

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase				
Product code :	13148864				
Catalog # :	30018ST3QIERB449T-W2				
Frame	: 447/9T				
Insulation class	: F				
Duty cycle	: Cont.(S1)				
Ambient temperature	: -20°C to +40°C				
Altitude	: 1000 m.a.s.l.				
Protection degree	: IP55				
Design	: B				
Cooling method	: IC411 - TEFC				
Mounting	: F-1				
Rotation <sup>1</sup>	: Both (CW and CCW)				
Starting method	: Direct On Line				
Approx. weight <sup>2</sup>	: 2998 lb				
Moment of inertia (J)	: 89.6 sq.ft.lb				
Output [HP]	300	250	250	250	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	330	337	320	311	
L. R. Amperes [A]	2145	2056	2144	2239	
LRC [A]	6.5x(Code G)	6.1x(Code F)	6.7x(Code G)	7.2x(Code H)	
No load current [A]	95.0	94.0	101	106	
Rated speed [RPM]	1780	1480	1480	1485	
Slip [%]	1.11	1.33	1.33	1.00	
Rated torque [ft.lb]	885	887	887	884	
Locked rotor torque [%]	229	210	240	260	
Breakdown torque [%]	229	220	250	270	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	105 K	105 K	105 K	
Locked rotor time	28s (cold) 16s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	
Noise level <sup>2</sup>	75.0 dB(A)	71.0 dB(A)	71.0 dB(A)	71.0 dB(A)	
Efficiency (%)	25%	95.7	95.5	95.8	94.9
	50%	95.8	95.8	95.8	95.4
	75%	96.2	95.8	96.2	95.8
	100%	96.2	96.0	96.0	96.2
Power Factor	25%	0.53	0.54	0.50	0.48
	50%	0.77	0.78	0.75	0.73
	75%	0.84	0.84	0.83	0.82
	100%	0.87	0.87	0.87	0.86
Bearing type	: <u>Drive end</u> NU-322 C3 <u>Non drive end</u> 6319 C3	Foundation loads			
Sealing	: Inpro/Seal Inpro/Seal	Max. traction	: 4864 lb		
Lubrication interval	: 4000 h 8000 h	Max. compression	: 7862 lb		
Lubricant amount	: 60 g 45 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.		
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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



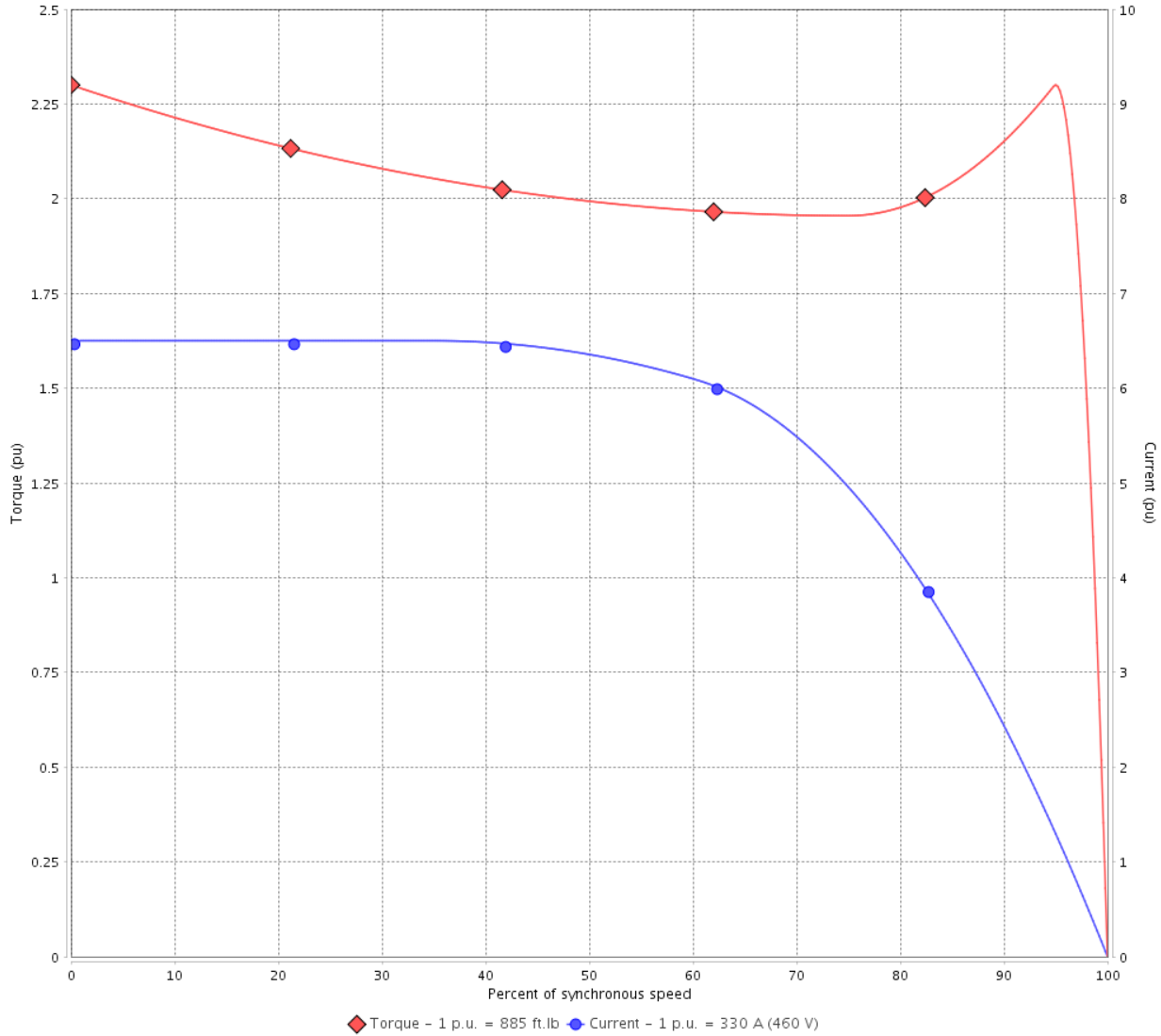
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 330 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 885 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

Locked rotor time : 28s (cold) 16s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



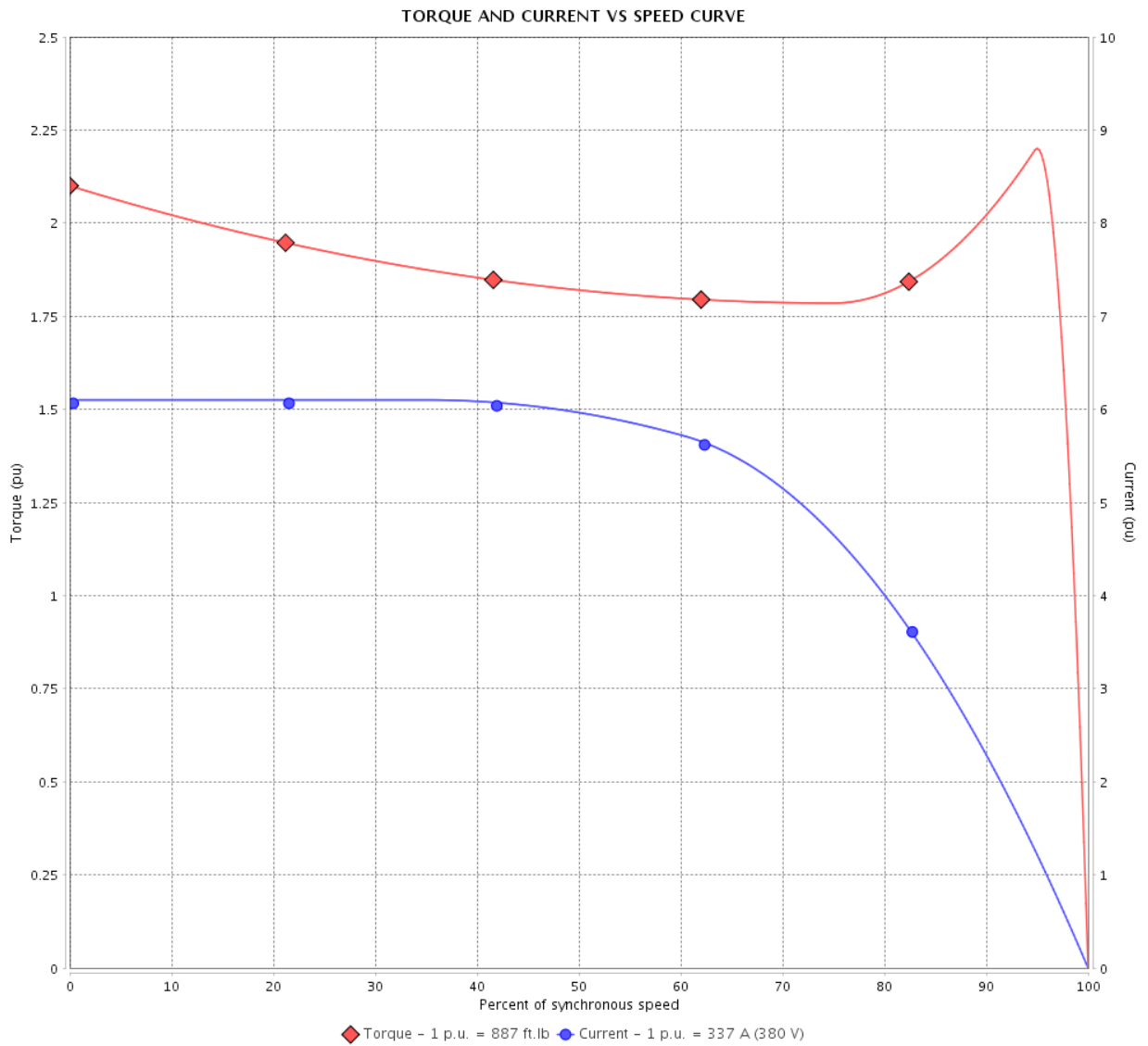
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE3

Rated current	: 337 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



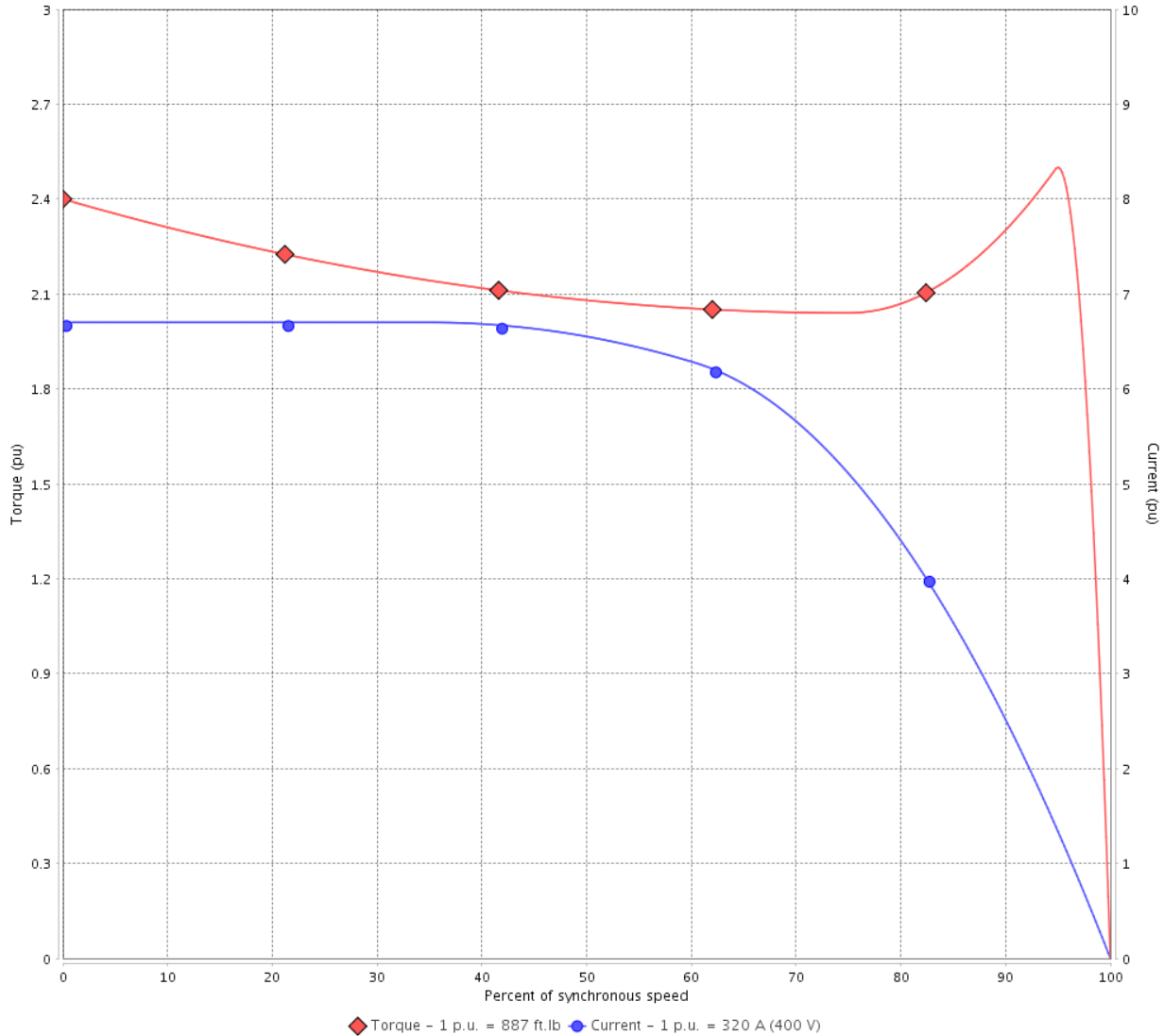
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 320 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



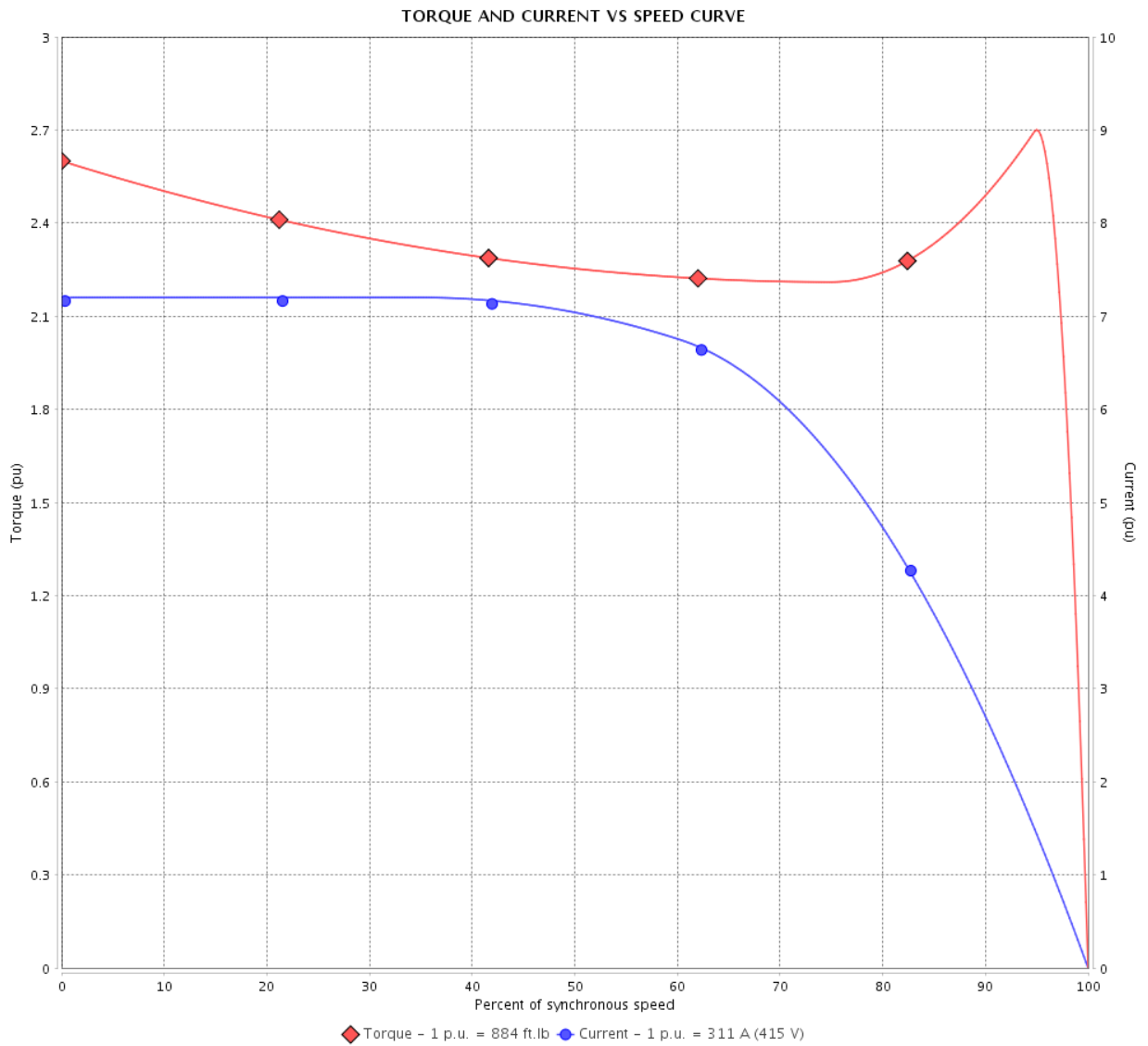
## Three Phase Induction Motor - Squirrel Cage

Customer :

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Catalog # : 30018ST3QIERB449T-W2



Performance : 415 V 50 Hz 4P IE3

Rated current	: 311 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 884 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 105 K
Rated speed	: 1485 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



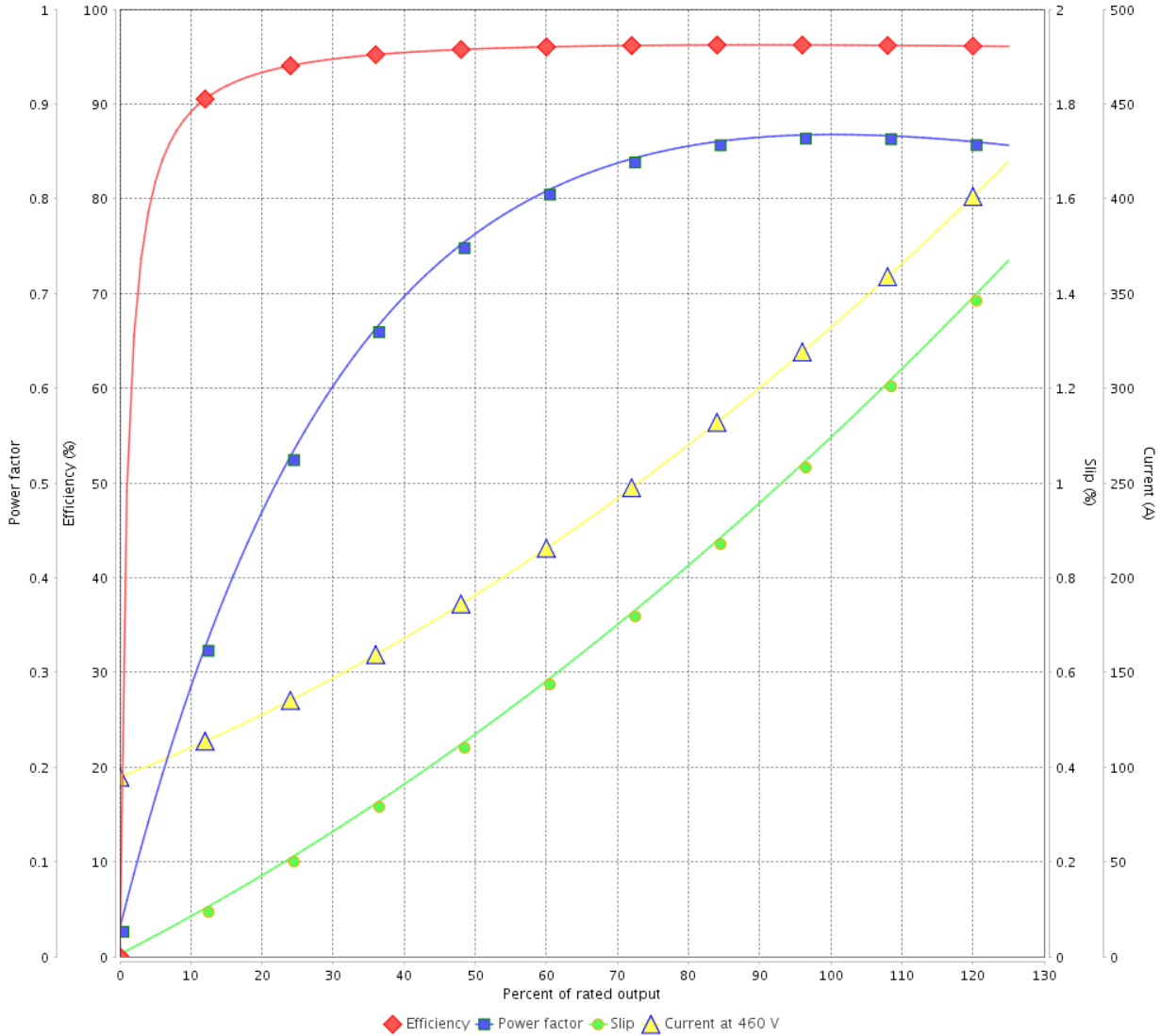
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 4P

Rated current : 330 A  
 LRC : 6.5  
 Rated torque : 885 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 229 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

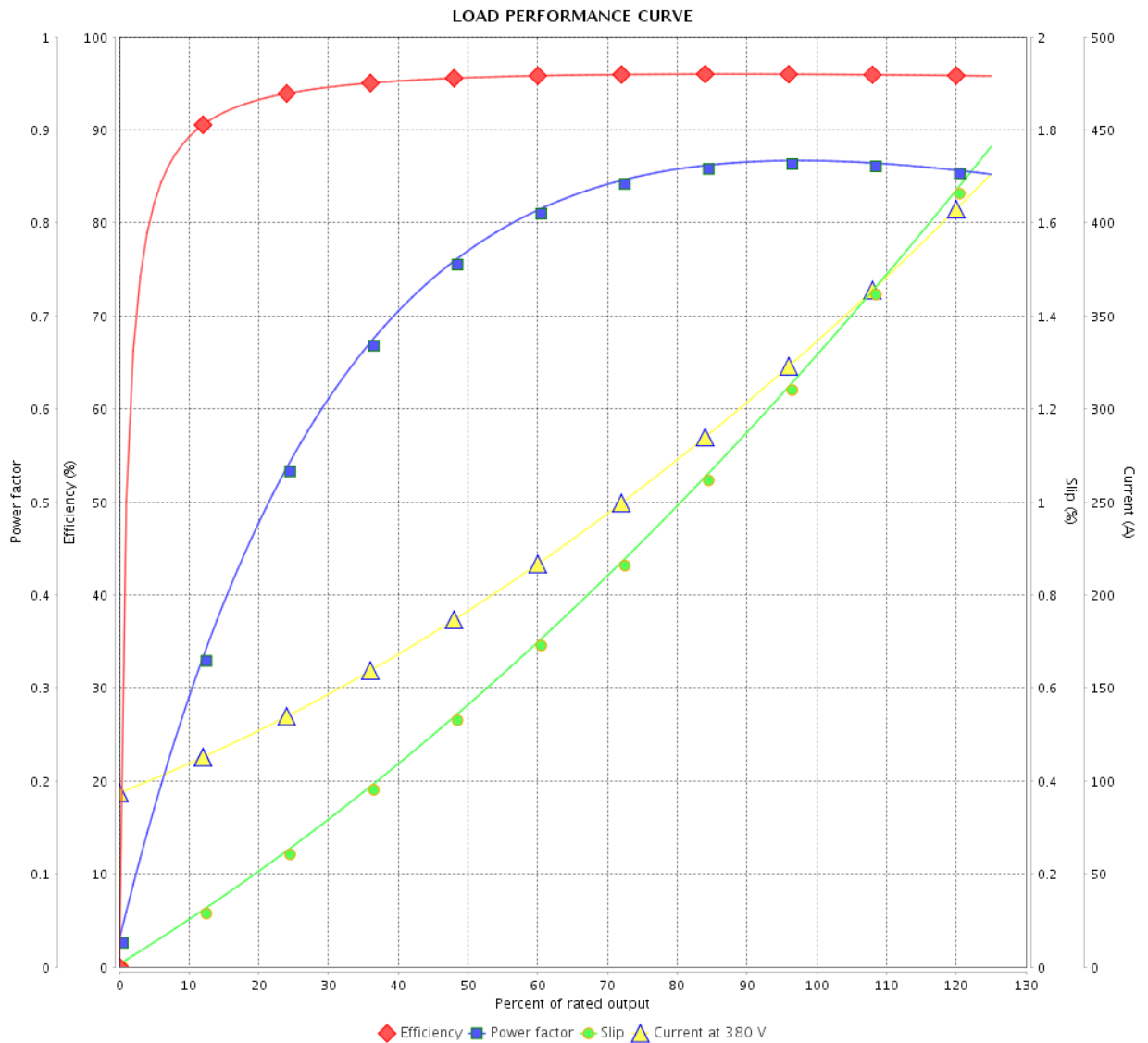


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Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE3

Rated current : 337 A  
 LRC : 6.1  
 Rated torque : 887 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 220 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



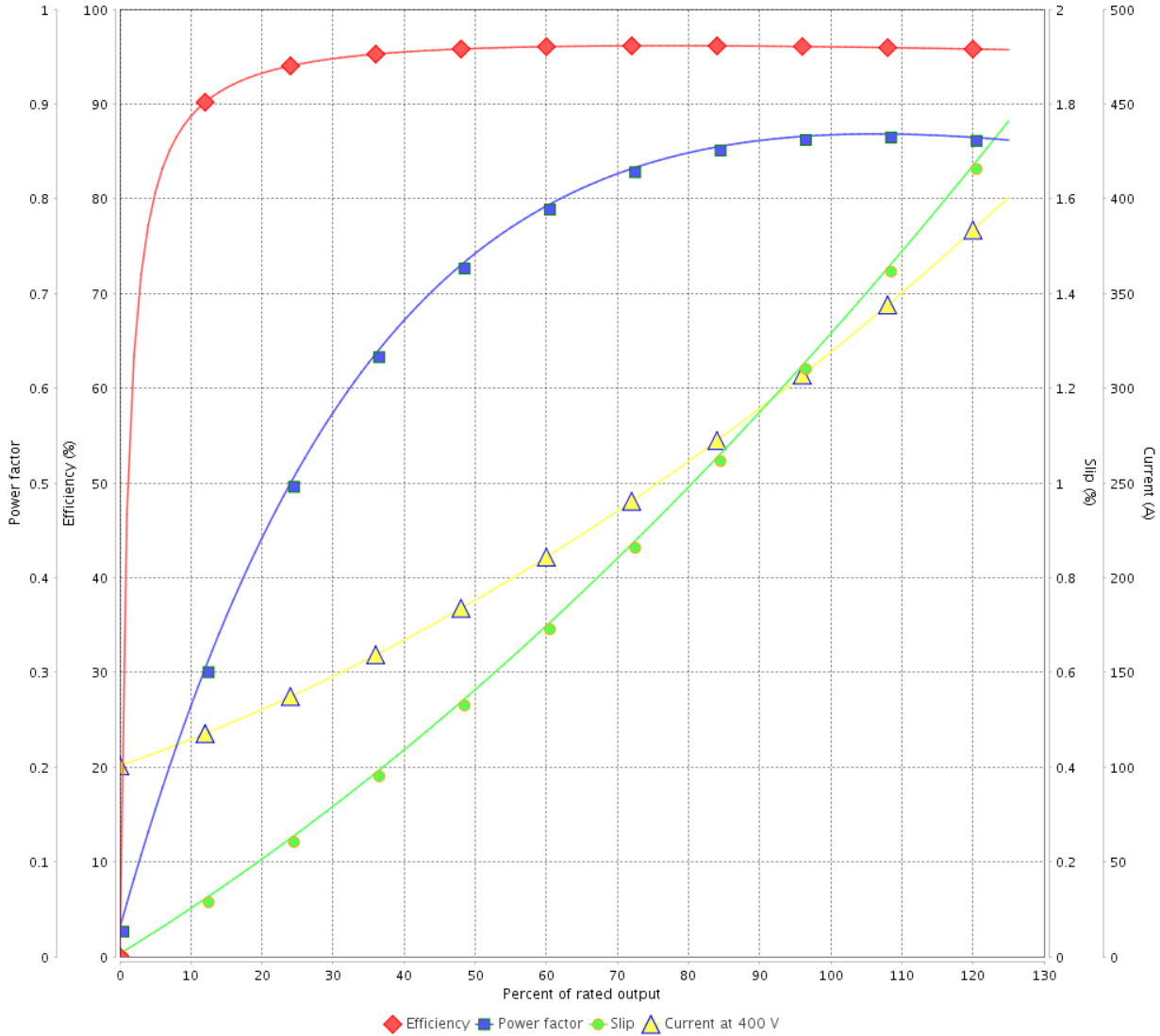
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 320 A  
 LRC : 6.7  
 Rated torque : 887 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 250 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

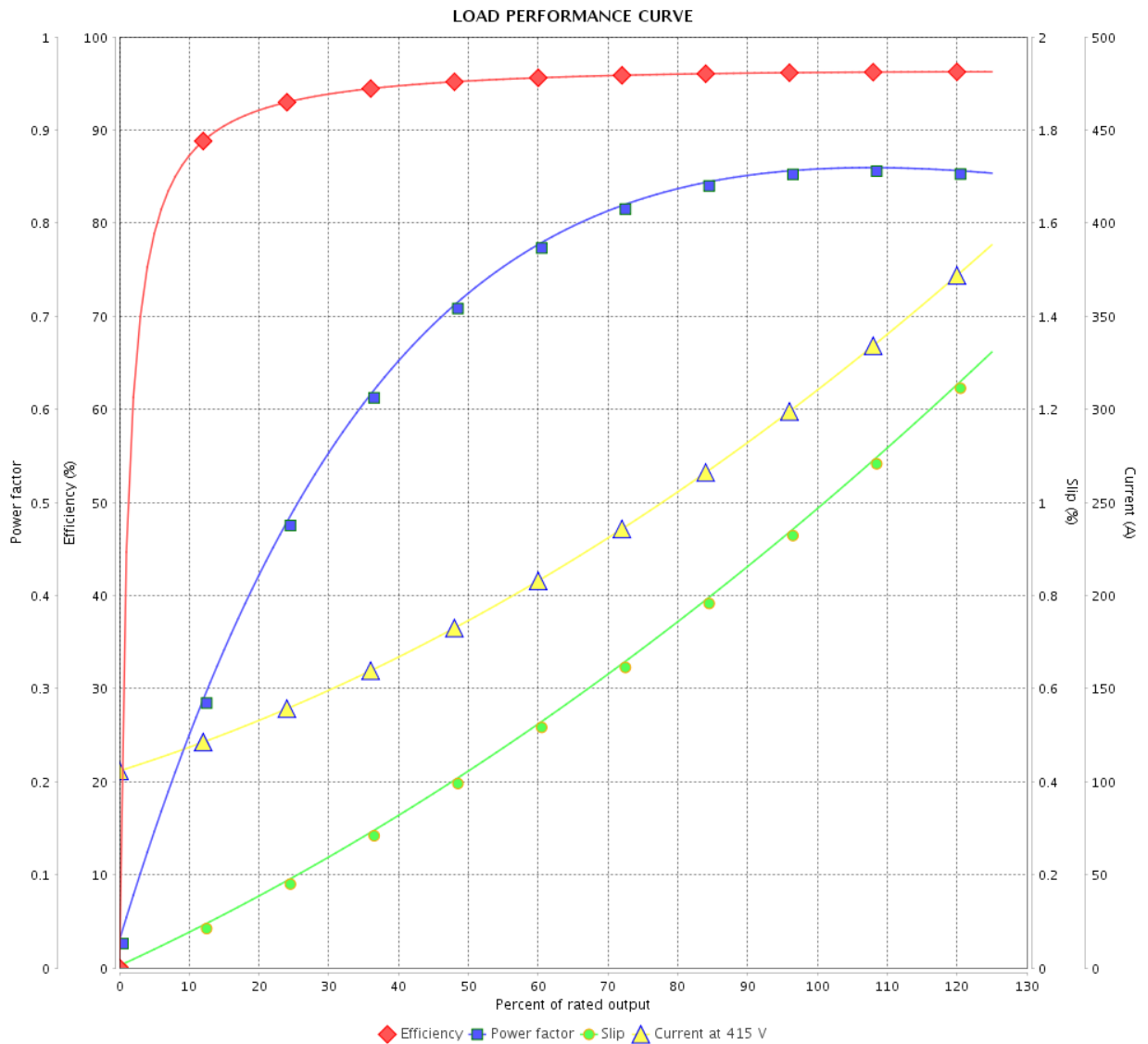


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2



Performance : 415 V 50 Hz 4P IE3

Rated current : 311 A  
 LRC : 7.2  
 Rated torque : 884 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 270 %  
 Rated speed : 1485 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# THERMAL LIMIT CURVE



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Rated torque : 885 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.15
Breakdown torque : 229 %	Temperature rise : 80 K
Rated speed : 1780 rpm	Design : B

Heating constant

Cooling constant

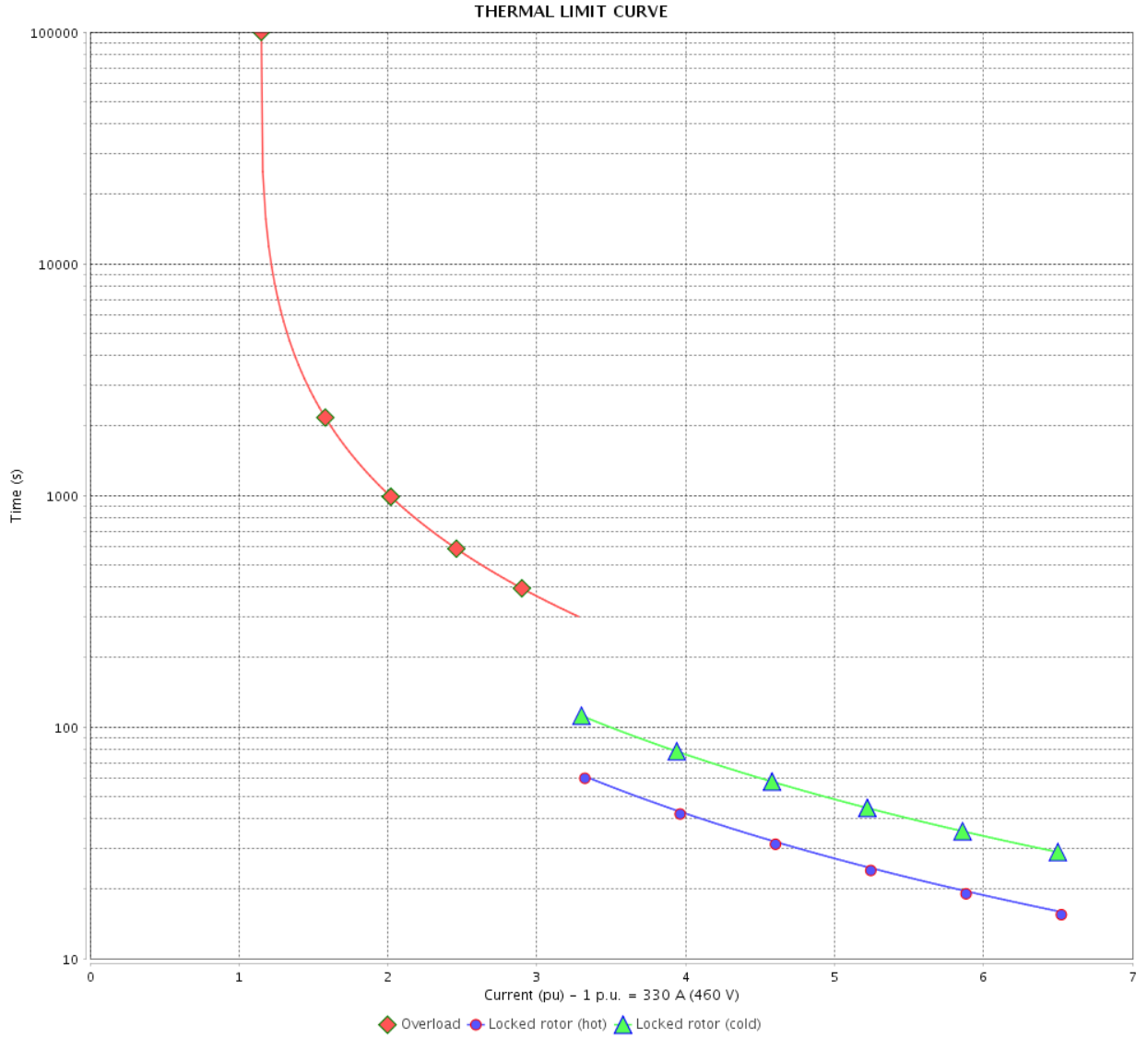
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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Rated current	: 337 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

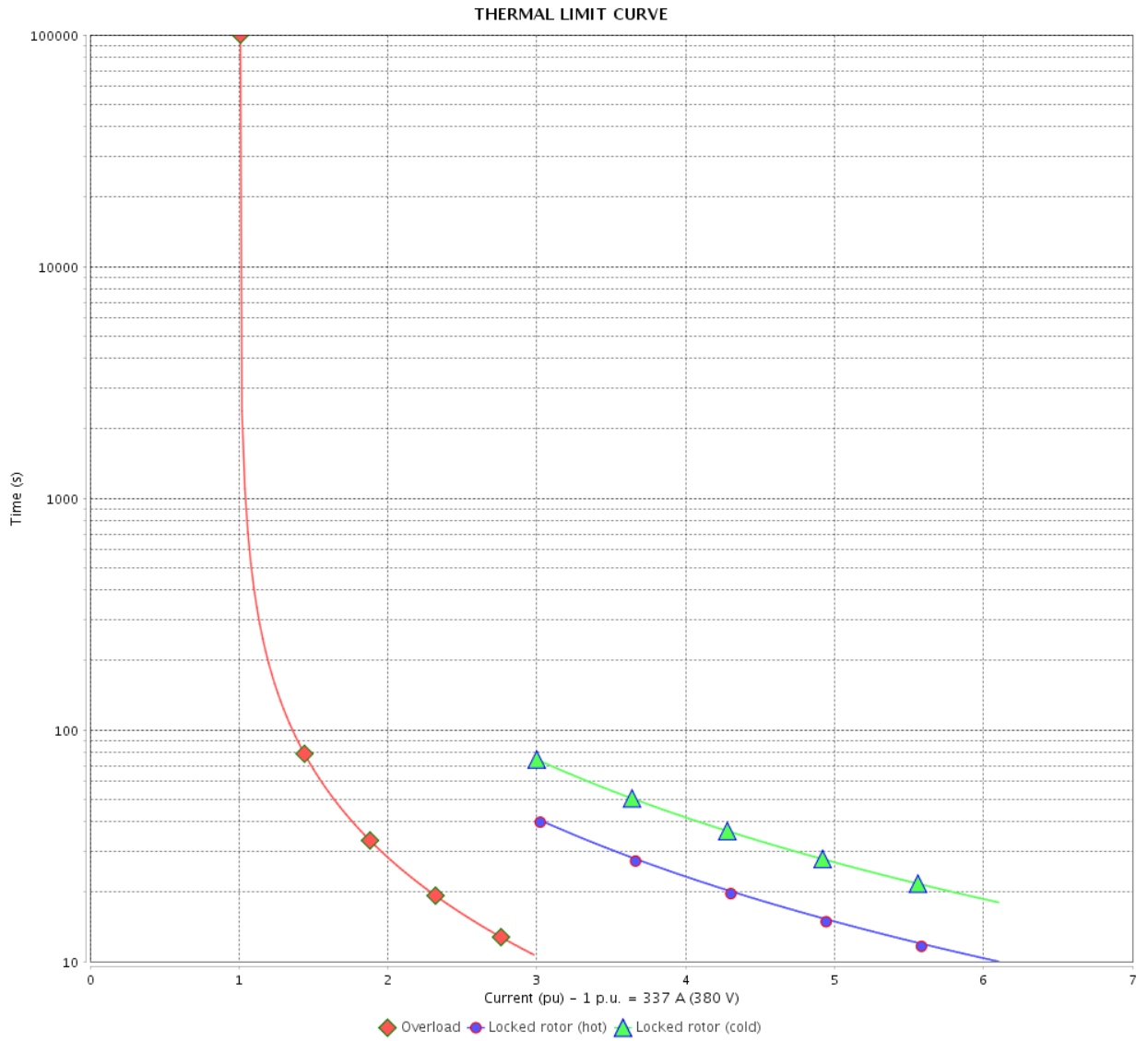
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Performance : 400 V 50 Hz 4P IE3

Rated current	: 320 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

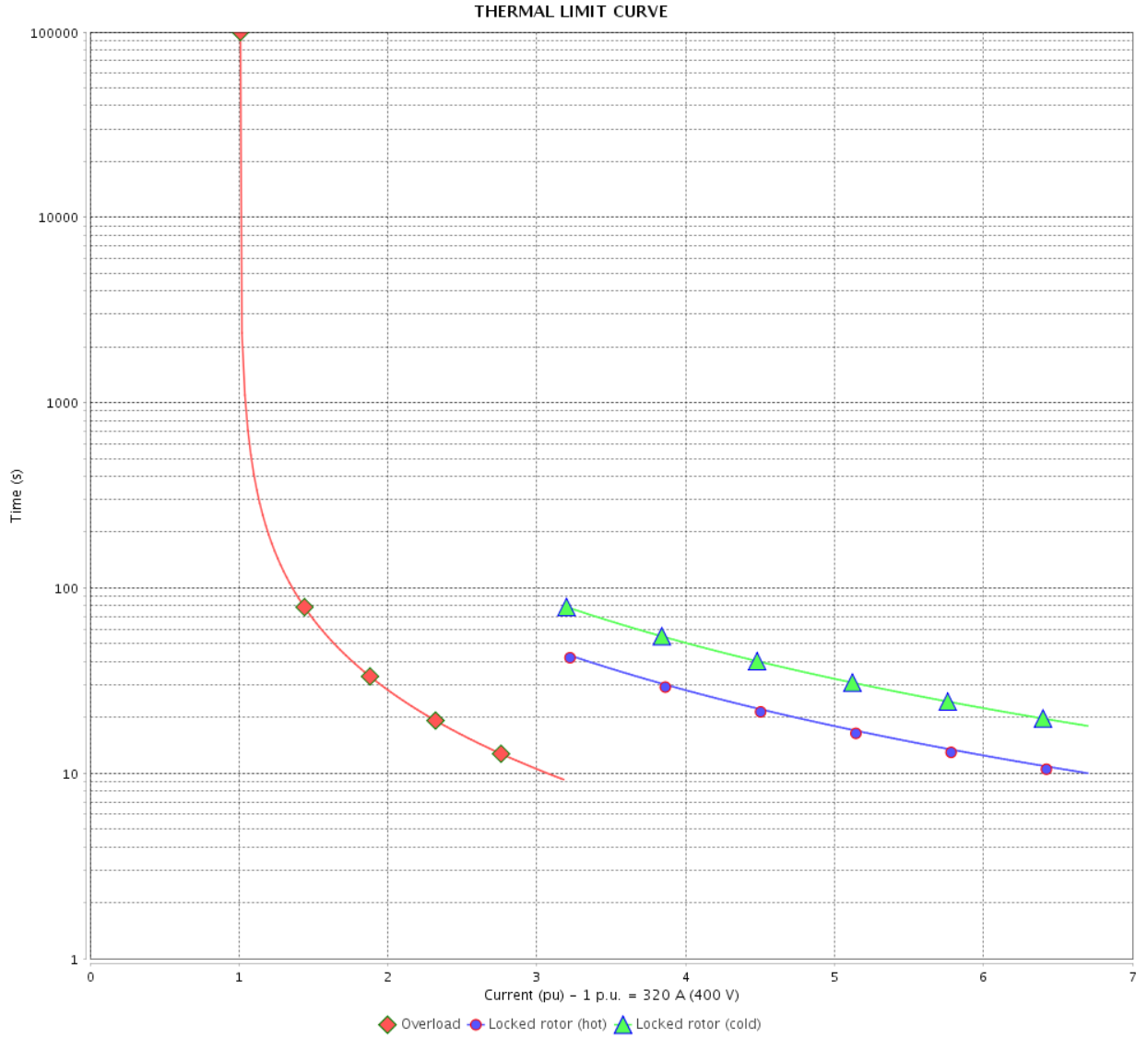
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 13148864  
 Catalog # : 30018ST3QIERB449T-W2

Performance : 415 V 50 Hz 4P IE3

Rated current : 311 A	Moment of inertia (J) : 89.6 sq.ft.lb
LRC : 7.2	Duty cycle : Cont.(S1)
Rated torque : 884 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 270 %	Temperature rise : 105 K
Rated speed : 1485 rpm	Design : B

Heating constant

Cooling constant

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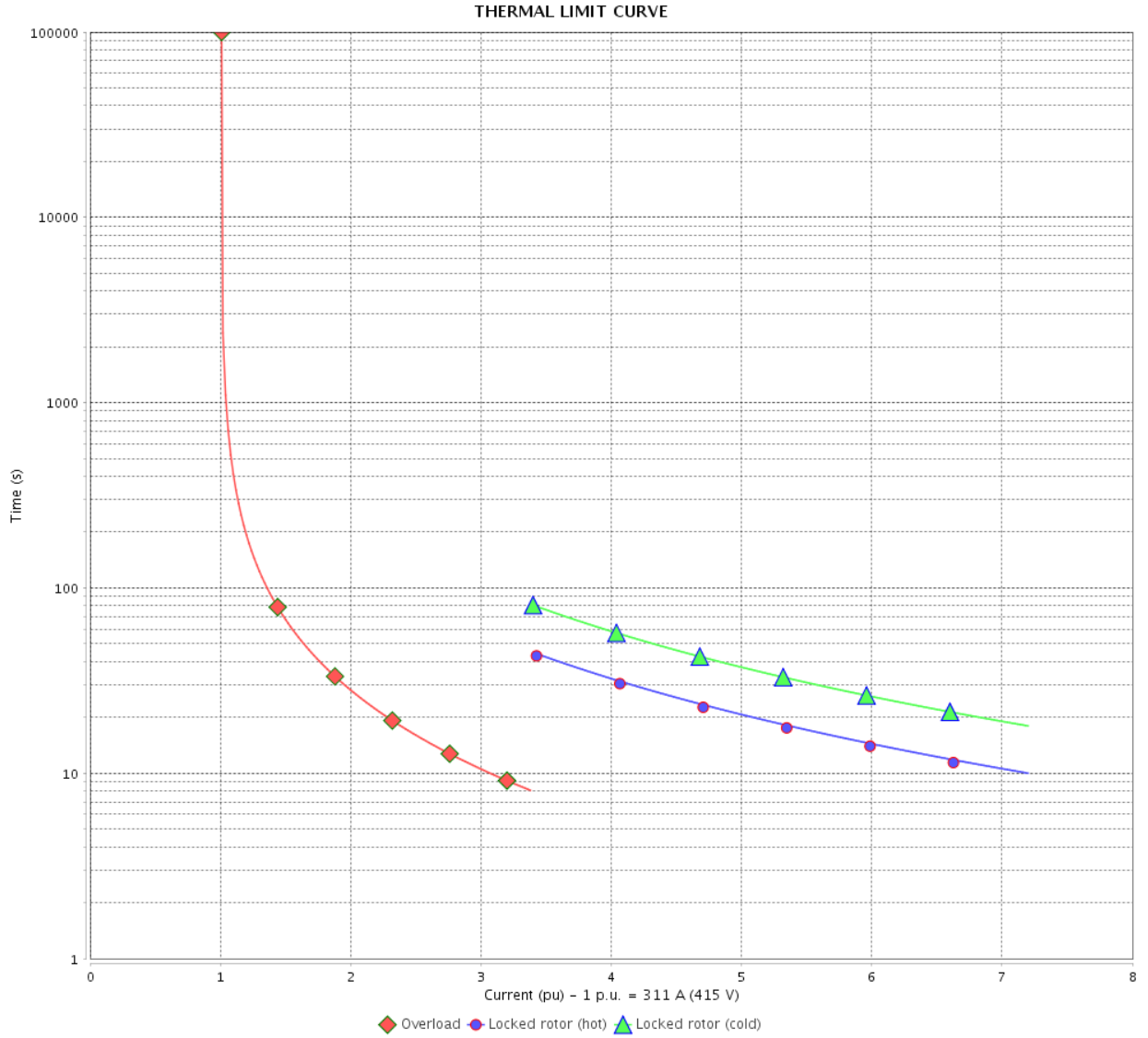


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Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



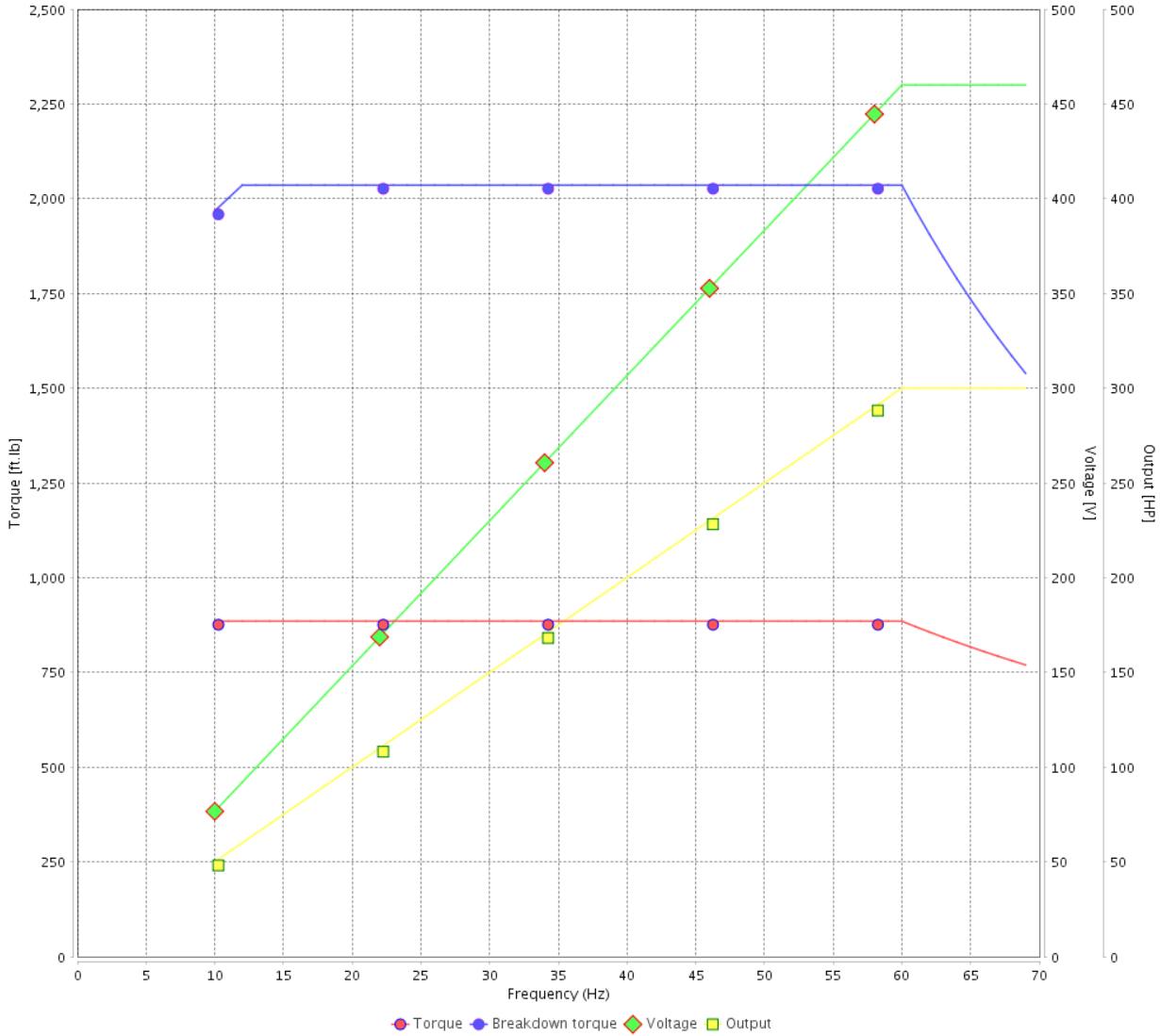
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VFD OPERATION CURVE



Performance : 460 V 60 Hz 4P

Rated current : 330 A  
 LRC : 6.5  
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 Locked rotor torque : 229 %  
 Breakdown torque : 229 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 89.6 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
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

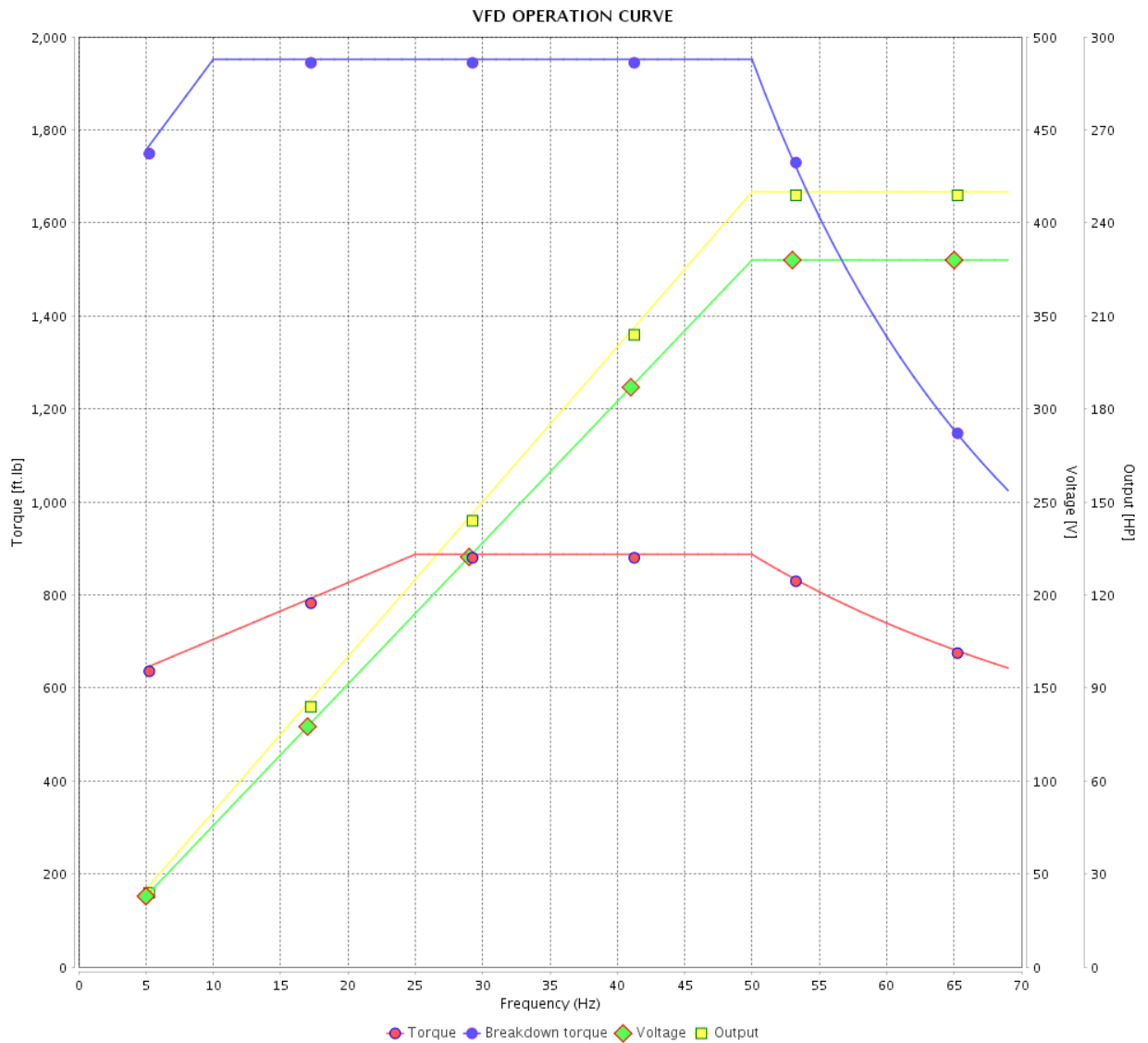


Customer : \_\_\_\_\_

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Product code : 13148864

Catalog # : 30018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE3

Rated current : 337 A  
 LRC : 6.1  
 Rated torque : 887 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 220 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

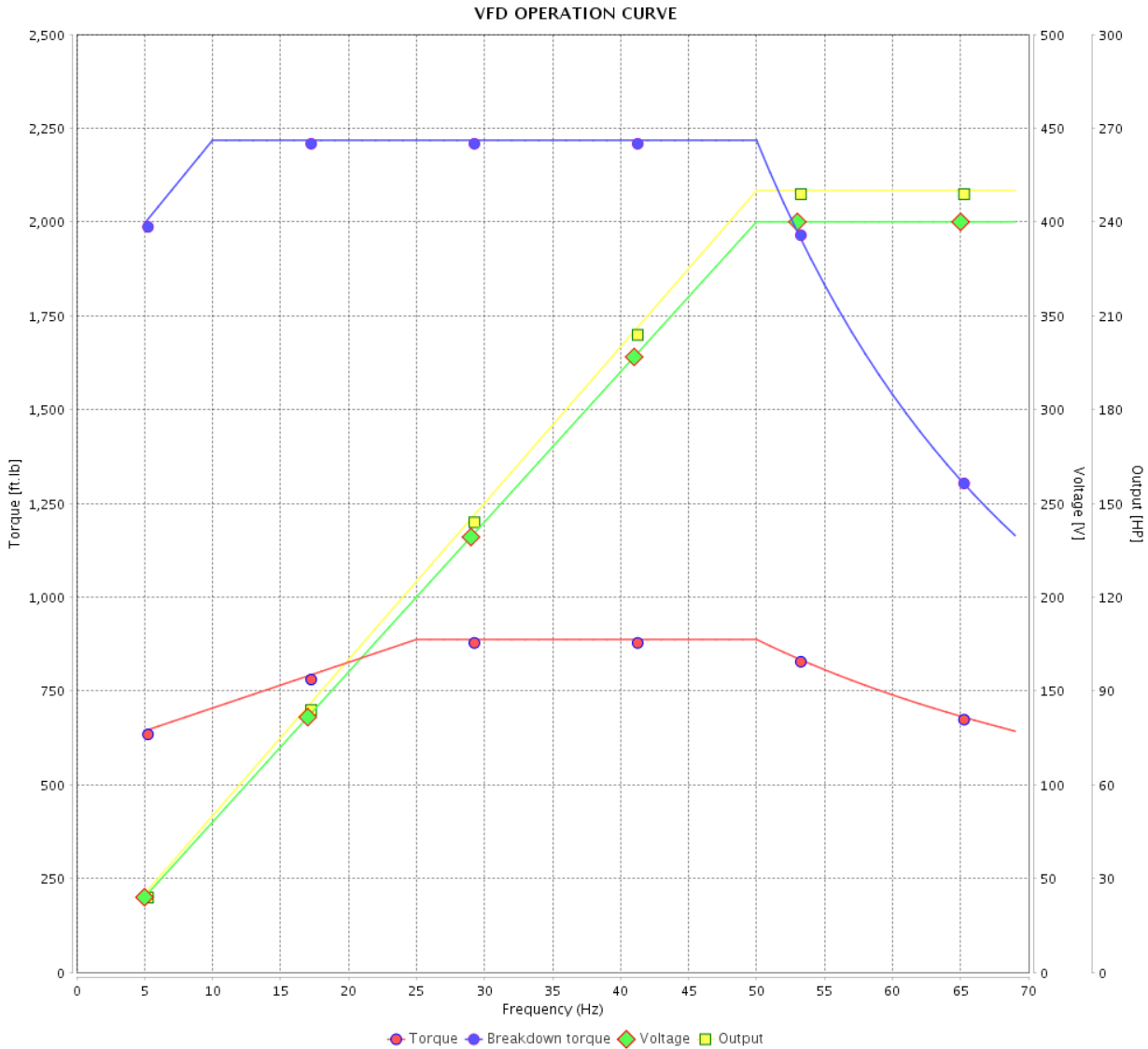


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Performance : 400 V 50 Hz 4P IE3

Rated current : 320 A  
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Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

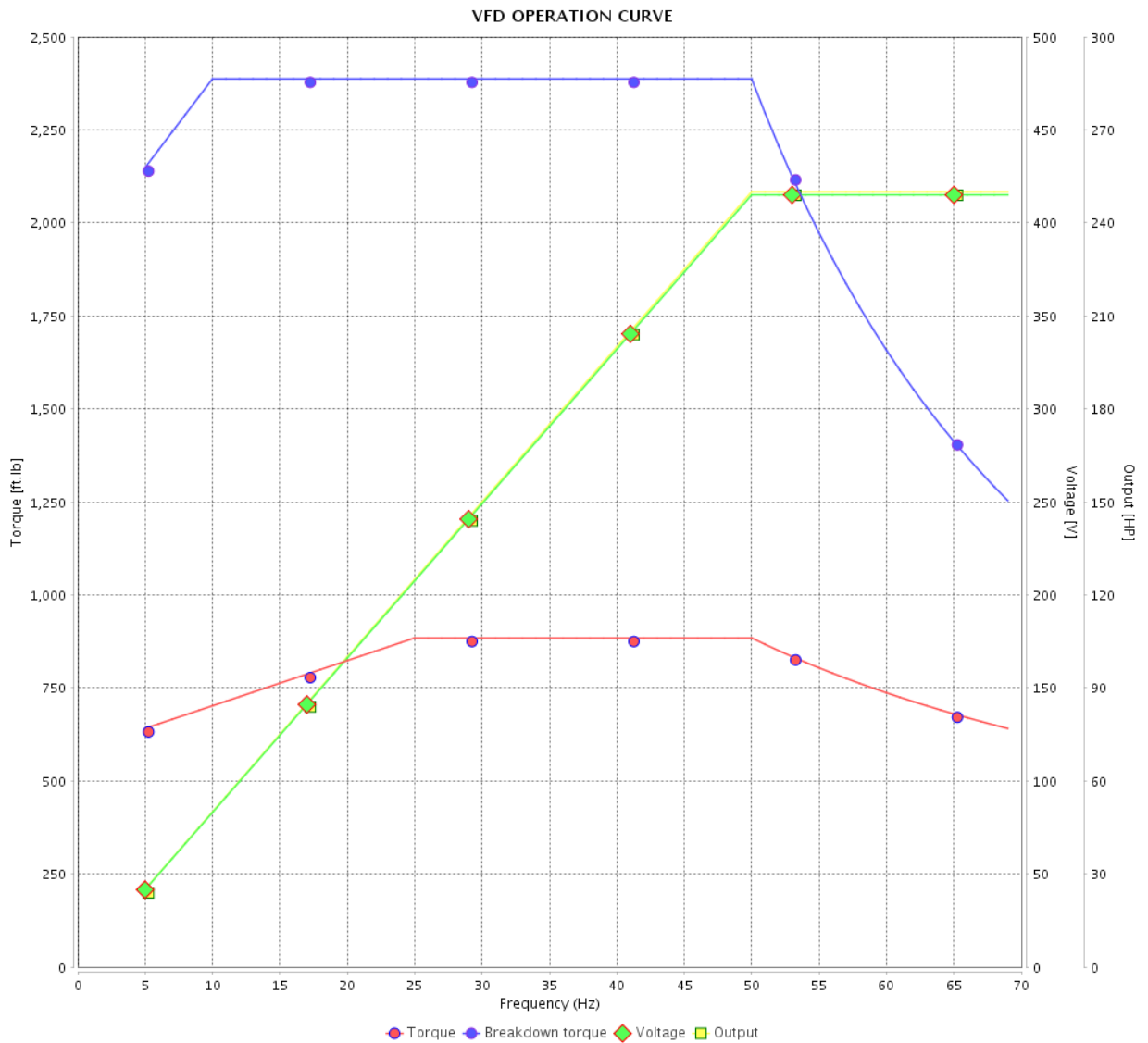


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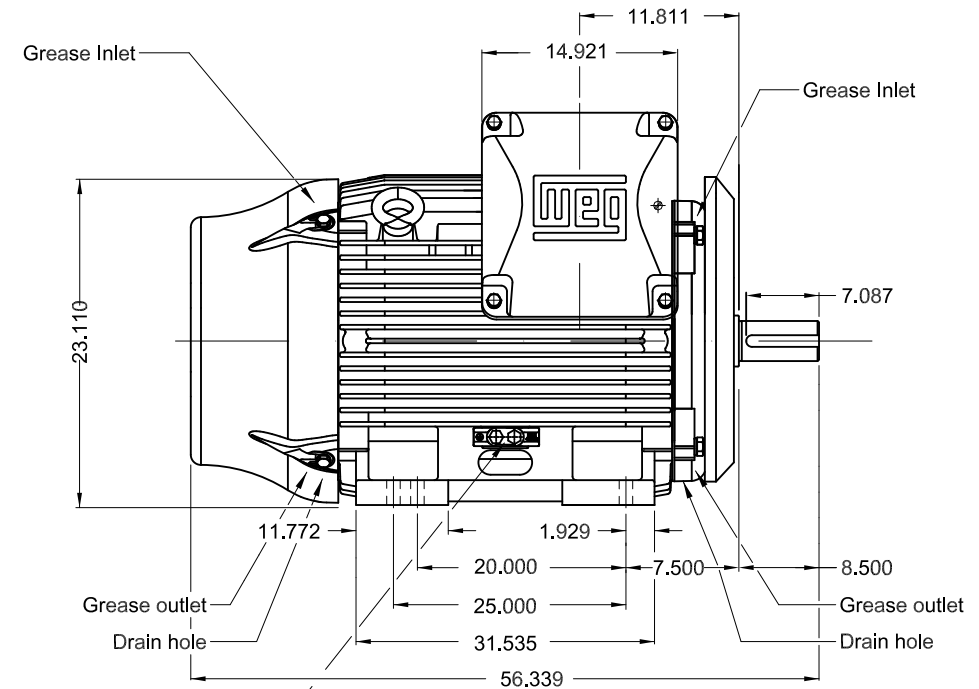
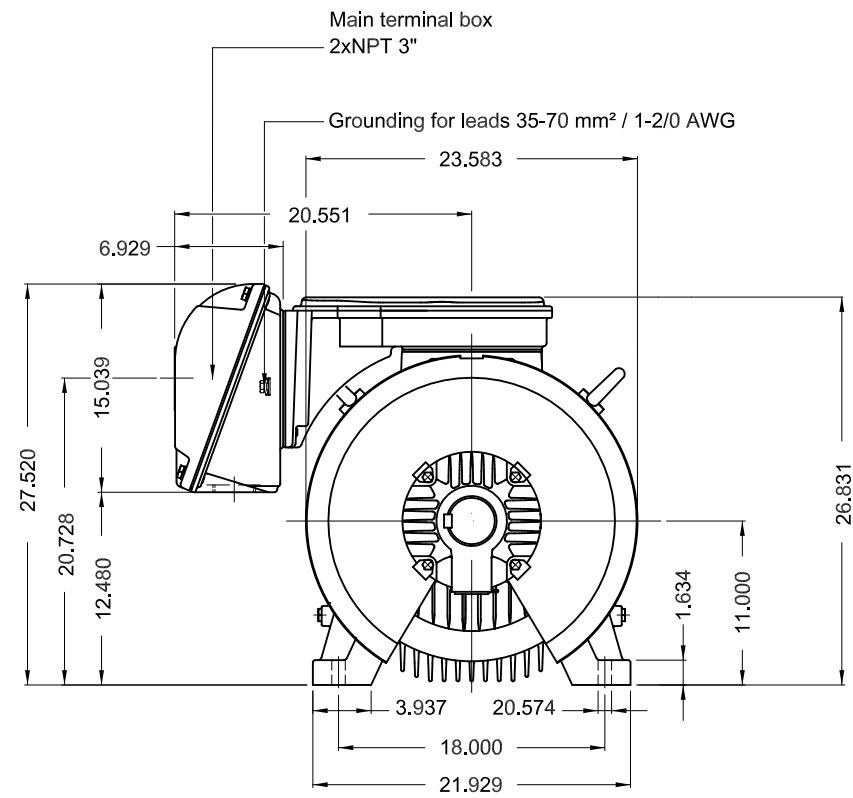


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Rated current : 311 A  
 LRC : 7.2  
 Rated torque : 884 ft.lb  
 Locked rotor torque : 260 %  
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 Rated speed : 1485 rpm

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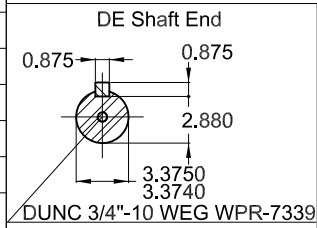


Grounding for leads 25-185 mm<sup>2</sup> / 3AWG-350MCM

300 HP 04 Poles 60 Hz

A

- DE roller bearing
- Shaft locking device
- NDE endshield with electrically insulated bearing hub
- Drive-End Air Deflector
- Color RAL 5009
- Painting plan 202E
- Mounting NEMA F-1
- Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR IEEE 841 W22 PREM. EFF.					
CHECKED		FRAME 447/9T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW  
WDD





**NEMA**  
Premium  
W22



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 6:1, 1.00SF - T3

MODEL 30018ST3QIERB449T-W2



Inverter Duty Motor  
Severe Duty

MADE IN BRAZIL  
13148864

PH3 60Hz Fr. 447/9T 1000m.a.s.l. IP55 TEFC 2998lb

V 460

A 330

HP 300

kW 220

SF 1.15

SFA 379

RPM 1780

PF 0.87

AMB 40°C

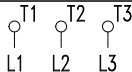
INS cl. F DT80K

NEMA NOM EFF 96.2%

DUTY CONT.

DES B Code G

GUARANT. EFF 95.4%



460V



→ NU-322-C3 (60g) 110RU03X30

→ 6319-C3 (45g) 95BC03X30



MOBIL POLYREX EM (4000h)

