

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	14325768		
		Catalog # :	40018ST3QIERB449T-W2		
Frame	: L447/9T	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	: 3286 lb		
Protection degree	: IP55	Moment of inertia (J)	: 136 sq.ft.lb		
Design	: B				
Output [HP]	400	350	350	350	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	445	461	448	437	
L. R. Amperes [A]	2893	2766	3002	3146	
LRC [A]	6.5x(Code G)	6.0x(Code F)	6.7x(Code G)	7.2x(Code H)	
No load current [A]	125	125	140	155	
Rated speed [RPM]	1785	1485	1485	1485	
Slip [%]	0.83	1.00	1.00	1.00	
Rated torque [ft.lb]	1180	1240	1240	1240	
Locked rotor torque [%]	250	229	250	280	
Breakdown torque [%]	260	240	270	290	
Service factor	1.15	1.15	1.15	1.15	
Temperature rise	80 K	105 K	80 K	80 K	
Locked rotor time	37s (cold) 21s (hot)	43s (cold) 24s (hot)	37s (cold) 21s (hot)	32s (cold) 18s (hot)	
Noise level ²	79.0 dB(A)	74.0 dB(A)	74.0 dB(A)	74.0 dB(A)	
Efficiency (%)	25%	94.9	95.4	94.9	94.9
	50%	95.4	95.8	95.4	95.4
	75%	95.8	95.8	95.8	95.8
	100%	96.2	96.2	96.2	96.2
Power Factor	25%	0.55	0.56	0.52	0.48
	50%	0.80	0.81	0.77	0.74
	75%	0.85	0.86	0.84	0.82
	100%	0.88	0.89	0.87	0.86
Bearing type	: <u>Drive end</u> NU-322 C3	<u>Non drive end</u> 6319 C3	Foundation loads		
Sealing	: Inpro/Seal	Inpro/Seal	Max. traction	: 7926 lb	
Lubrication interval	: 4000 h	8000 h	Max. compression	: 11211 lb	
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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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



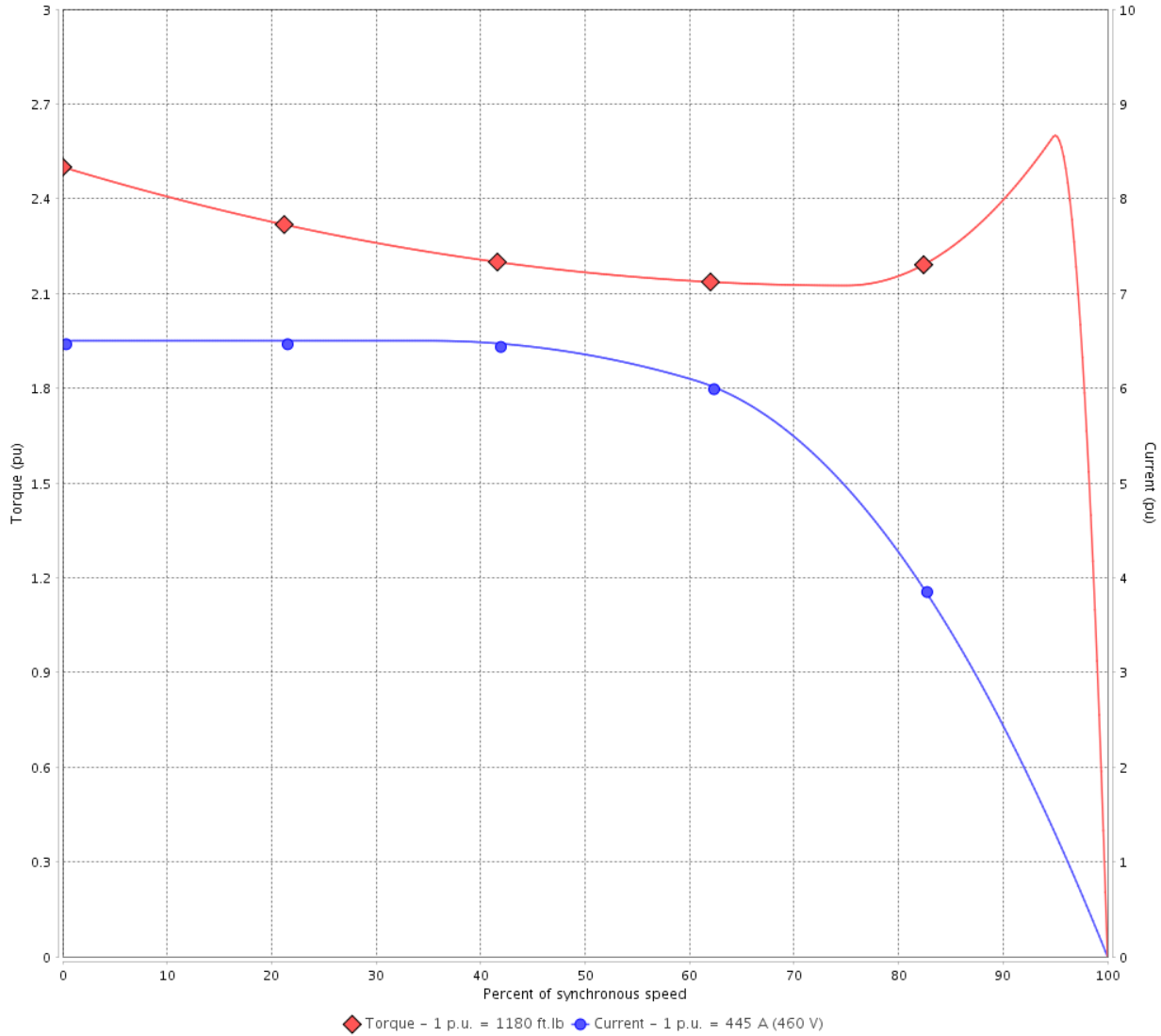
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14325768

Catalog # : 40018ST3QIERB449T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 445 A	Moment of inertia (J)	: 136 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 1180 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1785 rpm	Design	: B

Locked rotor time : 37s (cold) 21s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



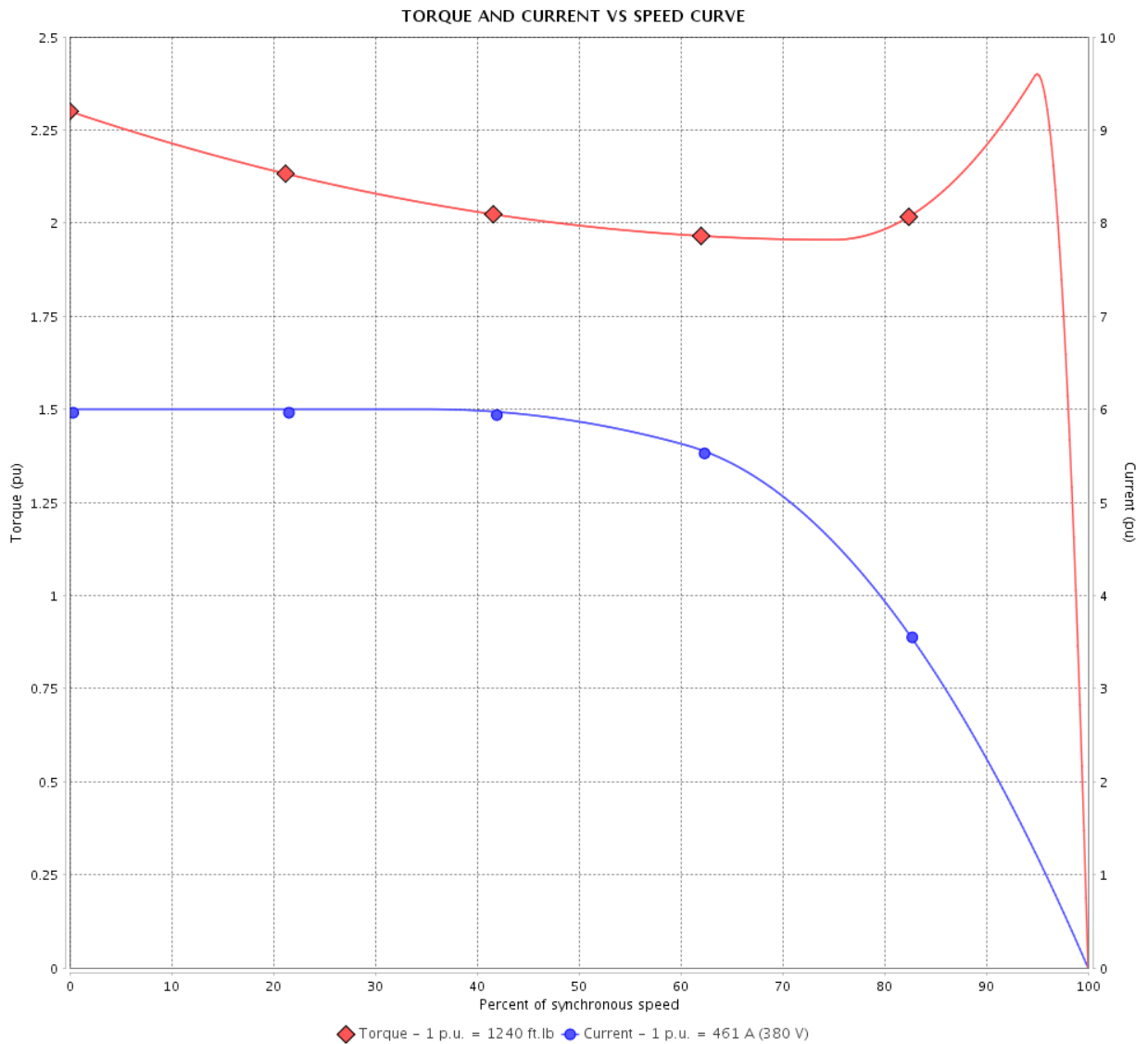
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14325768

Catalog # : 40018ST3QIERB449T-W2



Performance : 380 V 50 Hz 4P IE3

Rated current	: 461 A	Moment of inertia (J)	: 136 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 1240 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1485 rpm	Design	: B

Locked rotor time : 43s (cold) 24s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



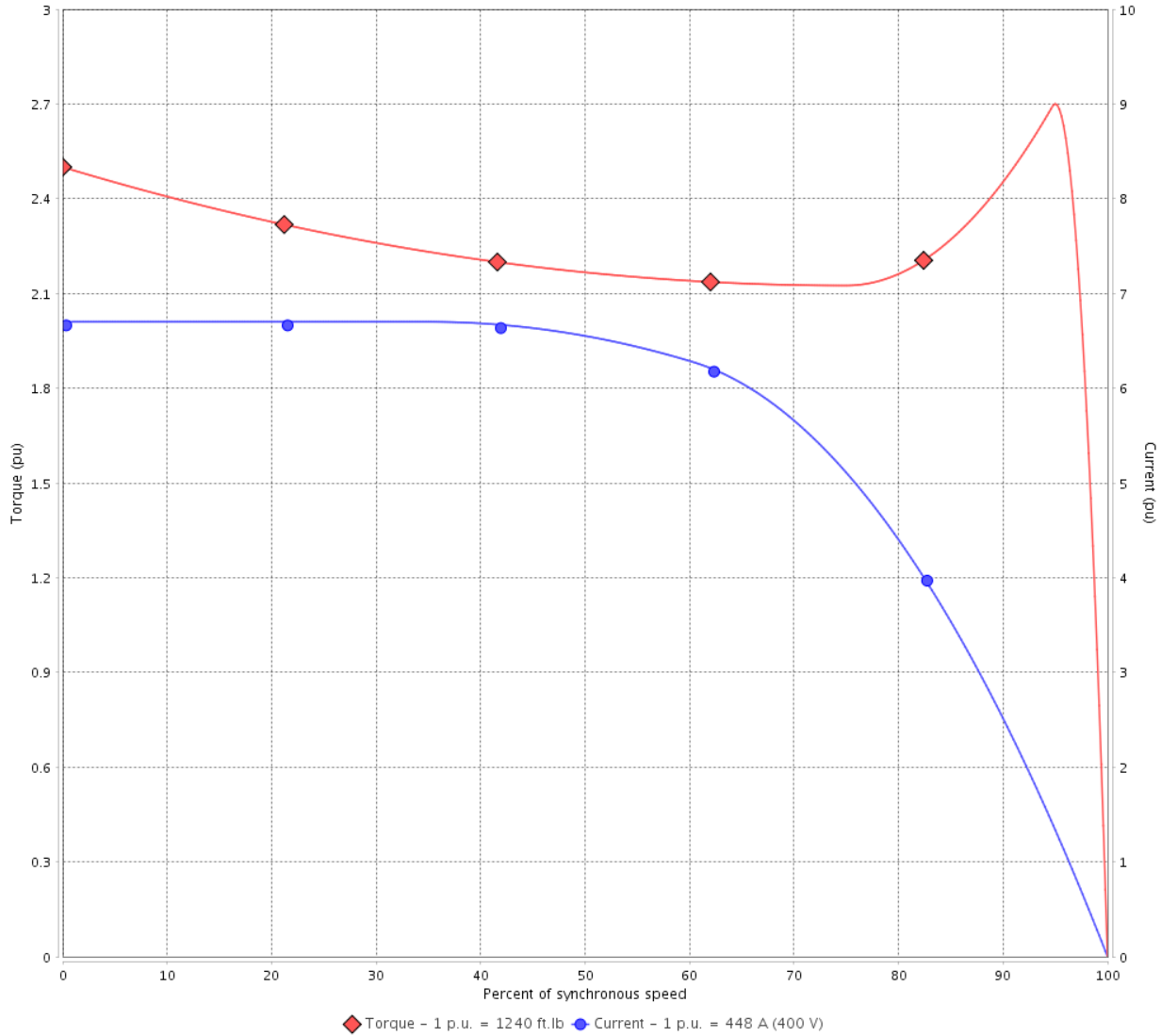
Customer :

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Product code : 14325768

Catalog # : 40018ST3QIERB449T-W2

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 448 A	Moment of inertia (J)	: 136 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 1240 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Locked rotor time : 37s (cold) 21s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



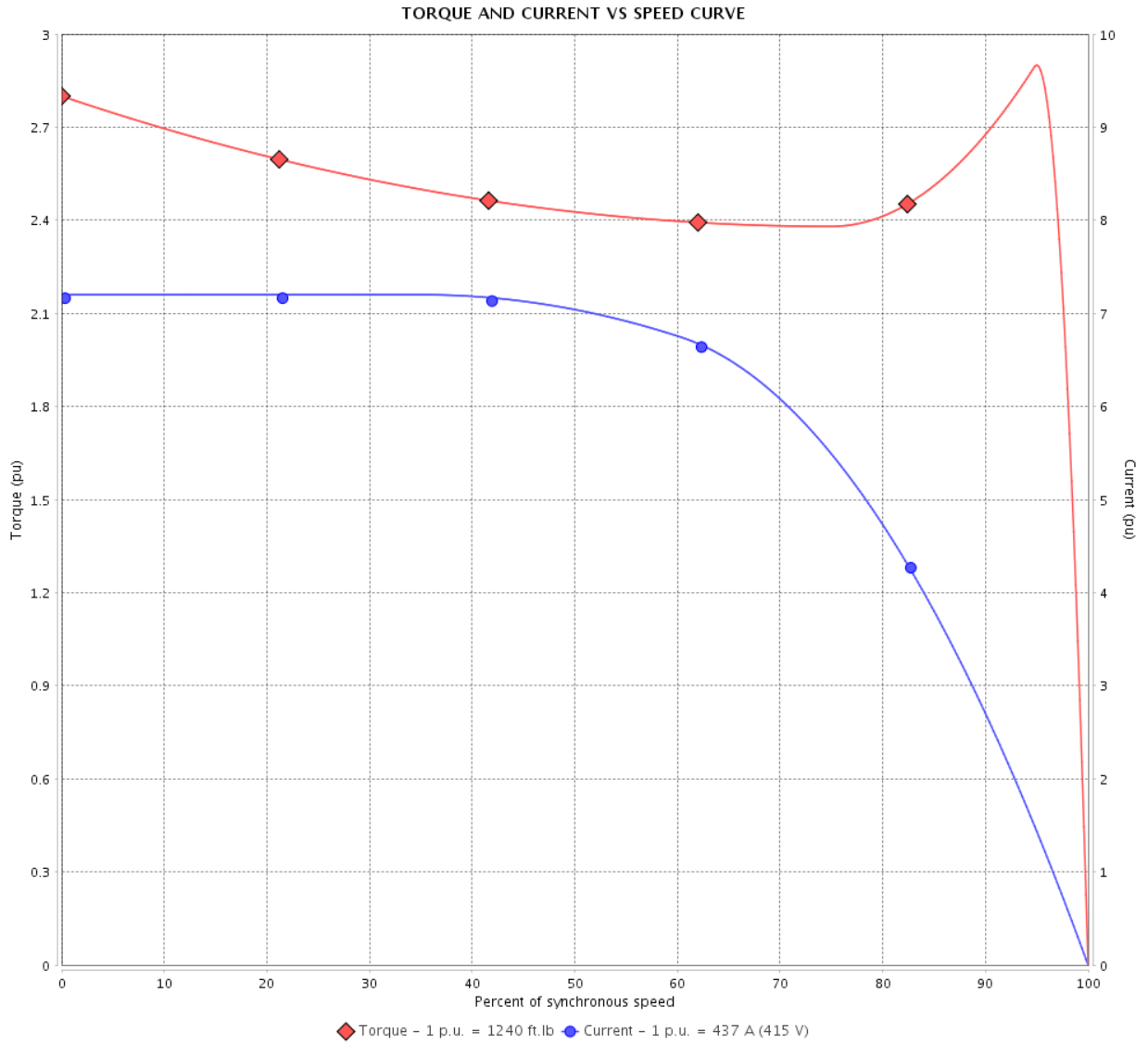
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Catalog # : 40018ST3QIERB449T-W2



Performance : 415 V 50 Hz 4P IE3

Rated current	: 437 A	Moment of inertia (J)	: 136 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 1240 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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

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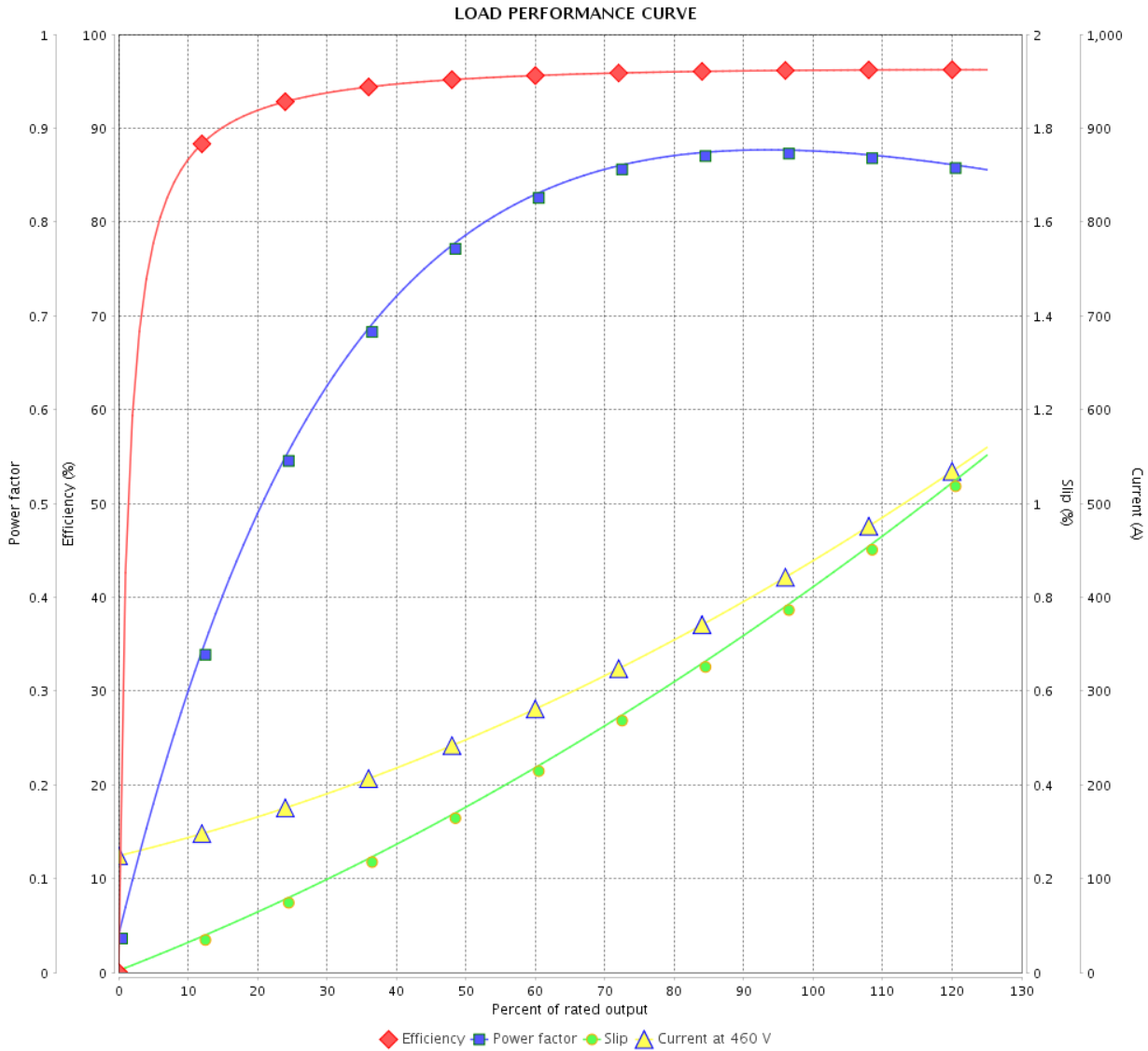


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Performance : 460 V 60 Hz 4P

Rated current : 445 A	Moment of inertia (J) : 136 sq.ft.lb
LRC : 6.5	Duty cycle : Cont.(S1)
Rated torque : 1180 ft.lb	Insulation class : F
Locked rotor torque : 250 %	Service factor : 1.15
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1785 rpm	Design : B

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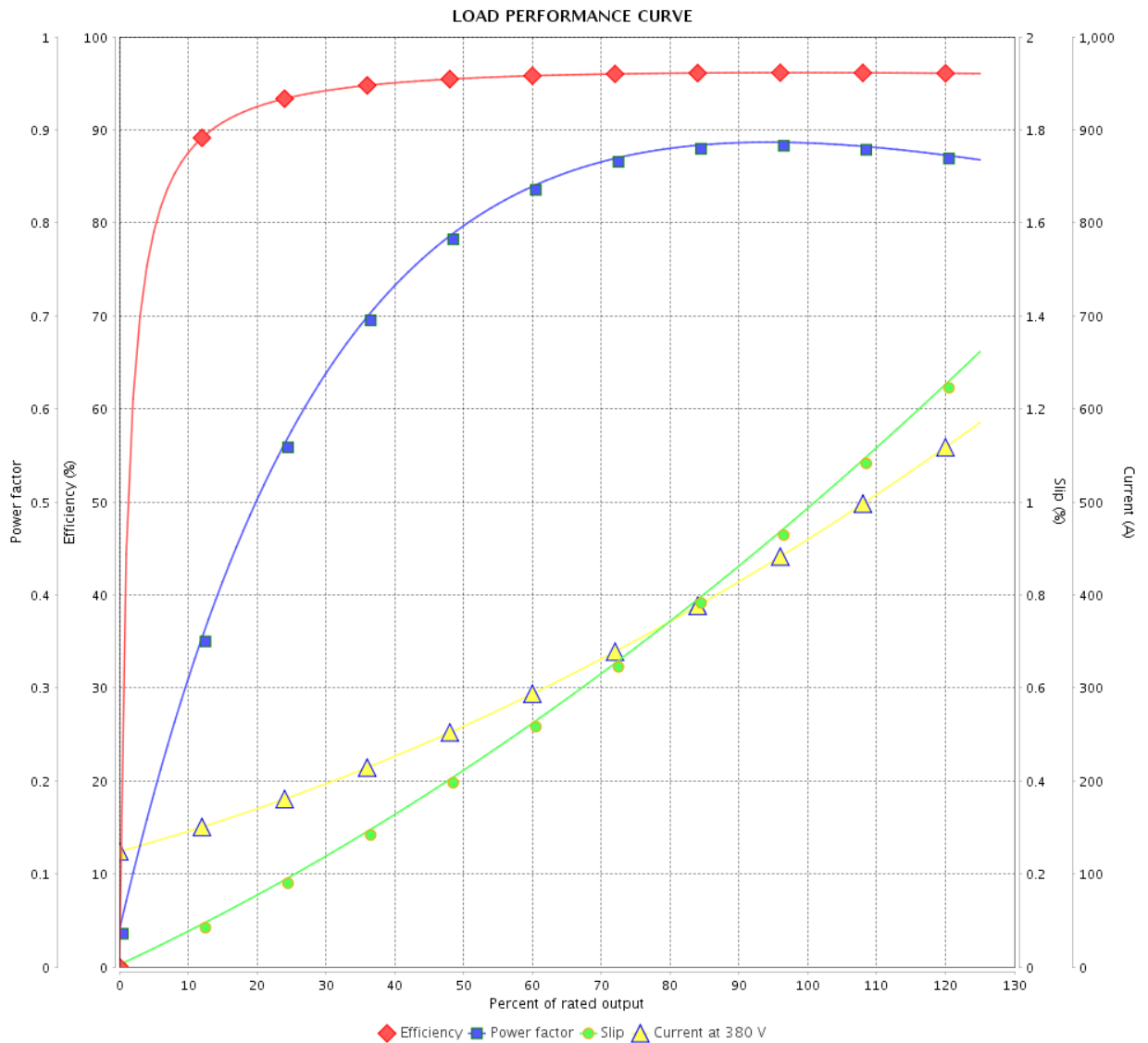


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Performance : 380 V 50 Hz 4P IE3

Rated current : 461 A
 LRC : 6.0
 Rated torque : 1240 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 240 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 136 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 105 K
 Design : B

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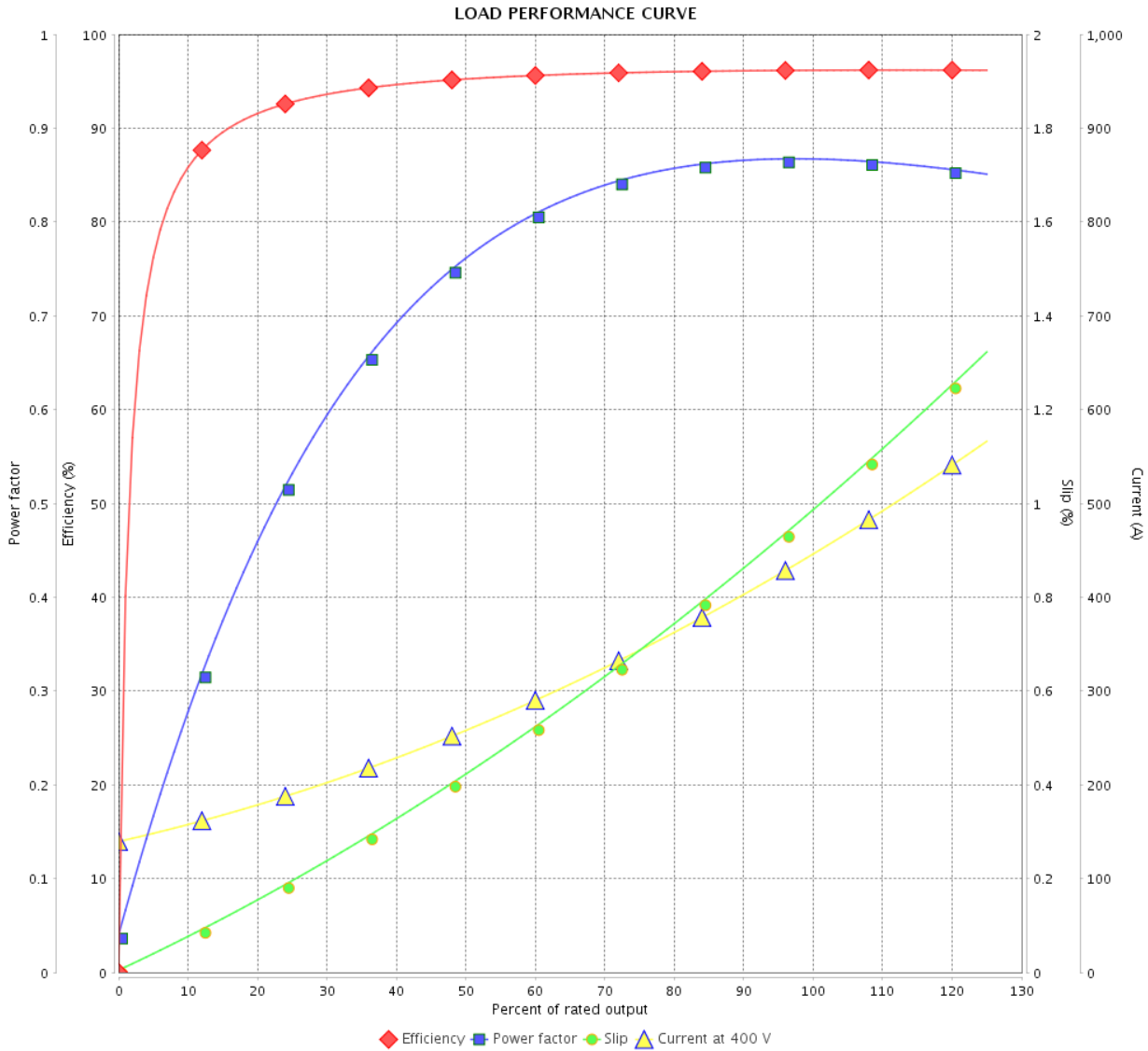


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 Breakdown torque : 270 %
 Rated speed : 1485 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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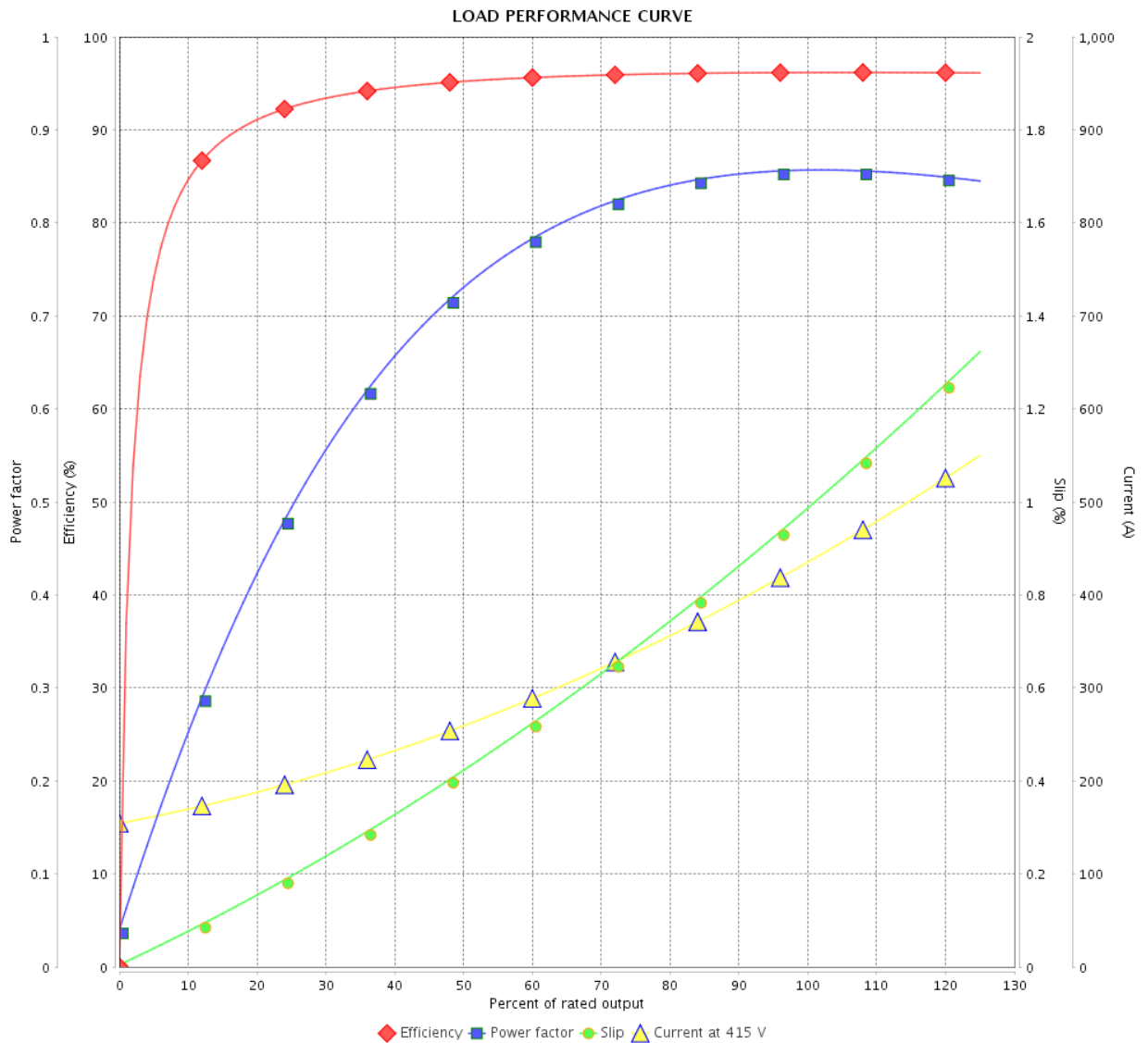


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Performance : 415 V 50 Hz 4P IE3

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 Locked rotor torque : 280 %
 Breakdown torque : 290 %
 Rated speed : 1485 rpm

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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
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THERMAL LIMIT CURVE



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Rated speed : 1785 rpm	Design : B

Heating constant

Cooling constant

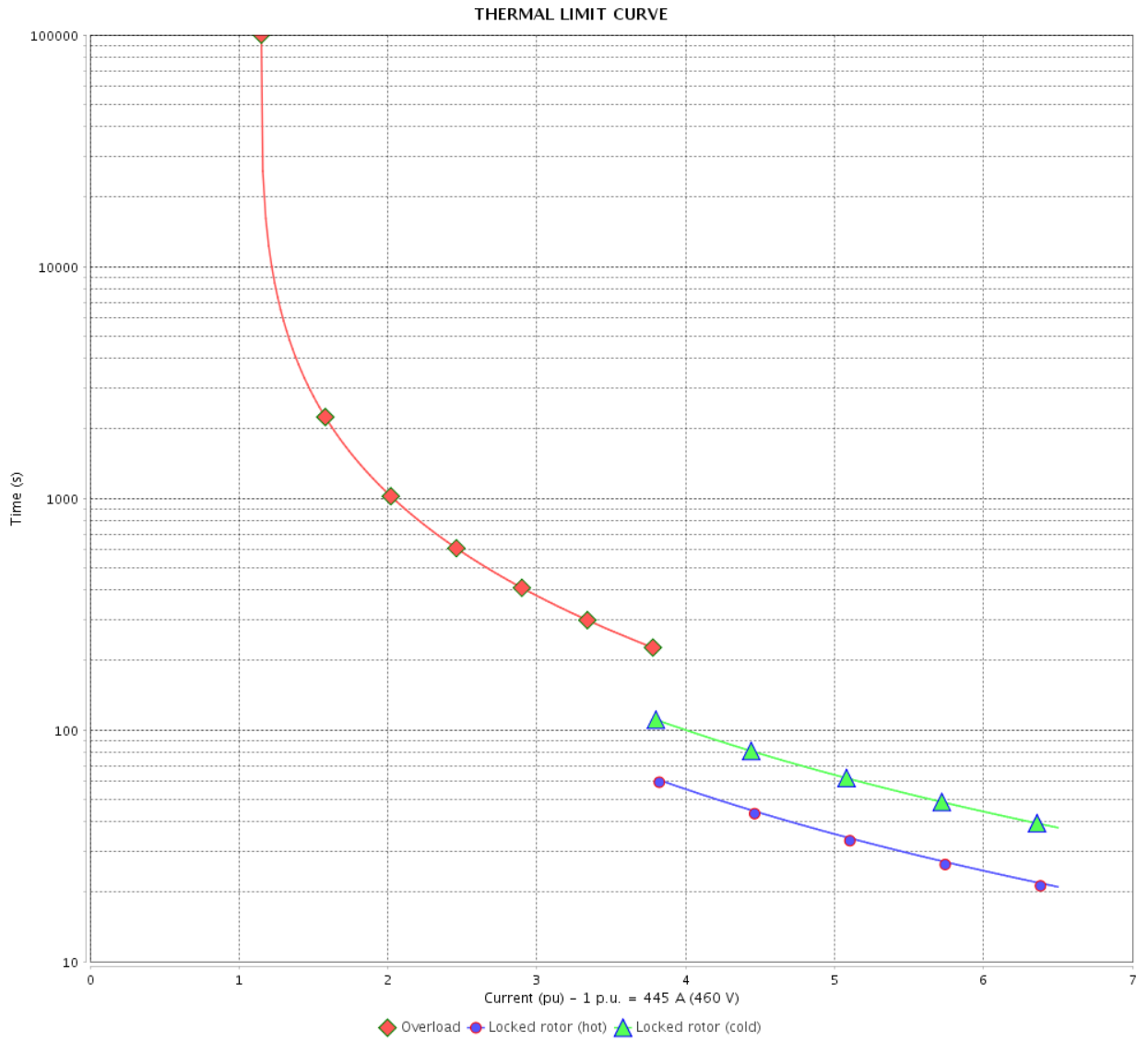
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Cooling constant

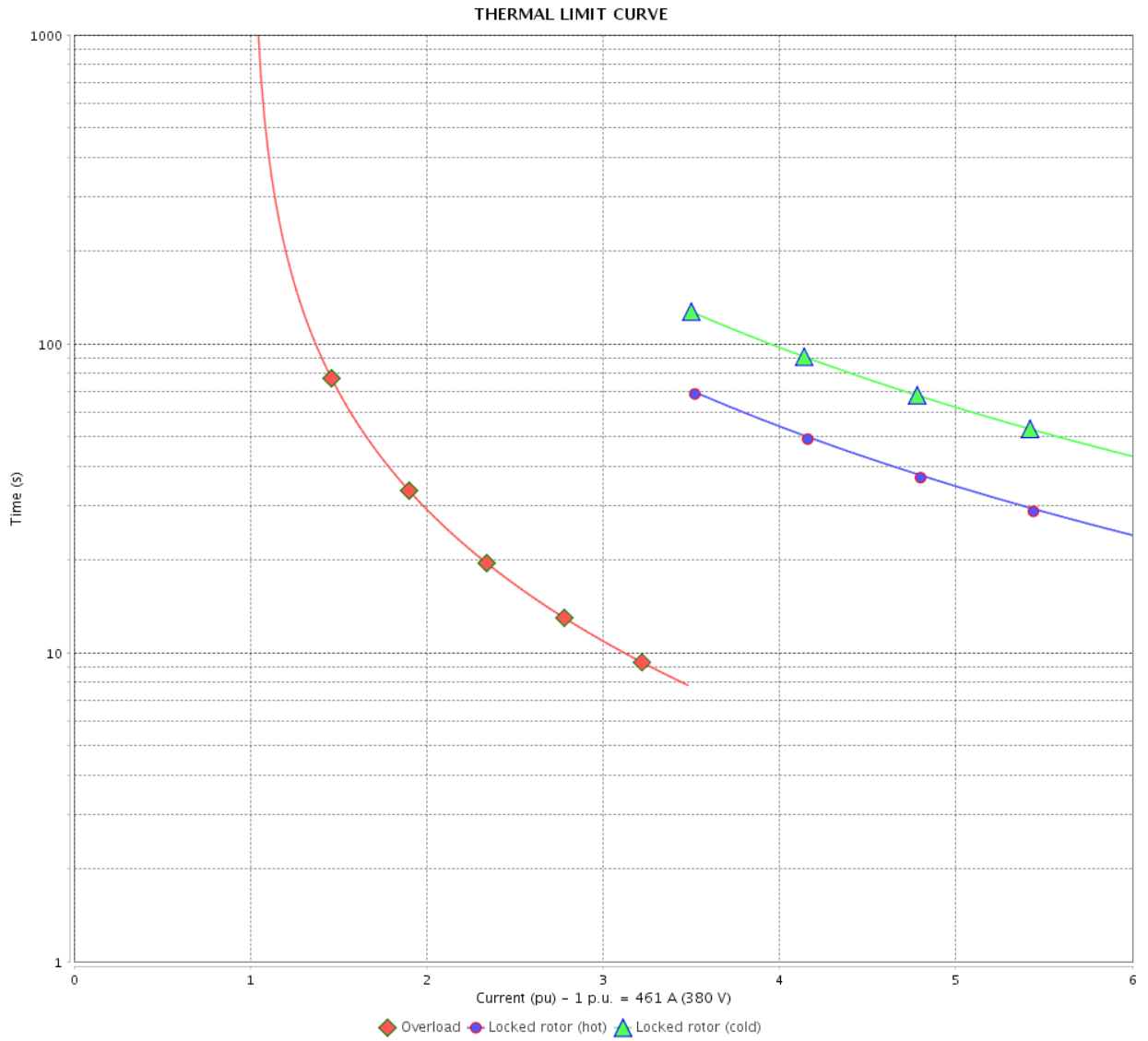
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Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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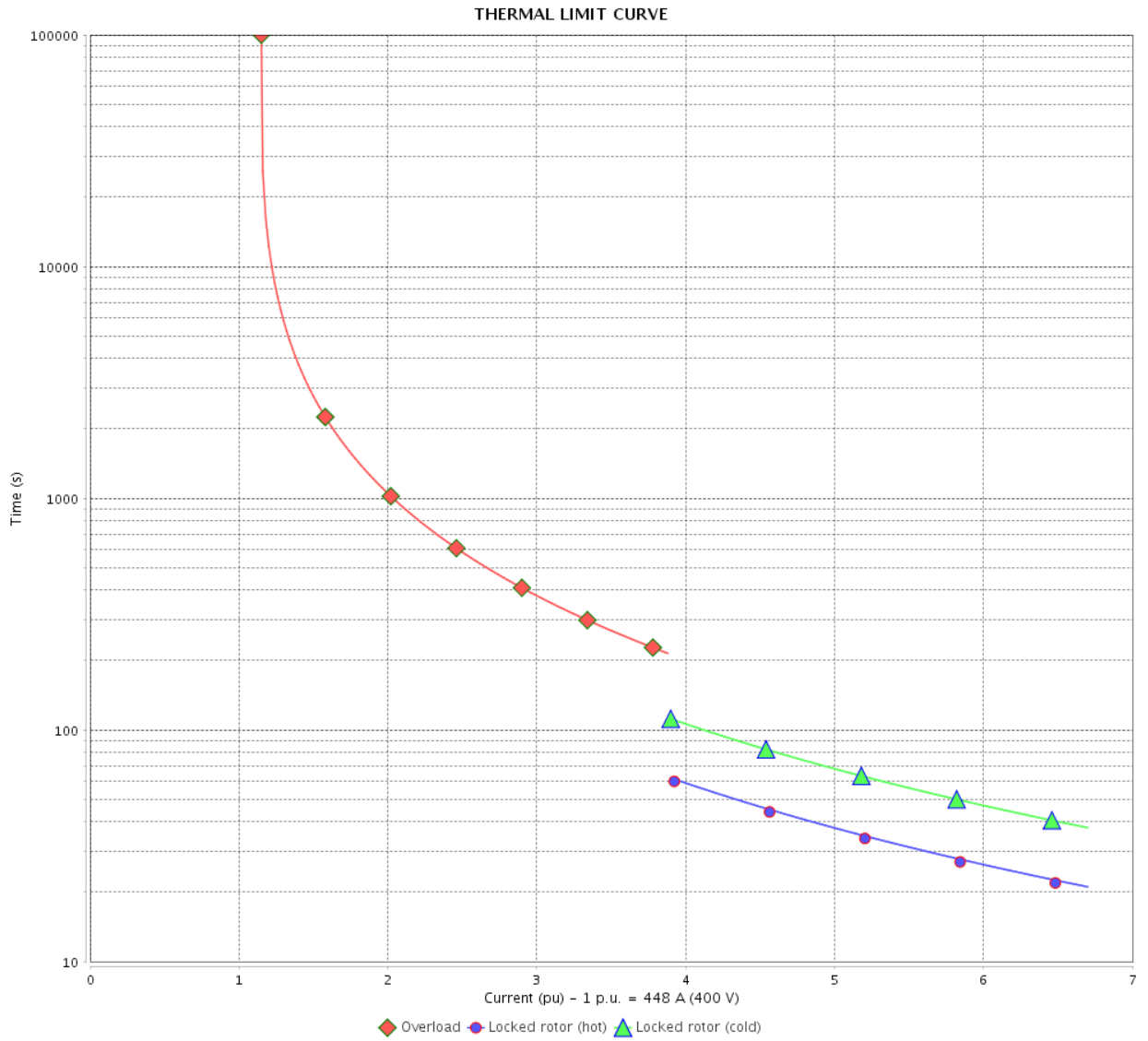
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Performance : 415 V 50 Hz 4P IE3

Rated current	: 437 A	Moment of inertia (J)	: 136 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 1240 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Heating constant

Cooling constant

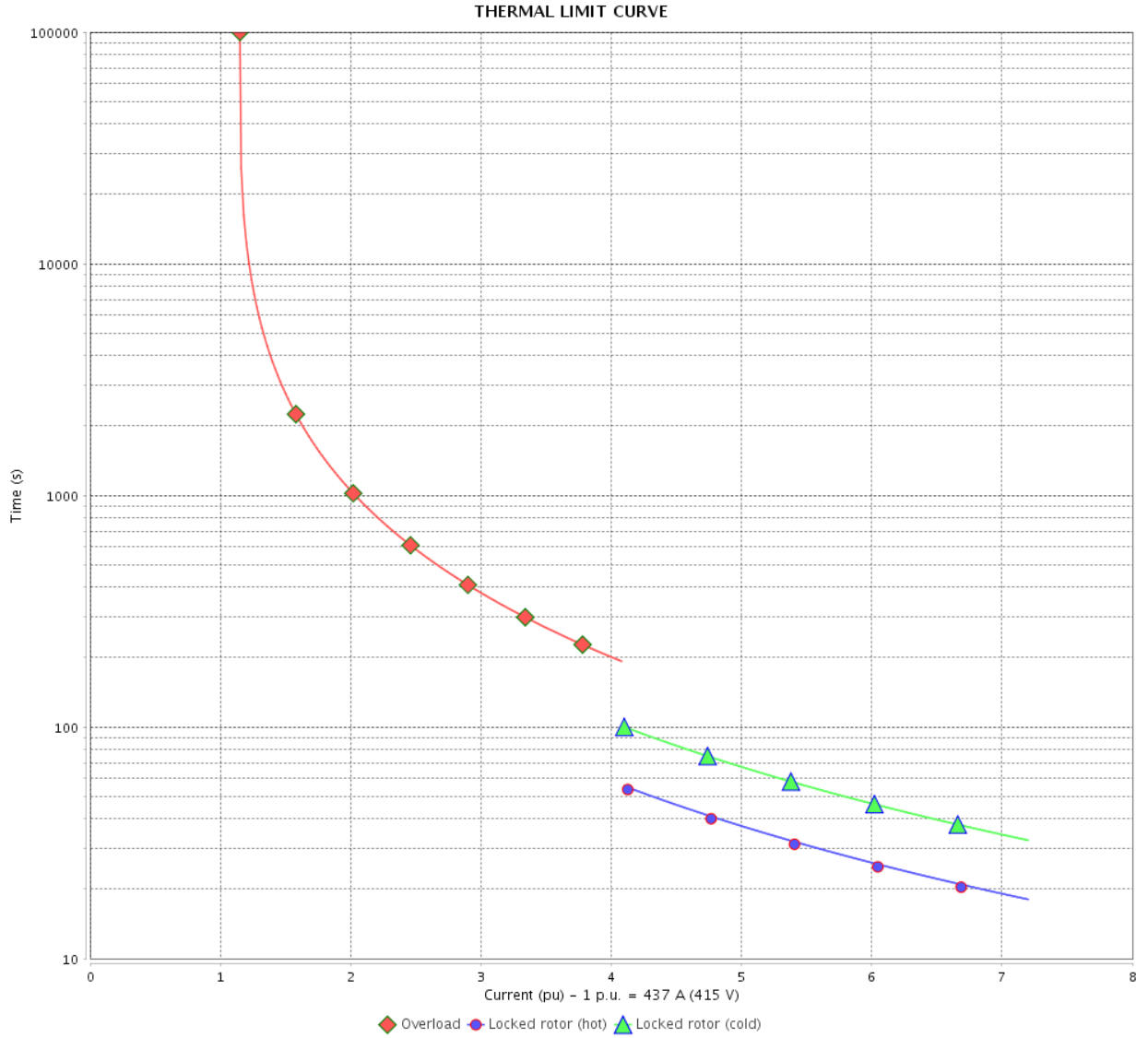
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Three Phase Induction Motor - Squirrel Cage



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



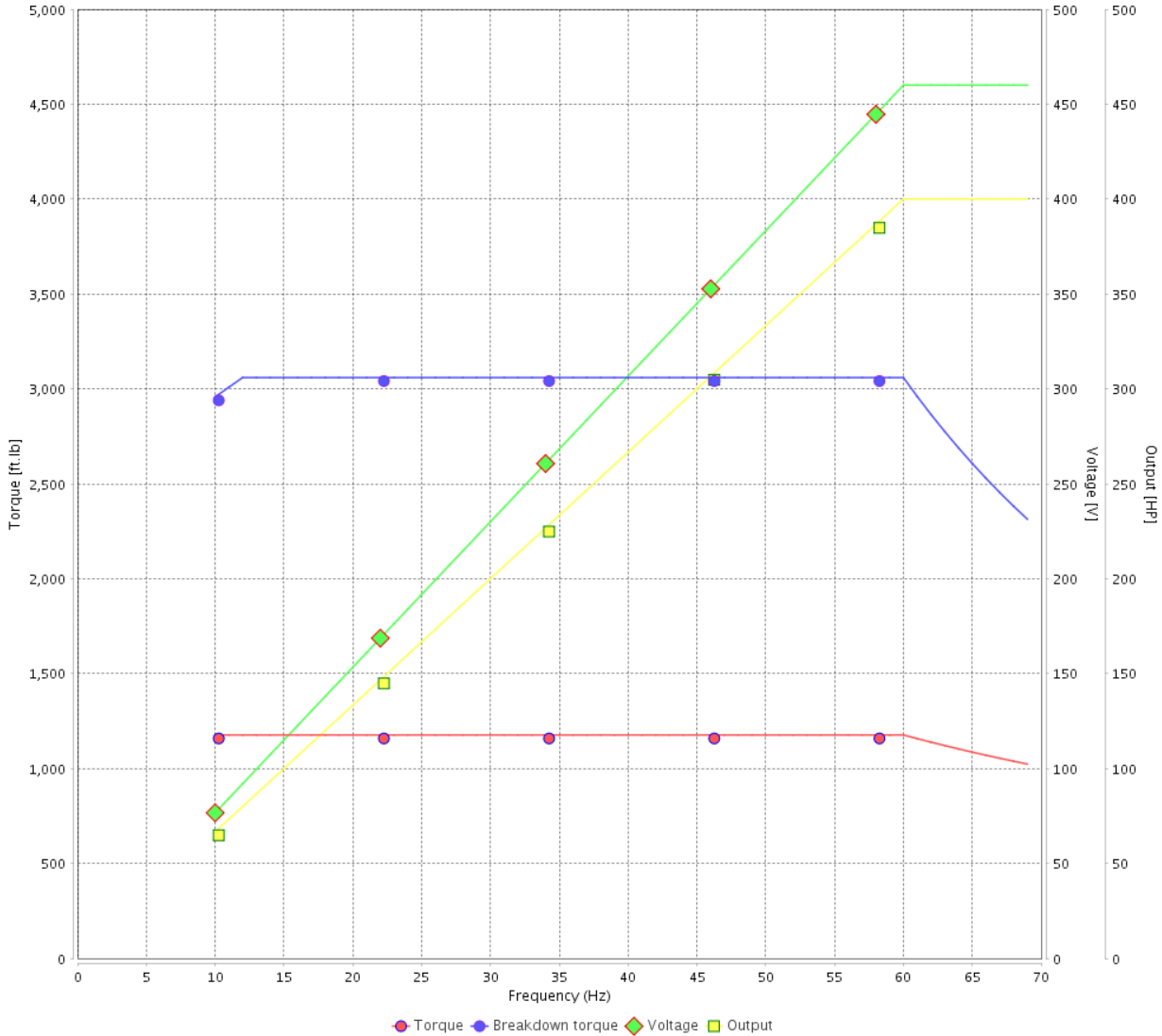
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VFD OPERATION CURVE



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Rated torque	: 1180 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1785 rpm	Design	: B

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VFD OPERATION CURVE

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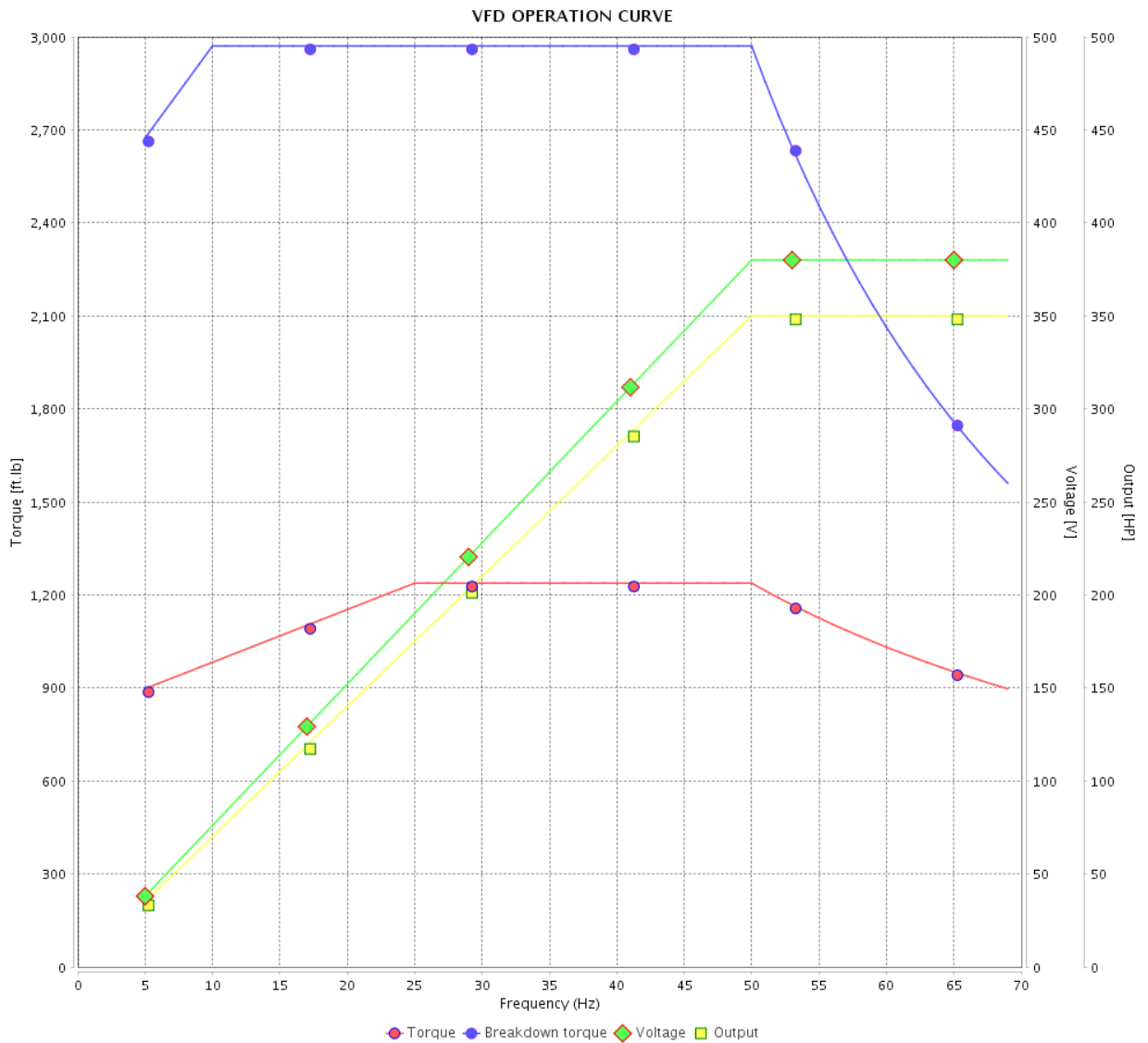


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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 105 K
 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



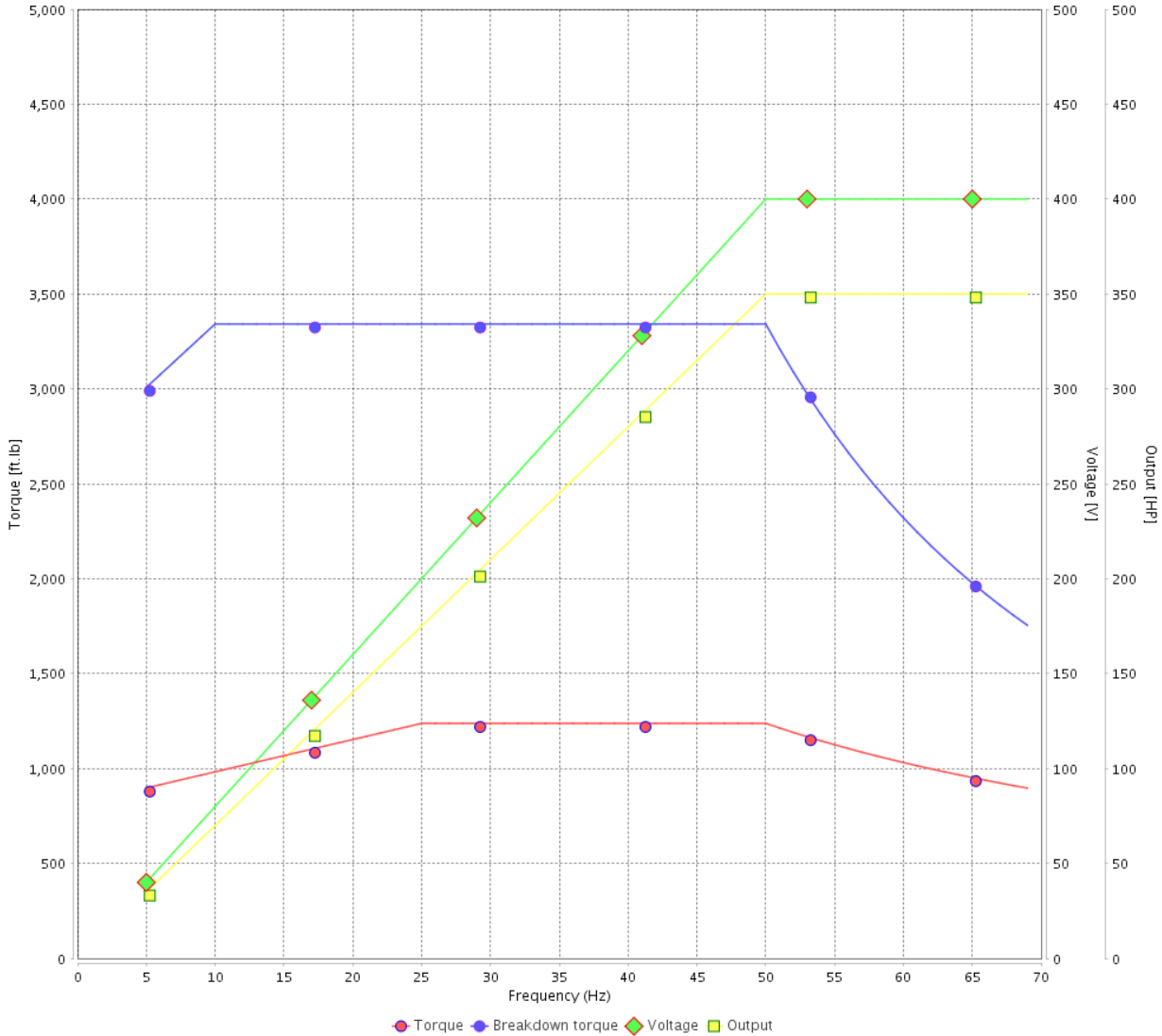
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VFD OPERATION CURVE



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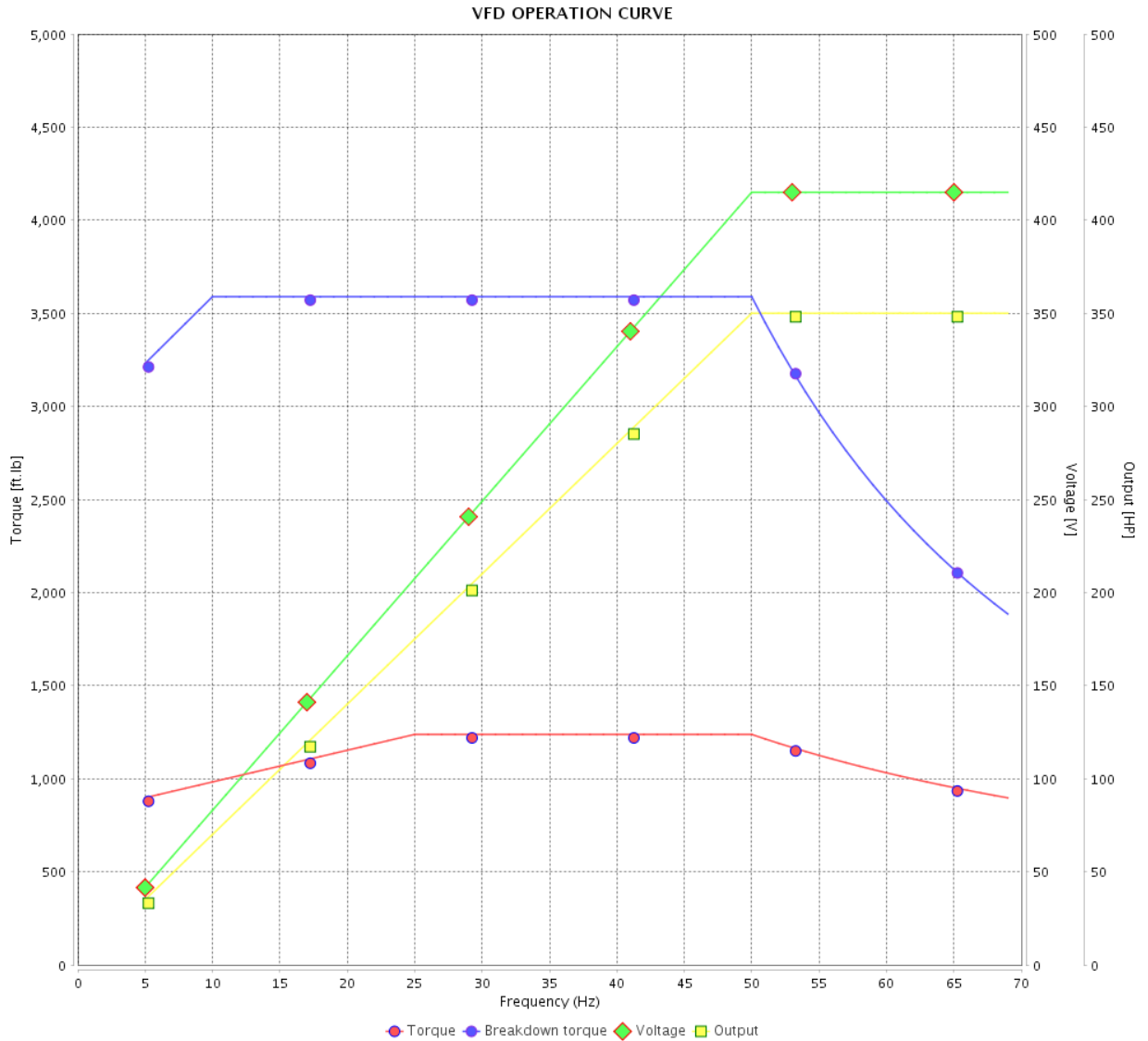


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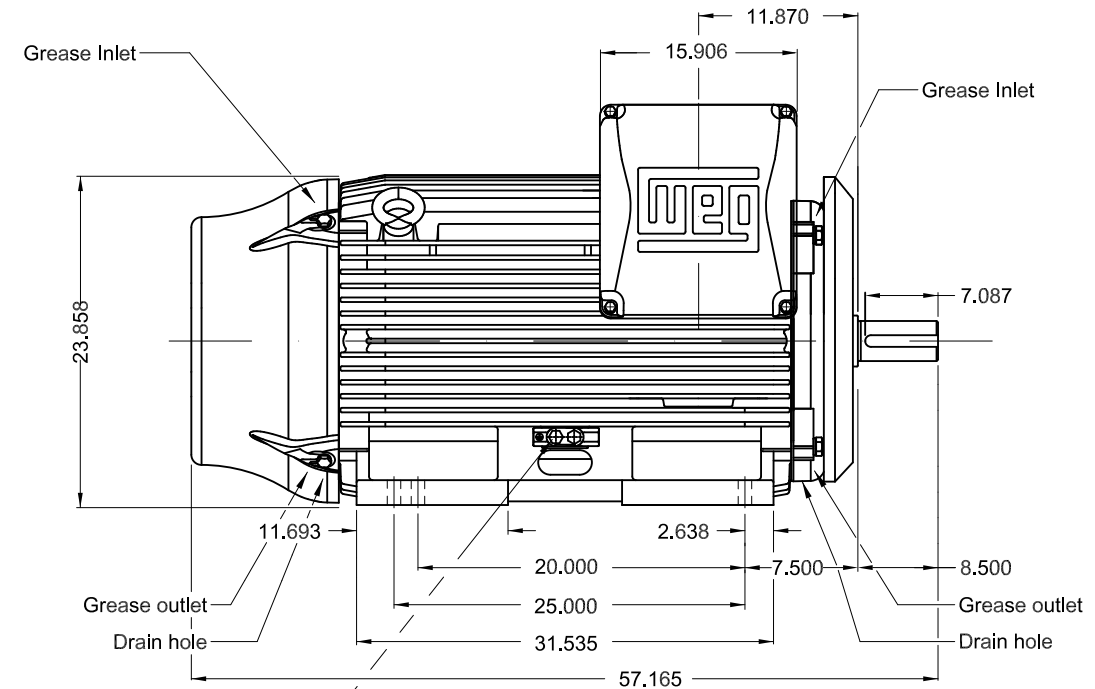
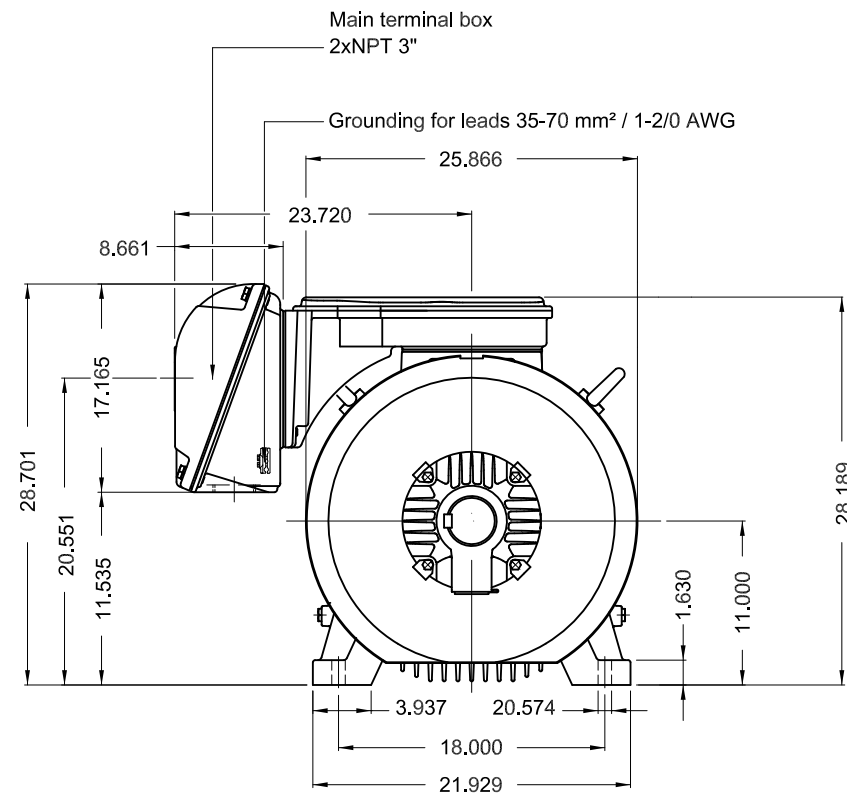


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Rated current : 437 A
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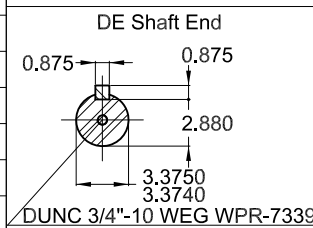


Grounding for leads 25-185 mm² / 3AWG-350MCM

400 HP 04 Poles 60 Hz

Dimensions in inches

- DE roller bearing
- Shaft locking device
- NDE endshield with electrically insulated bearing hub
- Drive-End Air Deflector
- Color RAL 5009
- Painting plan 202E
- Mounting NEMA F-1
- Mounting B3R(D)



ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER		THREE PH. MOTOR IEEE 841 W22 PREM. EFF.				PREVIEW WDD		SHEET 1 / 1	XME A3
CHECKED			FRAME L447/9T IP55 TEFC							
RELEASED										
REL DT.			WMO	Jaragua do Sul	Product Engineering					