

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|---|-----------------------------------|--|----------------------|----------|
| Customer : | | | | | |
| Product line | : W40 NEMA Premium Efficiency Three-Phase | Product code : | 14504153 | | |
| | | Catalog # : | 05036OT3E324TS-W40G | | |
| Frame | : 324TS | 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 | : 521 lb | | |
| Protection degree | : IP23 | Moment of inertia (J) | : 3.02 sq.ft.lb | | |
| Design | : B | | | | |
| Output [HP] | 50 | 40 | 40 | 40 | |
| Poles | 2 | 2 | 2 | 2 | |
| Frequency [Hz] | 60 | 50 | 50 | 50 | |
| Rated voltage [V] | 230/460 | 380 | 400 | 415 | |
| Rated current [A] | 119/59.4 | 57.5 | 56.6 | 56.6 | |
| L. R. Amperes [A] | 748/374 | 368 | 374 | 385 | |
| LRC [A] | 6.3x(Code G) | 6.4x(Code G) | 6.6x(Code H) | 6.8x(Code H) | |
| No load current [A] | 45.0/22.5 | 20.5 | 24.0 | 27.0 | |
| Rated speed [RPM] | 3560 | 2960 | 2965 | 2965 | |
| Slip [%] | 1.11 | 1.33 | 1.17 | 1.17 | |
| Rated torque [ft.lb] | 73.8 | 71.0 | 70.8 | 70.8 | |
| Locked rotor torque [%] | 200 | 200 | 229 | 240 | |
| Breakdown torque [%] | 220 | 220 | 240 | 260 | |
| Service factor | 1.25 | 1.00 | 1.00 | 1.00 | |
| Temperature rise | 80 K | 80 K | 80 K | 80 K | |
| Locked rotor time | 25s (cold) 14s (hot) | 19s (cold) 11s (hot) | 21s (cold) 12s (hot) | 19s (cold) 11s (hot) | |
| Noise level ² | 75.0 dB(A) | | | | |
| Efficiency (%) | 25% | 91.5 | 88.3 | 88.4 | 88.5 |
| | 50% | 91.7 | 90.0 | 90.0 | 90.1 |
| | 75% | 93.0 | 91.6 | 91.7 | 91.7 |
| | 100% | 93.0 | 93.3 | 93.3 | 93.3 |
| Power Factor | 25% | 0.46 | 0.48 | 0.42 | 0.37 |
| | 50% | 0.72 | 0.73 | 0.67 | 0.60 |
| | 75% | 0.81 | 0.82 | 0.77 | 0.73 |
| | 100% | 0.84 | 0.85 | 0.82 | 0.79 |
| Bearing type | : Drive end : 6312 Z C3 Non drive end : 6211 Z C3 | Foundation loads | | | |
| Sealing | : Without Bearing Seal Without Bearing Seal | Max. traction Max. compression | | | |
| Lubrication interval | : 19658 h 20000 h | | | | |
| Lubricant amount | : 21 g 11 g | | | | |
| Lubricant type | : Mobil Polyrex EM | | | | |
| Notes USABLE @208V 130A SF 1.15 SFA 149A | | | | | |
| 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 |
| Date | 12/04/2022 | | | 1 / 21 | |

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



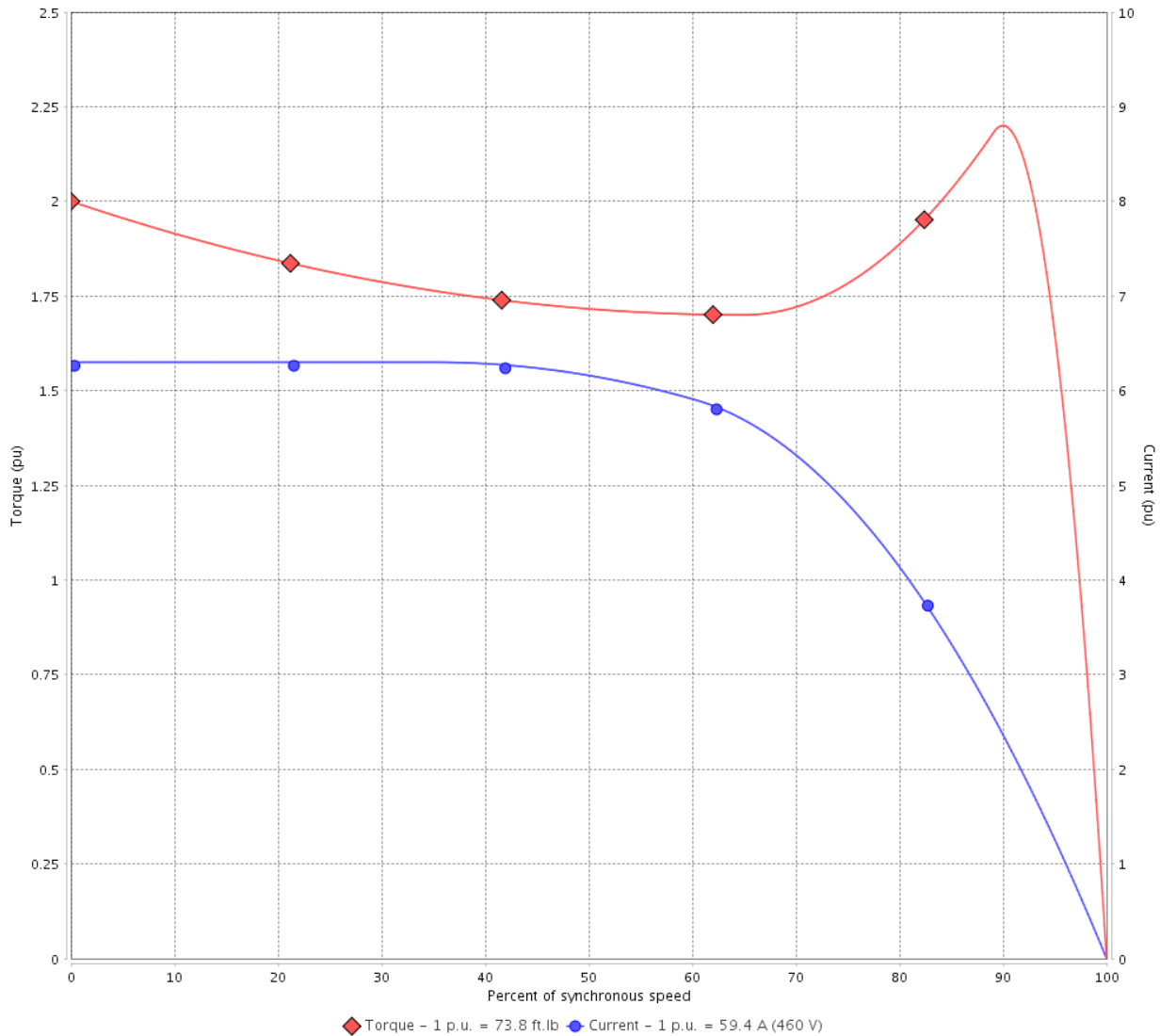
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 050360T3E324TS-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 119/59.4 A | Moment of inertia (J) | : 3.02 sq.ft.lb |
| LRC | : 6.3 | Duty cycle | : Cont.(S1) |
| Rated torque | : 73.8 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.25 |
| Breakdown torque | : 220 % | Temperature rise | : 80 K |
| Rated speed | : 3560 rpm | Design | : B |

Locked rotor time : 25s (cold) 14s (hot)

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 2 / 21 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

TORQUE AND CURRENT VS SPEED CURVE



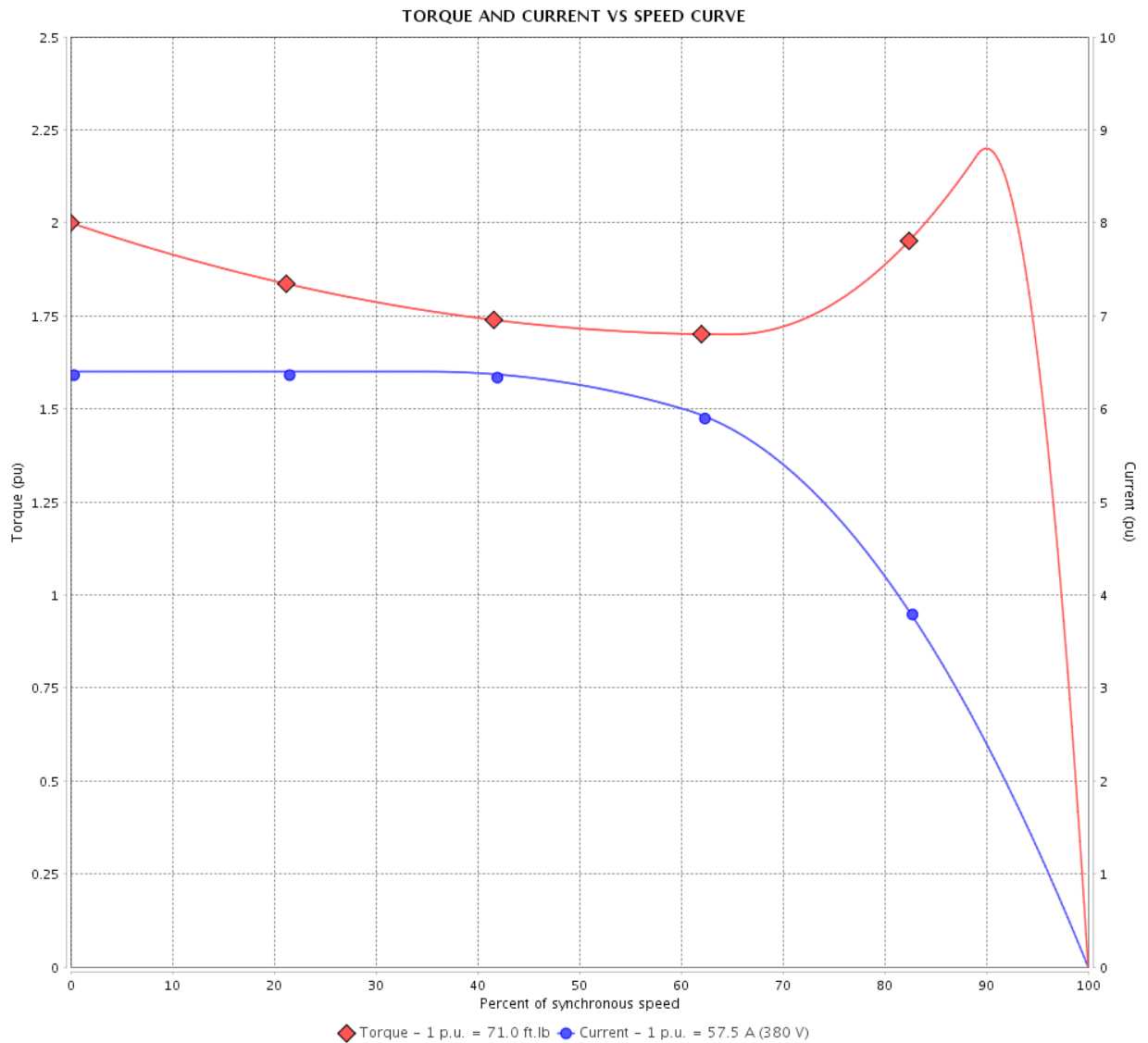
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G



Performance : 380 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 57.5 A | Moment of inertia (J) | : 3.02 sq.ft.lb |
| LRC | : 6.4 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.0 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.00 |
| Breakdown torque | : 220 % | Temperature rise | : 80 K |
| Rated speed | : 2960 rpm | Design | : B |

Locked rotor time : 19s (cold) 11s (hot)

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 3 / 21 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



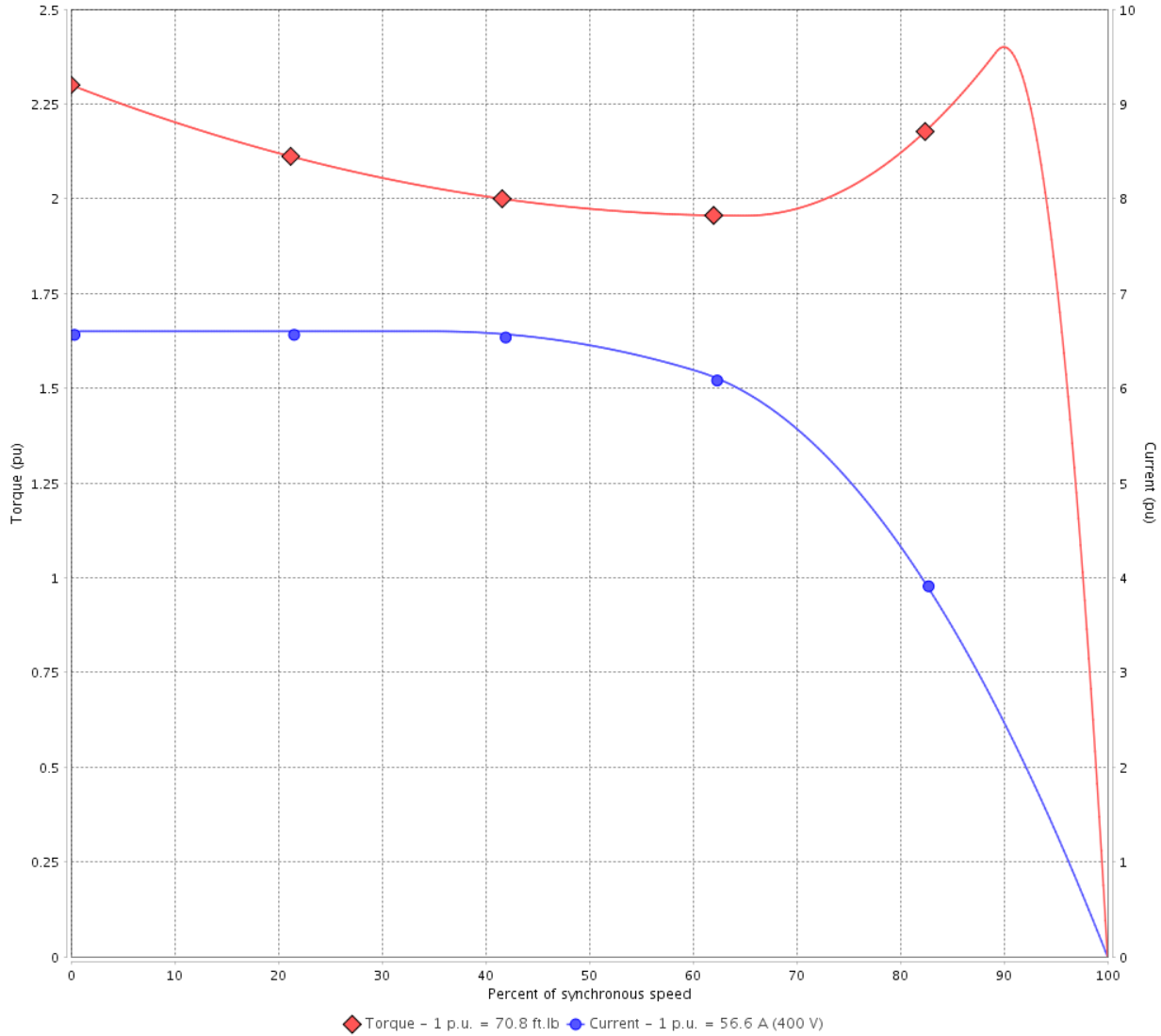
Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 050360T3E324TS-W40G

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 56.6 A | Moment of inertia (J) | : 3.02 sq.ft.lb |
| LRC | : 6.6 | Duty cycle | : Cont.(S1) |
| Rated torque | : 70.8 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.00 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 2965 rpm | Design | : B |

Locked rotor time : 21s (cold) 12s (hot)

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 4 / 21 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

TORQUE AND CURRENT VS SPEED CURVE



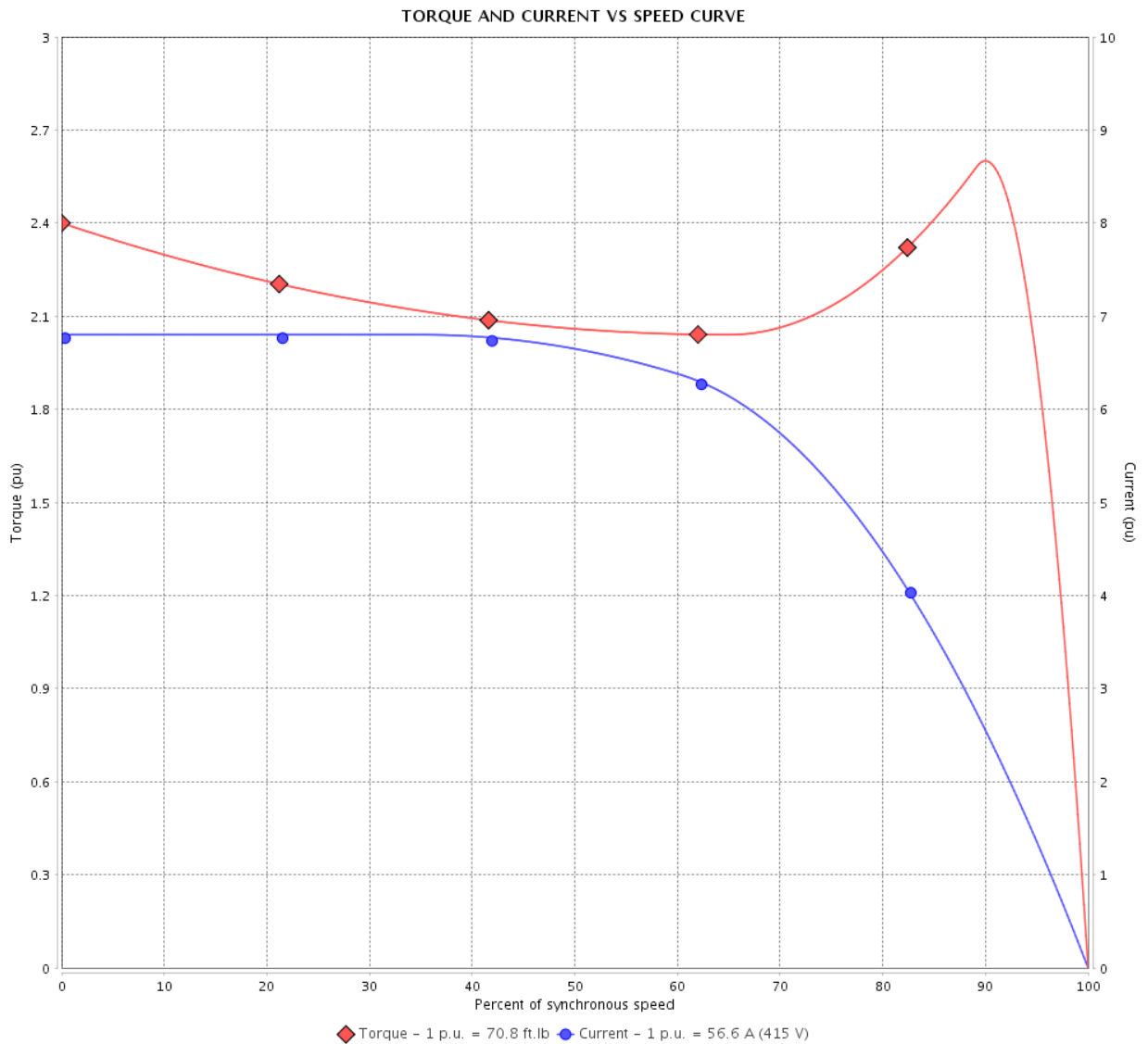
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G



Performance : 415 V 50 Hz 2P IE3

Rated current : 56.6 A
LRC : 6.8
Rated torque : 70.8 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 260 %
Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : B

Locked rotor time : 19s (cold) 11s (hot)

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | | Page | Revision |
| Checked by | | | 5 / 21 | |
| Date | 12/04/2022 | | | |

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



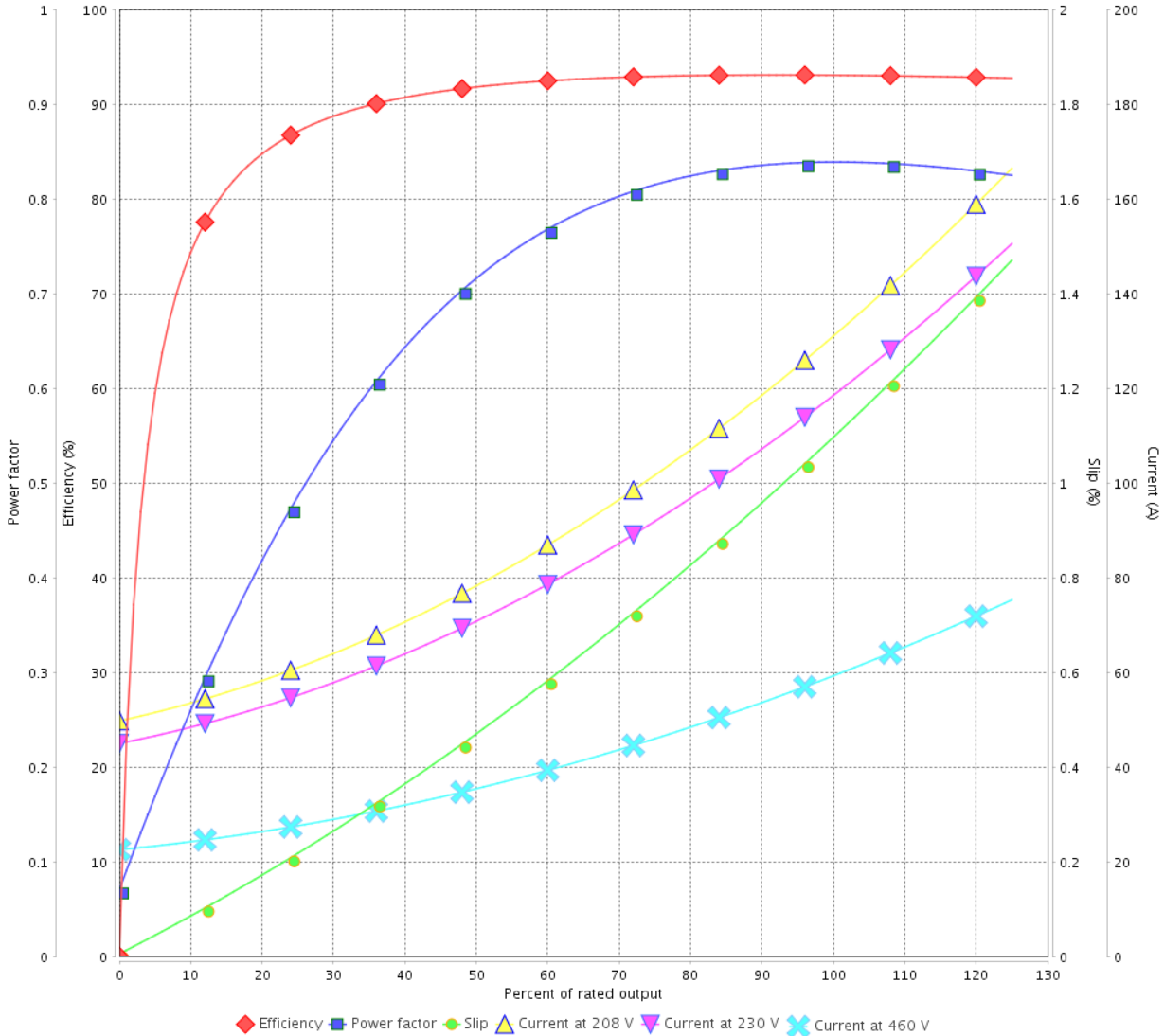
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A
 LRC : 6.3
 Rated torque : 73.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 220 %
 Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 6 / 21 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

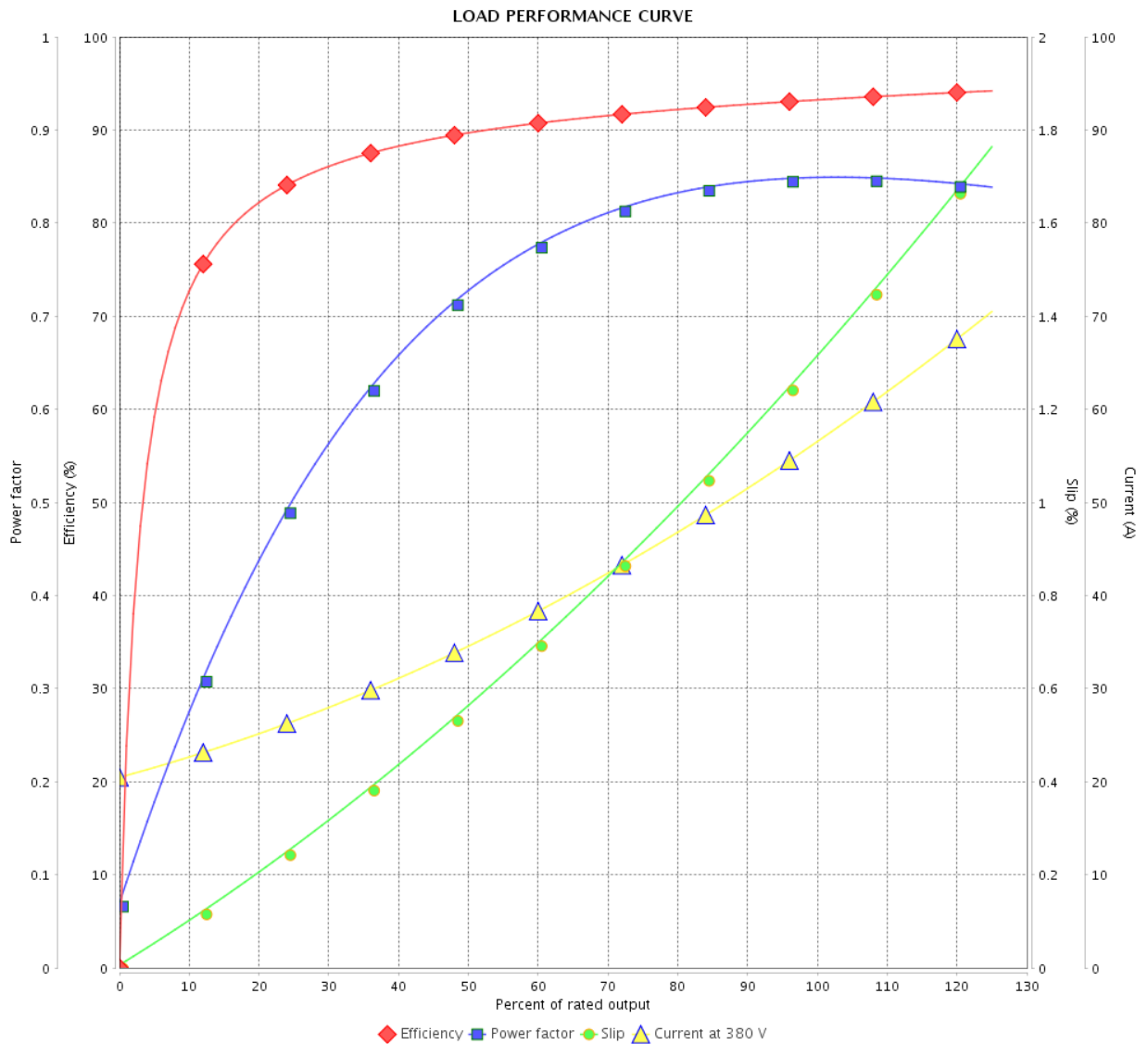


Customer : _____

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G



Performance : 380 V 50 Hz 2P IE3

Rated current : 57.5 A
 LRC : 6.4
 Rated torque : 71.0 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 220 %
 Rated speed : 2960 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|----------|------|
| | | | | |
| Performed by | | | | |
| Checked by | | | | |
| Date | | | | |
| | | Page | Revision | |
| | | 7 / 21 | | |

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



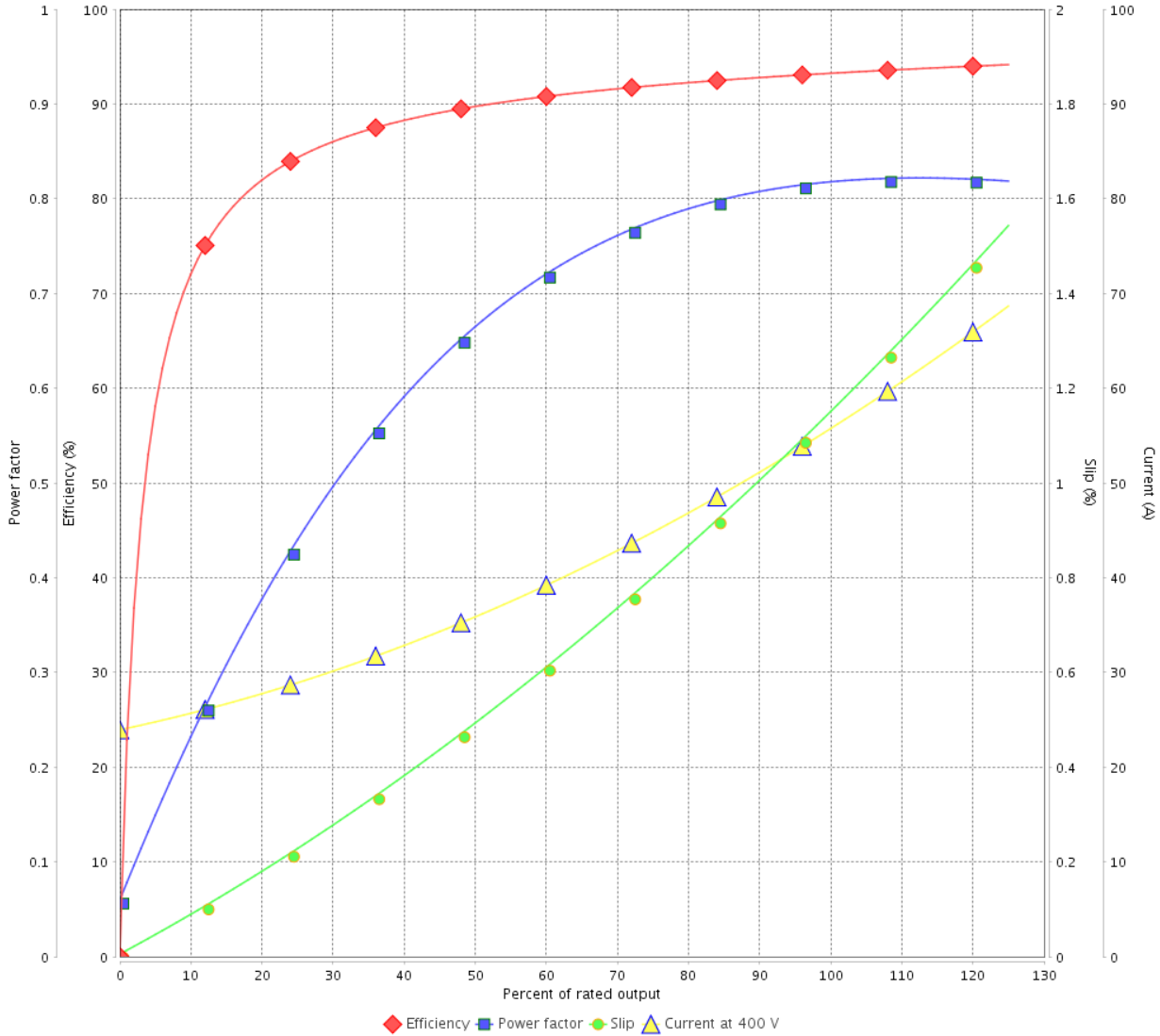
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 56.6 A
 LRC : 6.6
 Rated torque : 70.8 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 240 %
 Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 8 / 21 | | |
| Date | 12/04/2022 | | | |

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

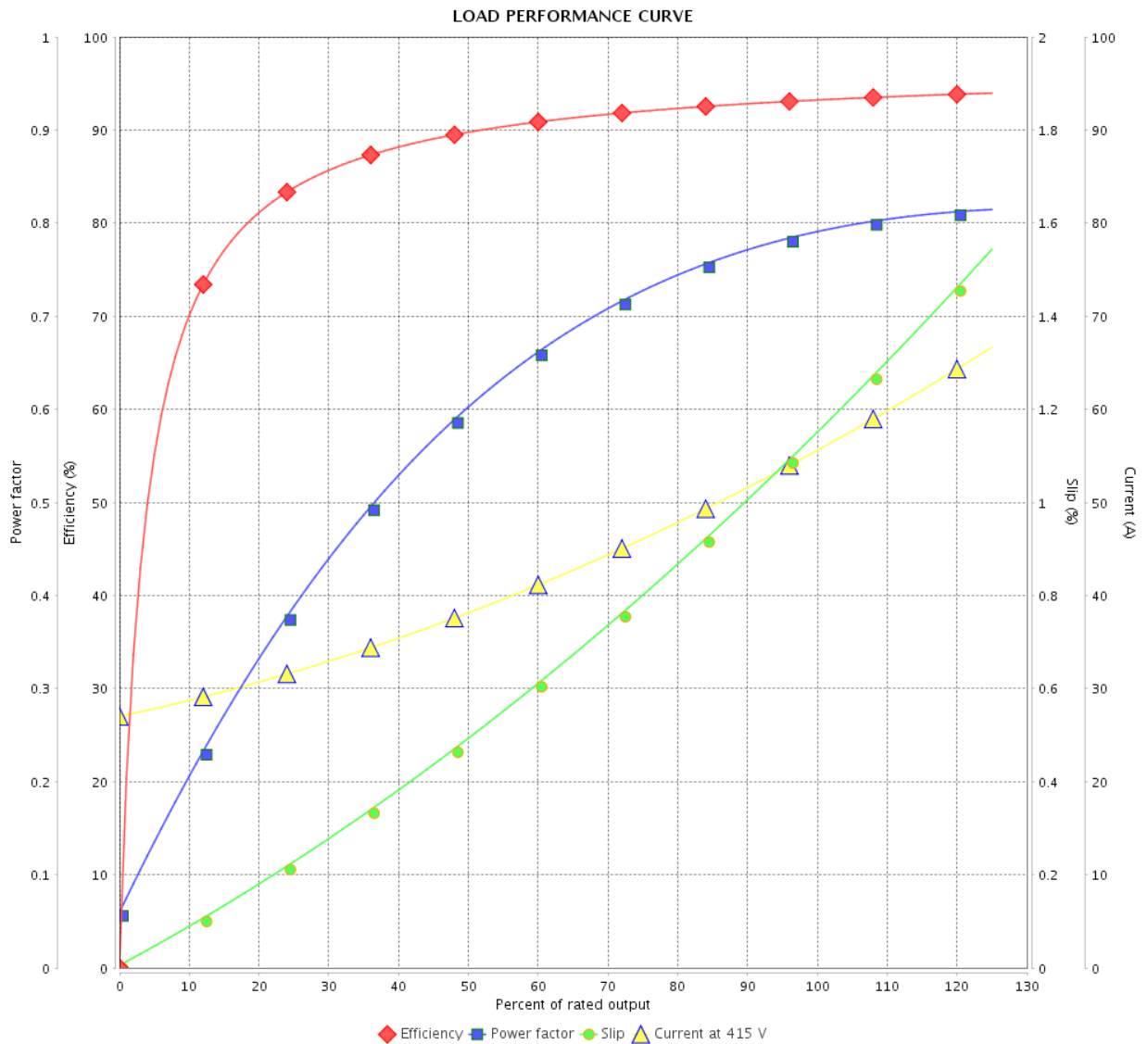


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G



Performance : 415 V 50 Hz 2P IE3

Rated current : 56.6 A
 LRC : 6.8
 Rated torque : 70.8 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 260 %
 Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | | Page | Revision |
| Checked by | | | 9 / 21 | |
| Date | 12/04/2022 | | | |

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A
LRC : 6.3
Rated torque : 73.8 ft.lb
Locked rotor torque : 200 %
Breakdown torque : 220 %
Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 sq.ft.lb
Duty cycle : Cont.(S1)
Insulation class : F
Service factor : 1.25
Temperature rise : 80 K
Design : B

Heating constant

Cooling constant

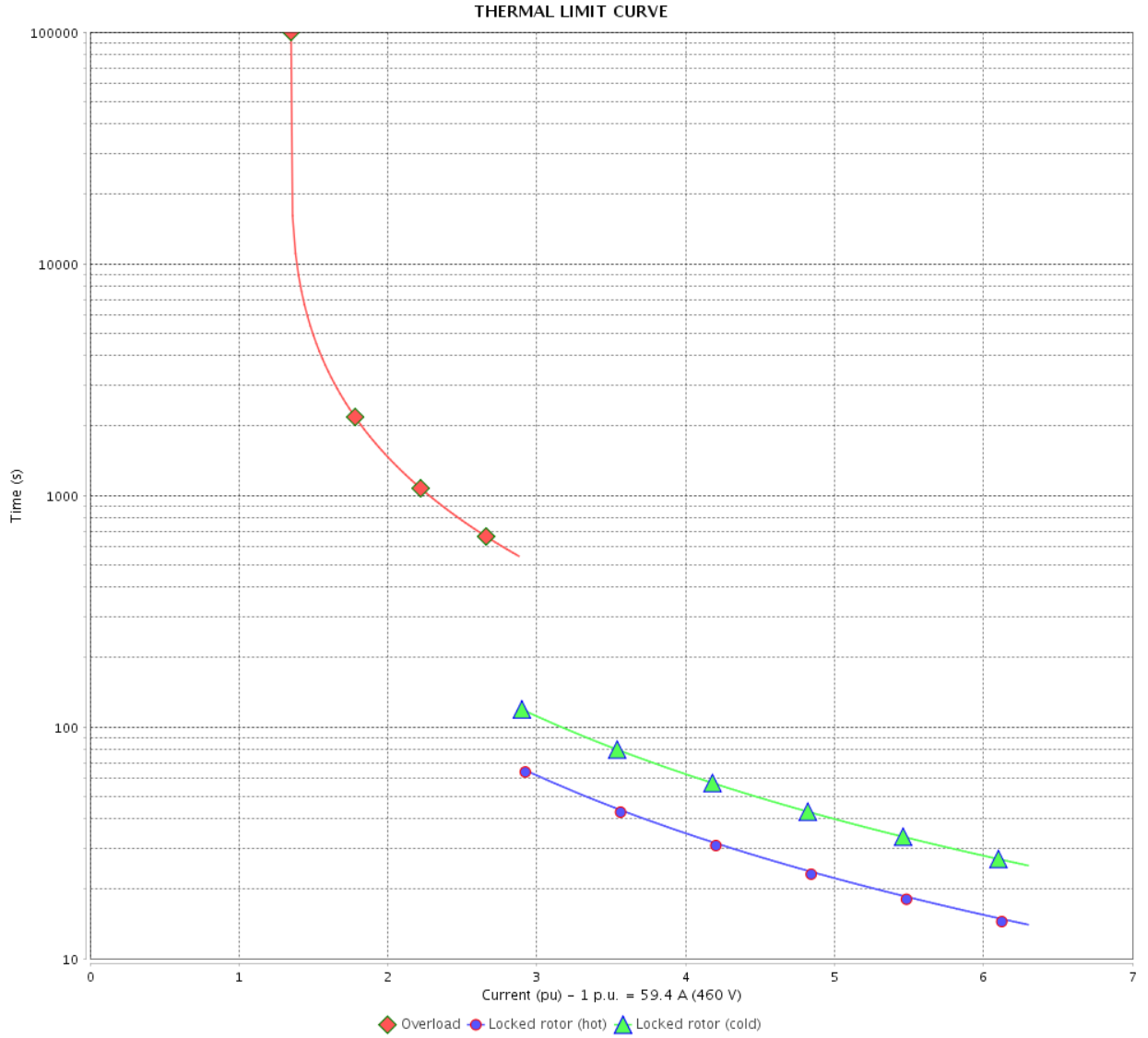
| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | | | |
| Checked by | | | Page | Revision |
| Date | 12/04/2022 | | 10 / 21 | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|------------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 11 / 21 | | |
| Date | | 12/04/2022 | | |

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

Performance : 380 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 57.5 A | Moment of inertia (J) | : 3.02 sq.ft.lb |
| LRC | : 6.4 | Duty cycle | : Cont.(S1) |
| Rated torque | : 71.0 ft.lb | Insulation class | : F |
| Locked rotor torque | : 200 % | Service factor | : 1.00 |
| Breakdown torque | : 220 % | Temperature rise | : 80 K |
| Rated speed | : 2960 rpm | Design | : B |

Heating constant

Cooling constant

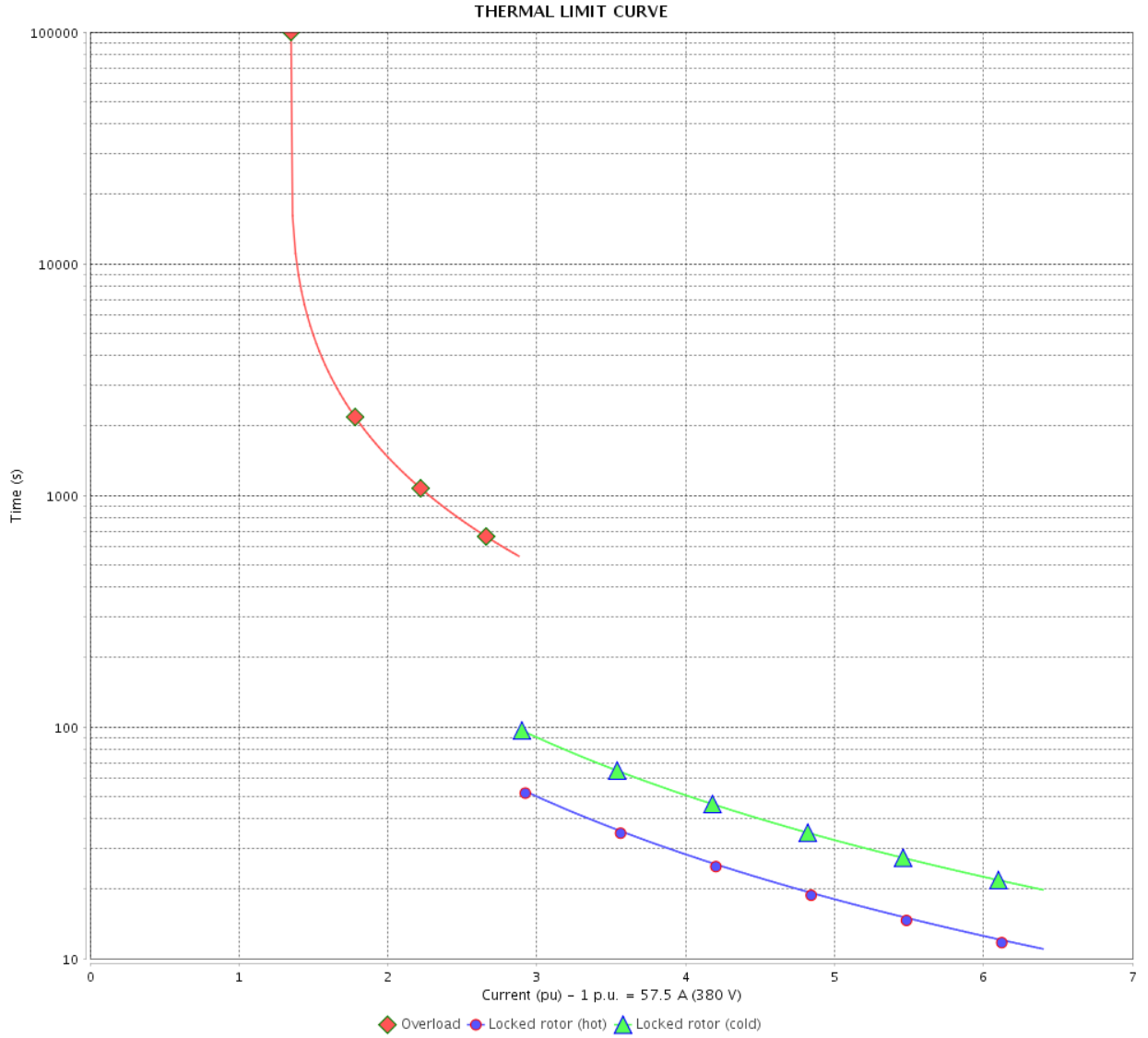
| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 12 / 21 | | |
| Date | 12/04/2022 | | | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|------------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 13 / 21 | | |
| Date | | 12/04/2022 | | |

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

Performance : 400 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 56.6 A | Moment of inertia (J) | : 3.02 sq.ft.lb |
| LRC | : 6.6 | Duty cycle | : Cont.(S1) |
| Rated torque | : 70.8 ft.lb | Insulation class | : F |
| Locked rotor torque | : 229 % | Service factor | : 1.00 |
| Breakdown torque | : 240 % | Temperature rise | : 80 K |
| Rated speed | : 2965 rpm | Design | : B |

Heating constant

Cooling constant

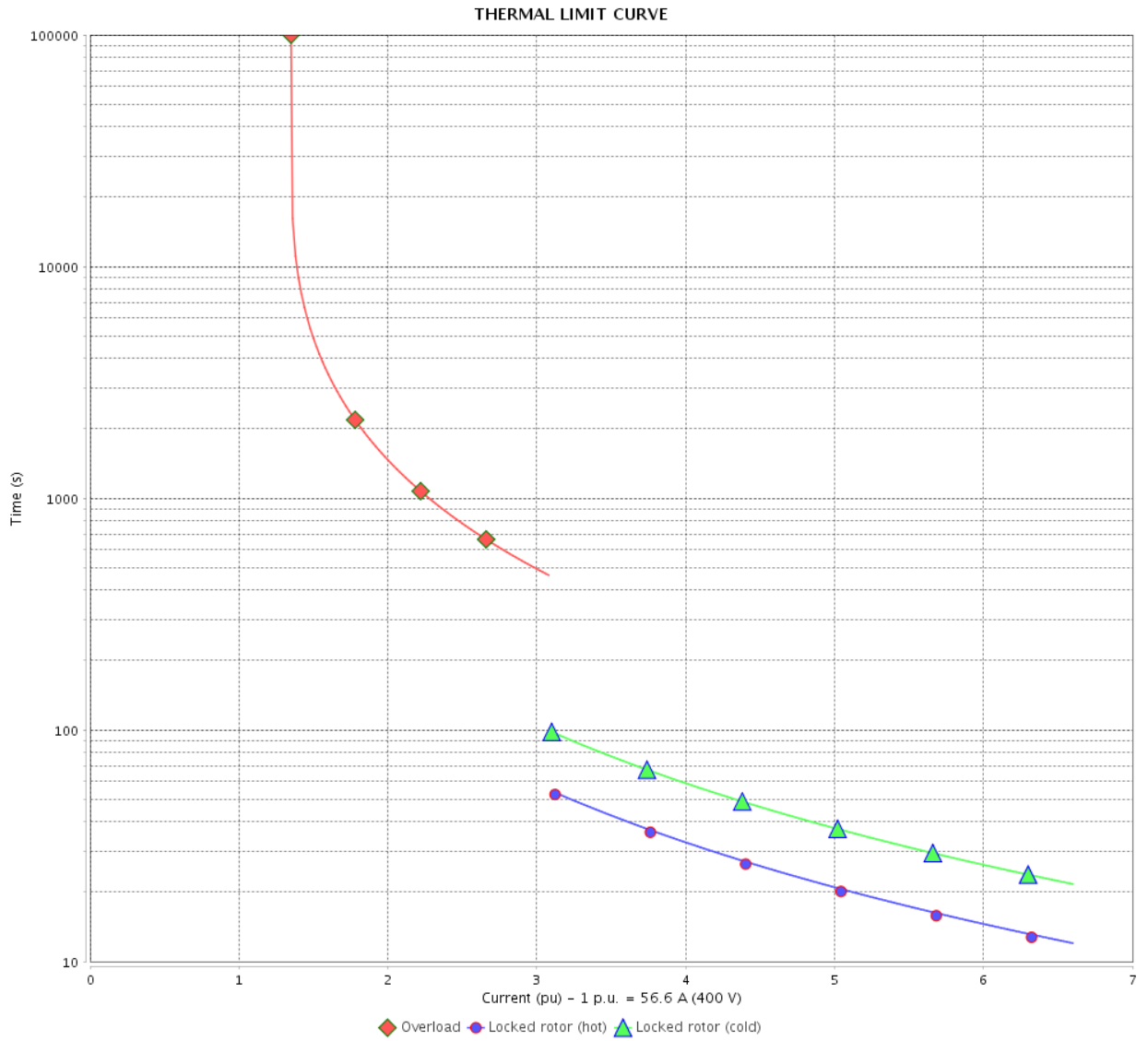
| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | | | |
| Checked by | | | Page | Revision |
| Date | 12/04/2022 | | 14 / 21 | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|------------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 15 / 21 | | |
| Date | | 12/04/2022 | | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

Performance : 415 V 50 Hz 2P IE3

| | | | |
|---------------------|--------------|-----------------------|-----------------|
| Rated current | : 56.6 A | Moment of inertia (J) | : 3.02 sq.ft.lb |
| LRC | : 6.8 | Duty cycle | : Cont.(S1) |
| Rated torque | : 70.8 ft.lb | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 2965 rpm | Design | : B |

Heating constant

Cooling constant

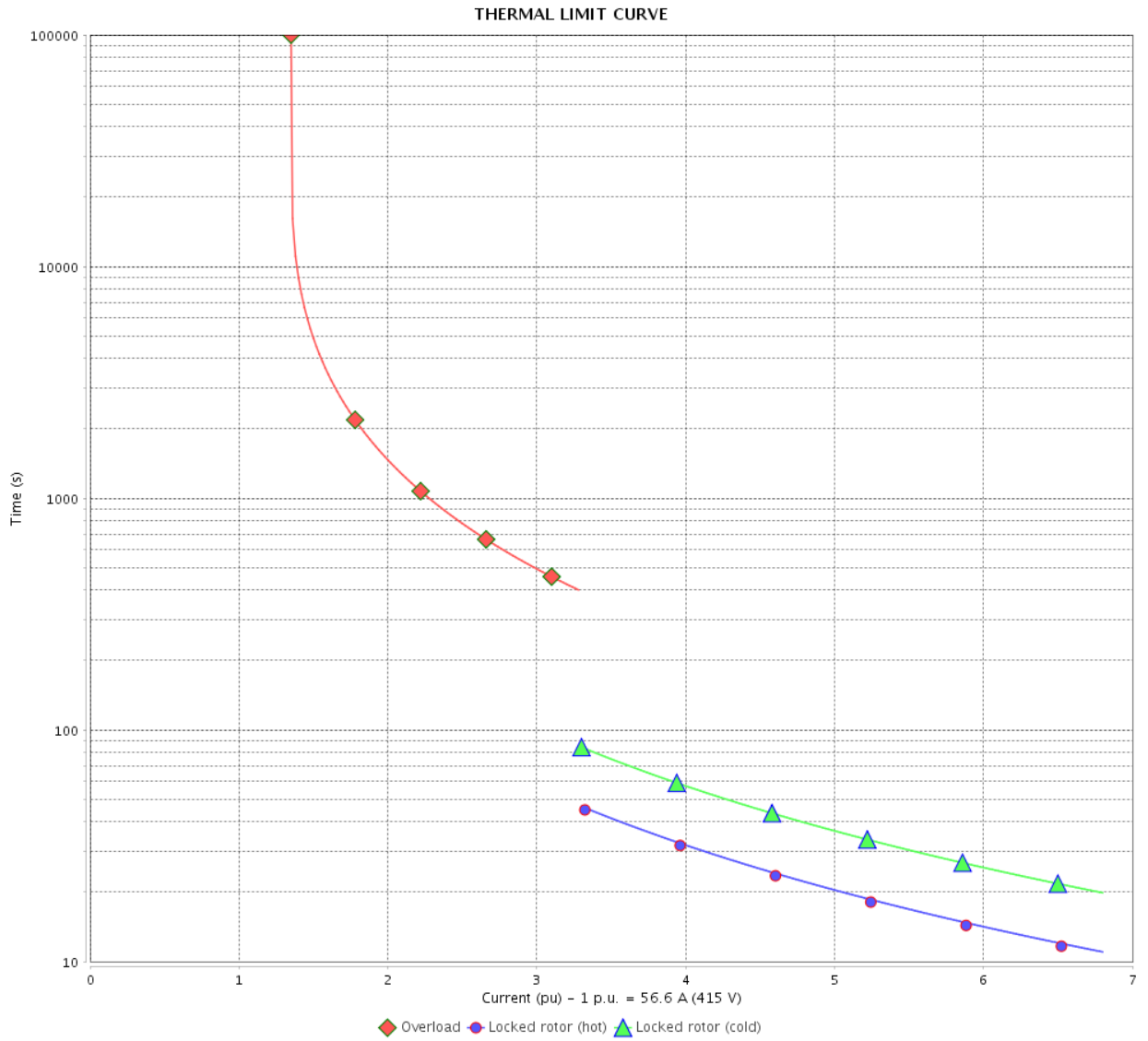
| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| Performed by | | | | |
| Checked by | | | Page | Revision |
| Date | 12/04/2022 | | 16 / 21 | |

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|------------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 17 / 21 | | |
| Date | | 12/04/2022 | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

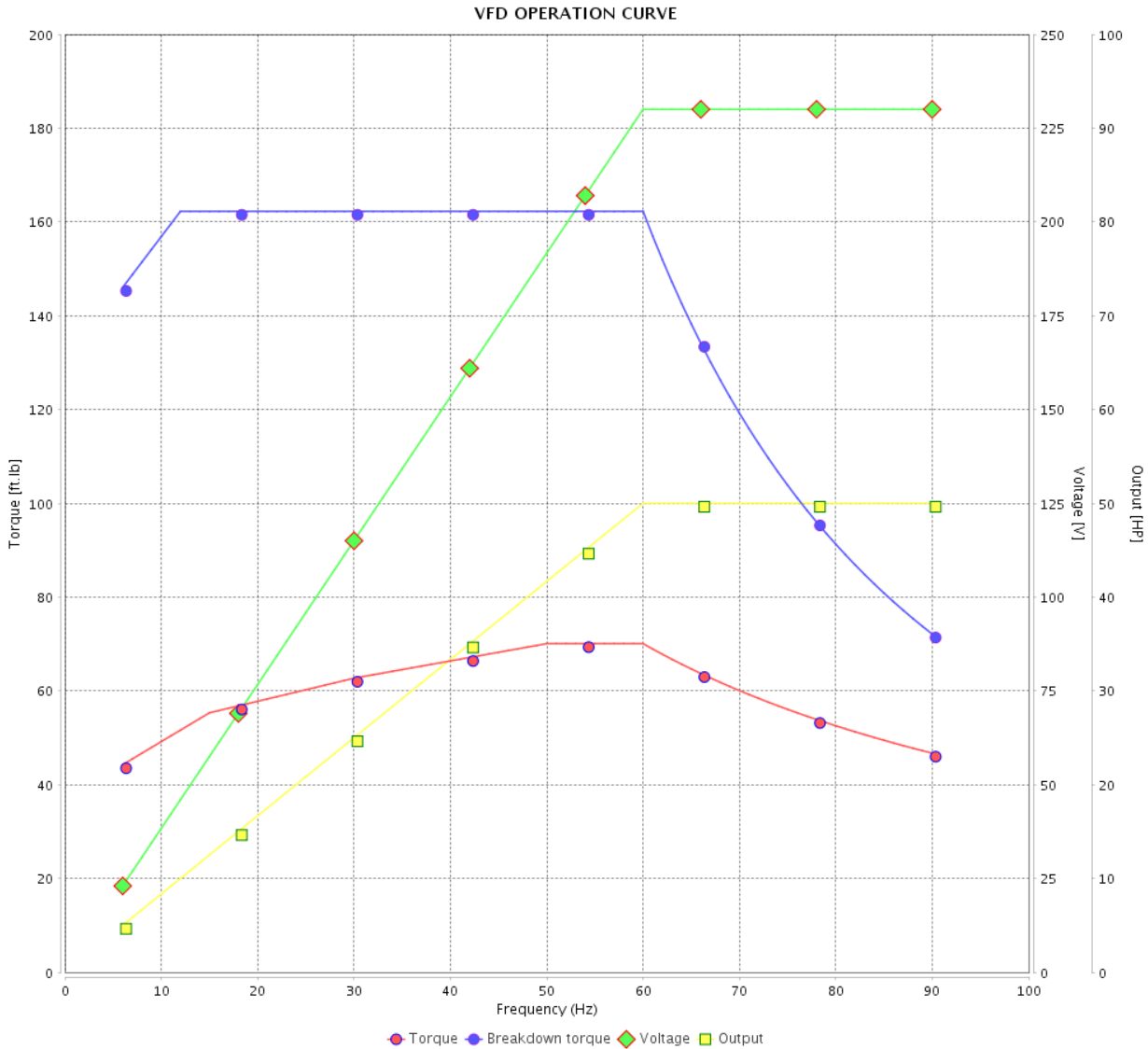


Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G



Performance : 230/460 V 60 Hz 2P

Rated current : 119/59.4 A
 LRC : 6.3
 Rated torque : 73.8 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 220 %
 Rated speed : 3560 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|-----------------|----------|
| | | | | |
| Performed by | | | Page 18 / 21 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

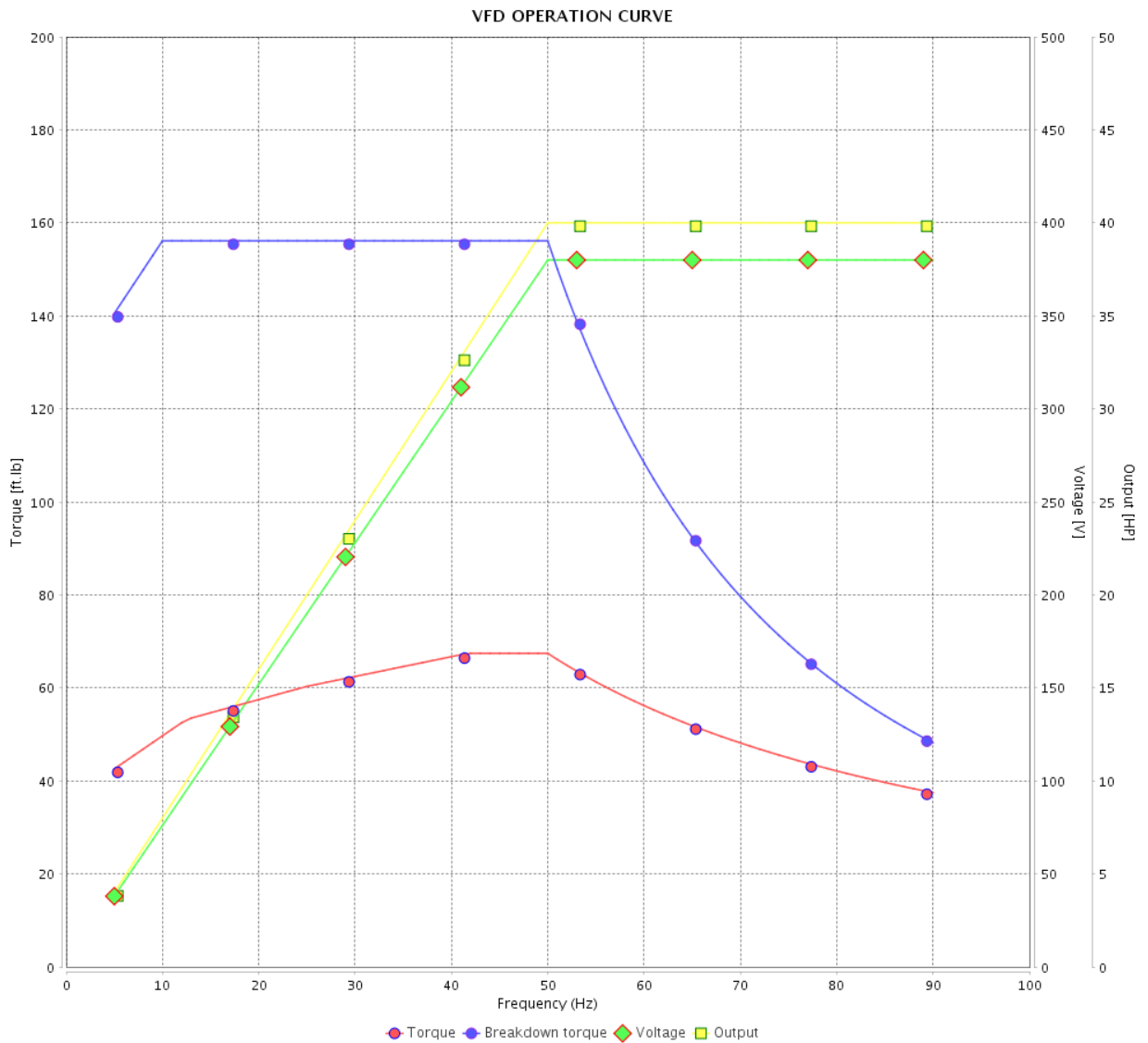


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G



Performance : 380 V 50 Hz 2P IE3

Rated current : 57.5 A
LRC : 6.4
Rated torque : 71.0 ft.lb
Locked rotor torque : 200 %
Breakdown torque : 220 %
Rated speed : 2960 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|---------|-----------------|
| | | | | |
| Performed by | | | | Page 19 / 21 |
| Checked by | | | | |
| Date | 12/04/2022 | | | |
| | | | | Revision |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



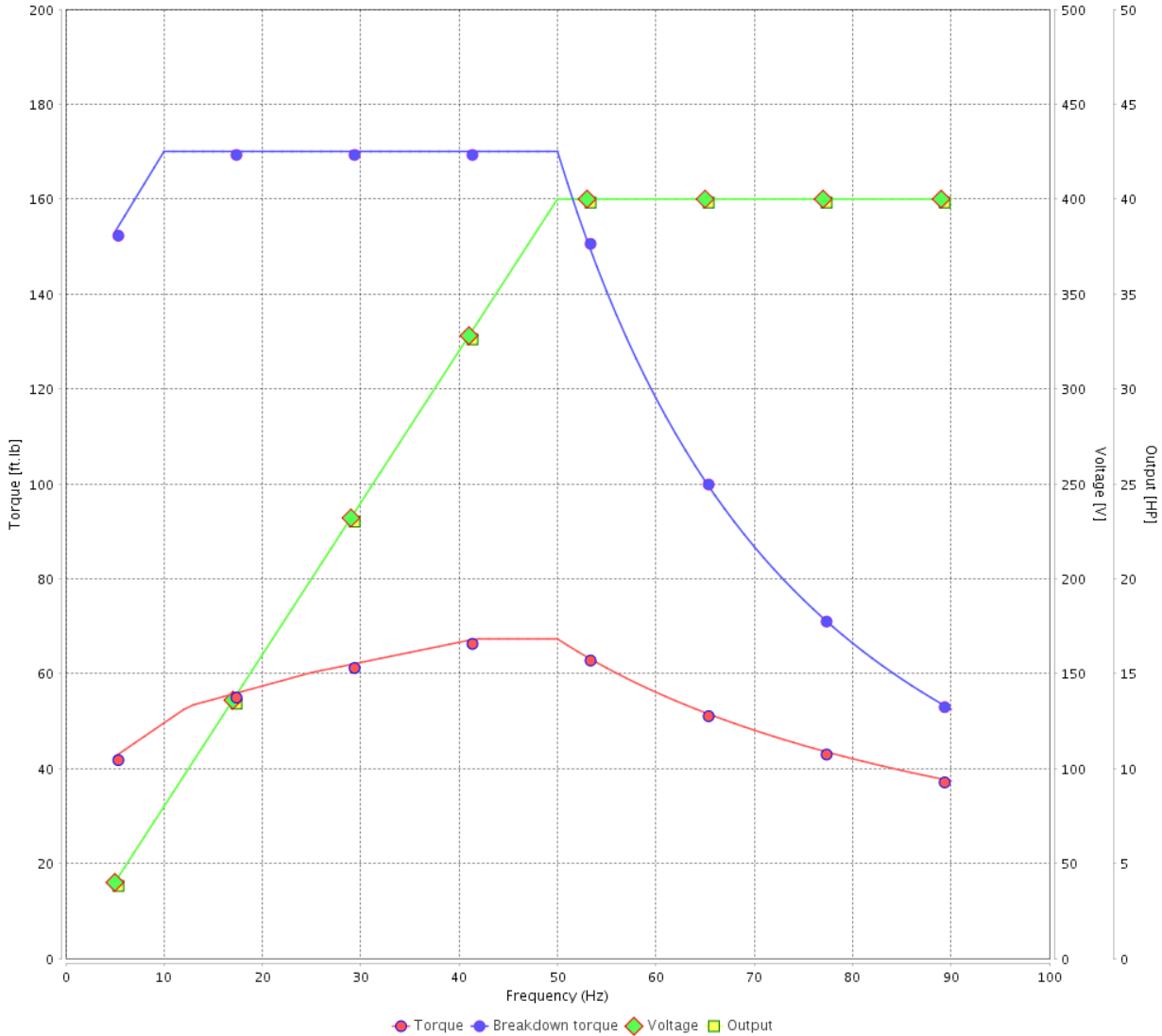
Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

VFD OPERATION CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current : 56.6 A
 LRC : 6.6
 Rated torque : 70.8 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 240 %
 Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|-----------------|----------|
| | | | | |
| Performed by | | | Page 20 / 21 | Revision |
| Checked by | | | | |
| Date | 12/04/2022 | | | |

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

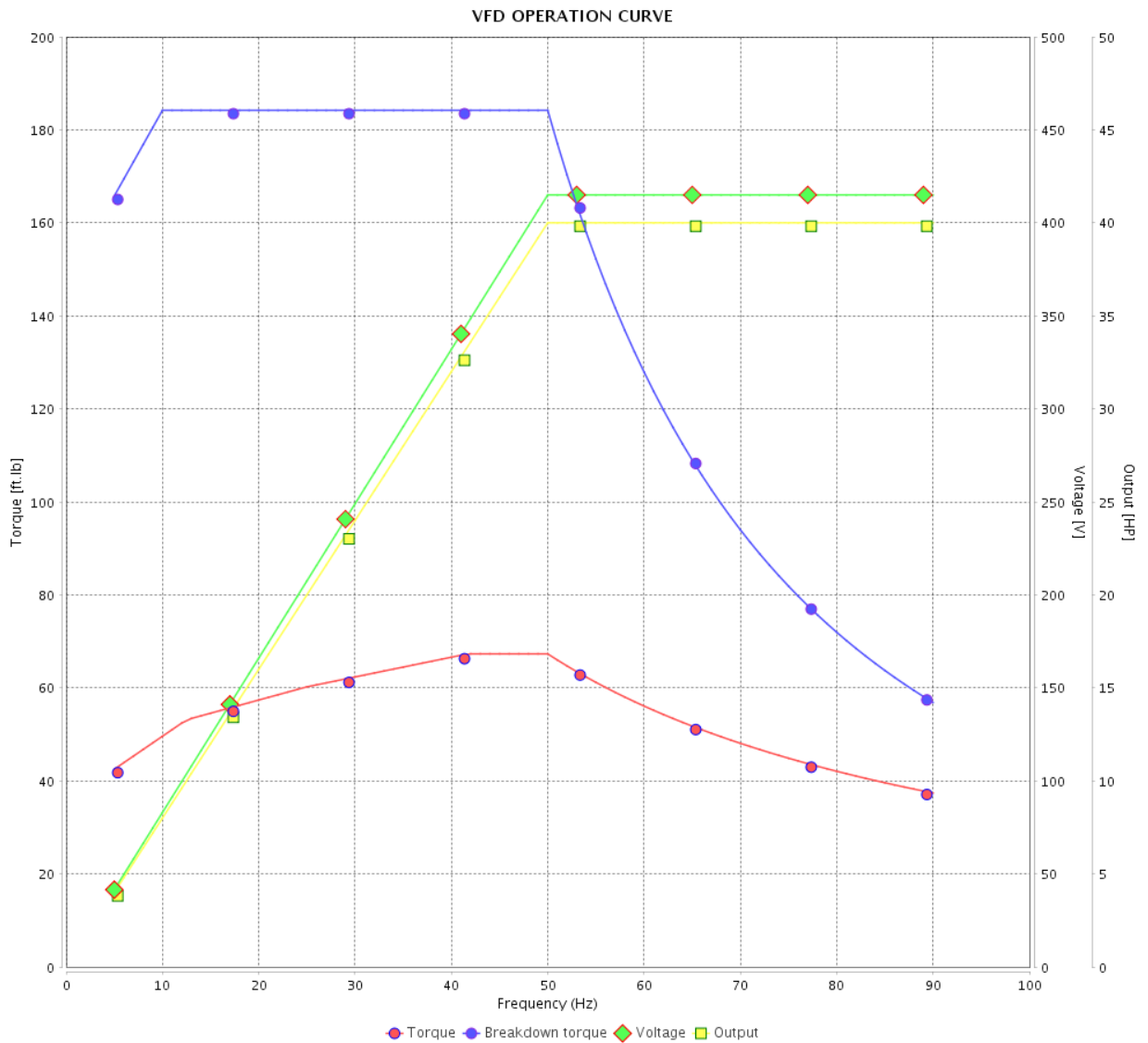


Customer :

Product line : W40 NEMA Premium Efficiency
Three-Phase

Product code : 14504153

Catalog # : 05036OT3E324TS-W40G

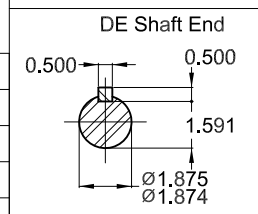
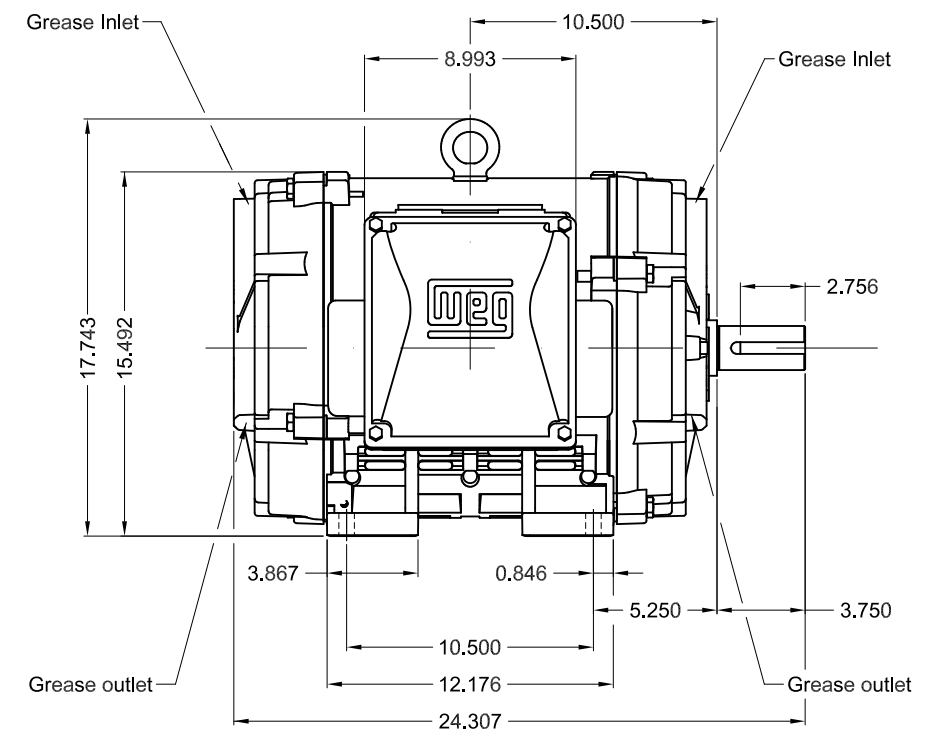
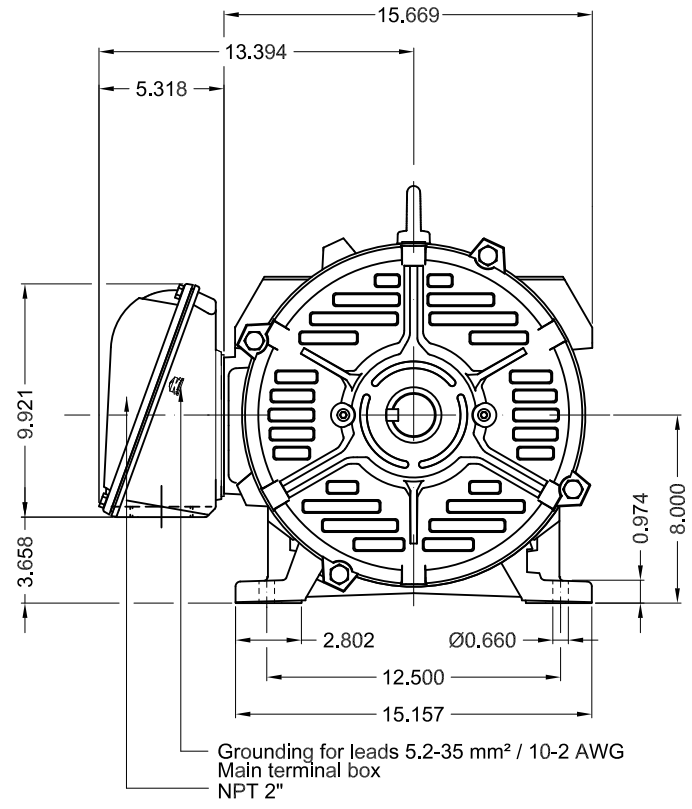


Performance : 415 V 50 Hz 2P IE3

Rated current : 56.6 A
LRC : 6.8
Rated torque : 70.8 ft.lb
Locked rotor torque : 240 %
Breakdown torque : 260 %
Rated speed : 2965 rpm

Moment of inertia (J) : 3.02 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 |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | | Page | Revision |
| Checked by | | | | |
| Date | | | | |



| |
|--------------------------------------|
| Internal AEGIS ground ring on the DE |
| Color RAL 5009 |
| Painting plan 203A |
| Mounting NEMA F-1 |
| Mounting B3R(D) |

50 HP 02 Poles 60 Hz A

1:8

| ECM | LOC | SUMMARY OF MODIFICATIONS | EXECUTED | CHECKED | RELEASED | DATE | VER |
|----------|-----------|--------------------------------|---------------------|---------|----------|------|-----|
| EXECUTED | PIRWBUSER | THREE PH. MOTOR W40 PREM. EFF. | | | | | |
| CHECKED | | FRAME 324TS IP23 ODP | | | | | |
| RELEASED | | | | | | | |
| REL DT. | WMO | Jaragua do Sul | Product Engineering | SHEET | 1 / 1 | | |

PREVIEW
WDD

