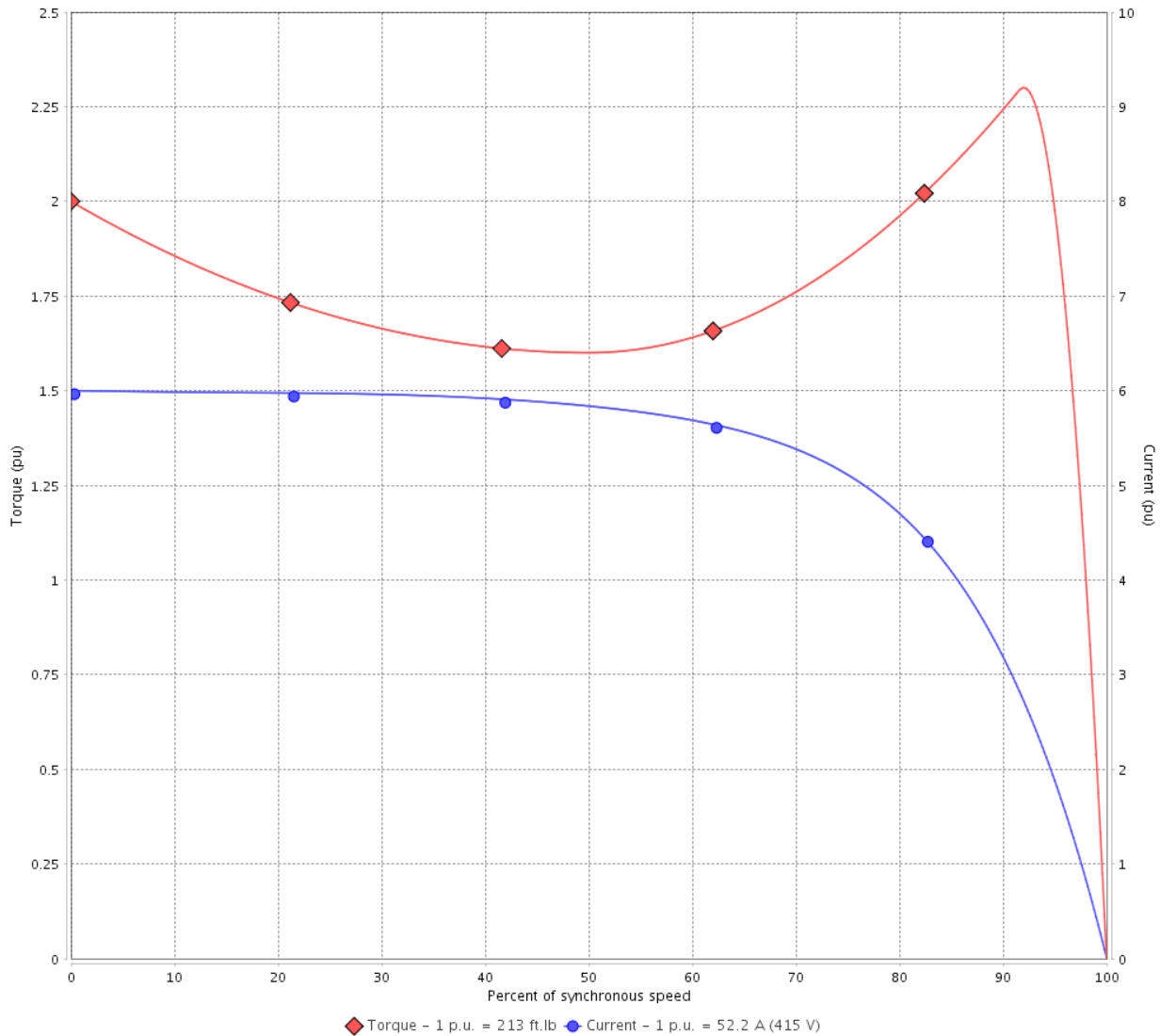
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| | | | |
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| Rated current | : 52.2 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 6.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 213 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.00 |
| Breakdown torque | : 229 % | Temperature rise | : 80 K |
| Rated speed | : 985 rpm | Design | : B |

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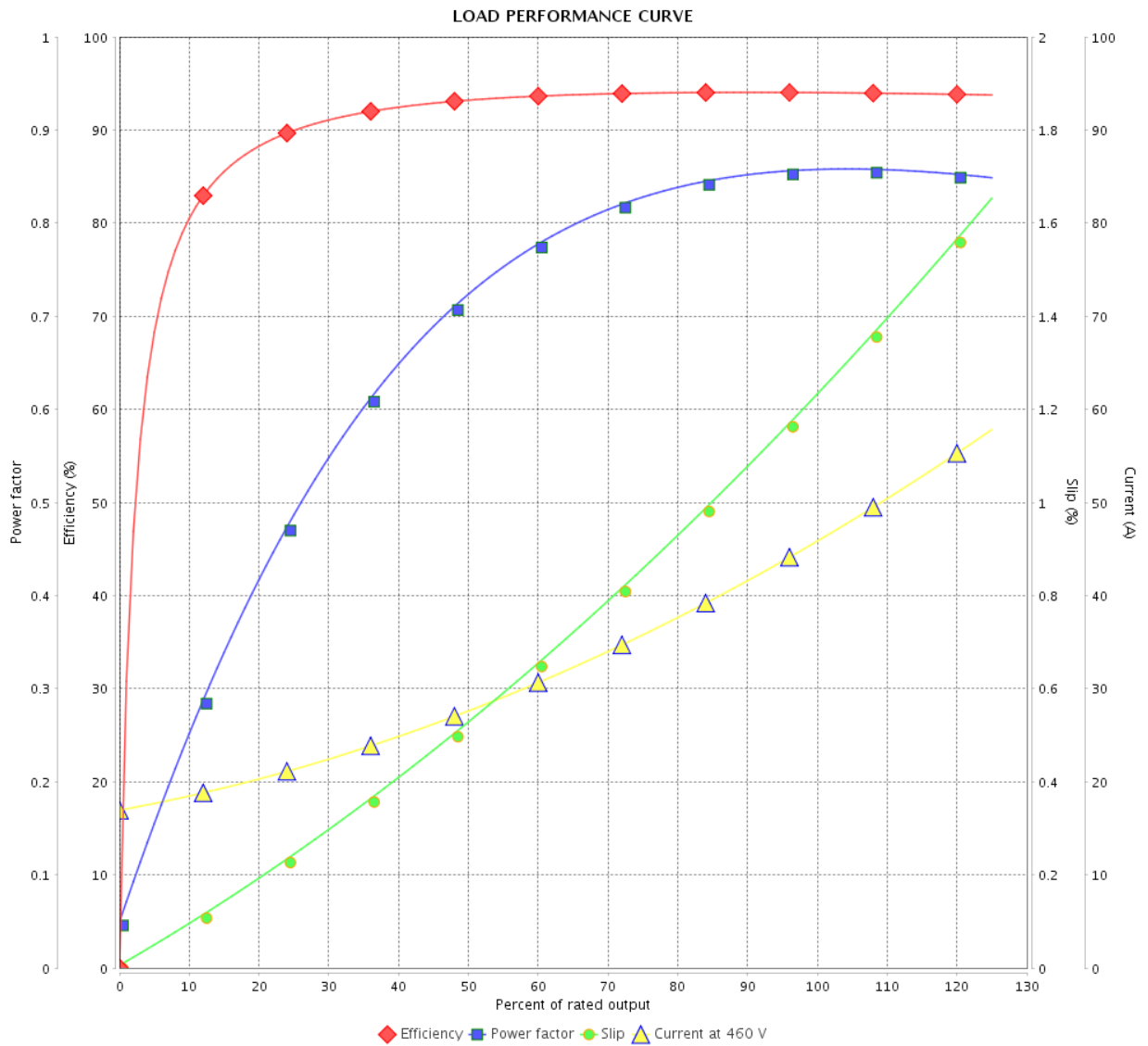


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Rated current : 46.5 A
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 Rated torque : 177 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1185 rpm

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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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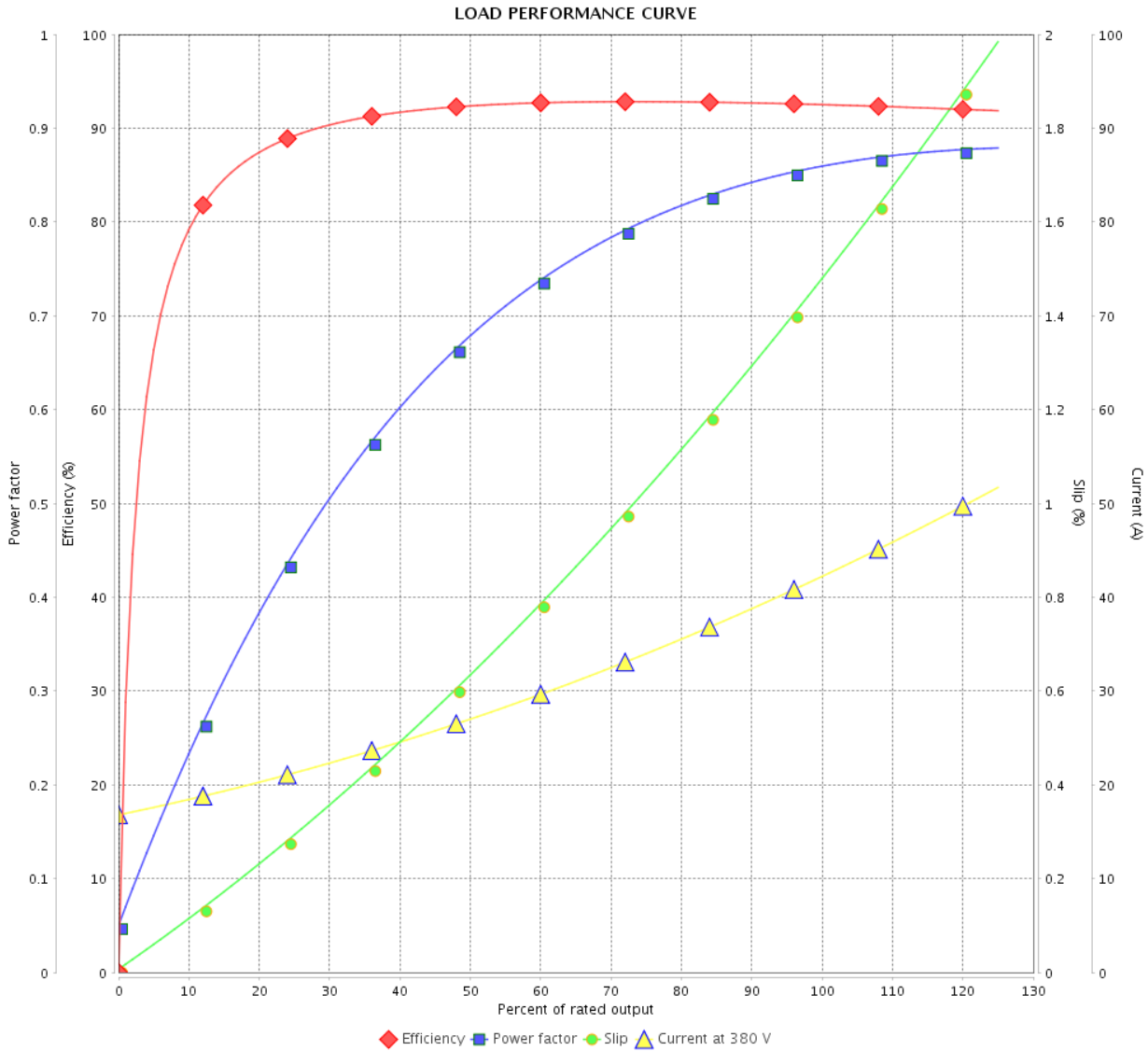


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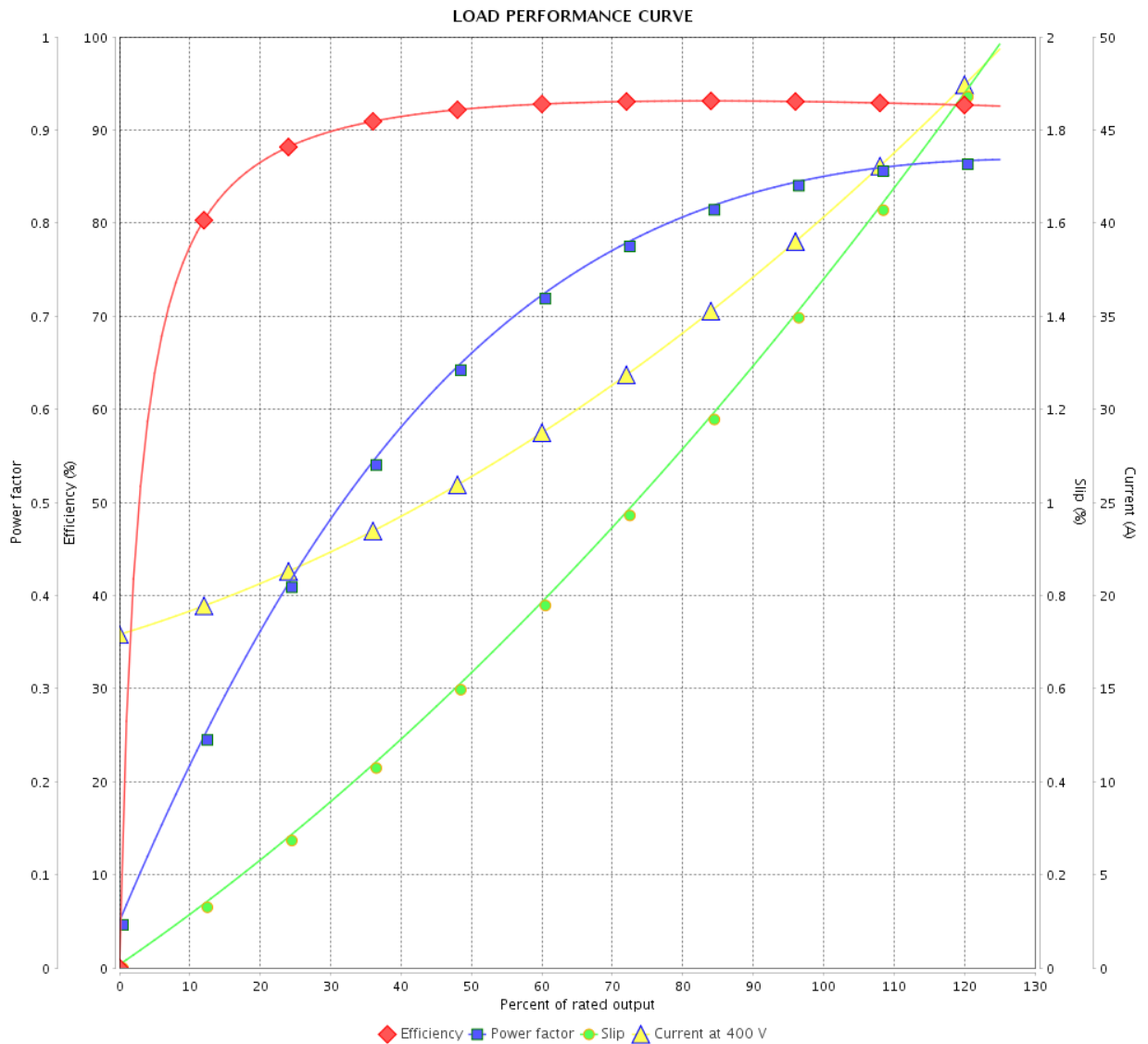


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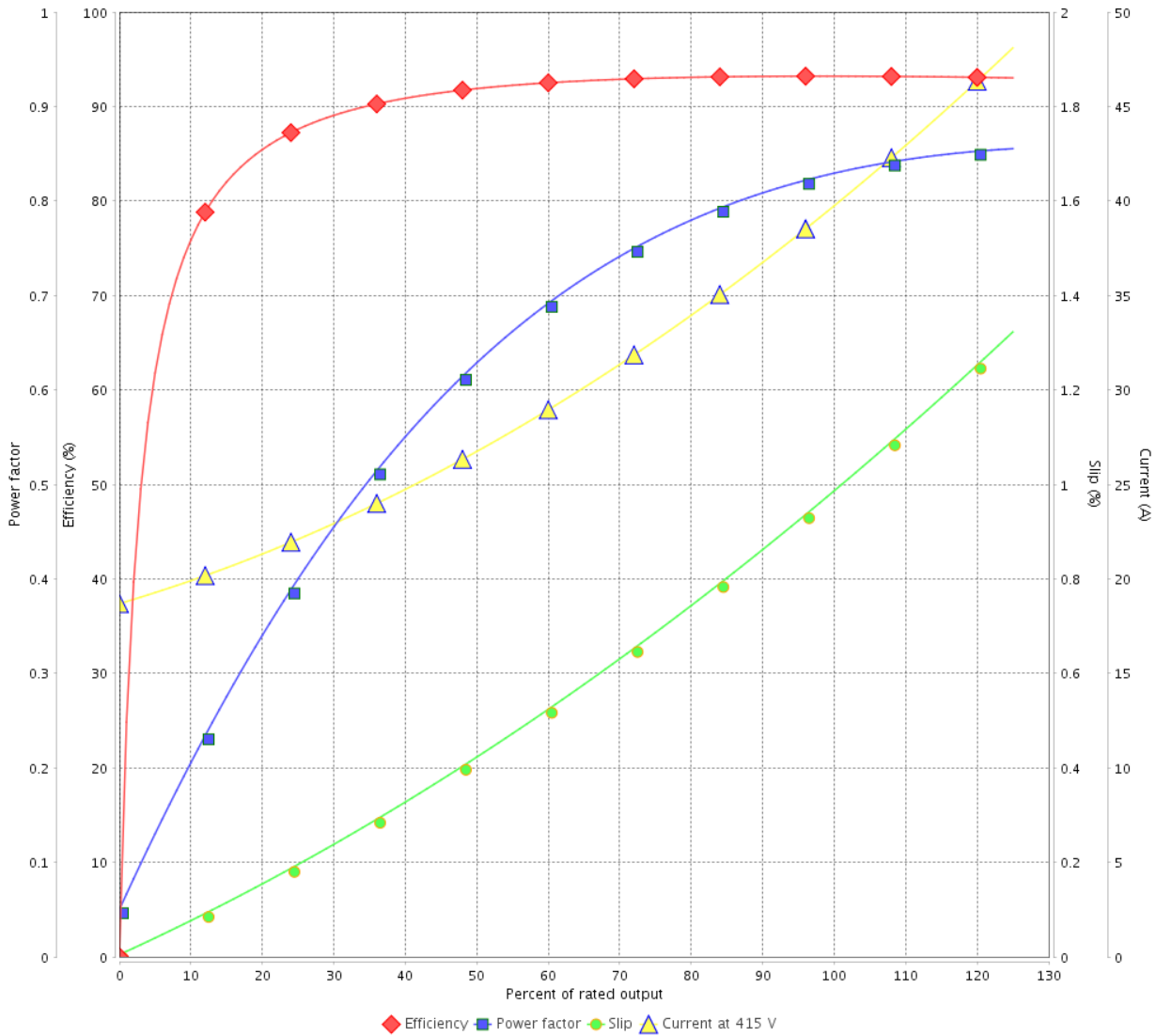
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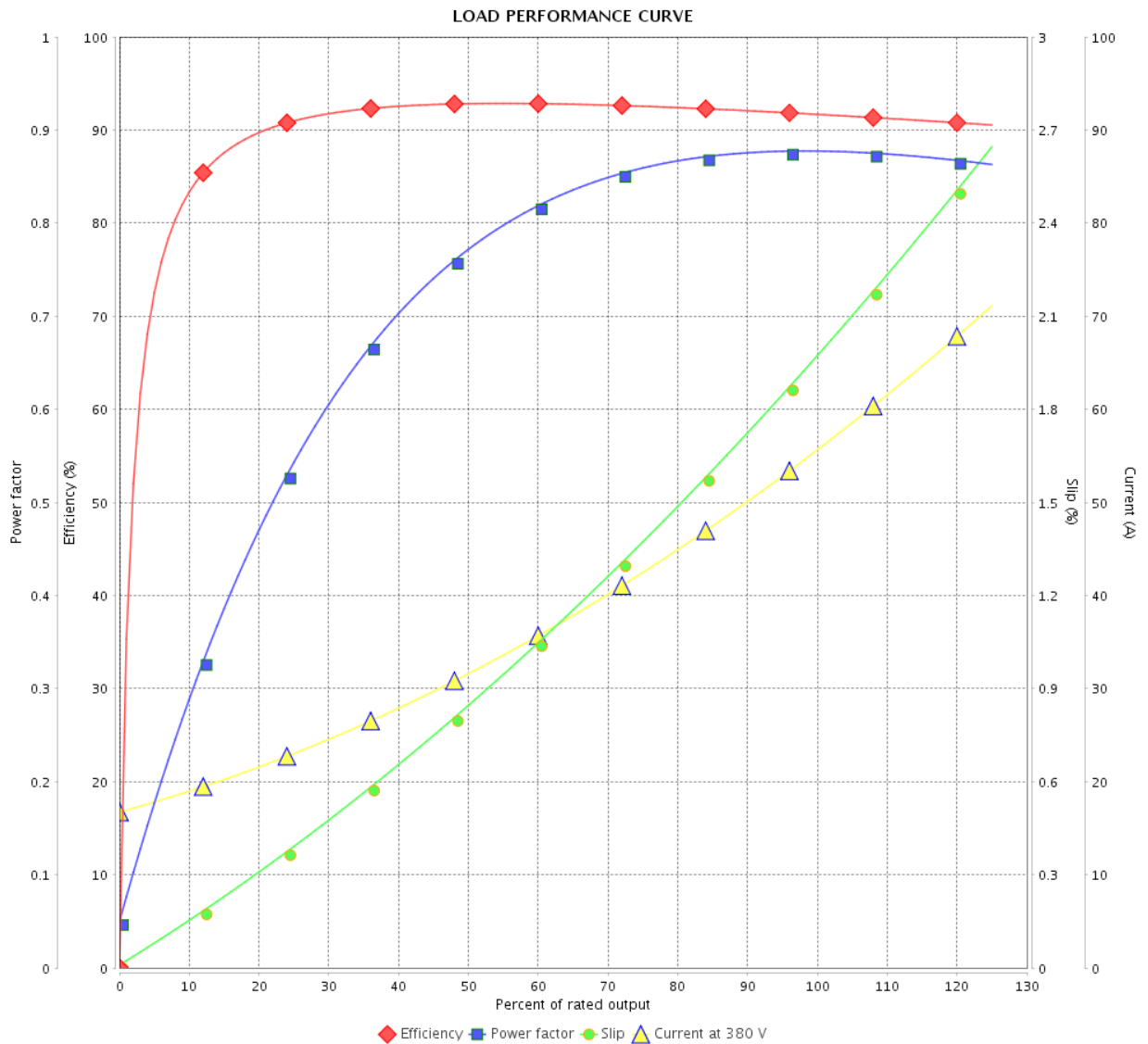


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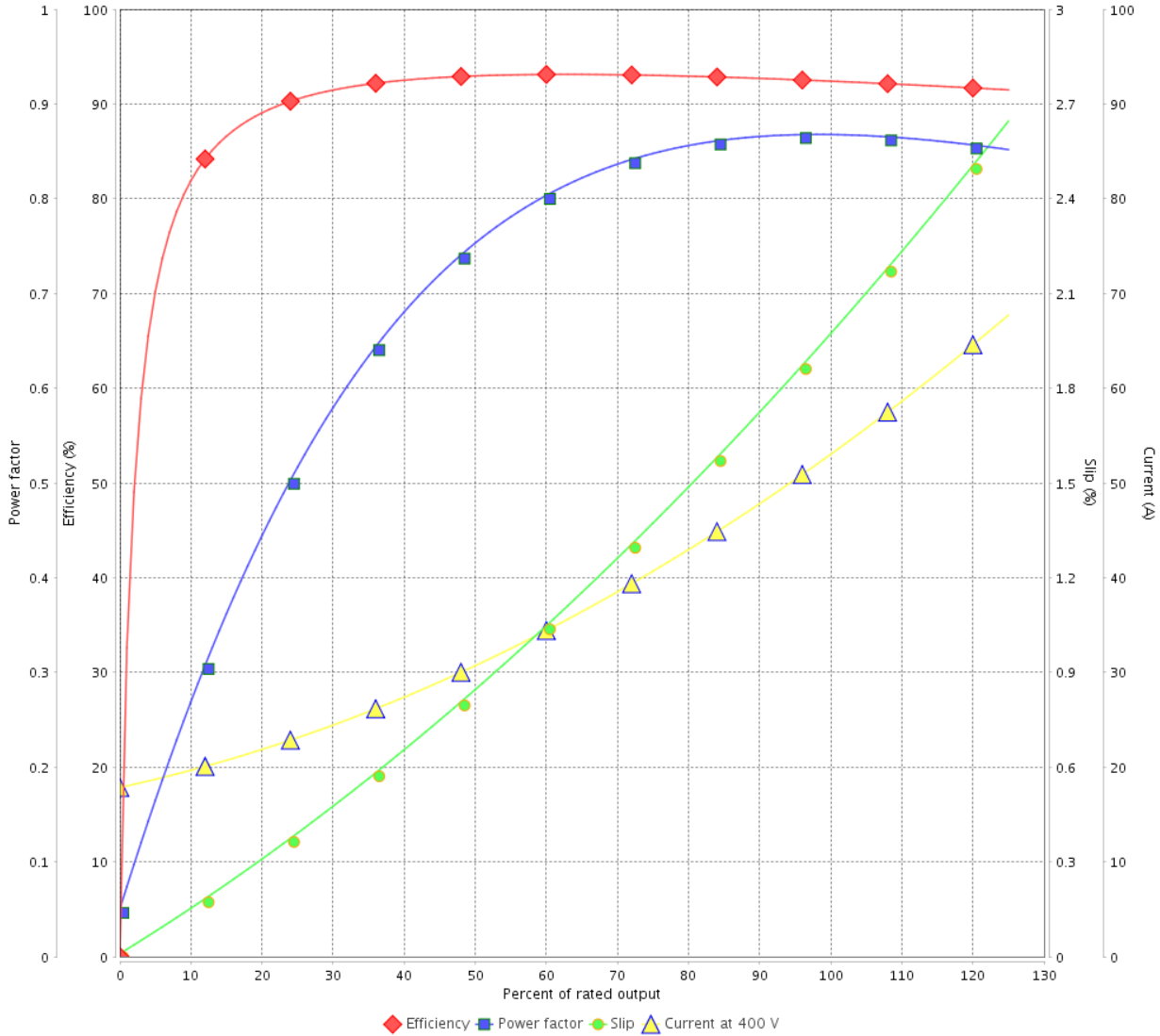
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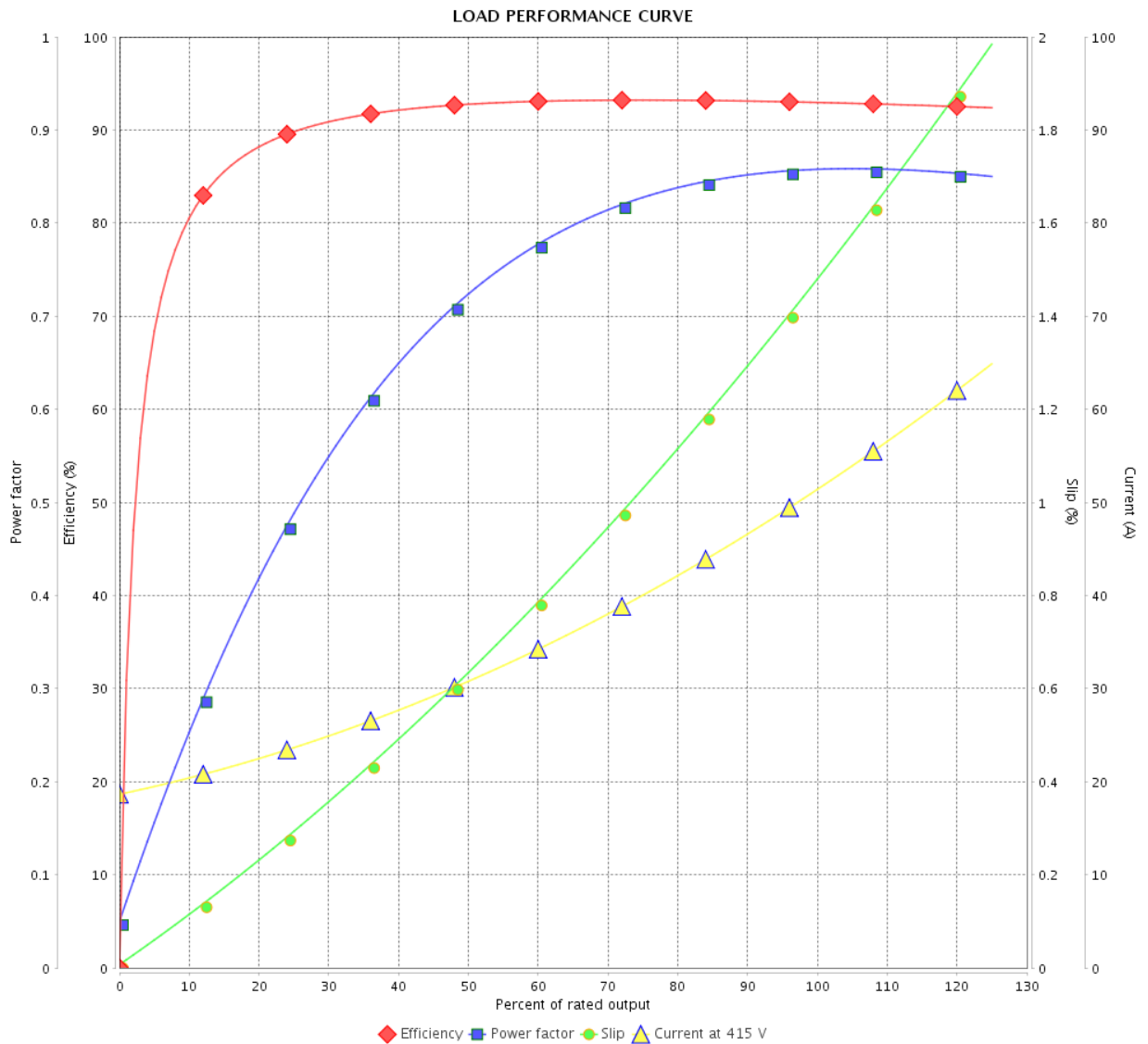


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THERMAL LIMIT CURVE



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Heating constant

Cooling constant

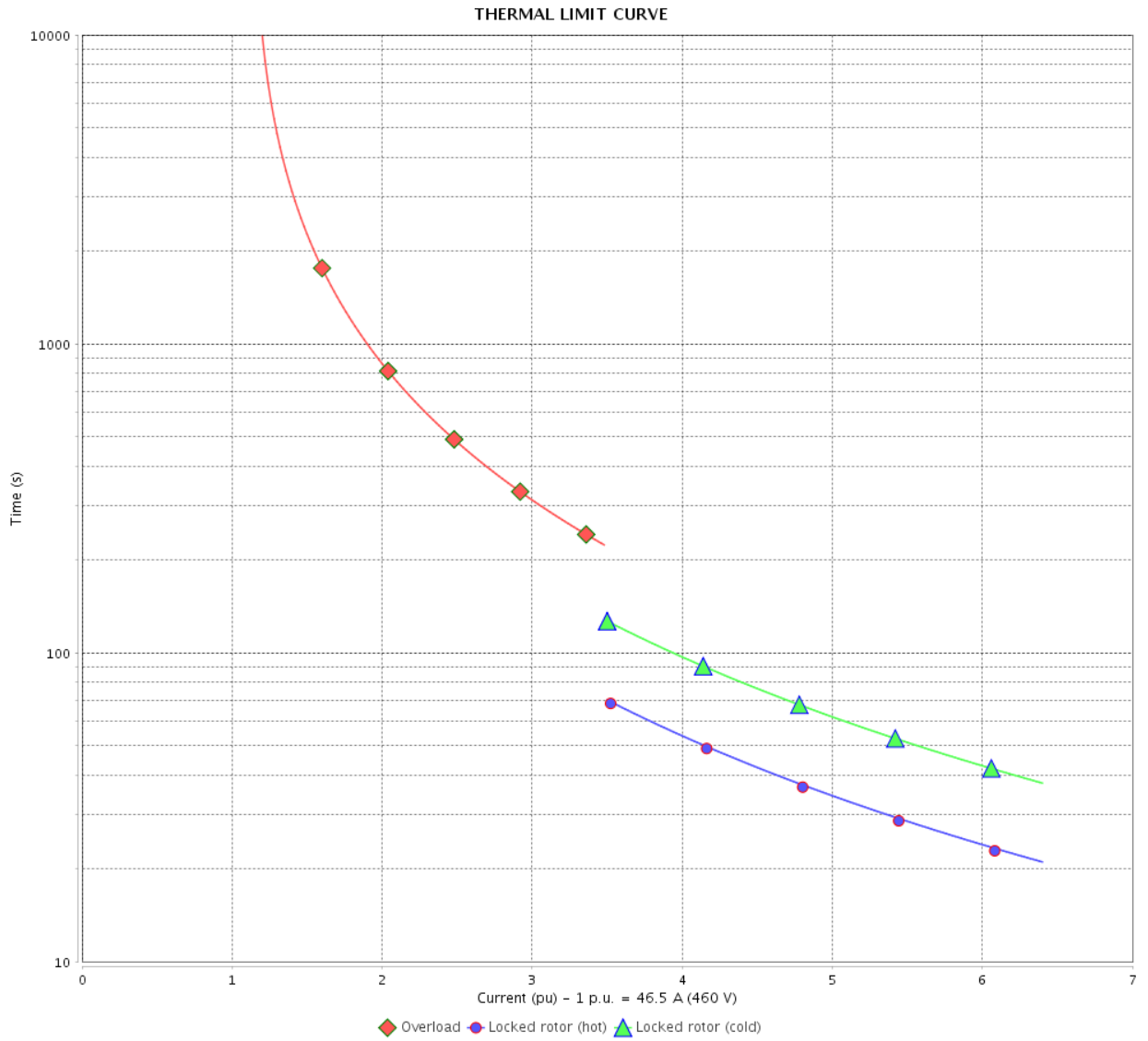
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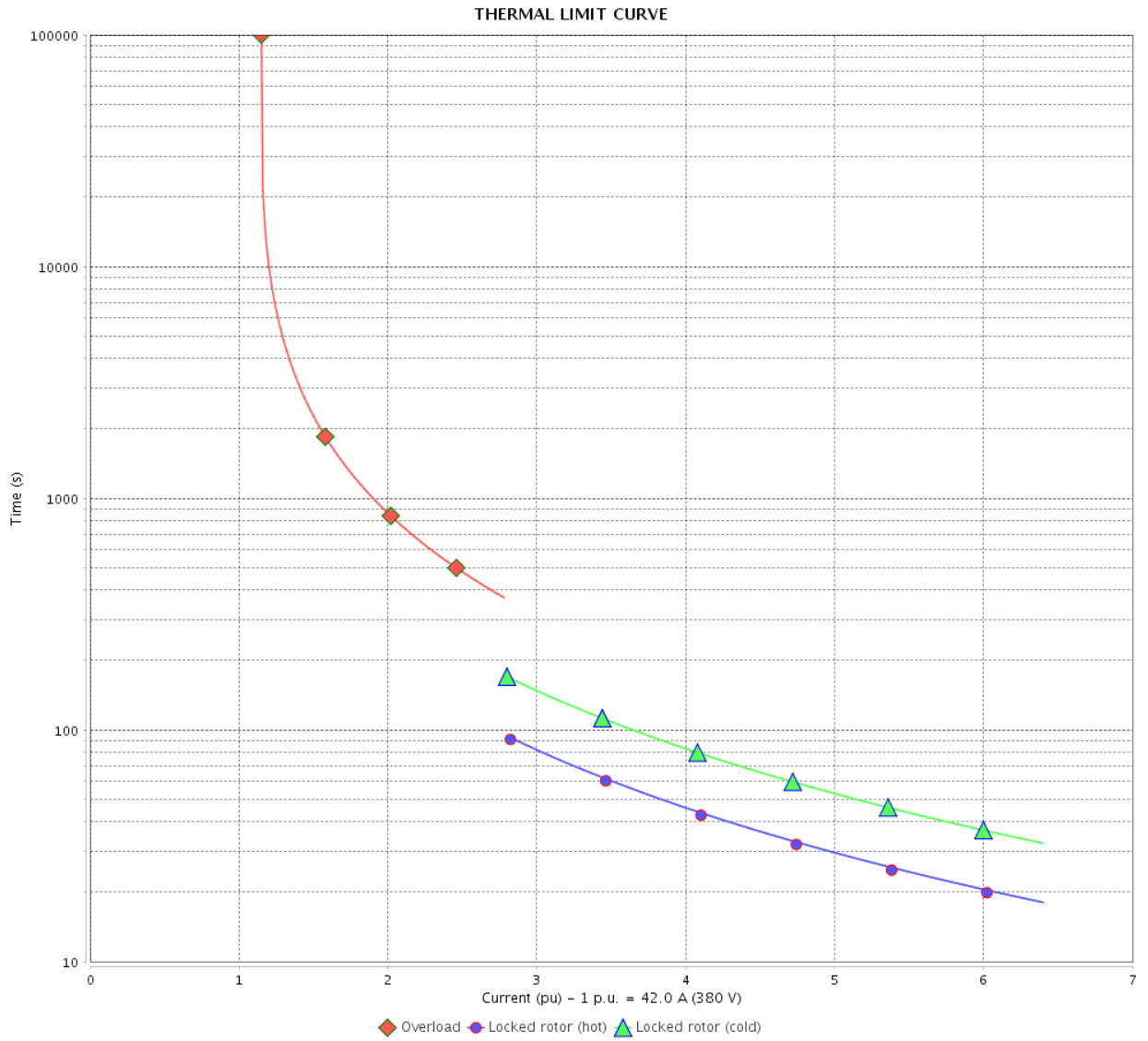
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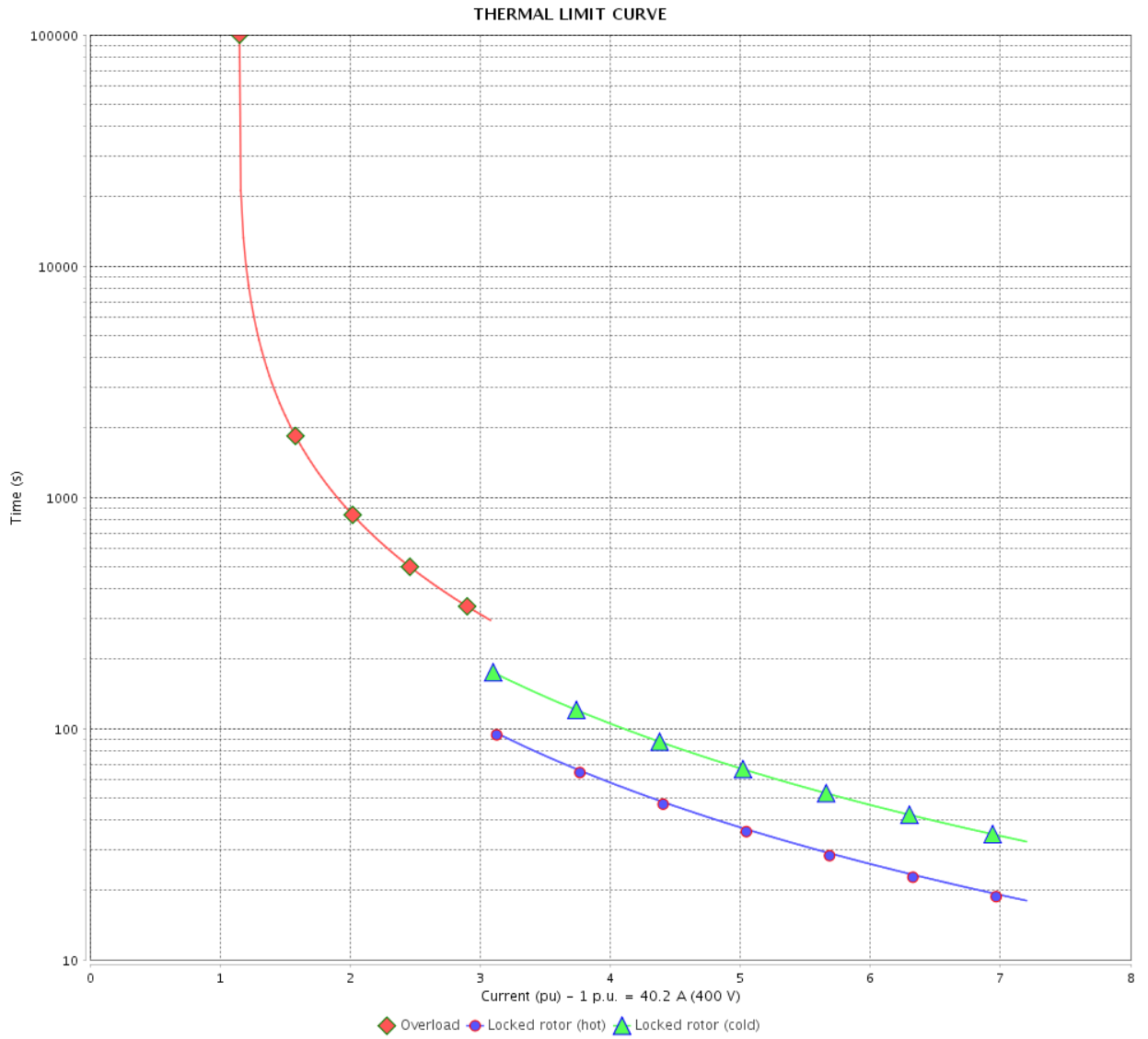
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| | | | | |
| Performed by | | | Page 20 / 36 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------------|---------|----------|
| | | | | |
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 12109400
 Catalog # : 04012ST3QIE364T-W22

Performance : 415 V 50 Hz 6P IE3

| | |
|-----------------------------|---------------------------------------|
| Rated current : 39.6 A | Moment of inertia (J) : 29.0 sq.ft.lb |
| LRC : 7.7 | Duty cycle : Cont.(S1) |
| Rated torque : 159 ft.lb | Insulation class : F |
| Locked rotor torque : 270 % | Service factor : 1.00 |
| Breakdown torque : 310 % | Temperature rise : 80 K |
| Rated speed : 990 rpm | Design : B |

Heating constant

Cooling constant

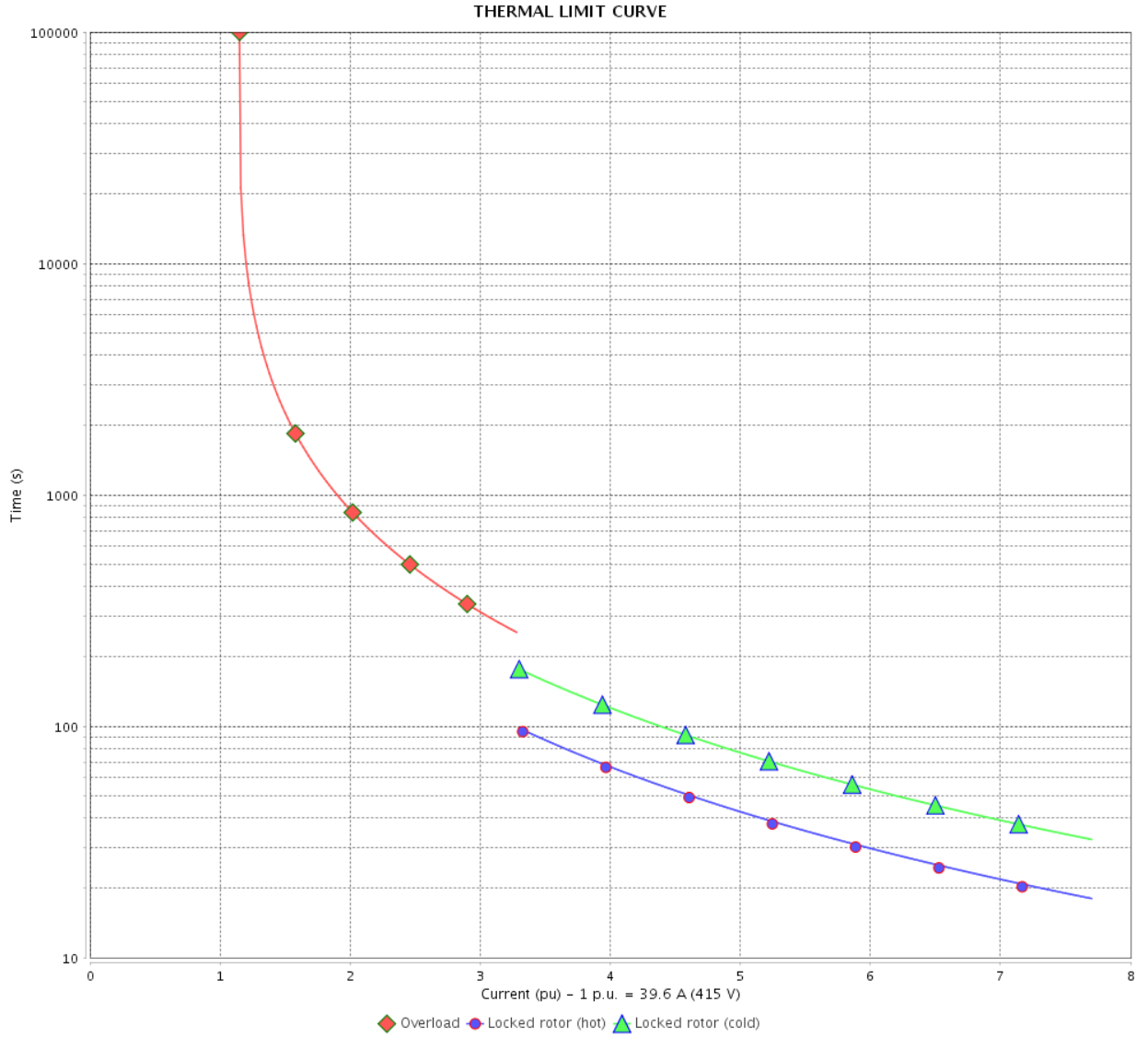
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| Date | 12/04/2022 | | | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12109400
Catalog # : 04012ST3QIE364T-W22

Performance : 380 V 50 Hz 6P IE2

| | | | |
|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 56.5 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 4.9 | Duty cycle | : Cont.(S1) |
| Rated torque | : 214 ft.lb | Insulation class | : F |
| Locked rotor torque | : 160 % | Service factor | : 1.00 |
| Breakdown torque | : 190 % | Temperature rise | : 80 K |
| Rated speed | : 980 rpm | Design | : B |

Heating constant

Cooling constant

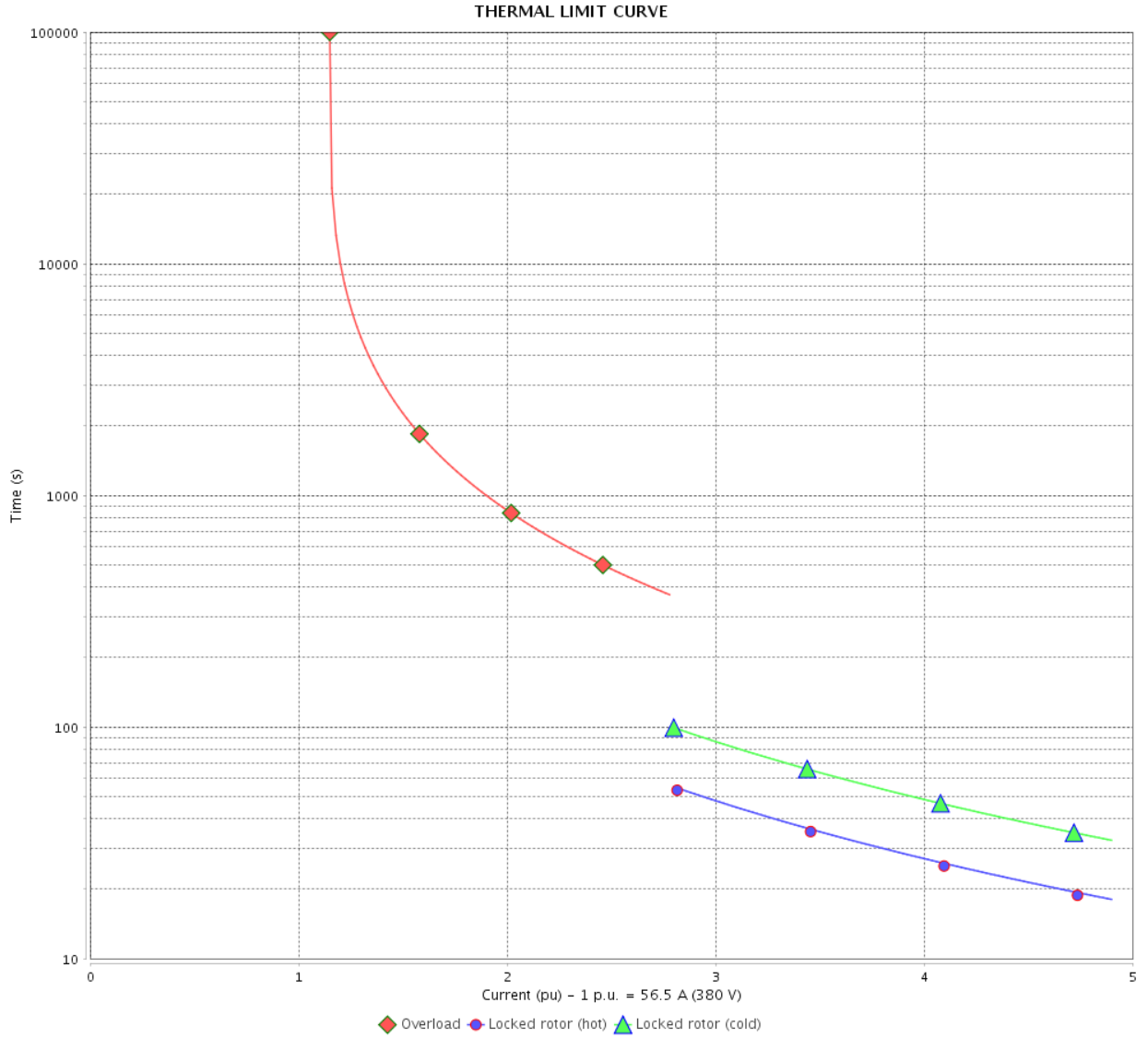
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| Checked by | | | Page | Revision |
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12109400
Catalog # : 04012ST3QIE364T-W22

Performance : 400 V 50 Hz 6P IE2

| | | | |
|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 53.9 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 5.5 | Duty cycle | : Cont.(S1) |
| Rated torque | : 214 ft.lb | Insulation class | : F |
| Locked rotor torque | : 180 % | Service factor | : 1.00 |
| Breakdown torque | : 210 % | Temperature rise | : 80 K |
| Rated speed | : 980 rpm | Design | : B |

Heating constant

Cooling constant

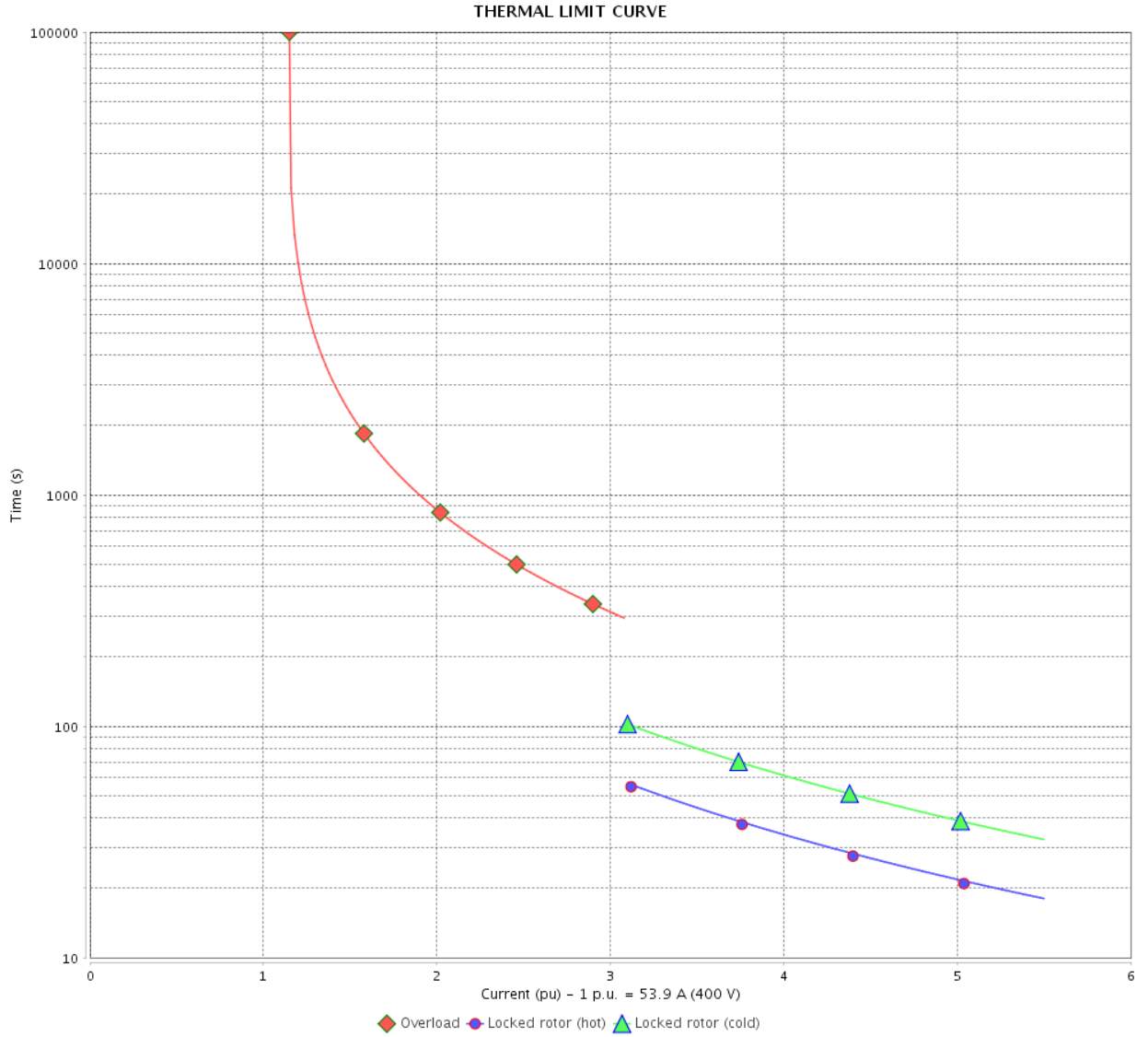
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| Performed by | | | | |
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 12109400
Catalog # : 04012ST3QIE364T-W22

Performance : 415 V 50 Hz 6P IE3

| | |
|-----------------------------|---------------------------------------|
| Rated current : 52.2 A | Moment of inertia (J) : 29.0 sq.ft.lb |
| LRC : 6.0 | Duty cycle : Cont.(S1) |
| Rated torque : 213 ft.lb | Insulation class : F |
| Locked rotor torque : 200 % | Service factor : 1.00 |
| Breakdown torque : 229 % | Temperature rise : 80 K |
| Rated speed : 985 rpm | Design : B |

Heating constant

Cooling constant

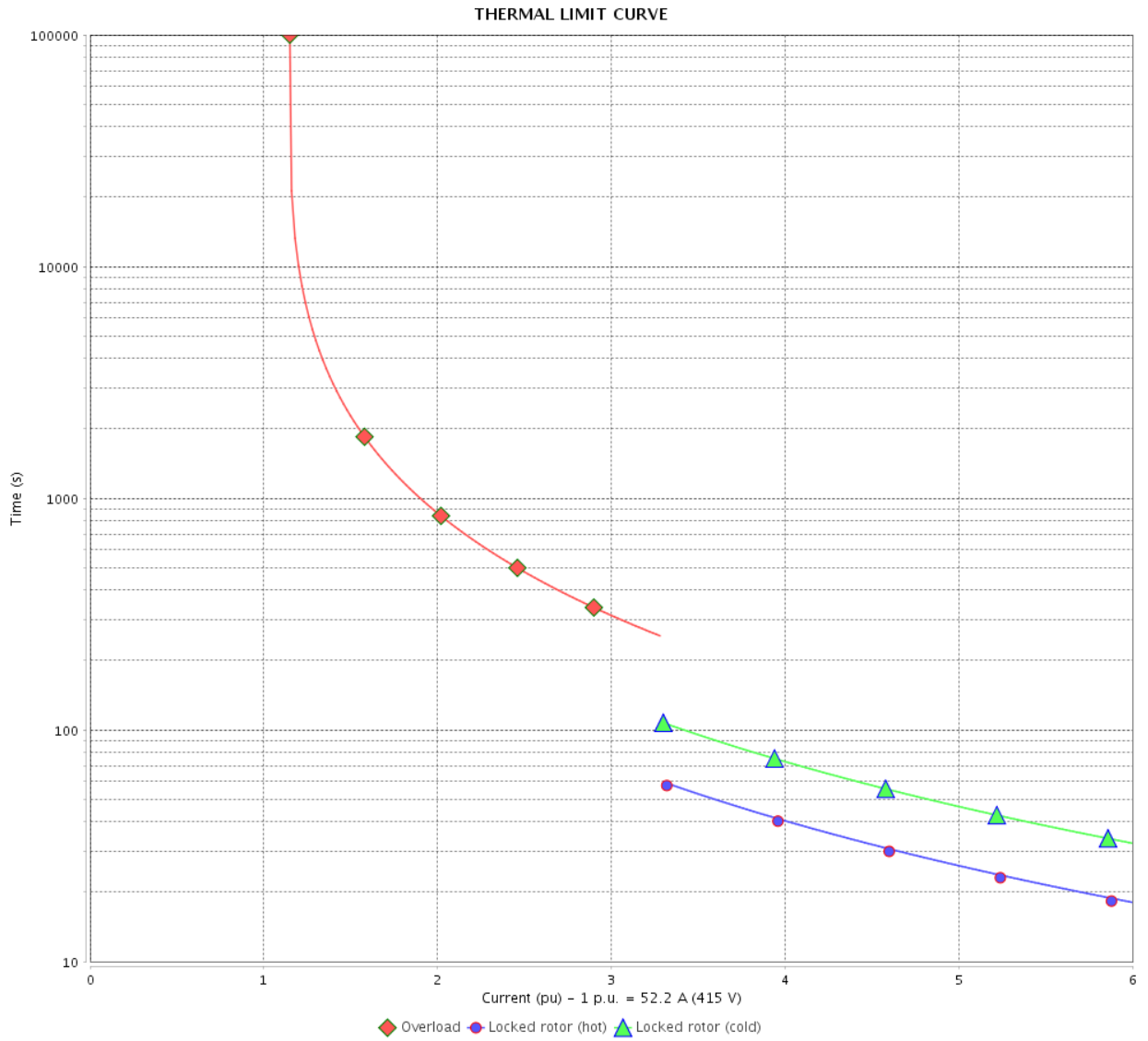
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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| Date | | | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



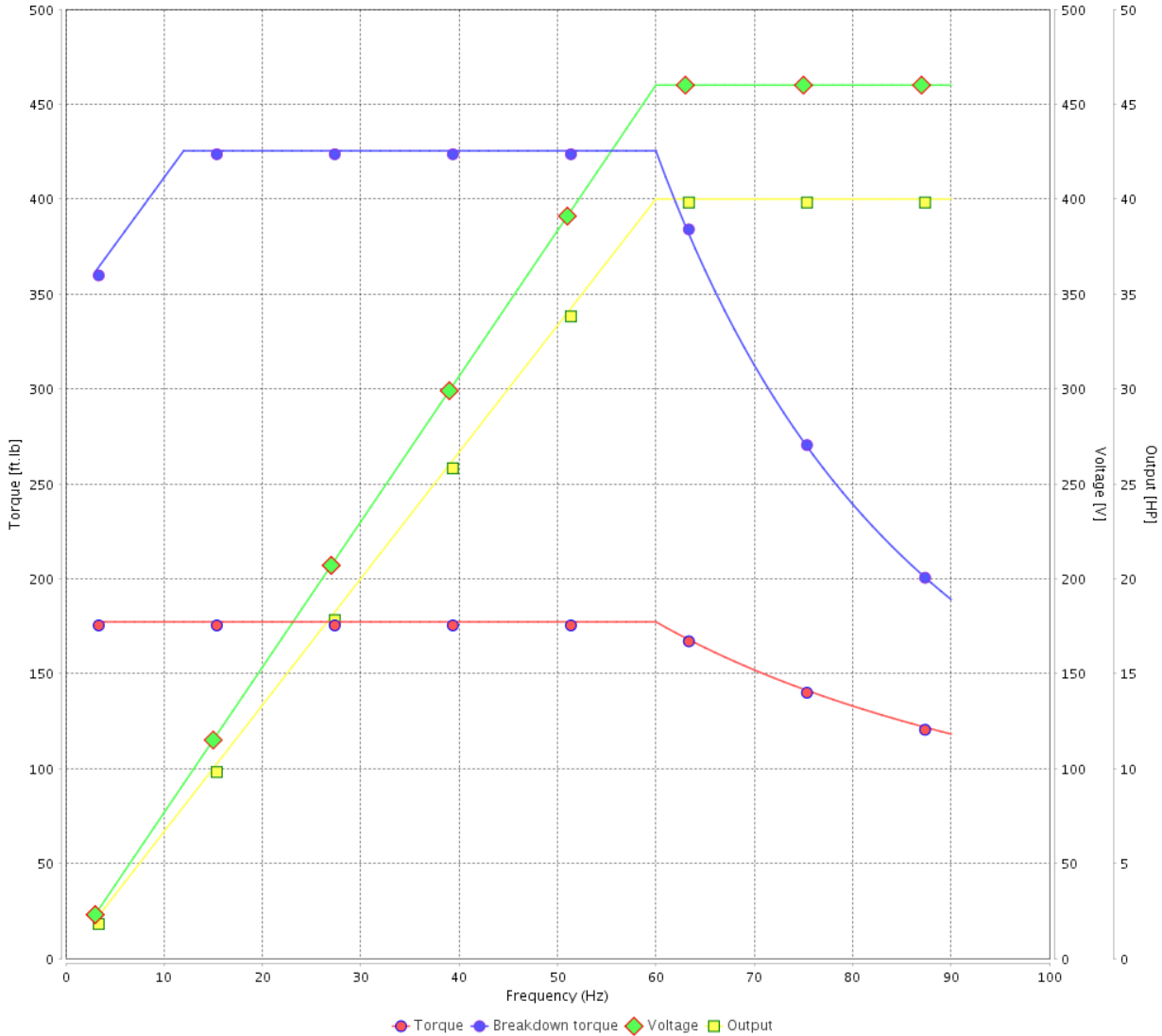
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22

VFD OPERATION CURVE



Performance : 460 V 60 Hz 6P

Rated current : 46.5 A
 LRC : 6.4
 Rated torque : 177 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 1185 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : B

| Rev. | Changes Summary | Performed | Checked | Date |
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| Checked by | | | | |
| Date | | | | |
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

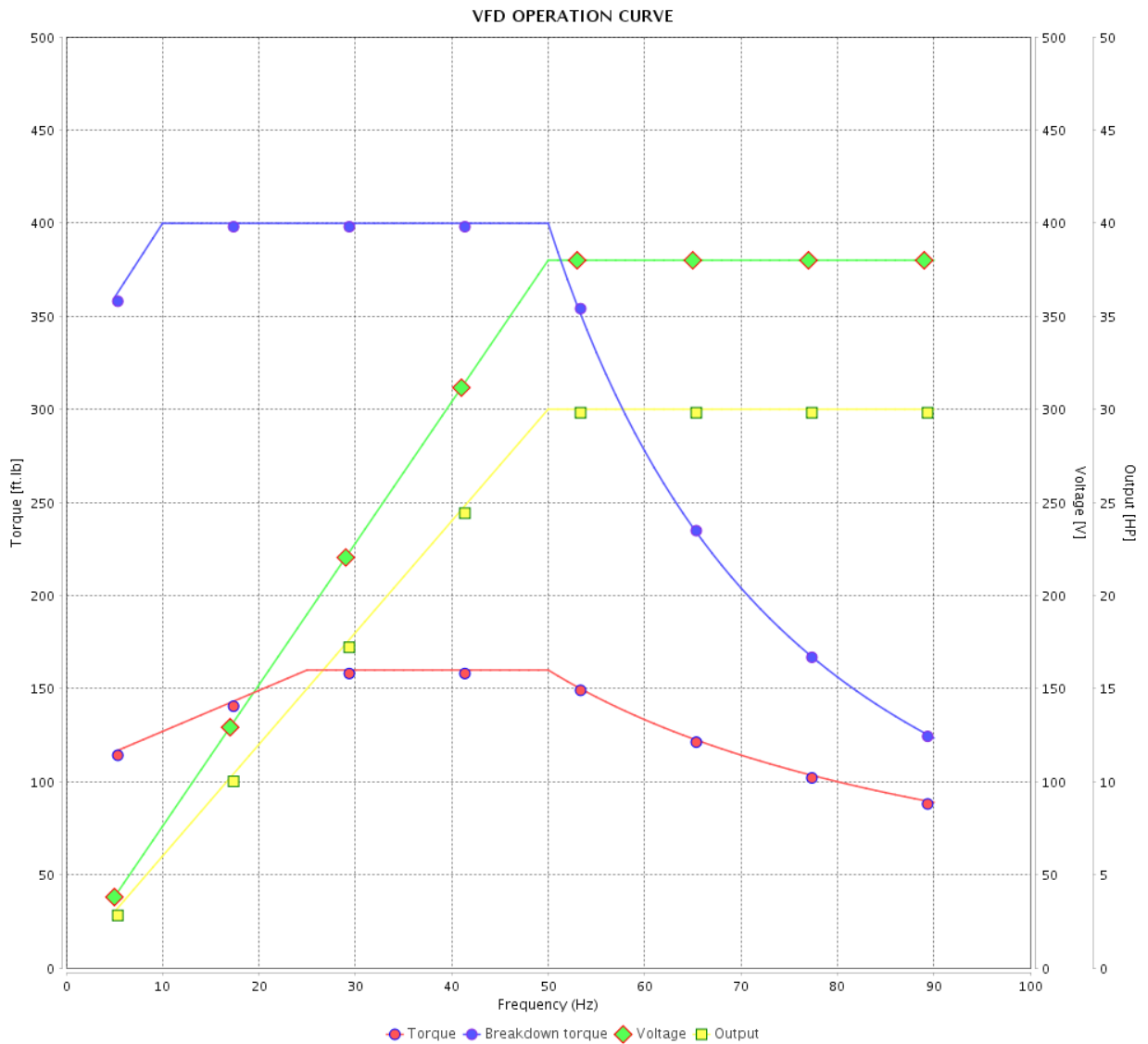


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22



Performance : 380 V 50 Hz 6P IE3

Rated current : 42.0 A
 LRC : 6.4
 Rated torque : 160 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 250 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

| Rev. | Changes Summary | Performed | Checked | Date |
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| Date | 12/04/2022 | | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

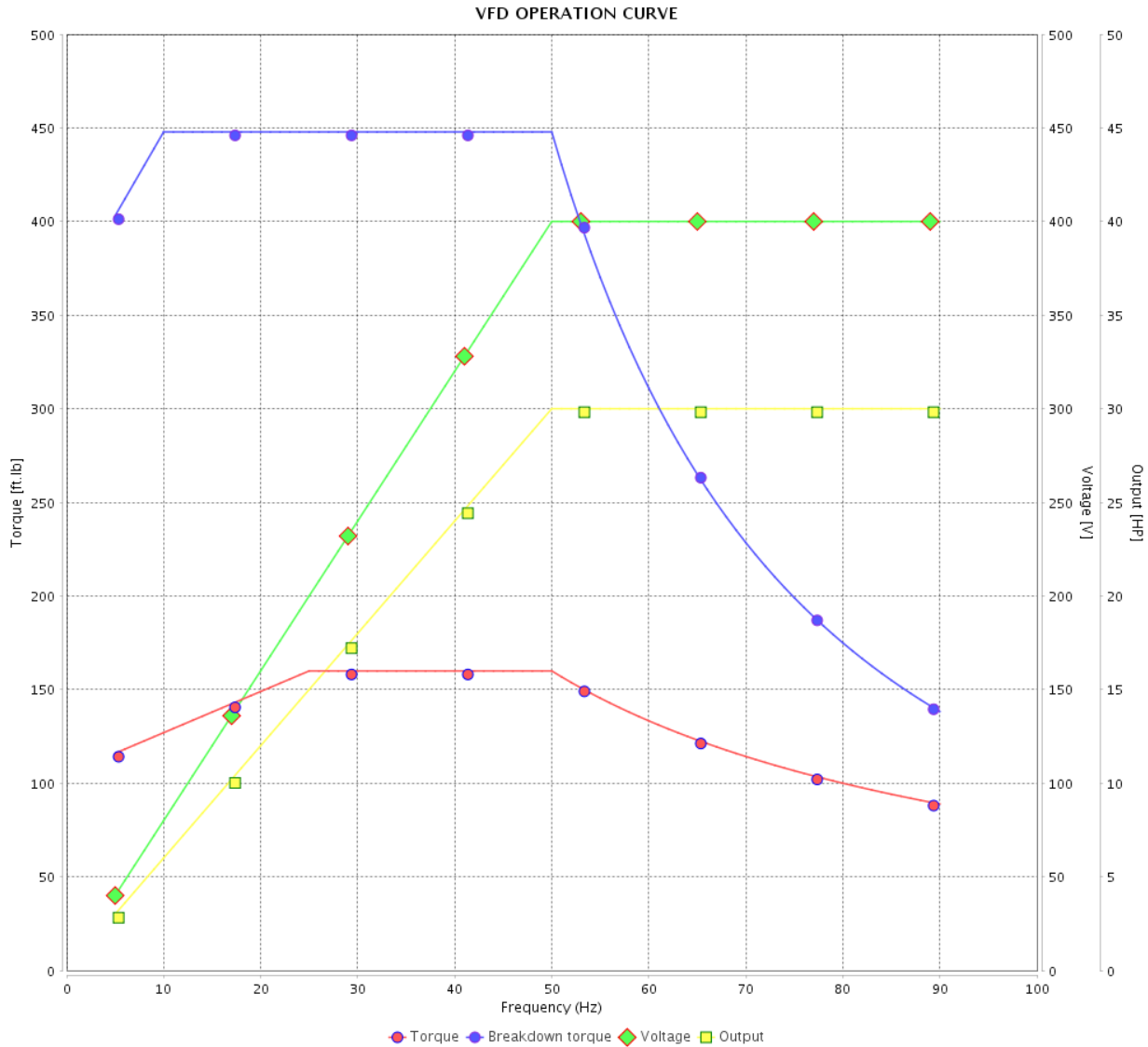


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22



Performance : 400 V 50 Hz 6P IE3

Rated current : 40.2 A
 LRC : 7.2
 Rated torque : 160 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 985 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

| Rev. | Changes Summary | Performed | Checked | Date |
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

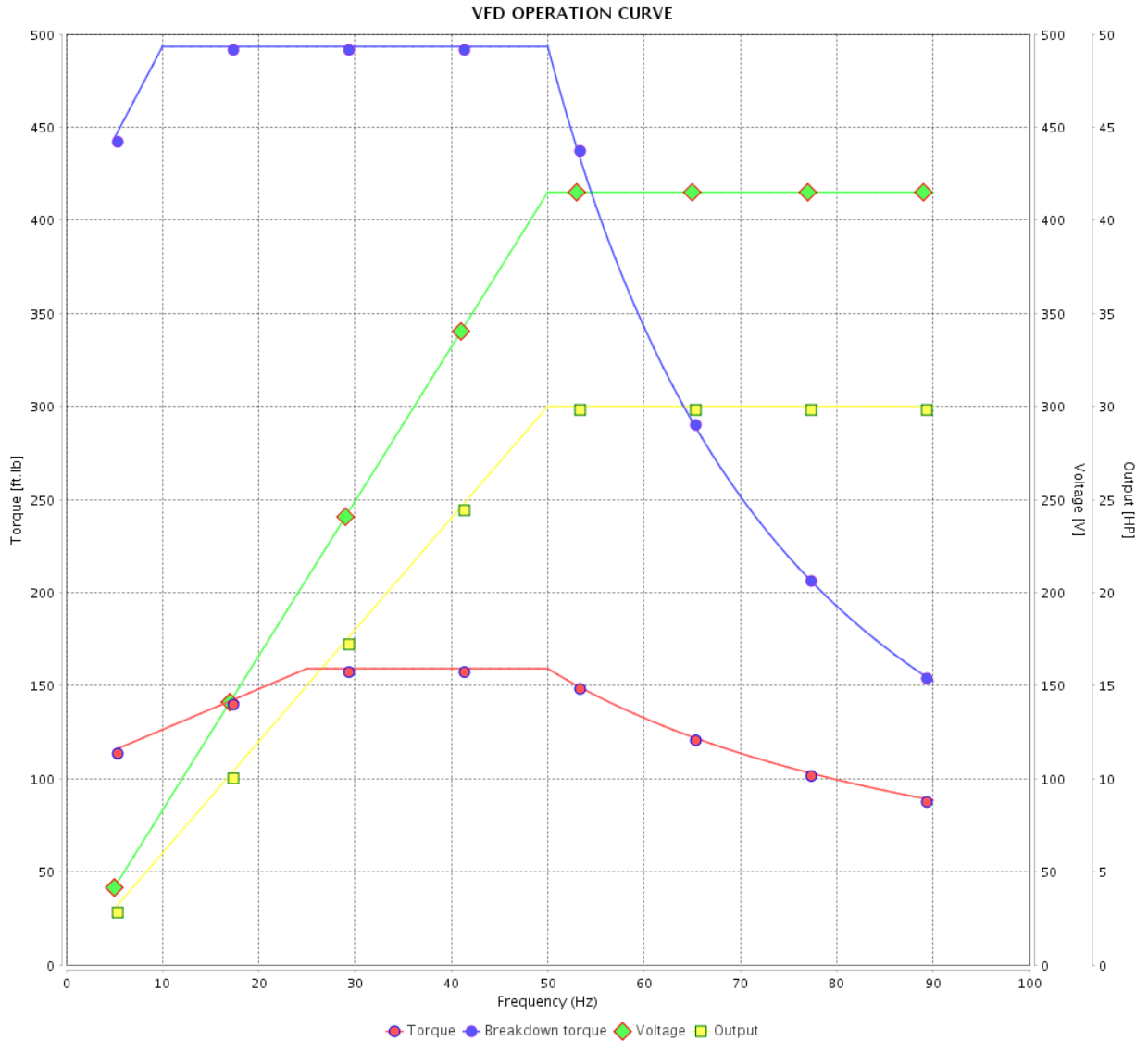


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22



Performance : 415 V 50 Hz 6P IE3

Rated current : 39.6 A
 LRC : 7.7
 Rated torque : 159 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 310 %
 Rated speed : 990 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

| Rev. | Changes Summary | Performed | Checked | Date |
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



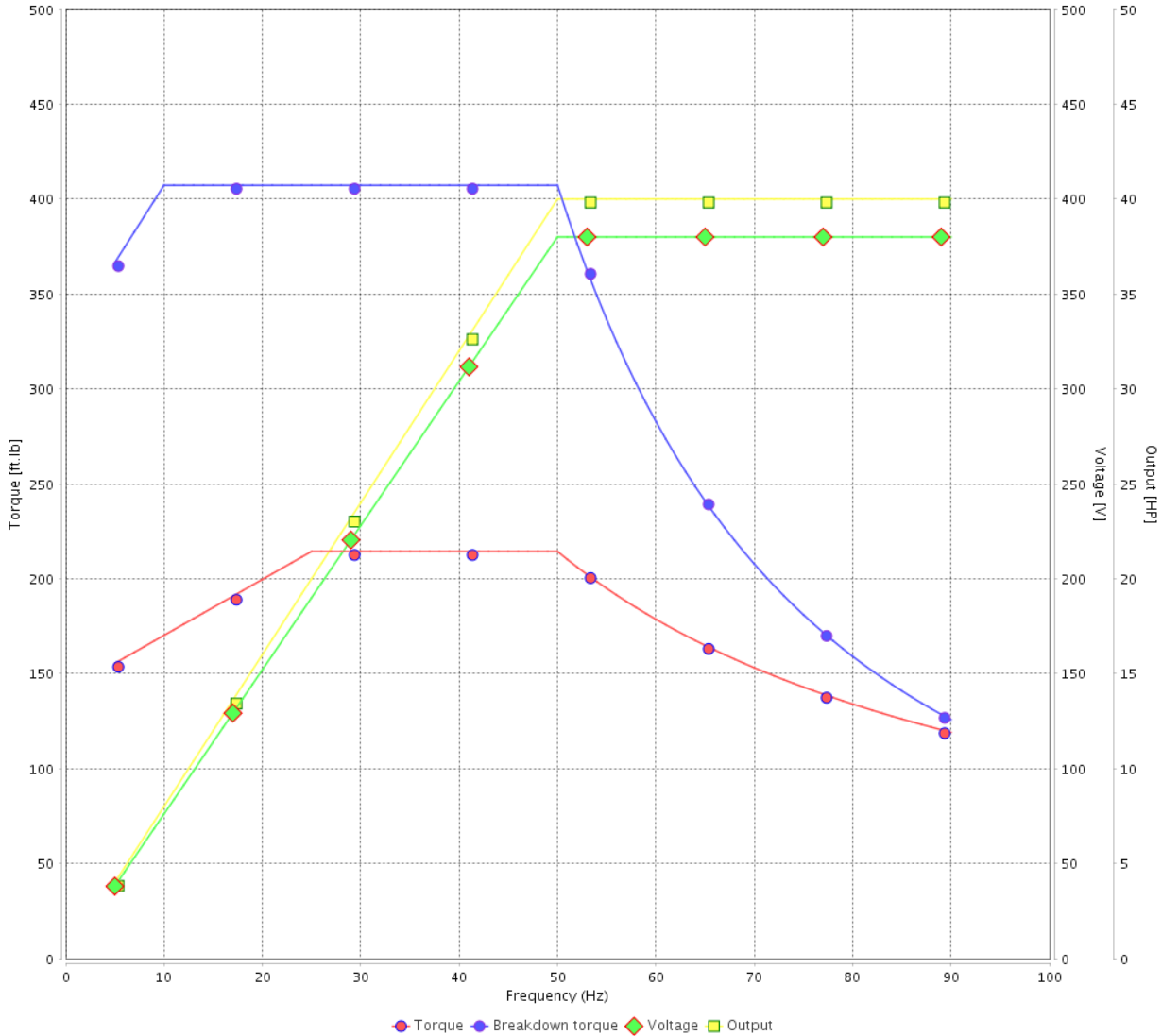
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE2

| | | | |
|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 56.5 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 4.9 | Duty cycle | : Cont.(S1) |
| Rated torque | : 214 ft.lb | Insulation class | : F |
| Locked rotor torque | : 160 % | Service factor | : 1.00 |
| Breakdown torque | : 190 % | Temperature rise | : 80 K |
| Rated speed | : 980 rpm | Design | : B |

| Rev. | Changes Summary | Performed | Checked | Date |
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| Checked by | | | | |
| Date | 12/04/2022 | | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

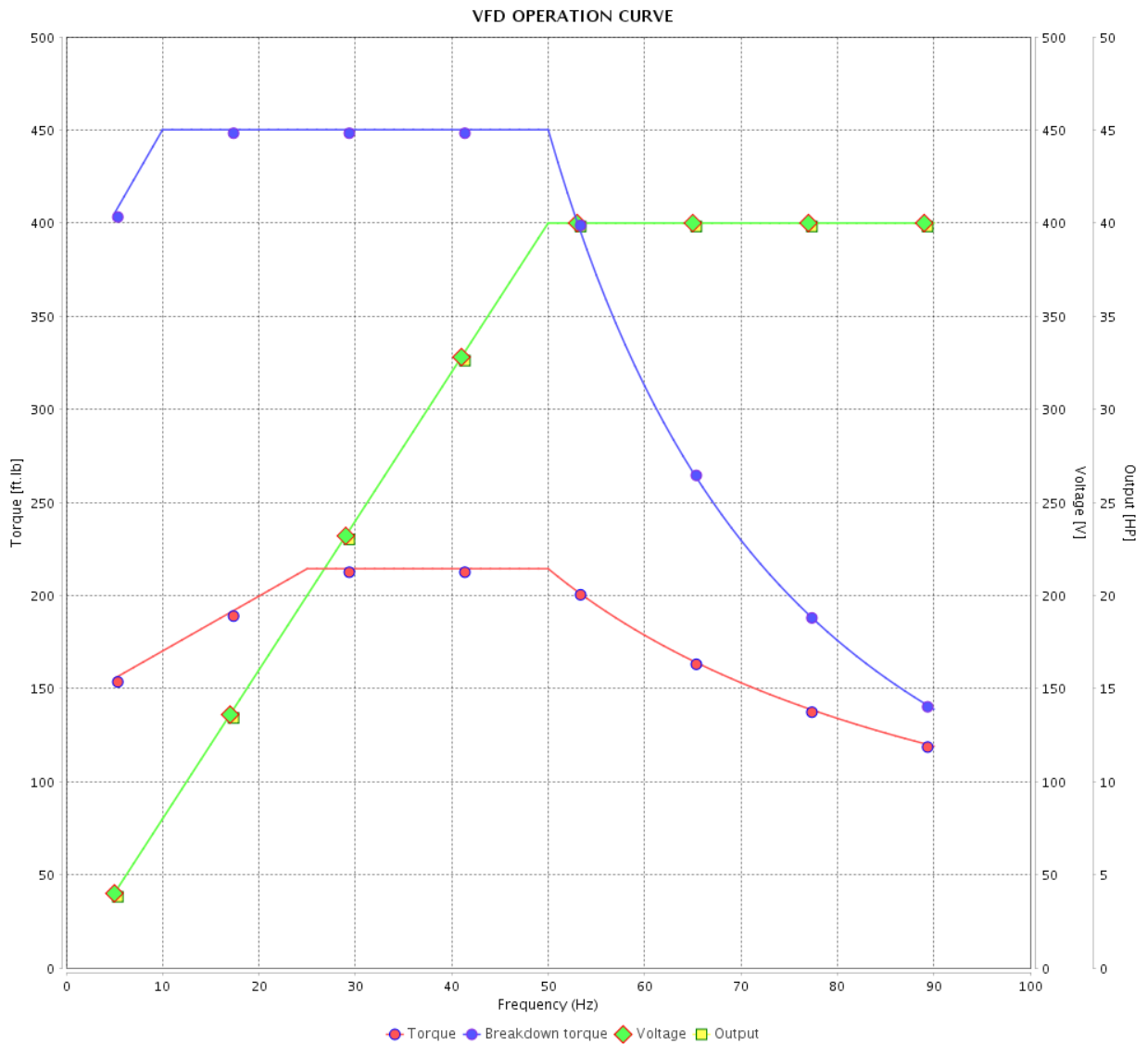


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22



Performance : 400 V 50 Hz 6P IE2

Rated current : 53.9 A
 LRC : 5.5
 Rated torque : 214 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 210 %
 Rated speed : 980 rpm

Moment of inertia (J) : 29.0 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

| Rev. | Changes Summary | Performed | Checked | Date |
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

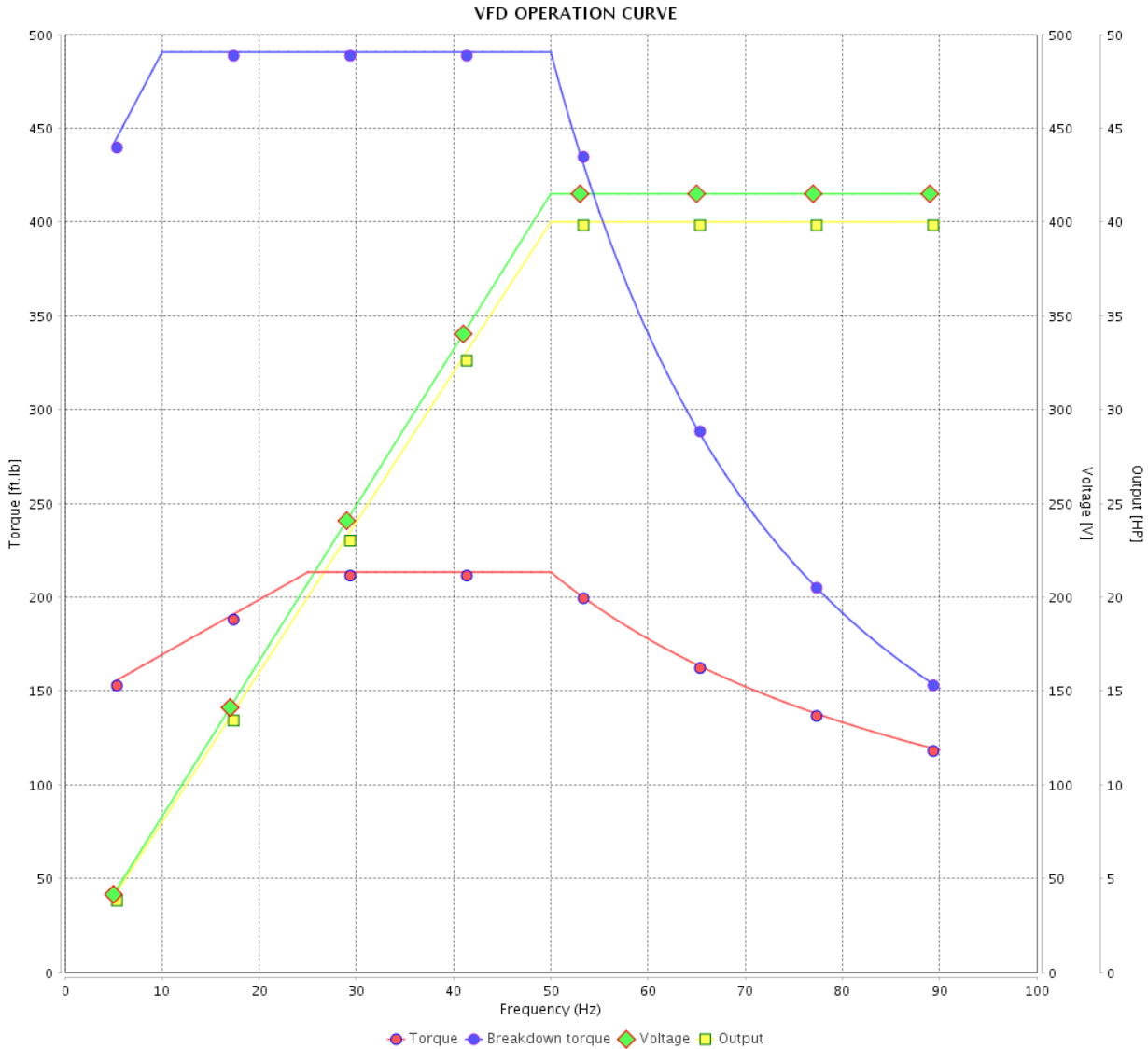


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12109400

Catalog # : 04012ST3QIE364T-W22



Performance : 415 V 50 Hz 6P IE3

| | | | |
|---------------------|-------------|-----------------------|-----------------|
| Rated current | : 52.2 A | Moment of inertia (J) | : 29.0 sq.ft.lb |
| LRC | : 6.0 | Duty cycle | : Cont.(S1) |
| Rated torque | : 213 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.00 |
| Breakdown torque | : 229 % | Temperature rise | : 80 K |
| Rated speed | : 985 rpm | Design | : B |

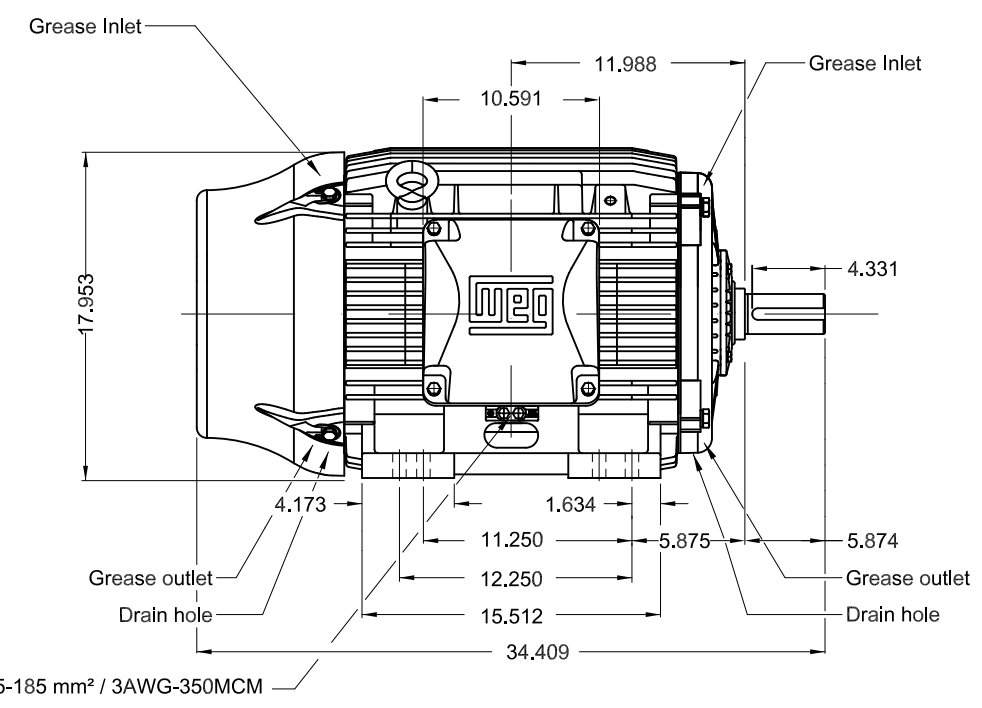
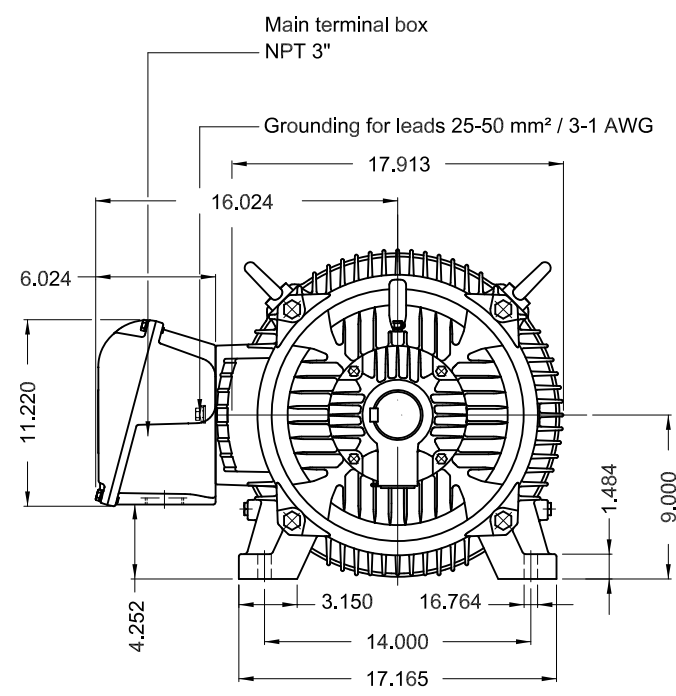
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1 2 3 4 5 6

A

B

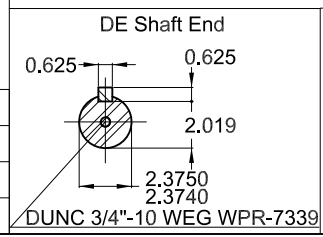
C



D

E

Without vertical jackscrews
 Color RAL 5009
 Painting plan 202E
 Mounting B3R(D)



40 HP 06 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 364/5T IP55 TEFC | | | | | |
| CHECKED | | | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | |

PREVIEW
WDD

