

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11963274		
		Catalog # :	30036ET3G449TS-W22		
Frame	: 447/9TS	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>	: 2801 lb		
Protection degree	: IP55	Moment of inertia (J)	: 58.1 sq.ft.lb		
Design	: B				
Output [HP]	300	250	250	250	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	320	326	310	299	
L. R. Amperes [A]	2176	2086	2263	2392	
LRC [A]	6.8x(Code G)	6.4x(Code F)	7.3x(Code G)	8.0x(Code H)	
No load current [A]	65.0	64.3	68.5	71.6	
Rated speed [RPM]	3570	2970	2970	2975	
Slip [%]	0.83	1.00	1.00	0.83	
Rated torque [ft.lb]	441	442	442	441	
Locked rotor torque [%]	210	190	210	229	
Breakdown torque [%]	240	229	260	280	
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)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	
Noise level <sup>2</sup>	81.0 dB(A)				
Efficiency (%)	25%	95.3	95.0	95.3	95.3
	50%	95.4	95.4	95.4	95.4
	75%	95.8	95.4	95.8	95.8
	100%	95.8	95.8	95.8	95.8
Power Factor	25%	0.65	0.65	0.63	0.61
	50%	0.86	0.86	0.85	0.84
	75%	0.89	0.89	0.89	0.88
	100%	0.90	0.90	0.90	0.90
Bearing type	: <u>Drive end</u> 6314 C3	<u>Non drive end</u> 6314 C3	Foundation loads		
Sealing	: WSeal	WSeal	Max. traction	: 1893 lb	
Lubrication interval	: 4000 h	4000 h	Max. compression	: 4694 lb	
Lubricant amount	: 27 g	27 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



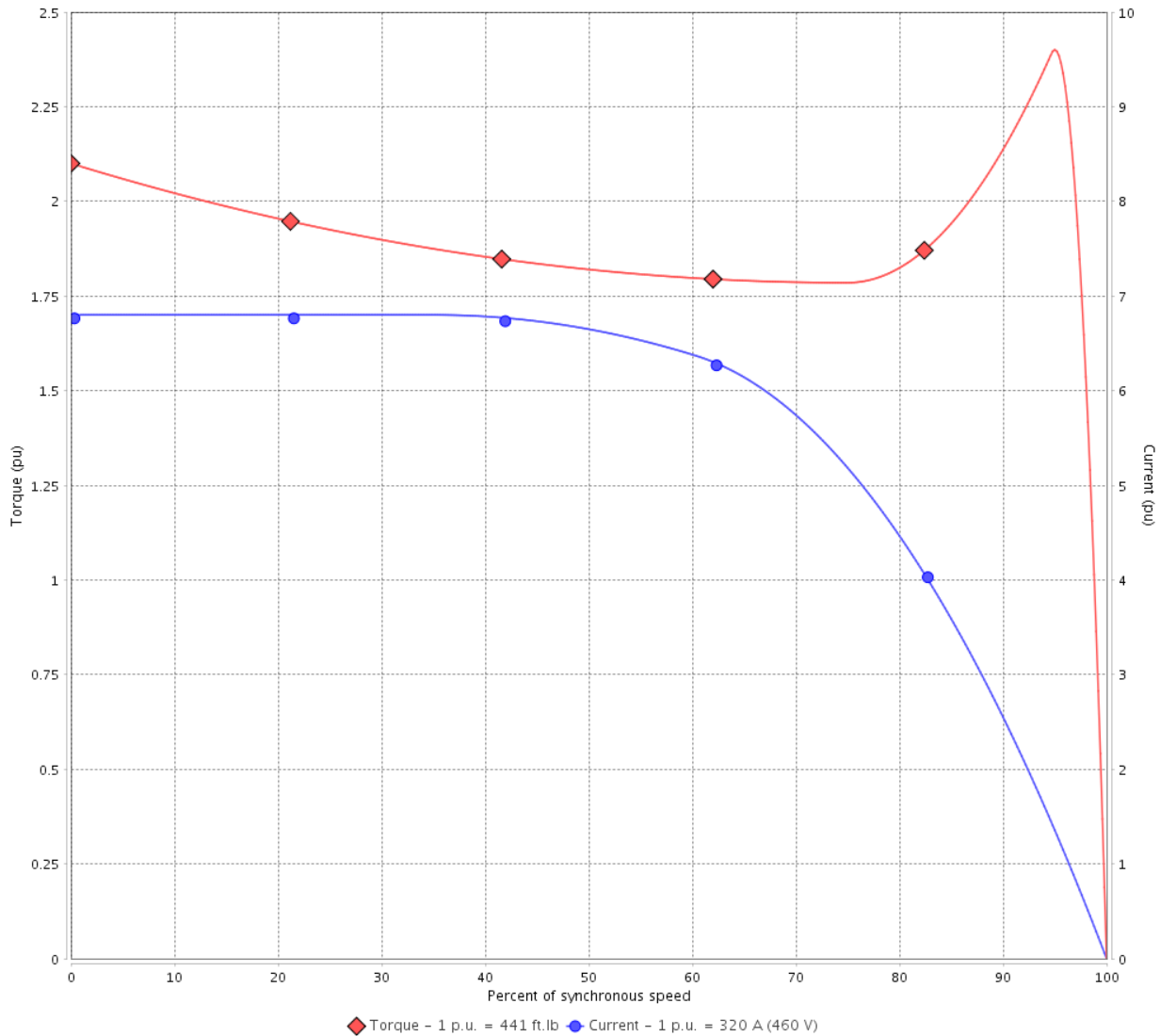
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11963274

Catalog # : 30036ET3G449TS-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 2P

Rated current	: 320 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 3570 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



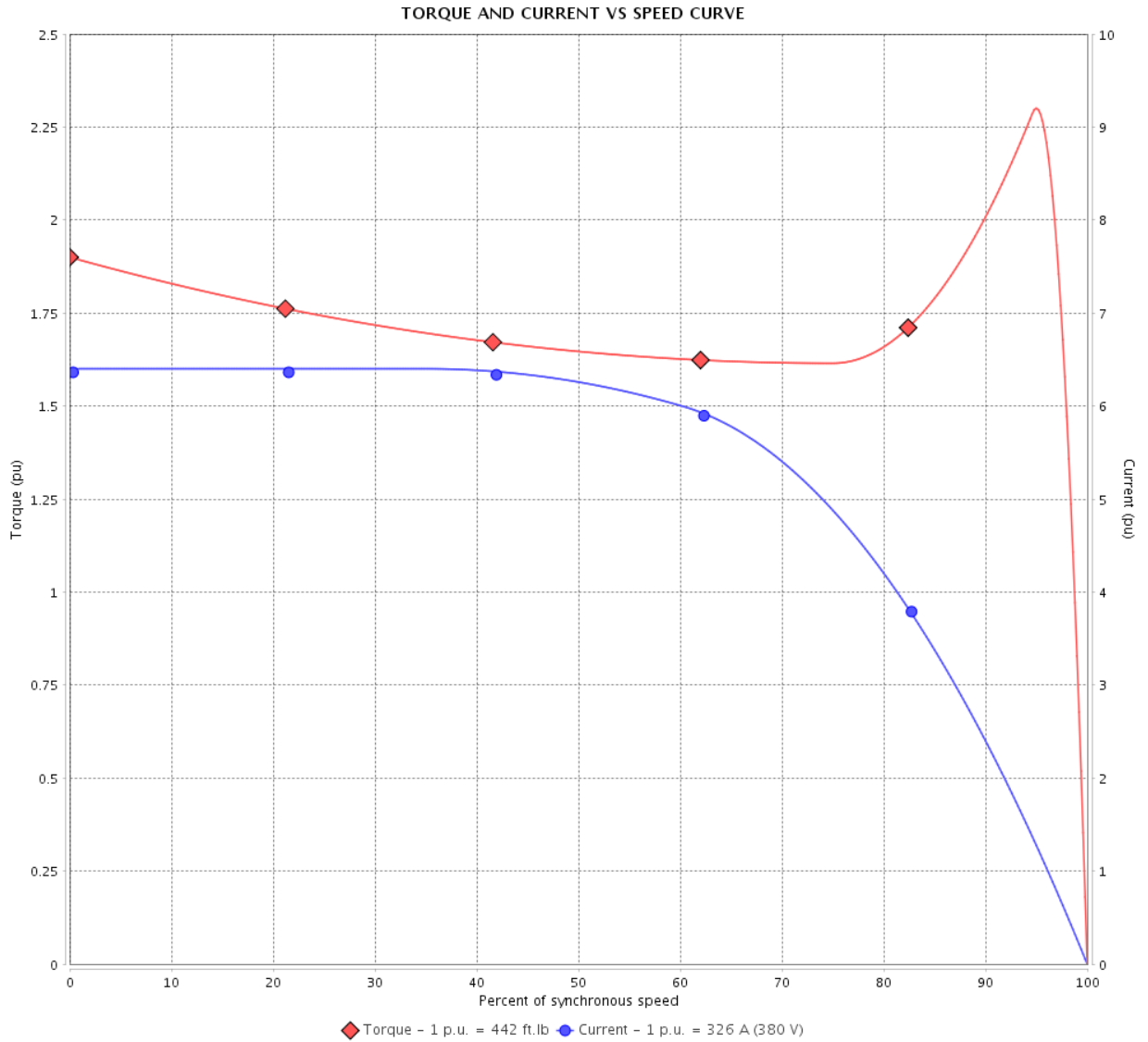
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11963274

Catalog # : 30036ET3G449TS-W22



Performance : 380 V 50 Hz 2P IE3

Rated current	: 326 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 442 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 2970 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



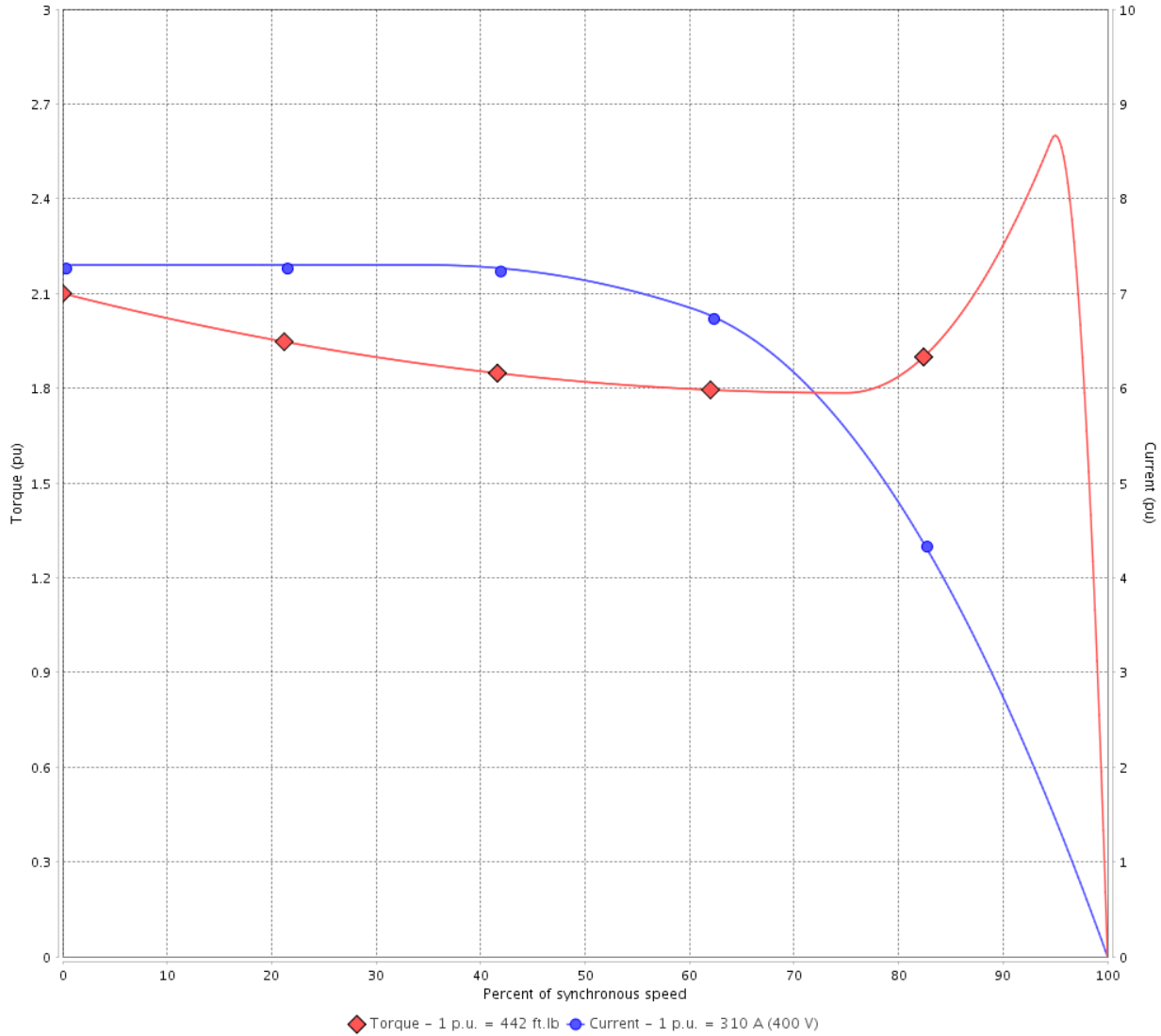
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11963274

Catalog # : 30036ET3G449TS-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 310 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 442 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2970 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



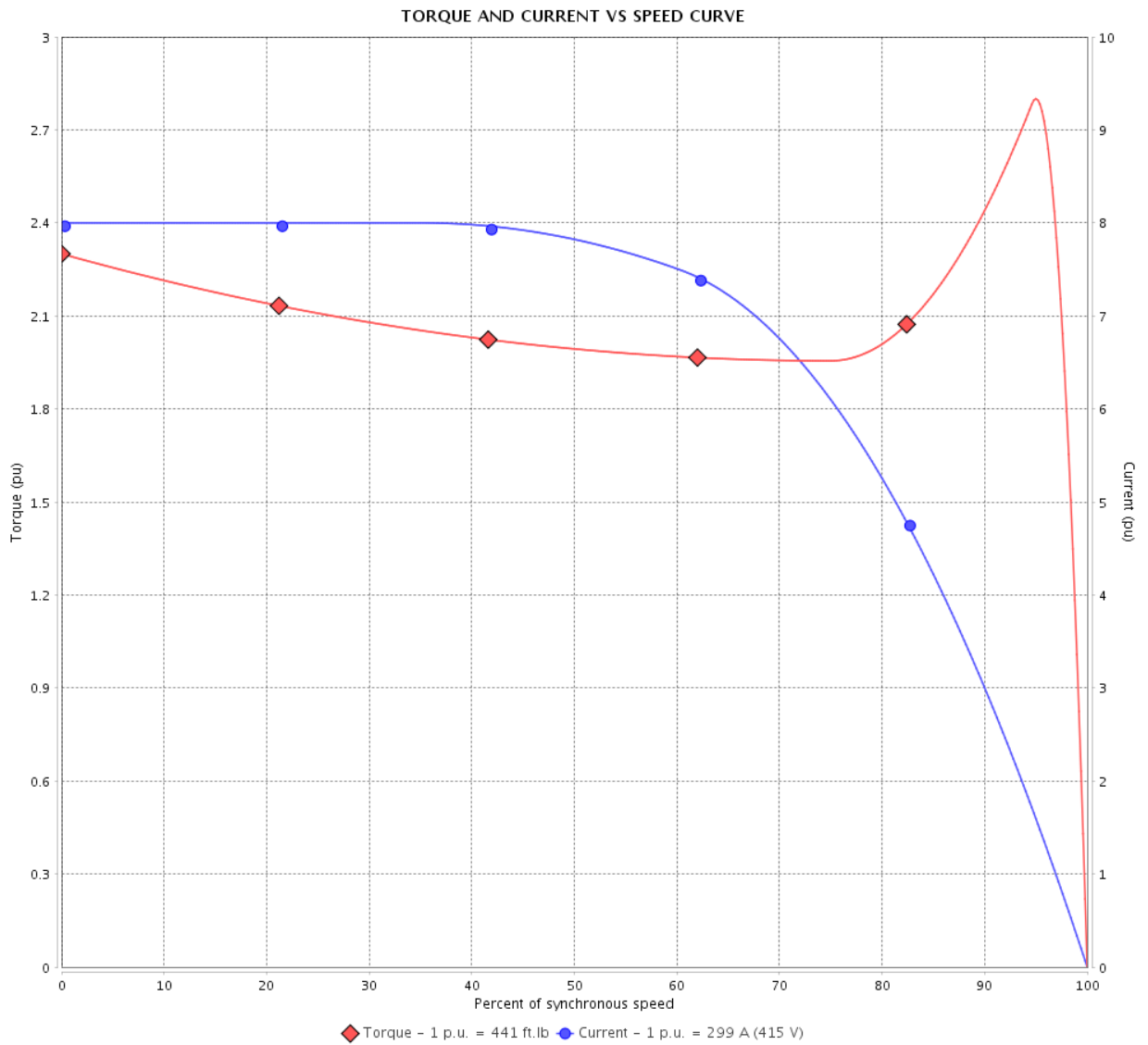
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Catalog # : 30036ET3G449TS-W22



Performance : 415 V 50 Hz 2P IE3

Rated current	: 299 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2975 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



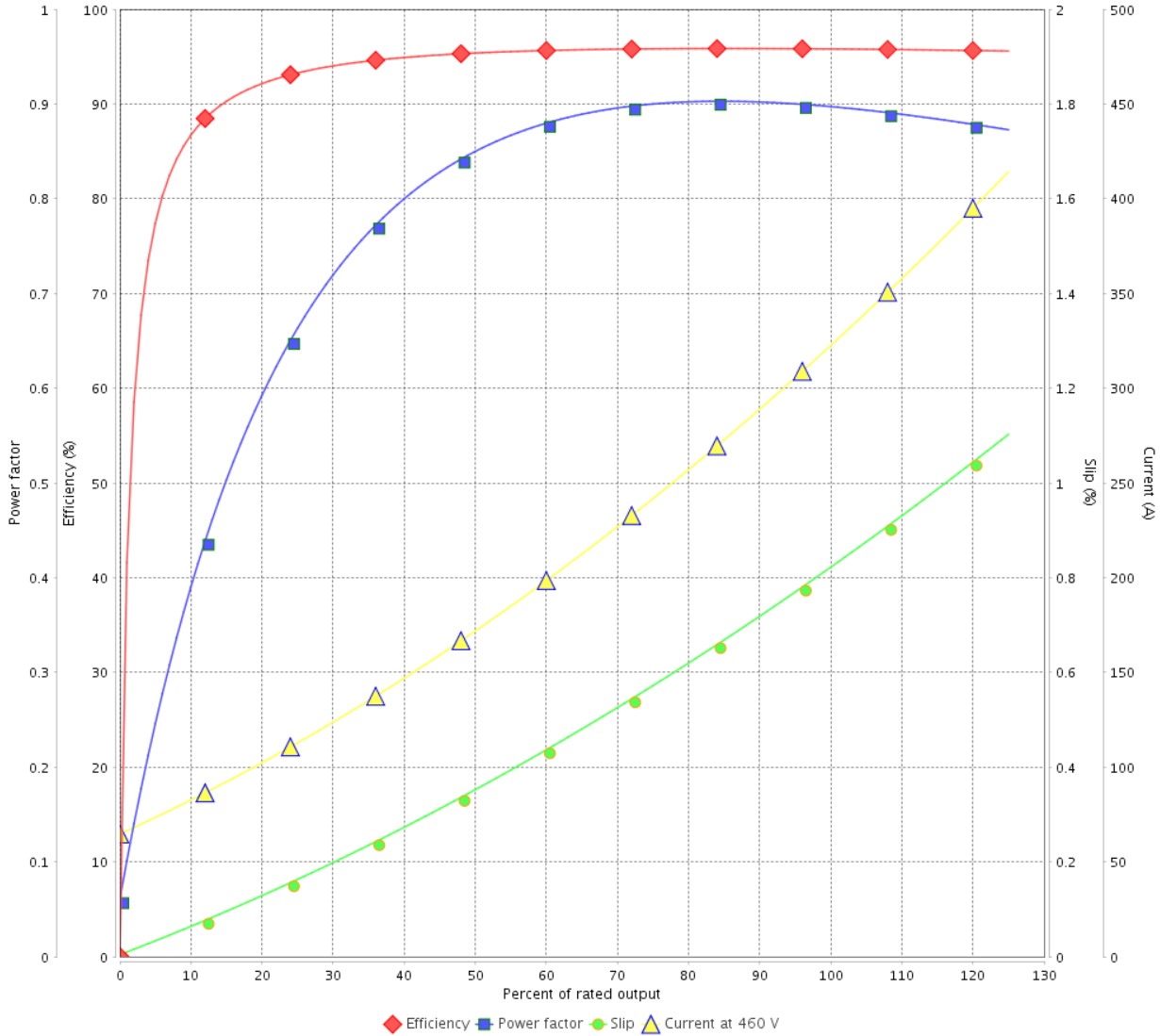
Customer :

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Product code : 11963274

Catalog # : 30036ET3G449TS-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 2P

Rated current : 320 A  
 LRC : 6.8  
 Rated torque : 441 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
 Rated speed : 3570 rpm

Moment of inertia (J) : 58.1 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

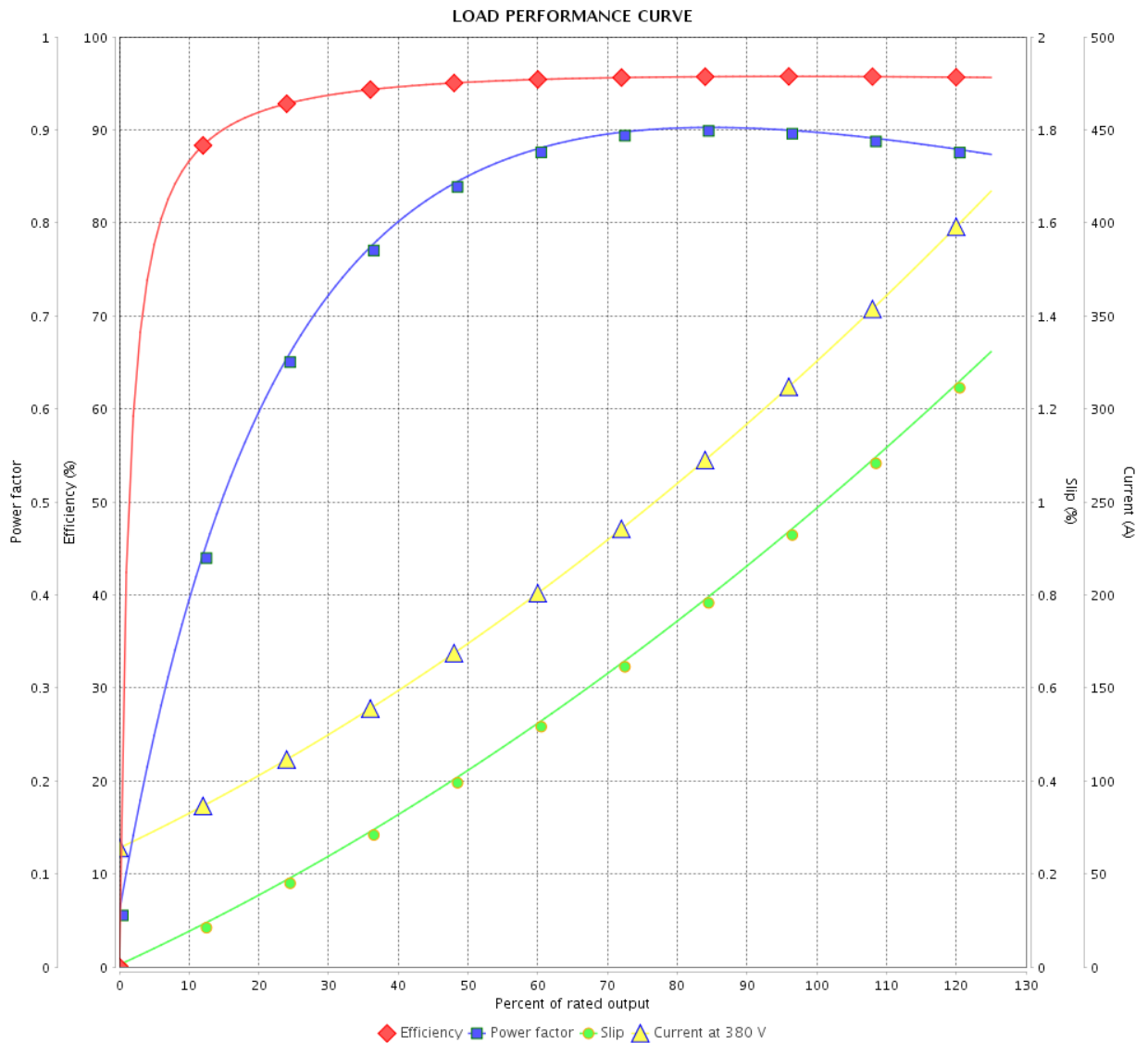


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Product line : NEMA Premium Efficiency Three-Phase

Product code : 11963274

Catalog # : 30036ET3G449TS-W22



Performance : 380 V 50 Hz 2P IE3

Rated current : 326 A  
 LRC : 6.4  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 229 %  
 Rated speed : 2970 rpm

Moment of inertia (J) : 58.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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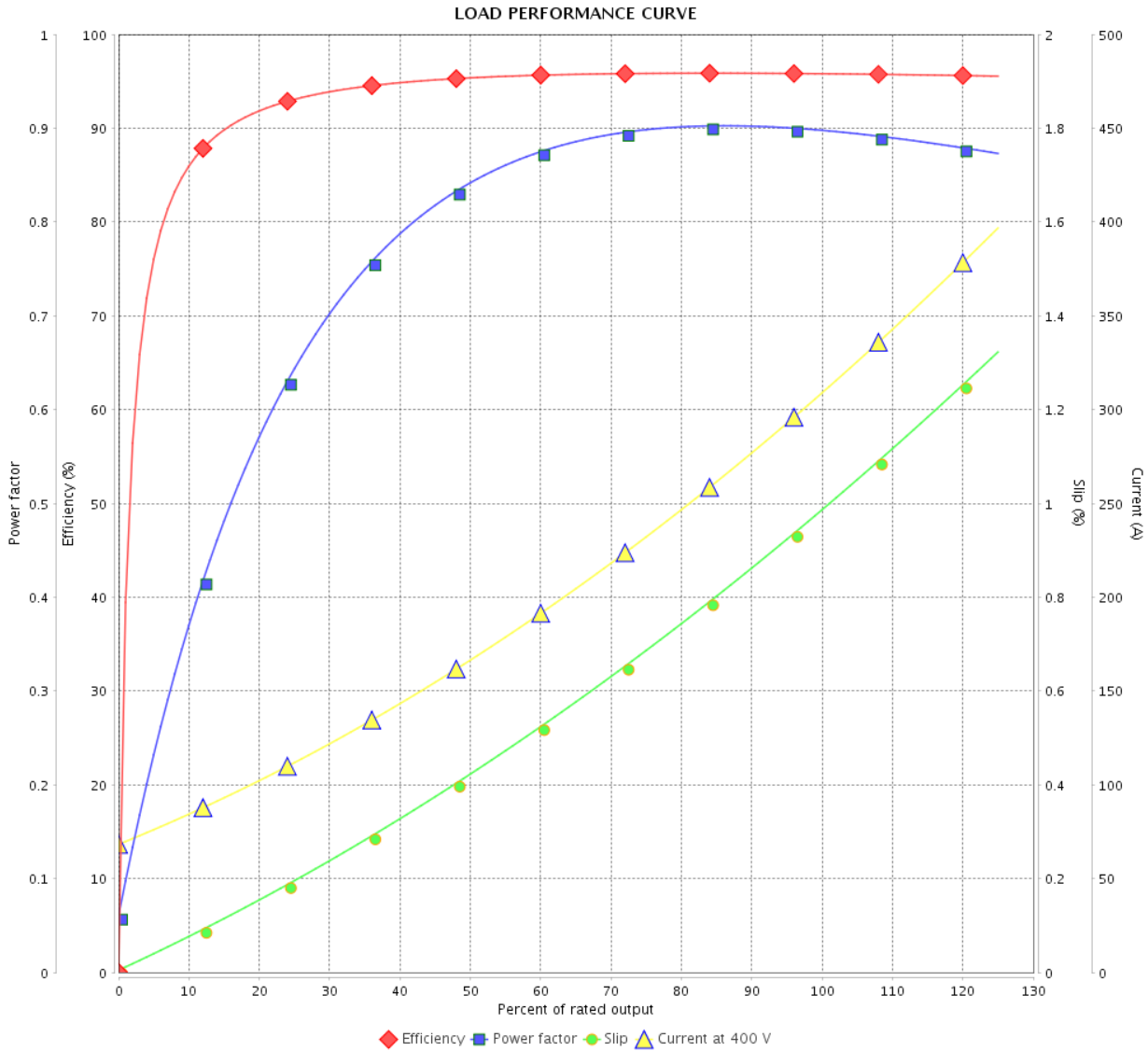


Customer : \_\_\_\_\_

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Product code : 11963274

Catalog # : 30036ET3G449TS-W22



Performance : 400 V 50 Hz 2P IE3

Rated current : 310 A  
 LRC : 7.3  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 260 %  
 Rated speed : 2970 rpm

Moment of inertia (J) : 58.1 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

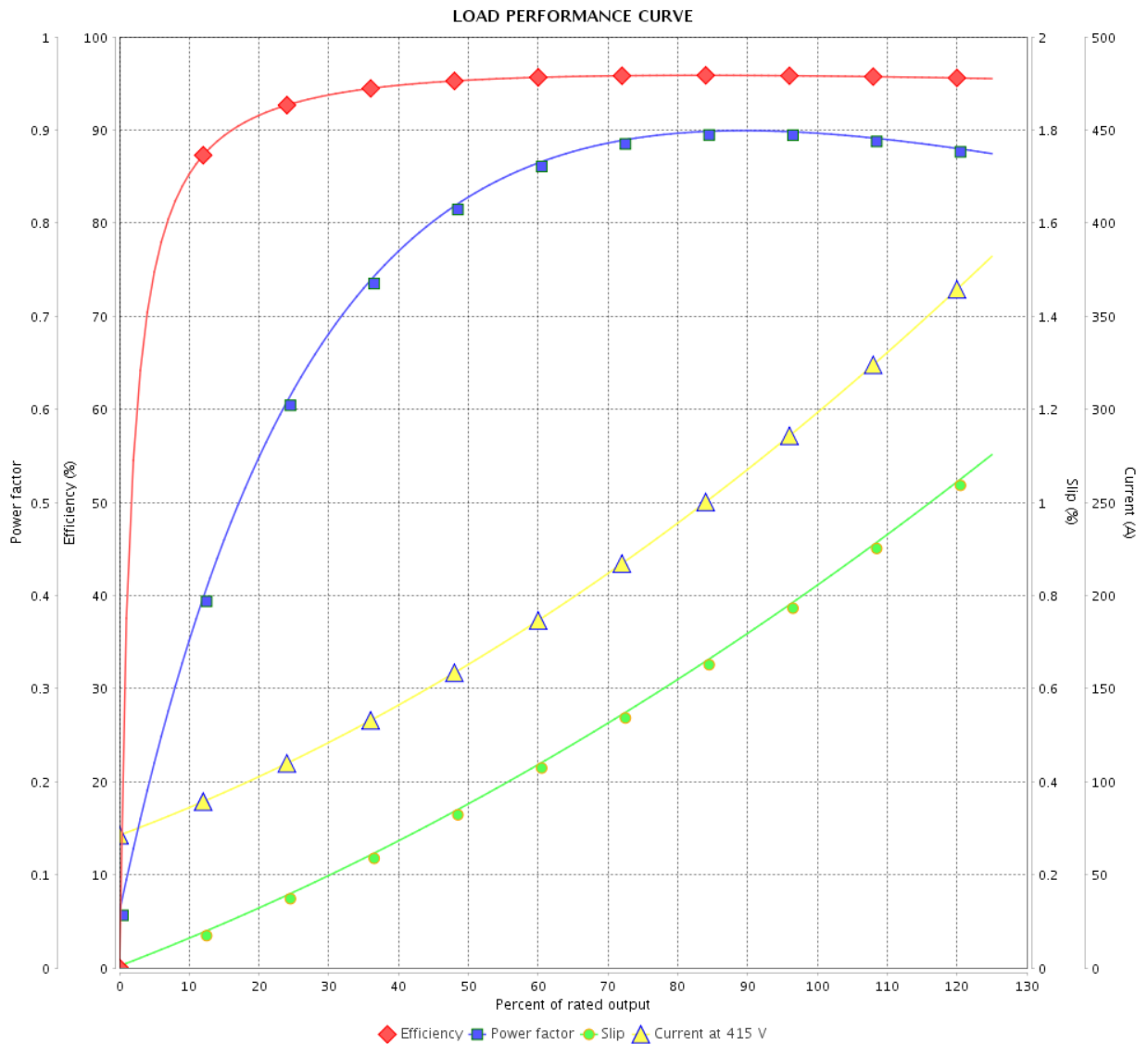


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Performance : 415 V 50 Hz 2P IE3

Rated current : 299 A  
 LRC : 8.0  
 Rated torque : 441 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 280 %  
 Rated speed : 2975 rpm

Moment of inertia (J) : 58.1 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 : 210 %	Service factor : 1.15
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 3570 rpm	Design : B

Heating constant

Cooling constant

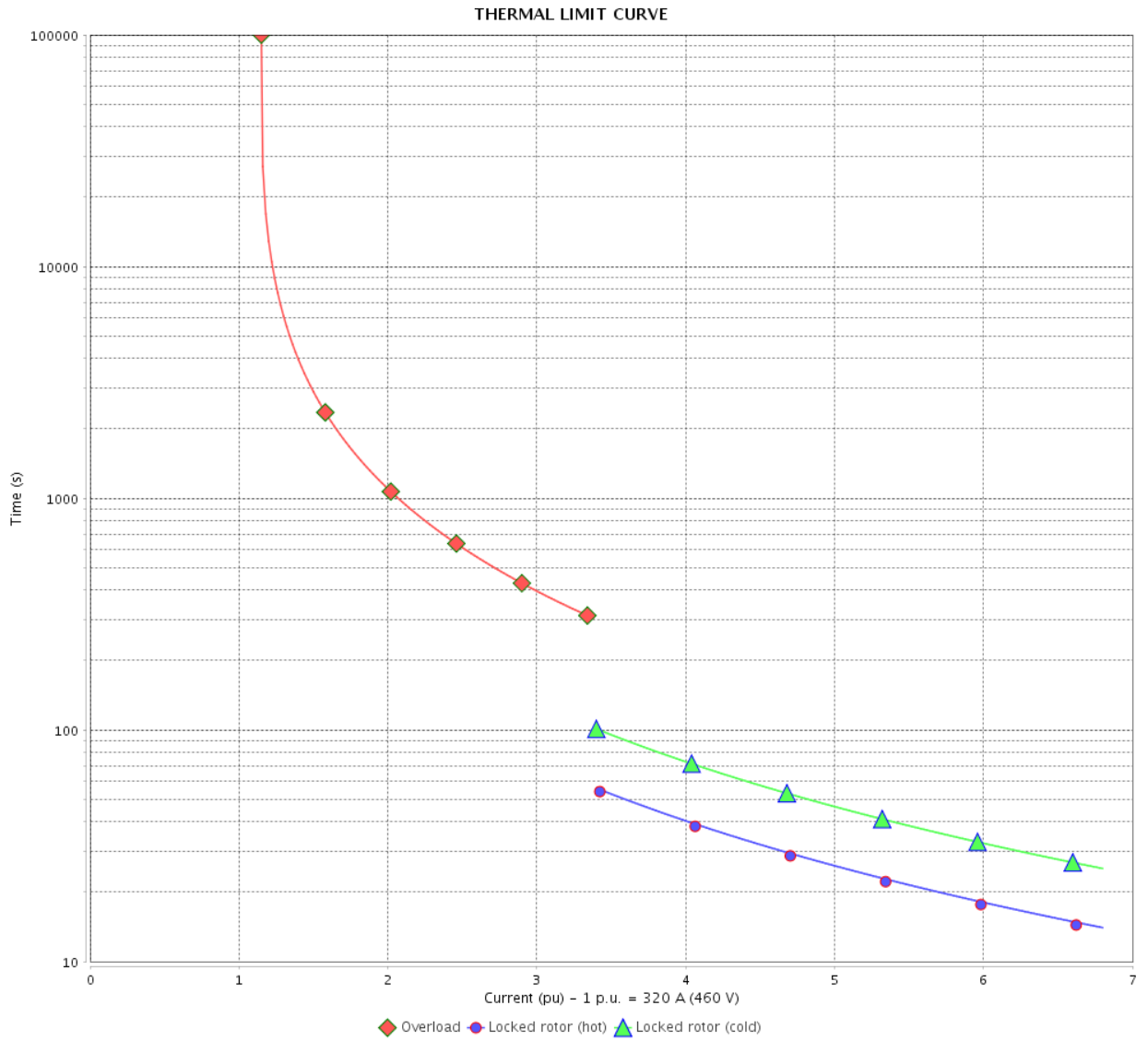
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Three Phase Induction Motor - Squirrel Cage



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Rated speed	: 2970 rpm	Design	: B

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Cooling constant

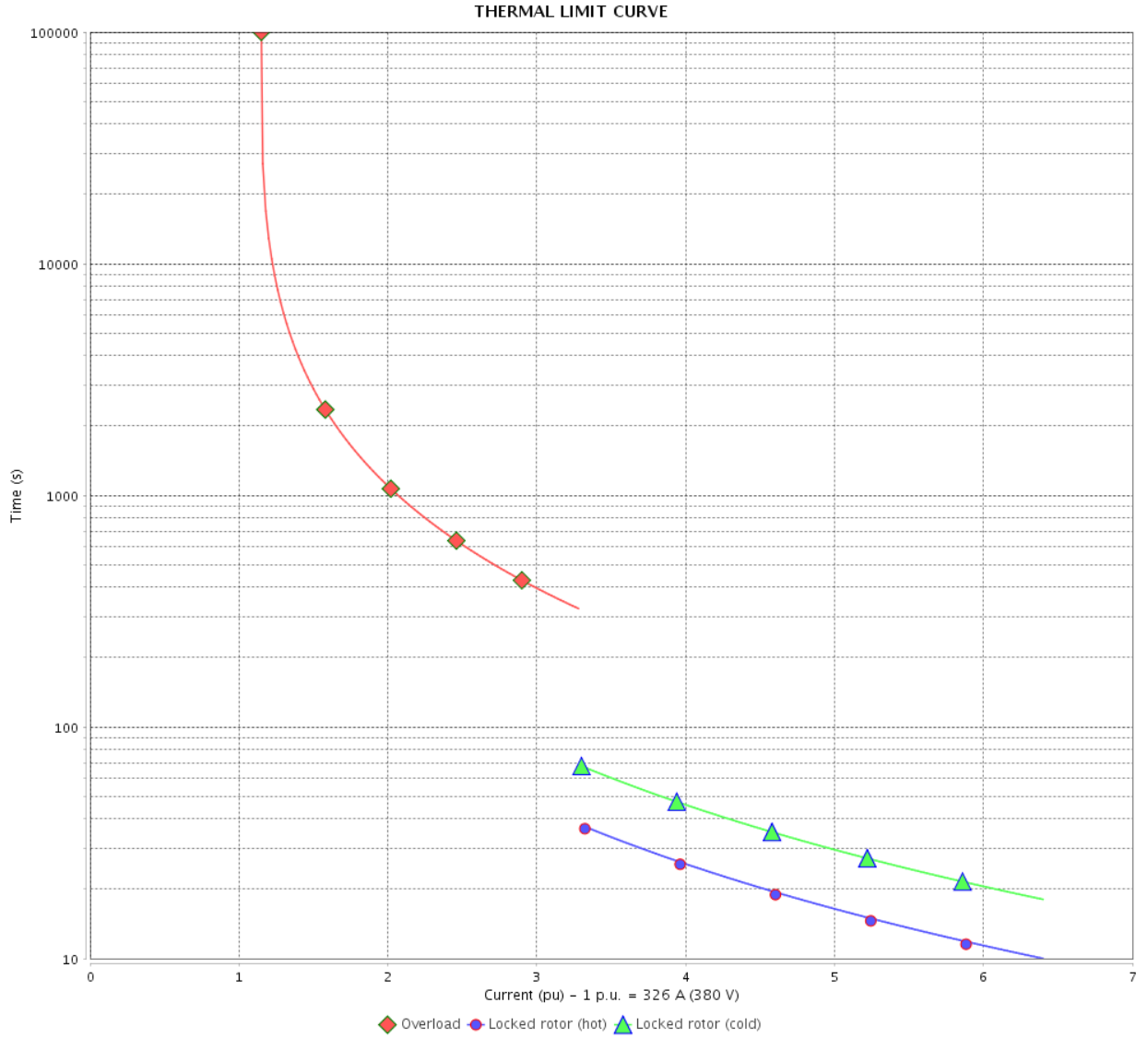
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Performance : 400 V 50 Hz 2P IE3

Rated current	: 310 A	Moment of inertia (J)	: 58.1 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 442 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2970 rpm	Design	: B

Heating constant

Cooling constant

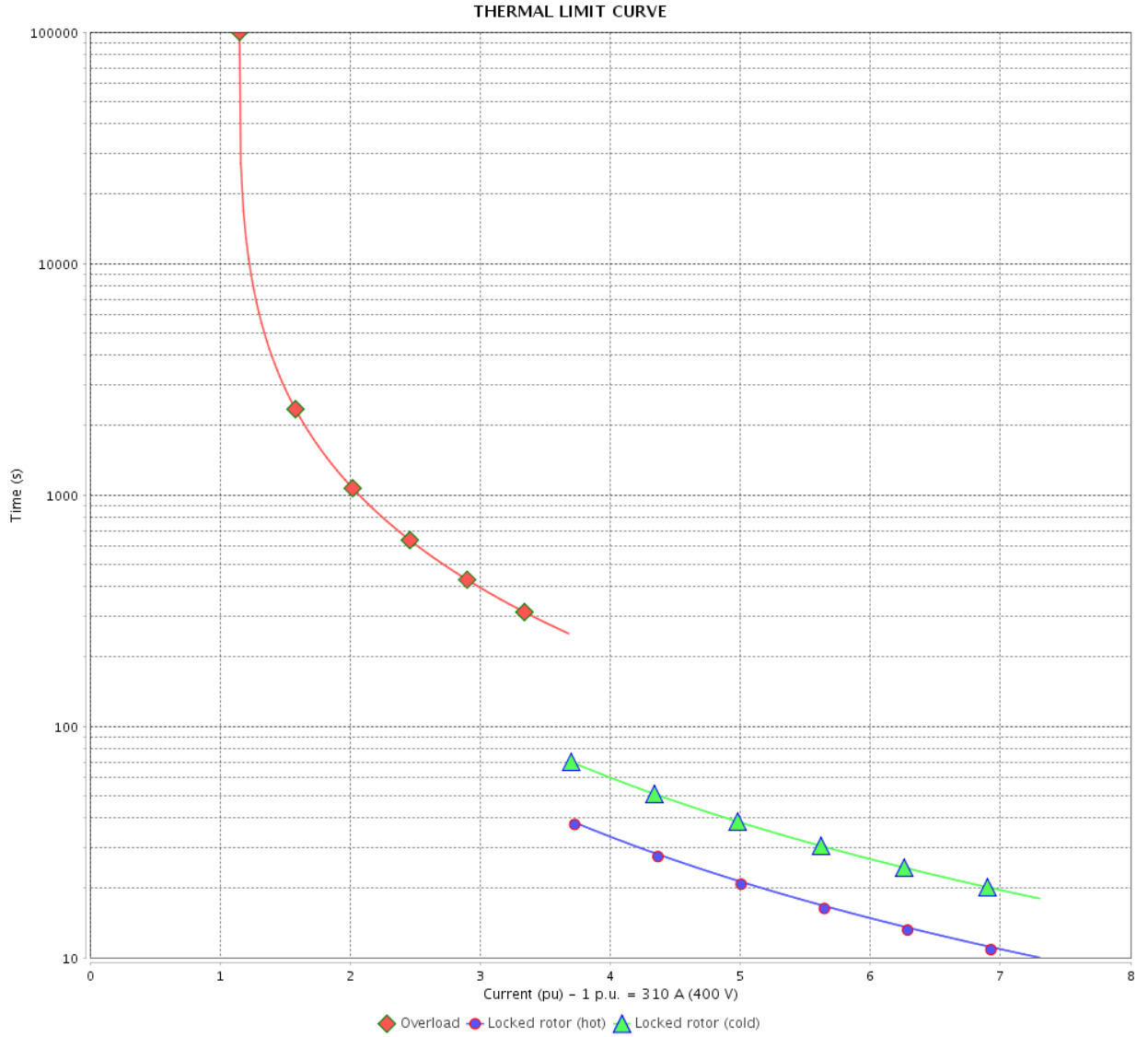
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Performance : 415 V 50 Hz 2P IE3

Rated current : 299 A	Moment of inertia (J) : 58.1 sq.ft.lb
LRC : 8.0	Duty cycle : Cont.(S1)
Rated torque : 441 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 280 %	Temperature rise : 80 K
Rated speed : 2975 rpm	Design : B

Heating constant

Cooling constant

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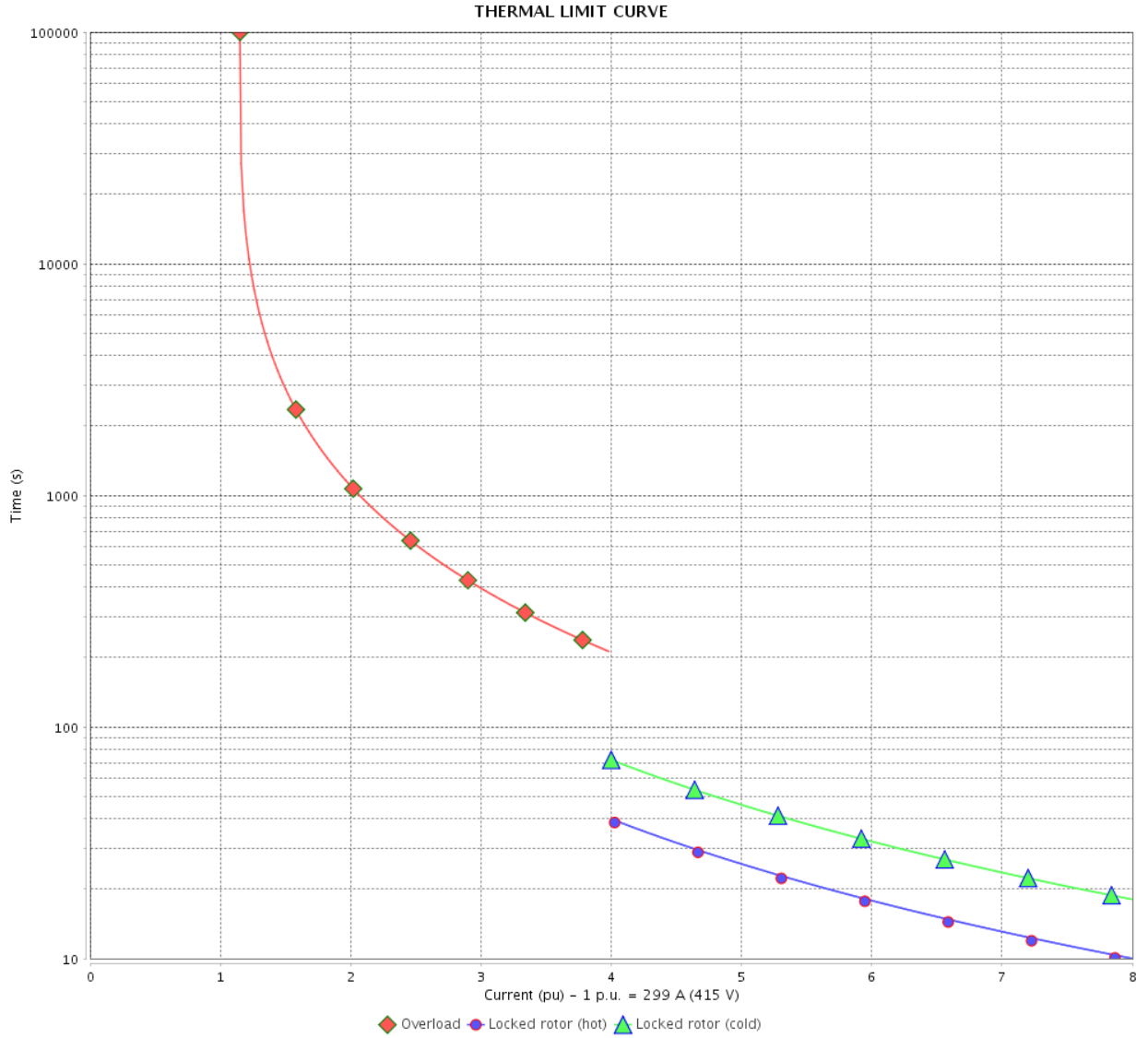


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Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



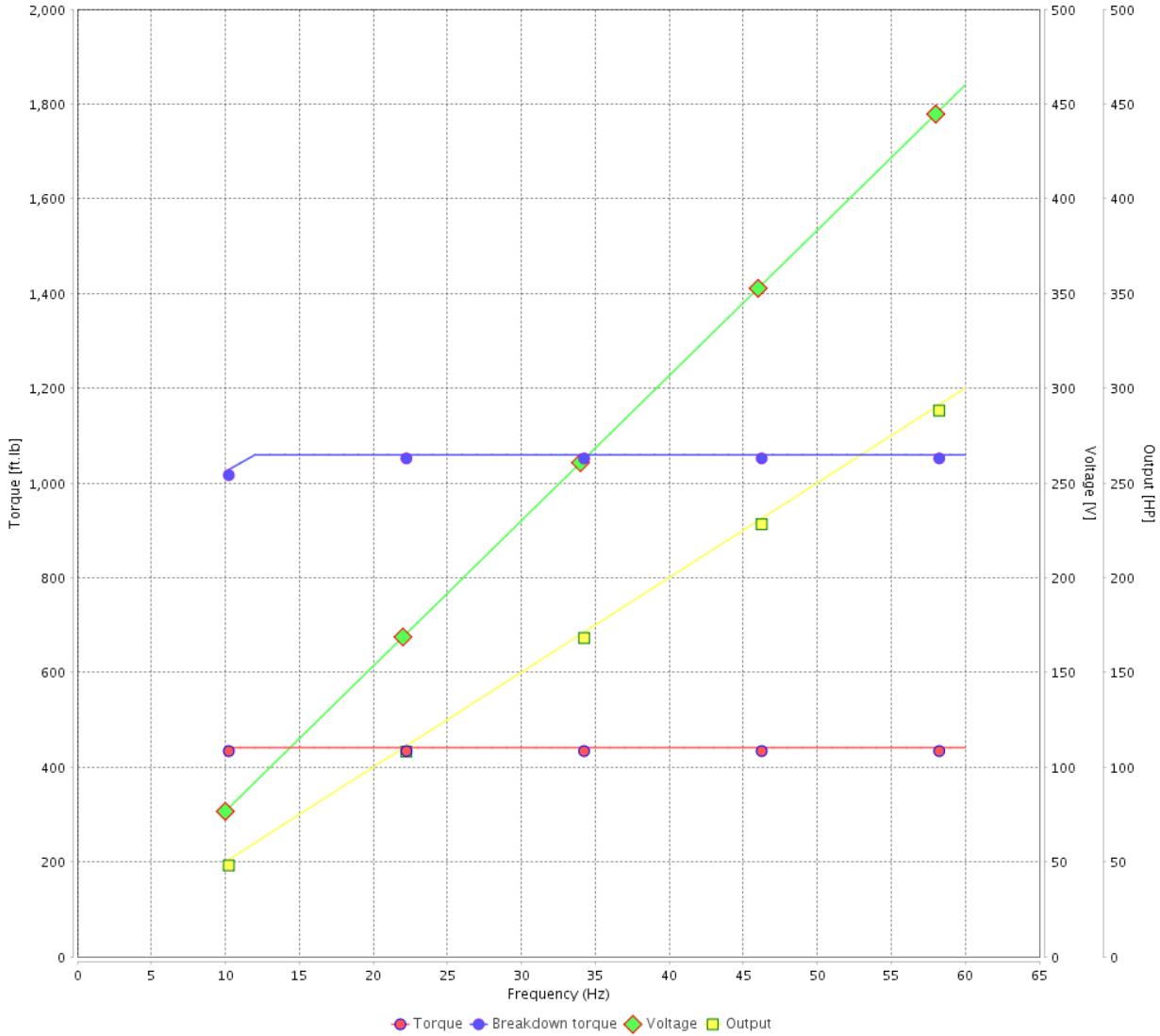
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VFD OPERATION CURVE



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Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 3570 rpm	Design	: B

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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

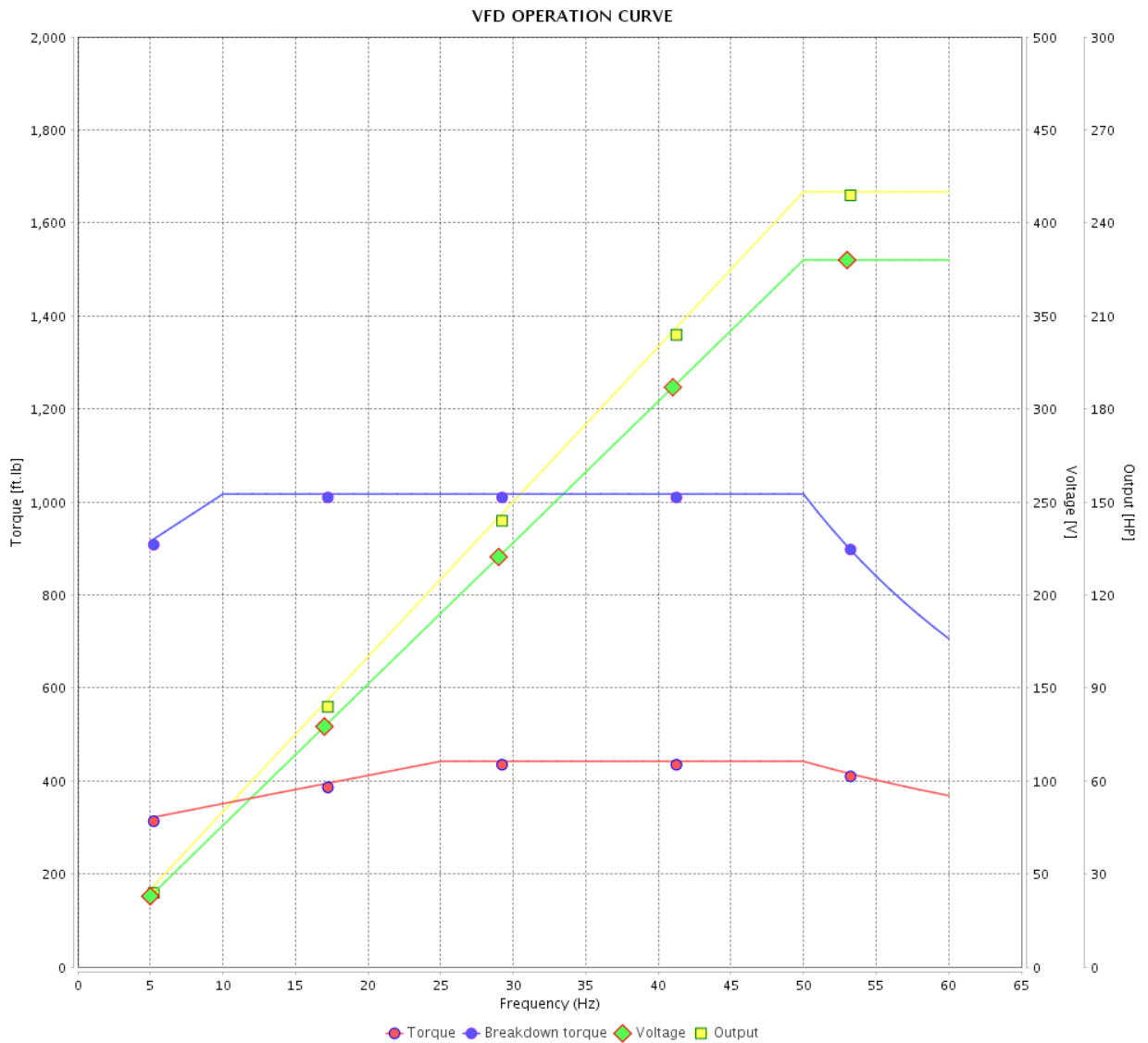


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Performance : 380 V 50 Hz 2P IE3

Rated current : 326 A  
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 Breakdown torque : 229 %  
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Moment of inertia (J) : 58.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 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



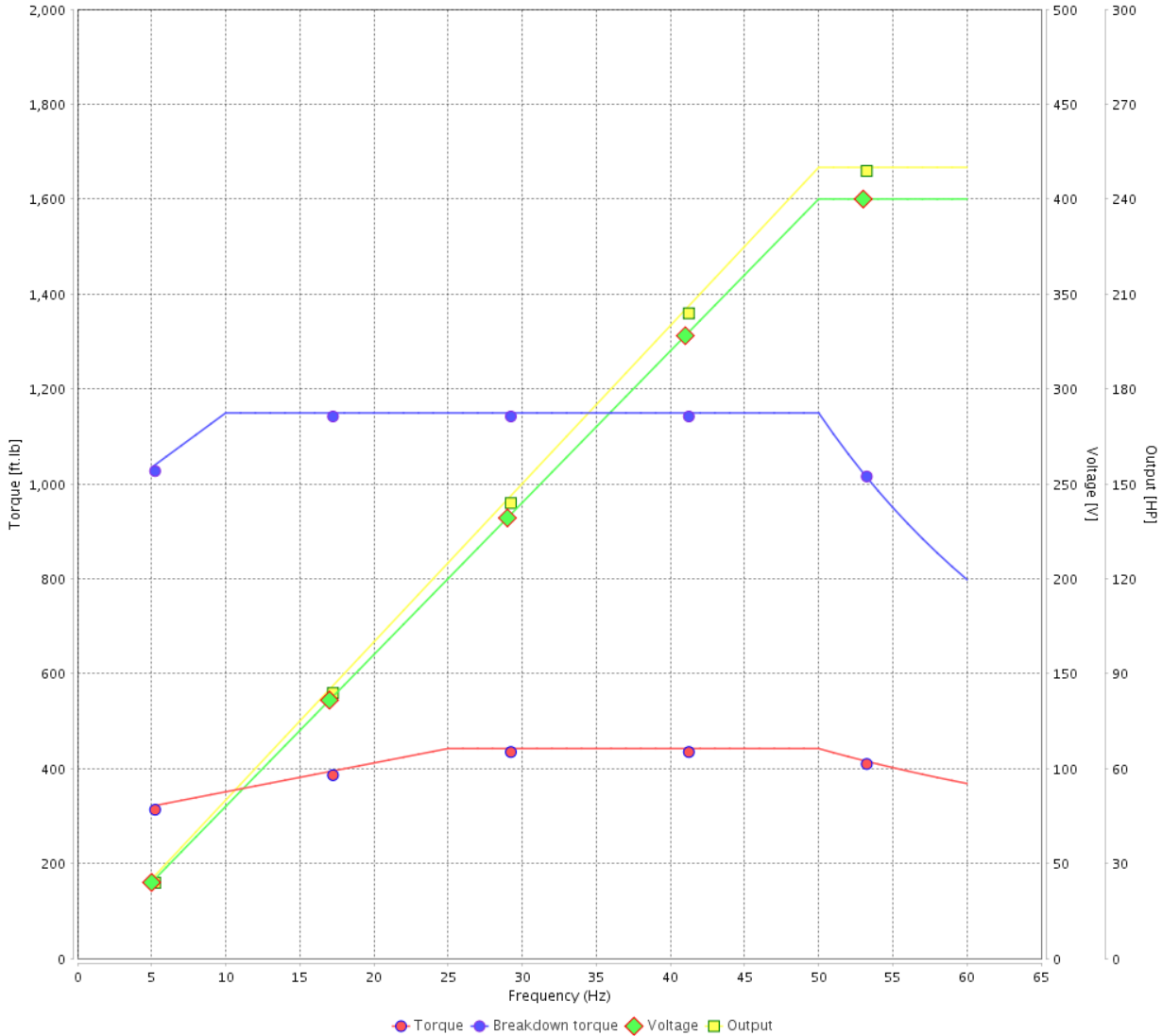
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Rated current	: 310 A	Moment of inertia (J)	: 58.1 sq.ft.lb
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# VFD OPERATION CURVE

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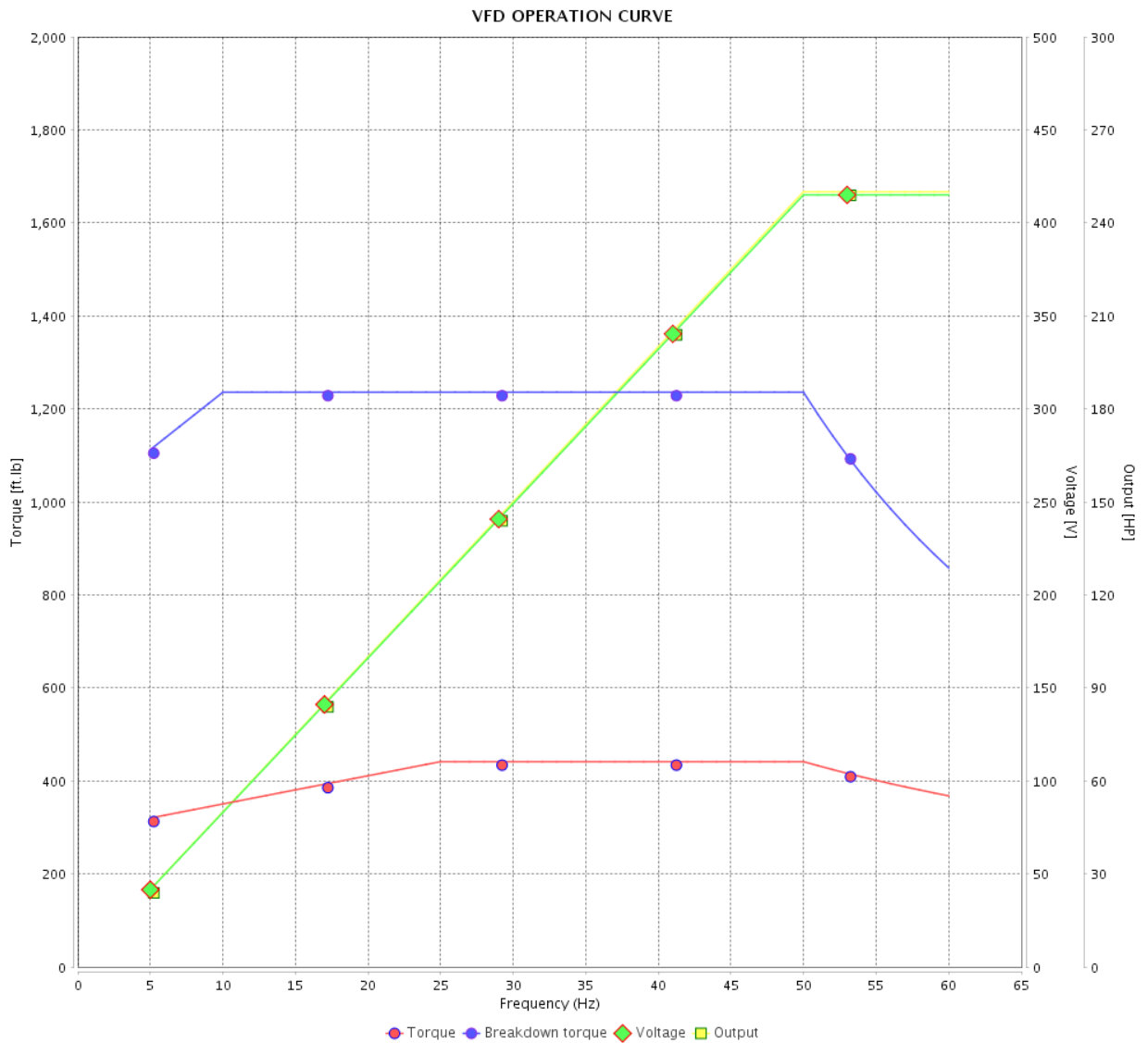


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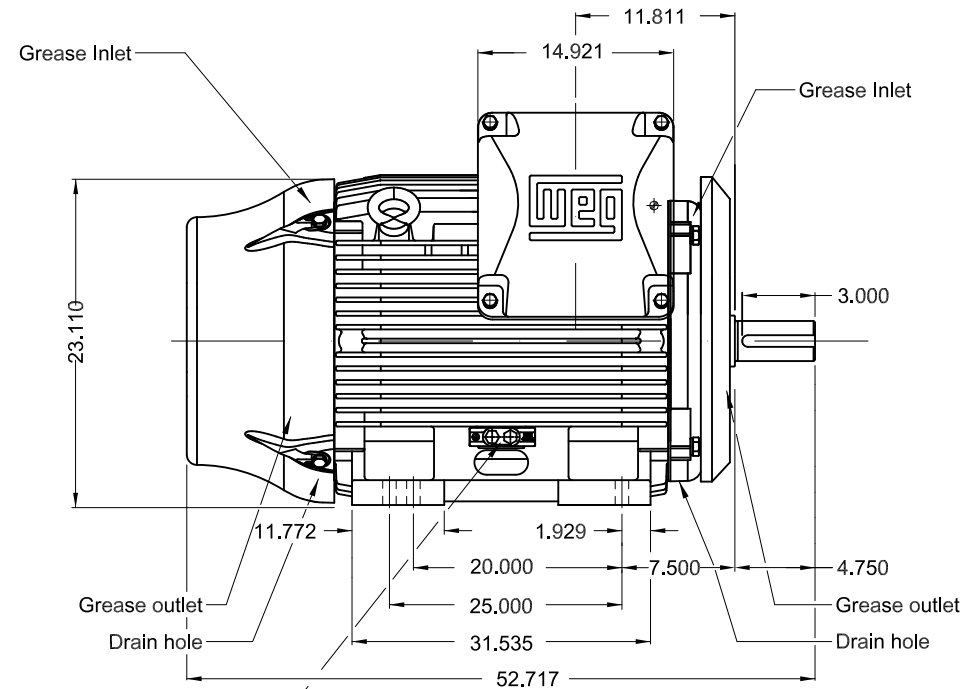
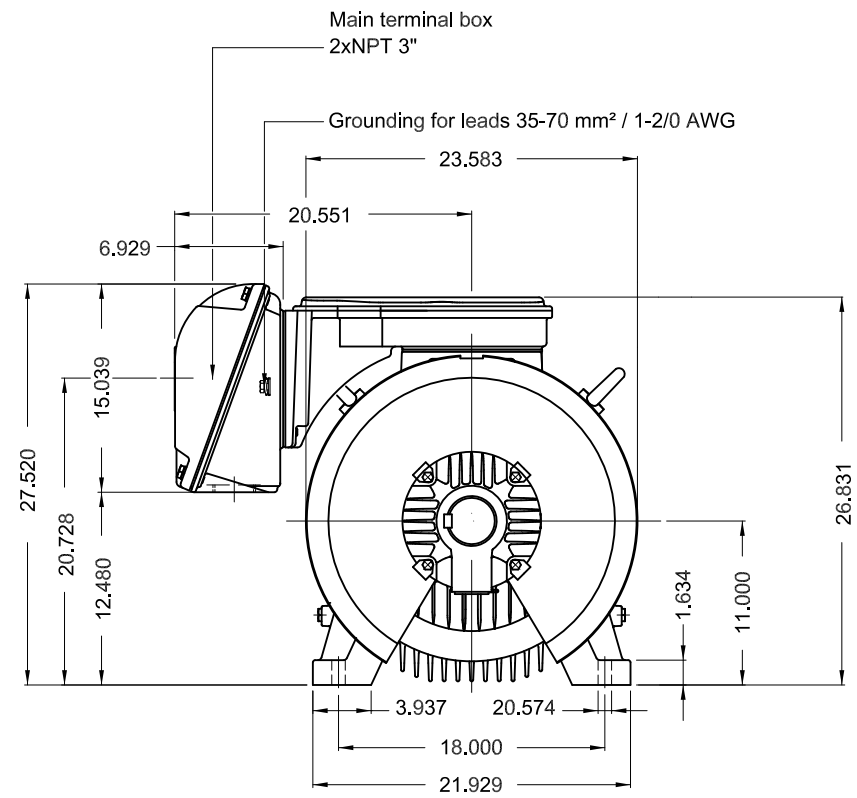


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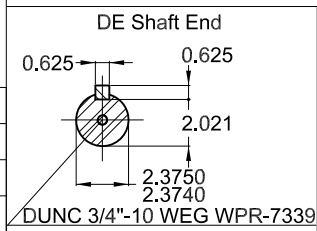
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Grounding for leads 25-185 mm<sup>2</sup> / 3AWG-350MCM

Drive-End Air Deflector  
 Color RAL 5009  
 Painting plan 203A  
 Mounting B3R(D)



300 HP 02 Poles 60 Hz

A

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

PREVIEW  
 WDD



MADE IN MEXICO  
11963274



FOR SAFE AREA  
Mod.TE1BFOXON  
CC029A

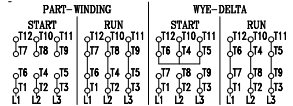


Class I, Div 2, Gr A, B, C and D - T3  
Class I, Zone 2, IIC - T3  
Class II, Div 2, Gr F and G - T3C  
For use on PWM: Gr. A, B, C, D and F,  
VT 1000:1, CT 6:1, 1.00SF - T3

MODEL 30036ET3G449TS-W22

Inverter Duty Motor  
Severe Duty

PH3	60Hz	Fr. 447/9TS	1000m.a.s.l.	IP55	TEFC	2800lb
V 460				A 320		
HP 300				kW 220		
SF 1.15				SFA 368		
RPM 3570				PF 0.90		
AMB 40°C				INS cl. F DT80K	NEMA NOM EFF 95.8%	
DUTY CONT.				DES B Code G		



→ 6314-C3 (27g)  
 → 6314-C3 (27g)

MOBIL POLYREX EM (4000h)