

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12408383		
		Catalog # :	30018XT3G449T		
Frame	: 449T	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: F-1		
Duty cycle	: Cont.(S1)	Rotation <sup>1</sup>	: Both (CW and CCW)		
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line		
Altitude	: 1000 m.a.s.l.	Approx. weight <sup>2</sup>	: 3104 lb		
Protection degree	: IP55	Moment of inertia (J)	: 89.6 sq.ft.lb		
Design	: A				
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]	334	337	324	315	
L. R. Amperes [A]	2672	2460	2592	2741	
LRC [A]	8.0x(Code H)	7.3x(Code H)	8.0x(Code J)	8.7x(Code J)	
No load current [A]	115	114	121	136	
Rated speed [RPM]	1785	1485	1485	1490	
Slip [%]	0.83	1.00	1.00	0.67	
Rated torque [ft.lb]	883	884	884	881	
Locked rotor torque [%]	280	260	290	320	
Breakdown torque [%]	290	280	300	340	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)	25s (cold) 14s (hot)	
Noise level <sup>2</sup>	80.0 dB(A)	80.0 dB(A)	80.0 dB(A)	80.0 dB(A)	
Efficiency (%)	25%	94.9	95.3	95.3	95.3
	50%	95.4	95.4	95.4	95.4
	75%	95.8	95.8	95.8	96.2
	100%	96.2	95.8	95.8	96.2
Power Factor	25%	0.49	0.49	0.46	0.42
	50%	0.74	0.75	0.72	0.69
	75%	0.83	0.83	0.82	0.79
	100%	0.86	0.87	0.86	0.85
Bearing type	: <u>Drive end</u> 6322 C3	<u>Non drive end</u> 6319 C3	Foundation loads		
Sealing	: Viton	Viton Seal	Max. traction	: 6434 lb	
	Oil Seal		Max. compression	: 9538 lb	
Lubrication interval	: 5138 h	7038 h			
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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# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

### Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermostat - 2 wires	1 x Phase	155 °C

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# TORQUE AND CURRENT VS SPEED CURVE



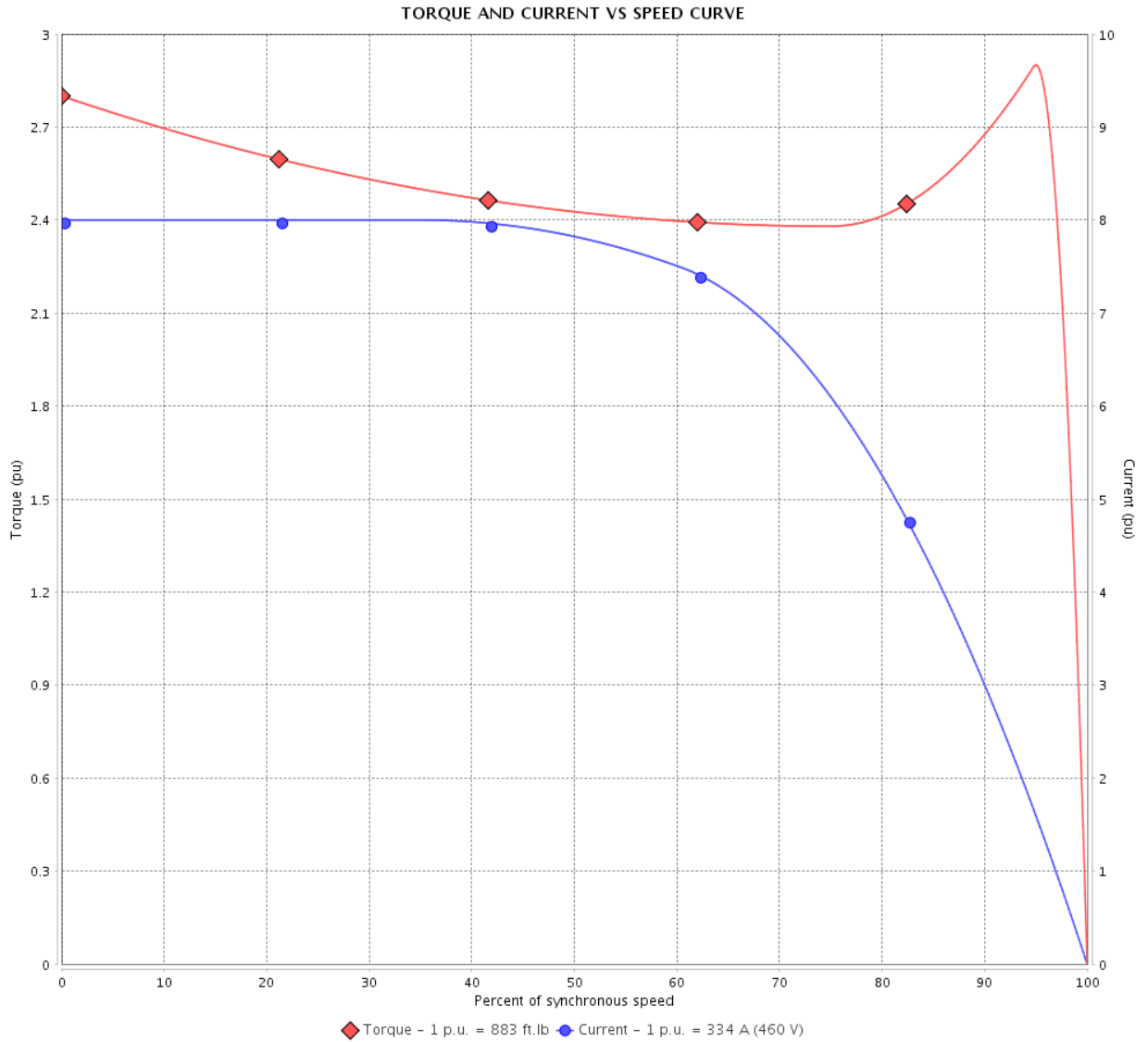
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T



Performance : 460 V 60 Hz 4P

Rated current	: 334 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 883 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1785 rpm	Design	: A

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



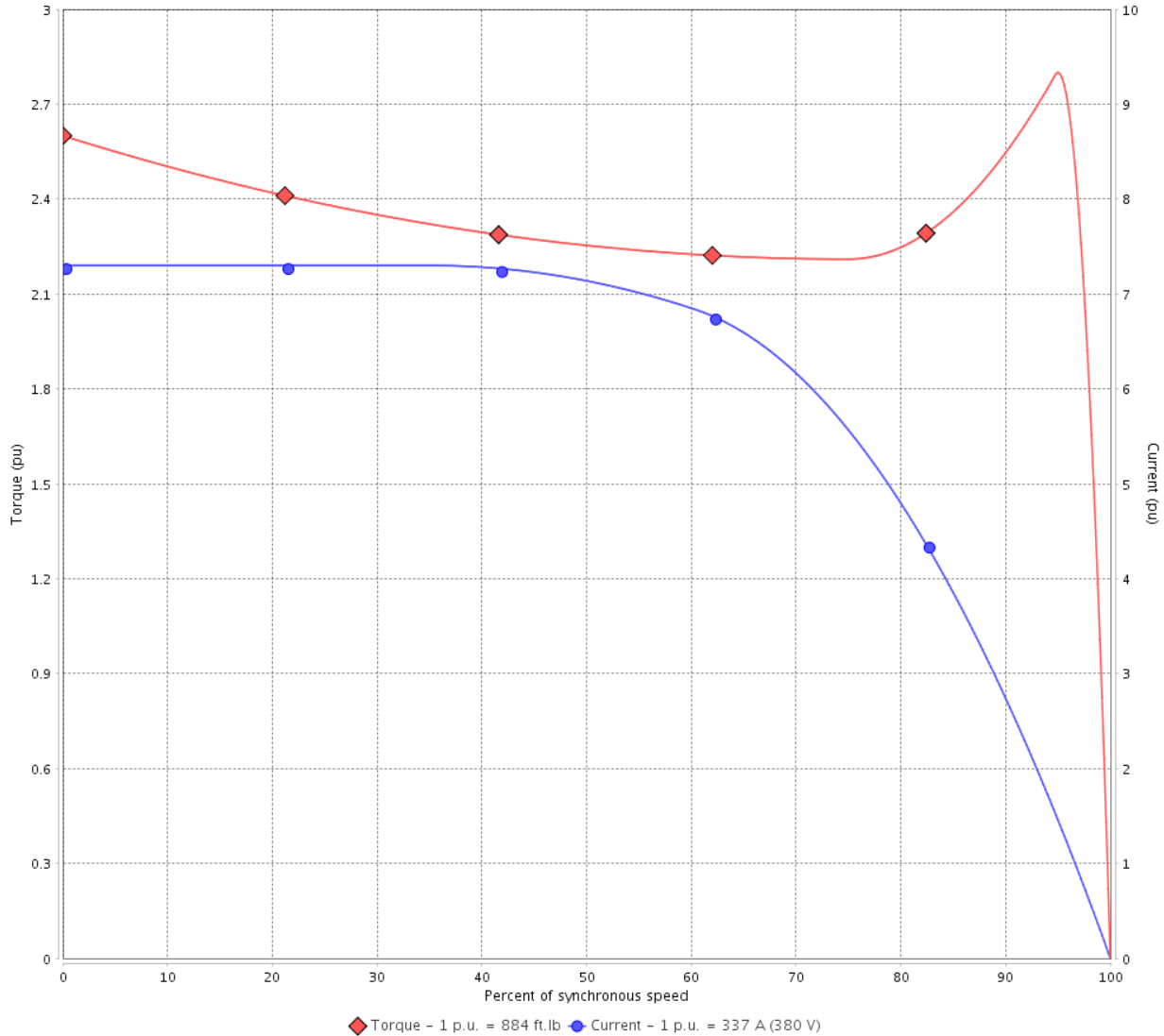
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 337 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 884 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: A

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

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# TORQUE AND CURRENT VS SPEED CURVE



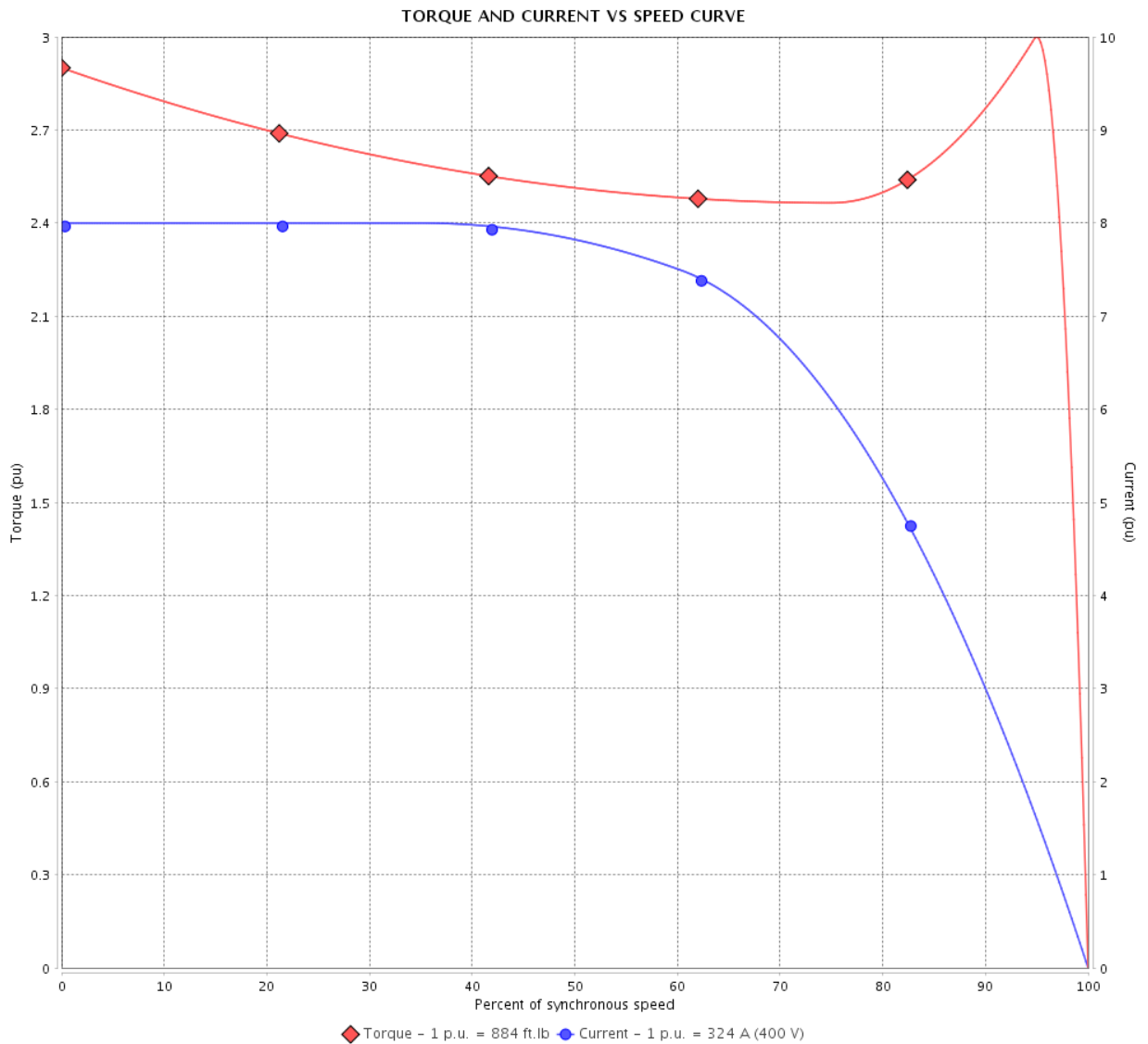
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T



Performance : 400 V 50 Hz 4P IE2

Rated current	: 324 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 884 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: A

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



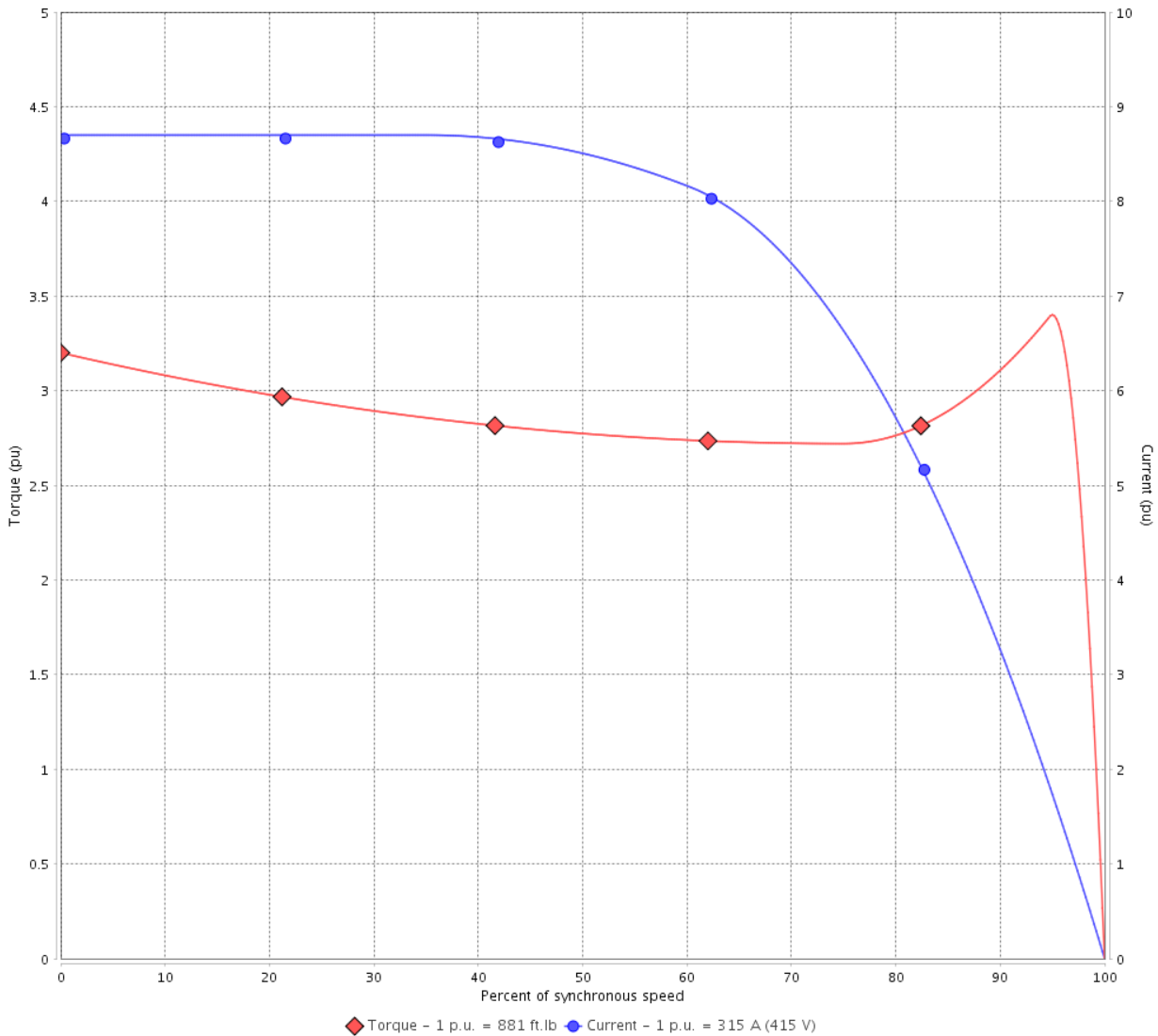
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 315 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 8.7	Duty cycle	: Cont.(S1)
Rated torque	: 881 ft.lb	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1490 rpm	Design	: A

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

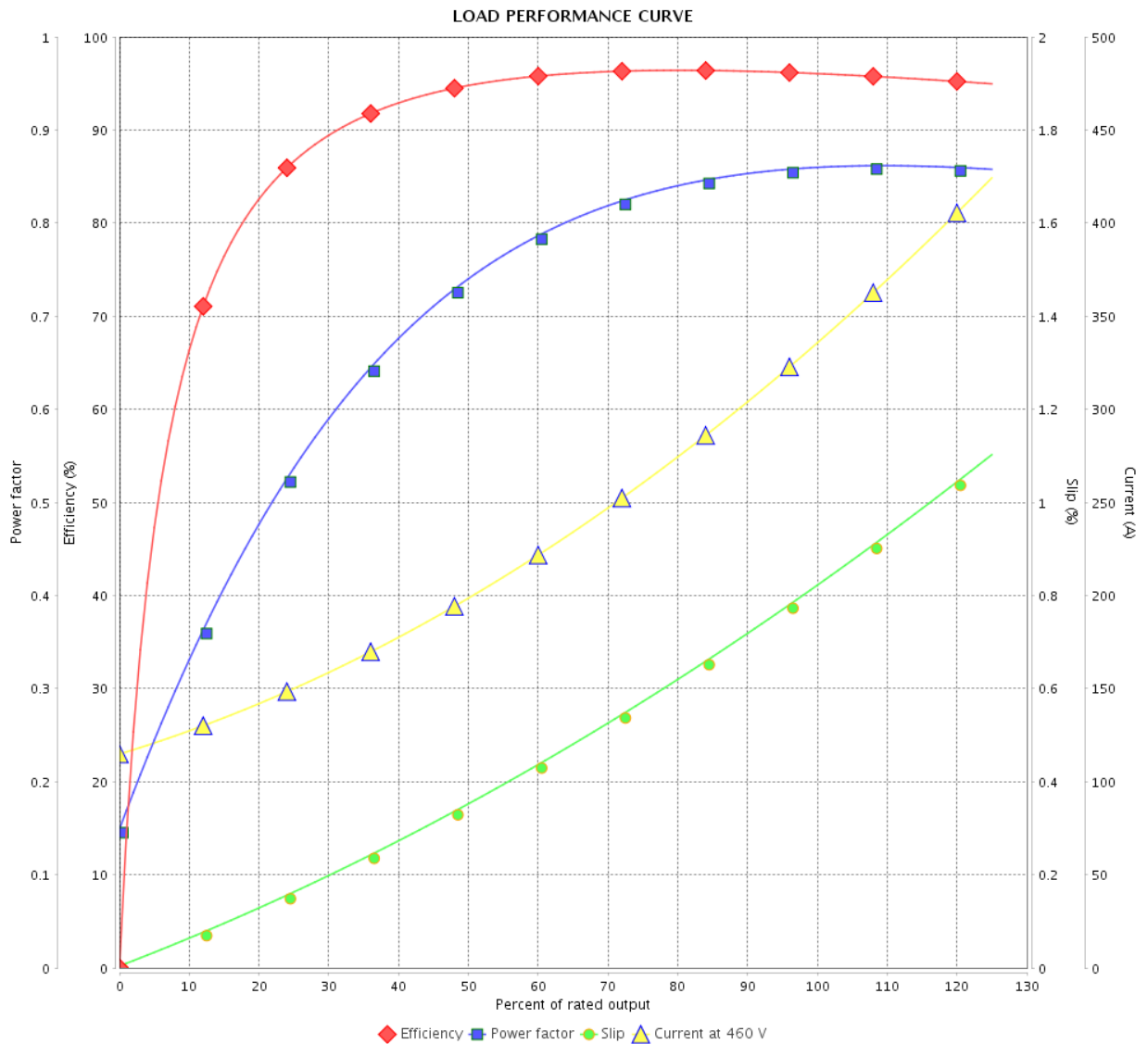


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T



Performance : 460 V 60 Hz 4P

Rated current : 334 A  
 LRC : 8.0  
 Rated torque : 883 ft.lb  
 Locked rotor torque : 280 %  
 Breakdown torque : 290 %  
 Rated speed : 1785 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 : A

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



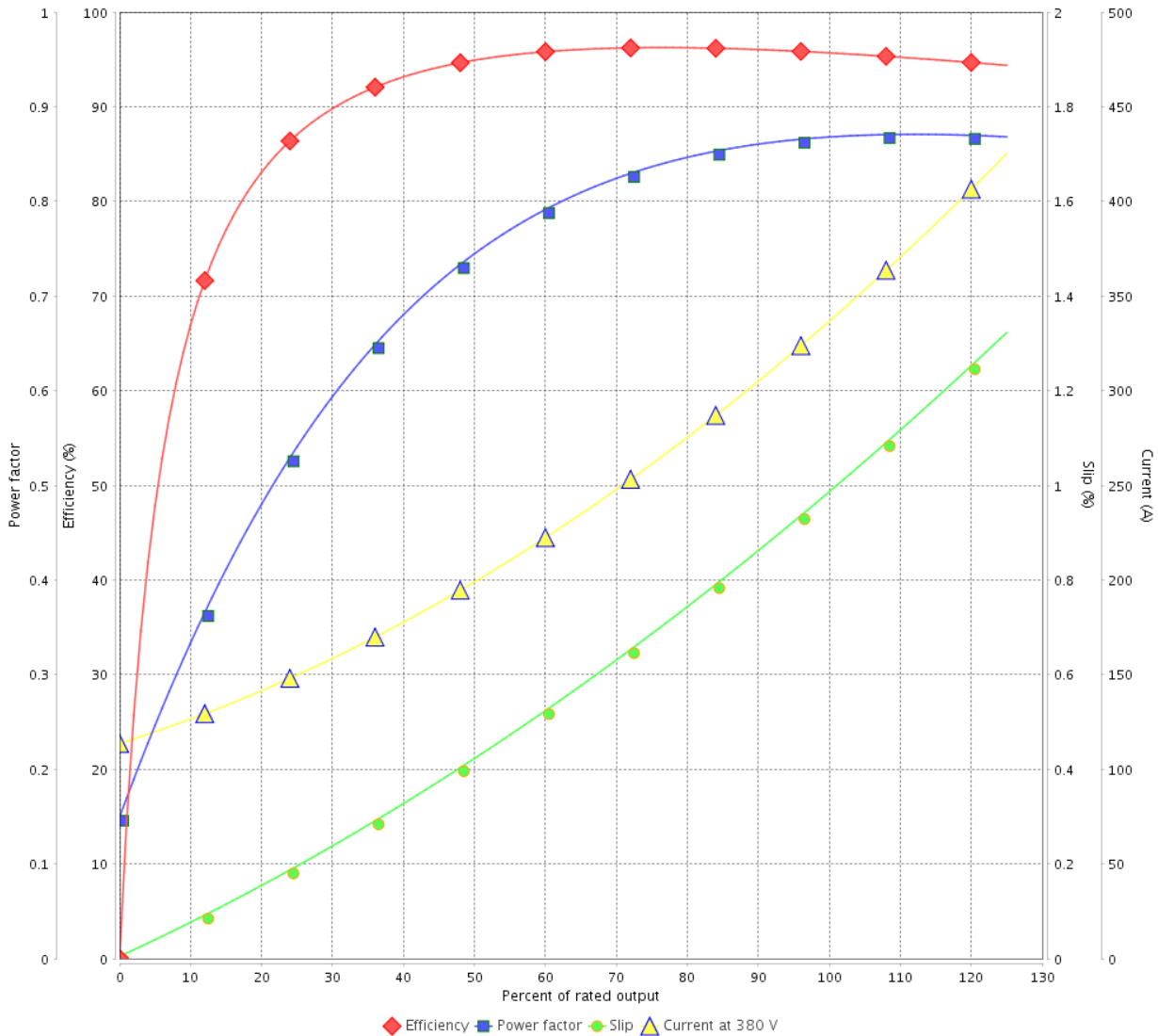
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 337 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 884 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: A

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

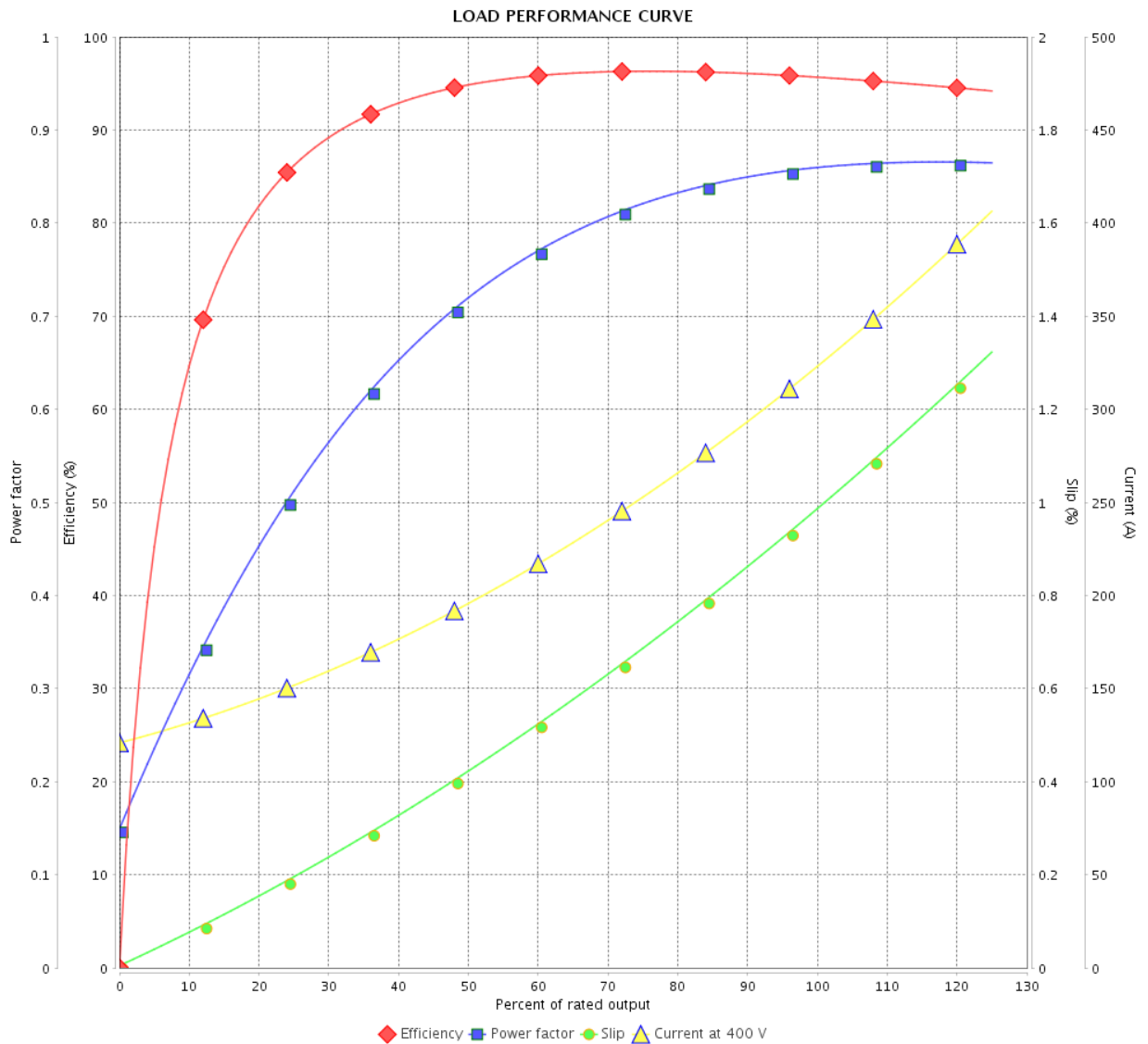


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T



Performance : 400 V 50 Hz 4P IE2

Rated current : 324 A  
 LRC : 8.0  
 Rated torque : 884 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 300 %  
 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 : 80 K  
 Design : A

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

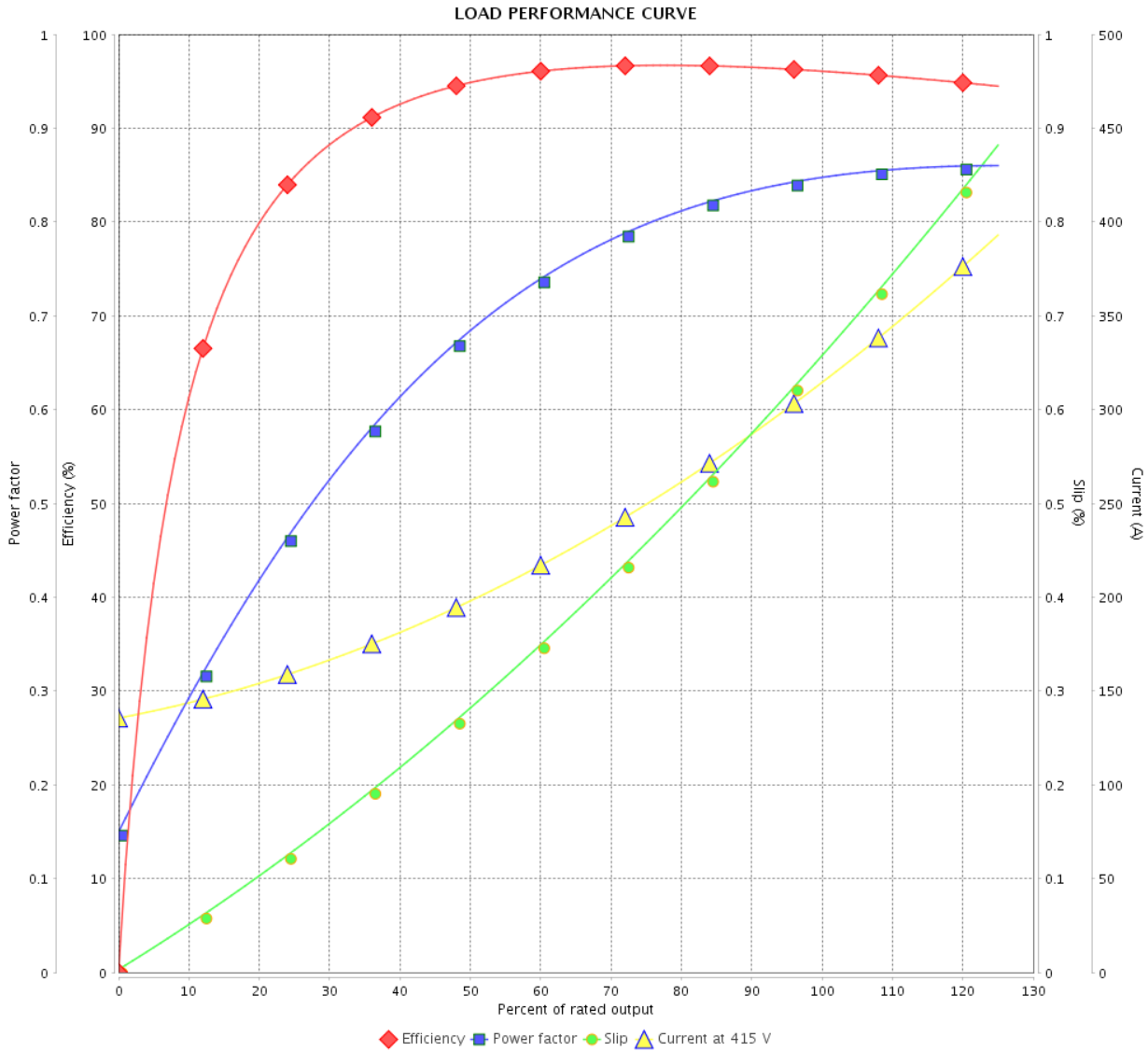


Customer :

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Performance : 415 V 50 Hz 4P IE3

Rated current	: 315 A	Moment of inertia (J)	: 89.6 sq.ft.lb
LRC	: 8.7	Duty cycle	: Cont.(S1)
Rated torque	: 881 ft.lb	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1490 rpm	Design	: A

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# THERMAL LIMIT CURVE



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LRC : 8.0	Duty cycle : Cont.(S1)
Rated torque : 883 ft.lb	Insulation class : F
Locked rotor torque : 280 %	Service factor : 1.15
Breakdown torque : 290 %	Temperature rise : 80 K
Rated speed : 1785 rpm	Design : A

Heating constant

Cooling constant

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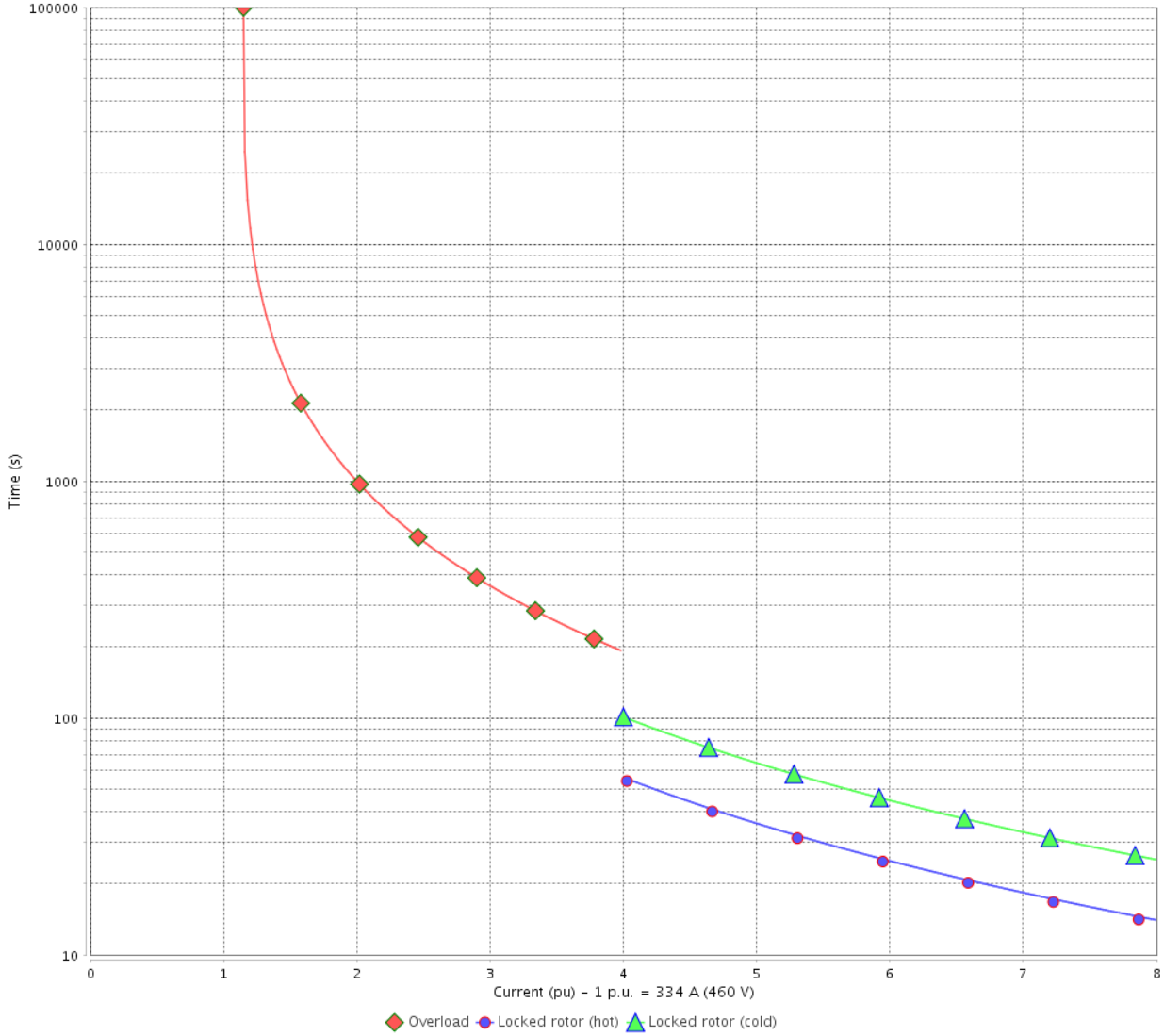
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Three Phase Induction Motor - Squirrel Cage



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

THERMAL LIMIT CURVE



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Performance : 380 V 50 Hz 4P IE2

Rated current : 337 A	Moment of inertia (J) : 89.6 sq.ft.lb
LRC : 7.3	Duty cycle : Cont.(S1)
Rated torque : 884 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 280 %	Temperature rise : 80 K
Rated speed : 1485 rpm	Design : A

Heating constant

Cooling constant

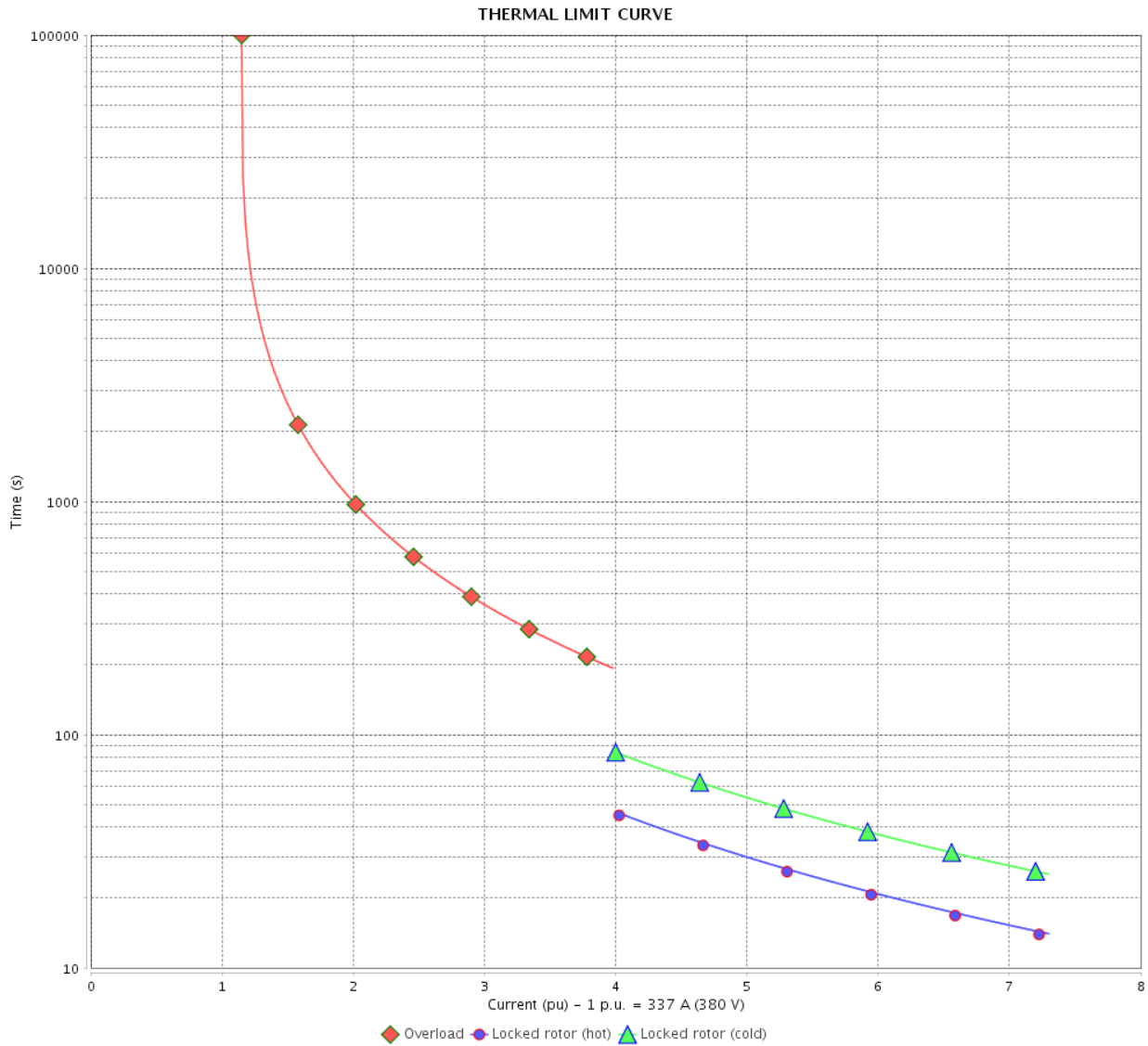
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Three Phase Induction Motor - Squirrel Cage



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## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12408383  
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Performance : 400 V 50 Hz 4P IE2

Rated current : 324 A	Moment of inertia (J) : 89.6 sq.ft.lb
LRC : 8.0	Duty cycle : Cont.(S1)
Rated torque : 884 ft.lb	Insulation class : F
Locked rotor torque : 290 %	Service factor : 1.00
Breakdown torque : 300 %	Temperature rise : 80 K
Rated speed : 1485 rpm	Design : A

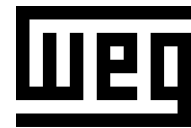
Heating constant

Cooling constant

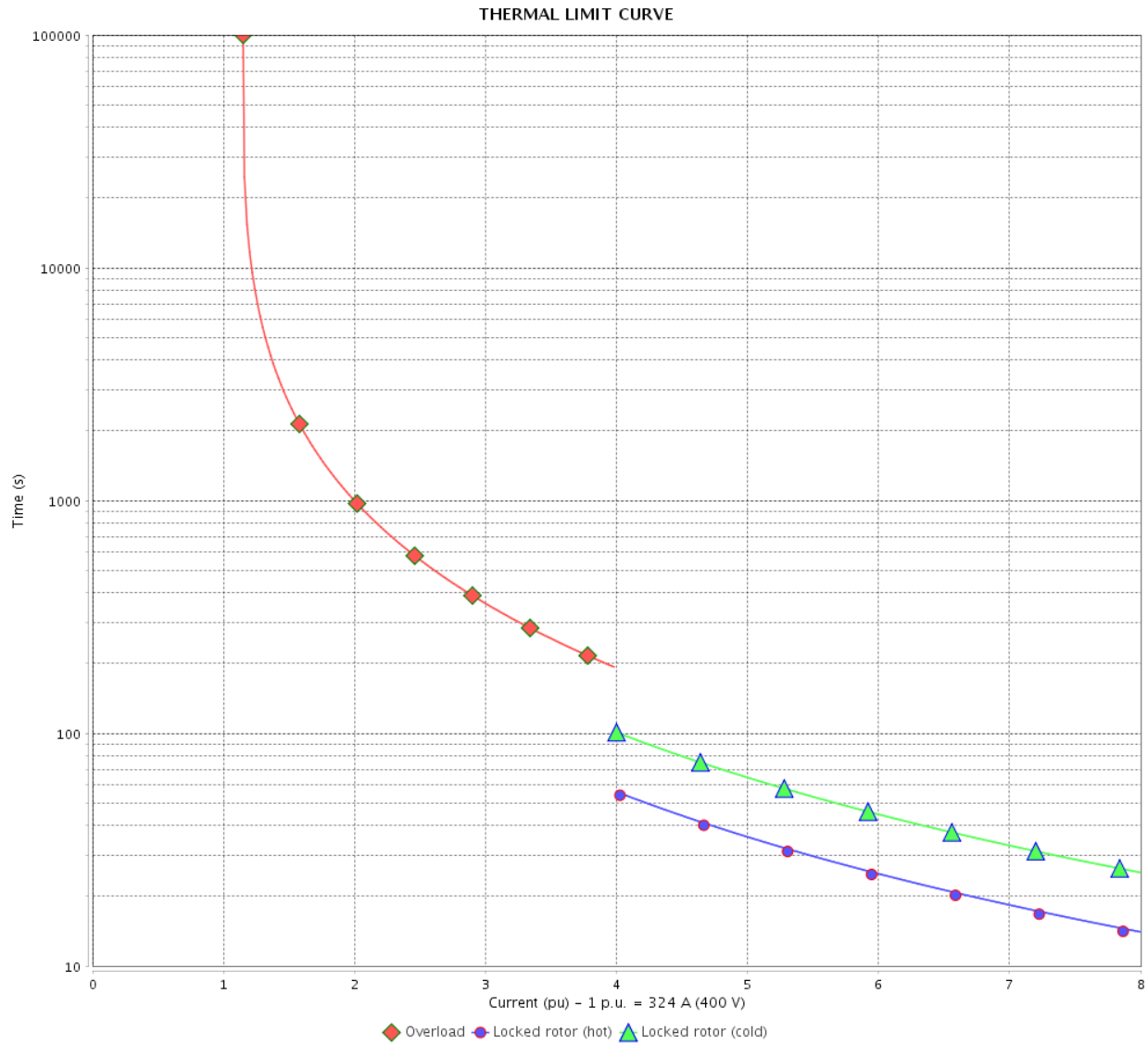
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Performed by				
Checked by			Page	Revision
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# THERMAL LIMIT CURVE

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 : 12408383  
 Catalog # : 30018XT3G449T

Performance : 415 V 50 Hz 4P IE3

Rated current : 315 A	Moment of inertia (J) : 89.6 sq.ft.lb
LRC : 8.7	Duty cycle : Cont.(S1)
Rated torque : 881 ft.lb	Insulation class : F
Locked rotor torque : 320 %	Service factor : 1.00
Breakdown torque : 340 %	Temperature rise : 80 K
Rated speed : 1490 rpm	Design : A

Heating constant

Cooling constant

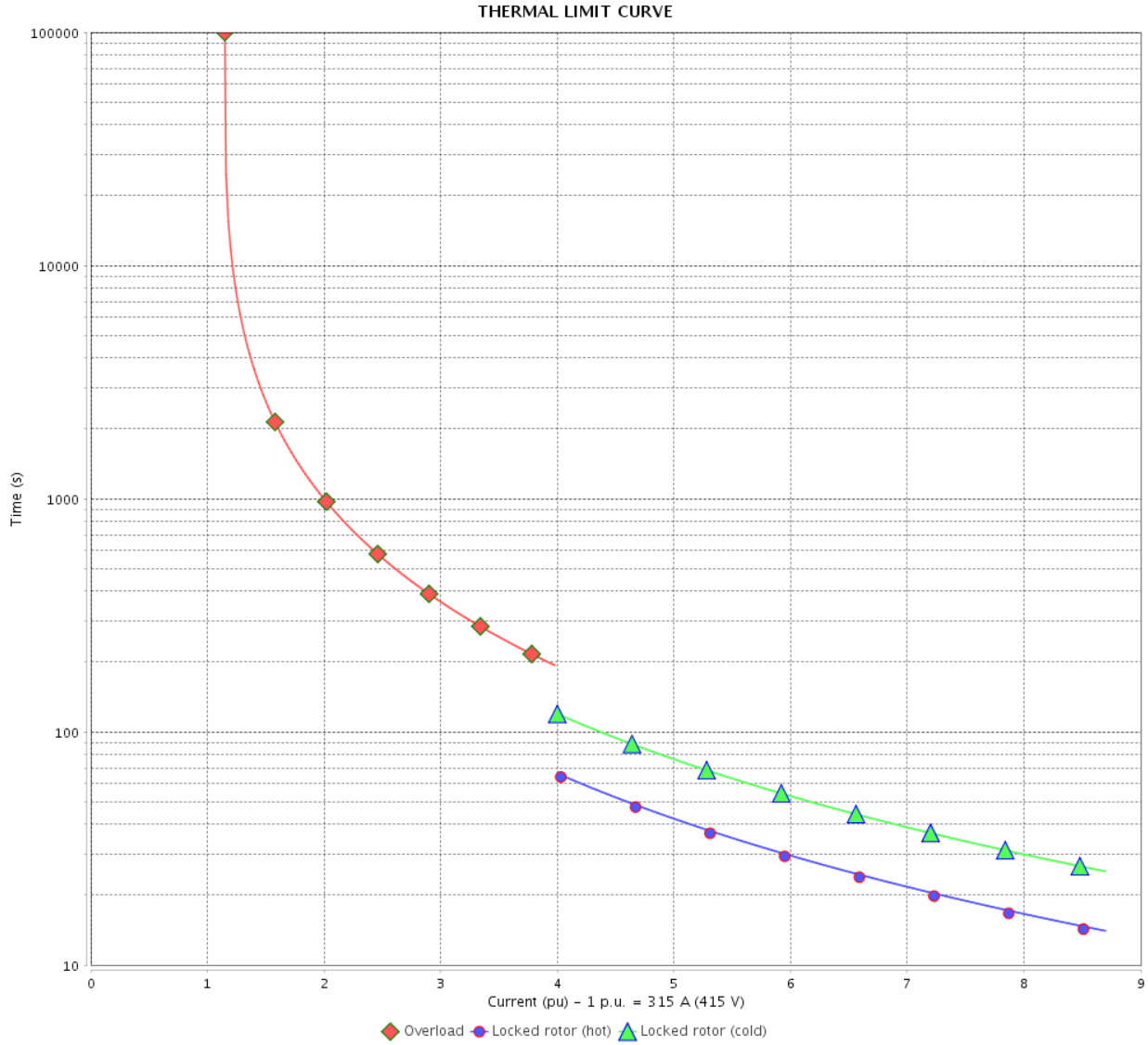
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# THERMAL LIMIT CURVE

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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

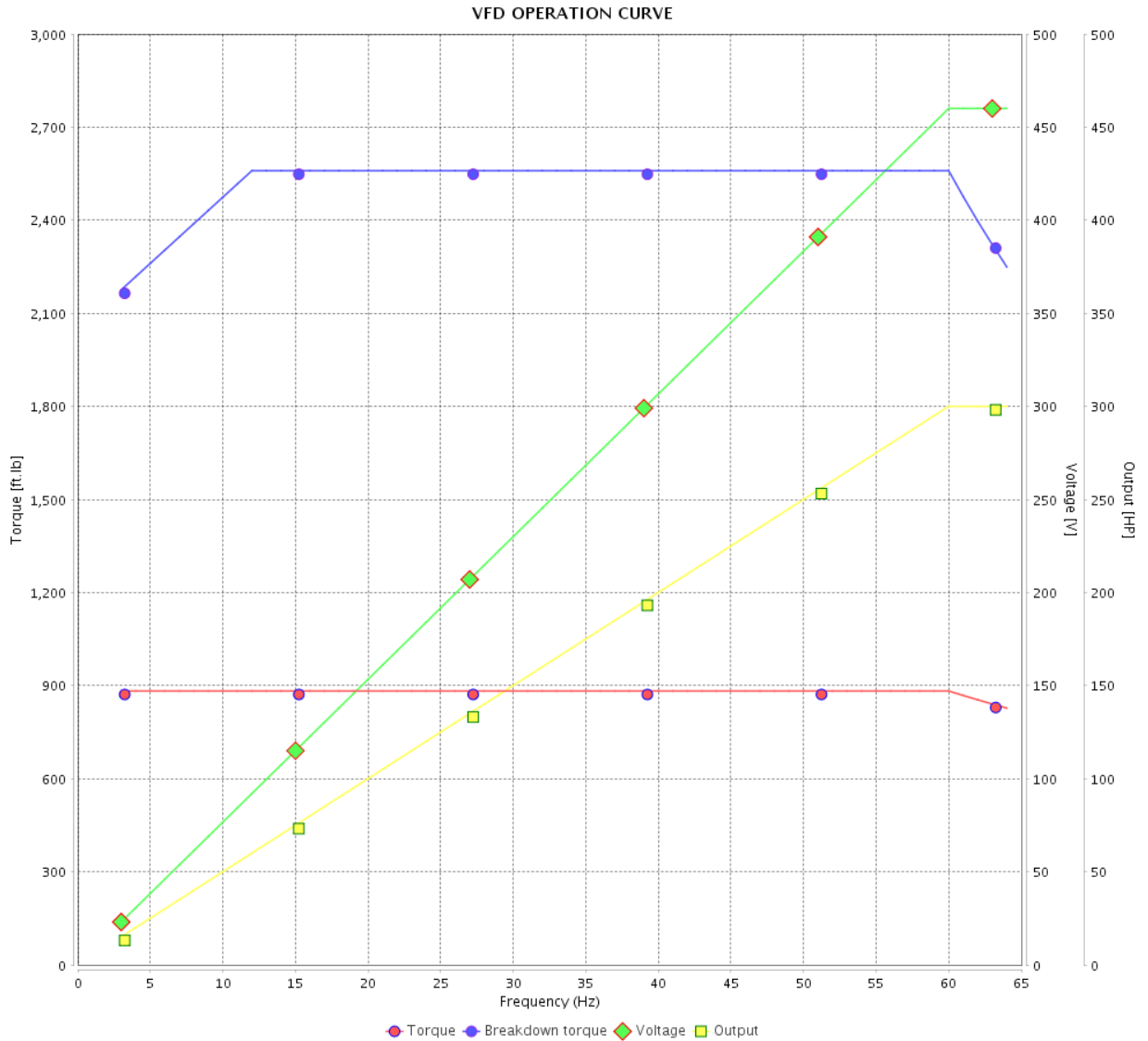


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T



Performance : 460 V 60 Hz 4P

Rated current : 334 A  
 LRC : 8.0  
 Rated torque : 883 ft.lb  
 Locked rotor torque : 280 %  
 Breakdown torque : 290 %  
 Rated speed : 1785 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 : A

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

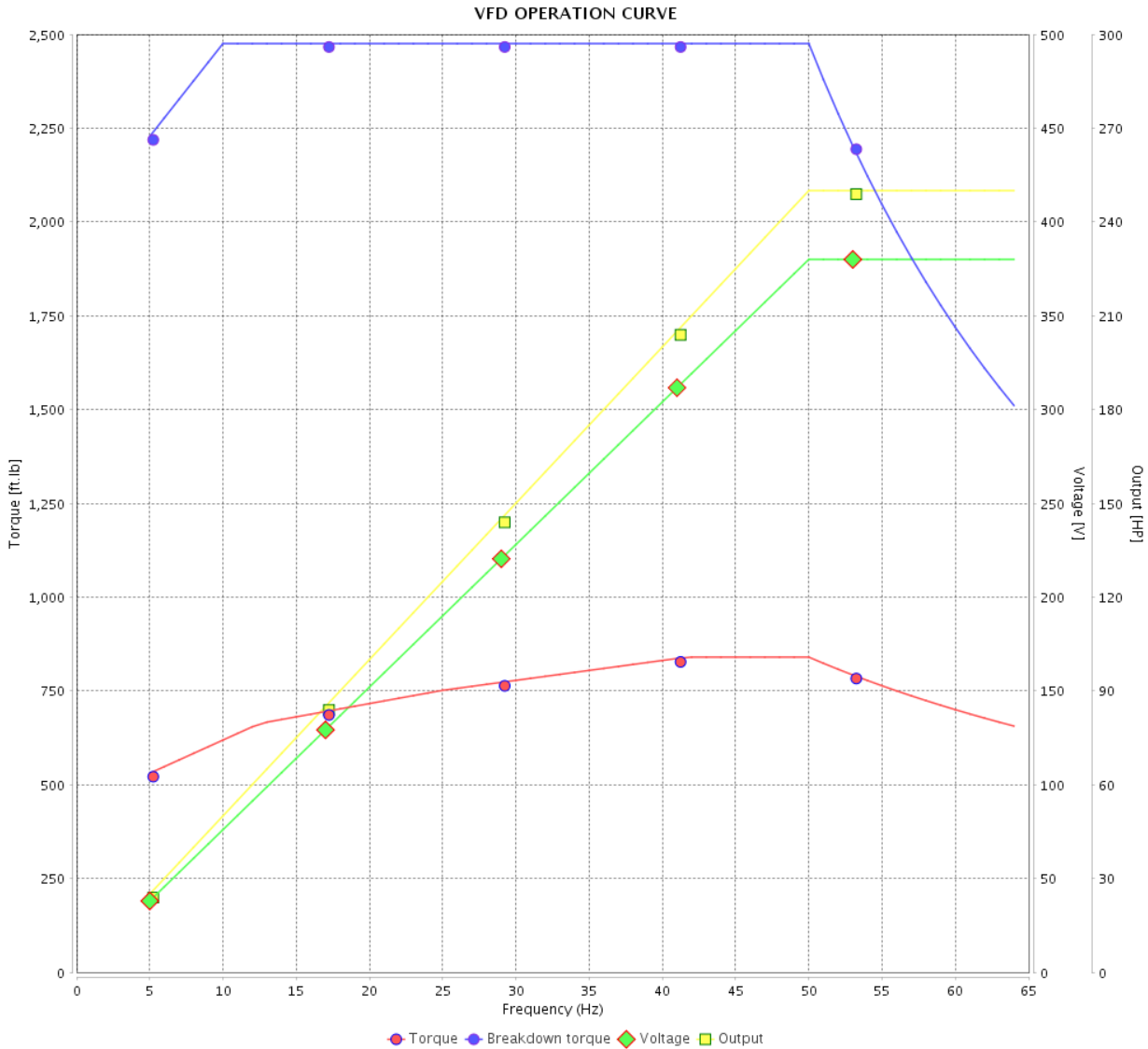


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408383

Catalog # : 30018XT3G449T



Performance : 380 V 50 Hz 4P IE2

Rated current : 337 A  
 LRC : 7.3  
 Rated torque : 884 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 280 %  
 Rated speed : 1485 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

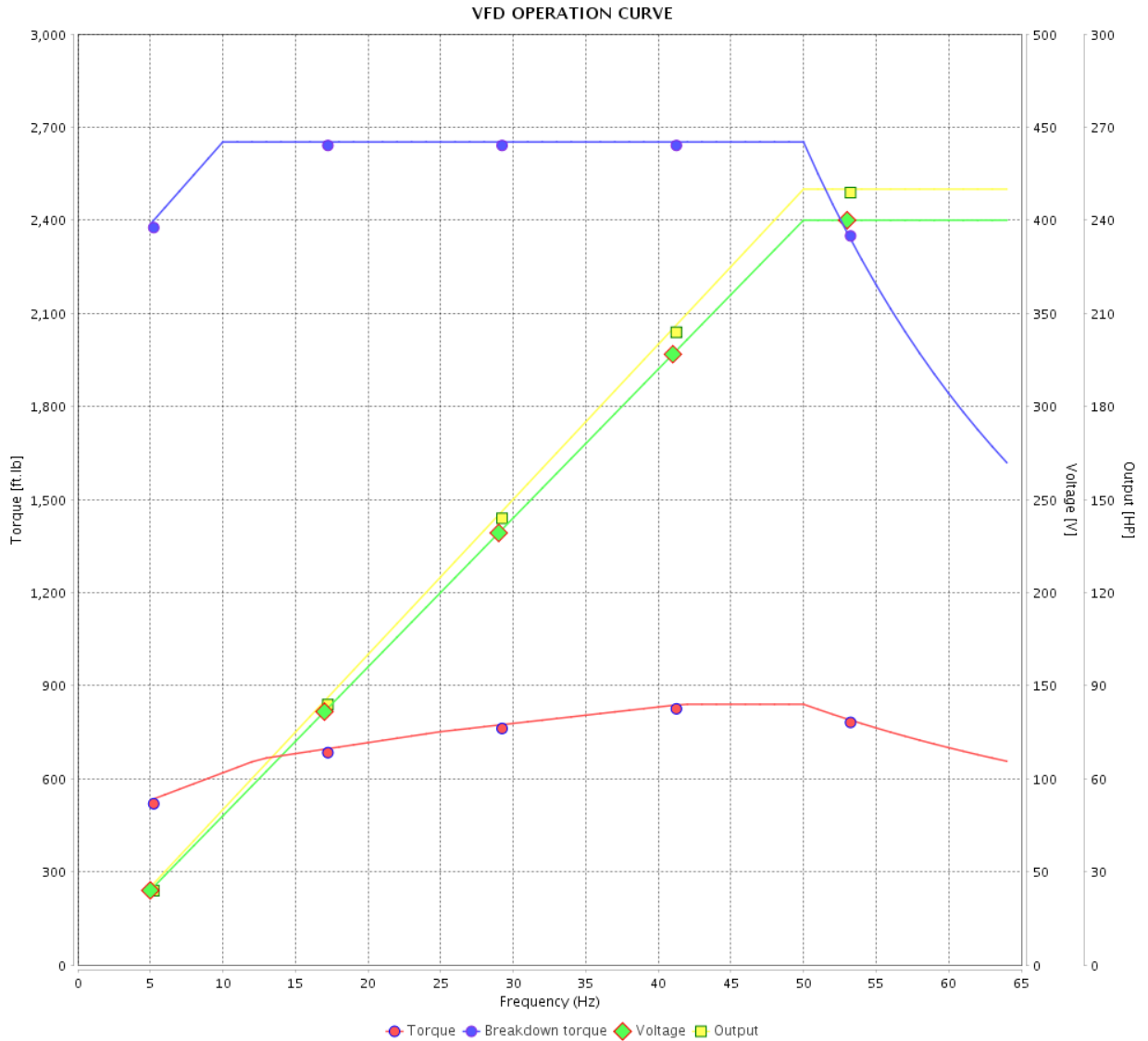


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Performance : 400 V 50 Hz 4P IE2

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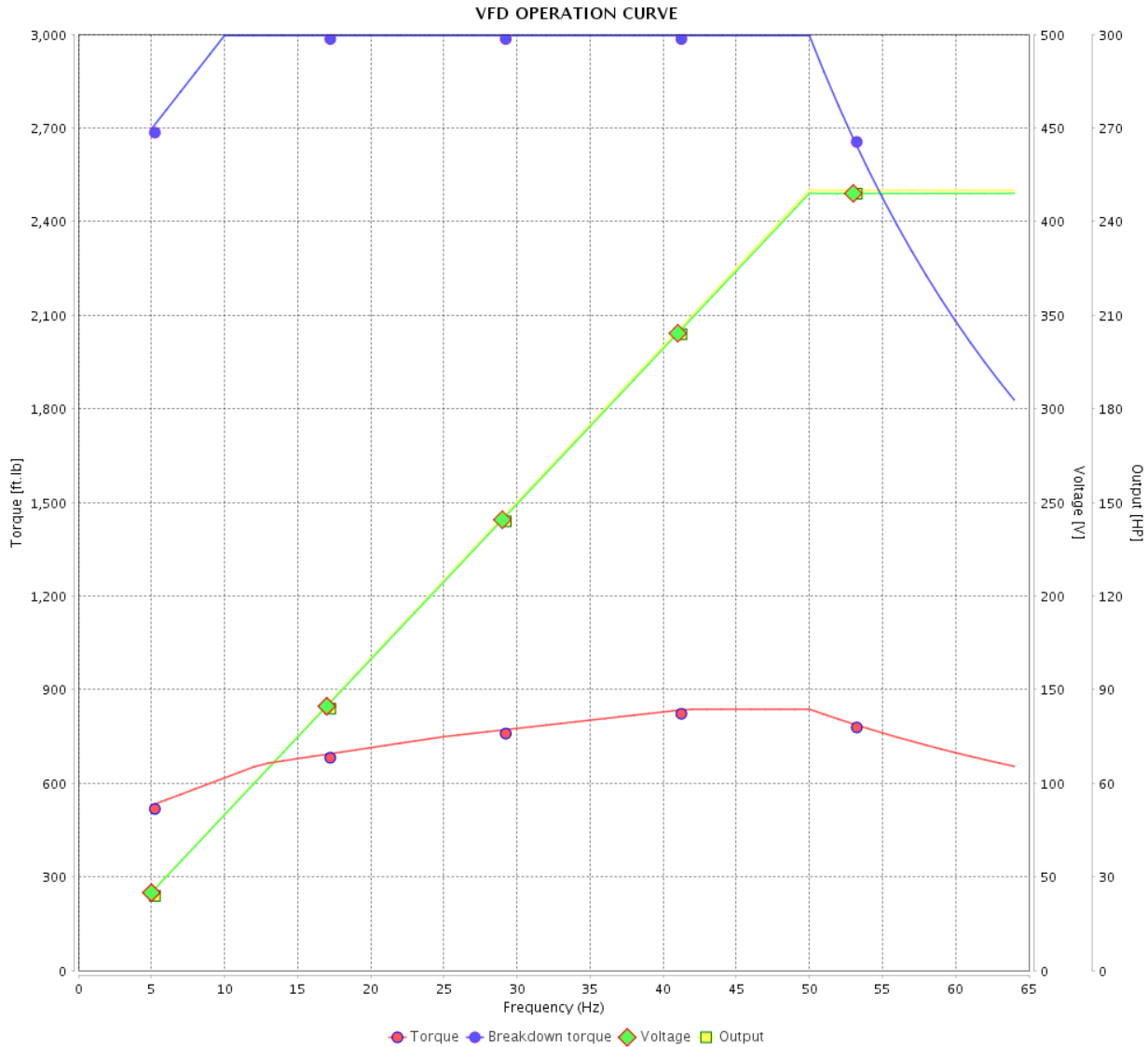


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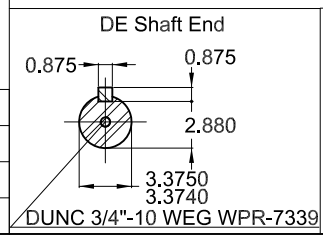
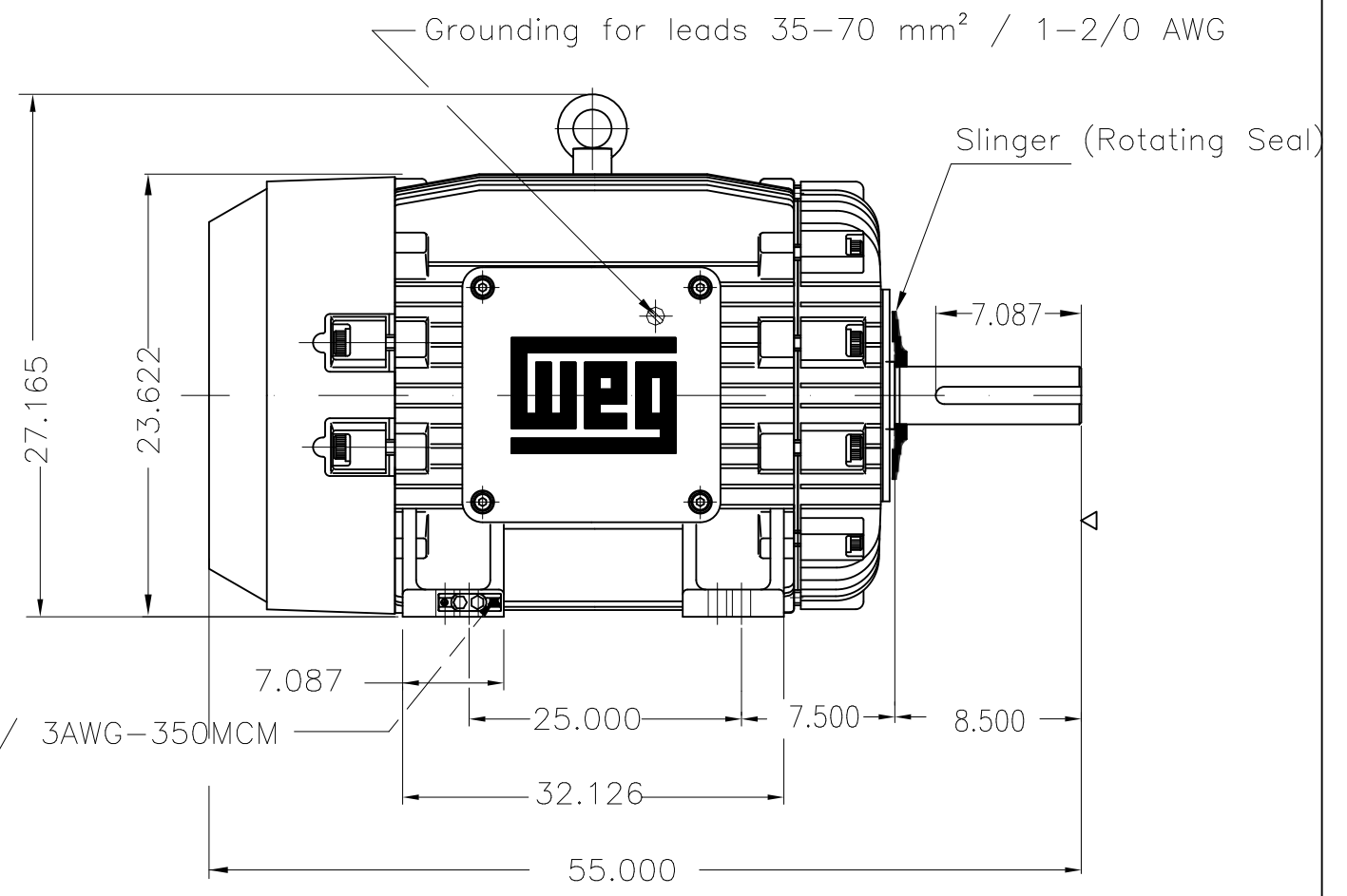
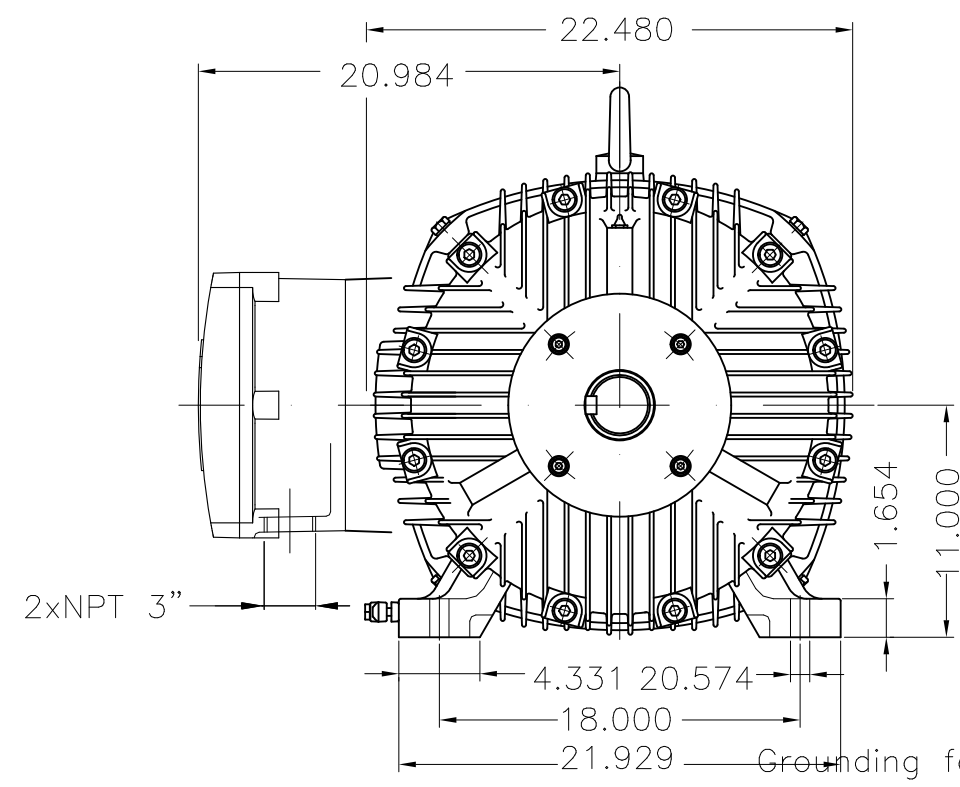


Performance : 415 V 50 Hz 4P IE3

Rated current : 315 A  
 LRC : 8.7  
 Rated torque : 881 ft.lb  
 Locked rotor torque : 320 %  
 Breakdown torque : 340 %  
 Rated speed : 1490 rpm

Moment of inertia (J) : 89.6 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : A

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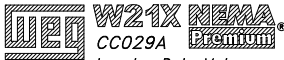
Color RAL 5009  
 Painting plan 202P  
 Mounting NEMA F-1  
 Mounting B3R(D)

300 HP 04 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 449T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

**PREVIEW**  
 WDD

SHEET 1 / 1



**W21X NEMA**  
**CC029A Premium**  
*Inverter Duty Motor*  
*Severe Duty*



TEMP CODE T3C  
 CSA/UL: Class I - Div. 1 - Groups C and D  
 CSA: Class II - Div. 1 - Groups F and G  
 CSA: Class I - Zone 1 - IIB  
**EXPLOSION PROOF MOTOR**

FOR USE ON VPWM VFD 1000:1VT, 2:1CT, 1.0SF, T3C, AMB 40°C.

MODEL 30018XT3G449T  
 MADE IN BRAZIL  
 12408383

PH 3	FR 449T	HP(kW) 300(220)	Hz 60
V 460	A 334	RPM 1785	
NEMA NOM. EFF. 96.2%		INS CL F $\Delta$ T 80 K	IP55
PF 0.86	DUTY CONT.		CODE H
ENCL. TEFC	SF 1.15	SFA 384	
AMB 40°C	DES A		

PART-WINDING						WYE-DELTA					
START			RUN			START			RUN		
○T12	○T10	○T11	○T12	○T10	○T11	○T12	○T10	○T11	○T12	○T10	○T11
○T7	○T8	○T9	○T7	○T8	○T9	○T6	○T4	○T5	○T6	○T4	○T5
○T6	○T4	○T5	○T6	○T4	○T5	○T7	○T8	○T9	○T7	○T8	○T9
○T1	○T2	○T3	○T1	○T2	○T3	○T1	○T2	○T3	○T1	○T2	○T3
L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3

→ 6322-C3(60g)      MOBIL POLYREX EM  
 → 6319-C3(45g)      5138 h

ALT 1000 m.a.s.l      3102 Lbs