



# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 NEMA Premium Efficiency Three-Phase Product code : 11549071  
Catalog # : 20012ET3G447T-W22

|                       |                   |                             |                        |
|-----------------------|-------------------|-----------------------------|------------------------|
| Frame                 | : 445/7T          | Locked rotor time           | : 27s (cold) 15s (hot) |
| Output                | : 200 HP (150 kW) | Temperature rise            | : 80 K                 |
| Poles                 | : 6               | Duty cycle                  | : Cont.(S1)            |
| Frequency             | : 60 Hz           | Ambient temperature         | : -20°C to +40°C       |
| Rated voltage         | : 460 V           | Altitude                    | : 1000 m.a.s.l.        |
| Rated current         | : 237 A           | Protection degree           | : IP55                 |
| L. R. Amperes         | : 1492 A          | Cooling method              | : IC411 - TEFC         |
| LRC                   | : 6.3x(Code G)    | Mounting                    | : F-1                  |
| No load current       | : 94.0 A          | Rotation <sup>1</sup>       | : Both (CW and CCW)    |
| Rated speed           | : 1188 rpm        | Noise level <sup>2</sup>    | : 69.0 dB(A)           |
| Slip                  | : 1.00 %          | Starting method             | : Direct On Line       |
| Rated torque          | : 884 ft.lb       | Approx. weight <sup>3</sup> | : 2493 lb              |
| Locked rotor torque   | : 229 %           |                             |                        |
| Breakdown torque      | : 240 %           |                             |                        |
| Insulation class      | : F               |                             |                        |
| Service factor        | : 1.15            |                             |                        |
| Moment of inertia (J) | : 145 sq.ft.lb    |                             |                        |
| Design                | : B               |                             |                        |

|                |      |      |      |      |                  |           |
|----------------|------|------|------|------|------------------|-----------|
| Output         | 25%  | 50%  | 75%  | 100% | Foundation loads |           |
| Efficiency (%) | 94.5 | 95.0 | 95.4 | 95.8 | Max. traction    | : 5325 lb |
| Power Factor   | 0.43 | 0.68 | 0.79 | 0.83 | Max. compression | : 7817 lb |

Losses at normative operating points (speed;torque), in percentage of rated output power

| P1 (0,9;1,0) | P2 (0,5;1,0) | P3 (0,25;1,0) | P4 (0,9;0,5) | P5 (0,5;0,5) | P6 (0,5;0,25) | P7 (0,25;0,25) |
|--------------|--------------|---------------|--------------|--------------|---------------|----------------|
| 4.7          | 4.0          | 3.6           | 2.4          | 1.7          | 1.2           | 0.8            |

|                      | Drive end          | Non drive end |
|----------------------|--------------------|---------------|
| Bearing type         | : 6319 C3          | : 6316 C3     |
| Sealing              | : WSeal            | : WSeal       |
| Lubrication interval | : 13000 h          | : 16000 h     |
| Lubricant amount     | : 45 g             | : 34 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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| Checked by   |                 |                        |         |      |
| Date         | 27/09/2024      |                        |         |      |

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage

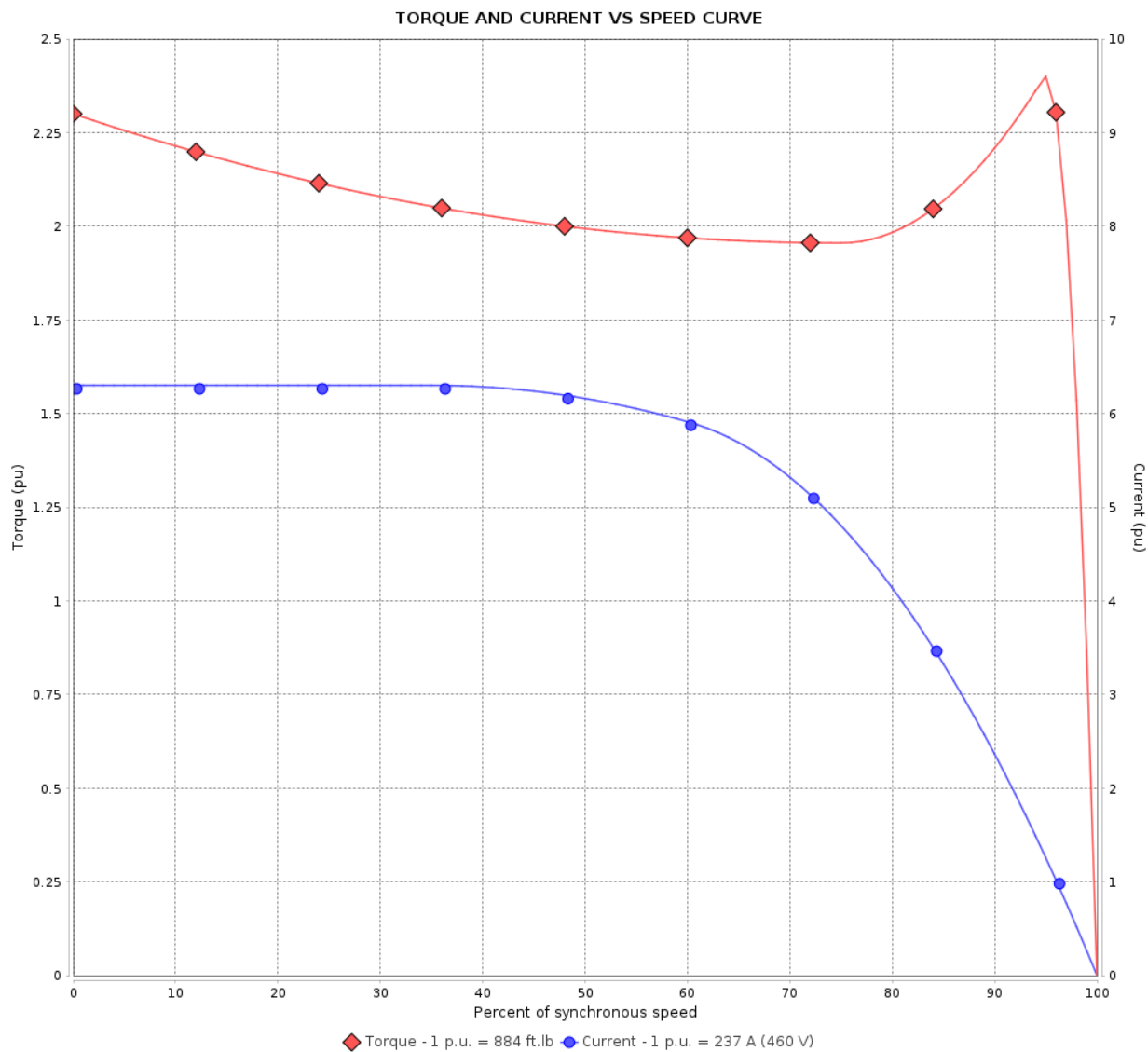


Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11549071

Catalog # : 20012ET3G447T-W22



Performance : 460 V 60 Hz 6P

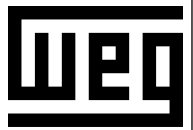
|                     |             |                       |                |
|---------------------|-------------|-----------------------|----------------|
| Rated current       | : 237 A     | Moment of inertia (J) | : 145 sq.ft.lb |
| LRC                 | : 6.3       | Duty cycle            | : Cont.(S1)    |
| Rated torque        | : 884 ft.lb | Insulation class      | : F            |
| Locked rotor torque | : 229 %     | Service factor        | : 1.15         |
| Breakdown torque    | : 240 %     | Temperature rise      | : 80 K         |
| Rated speed         | : 1188 rpm  | Design                | : B            |

Locked rotor time : 27s (cold) 15s (hot)

| Rev.         | Changes Summary | Performed                | Checked | Date |
|--------------|-----------------|--------------------------|---------|------|
|              |                 |                          |         |      |
| Performed by |                 | Page 2 / 6      Revision |         |      |
| Checked by   |                 |                          |         |      |
| Date         | 27/09/2024      |                          |         |      |

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

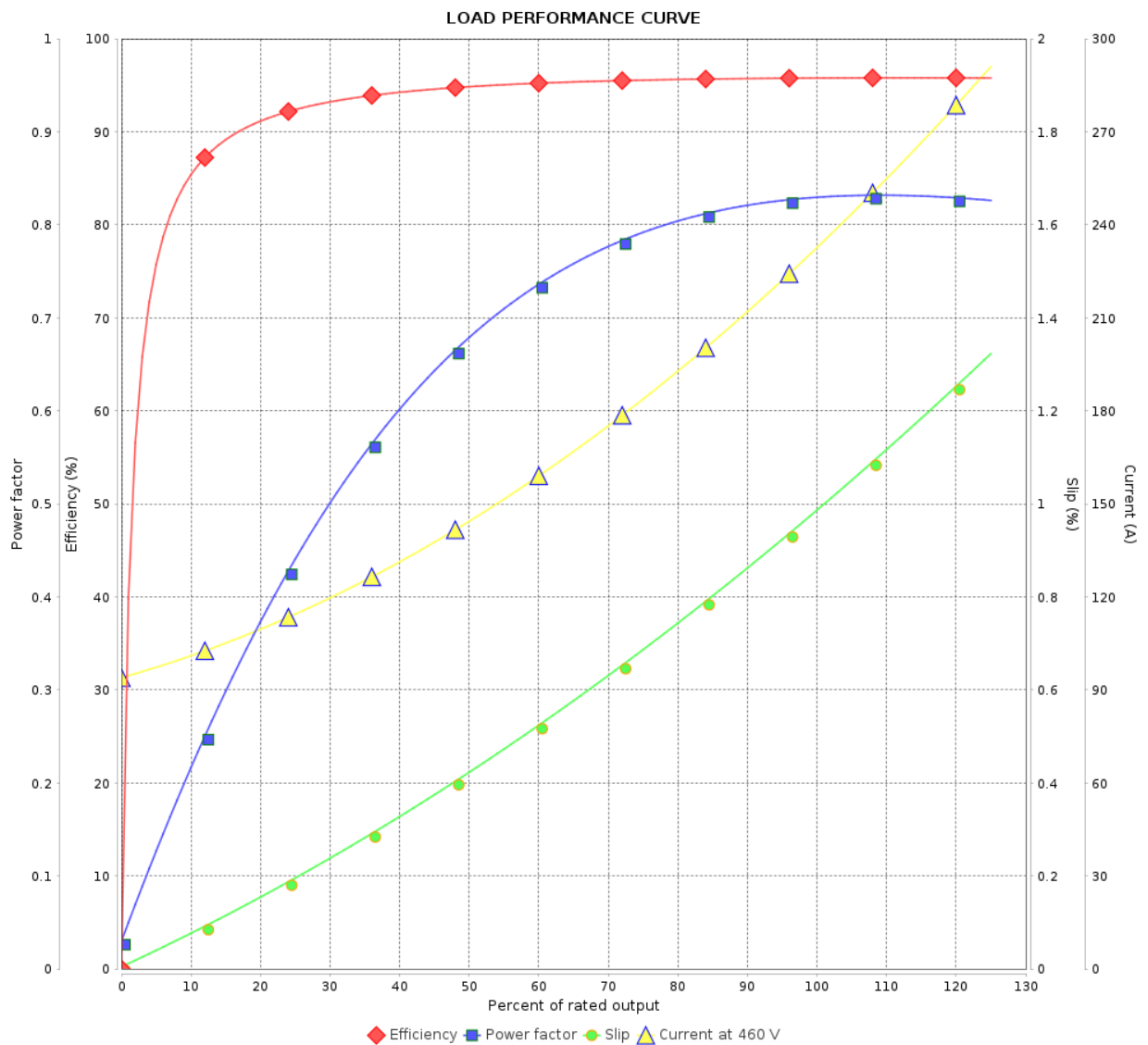


Customer :

Product line : W22 NEMA Premium Efficiency  
Three-Phase

Product code : 11549071

Catalog # : 20012ET3G447T-W22



Performance : 460 V 60 Hz 6P

Rated current : 237 A  
LRC : 6.3  
Rated torque : 884 ft.lb  
Locked rotor torque : 229 %  
Breakdown torque : 240 %  
Rated speed : 1188 rpm

Moment of inertia (J) : 145 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary | Performed             | Checked | Date |
|--------------|-----------------|-----------------------|---------|------|
|              |                 |                       |         |      |
| Performed by |                 | Page<br>3 / 6Revision |         |      |
| Checked by   |                 |                       |         |      |
| Date         | 27/09/2024      |                       |         |      |

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



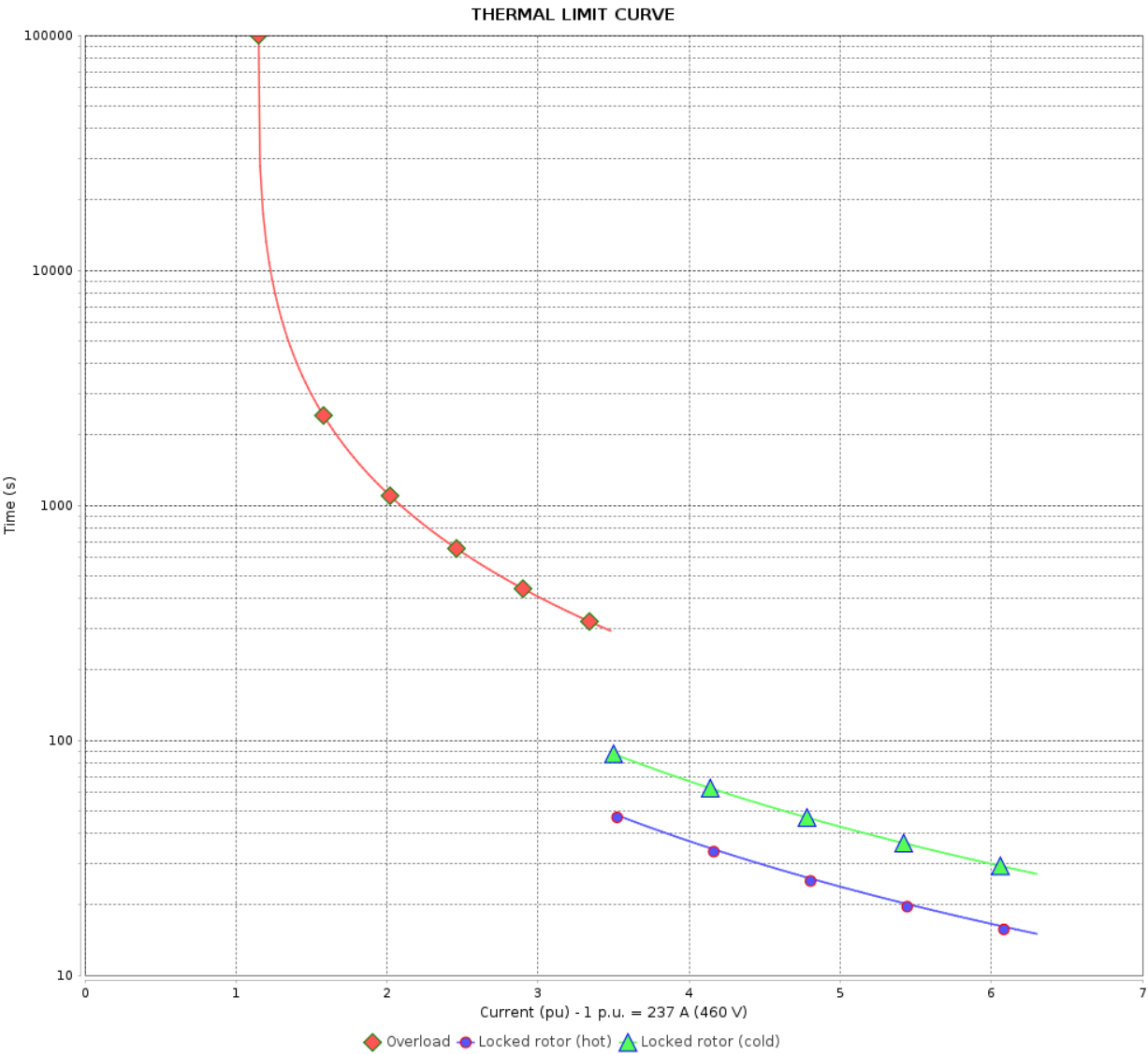
|   |                 |  |           |               |      |          |
|---|-----------------|--|-----------|---------------|------|----------|
| Customer :  |                 |  |           |               |      |          |
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|   |                 |  |           |               |      |          |
|   |                 |  |           |               |      |          |
|   |                 |  |           |               |      |          |
|   |                 |  |           |               |      |          |
| Performance : 460 V 60 Hz 6P                              |                 |  |           |               |      |          |
| Rated current : 237 A                                     |                 | Moment of inertia (J) : 145 sq.ft.lb                     |           |               |      |          |
| LRC : 6.3   |                 | Duty cycle : Cont.(S1)                                   |           |               |      |          |
| Rated torque : 884 ft.lb                                  |                 | Insulation class : F                                     |           |               |      |          |
| Locked rotor torque : 229 %                               |                 | Service factor : 1.15                                    |           |               |      |          |
| Breakdown torque : 240 %                                  |                 | Temperature rise : 80 K                                  |           |               |      |          |
| Rated speed : 1188 rpm                                    |                 | Design : B   |           |               |      |          |
| Heating constant  |                 |  |           |               |      |          |
| Cooling constant  |                 |  |           |               |      |          |
| Rev.  | Changes Summary |  | Performed | Checked       | Date |          |
|   |                 |  |           |               |      |          |
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| Checked by  |                 |  |           |               |      |          |
| Date  | 27/09/2024      |  |           |               |      |          |

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :



| Rev.         | Changes Summary |  | Performed | Checked       | Date     |
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| Performed by |                 |  |           |               |          |
| Checked by   |                 |  |           |               |          |
| Date         | 27/09/2024      |  |           |               |          |
|              |                 |  |           | Page<br>5 / 6 | Revision |

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

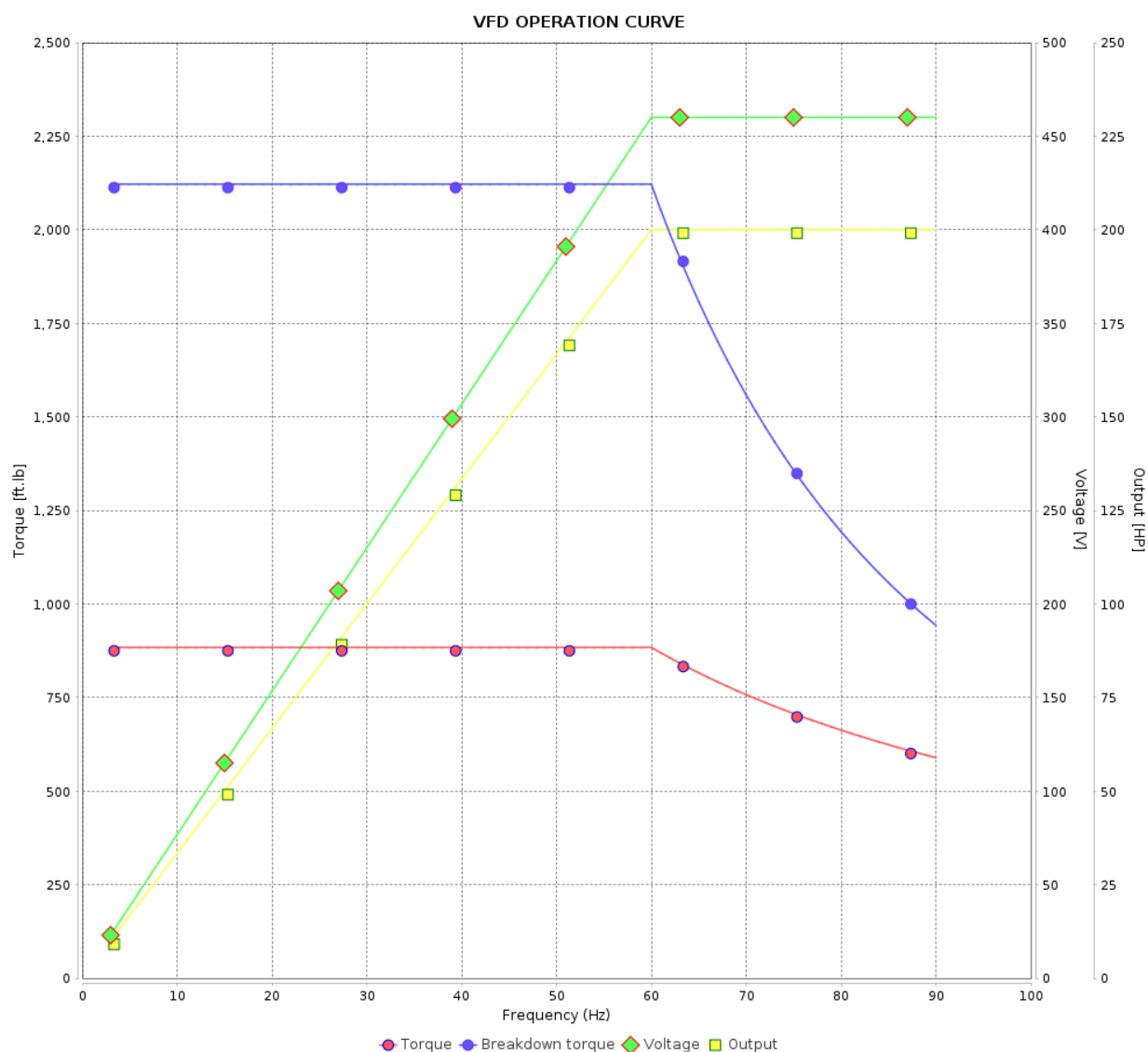


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Three-Phase

Product code : 11549071

Catalog # : 20012ET3G447T-W22

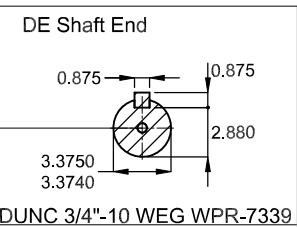
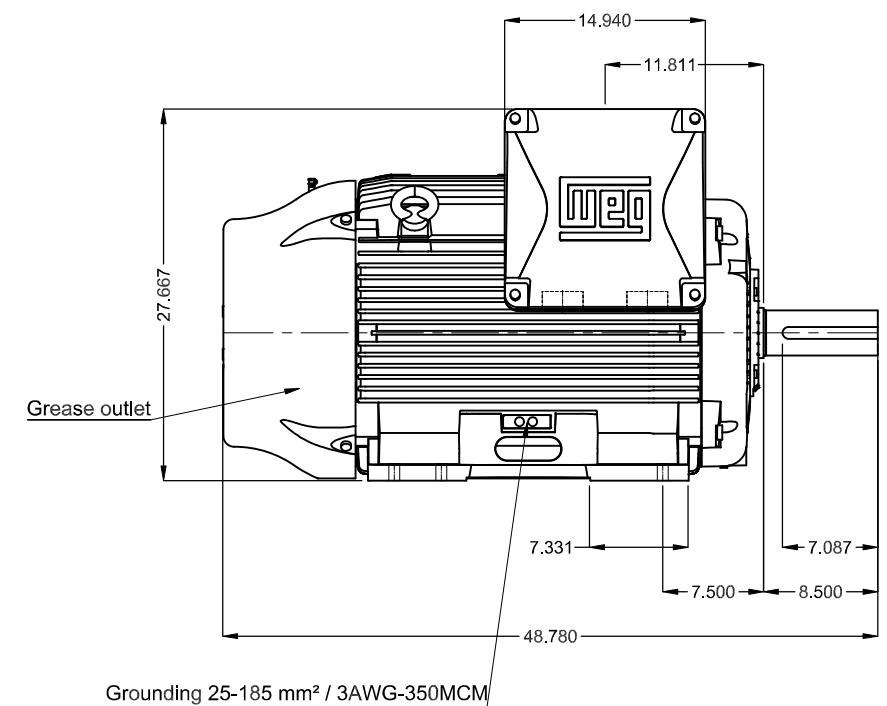
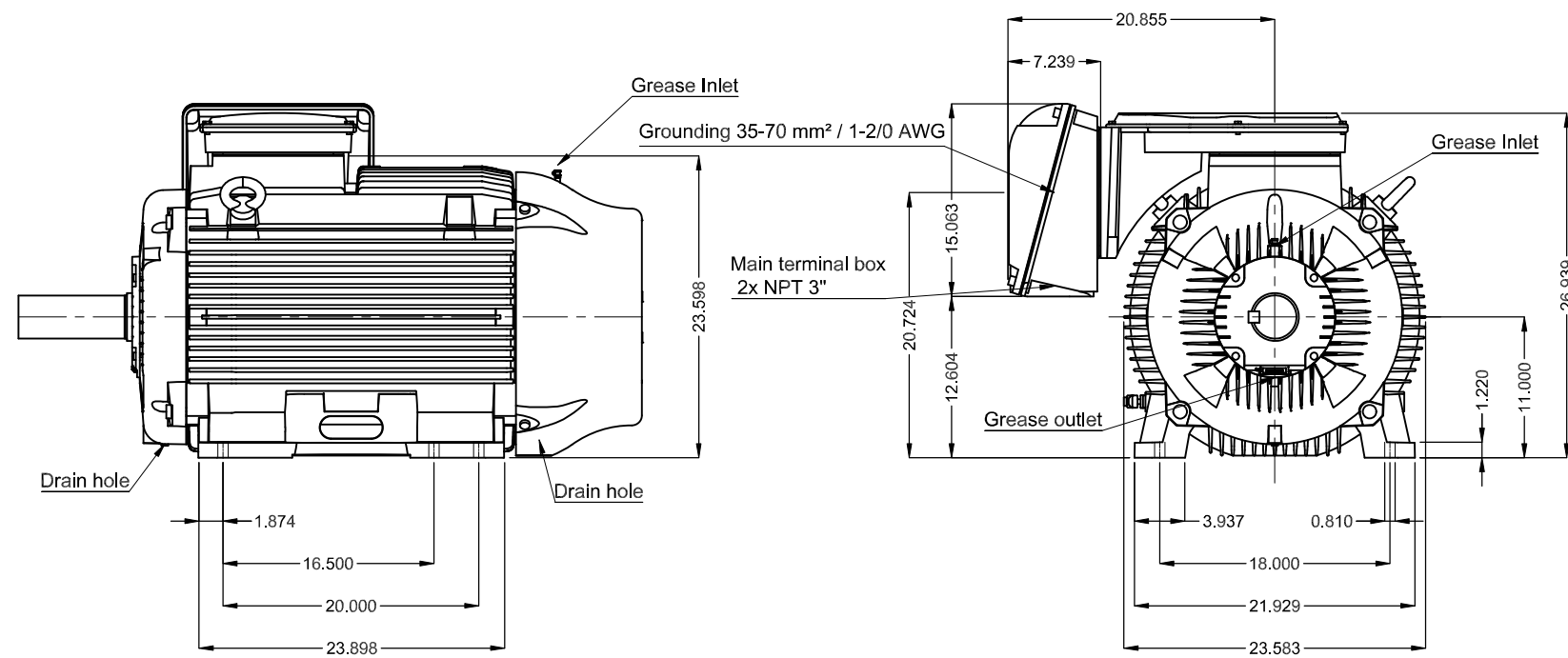


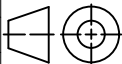

Performance : 460 V 60 Hz 6P

Rated current : 237 A  
LRC : 6.3  
Rated torque : 884 ft.lb  
Locked rotor torque : 229 %  
Breakdown torque : 240 %  
Rated speed : 1188 rpm

Moment of inertia (J) : 145 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

| Rev.         | Changes Summary | Performed | Checked | Date          |
|--------------|-----------------|-----------|---------|---------------|
|              |                 |           |         |               |
| Performed by |                 |           |         | Page<br>6 / 6 |
| Checked by   |                 |           |         |               |
| Date         |                 |           |         |               |
|              | 27/09/2024      |           |         | Revision      |



|                           |            |   |   |  |  |            |                        |          |   |     |
|---------------------------|------------|---|---|--|--|------------|------------------------|----------|---|-----|
| 200 HP   06 Poles   60 Hz |            |   |   |  |  |            |                        |          |   | A   |
|                           |            |   |   |  |  |            |                        |          |   |     |
|                           |            |   |   |  |  | Scale      |                        | 1 : 14   |   |     |
|                           |            |   |   |  |  |            |                        |          |   |     |
|                           |            |   |   |  |  | HYBRISUSER |                        |          |   | 00  |
| ECM                       | LOC        | SUMMARY OF MODIFICATIONS  |   |  |  | EXECUTED   | CHECKED                | RELEASED | DATE  | VER |
| EXECUTED                  | HYBRISUSER |  | THREE PH. MOTOR W22 NEMA PREM. EFF.<br>FRAME 445/7T IP55 TEFC |  |  |            | PREVIEW<br>WDD      00 |          |  |     |
| CHECKED                   |            |   |   |  |  |            |                        |          |   |     |
| RELEASED                  |            |   |   |  |  |            |                        |          |   |     |
| REL. DATE                 |            |   |   |  |  |            |                        |          |   |     |
|                           |            |   |   |  |  | SHEET      |                        | 1 / 1    |   |     |



MADE IN MEXICO

11549071


**NEMA**  
**Premium**  
**W22**

MODEL 20012ET3G447T-W22

 Inverter Duty Motor  
 Severe Duty

PH3 60Hz Fr. 445/7T 1000m.a.s.l. IP55 TEFC 2453lb

V 460

A 237

HP 200

kW 150

SF 1.15

SFA 273

RPM 1185

PF 0.83

AMB 40°C

INS cl. F DT80K NEMA NOM EFF 95.8%

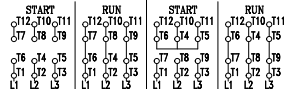
DUTY CONT.

DES B Code G


 FOR SAFE AREA  
 Mod. TE1BFOXON  
 CC029A

 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 - T3C  
 For use on PWM: Gr. A, B, C, D and F,  
 VT 1000:1, CT 20:1, 1.00SF - T3

## PART-WINDING



→ 6319-C3 (45g)

→ 6316-C3 (34g)



MOBIL POLYREX EM (13000h)

