

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12408377		
		Catalog # :	12518XT3G444T		
Frame	: 444/5T	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>	: 2048 lb		
Protection degree	: IP55	Moment of inertia (J)	: 57.2 sq.ft.lb		
Design	: B				
Output [HP]	125	100	100	100	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	139	142	136	132	
L. R. Amperes [A]	890	852	898	937	
LRC [A]	6.4x(Code G)	6.0x(Code G)	6.6x(Code H)	7.1x(Code H)	
No load current [A]	43.0	43.0	45.0	47.0	
Rated speed [RPM]	1782	1481	1483	1485	
Slip [%]	1.00	1.27	1.13	1.00	
Rated torque [ft.lb]	368	354	353	353	
Locked rotor torque [%]	200	190	210	229	
Breakdown torque [%]	220	210	240	260	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	32s (cold) 18s (hot)	54s (cold) 30s (hot)	54s (cold) 30s (hot)	54s (cold) 30s (hot)	
Noise level <sup>2</sup>	76.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	
Efficiency (%)	25%	94.9	94.4	94.8	94.4
	50%	95.0	94.5	94.5	94.5
	75%	95.4	94.5	95.0	95.0
	100%	95.4	94.5	94.5	95.0
Power Factor	25%	0.51	0.52	0.49	0.46
	50%	0.75	0.77	0.74	0.71
	75%	0.82	0.83	0.82	0.80
	100%	0.85	0.85	0.84	0.83
Bearing type	: <u>Drive end</u> 6219 C3 <u>Non drive end</u> 6316 C3	Foundation loads			
Sealing	: Viton Oil Seal Viton Seal	Max. traction	: 1426 lb		
		Max. compression	: 3475 lb		
Lubrication interval	: 8033 h 8569 h				
Lubricant amount	: 28 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.			
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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



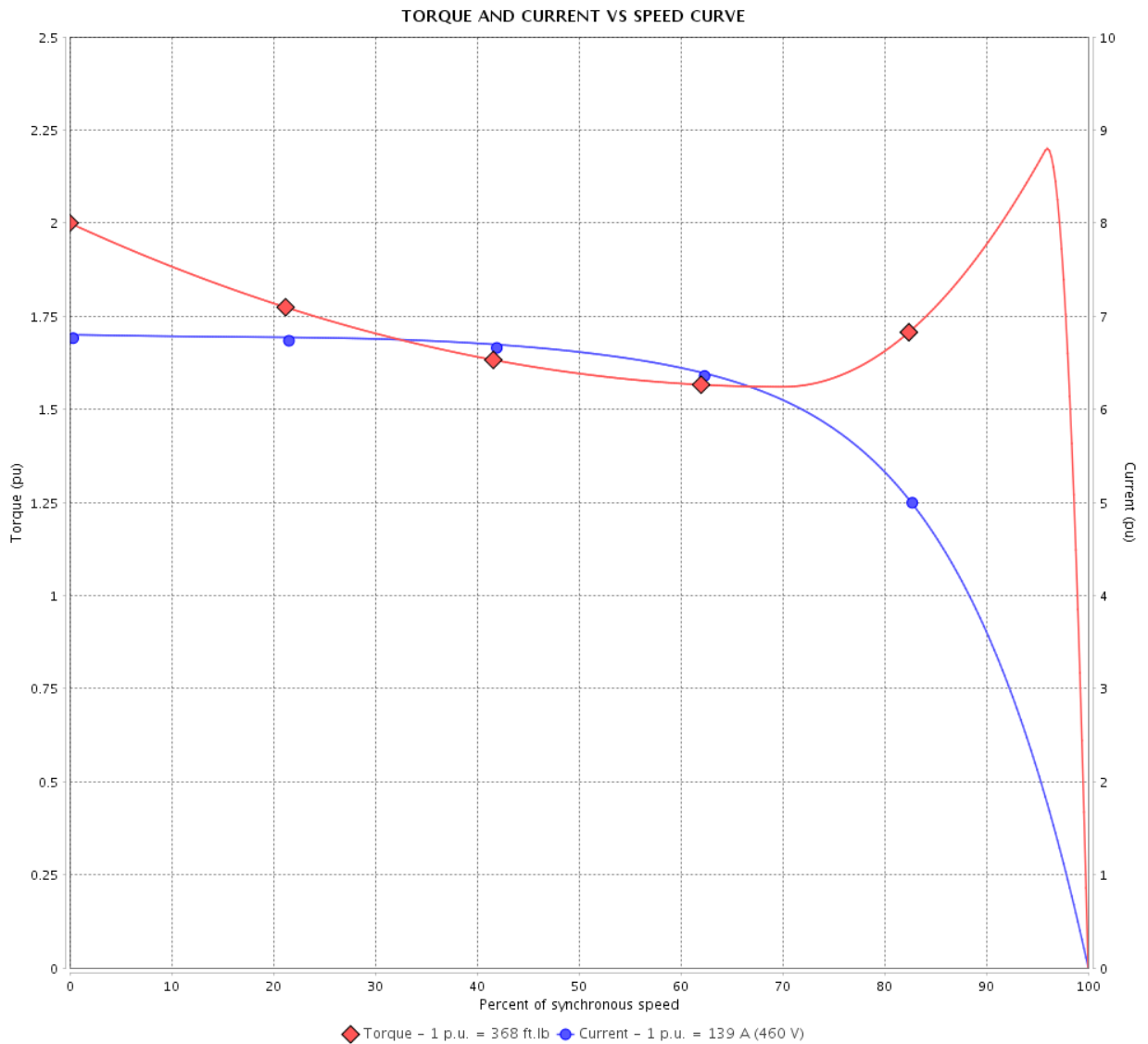
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

Catalog # : 12518XT3G444T



Performance : 460 V 60 Hz 4P

Rated current	: 139 A	Moment of inertia (J)	: 57.2 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 368 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1782 rpm	Design	: B

Locked rotor time : 32s (cold) 18s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



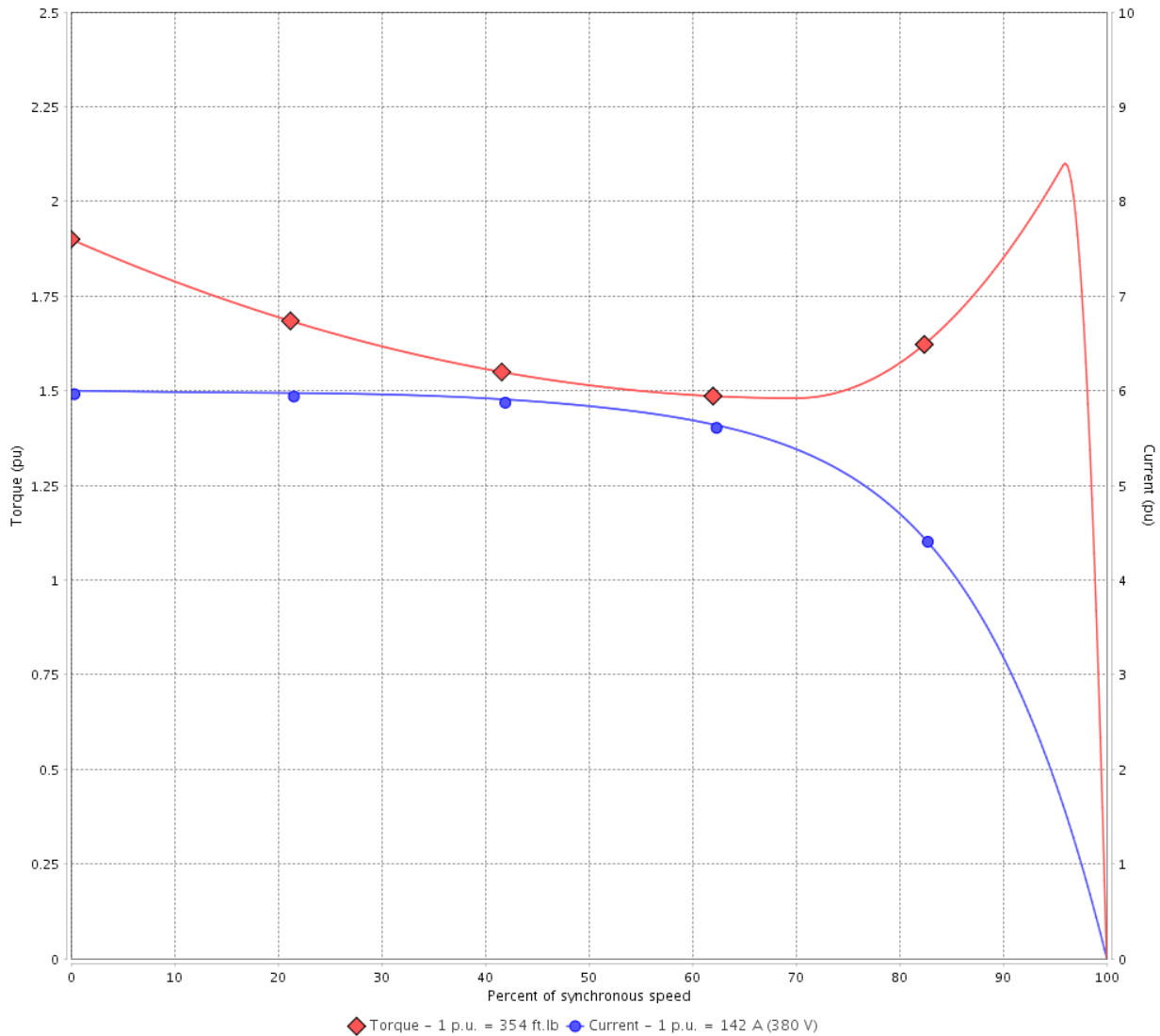
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

Catalog # : 12518XT3G444T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 142 A	Moment of inertia (J)	: 57.2 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 354 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 1481 rpm	Design	: B

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



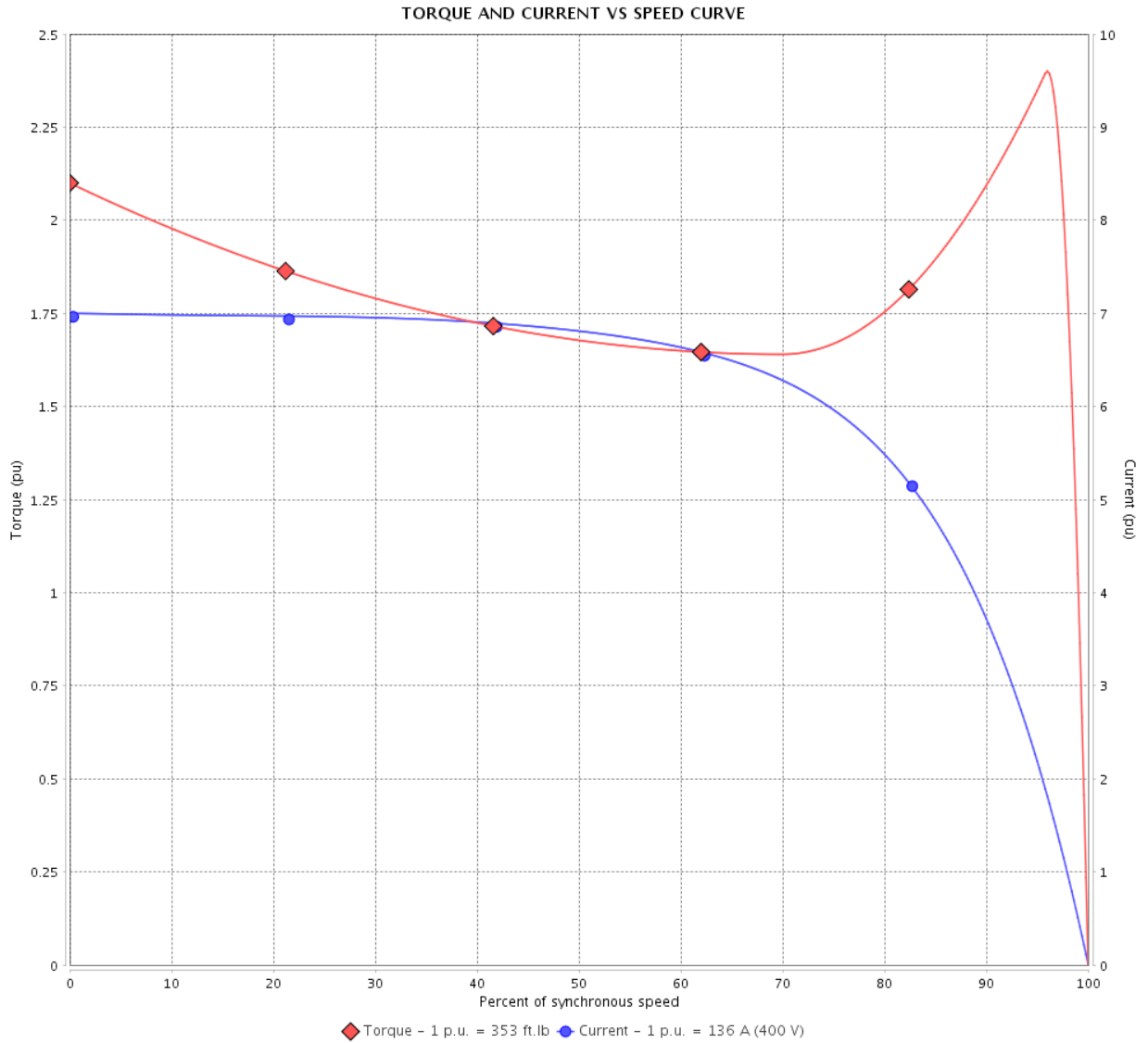
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

Catalog # : 12518XT3G444T



Performance : 400 V 50 Hz 4P IE2

Rated current	: 136 A	Moment of inertia (J)	: 57.2 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 353 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1483 rpm	Design	: B

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



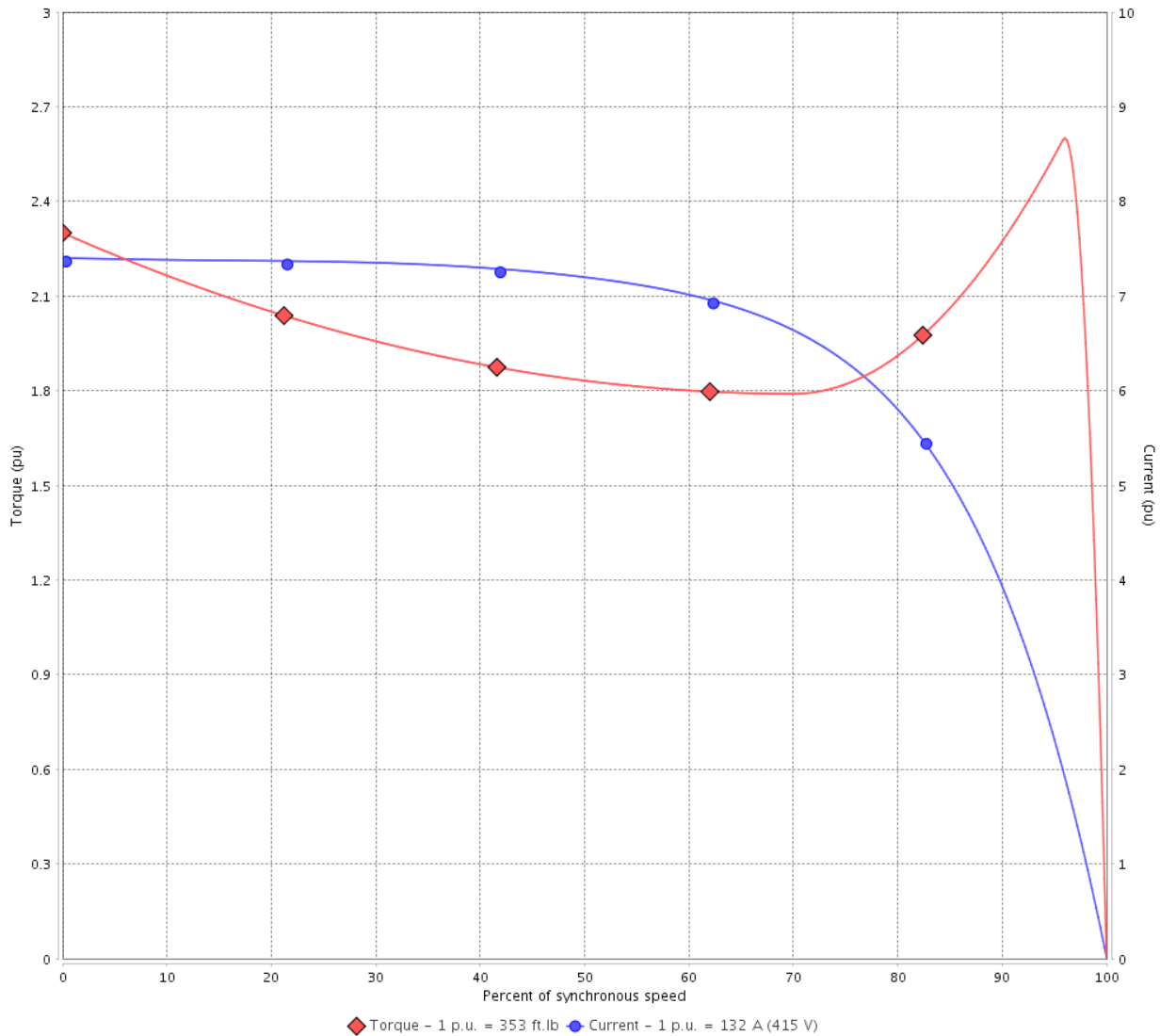
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

Catalog # : 12518XT3G444T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 132 A	Moment of inertia (J)	: 57.2 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 353 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Locked rotor time : 54s (cold) 30s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

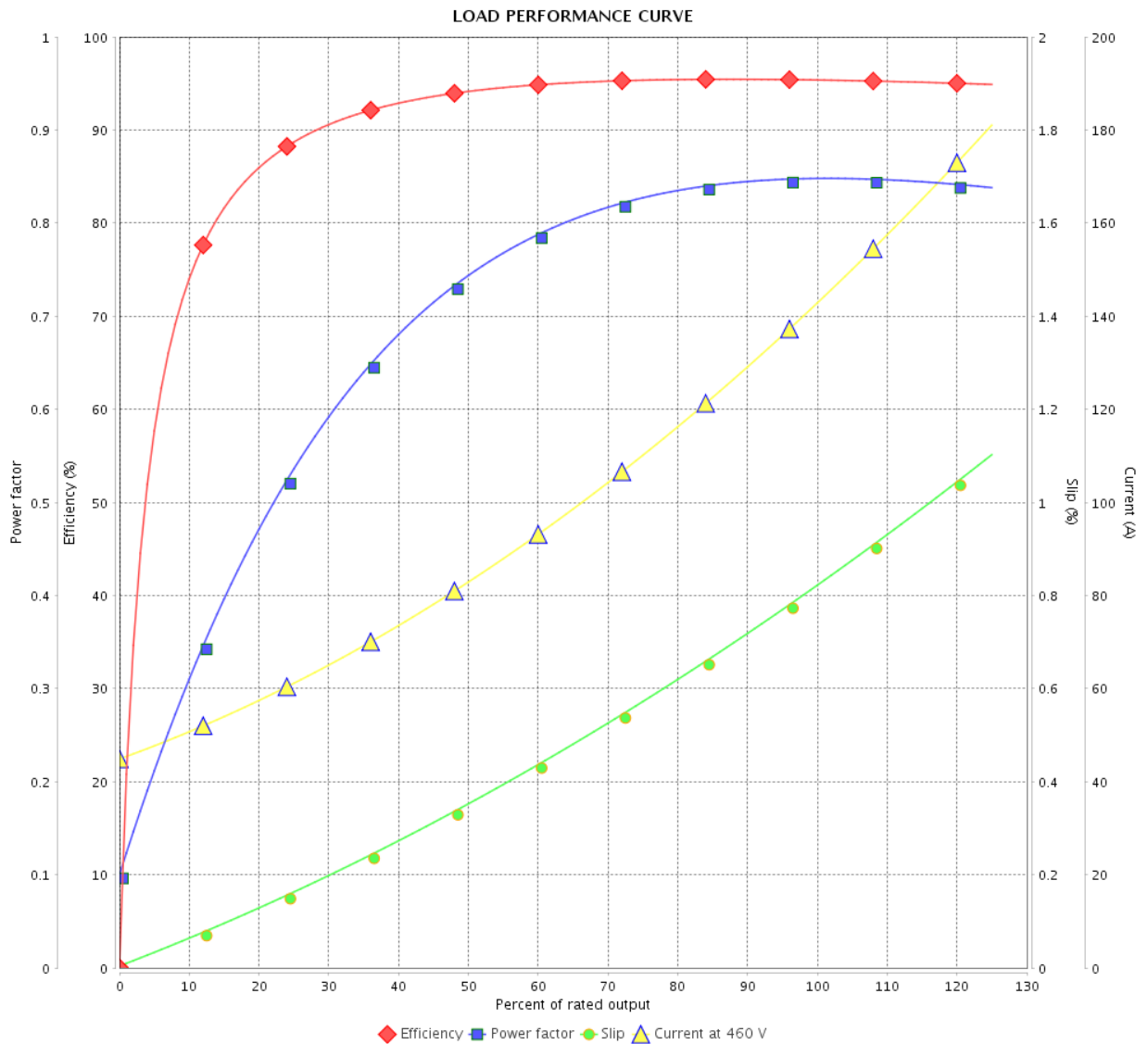


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

Catalog # : 12518XT3G444T



Performance : 460 V 60 Hz 4P

Rated current : 139 A  
 LRC : 6.4  
 Rated torque : 368 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 220 %  
 Rated speed : 1782 rpm

Moment of inertia (J) : 57.2 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



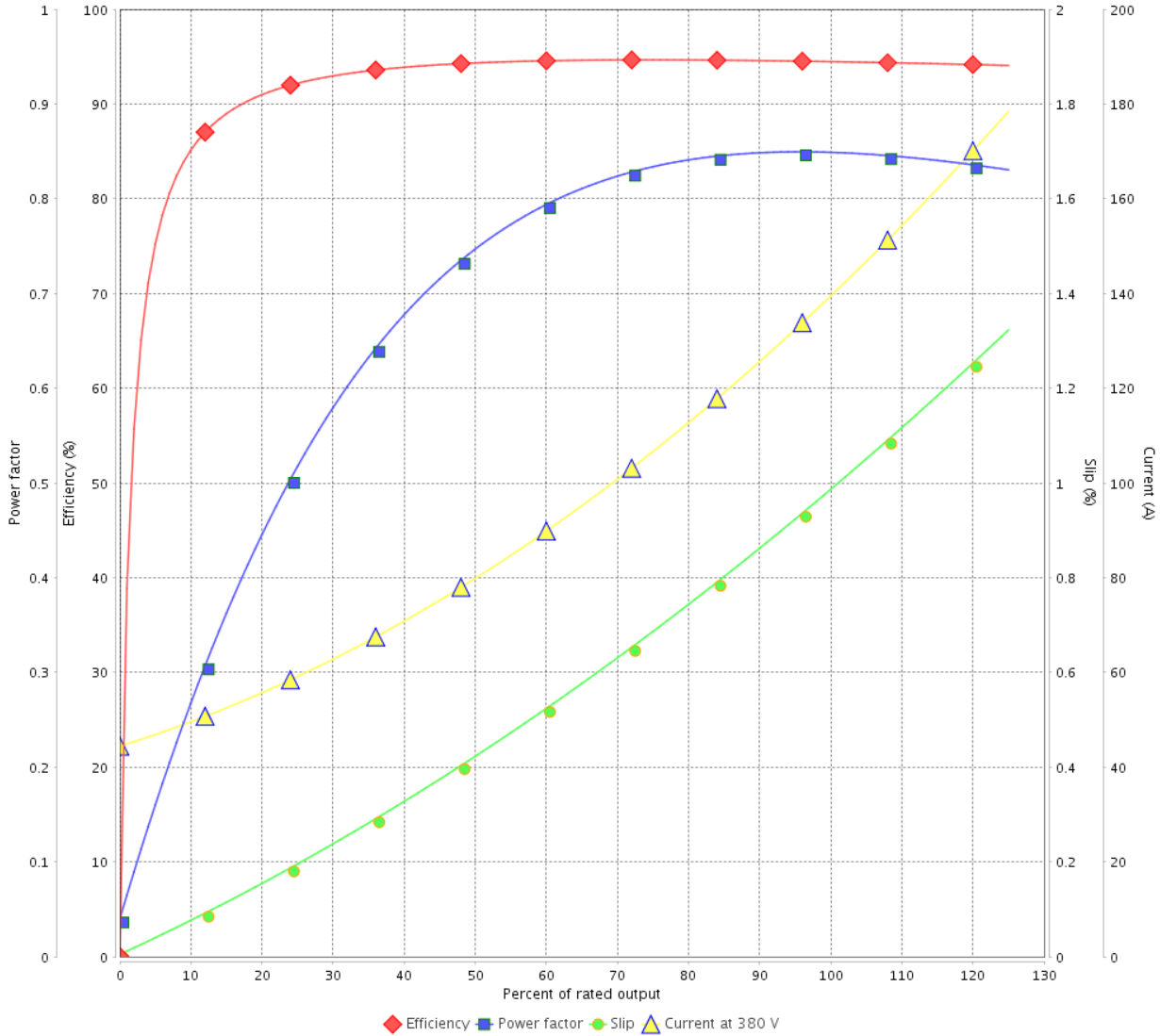
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Catalog # : 12518XT3G444T

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current : 142 A  
 LRC : 6.0  
 Rated torque : 354 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 210 %  
 Rated speed : 1481 rpm

Moment of inertia (J) : 57.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

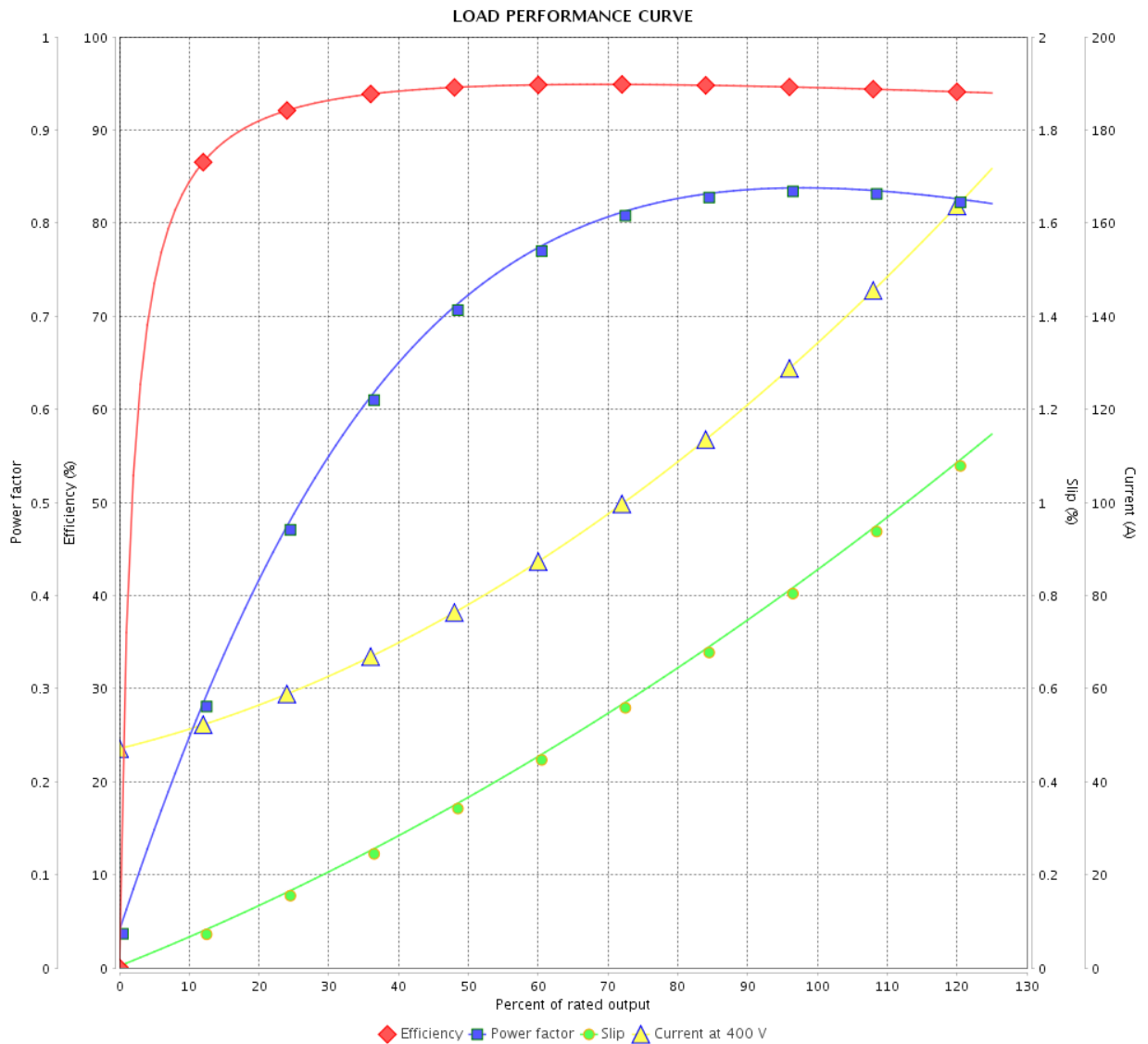


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

Catalog # : 12518XT3G444T



Performance : 400 V 50 Hz 4P IE2

Rated current : 136 A  
 LRC : 6.6  
 Rated torque : 353 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
 Rated speed : 1483 rpm

Moment of inertia (J) : 57.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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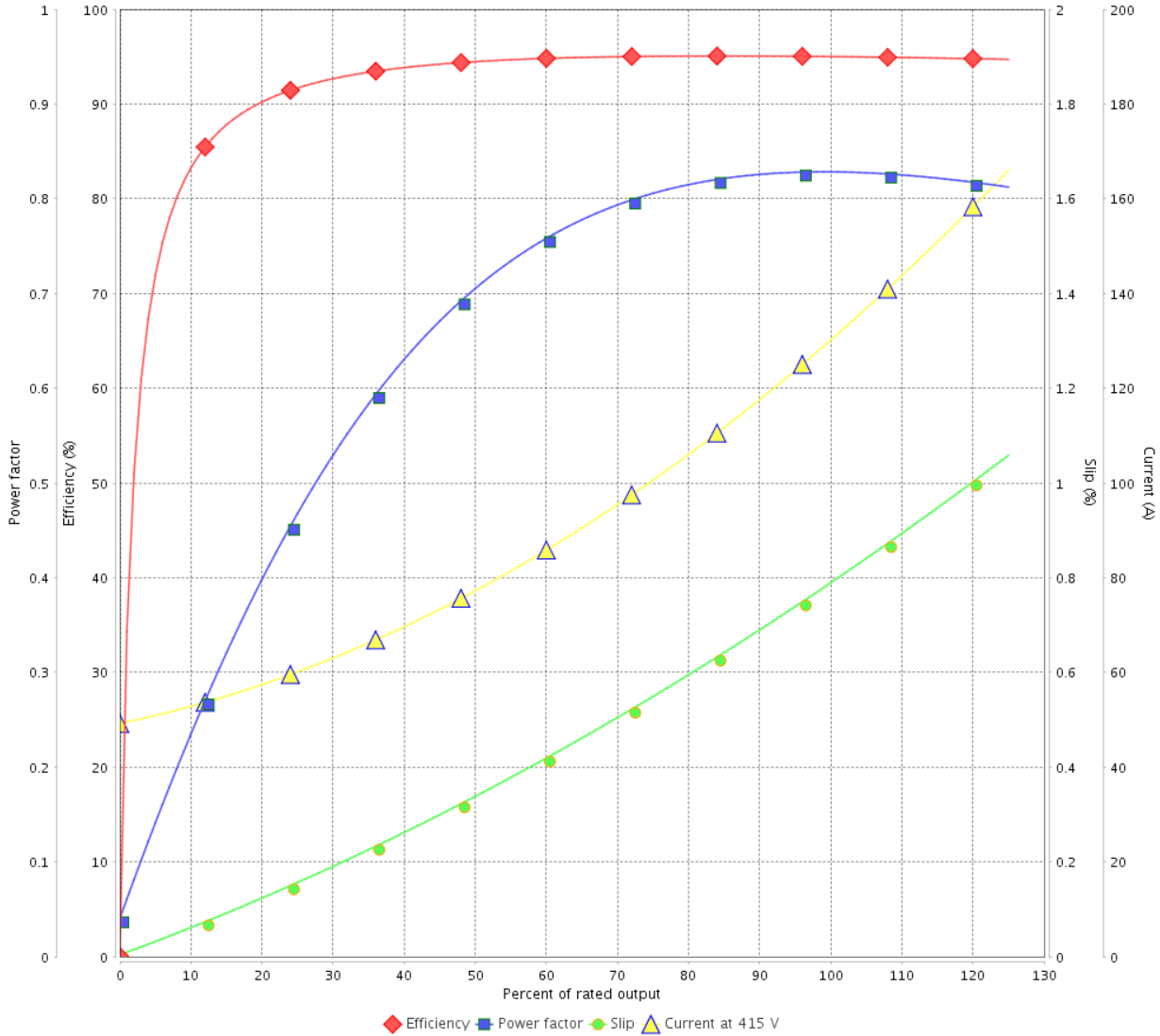
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

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LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current : 132 A  
 LRC : 7.1  
 Rated torque : 353 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 1485 rpm

Moment of inertia (J) : 57.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE



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Locked rotor torque : 200 %	Service factor : 1.15
Breakdown torque : 220 %	Temperature rise : 80 K
Rated speed : 1782 rpm	Design : B

Heating constant

Cooling constant

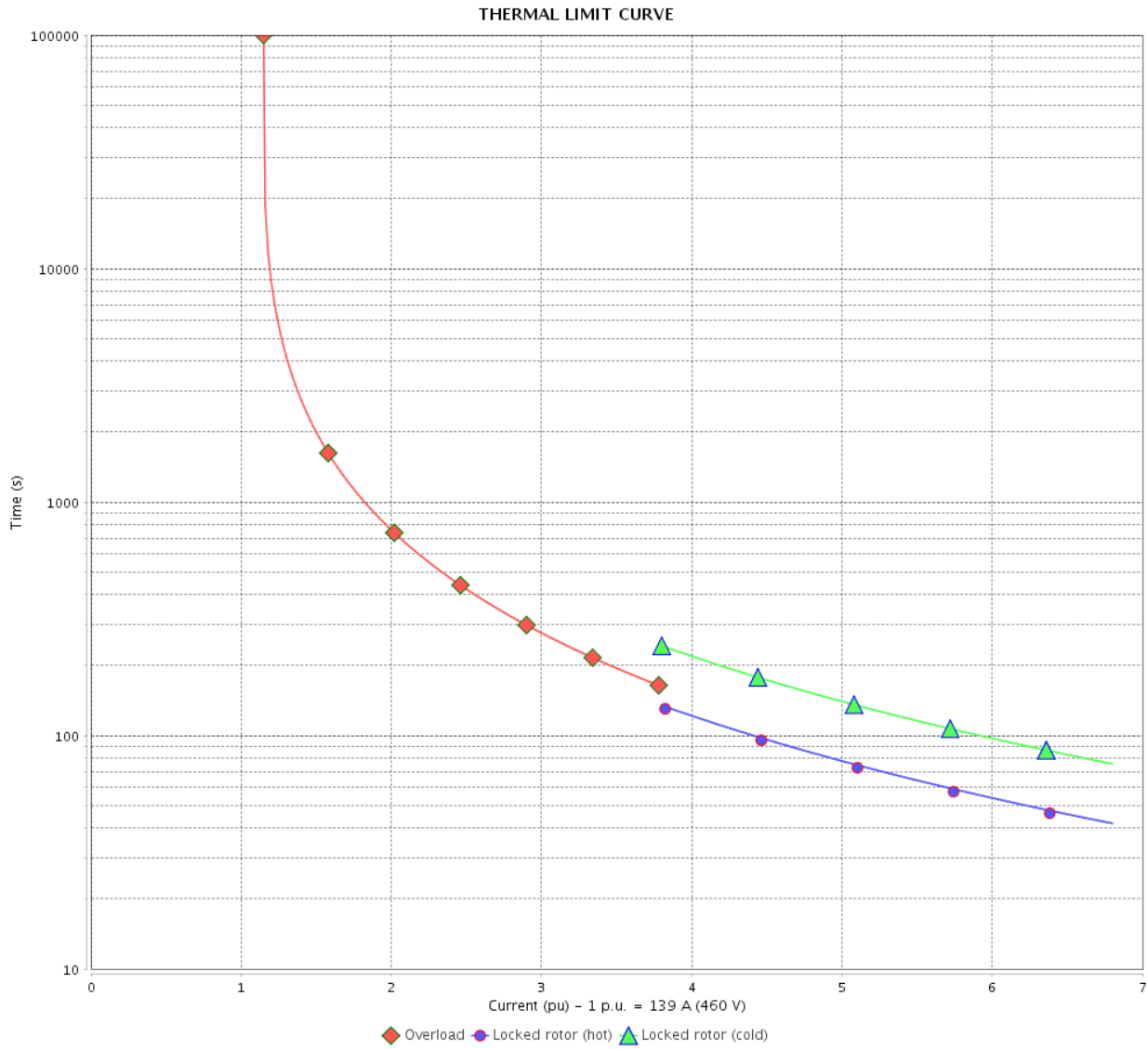
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Rated torque	: 354 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 1481 rpm	Design	: B

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Cooling constant

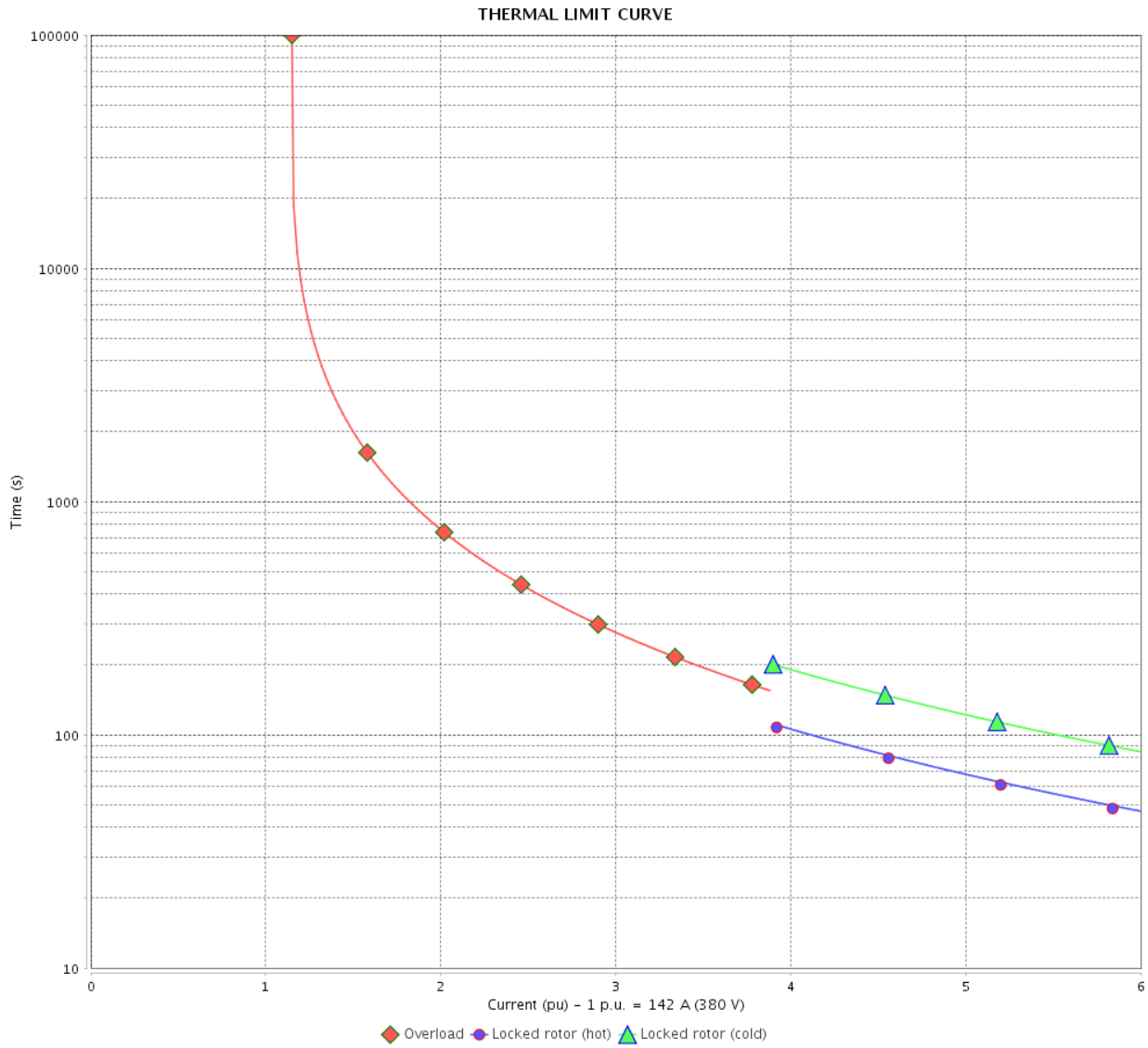
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

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## Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 12408377  
Catalog # : 12518XT3G444T

Performance : 400 V 50 Hz 4P IE2

Rated current	: 136 A	Moment of inertia (J)	: 57.2 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 353 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1483 rpm	Design	: B

Heating constant

Cooling constant

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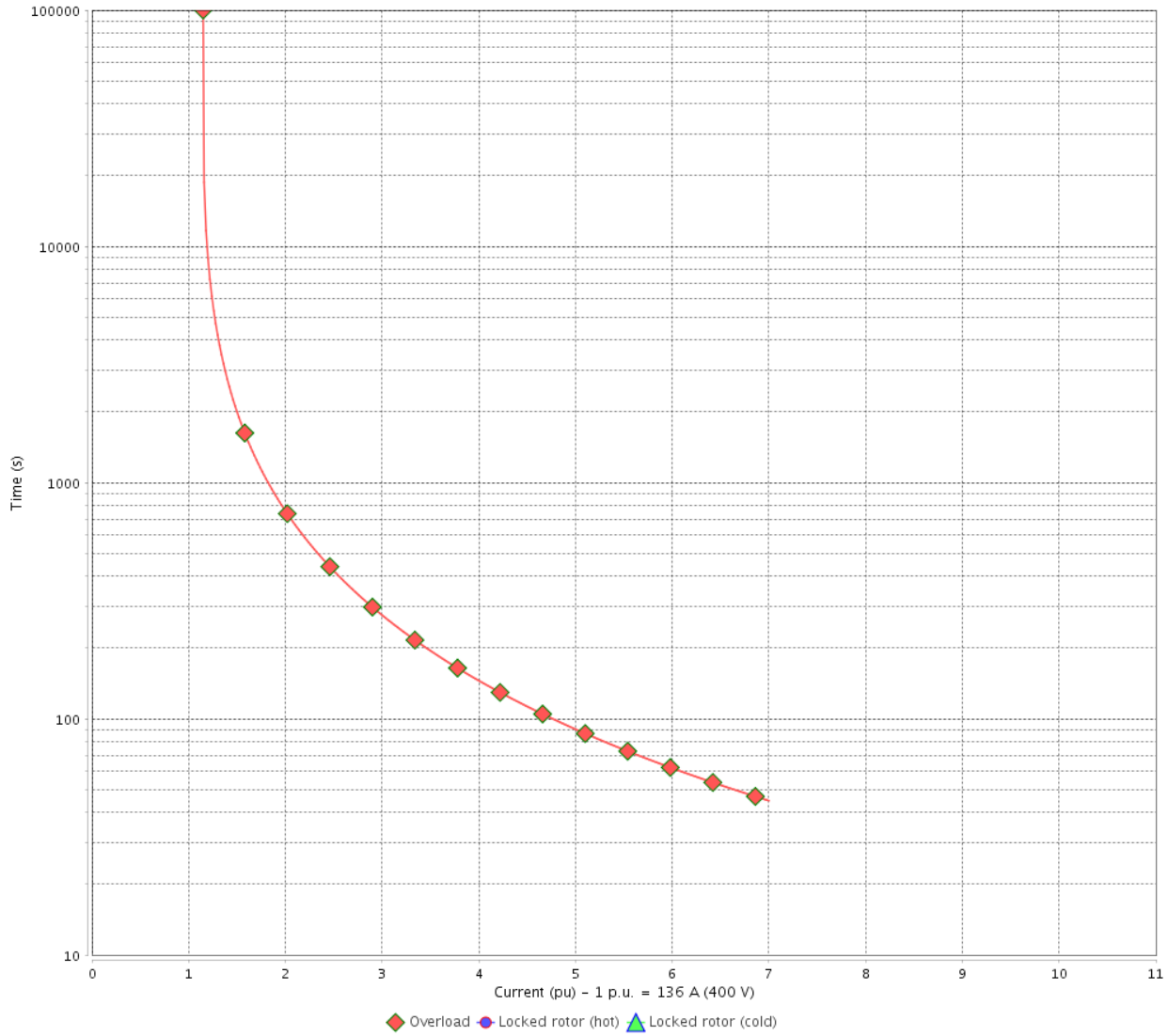
# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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

THERMAL LIMIT CURVE



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 12408377  
 Catalog # : 12518XT3G444T

Performance : 415 V 50 Hz 4P IE3

Rated current : 132 A	Moment of inertia (J) : 57.2 sq.ft.lb
LRC : 7.1	Duty cycle : Cont.(S1)
Rated torque : 353 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1485 rpm	Design : B

Heating constant

Cooling constant

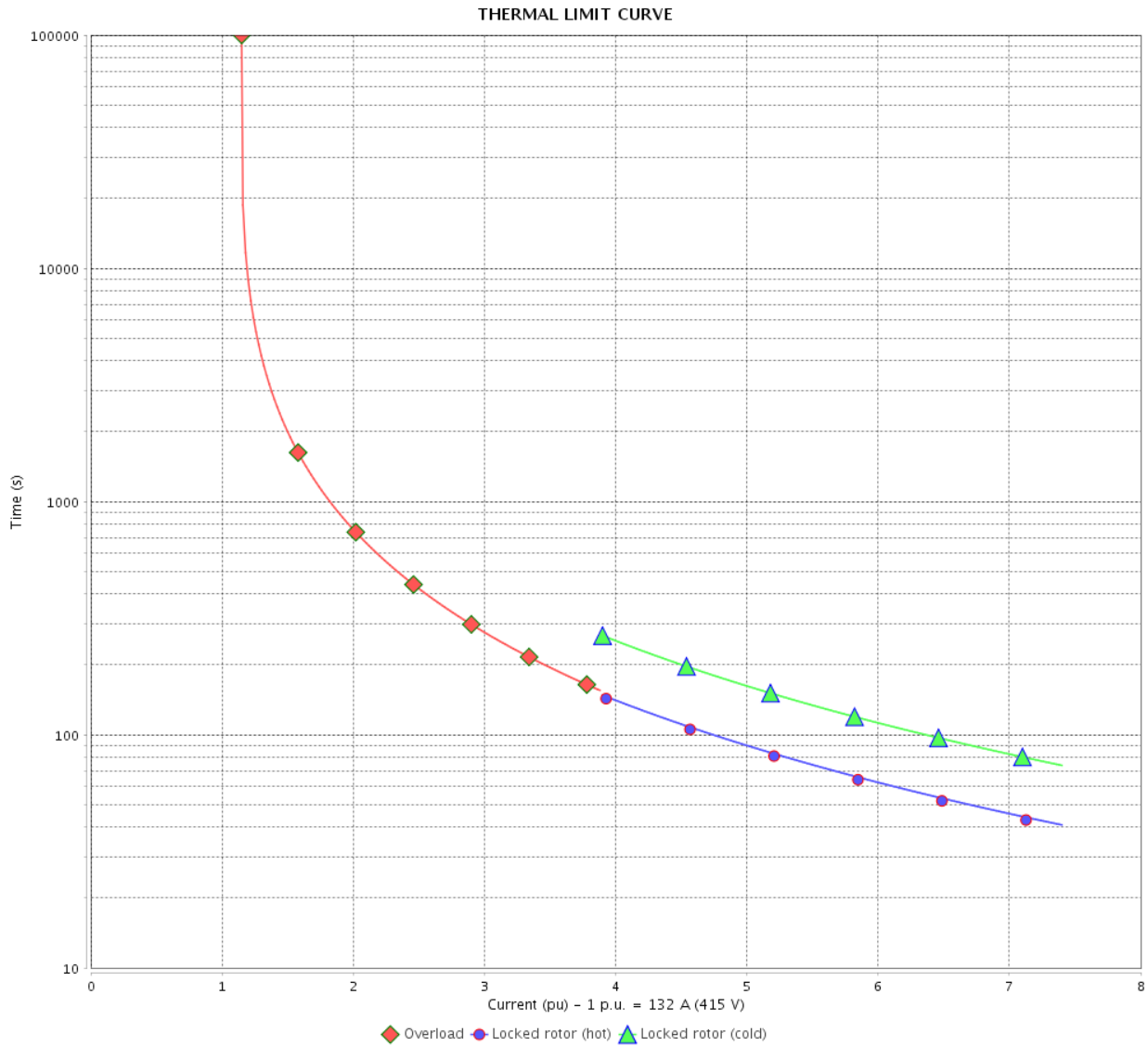
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

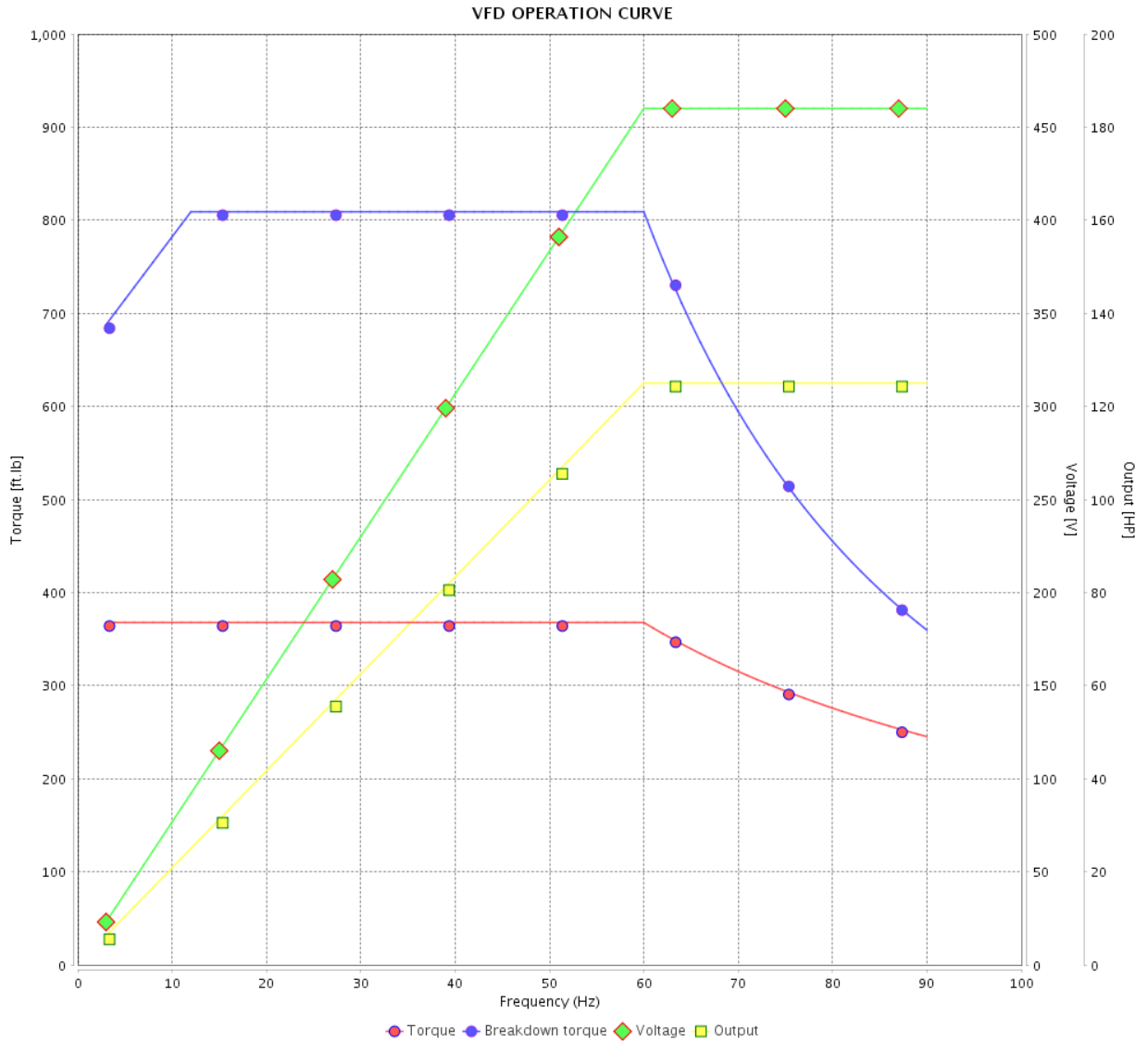


Customer :

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Product code : 12408377

Catalog # : 12518XT3G444T



Performance : 460 V 60 Hz 4P

Rated current : 139 A  
 LRC : 6.4  
 Rated torque : 368 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 220 %  
 Rated speed : 1782 rpm

Moment of inertia (J) : 57.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



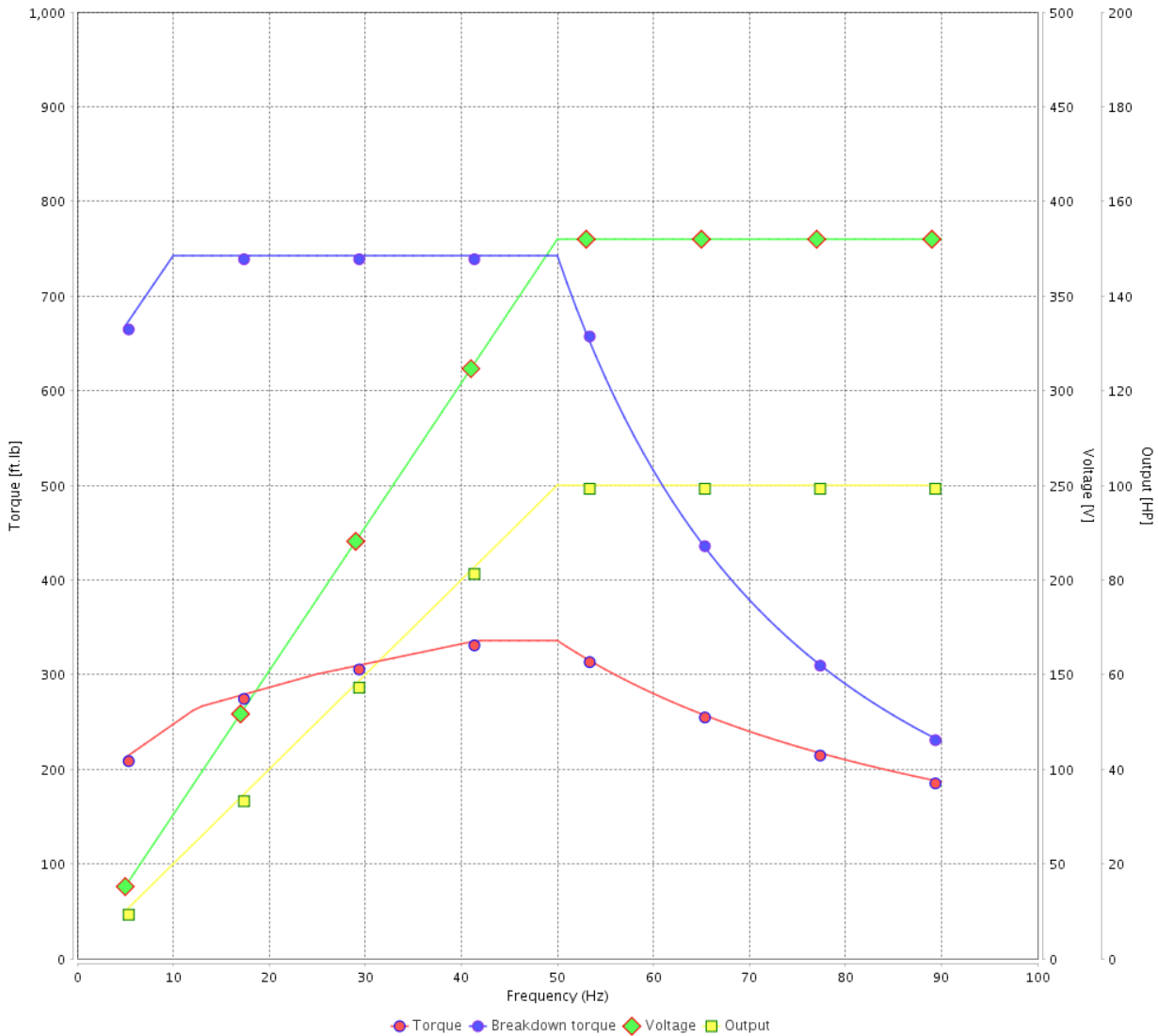
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12408377

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VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current : 142 A  
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 Locked rotor torque : 190 %  
 Breakdown torque : 210 %  
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

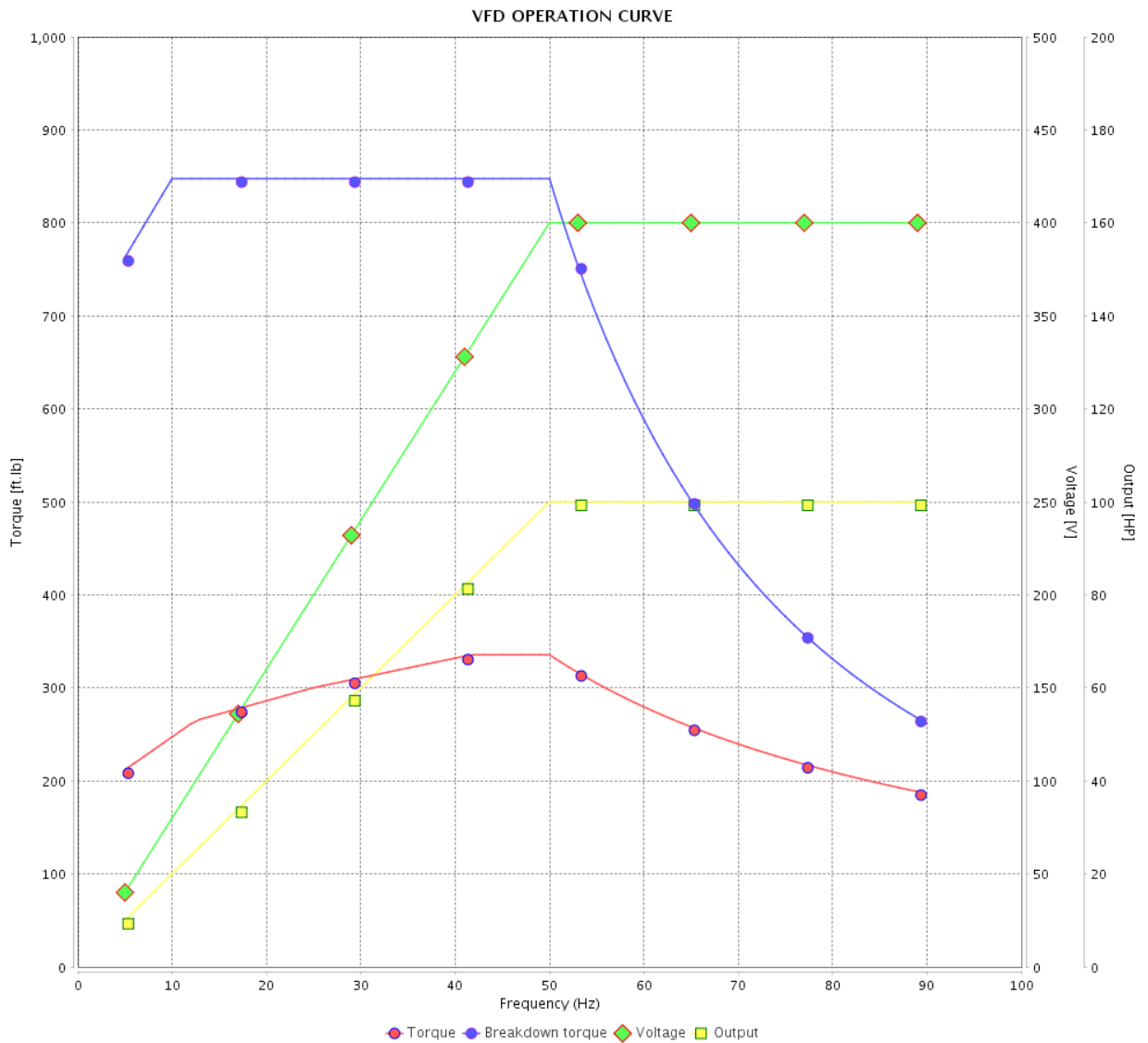


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Performance : 400 V 50 Hz 4P IE2

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 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
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Moment of inertia (J) : 57.2 sq.ft.lb  
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 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



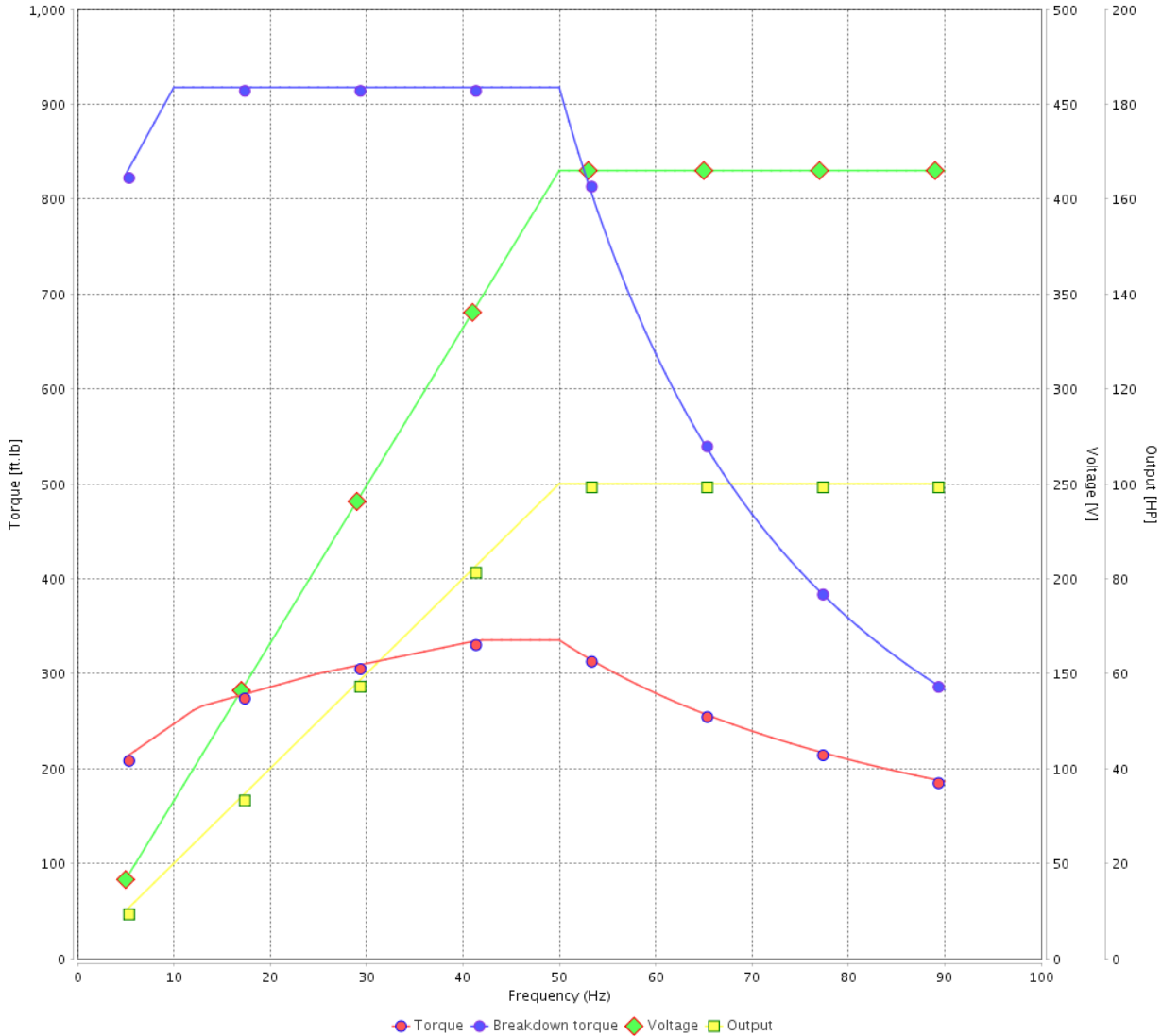
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Product code : 12408377

Catalog # : 12518XT3G444T

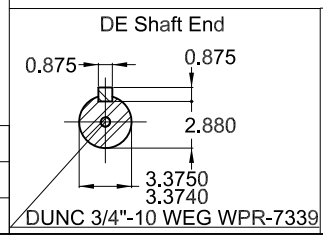
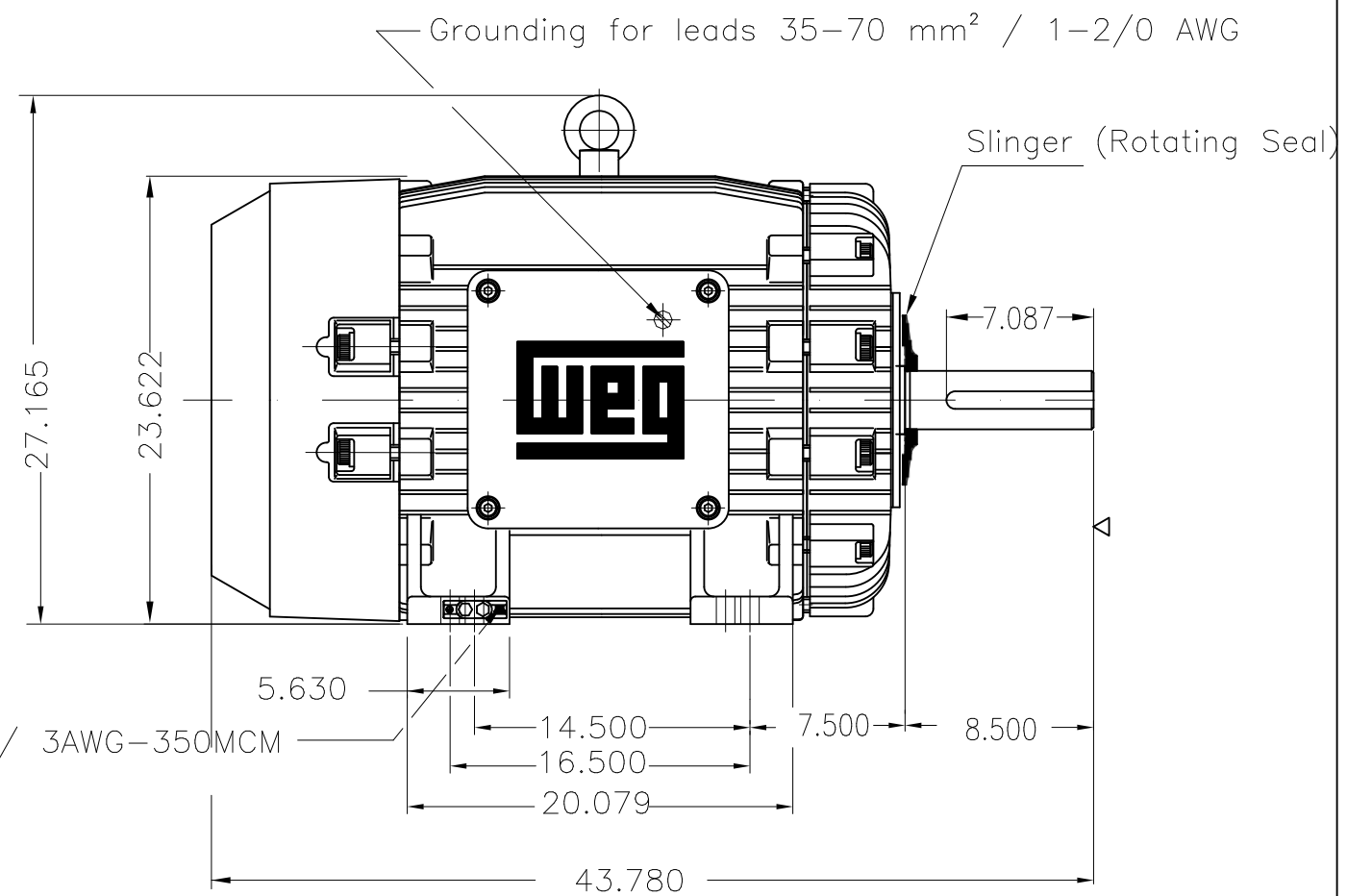
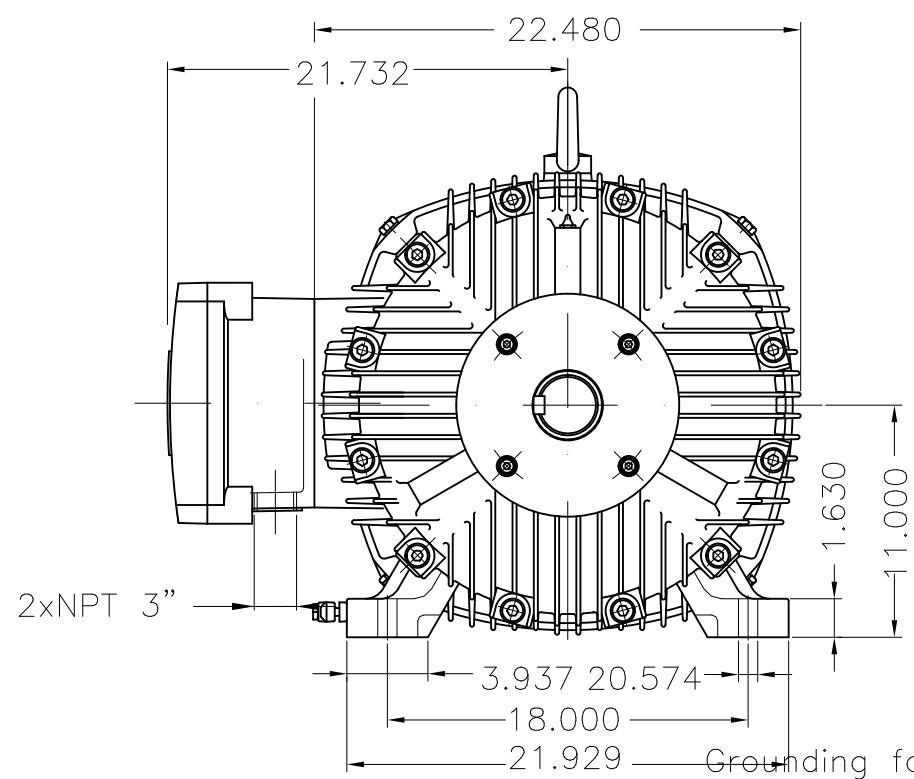
VFD OPERATION CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 132 A	Moment of inertia (J)	: 57.2 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 353 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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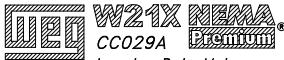


Color RAL 5009  
 Painting plan 202P  
 Mounting B3R(D)

125 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 444/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

**PREVIEW**  
**WDD**  
 SHEET 1 / 1



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 12518XT3G444T  
 MADE IN BRAZIL  
 12408377

PH 3	FR 444/5T	HP(kW) 125(90)	Hz 60
V 460	A 139	RPM 1782	
NEMA NOM. EFF. 95.4%		INS CL F $\Delta$ T 80 K	IP55
PF 0.85	DUTY CONT.		CODE G
ENCL. TEFC	SF 1.15	SFA 160	
AMB 40°C	DES B		
AMB 55°C SF1.0	-bearings lub interval reduced by a factor of 50%		

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

 → 6219-C3(28g)	MOBIL POLYREX EM
 → 6316-C3(34g)	8033 h
ALT 1000 m.a.s.l	2050 Lbs