

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer							
Product line	: W40 NEMA Premium Efficiency Three-Phase			Product code :	13457378		
				Catalog # :	35018OT3G447/9T-W40		
Frame	: 447/9T			Cooling method	: IC01 - ODP		
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>	: 2116 lb		
Protection degree	: IP23			Moment of inertia (J)	: 66.1 sq.ft.lb		
Design	: B						
Output [HP]	350	250	250	250	300	300	300
Poles	4	4	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50	50	50
Rated voltage [V]	460	380	400	415	380	400	415
Rated current [A]	396	337	323	315	403	387	377
L. R. Amperes [A]	2614	2460	2584	2867	2458	2593	2865
LRC [A]	6.6x(Code G)	7.3x(Code H)	8.0x(Code J)	9.1x(Code K)	6.1x(Code F)	6.7x(Code G)	7.6x(Code H)
No load current [A]	125	124	135	144	124	135	144
Rated speed [RPM]	1780	1480	1480	1480	1480	1480	1480
Slip [%]	1.11	1.33	1.33	1.33	1.33	1.33	1.33
Rated torque [ft.lb]	1030	887	887	887	1060	1060	1060
Locked rotor torque [%]	200	220	250	280	180	210	229
Breakdown torque [%]	229	250	290	320	210	240	270
Service factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Temperature rise	80 K	80 K	80 K	80 K	80 K	80 K	80 K
Locked rotor time	18s (cold) 10s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	18s (cold) 10s (hot)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	18s (cold) 10s (hot)
Noise level <sup>2</sup>	77.0 dB(A)						
Efficiency (%)	25%	95.7	93.7	93.3	93.3	94.5	94.5
	50%	95.8	94.7	94.3	94.3	95.0	95.0
	75%	95.8	95.0	95.1	95.1	95.0	95.0
	100%	95.8	96.0	96.0	96.0	95.4	95.4
Power Factor	25%	0.51	0.48	0.45	0.41	0.55	0.47
	50%	0.76	0.74	0.71	0.67	0.81	0.77
	75%	0.83	0.84	0.82	0.80	0.85	0.83
	100%	0.86	0.87	0.86	0.85	0.87	0.85
Bearing type	: <u>Drive end</u> 6319 C3 <u>Non drive end</u> 6314 C3		Foundation loads				
Sealing	: Without Without		Max. traction : 6604 lb				
	: Bearing Seal Bearing Seal		Max. compression : 8720 lb				
Lubrication interval	: 20000 h 20000 h						
Lubricant amount	: 45 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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### Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermistor - 2 wires	1 x Phase	155 °C

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# TORQUE AND CURRENT VS SPEED CURVE



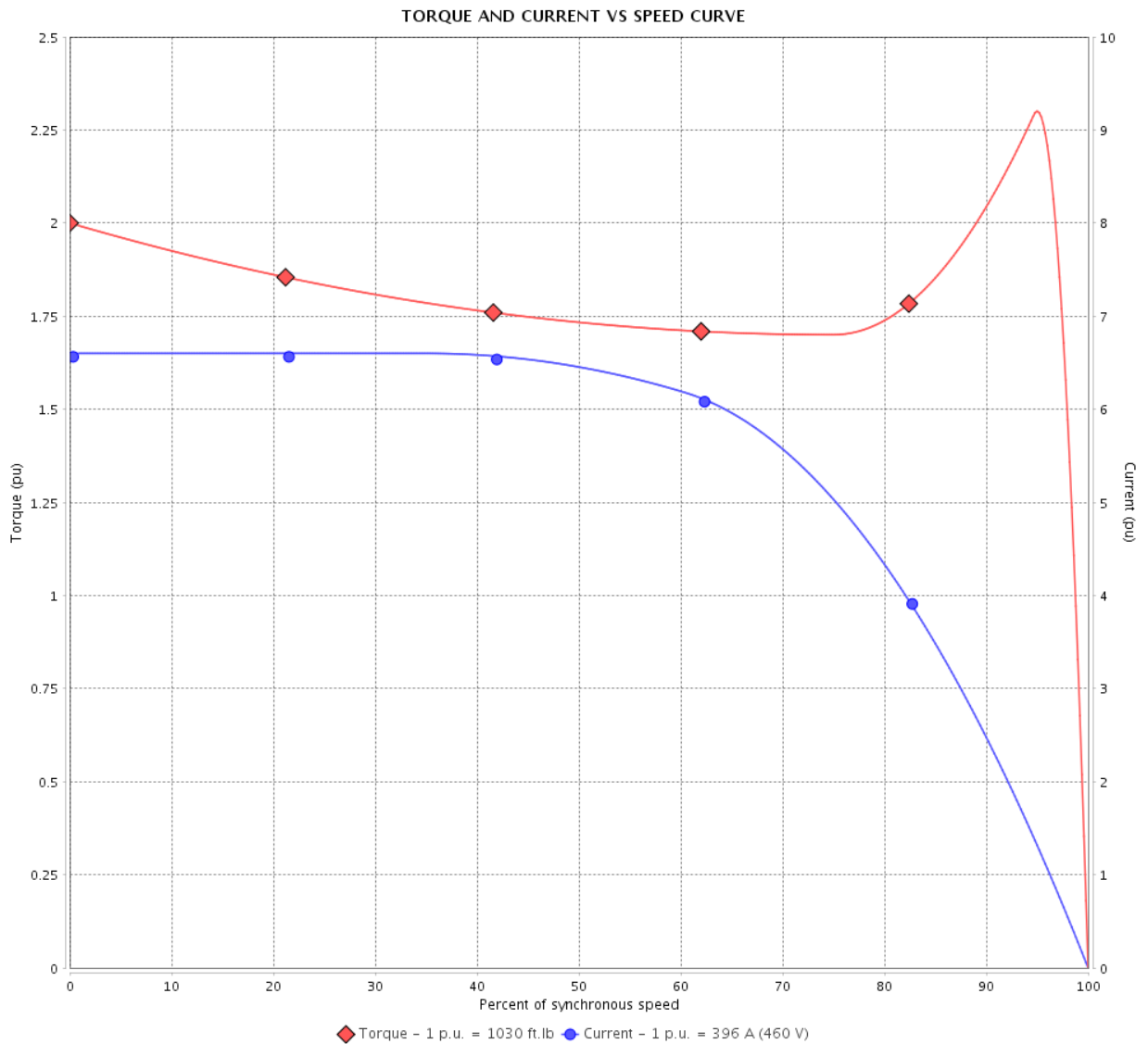
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40



Performance : 460 V 60 Hz 4P

Rated current	: 396 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 1030 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1780 rpm	Design	: B

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

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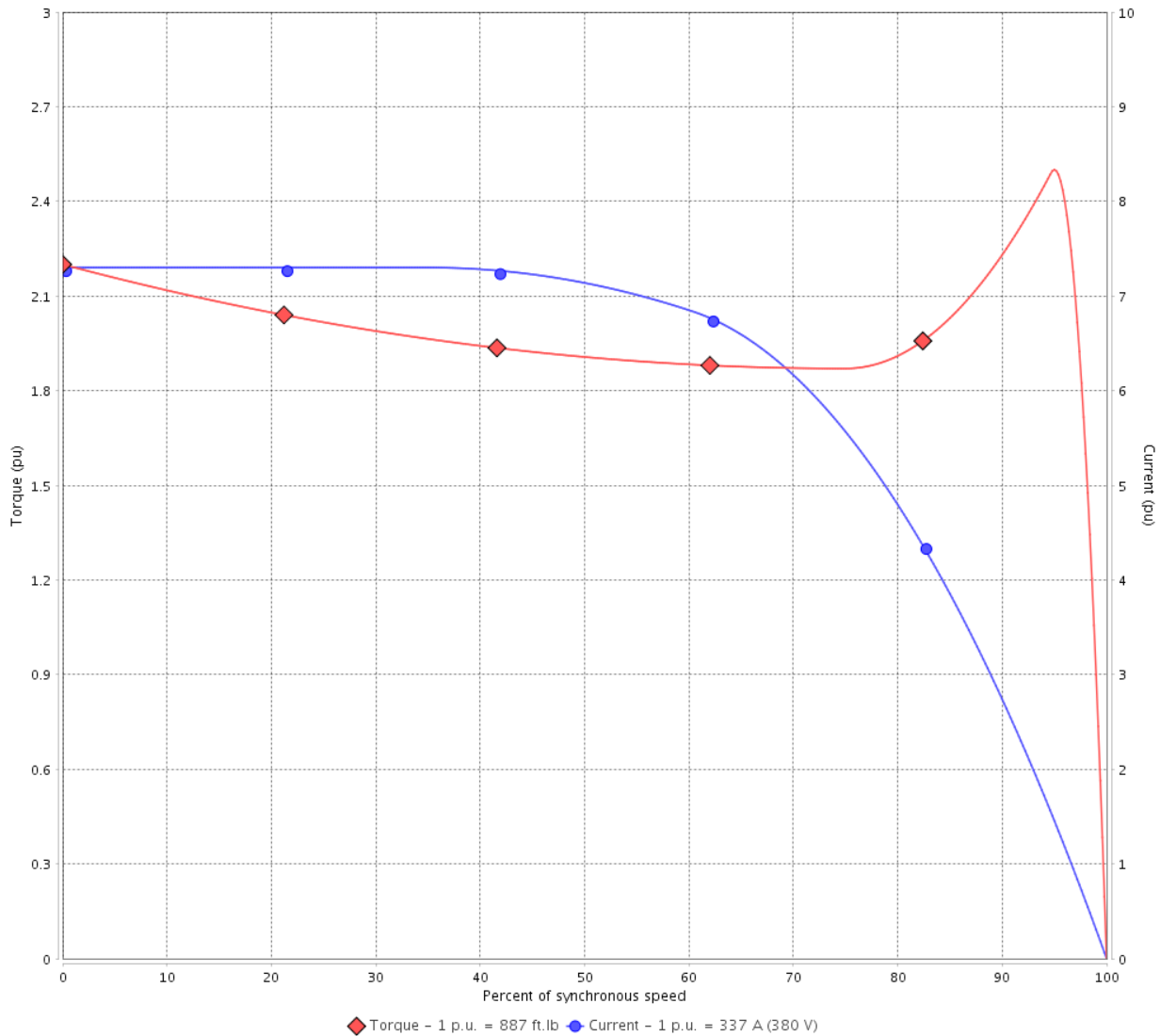
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE3

Rated current	: 337 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 19s (cold) 11s (hot)

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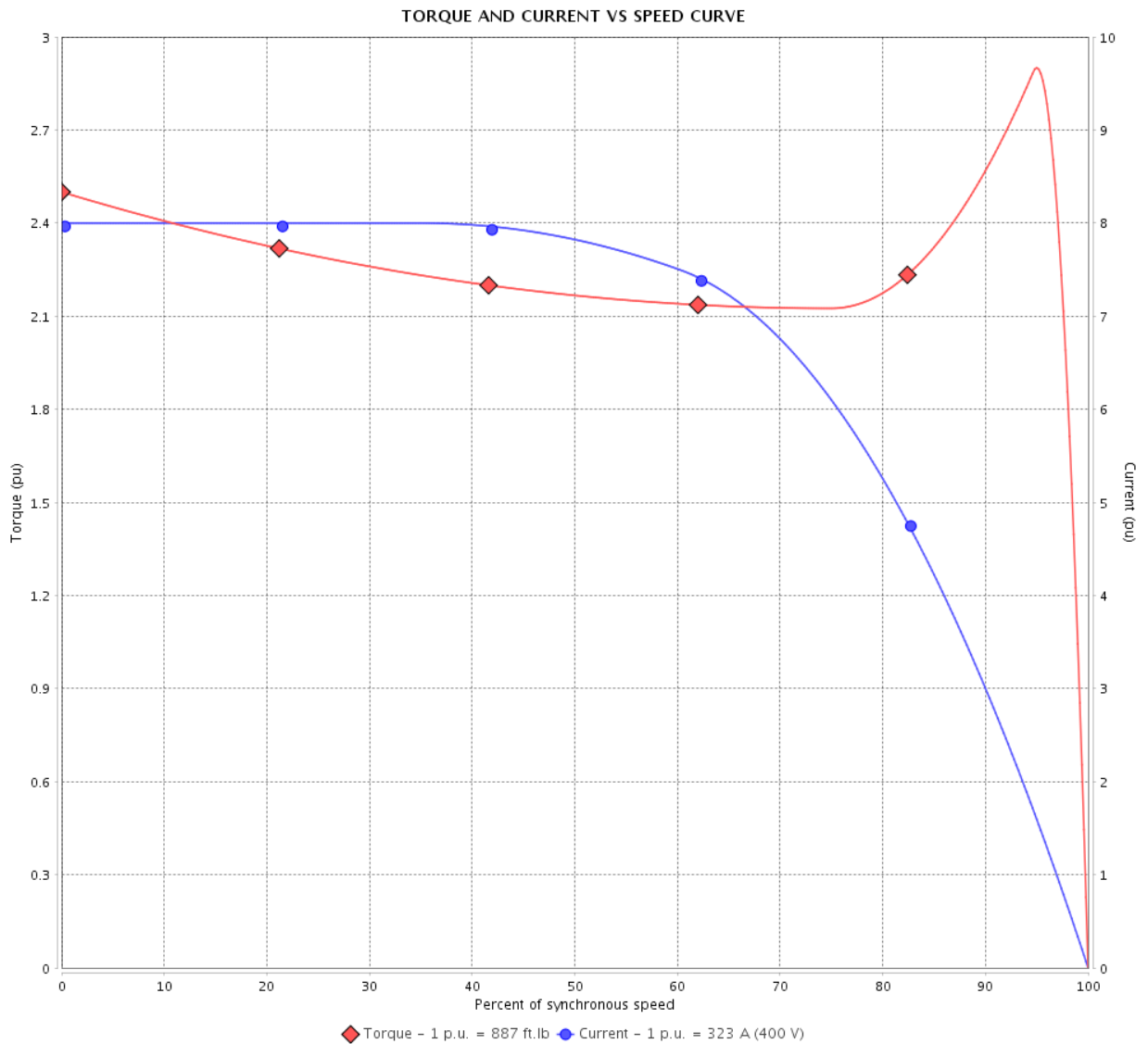
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Performance : 400 V 50 Hz 4P IE3

Rated current	: 323 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 19s (cold) 11s (hot)

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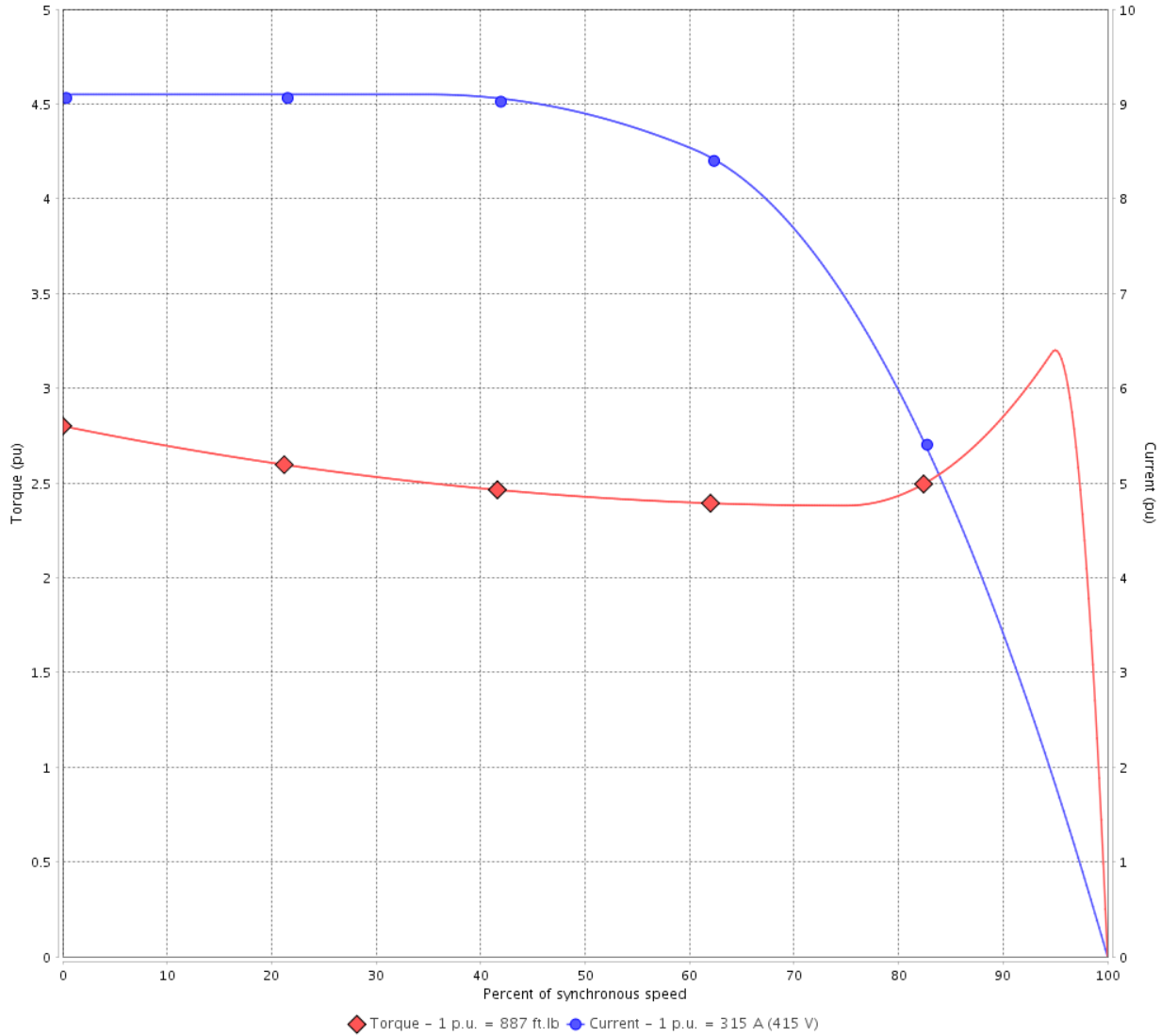
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Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.15
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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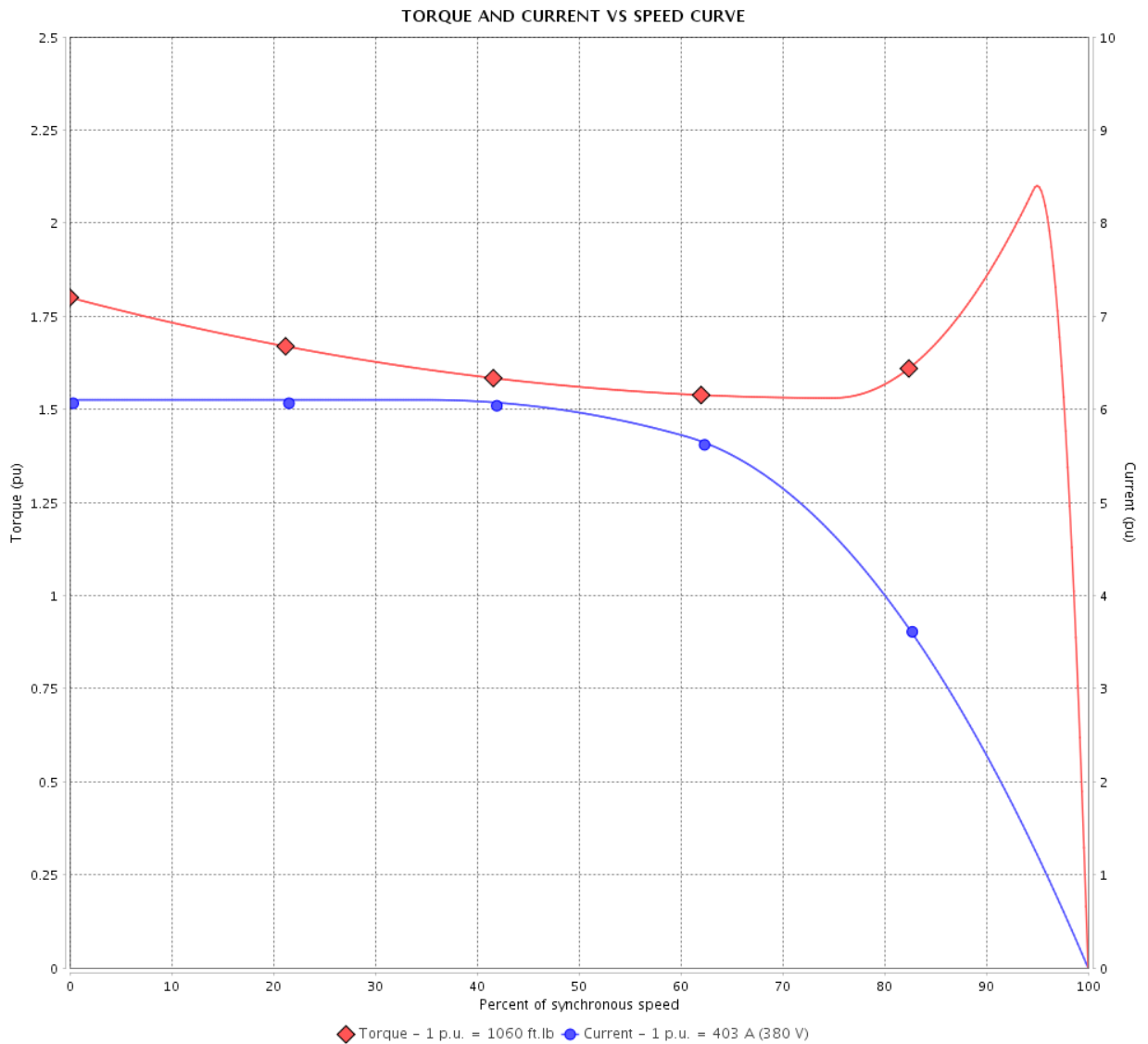
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Performance : 380 V 50 Hz 4P IE2

Rated current : 403 A  
LRC : 6.1  
Rated torque : 1060 ft.lb  
Locked rotor torque : 180 %  
Breakdown torque : 210 %  
Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

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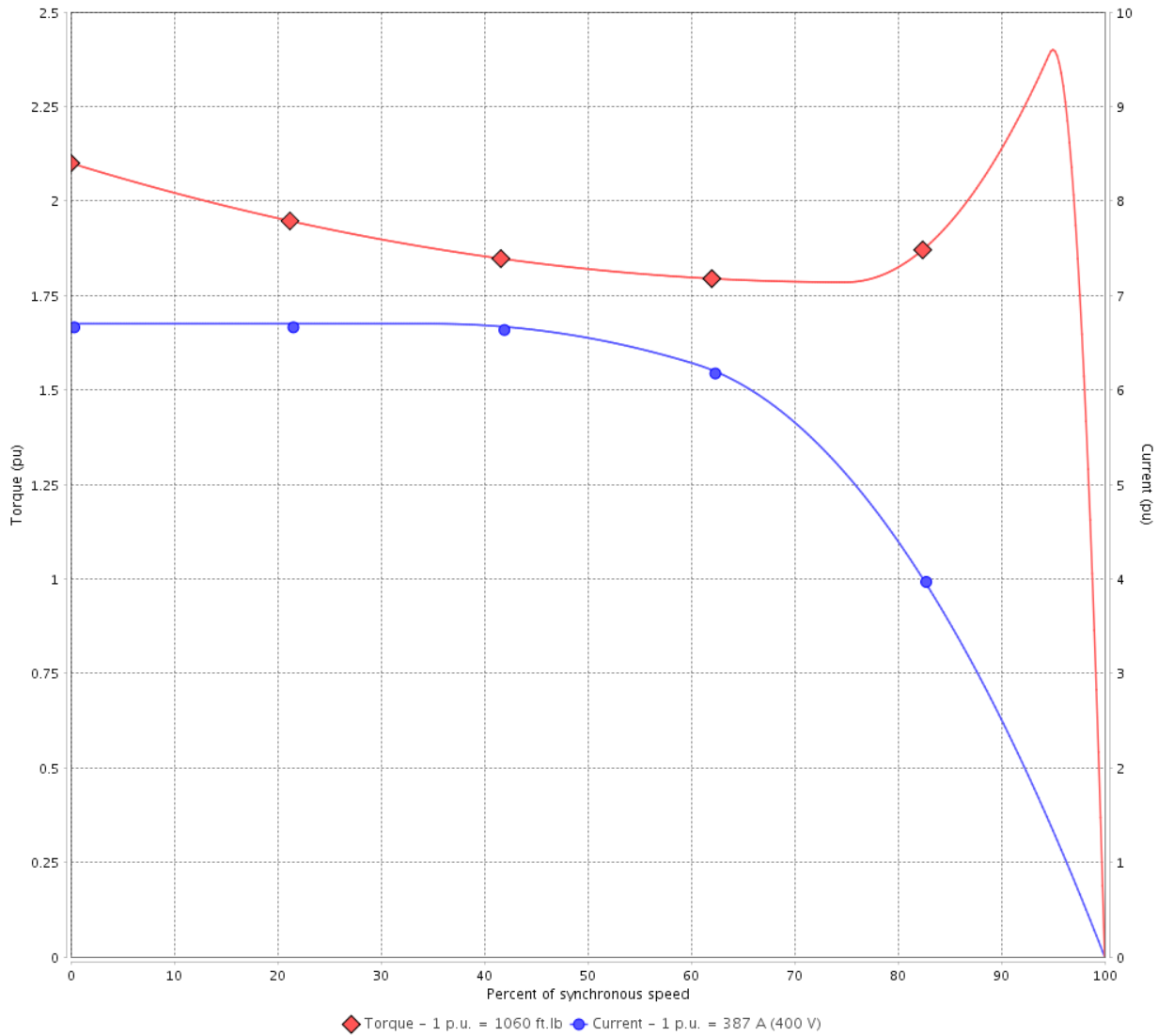
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Performance : 400 V 50 Hz 4P IE2

Rated current	: 387 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 1060 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 19s (cold) 11s (hot)

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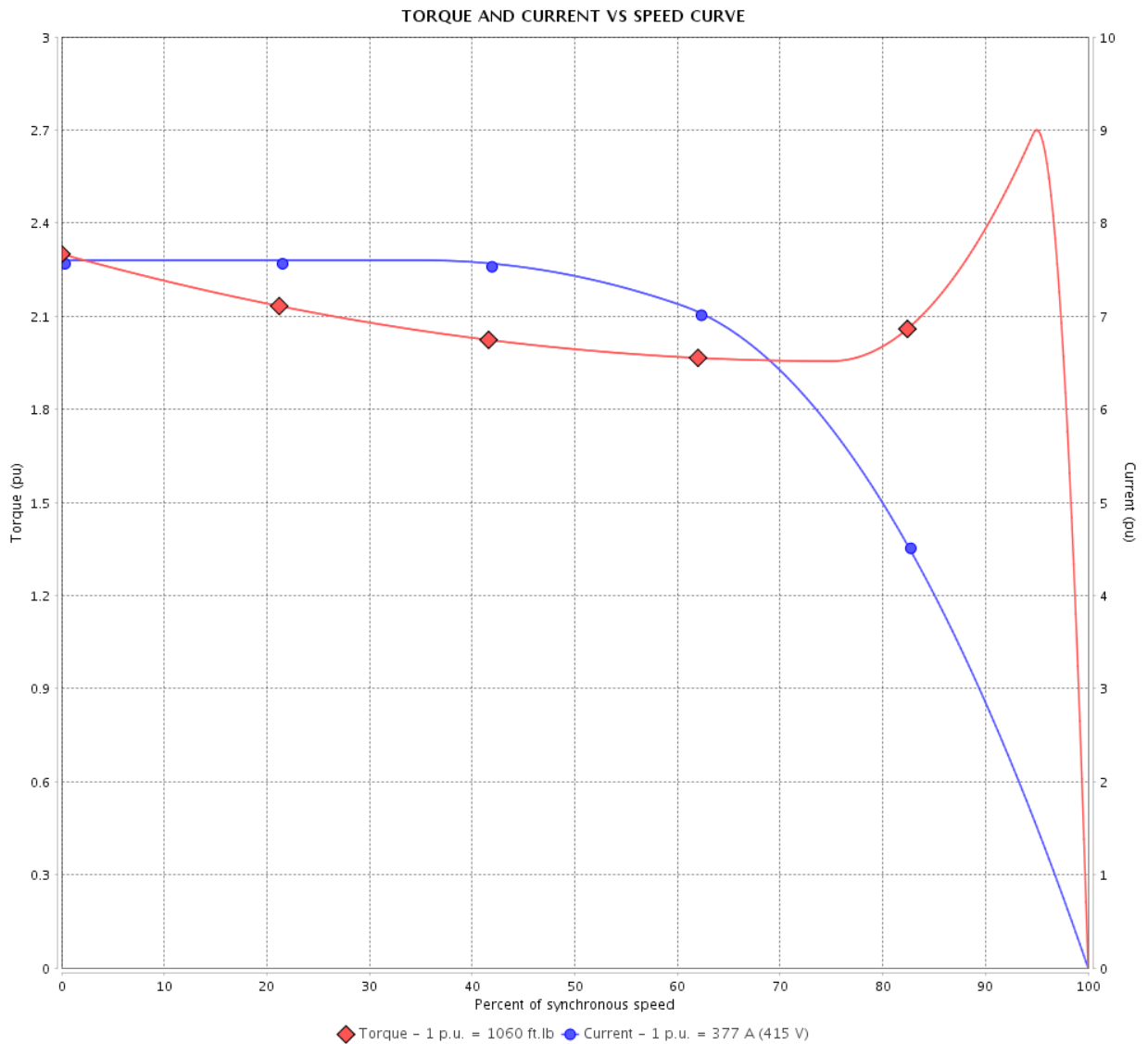
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Performance : 415 V 50 Hz 4P IE2

Rated current	: 377 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 1060 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

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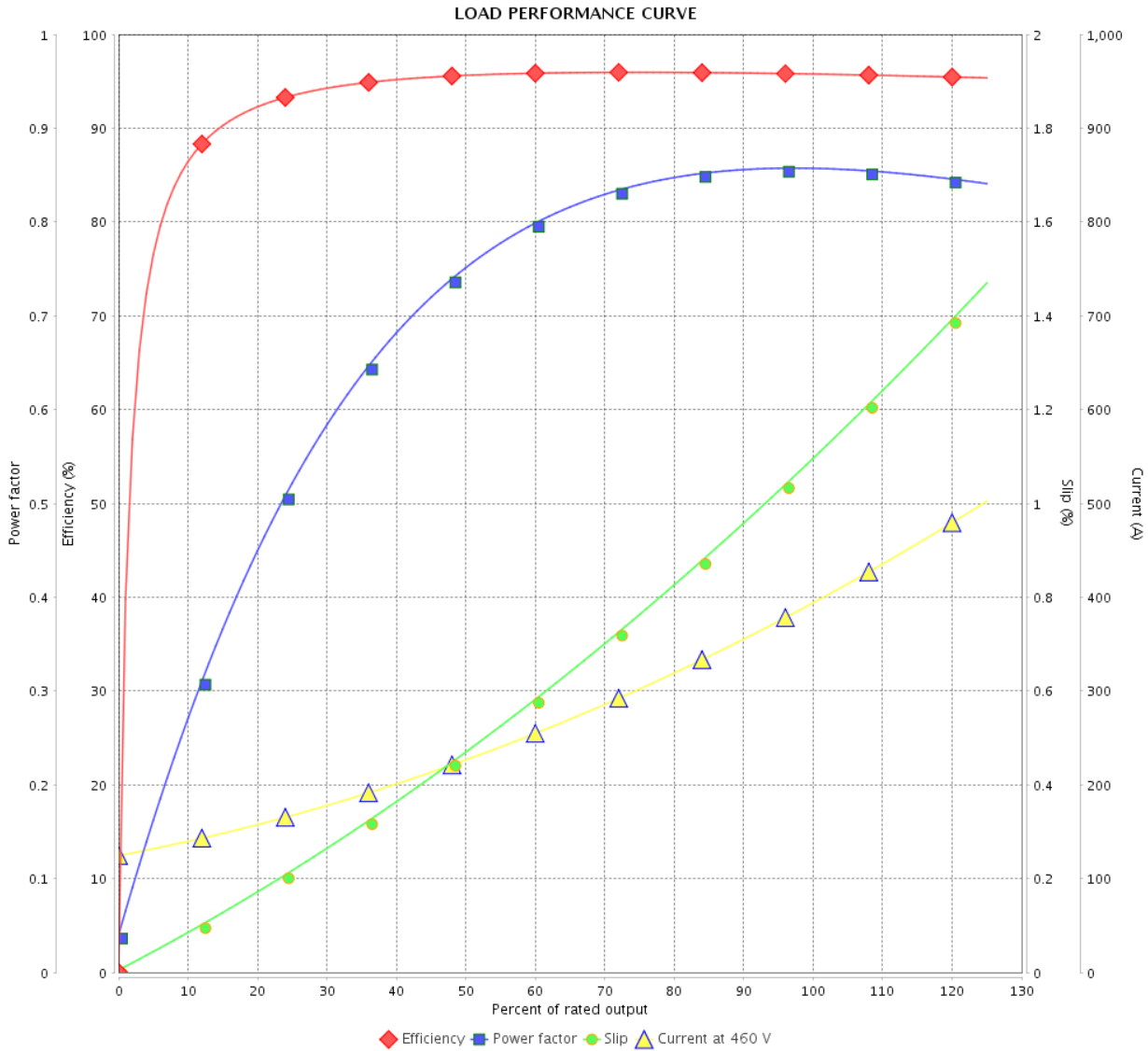


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 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
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 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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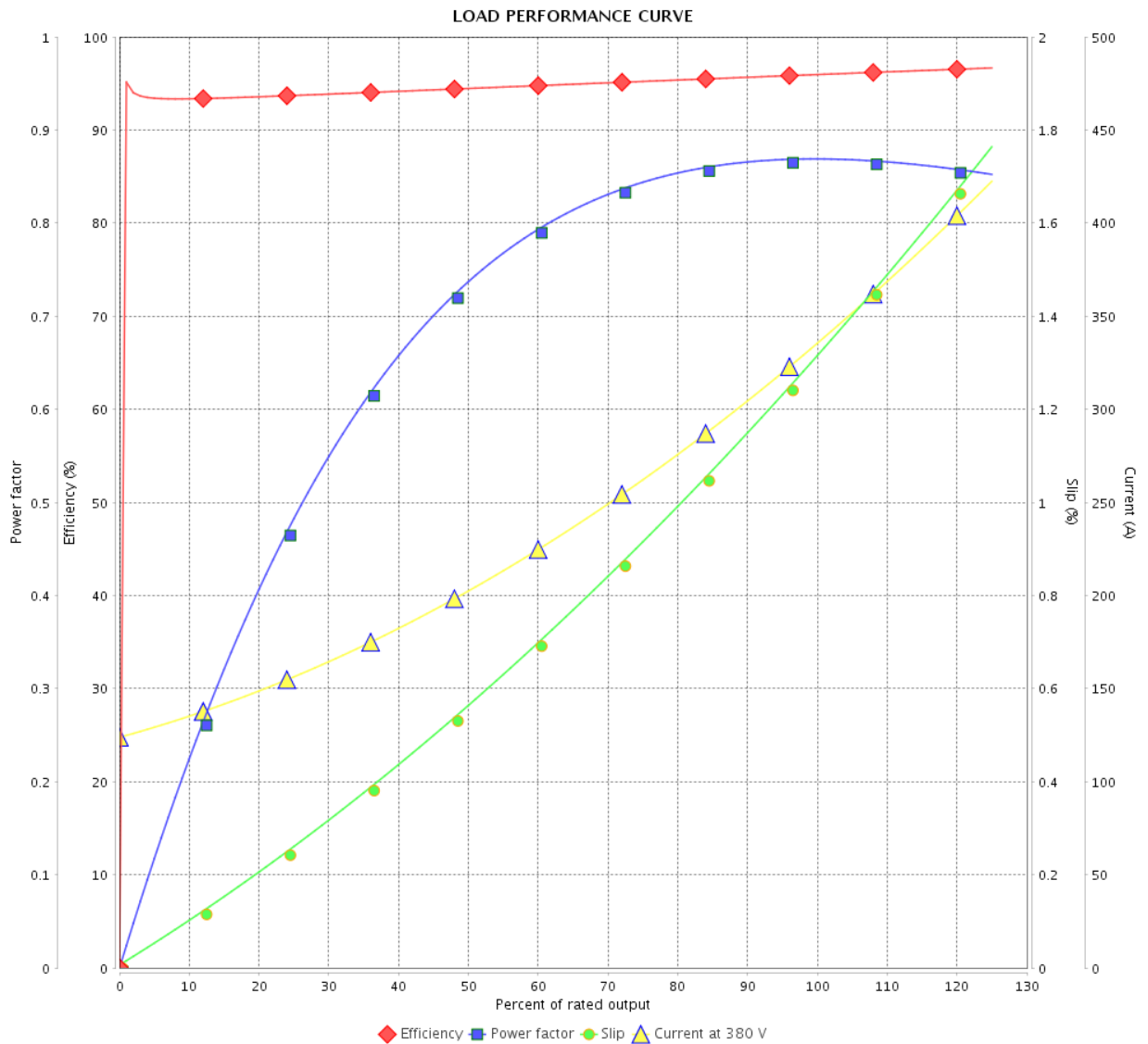


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Performance : 380 V 50 Hz 4P IE3

Rated current : 337 A  
 LRC : 7.3  
 Rated torque : 887 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 250 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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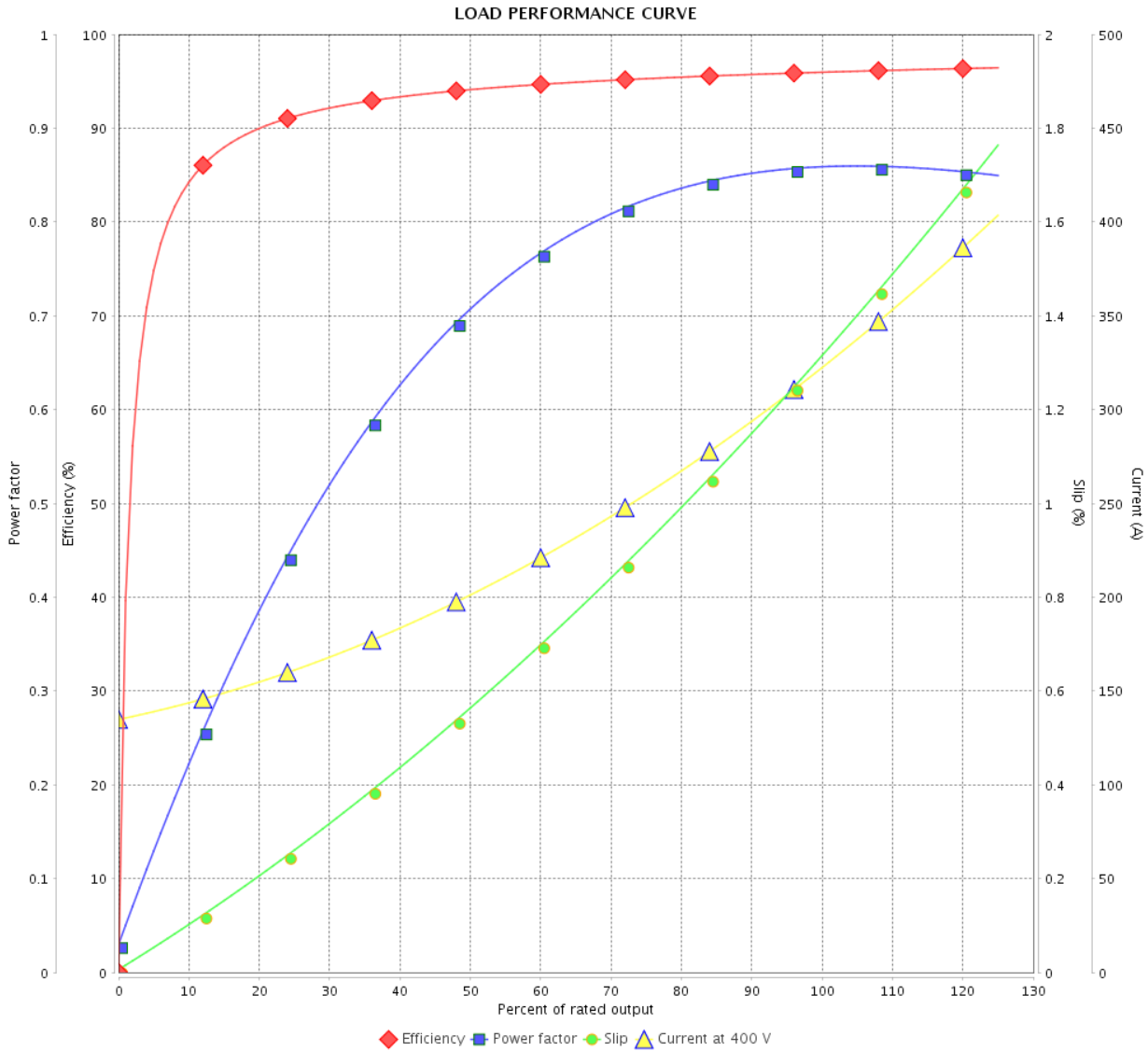


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Performance : 400 V 50 Hz 4P IE3

Rated current	: 323 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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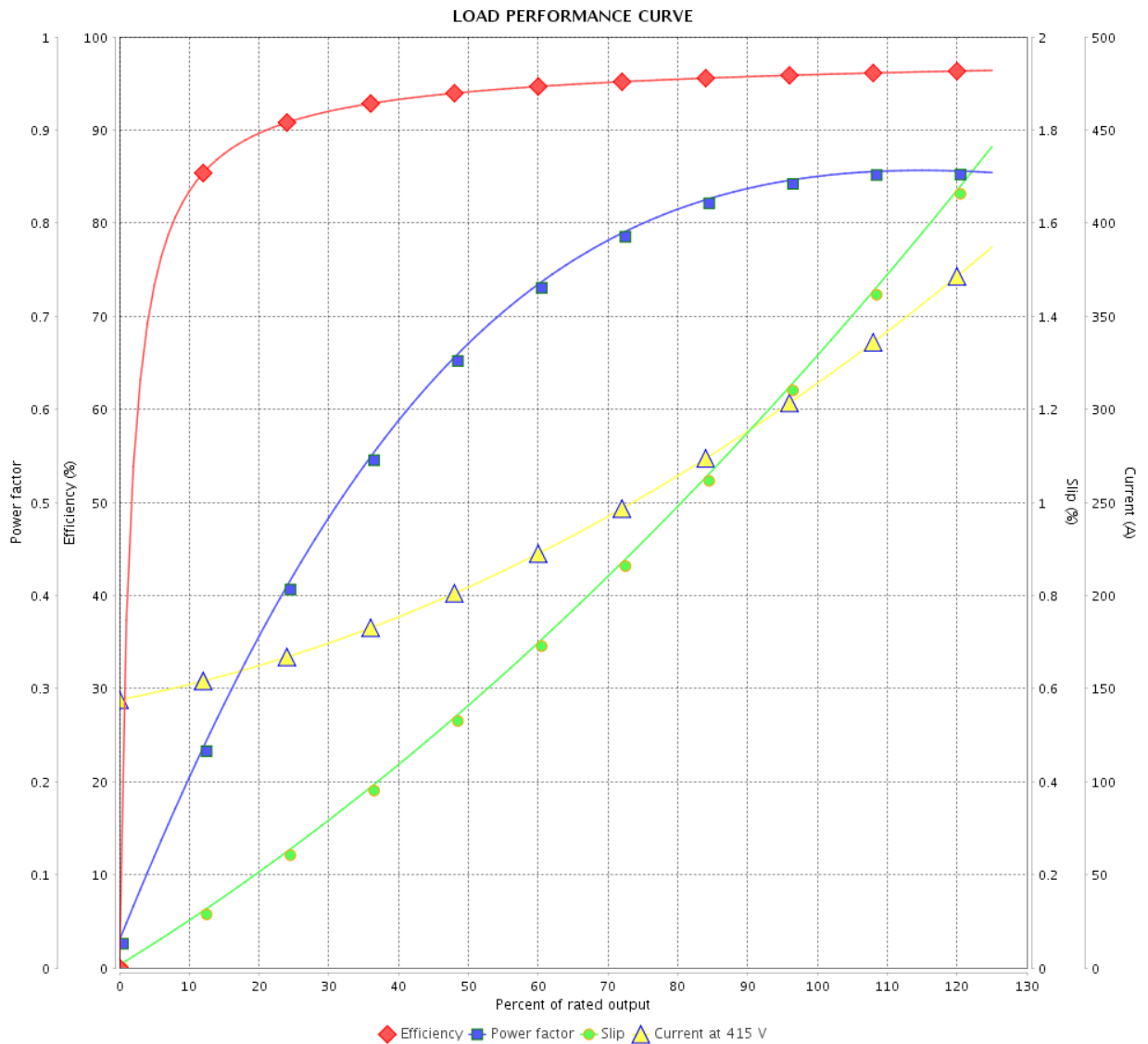


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Performance : 415 V 50 Hz 4P IE3

Rated current : 315 A  
 LRC : 9.1  
 Rated torque : 887 ft.lb  
 Locked rotor torque : 280 %  
 Breakdown torque : 320 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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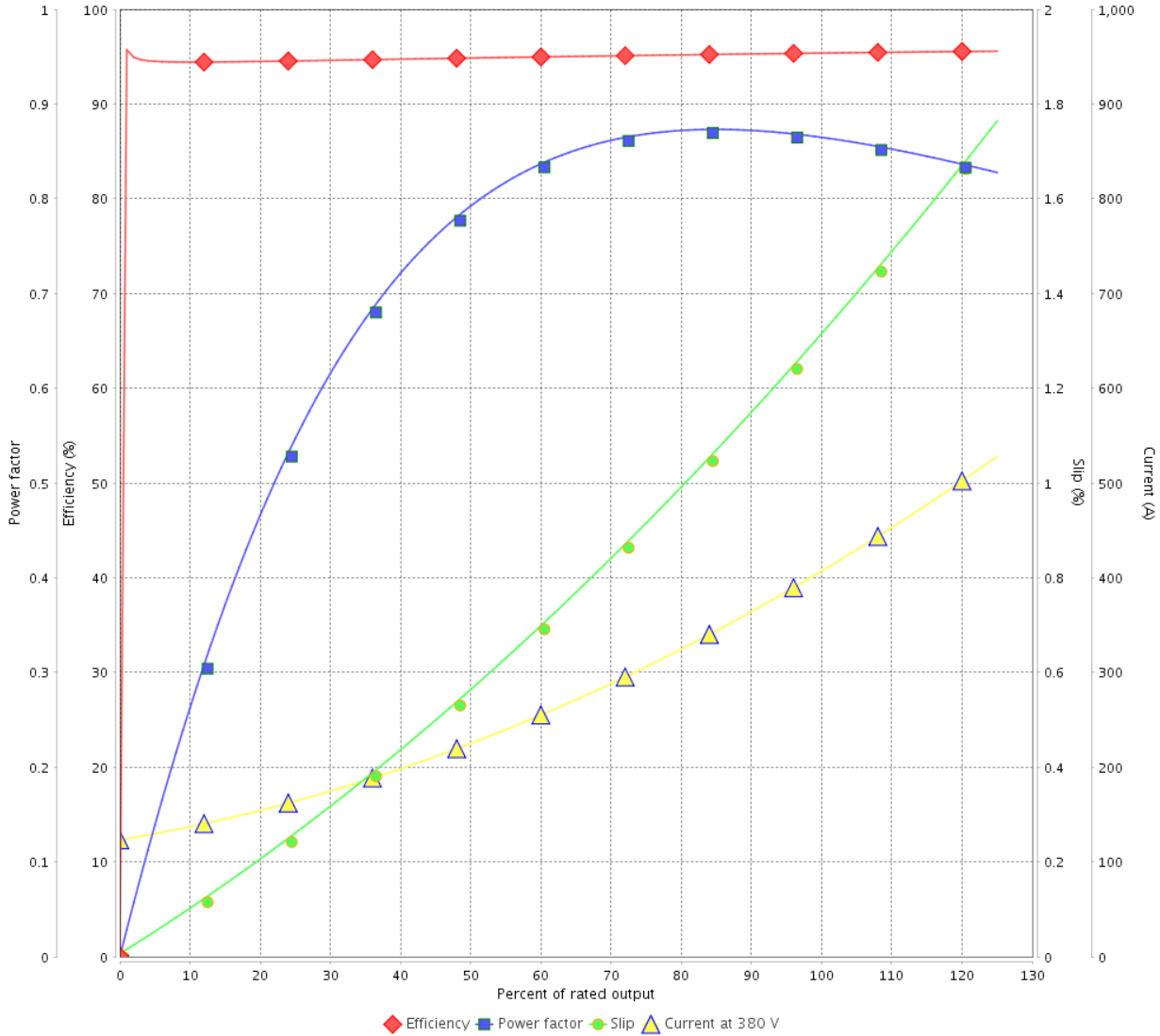
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Performance : 380 V 50 Hz 4P IE2

Rated current : 403 A  
 LRC : 6.1  
 Rated torque : 1060 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 210 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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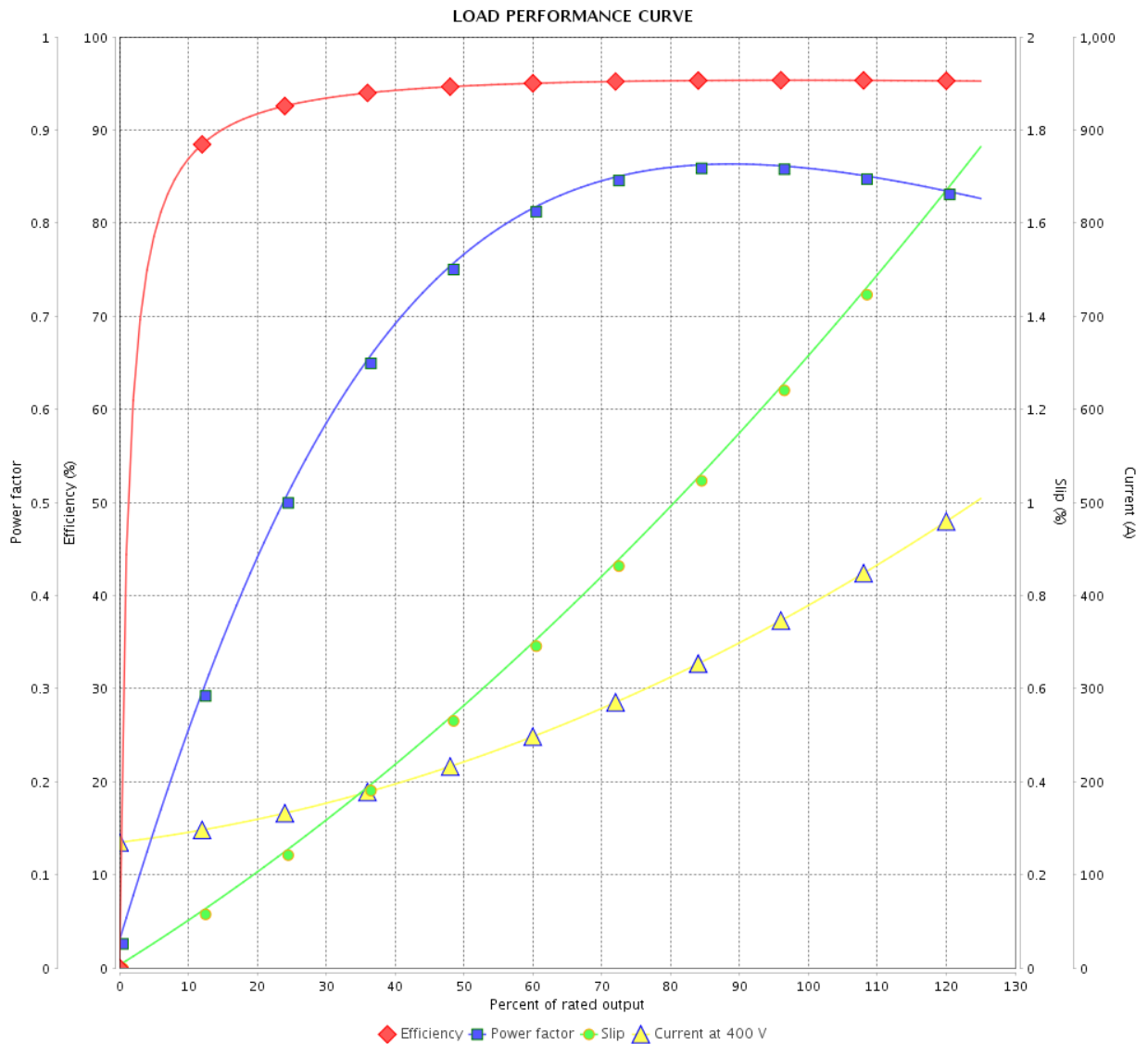


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Performance : 400 V 50 Hz 4P IE2

Rated current : 387 A  
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 Rated torque : 1060 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 240 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
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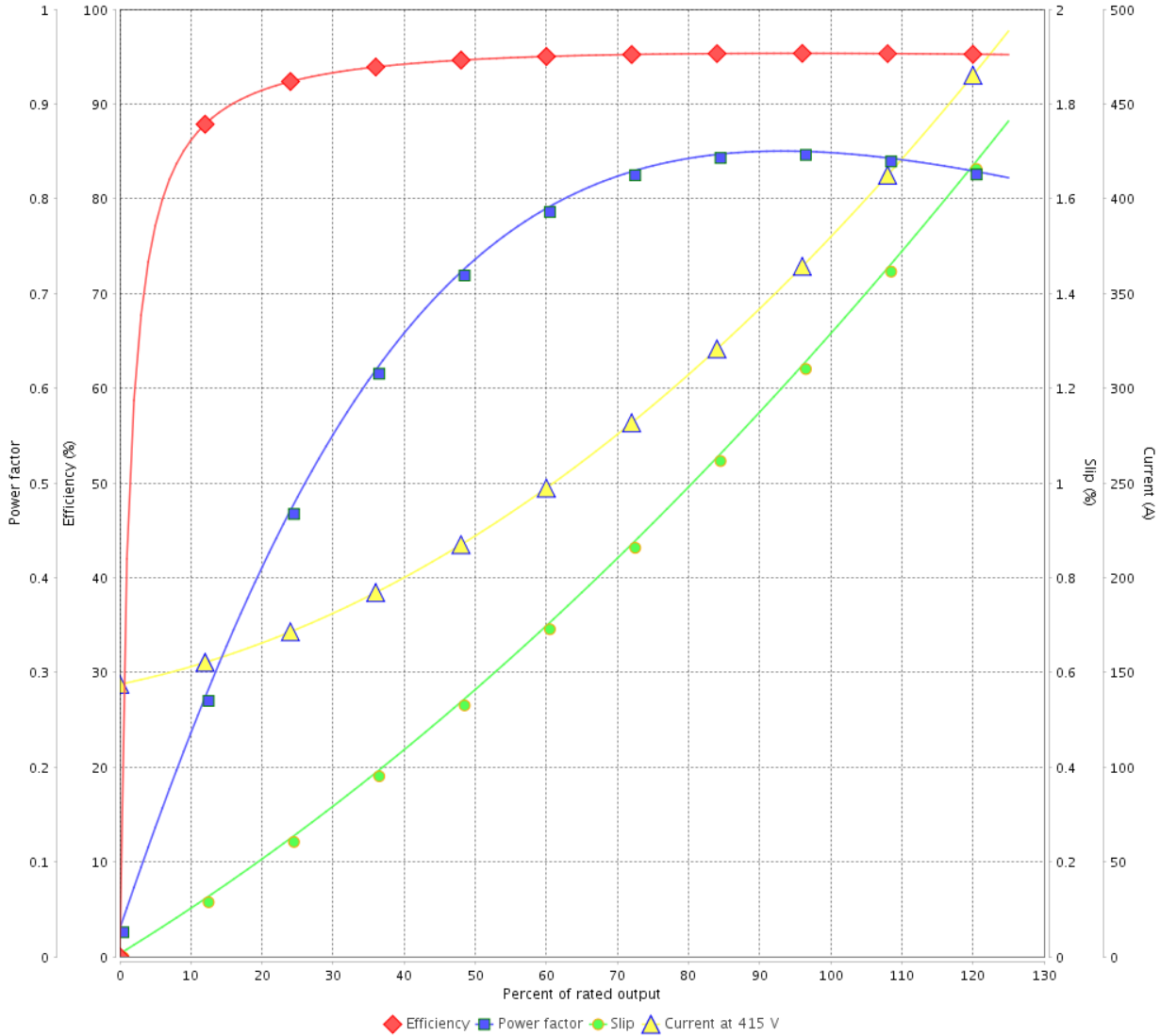
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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Heating constant

Cooling constant

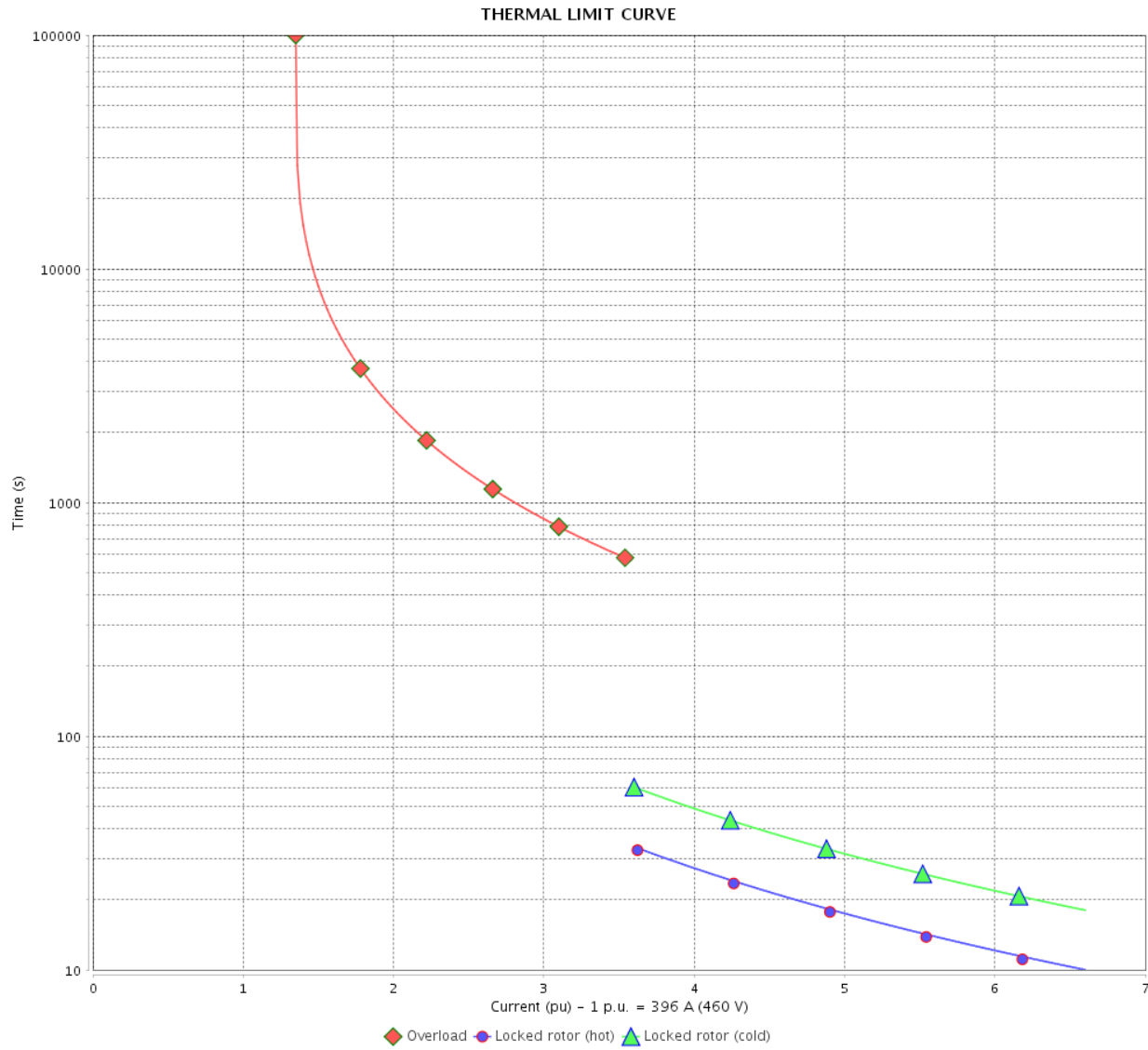
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Performance : 380 V 50 Hz 4P IE3

Rated current : 337 A  
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Rated torque : 887 ft.lb  
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Breakdown torque : 250 %  
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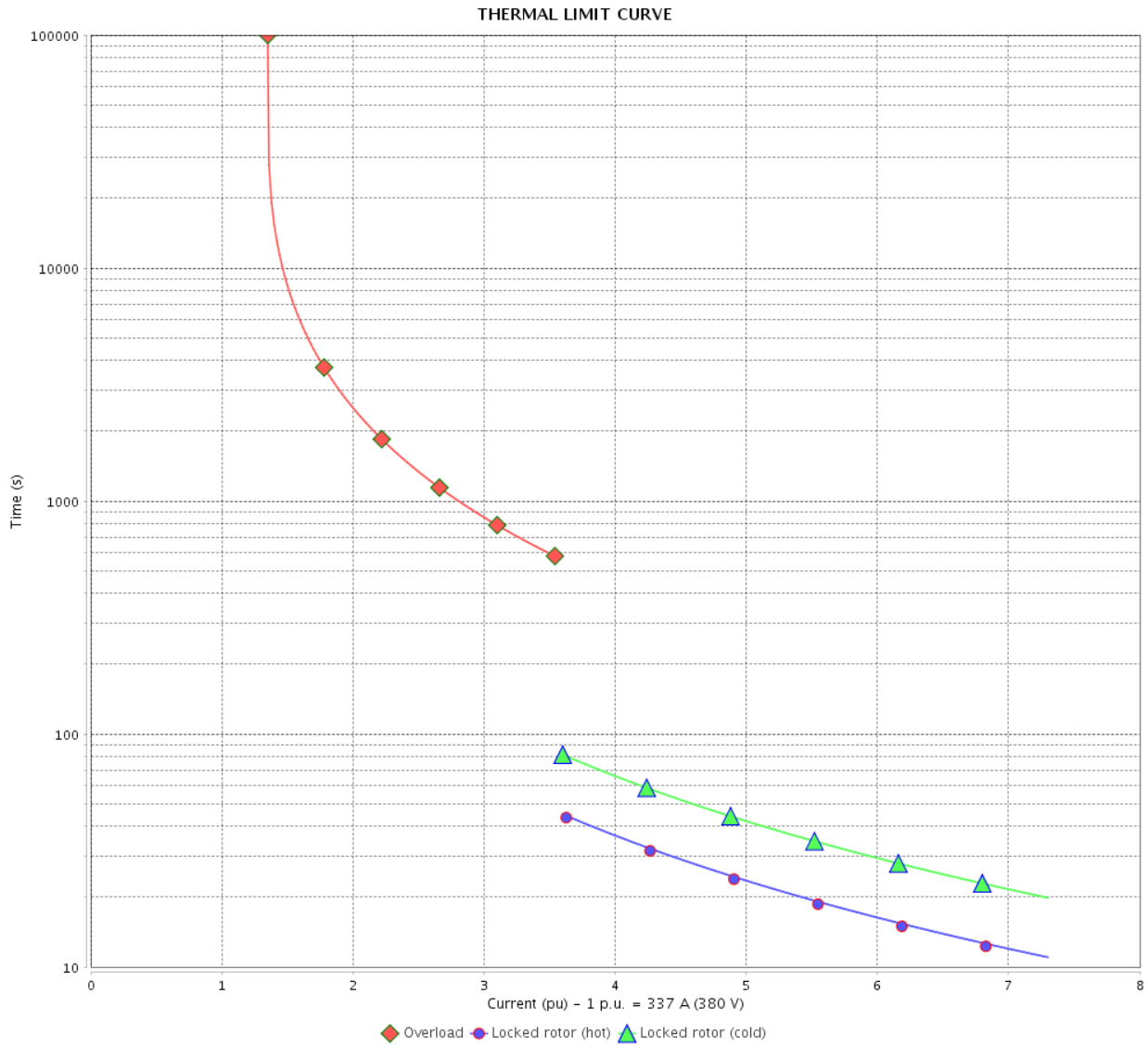
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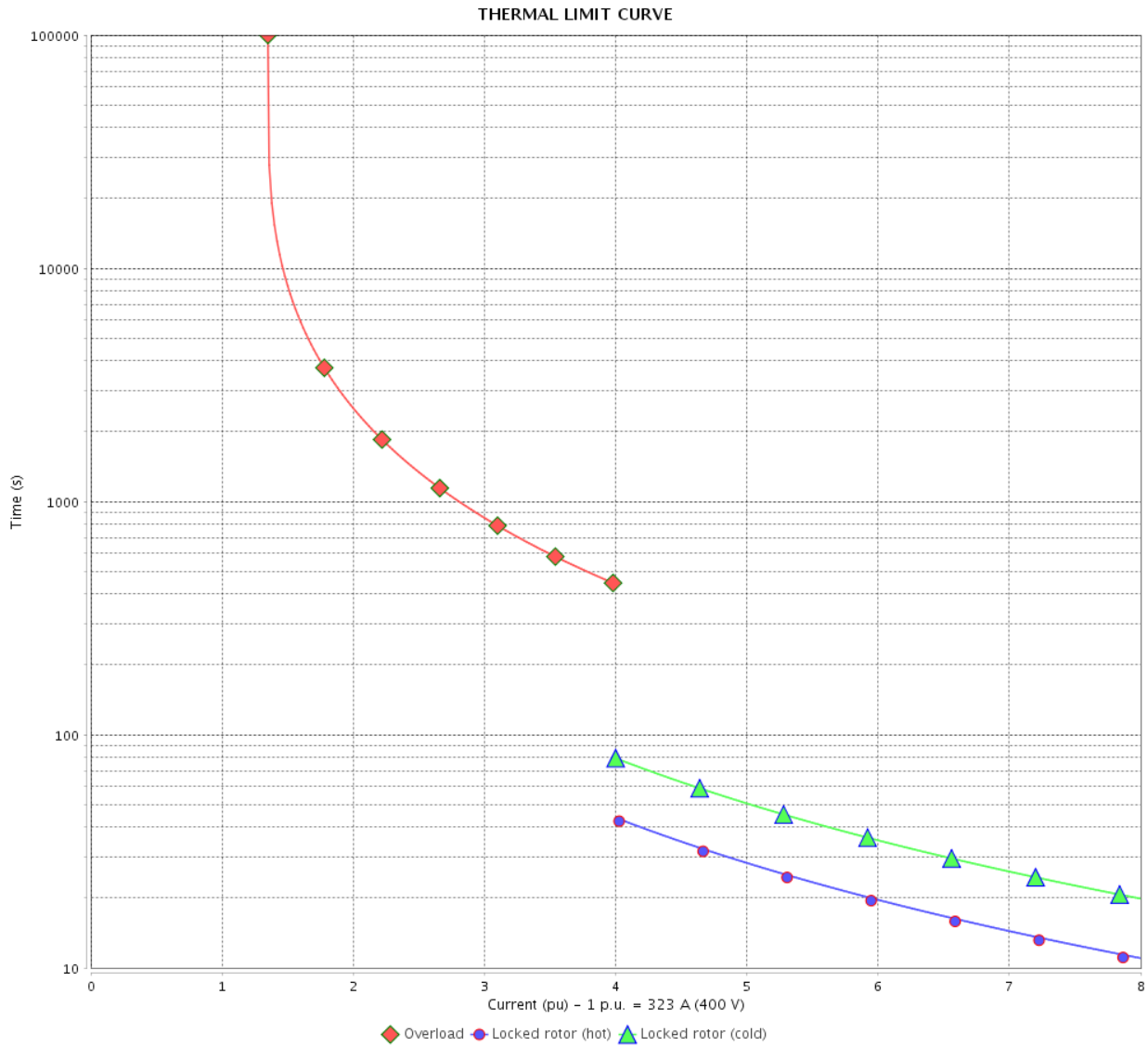
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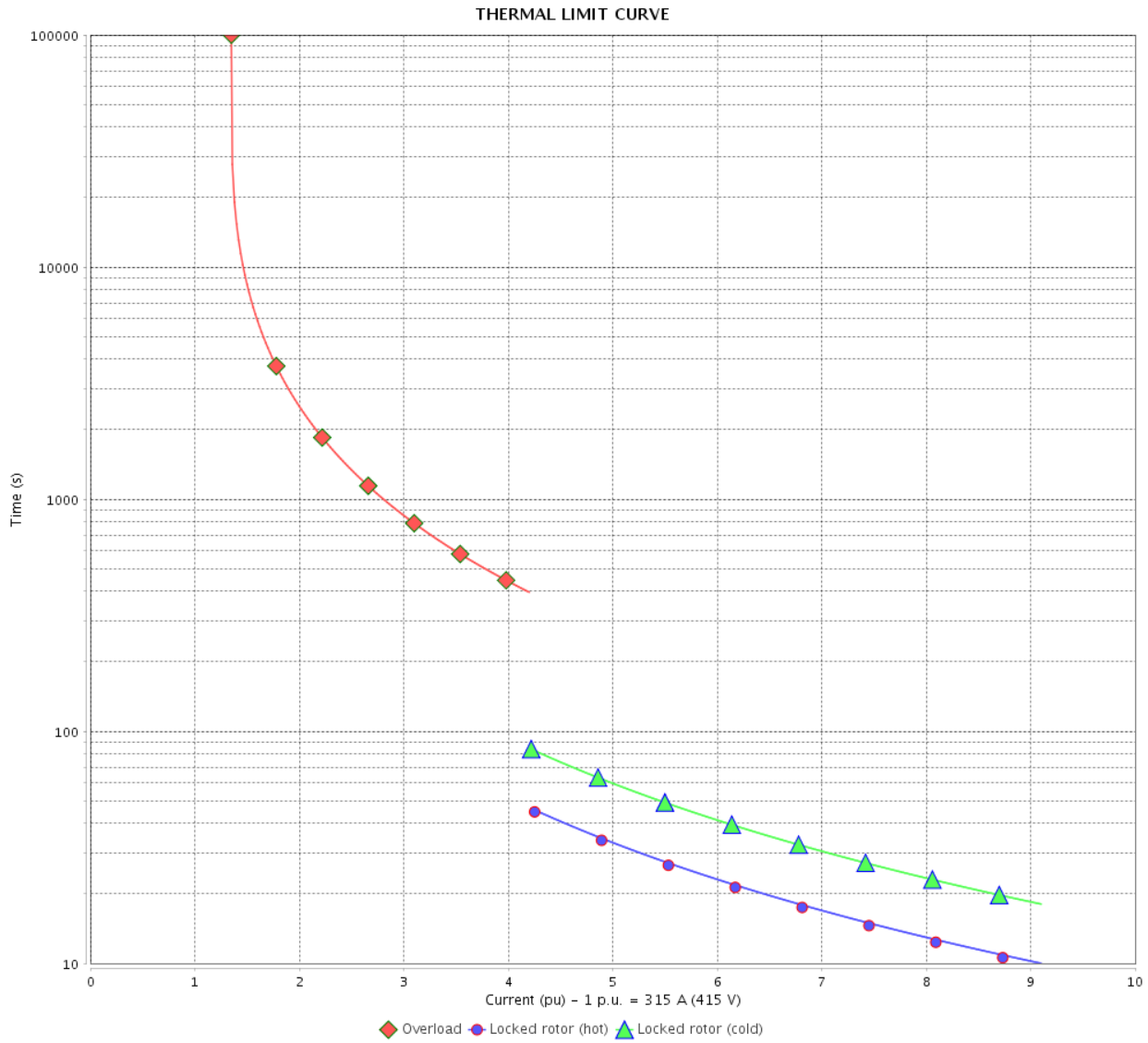
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Cooling constant

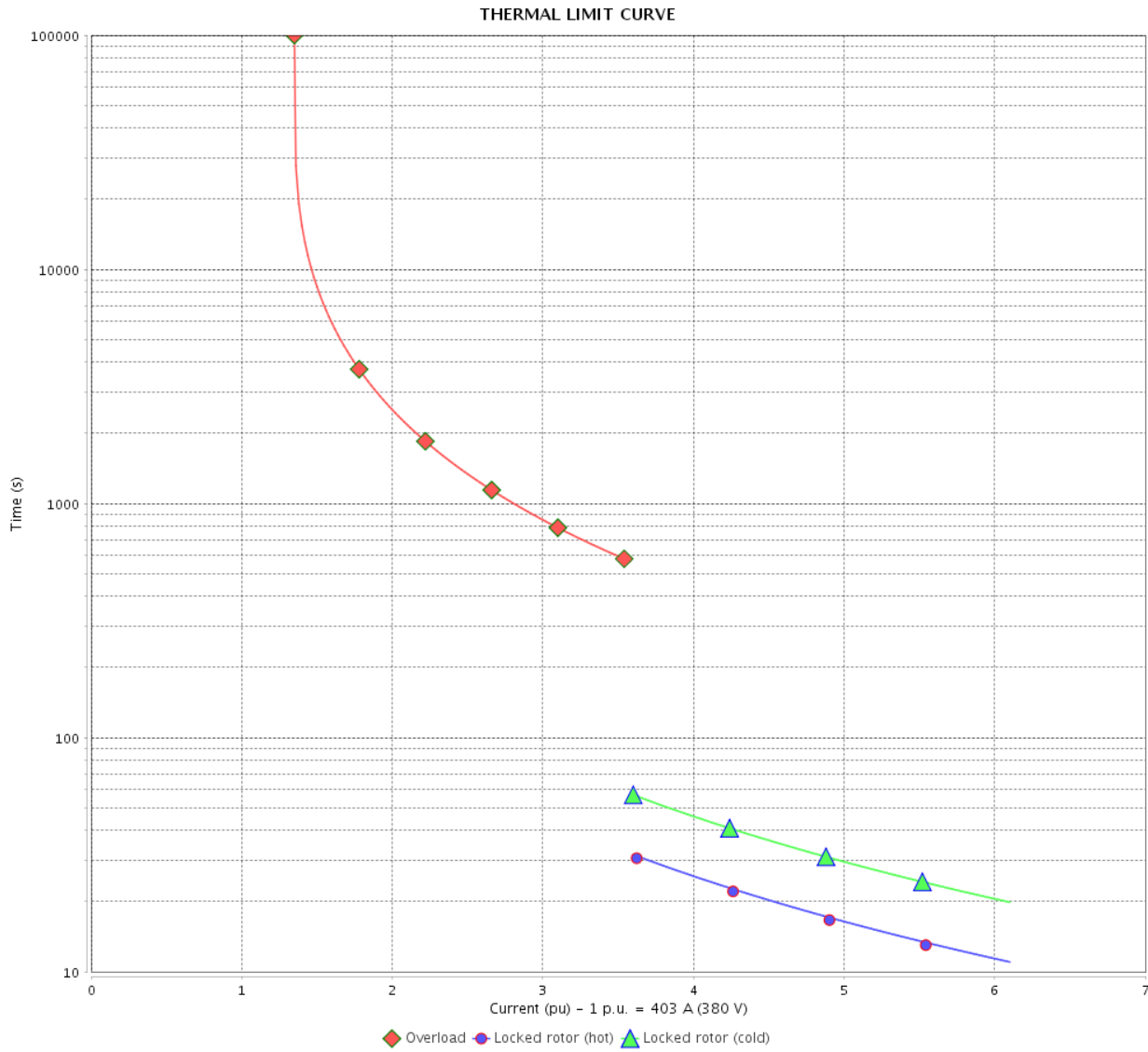
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		25 / 37	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		26 / 37		
Date		13/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase  
 Product code : 13457378  
 Catalog # : 35018OT3G447/9T-W40

Performance : 400 V 50 Hz 4P IE2

Rated current : 387 A	Moment of inertia (J) : 66.1 sq.ft.lb
LRC : 6.7	Duty cycle : Cont.(S1)
Rated torque : 1060 ft.lb	Insulation class : F
Locked rotor torque : 210 %	Service factor : 1.15
Breakdown torque : 240 %	Temperature rise : 80 K
Rated speed : 1480 rpm	Design : B

Heating constant

Cooling constant

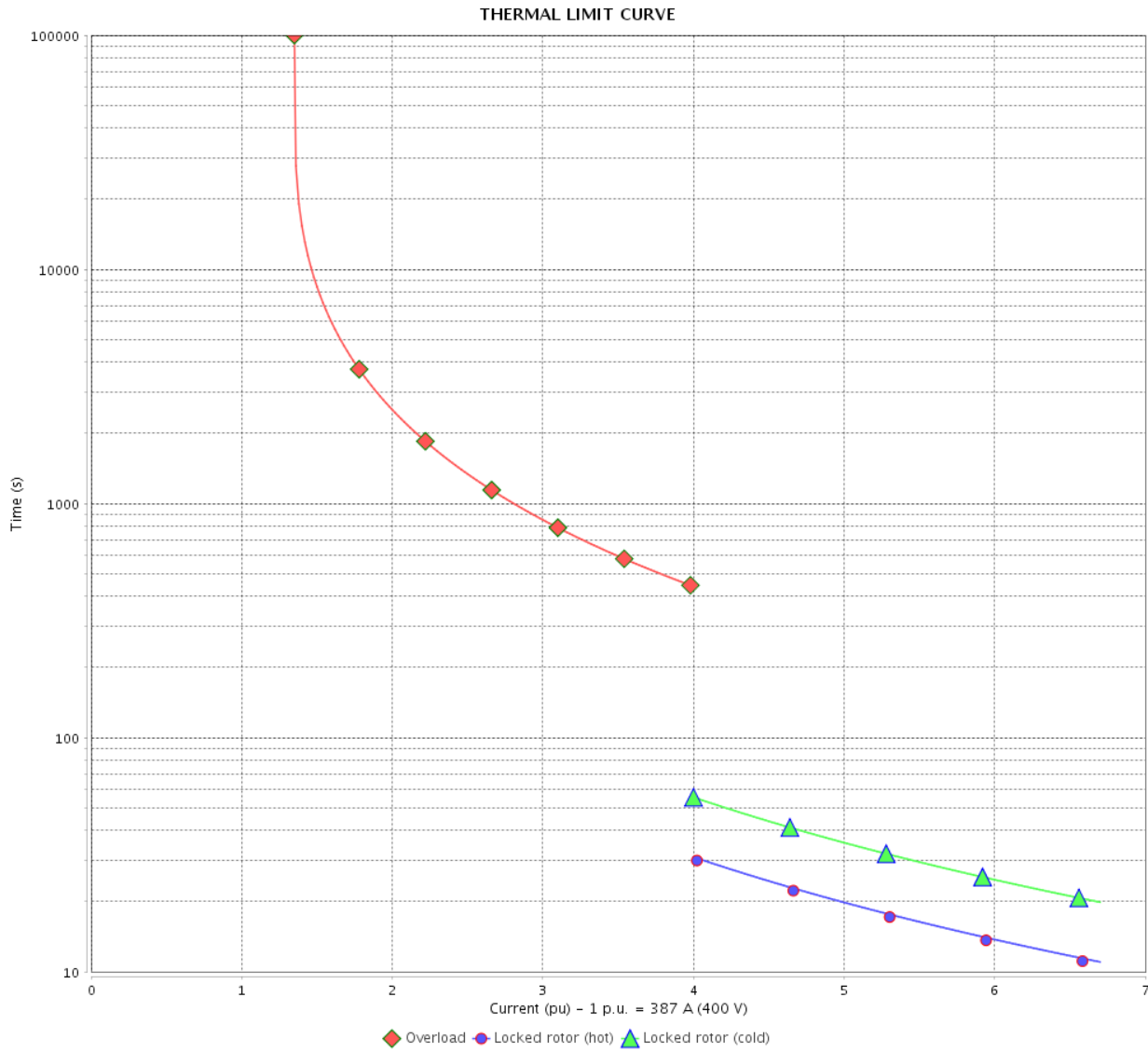
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 27 / 37	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		28 / 37		
Date		13/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency Three-Phase      Product code : 13457378  
 Catalog # : 35018OT3G447/9T-W40

Performance : 415 V 50 Hz 4P IE2

Rated current : 377 A	Moment of inertia (J) : 66.1 sq.ft.lb
LRC : 7.6	Duty cycle : Cont.(S1)
Rated torque : 1060 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.15
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 1480 rpm	Design : B

Heating constant

Cooling constant

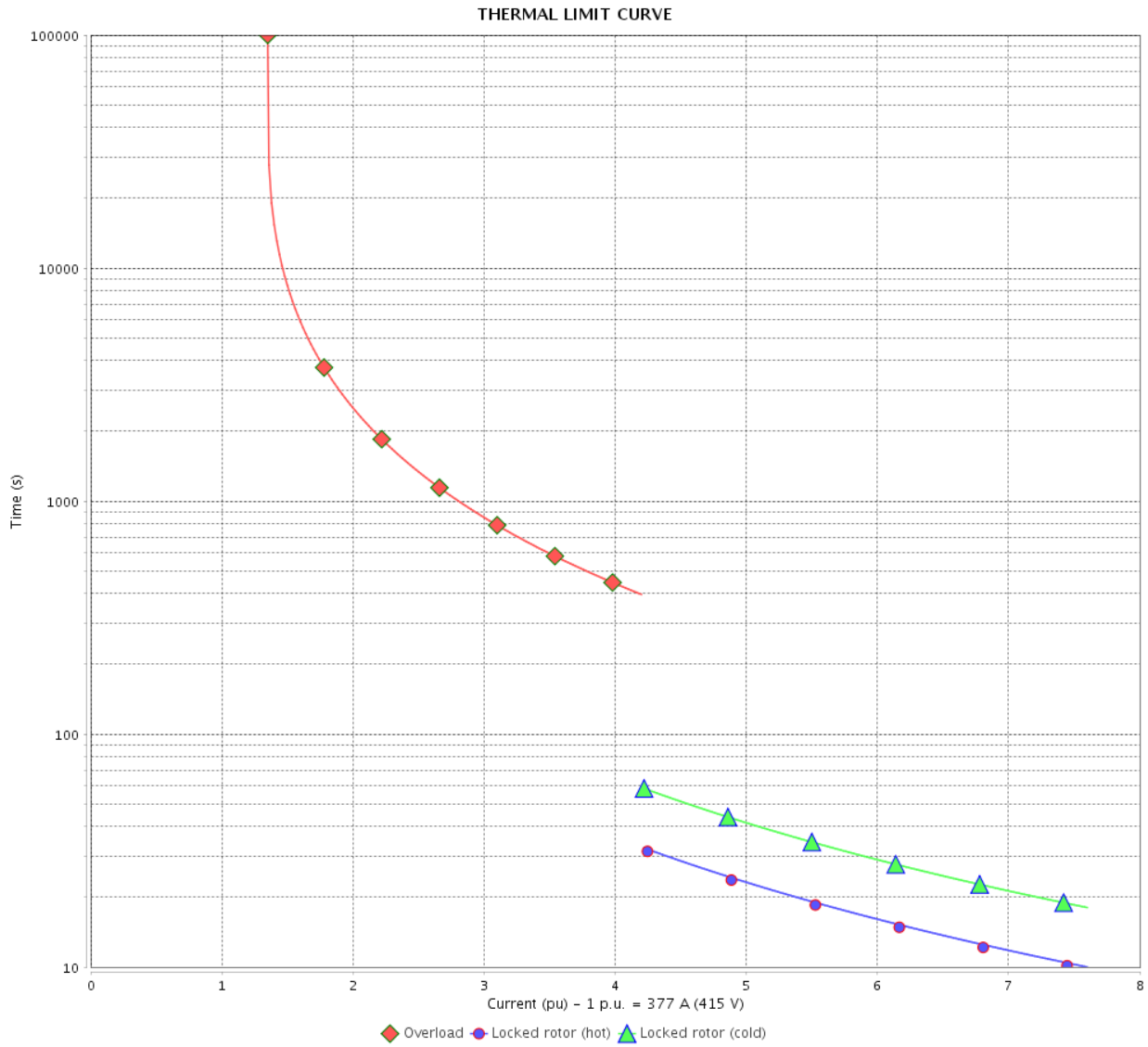
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	13/04/2022	29 / 37		

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		30 / 37		
Date		13/04/2022		

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

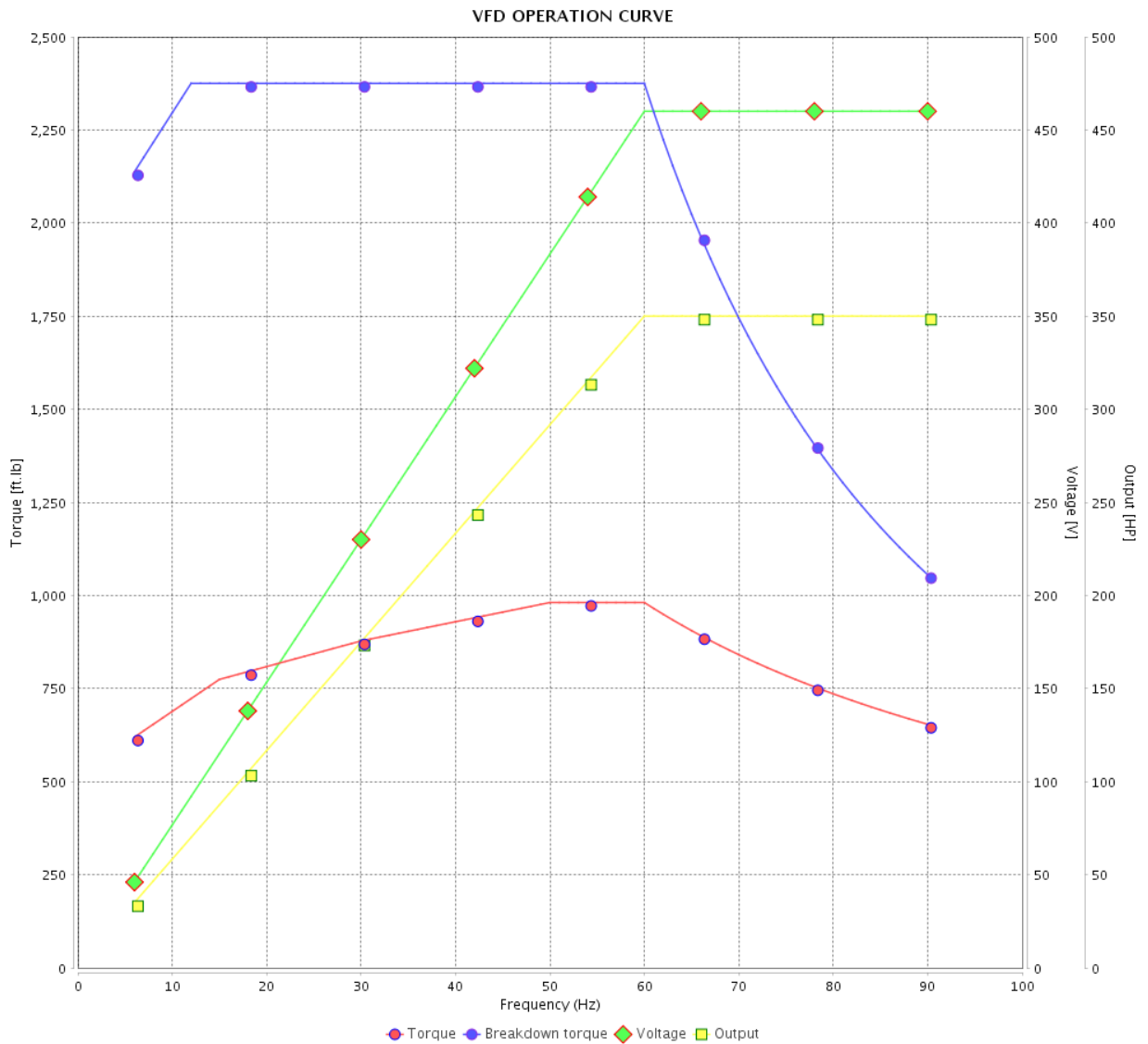


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40



Performance : 460 V 60 Hz 4P

Rated current : 396 A  
LRC : 6.6  
Rated torque : 1030 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 1780 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 31 / 37	Revision
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



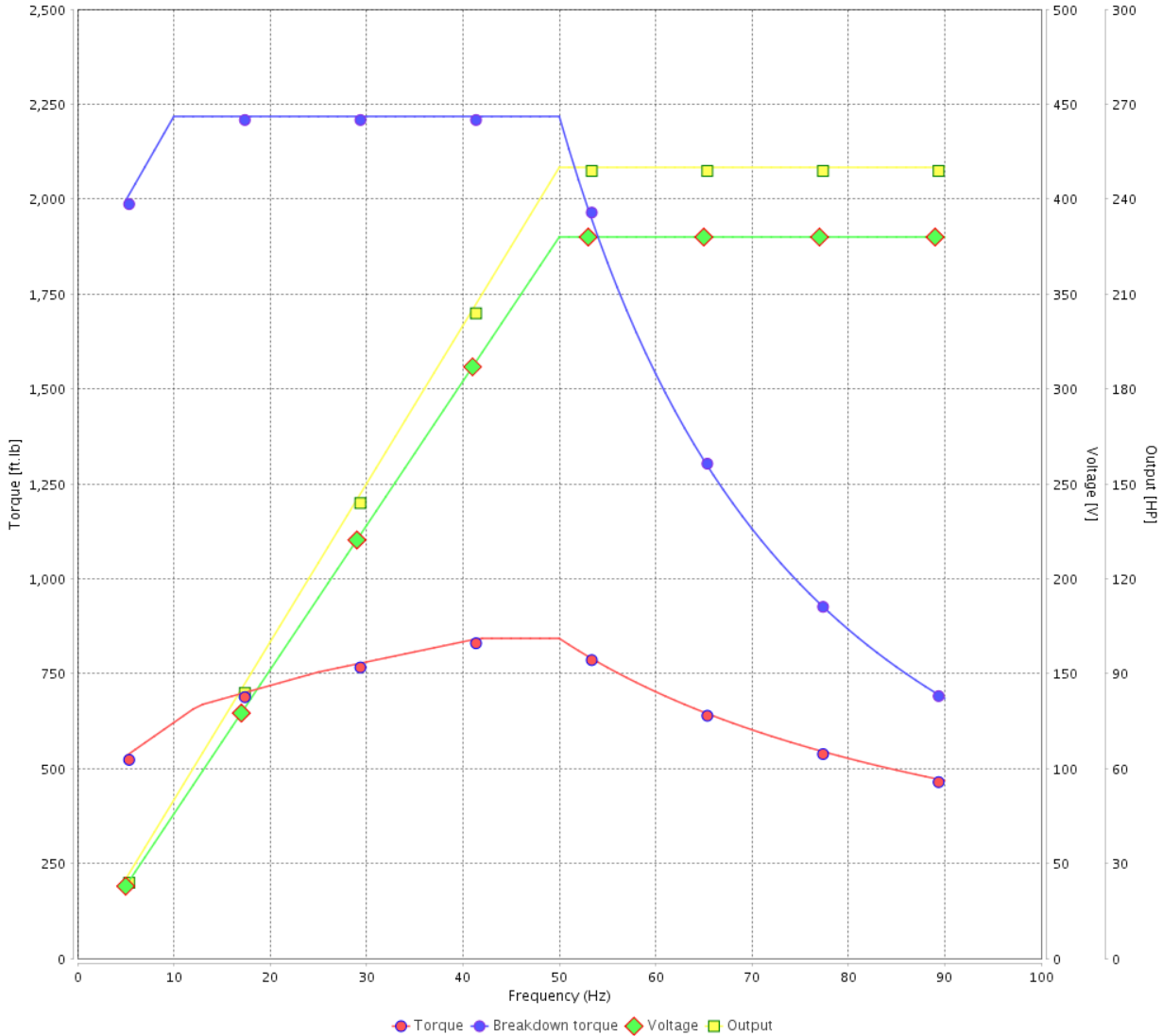
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40

VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE3

Rated current	: 337 A	Moment of inertia (J)	: 66.1 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 887 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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Performed by			Page 32 / 37	Revision
Checked by				
Date	13/04/2022			



# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

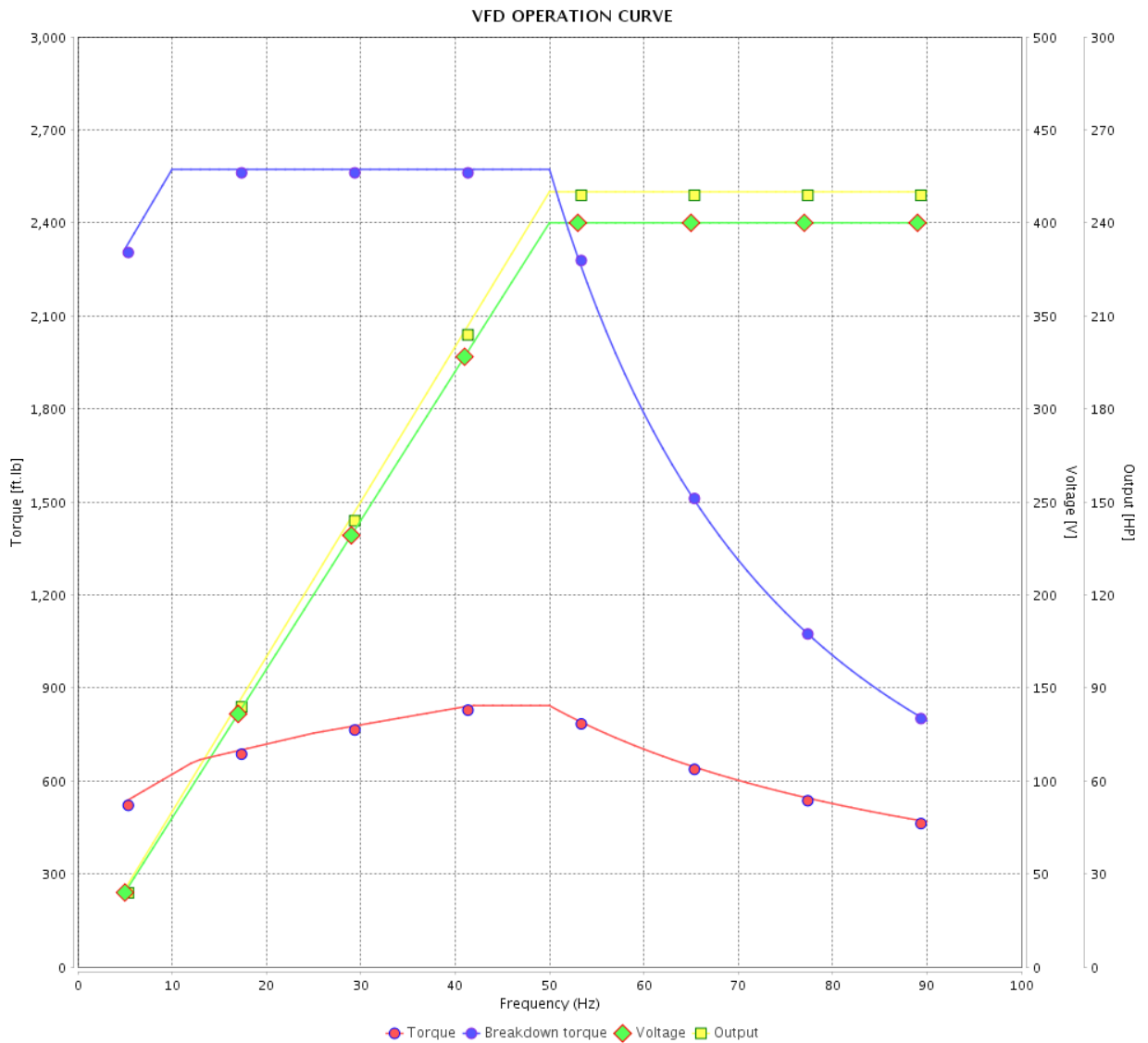


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40



Performance : 400 V 50 Hz 4P IE3

Rated current : 323 A  
LRC : 8.0  
Rated torque : 887 ft.lb  
Locked rotor torque : 250 %  
Breakdown torque : 290 %  
Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

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Performed by		Page		Revision
Checked by		33 / 37		
Date		13/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



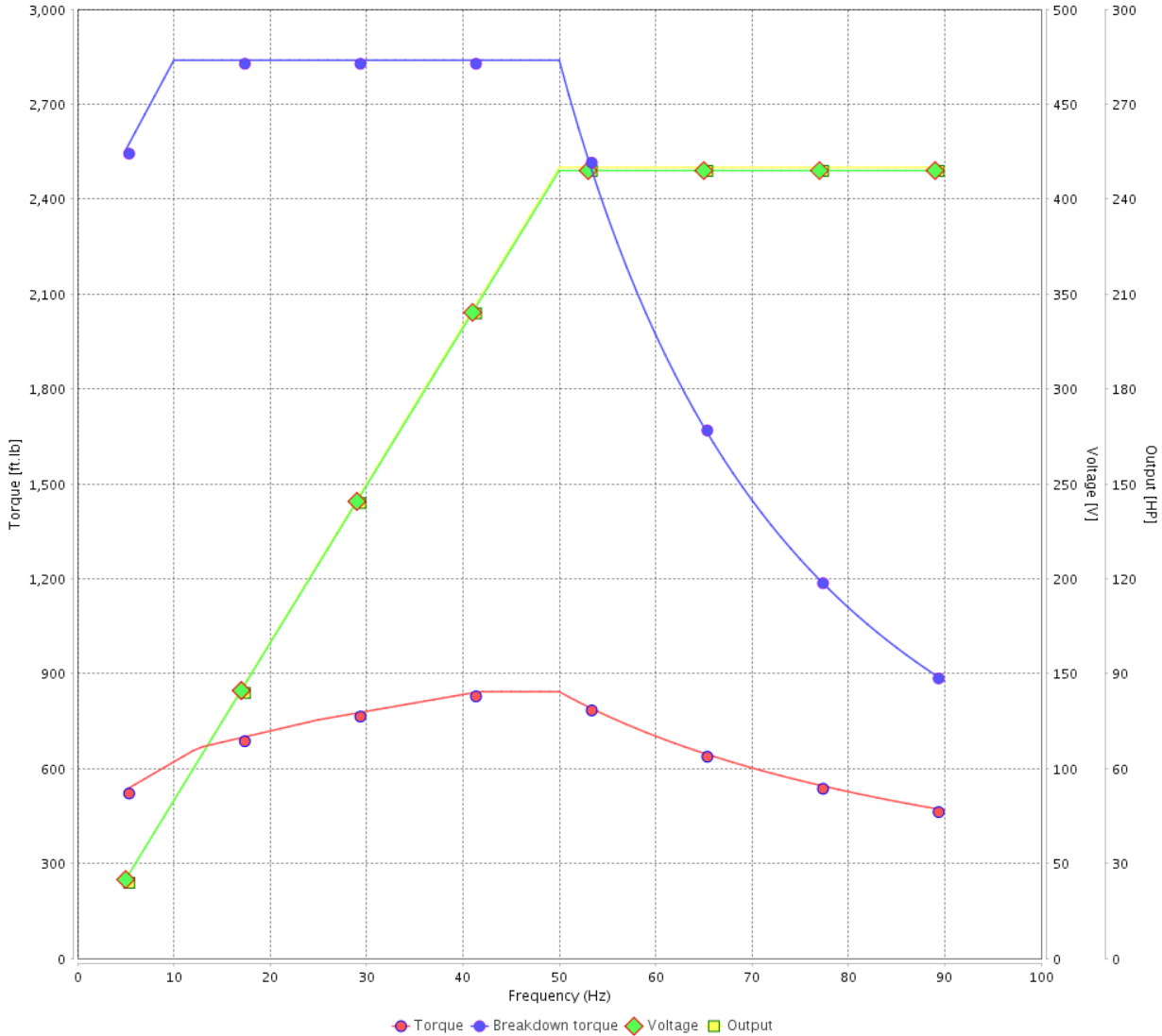
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40

VFD OPERATION CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current : 315 A  
LRC : 9.1  
Rated torque : 887 ft.lb  
Locked rotor torque : 280 %  
Breakdown torque : 320 %  
Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary	Performed	Checked	Date
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Date	13/04/2022			

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

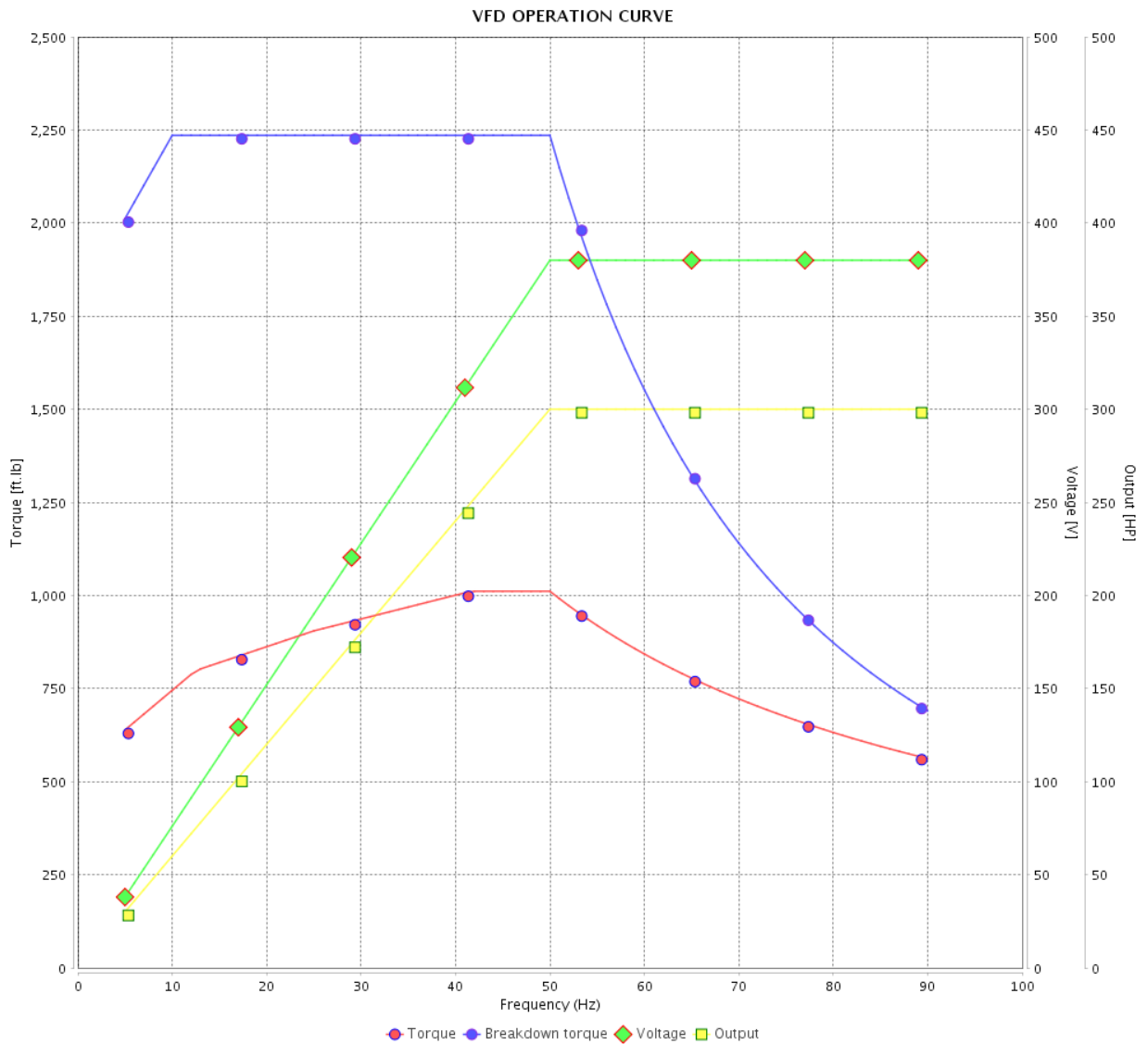


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40



Performance : 380 V 50 Hz 4P IE2

Rated current : 403 A  
 LRC : 6.1  
 Rated torque : 1060 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 210 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 35 / 37
Checked by				
Date	13/04/2022			
				Revision

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

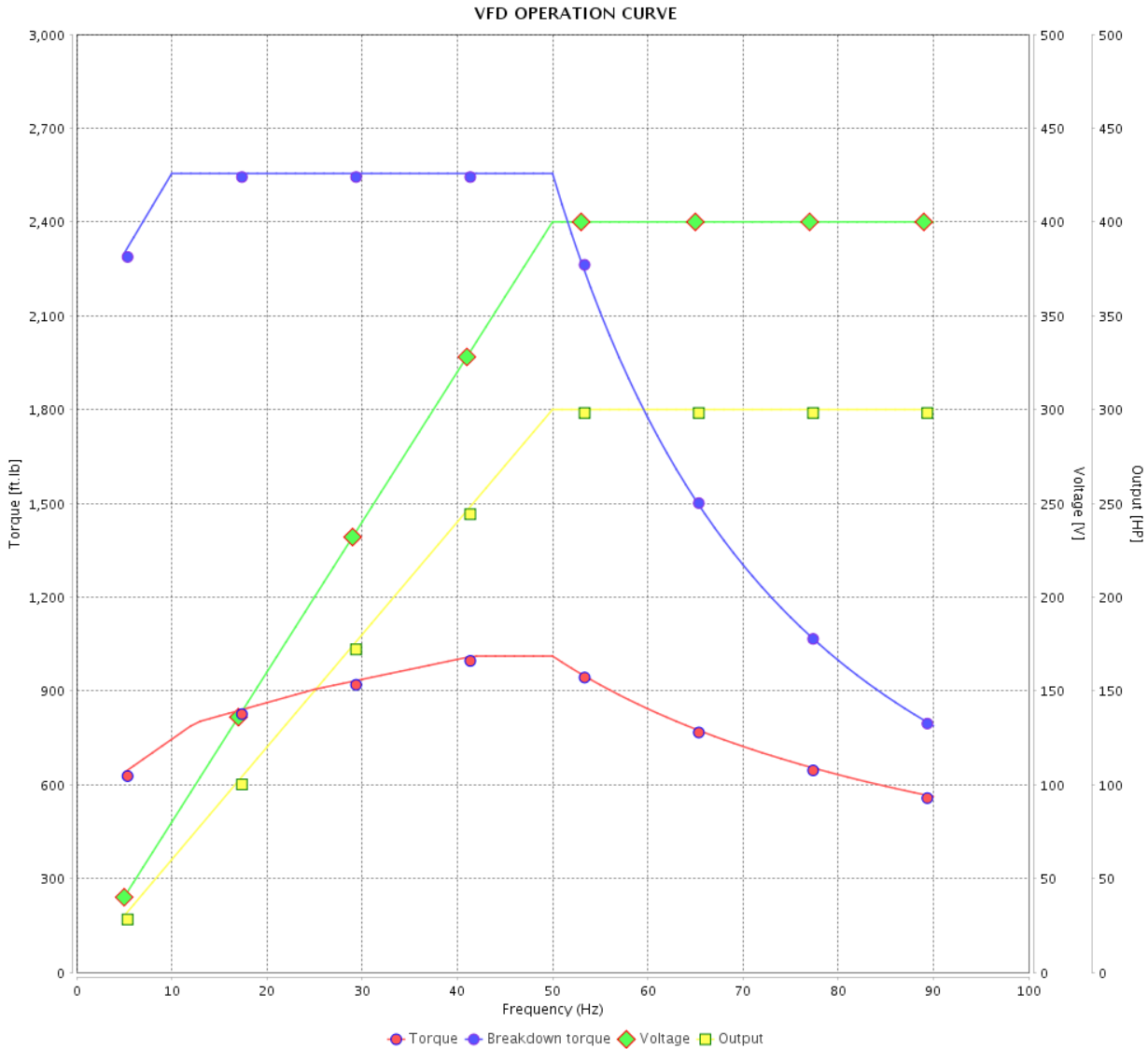


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40



Performance : 400 V 50 Hz 4P IE2

Rated current : 387 A  
LRC : 6.7  
Rated torque : 1060 ft.lb  
Locked rotor torque : 210 %  
Breakdown torque : 240 %  
Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

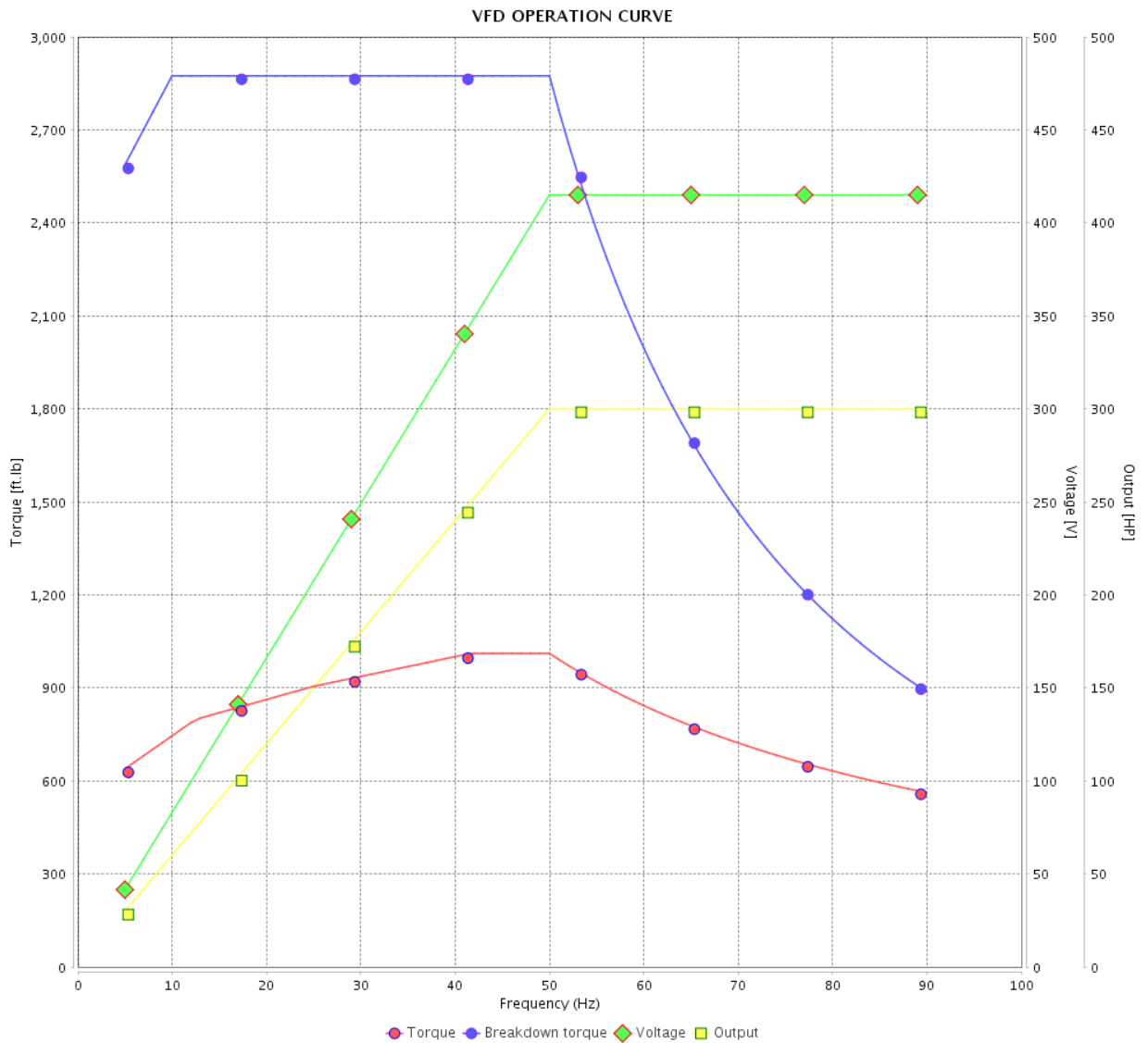


Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 13457378

Catalog # : 35018OT3G447/9T-W40

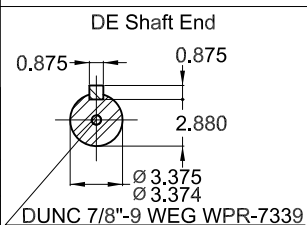
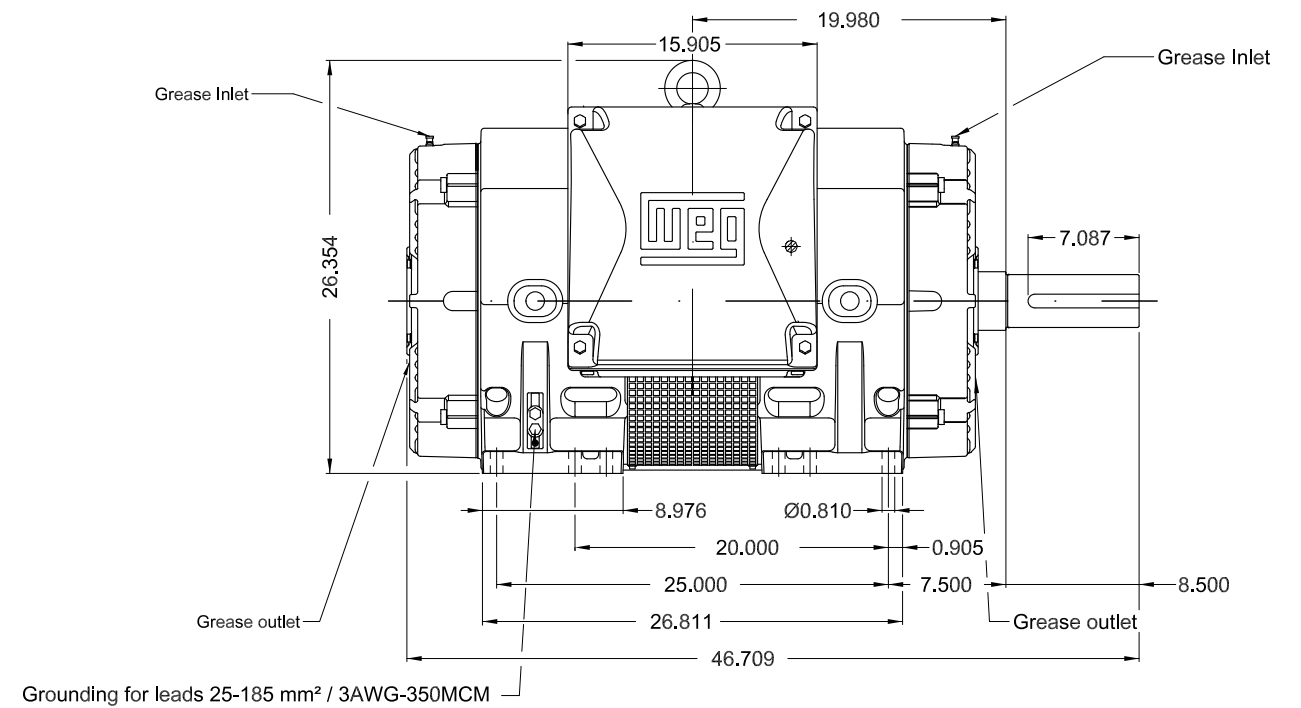
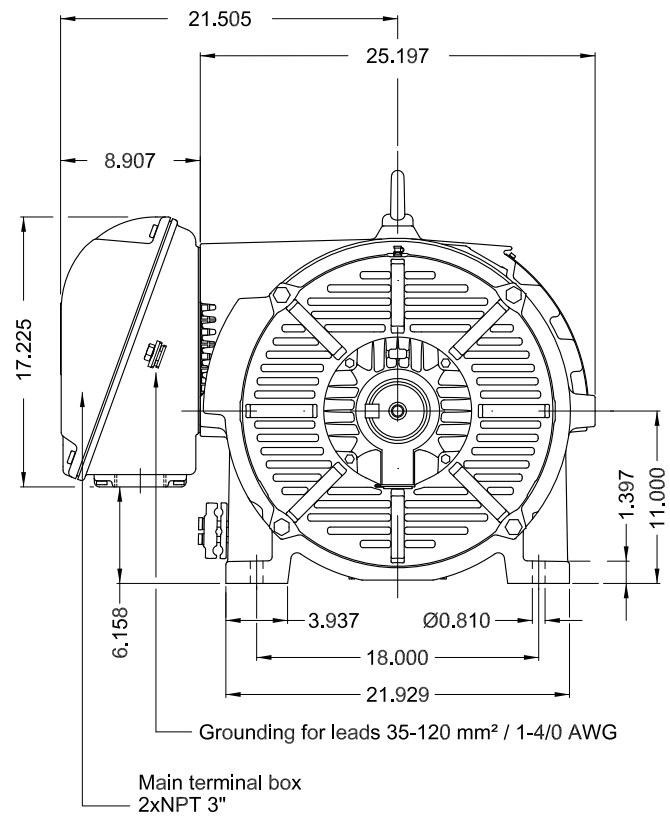


Performance : 415 V 50 Hz 4P IE2

Rated current : 377 A  
 LRC : 7.6  
 Rated torque : 1060 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 270 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 66.1 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
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Color RAL 5009  
 Painting plan 203A  
 Mounting NEMA F-1  
 Mounting B3R(D)

350 HP 04 Poles 60 Hz

A

1:12

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR W40 PREM. EFF.					
CHECKED		FRAME 447/9T IP23 ODP					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

**PREVIEW**  
 WDD



SHEET 1 / 1

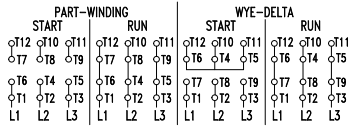
MODEL 350180T3G447/9T-W40  
MADE IN BRAZIL  
13457378





MOD.T01#FOXON



PH 3	FR 447/9T	HP(kW) 350(260)		Hz 60
V 460		A 396		IP23
NEMA NOM EFF		95.8	%	RPM 1780
ENCL ODP	DUTY CONT.		INS. CL. F $\Delta T$ 80 K	
PF 0.86		DES B	CODE G	AMB. 40°C
SF 1.15		SFA 455		ALT 1000 m.a.s.l.



 → 6319-C3(45g)      MOBIL POLYREX EM  
 → 6314-C3(27g)      20000 h

2116 Lbs