

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11431026		
		Catalog # :	20018ET3E447T-W22		
Frame	: 445/7T	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>	: 2303 lb		
Protection degree	: IP55	Moment of inertia (J)	: 76.2 sq.ft.lb		
Design	: B				
Output [HP]	200	200	200	200	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	460/230	279	264	257	
L. R. Amperes [A]	3128/1564	1423	1478	1568	
LRC [A]	6.8x(Code G)	5.1x(Code E)	5.6x(Code F)	6.1x(Code G)	
No load current [A]	140/70.0	69.0	75.0	79.0	
Rated speed [RPM]	1785	1475	1480	1480	
Slip [%]	0.83	1.67	1.33	1.33	
Rated torque [ft.lb]	588	712	710	710	
Locked rotor torque [%]	229	170	190	210	
Breakdown torque [%]	250	200	220	240	
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>	73.0 dB(A)				
Efficiency (%)	25%	95.7	94.3	94.9	94.9
	50%	95.8	94.5	95.0	95.0
	75%	96.2	95.0	95.4	95.4
	100%	96.2	95.0	95.4	95.4
Power Factor	25%	0.50	0.56	0.53	0.50
	50%	0.73	0.78	0.76	0.73
	75%	0.82	0.85	0.84	0.82
	100%	0.85	0.86	0.86	0.85
Bearing type	: Drive end : 6319 C3	Non drive end : 6316 C3	Foundation loads		
Sealing	: WSeal	WSeal	Max. traction	: 3389 lb	
Lubrication interval	: 8000 h	10000 h	Max. compression	: 5692 lb	
Lubricant amount	: 45 g	34 g			
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 509A SF 1.00 SFA 509A					
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



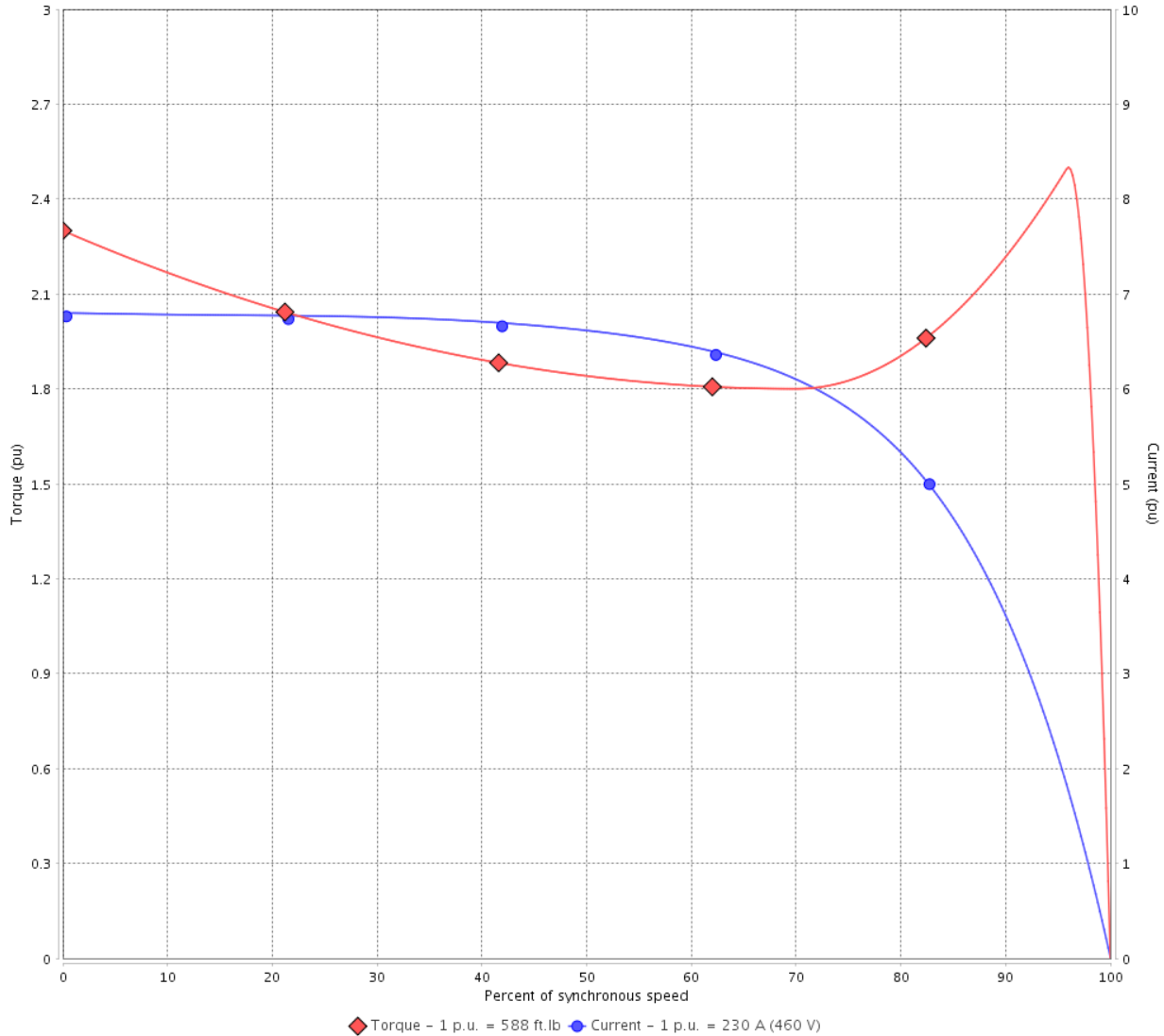
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431026

Catalog # : 20018ET3E447T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 460/230 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 588 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1785 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



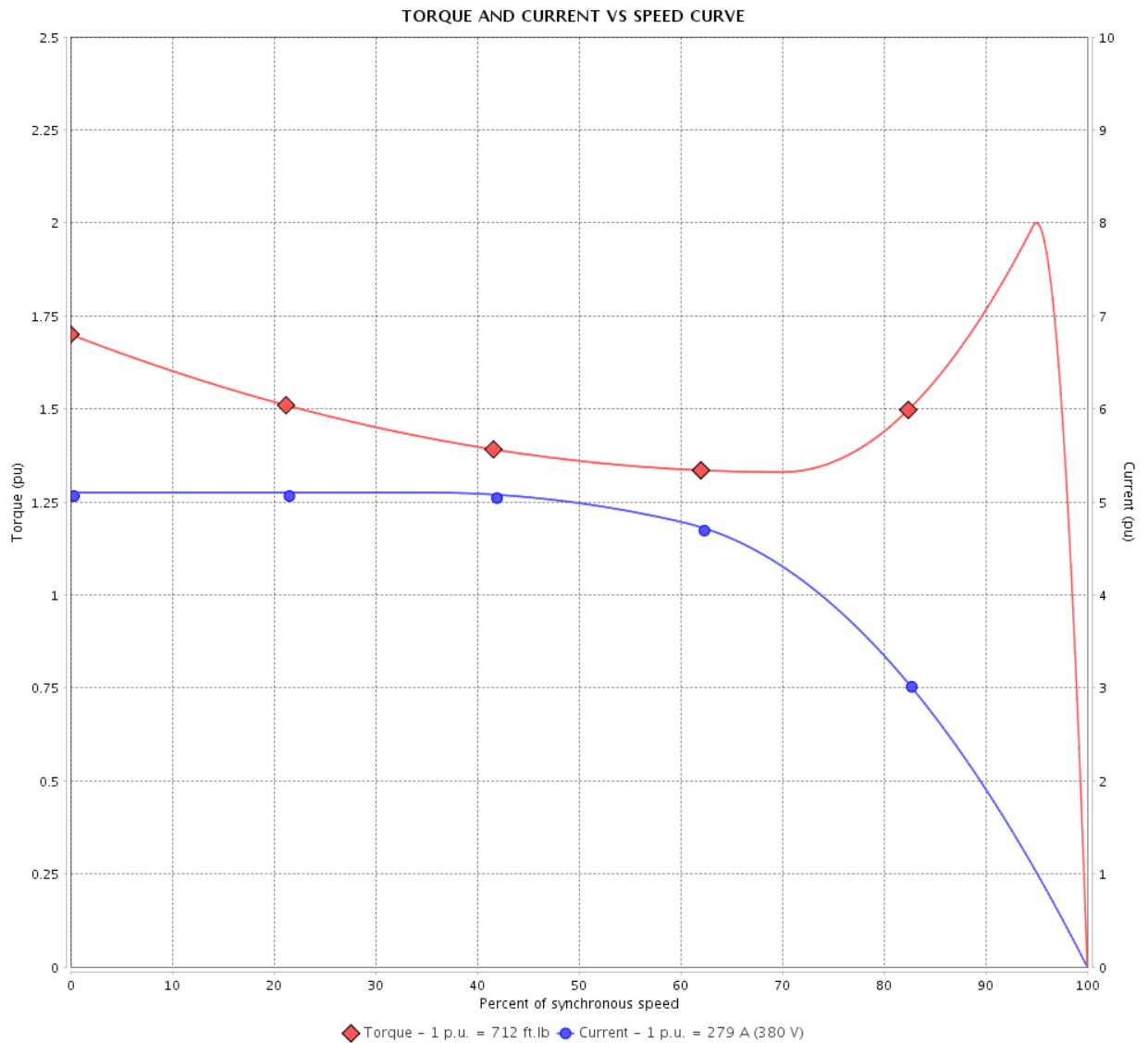
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431026

Catalog # : 20018ET3E447T-W22



Performance : 380 V 50 Hz 4P IE2

Rated current	: 279 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 712 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 1475 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



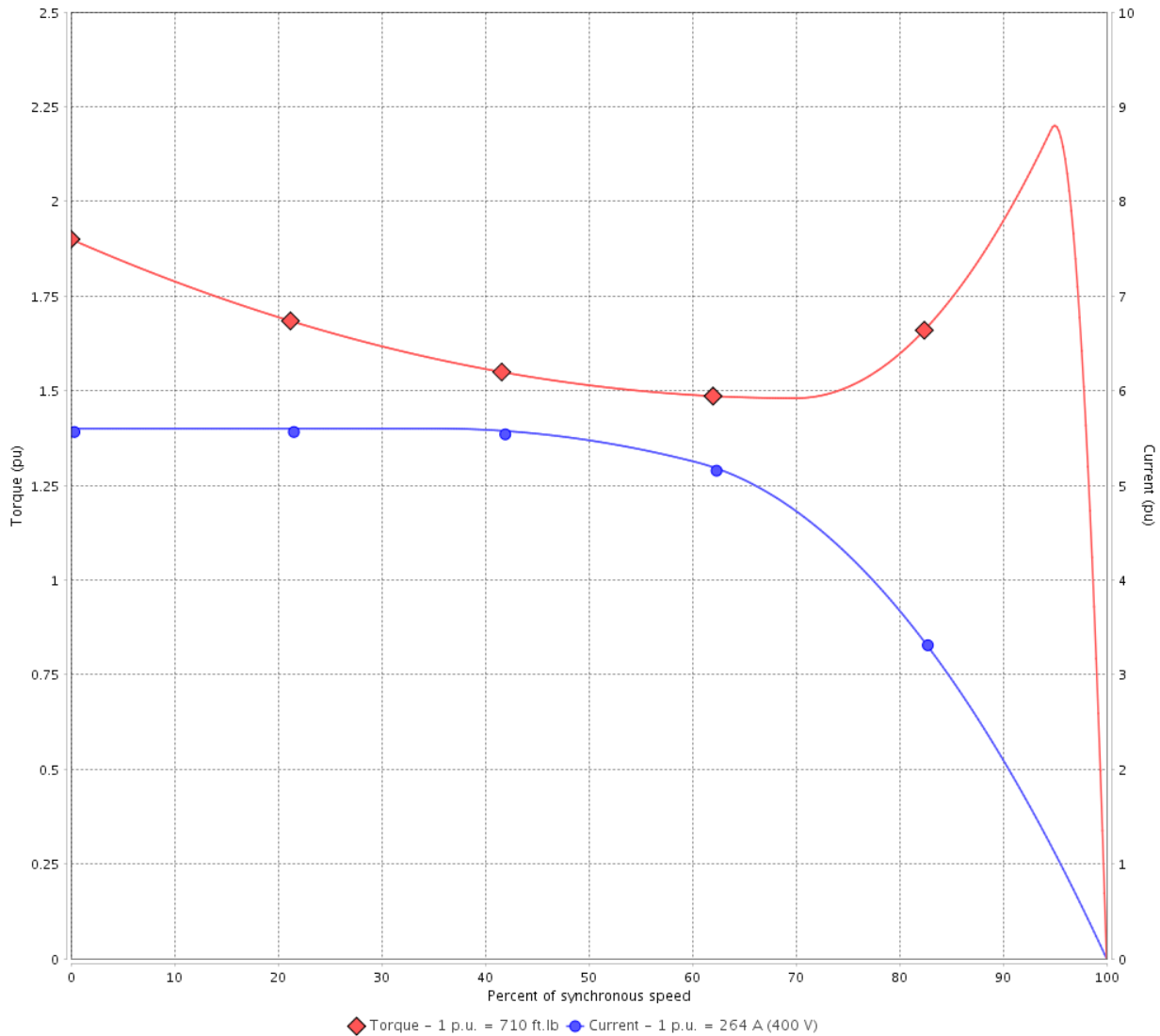
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431026

Catalog # : 20018ET3E447T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE2

Rated current	: 264 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	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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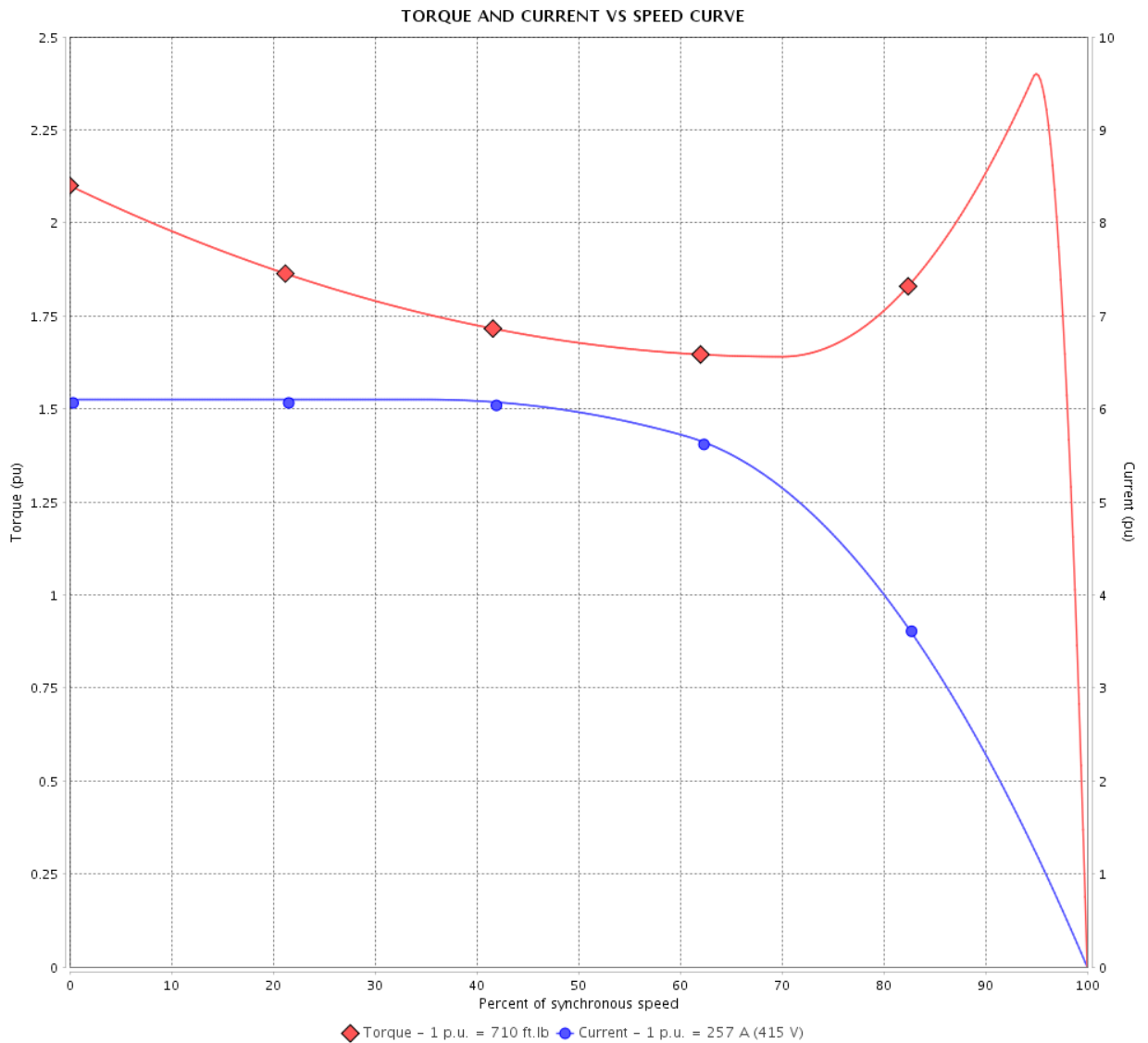
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Product code : 11431026

Catalog # : 20018ET3E447T-W22



Performance : 415 V 50 Hz 4P IE2

Rated current	: 257 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

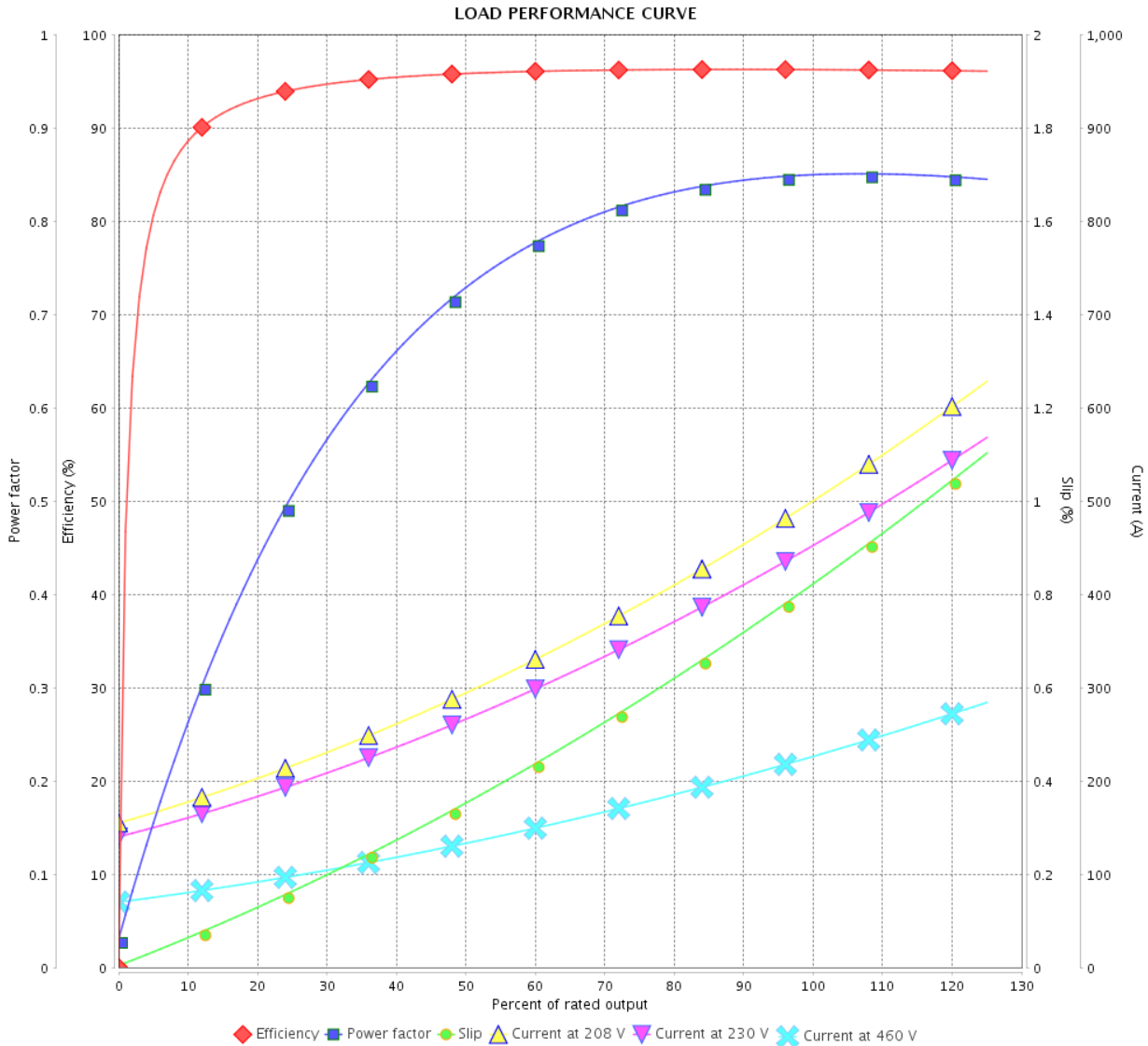


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431026

Catalog # : 20018ET3E447T-W22



Performance : 230/460 V 60 Hz 4P

Rated current : 460/230 A  
 LRC : 6.8  
 Rated torque : 588 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 250 %  
 Rated speed : 1785 rpm

Moment of inertia (J) : 76.2 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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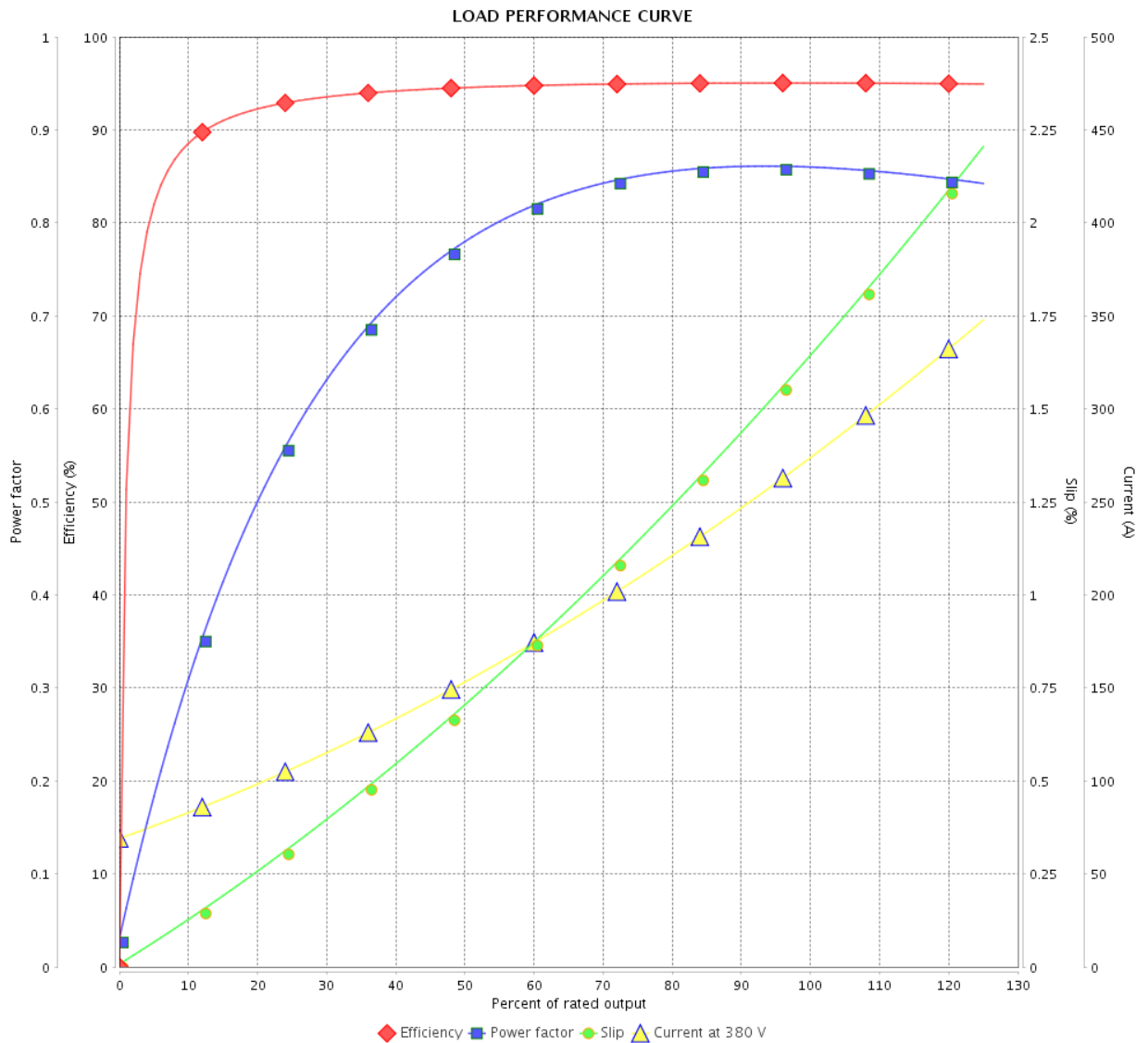


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Product code : 11431026

Catalog # : 20018ET3E447T-W22



Performance : 380 V 50 Hz 4P IE2

Rated current : 279 A  
 LRC : 5.1  
 Rated torque : 712 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 200 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 76.2 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

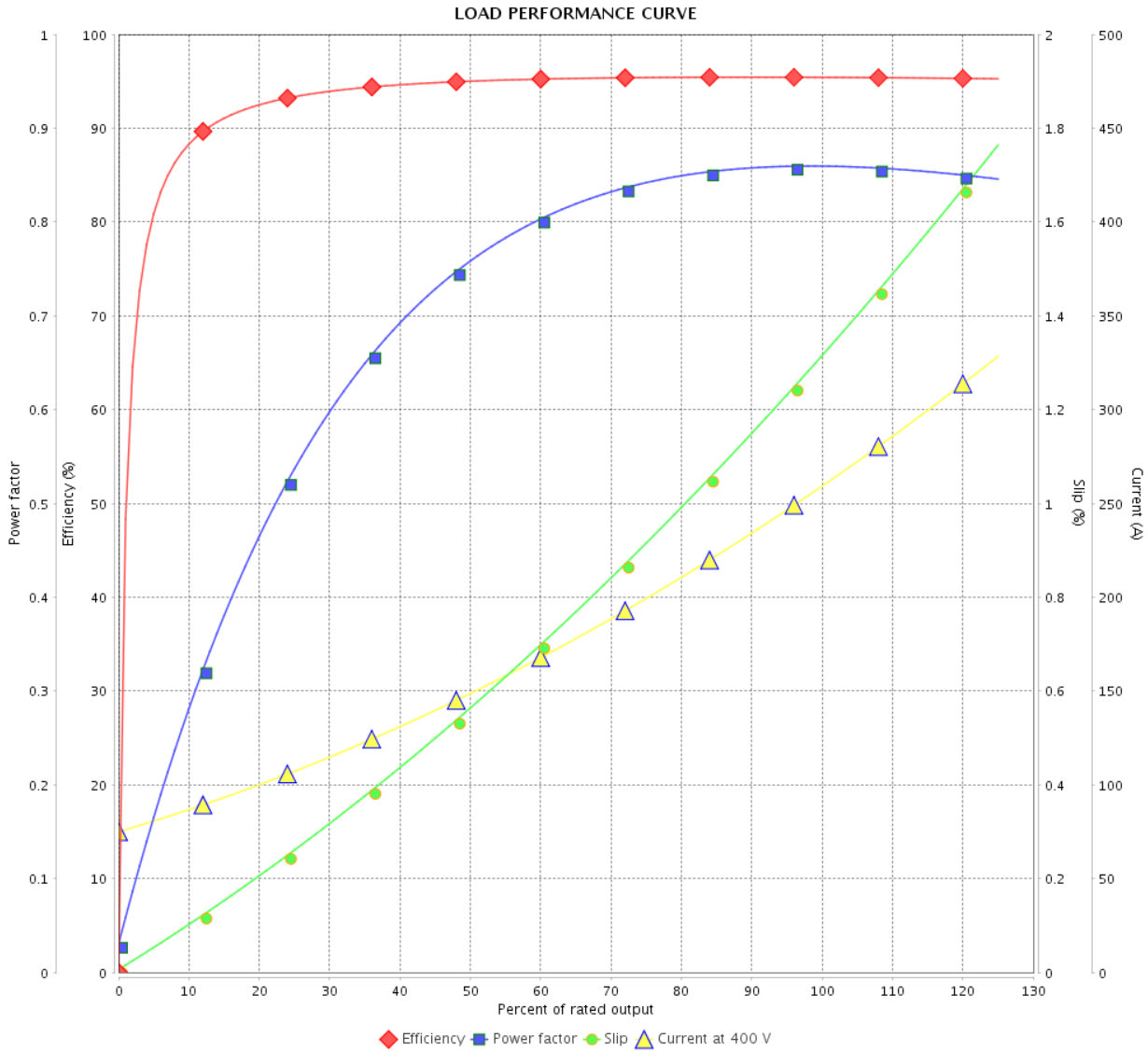


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Performance : 400 V 50 Hz 4P IE2

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LRC	: 5.6	Duty cycle	: Cont.(S1)
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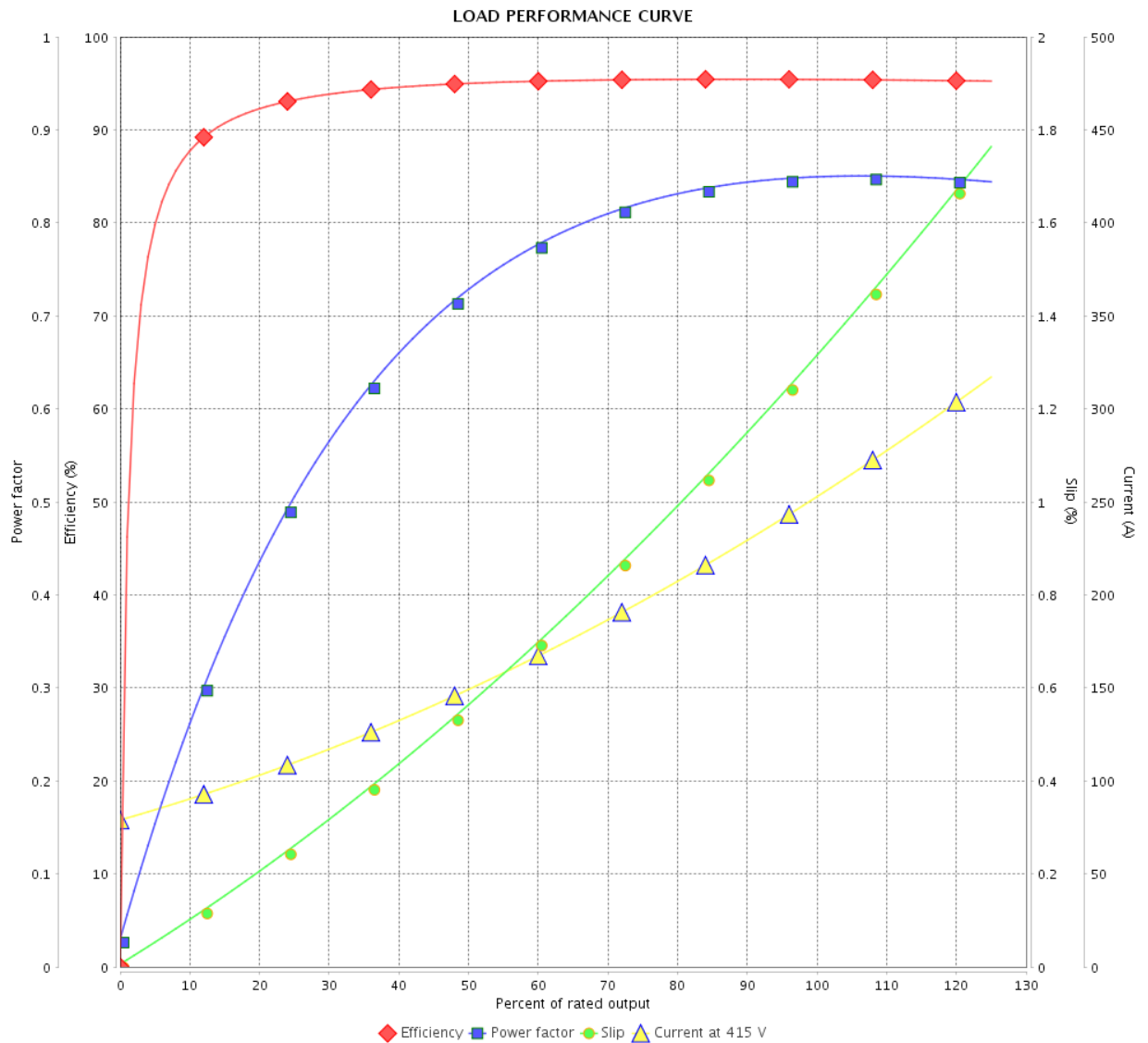


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Product code : 11431026

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Performance : 415 V 50 Hz 4P IE2

Rated current : 257 A  
 LRC : 6.1  
 Rated torque : 710 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 76.2 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 speed	: 1785 rpm	Design	: B

Heating constant

Cooling constant

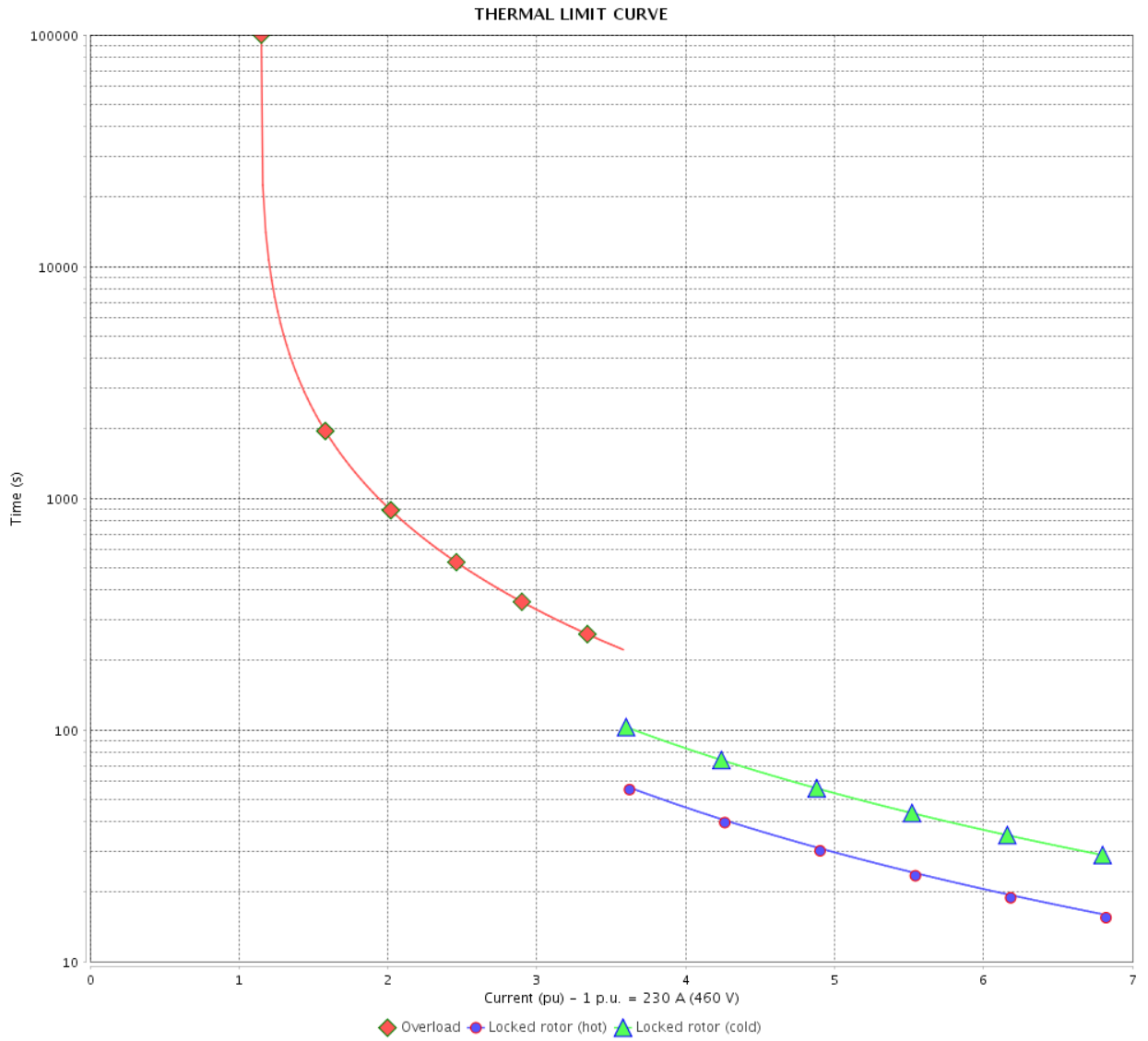
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Rated current	: 279 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 712 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
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Rated speed	: 1475 rpm	Design	: B

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Cooling constant

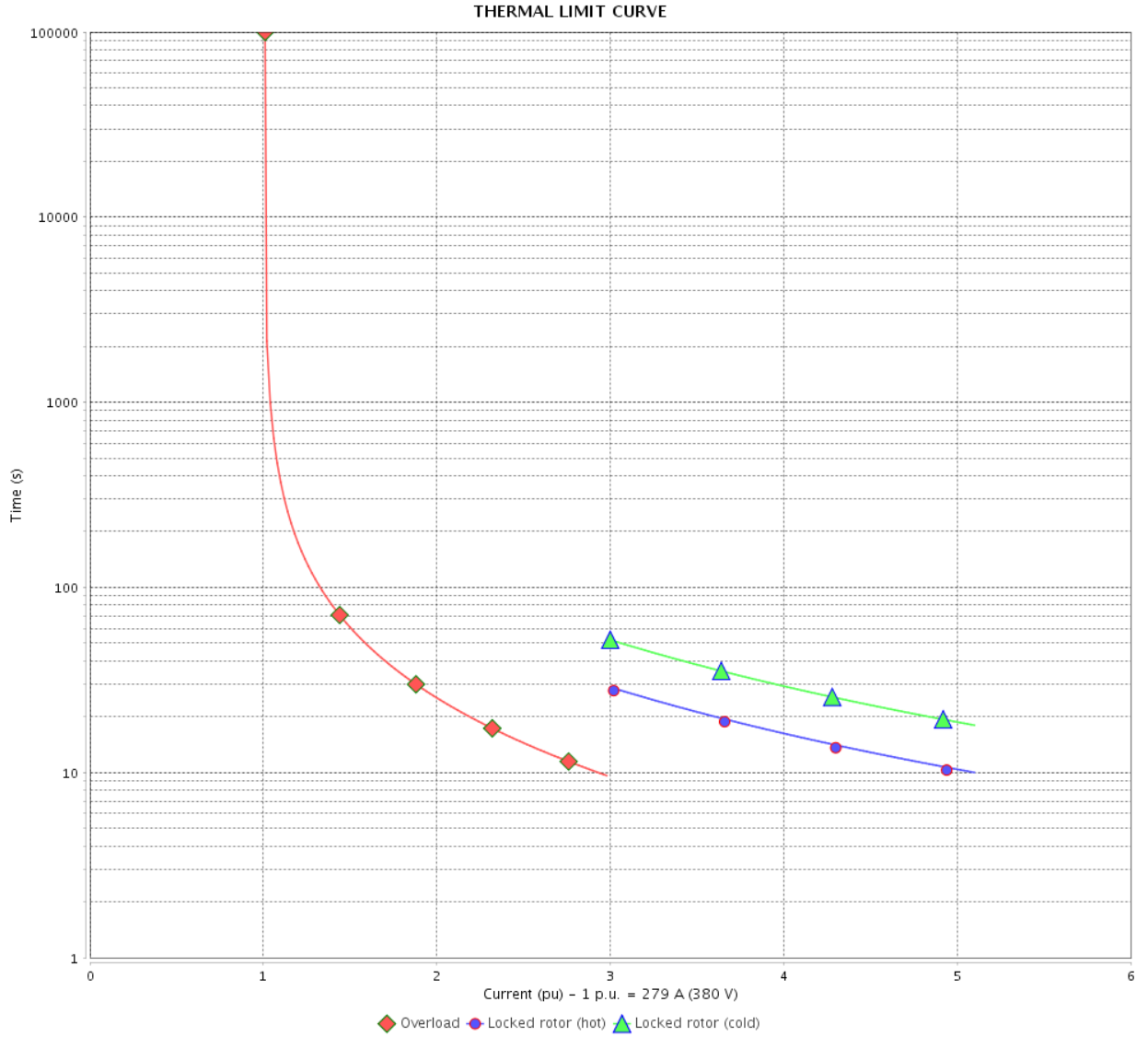
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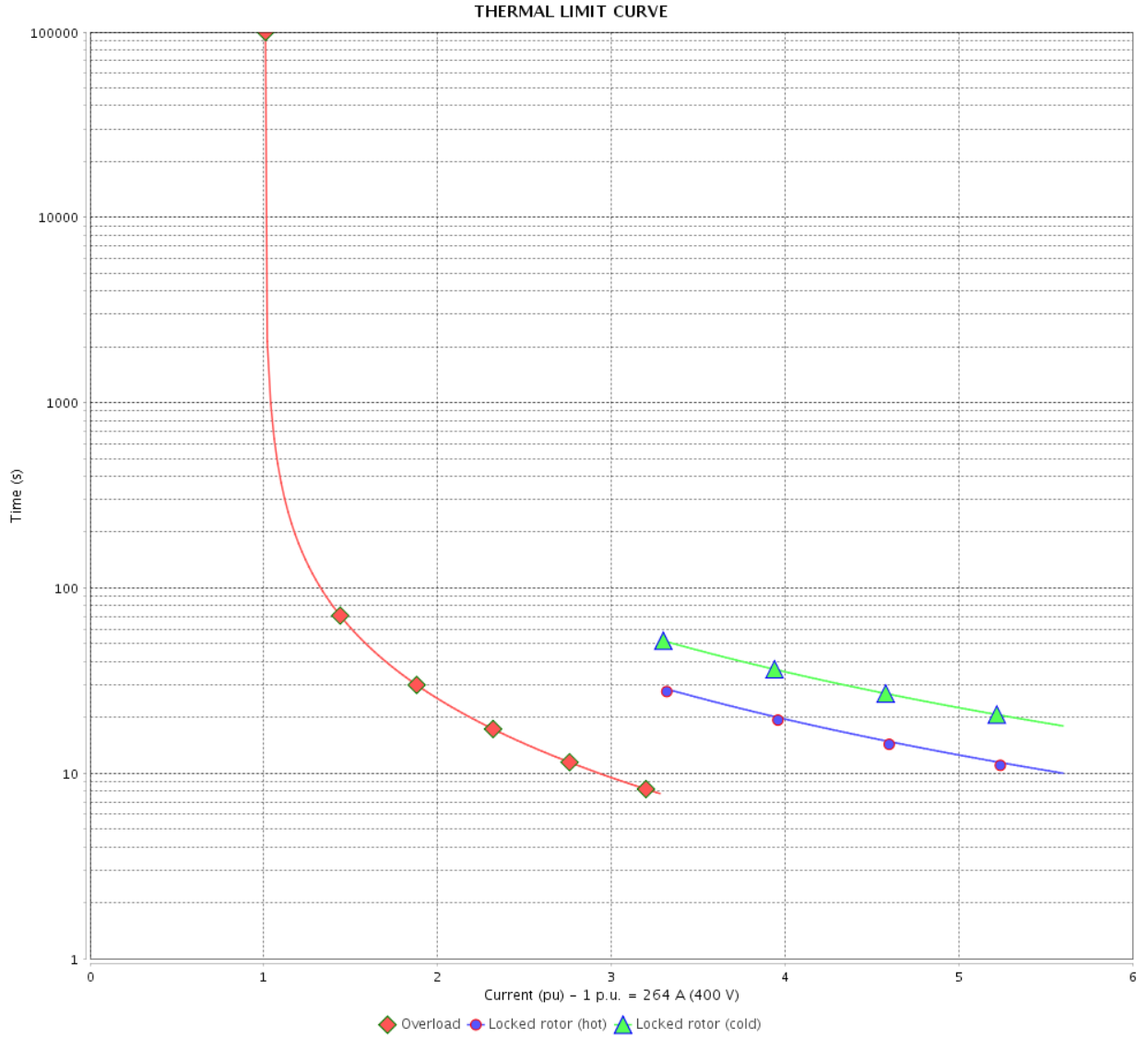
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Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 11431026  
Catalog # : 20018ET3E447T-W22

Performance : 415 V 50 Hz 4P IE2

Rated current	: 257 A	Moment of inertia (J)	: 76.2 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

Heating constant

Cooling constant

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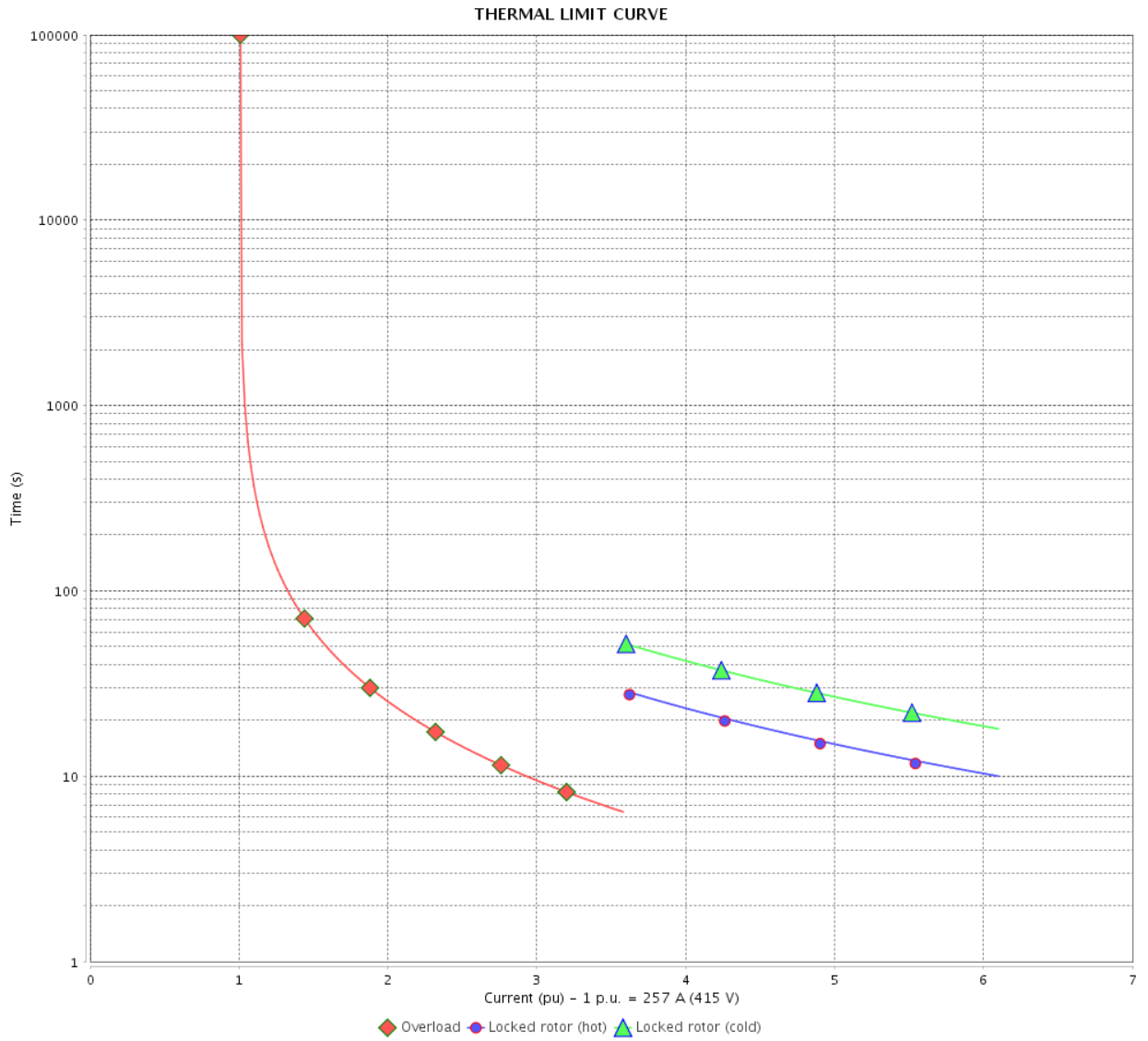


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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

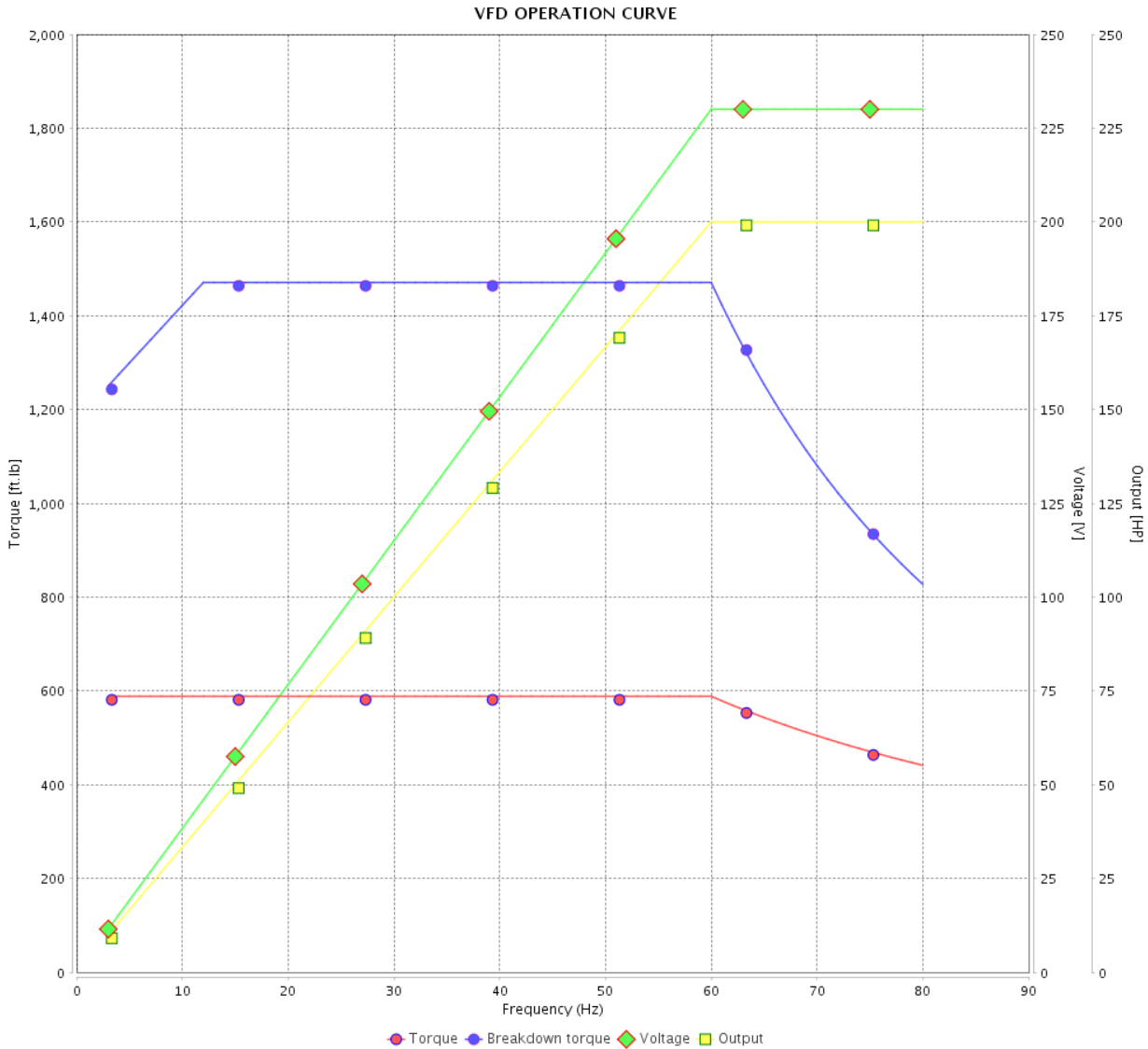


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 Breakdown torque : 250 %  
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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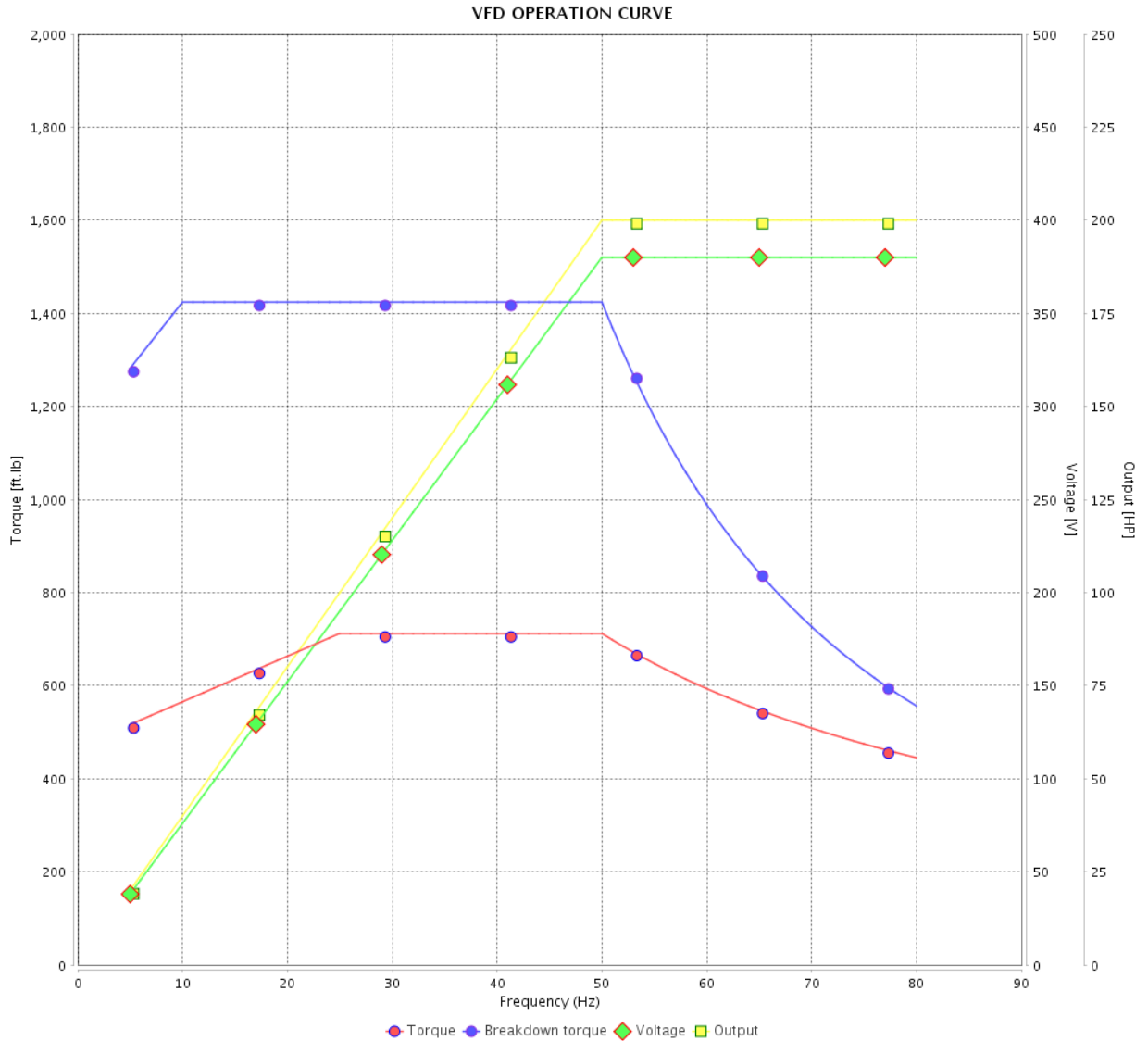
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Rated torque : 712 ft.lb	Insulation class : F
Locked rotor torque : 170 %	Service factor : 1.00
Breakdown torque : 200 %	Temperature rise : 105 K
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Three Phase Induction Motor - Squirrel Cage

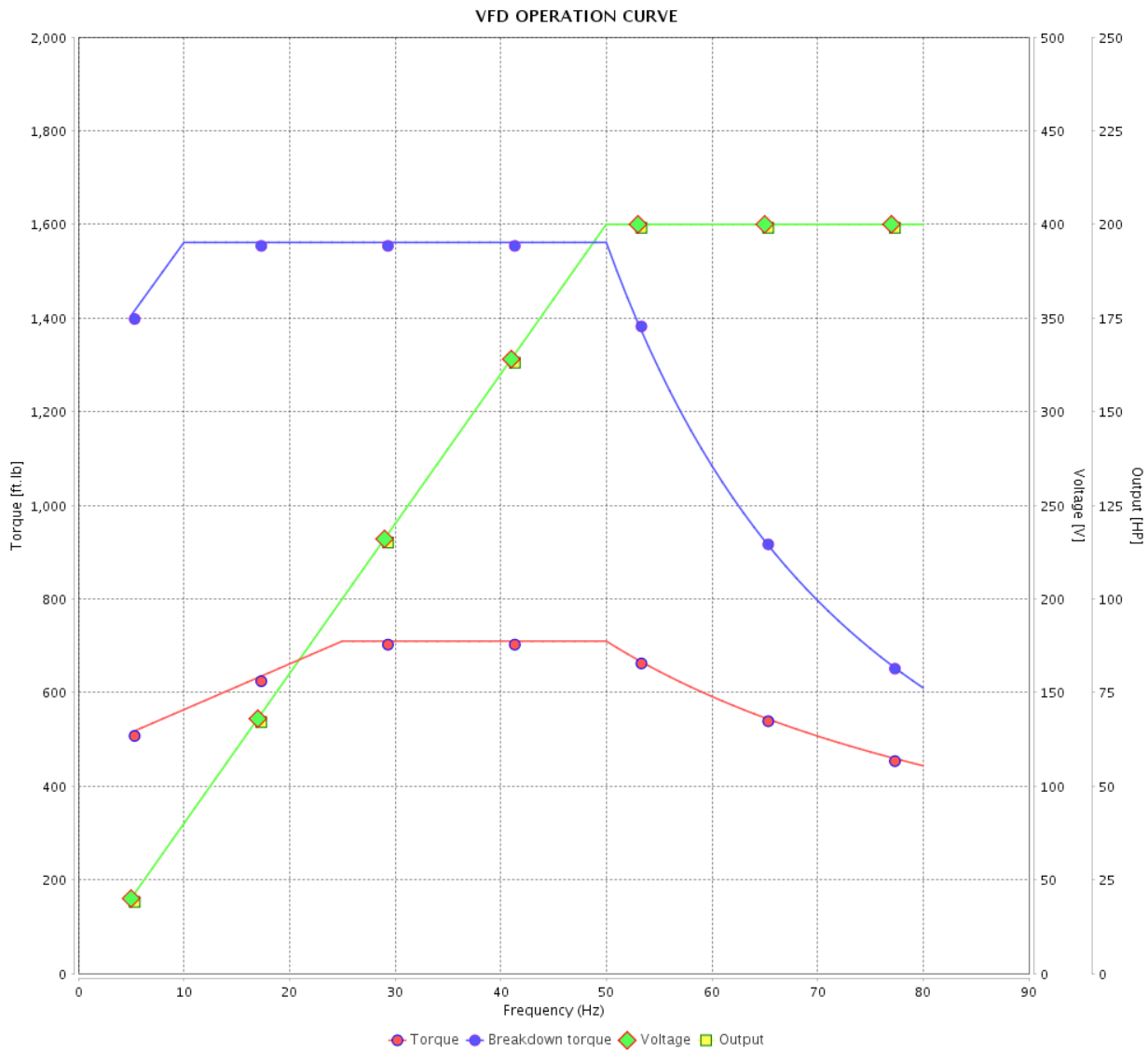


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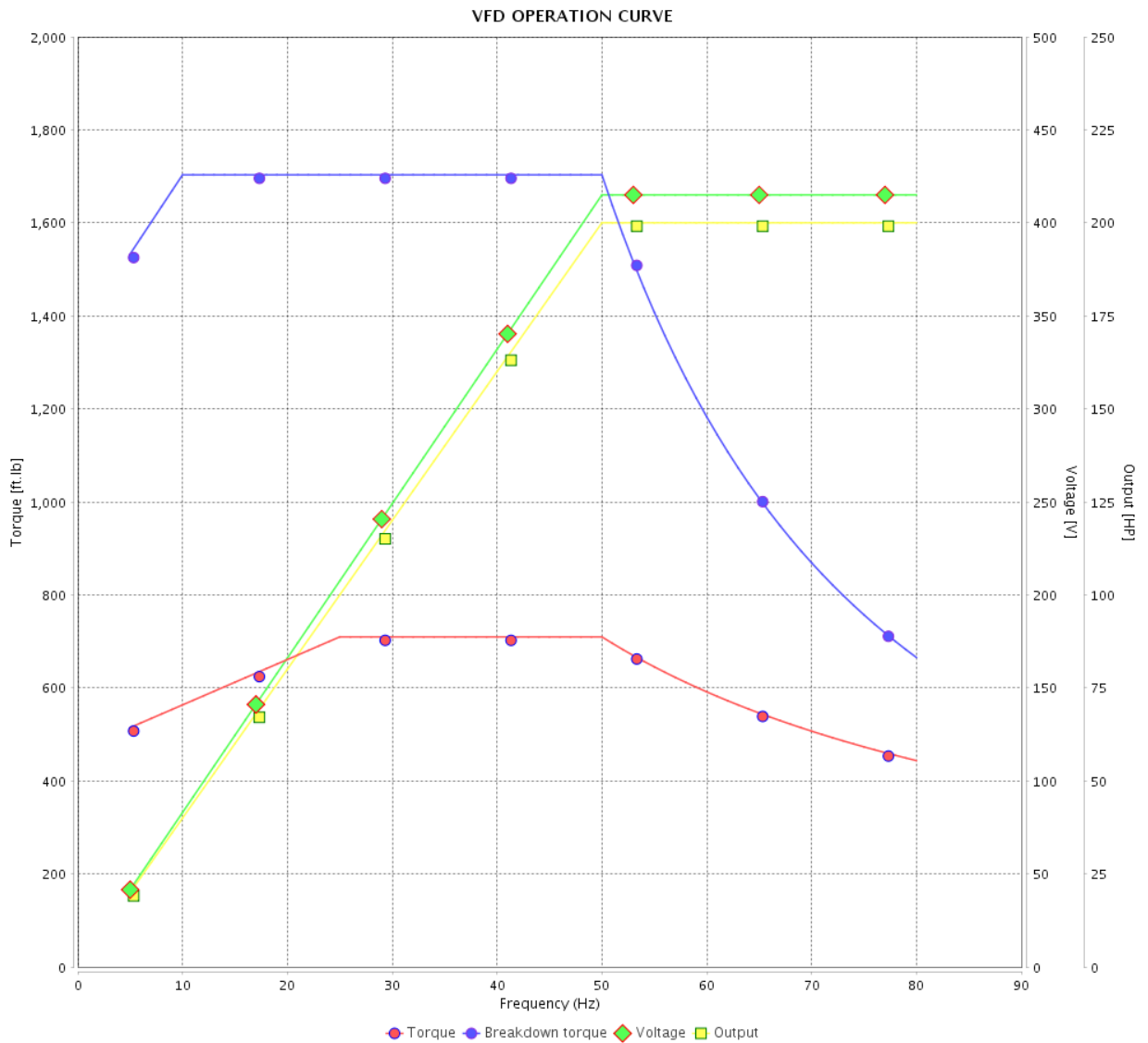
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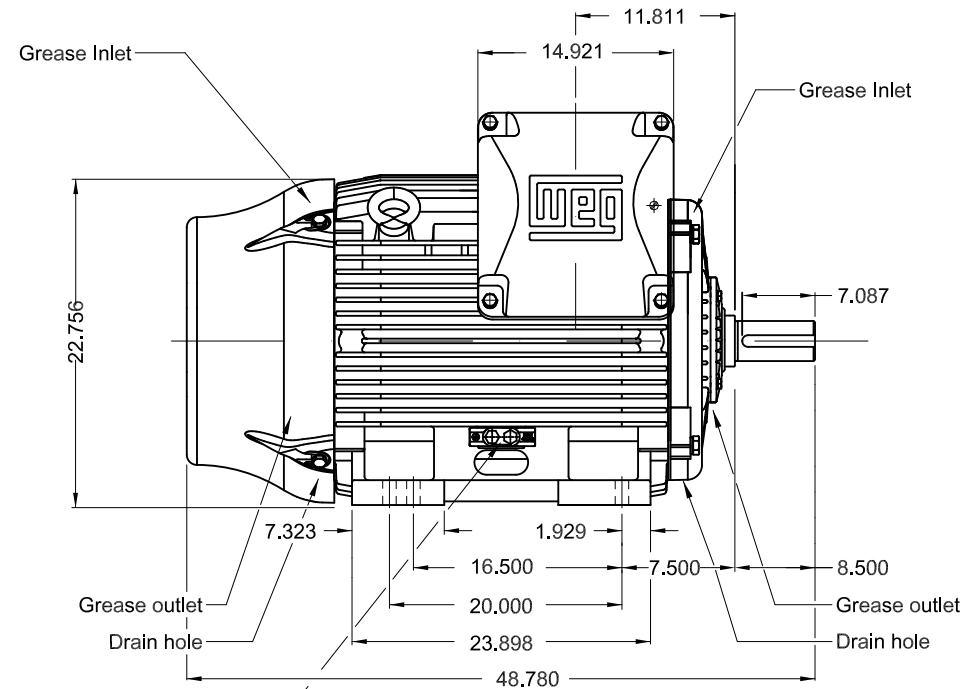
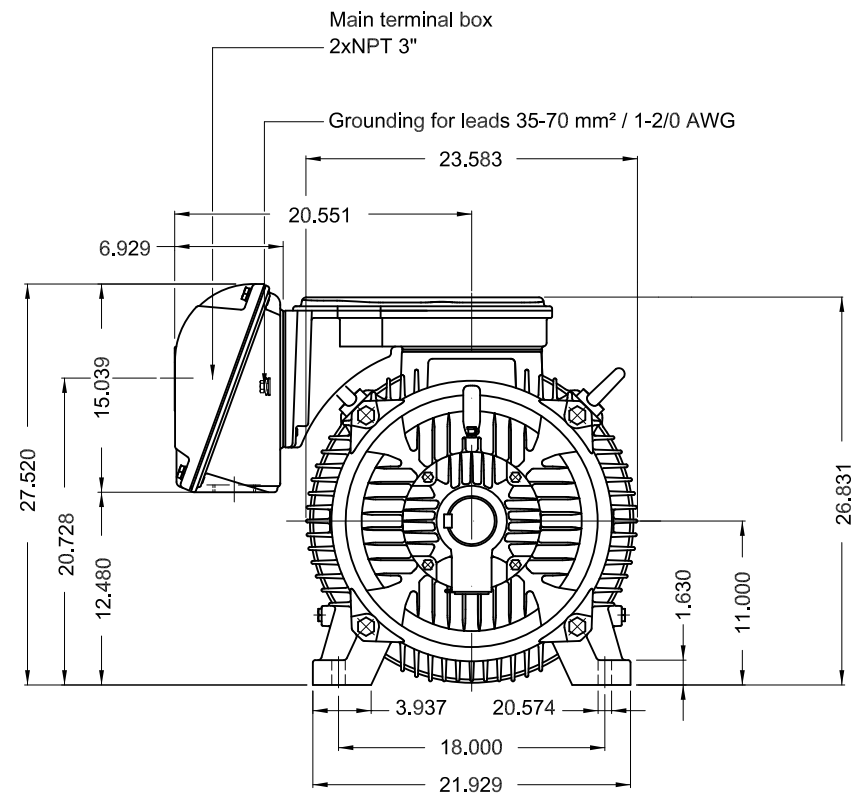
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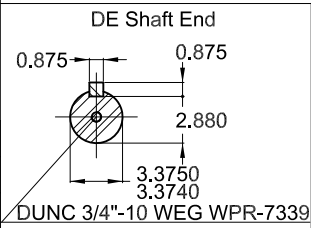
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Grounding for leads 25-185 mm² / 3AWG-350MCM

Color RAL 5009  
 Painting plan 203A  
 Mounting B3R(D)



200 HP 04 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W22 PREM. EFF.					
CHECKED		FRAME 445/7T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
**WDD**



MADE IN MEXICO  
11431026



FOR SAFE AREA  
Mod.TE1BFOXON  
CC029A

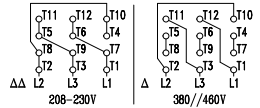


For use on 60Hz  
Class I, Div 2, Gr A, B, C and D - T3  
Class I, Zone 2, IIC - T3  
Class II, Div 2, Gr F and G - T3C  
For use on PWM: Gr. A, B, C, D and F,  
VT 1000:1, CT 20:1, 1.00SF - T3

MODEL 20018ET3E447T-W22

Inverter Duty Motor  
Severe Duty

PH3	60Hz	Fr. 445/7T	1000m.a.s.l.	IP55	TEFC	2306lb
V	230/460			A	460/230	
HP	200			kW	150	
SF	1.15			SFA	529/265	
RPM	1785			PF	0.85	
AMB	40°C			INS cl.	F DT80K	NEMA NOM EFF 96.2%
DUTY CONT.				DES B	Code G	
USABLE @208V	509A	SF 1.00				
200HP	150kW	50Hz	380V	279A	1475RPM	SF 1.00 EFF 95.0% (IE2)



- 6319-C3 (45g)
- 6316-C3 (34g)



MOBIL POLYREX EM (8000h)

