

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12389902		
		Catalog # :	20018ST3QIERB447T-W2		
Frame	: 445/7T	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: F-1		
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)		
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line		
Altitude	: 1000 m.a.s.l.	Approx. weight ²	: 2328 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]	460	380	400	415	
Rated current [A]	230	279	264	257	
L. R. Amperes [A]	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]	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 ²	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	: <u>Drive end</u> NU-319 C3	<u>Non drive end</u> 6316 C3	Foundation loads		
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction	: 3376 lb	
Lubrication interval	: 5000 h	10000 h	Max. compression	: 5704 lb	
Lubricant amount	: 45 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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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



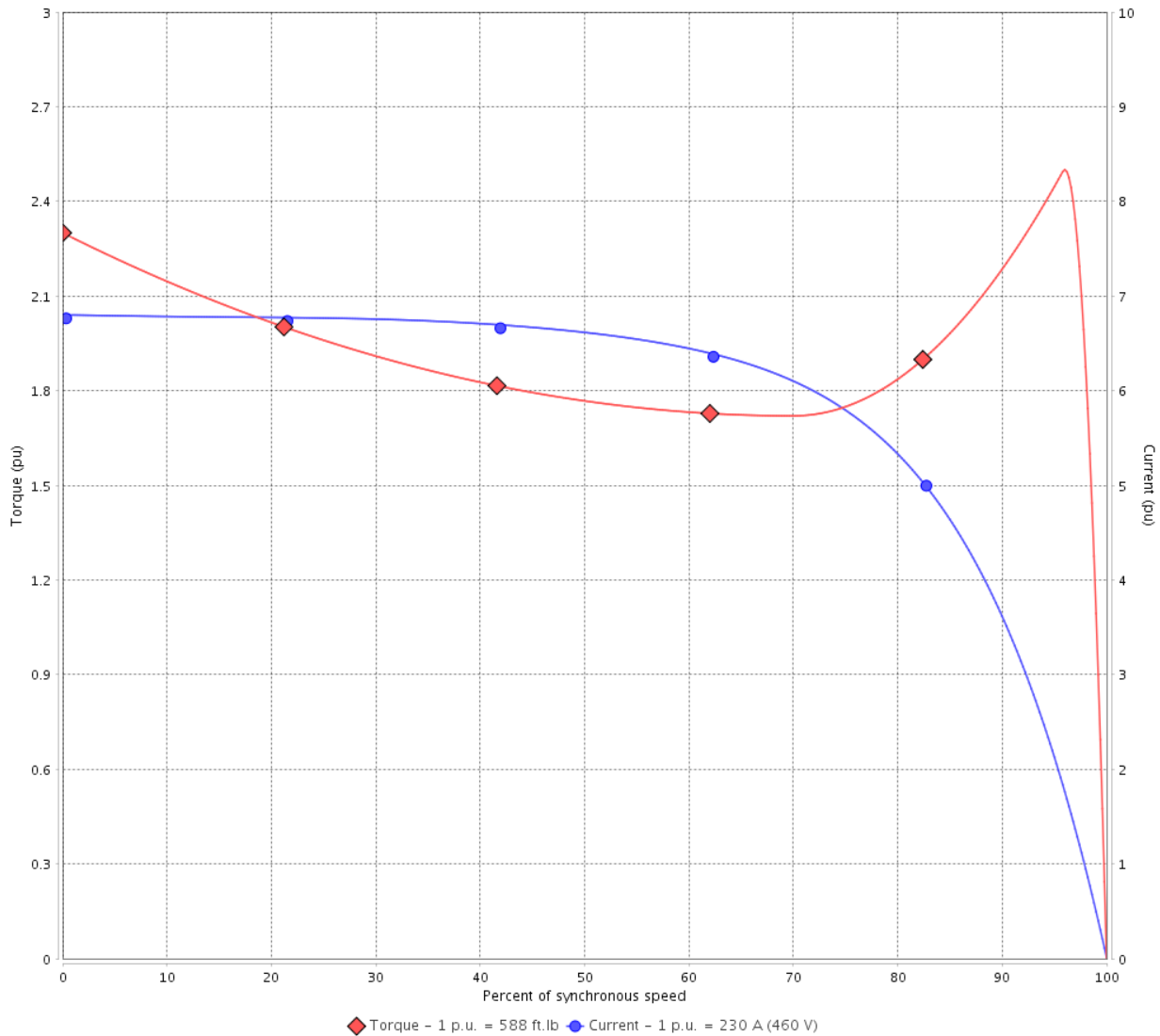
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12389902

Catalog # : 20018ST3QIERB447T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 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



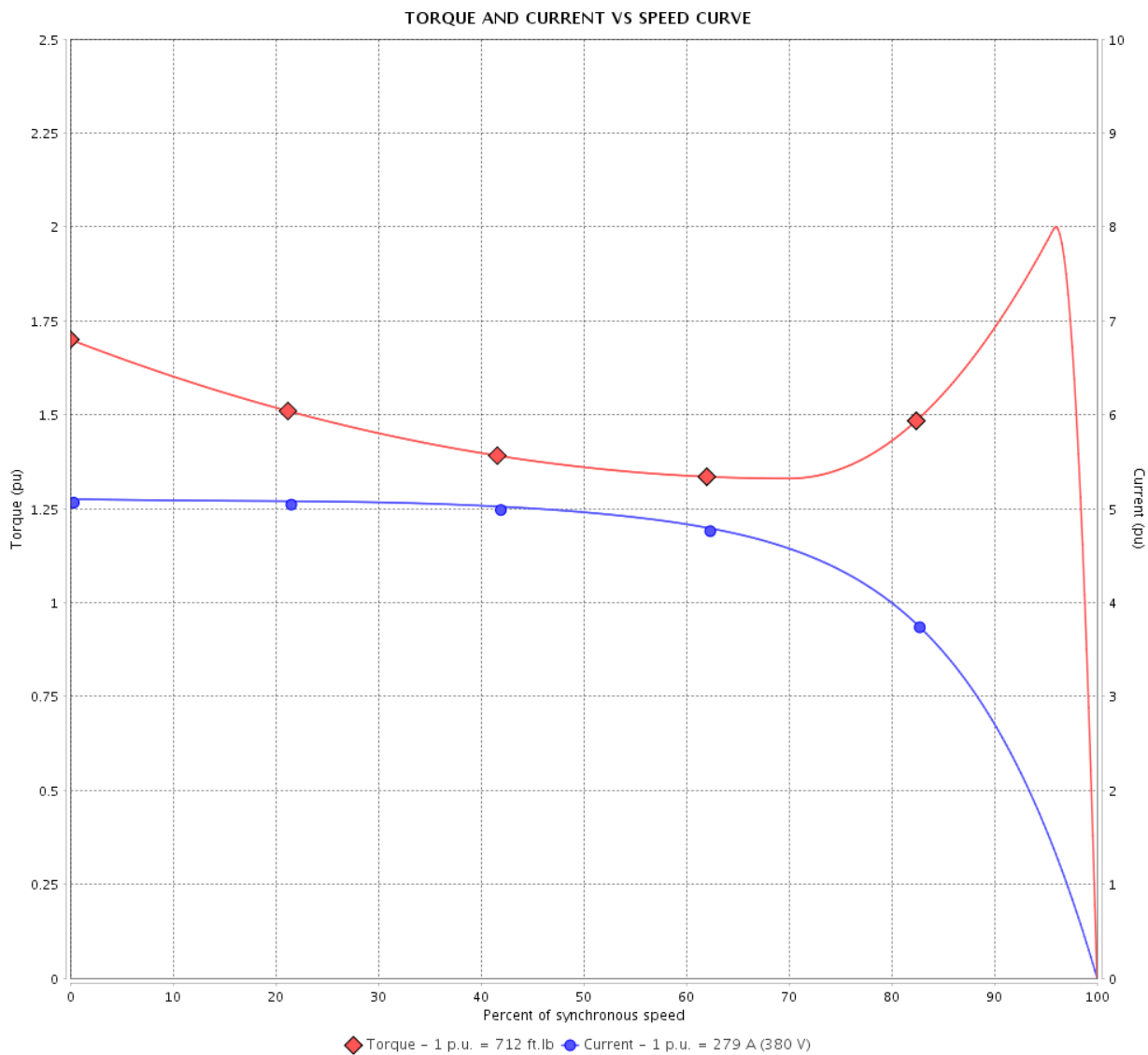
Three Phase Induction Motor - Squirrel Cage

Customer :

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Product code : 12389902

Catalog # : 20018ST3QIERB447T-W2



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



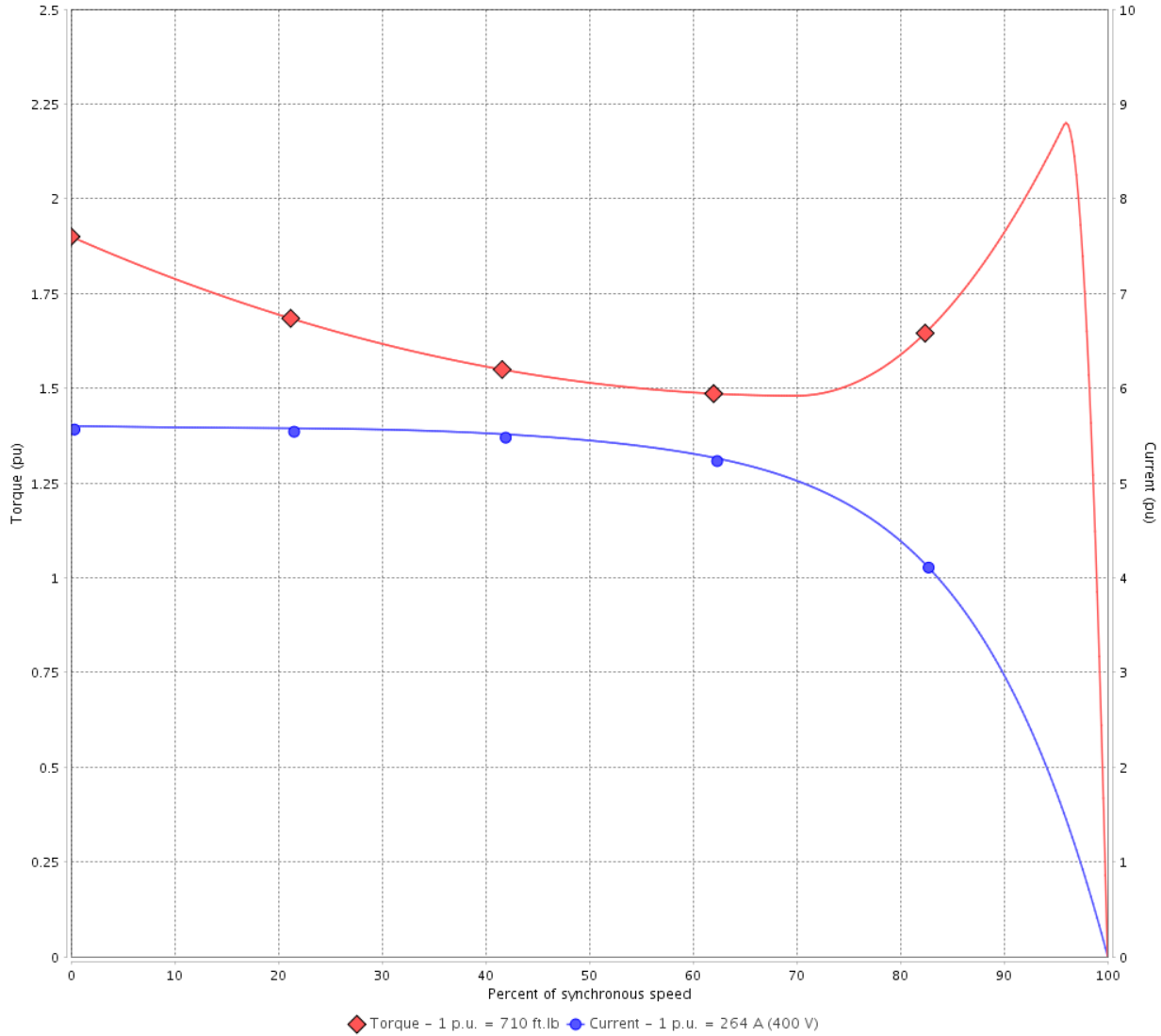
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TORQUE AND CURRENT VS SPEED CURVE



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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TORQUE AND CURRENT VS SPEED CURVE



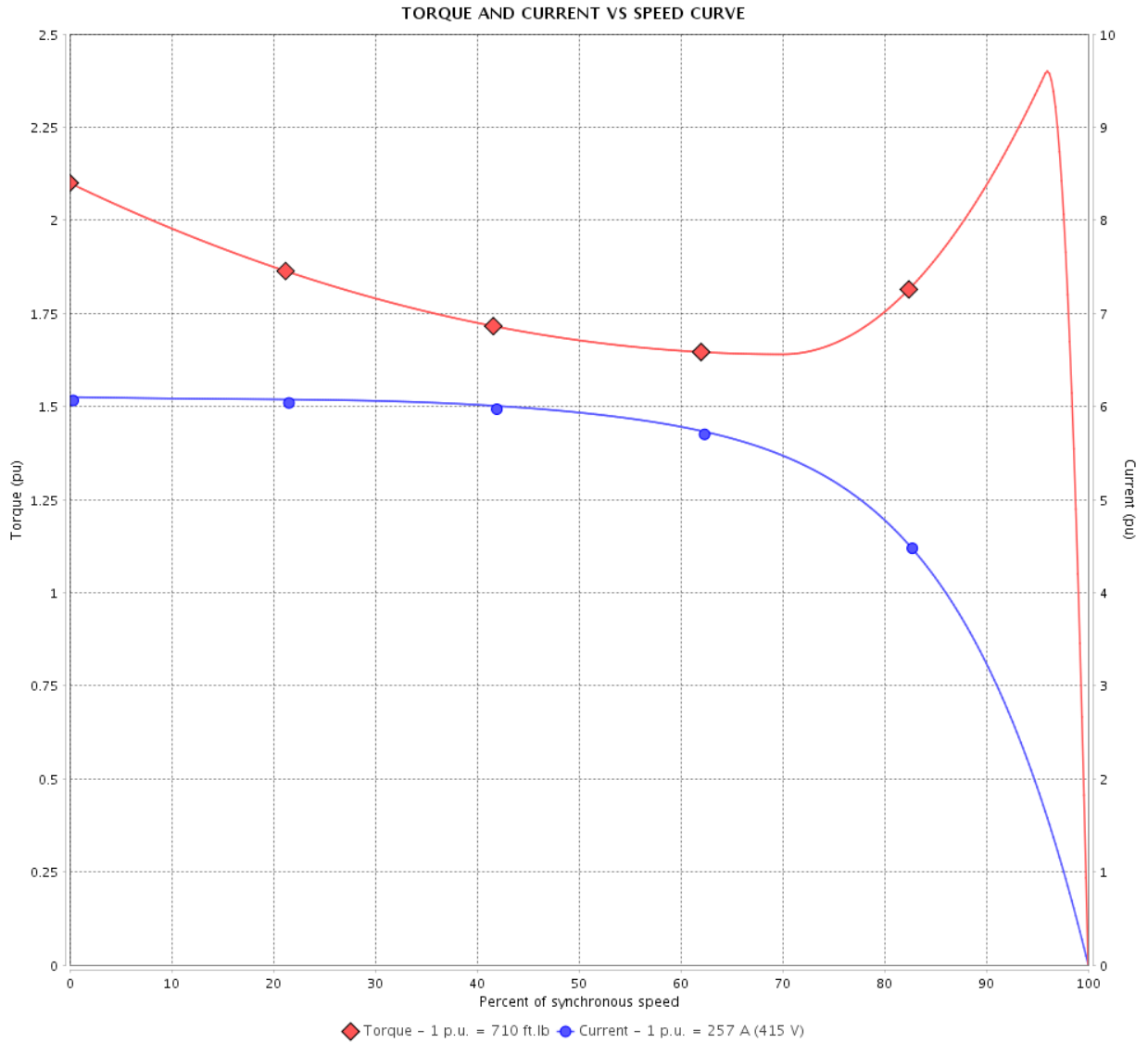
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LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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

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LOAD PERFORMANCE CURVE

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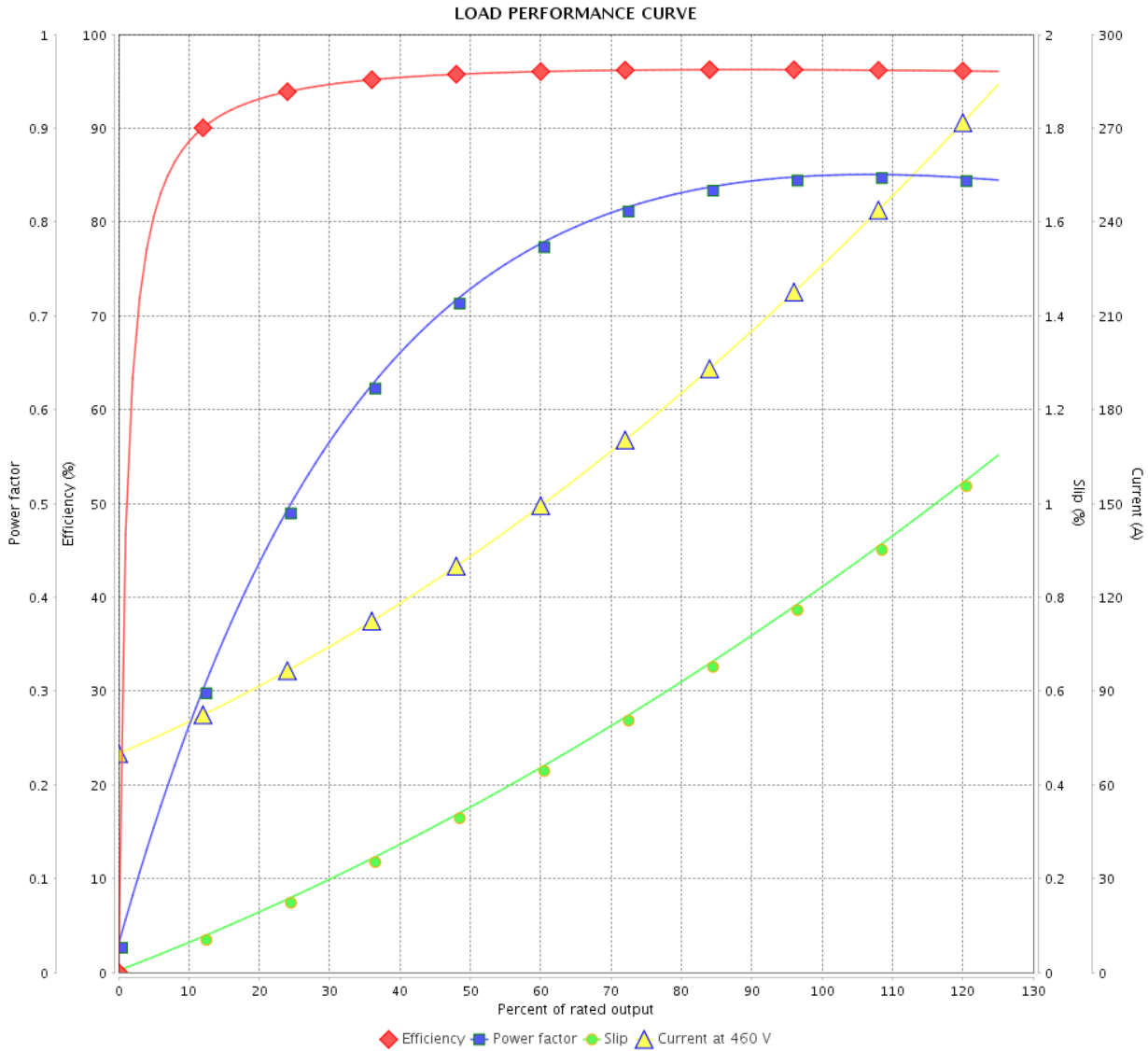


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Performance : 460 V 60 Hz 4P

Rated current : 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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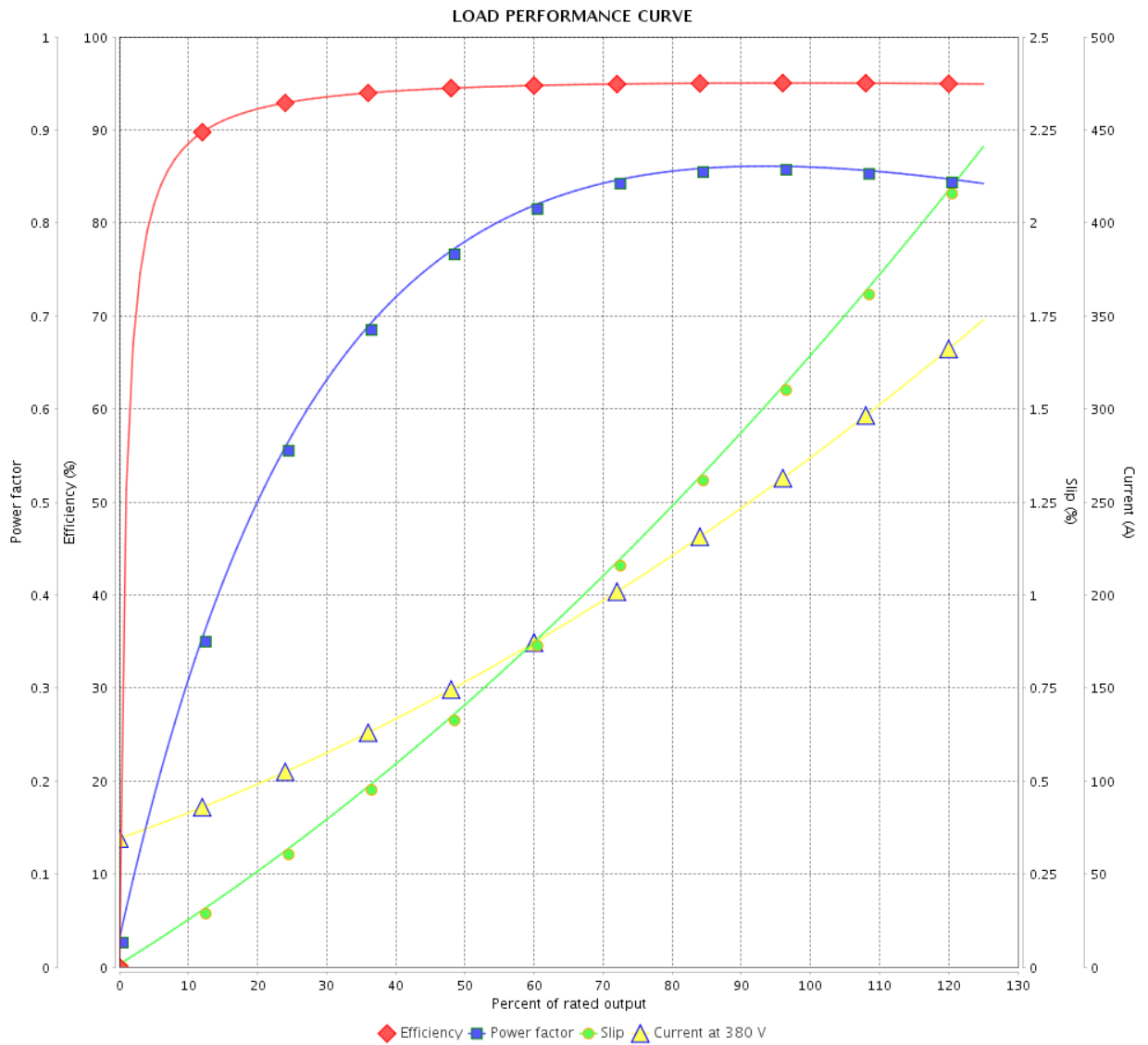


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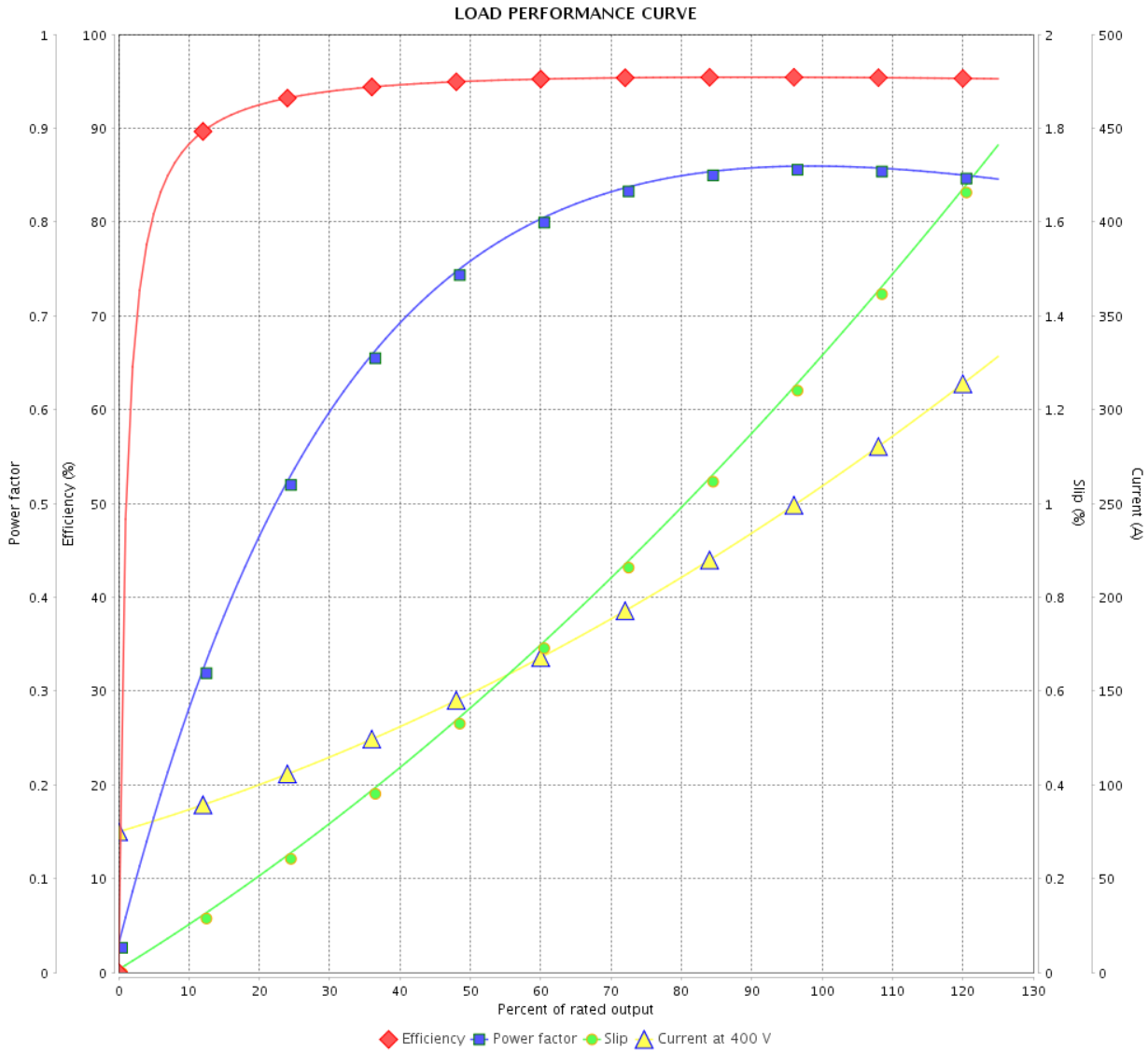


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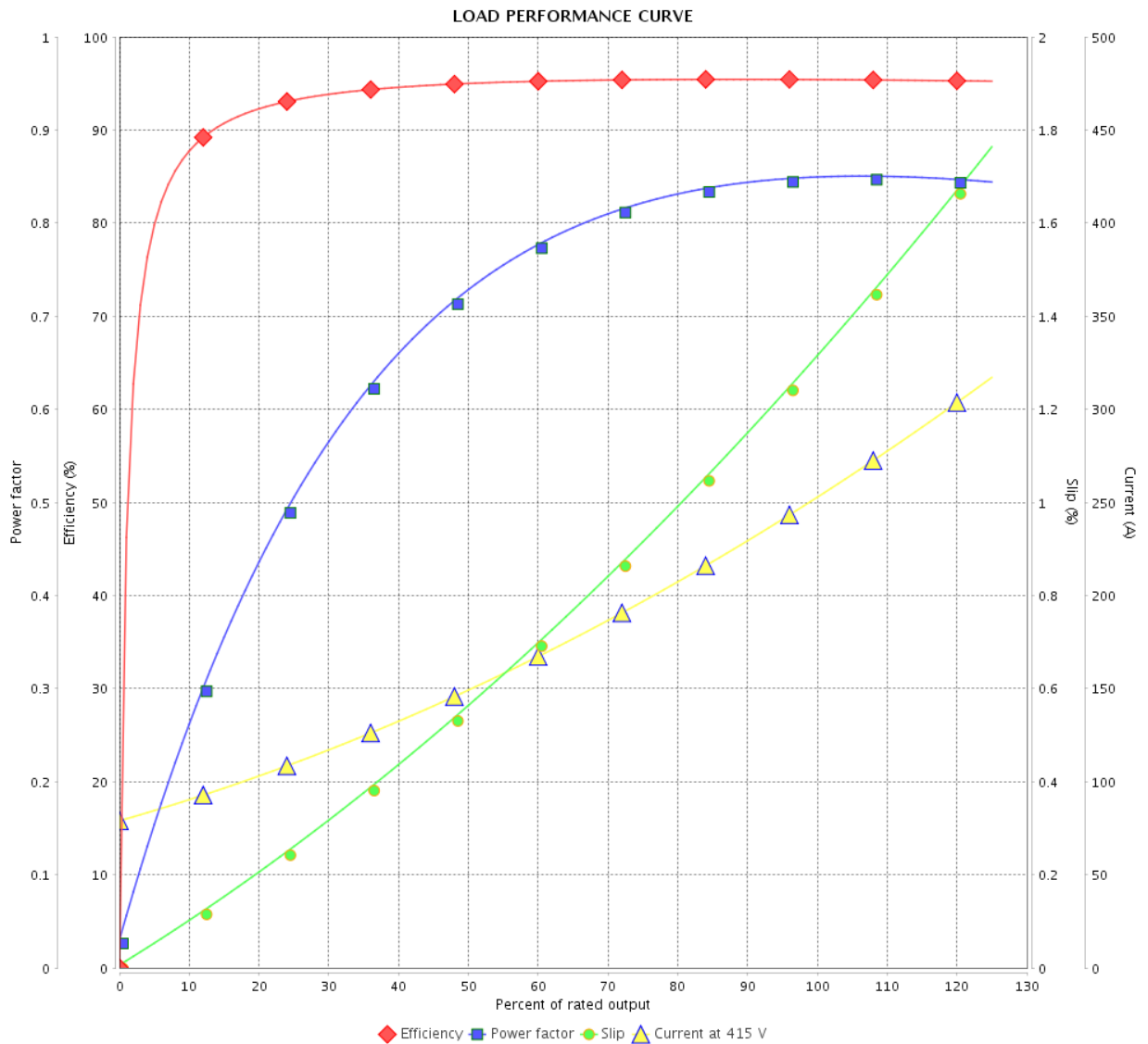


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THERMAL LIMIT CURVE

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Heating constant

Cooling constant

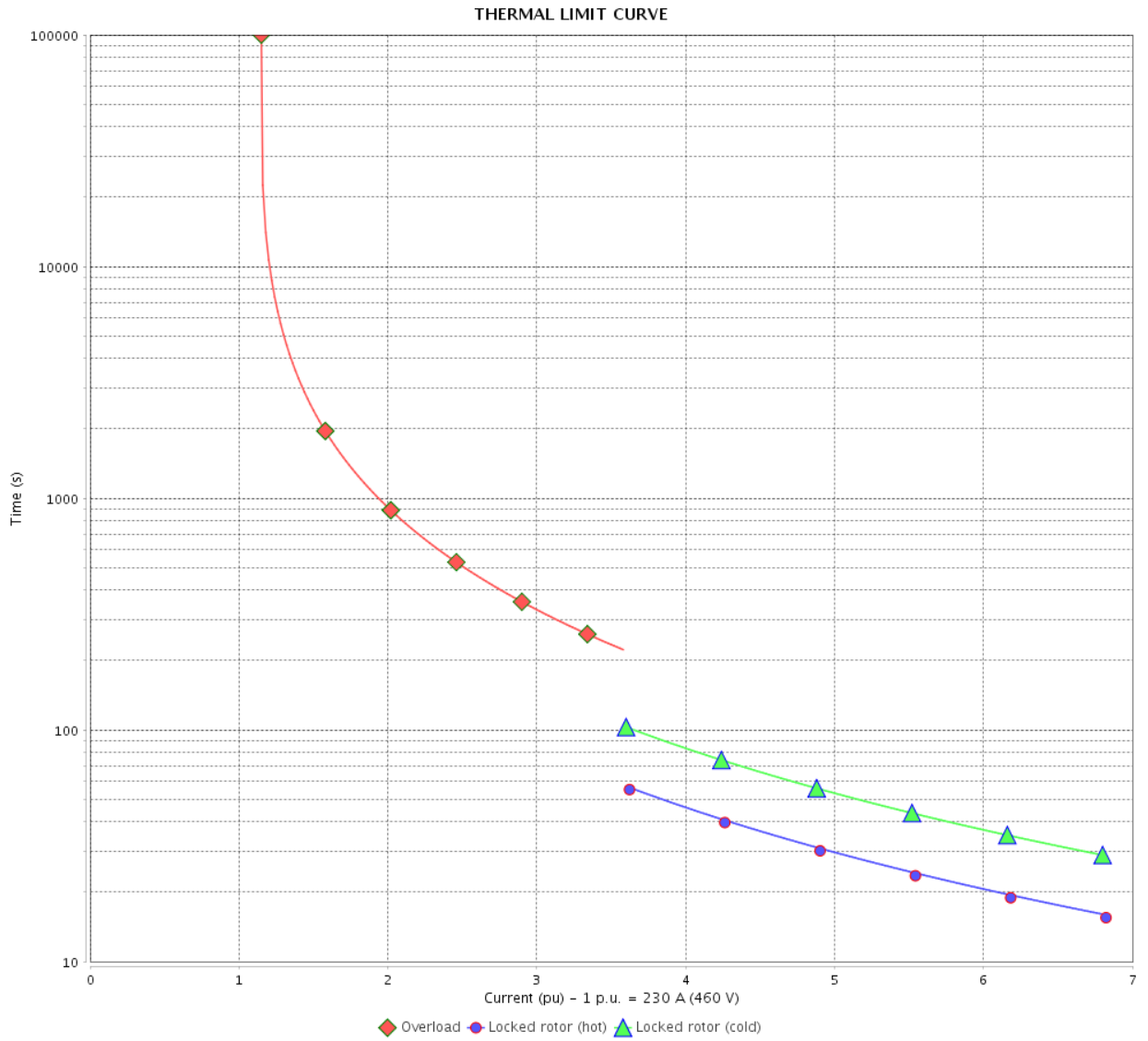
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Cooling constant

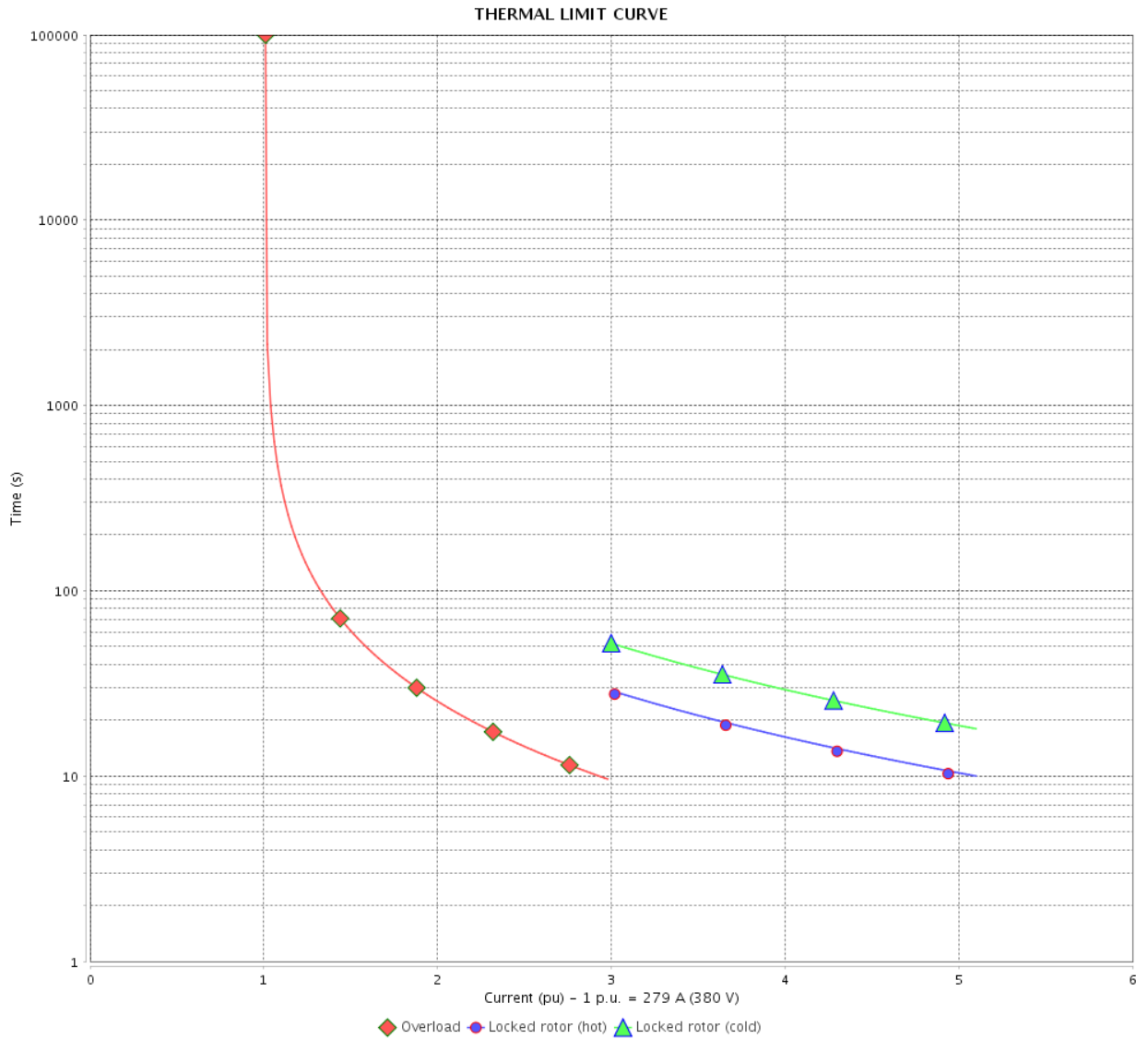
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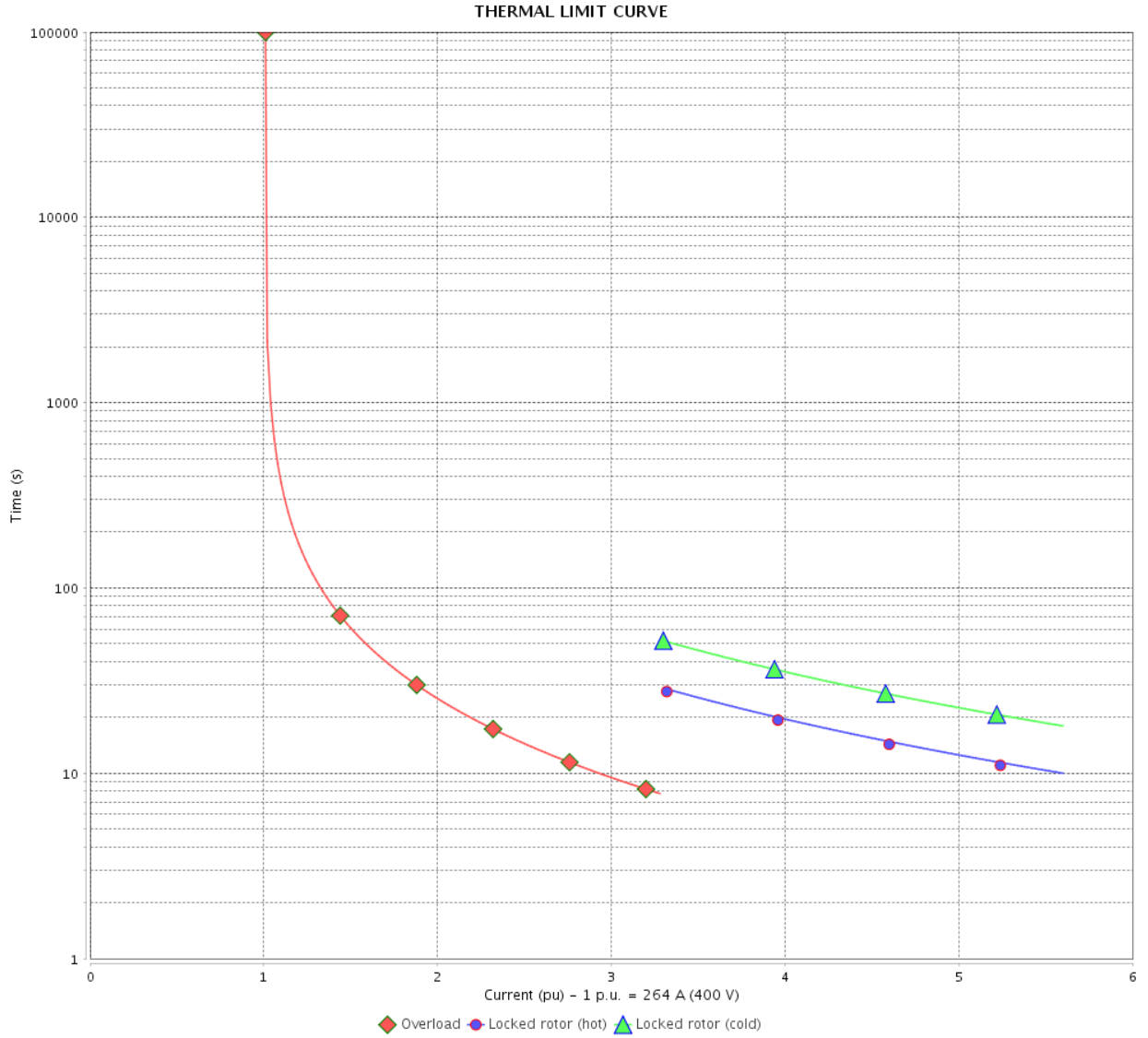
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Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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Cooling constant

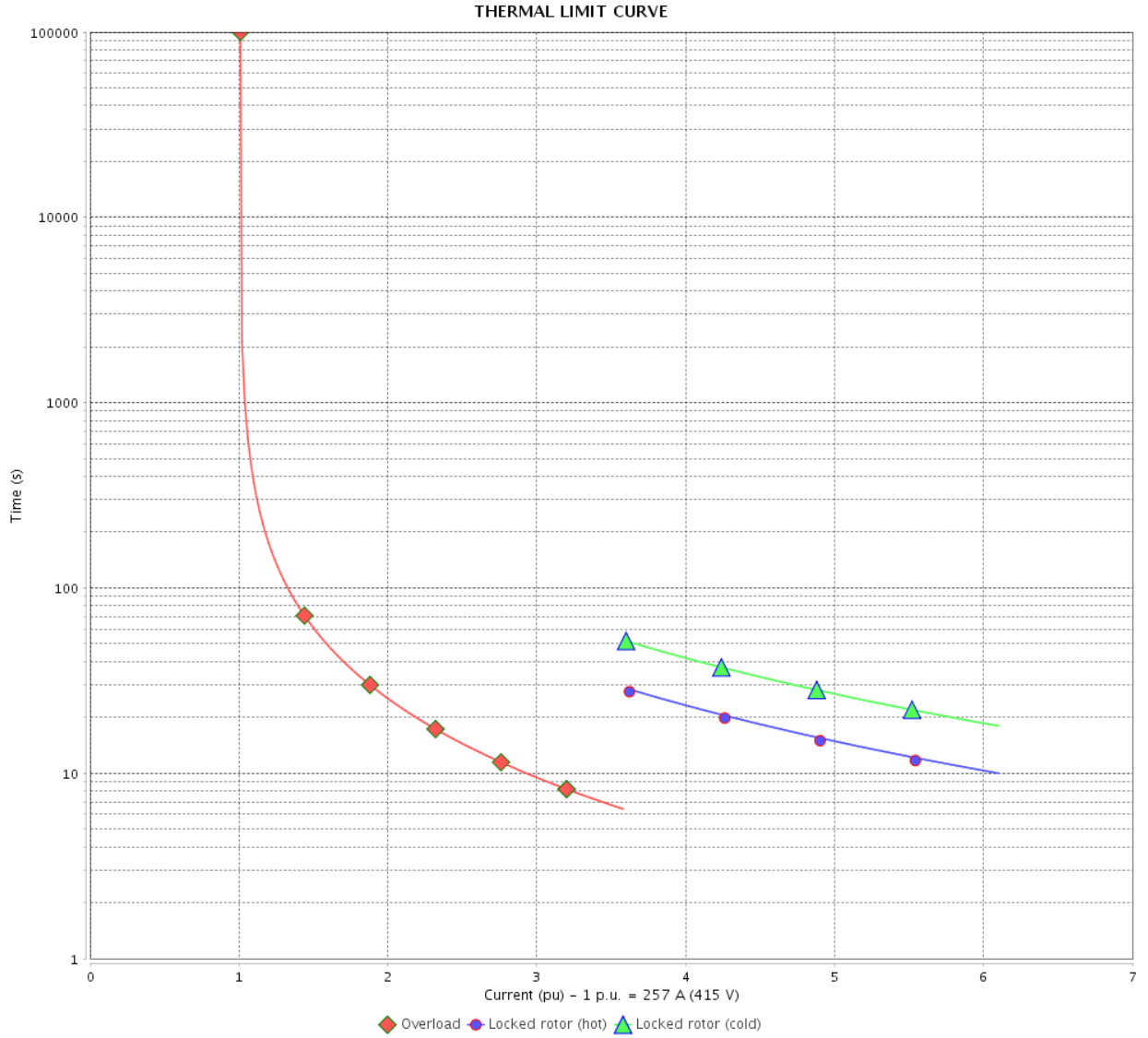
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

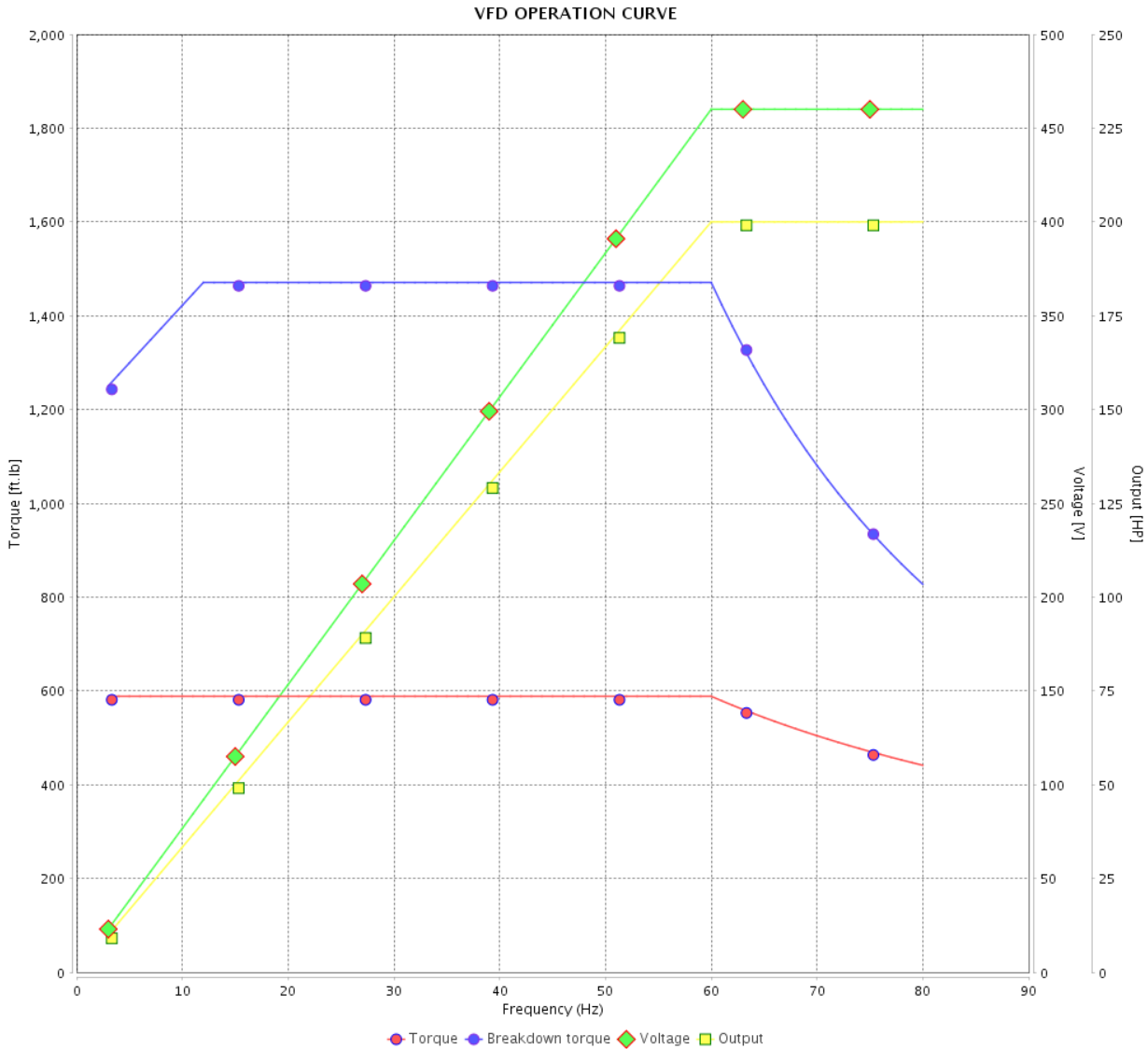


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Rev.	Changes Summary	Performed	Checked	Date
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

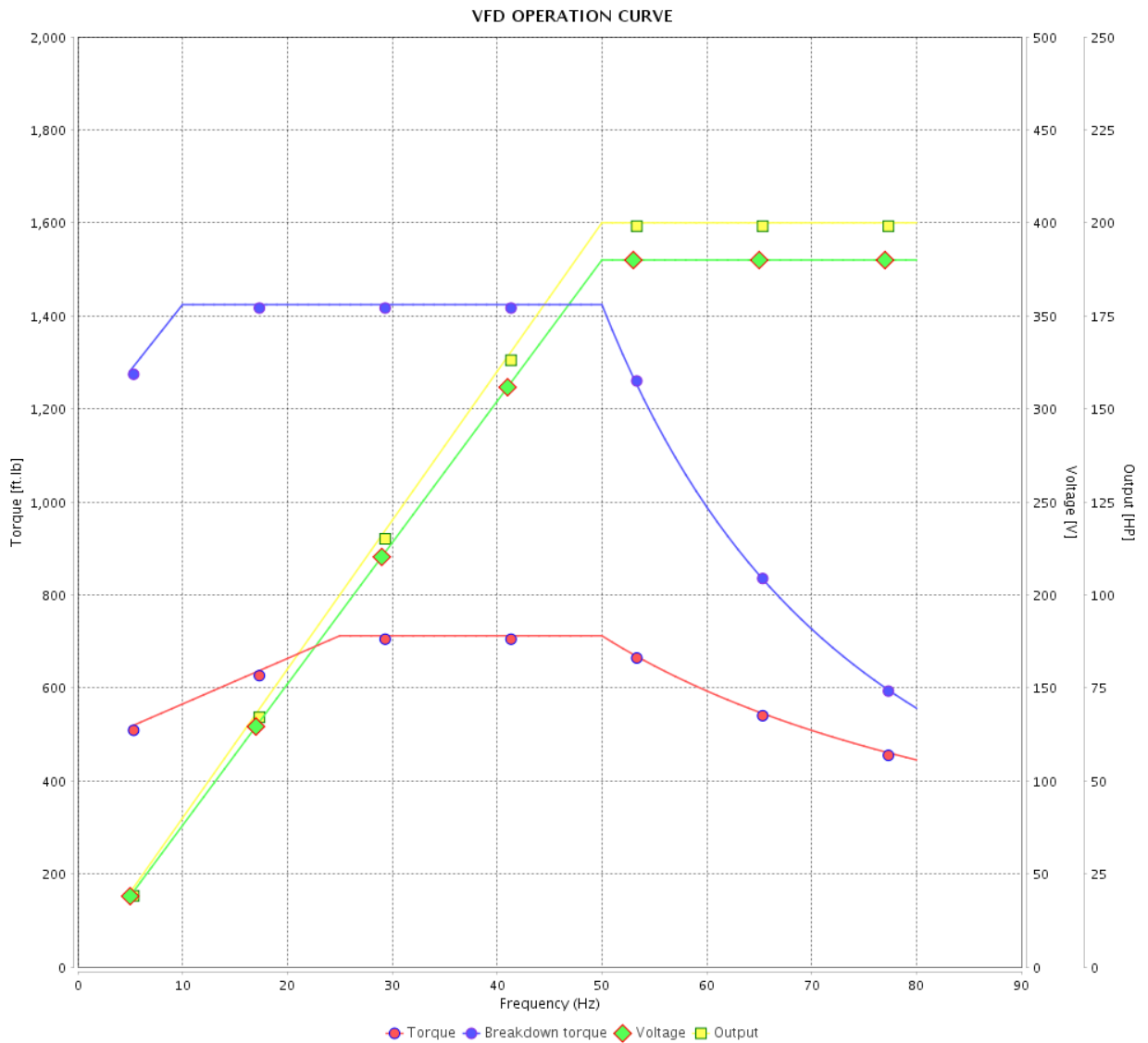


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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



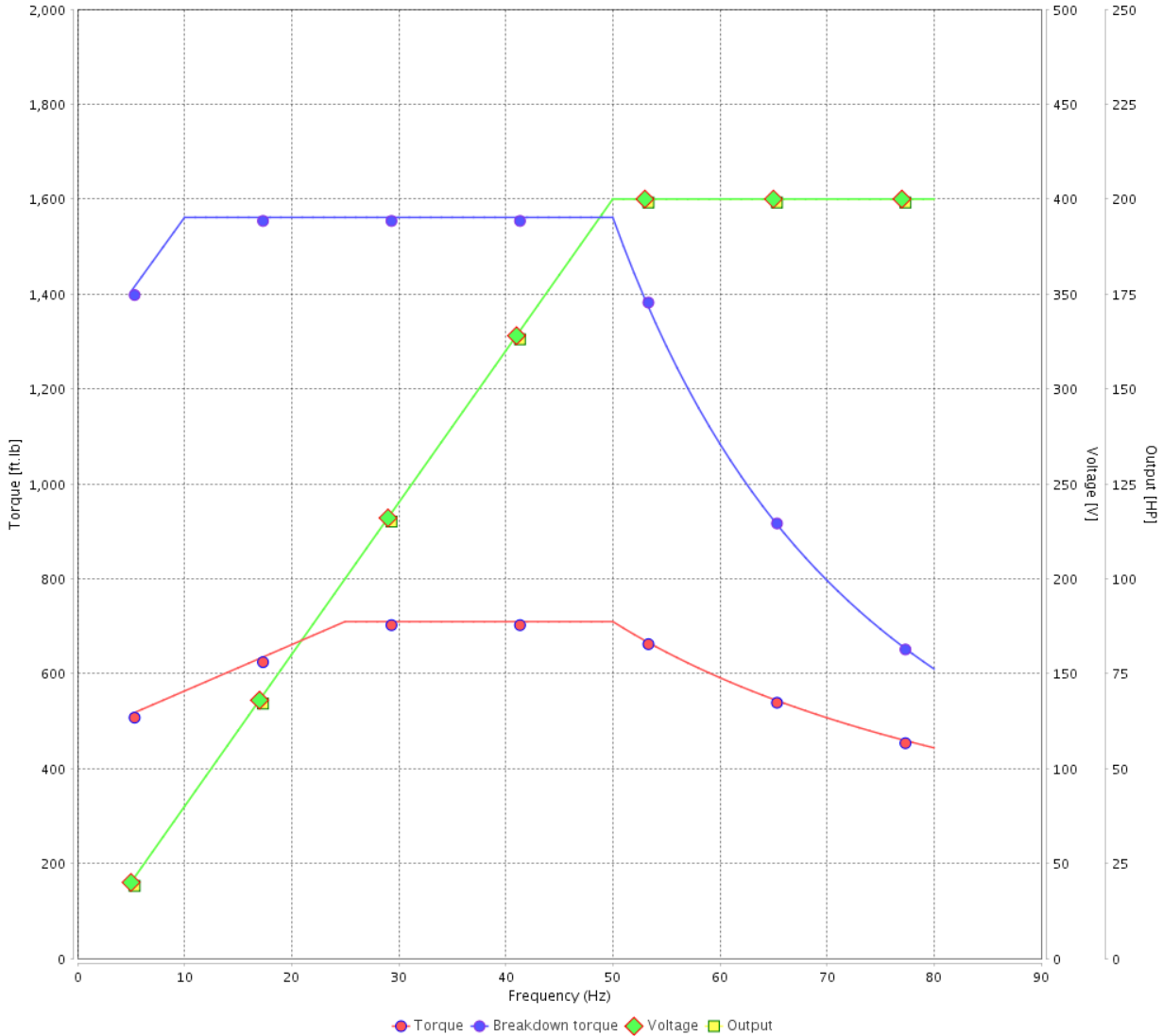
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VFD OPERATION CURVE

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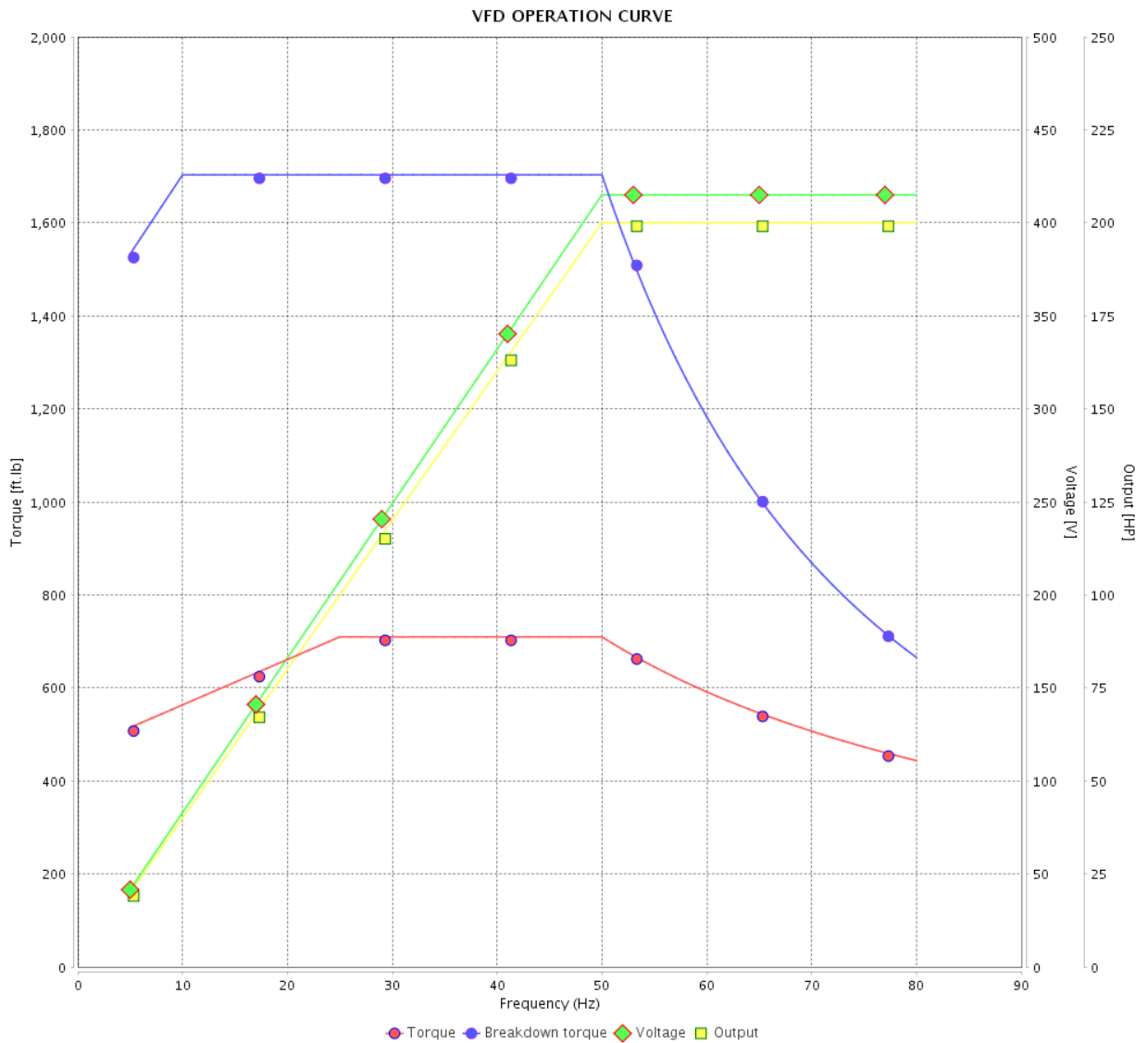


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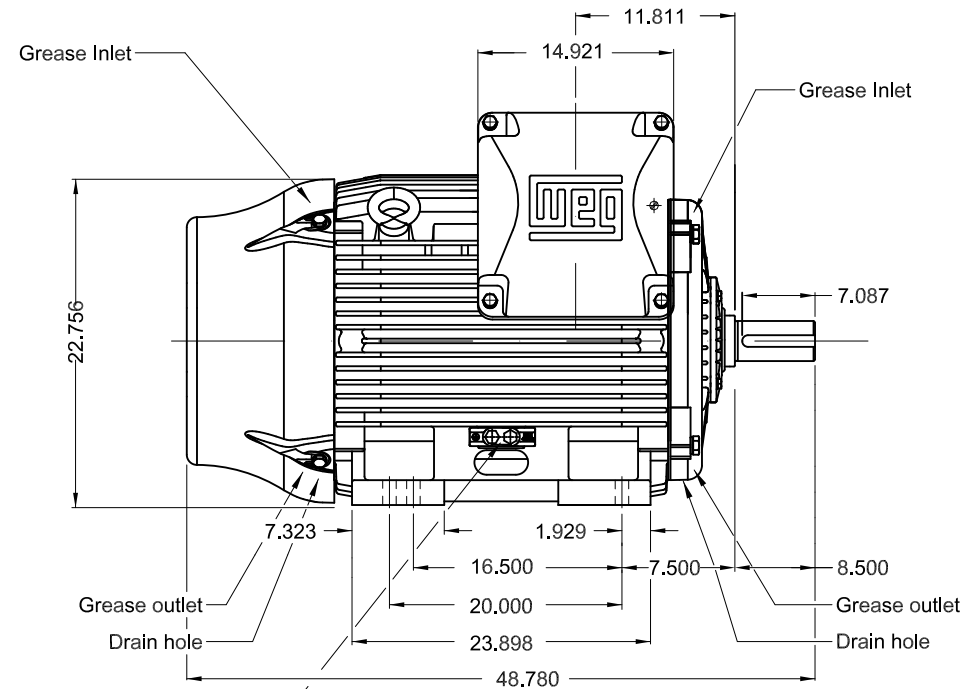
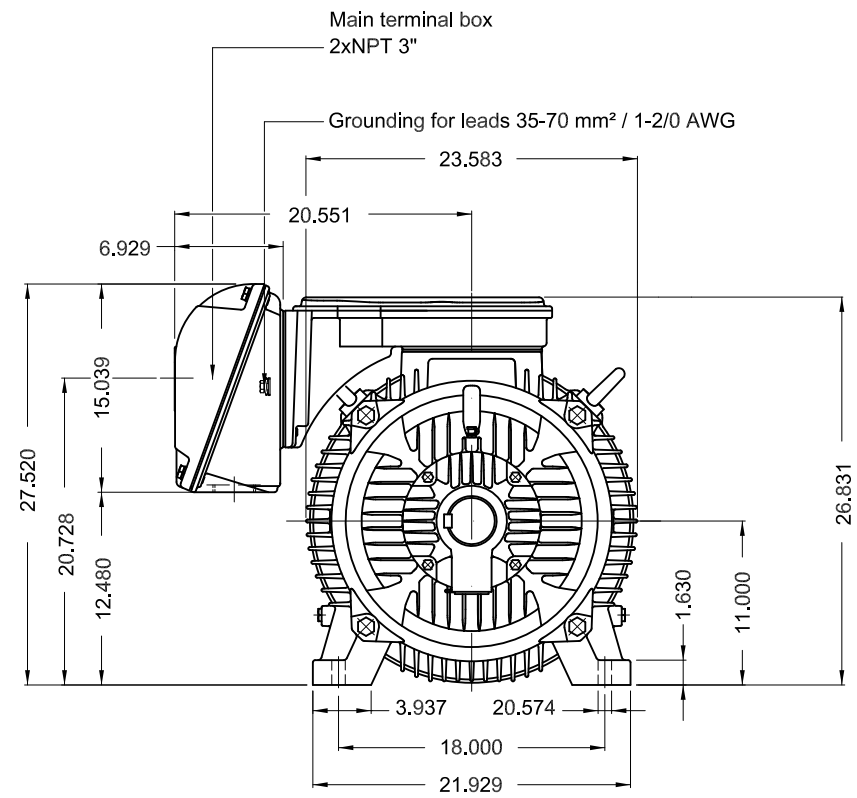


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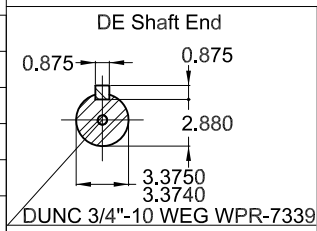


Grounding for leads 25-185 mm² / 3AWG-350MCM

200 HP 04 Poles 60 Hz

A

- Bronze fan
- DE roller bearing
- Shaft locking device
- Color RAL 5009
- Painting plan 202E
- 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 445/7T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
WDD



SHEET 1 / 1

Dimensions in inches

XME A3



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 20:1, 1.00SF - T3

MODEL 20018ST3QIERB447T-W2

Inverter Duty Motor
Severe Duty



PH3 60Hz Fr. 445/7T 1000m.a.s.l. IP55 TEFC 2239lb

V 460

A 230

HP 200

kW 150

SF 1.15

SFA 265

RPM 1785

PF 0.85

AMB 40°C

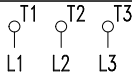
INS cl. F DT80K

NEMA NOM EFF 96.2%

DUTY CONT.

DES B Code G

GUARANT. EFF 95.4%



460V

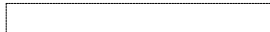


→ NU-319-C3 (45g) 95RU03X30

→ 6316-C3 (34g) 80BC03X30



MOBIL POLYREX EM (5000h)



MADE IN BRAZIL
12389902