

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: W40 NEMA Premium Efficiency Three-Phase	Product code :	14018042		
		Catalog # :	25036OT3G445TS-W40		
Frame	: 444/5TS	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>	: 1380 lb		
Protection degree	: IP23	Moment of inertia (J)	: 26.9 sq.ft.lb		
Design	: B				
Output [HP]	250	220	220	220	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	278	289	278	271	
L. R. Amperes [A]	1863	1965	2029	2114	
LRC [A]	6.7x(Code G)	6.8x(Code G)	7.3x(Code H)	7.8x(Code H)	
No load current [A]	72.0	71.0	80.0	90.0	
Rated speed [RPM]	3570	2965	2970	2970	
Slip [%]	0.83	1.17	1.00	1.00	
Rated torque [ft.lb]	368	390	389	389	
Locked rotor torque [%]	150	150	160	180	
Breakdown torque [%]	229	210	240	250	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 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>	85.0 dB(A)				
Efficiency (%)	25%	93.0	91.6	91.5	91.3
	50%	93.6	93.1	93.0	92.9
	75%	94.5	94.0	94.0	93.9
	100%	95.0	95.6	95.6	95.6
Power Factor	25%	0.56	0.59	0.54	0.49
	50%	0.79	0.80	0.76	0.73
	75%	0.85	0.86	0.84	0.82
	100%	0.88	0.88	0.87	0.86
Bearing type	: <u>Drive end</u> 6314 C3 <u>Non drive end</u> 6212 Z C3	Foundation loads			
Sealing	: Without Without	Max. traction	: 1902 lb		
	: Bearing Seal Bearing Seal	Max. compression	: 3282 lb		
Lubrication interval	: 14418 h 20000 h				
Lubricant amount	: 27 g 13 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.		
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	13/04/2022			1 / 21	

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



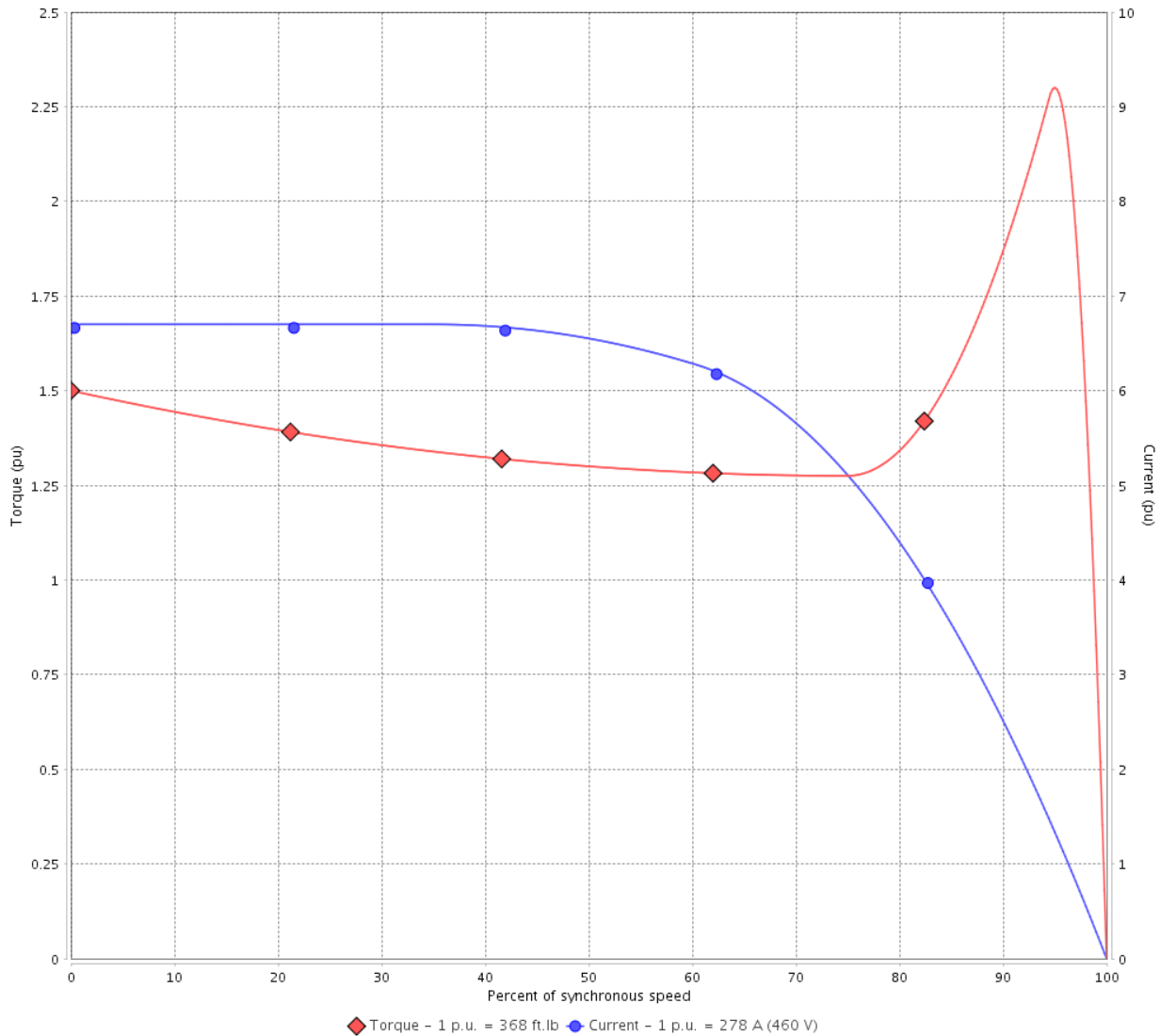
Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14018042

Catalog # : 25036OT3G445TS-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 2P

Rated current	: 278 A	Moment of inertia (J)	: 26.9 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 368 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 3570 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 21	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



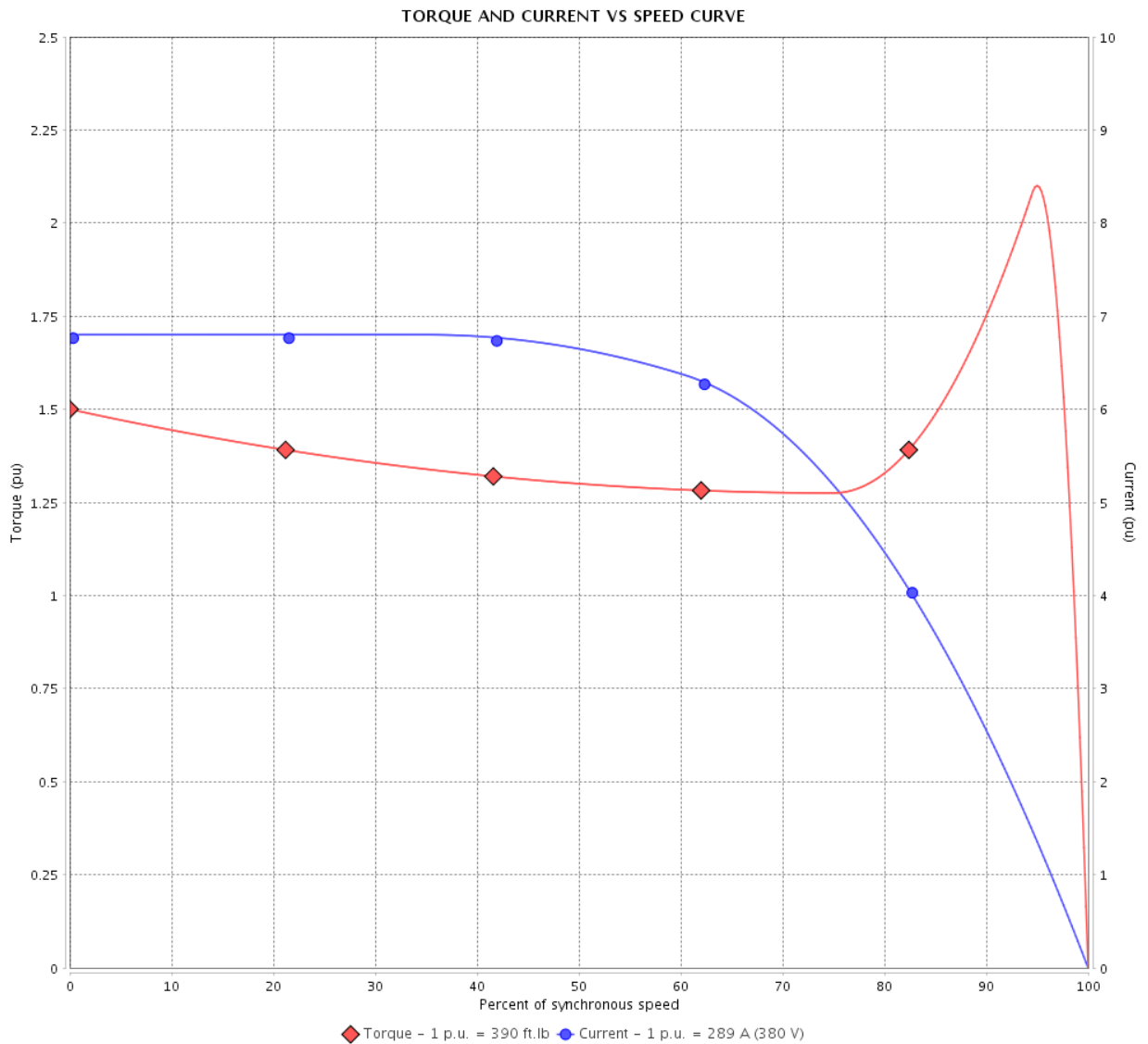
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : W40 NEMA Premium Efficiency  
Three-Phase

Product code : 14018042

Catalog # : 25036OT3G445TS-W40



Performance : 380 V 50 Hz 2P IE3

Rated current	: 289 A	Moment of inertia (J)	: 26.9 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 390 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 / 21	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



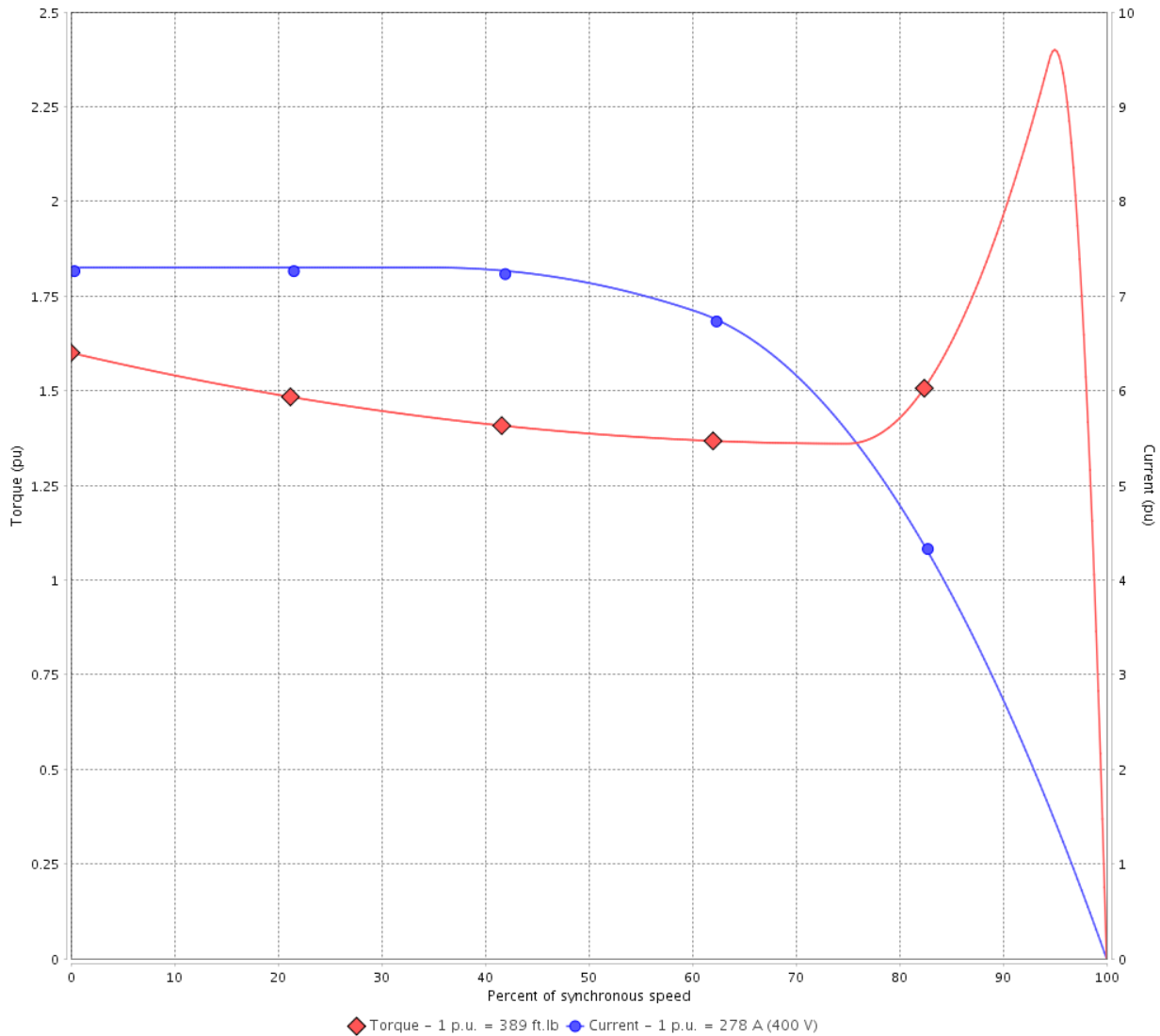
Customer :

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Product code : 14018042

Catalog # : 25036OT3G445TS-W40

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 2P IE3

Rated current	: 278 A	Moment of inertia (J)	: 26.9 sq.ft.lb
LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 389 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2970 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 21	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



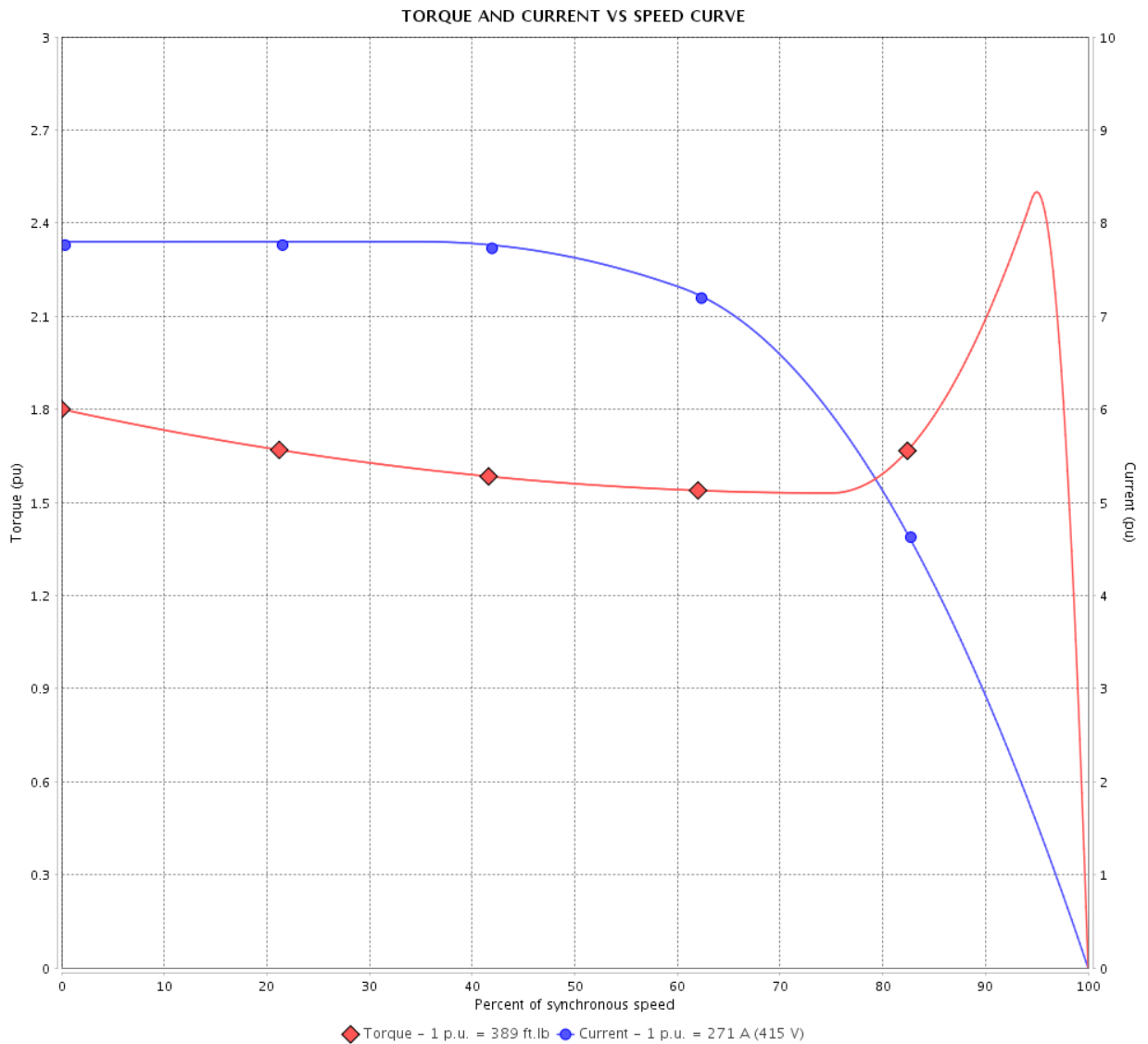
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LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 389 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2970 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 21	Revision
Checked by				
Date	13/04/2022			

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

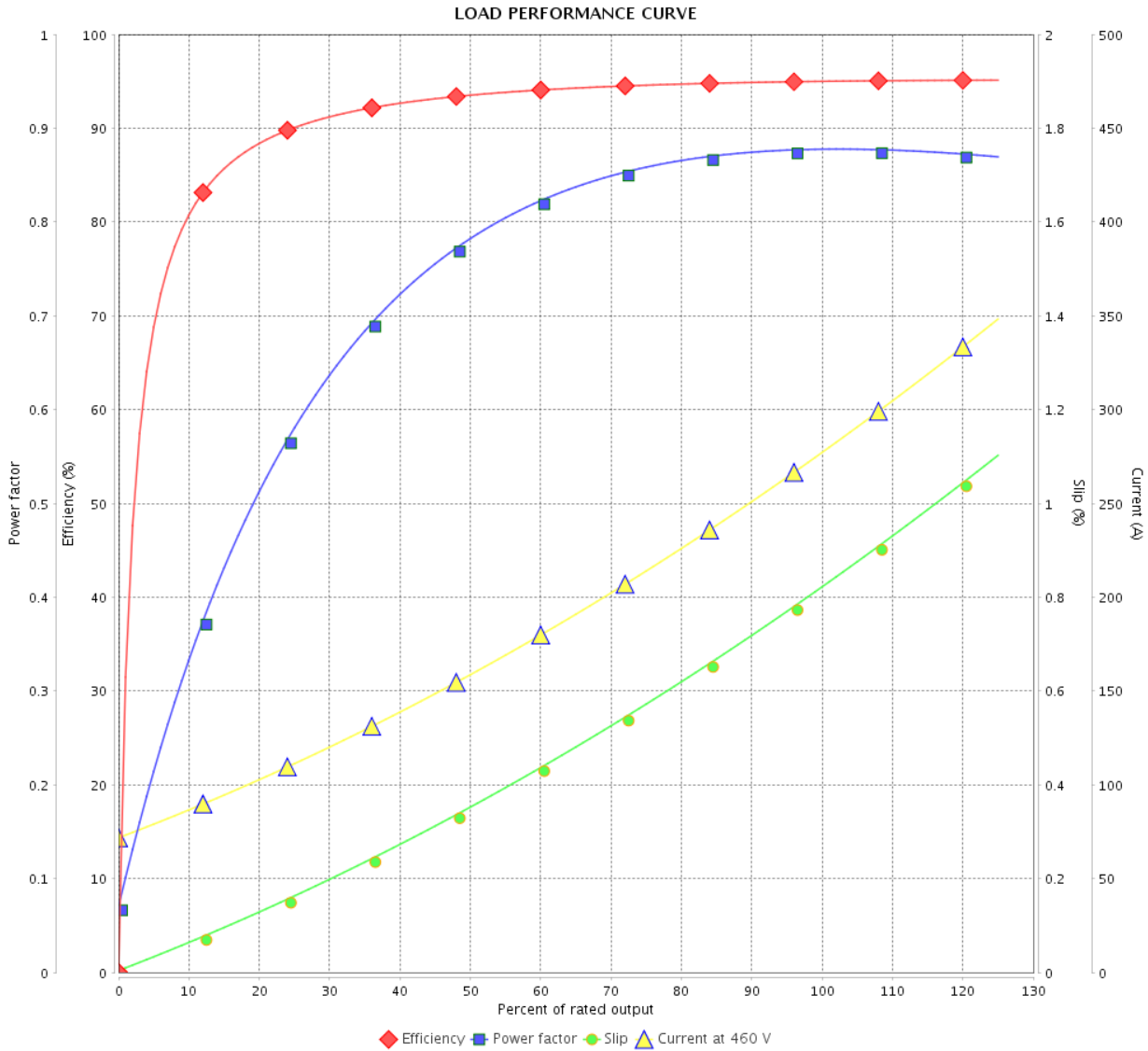


Customer :

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Three-Phase

Product code : 14018042

Catalog # : 25036OT3G445TS-W40



Performance : 460 V 60 Hz 2P

Rated current : 278 A  
 LRC : 6.7  
 Rated torque : 368 ft.lb  
 Locked rotor torque : 150 %  
 Breakdown torque : 229 %  
 Rated speed : 3570 rpm

Moment of inertia (J) : 26.9 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				
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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

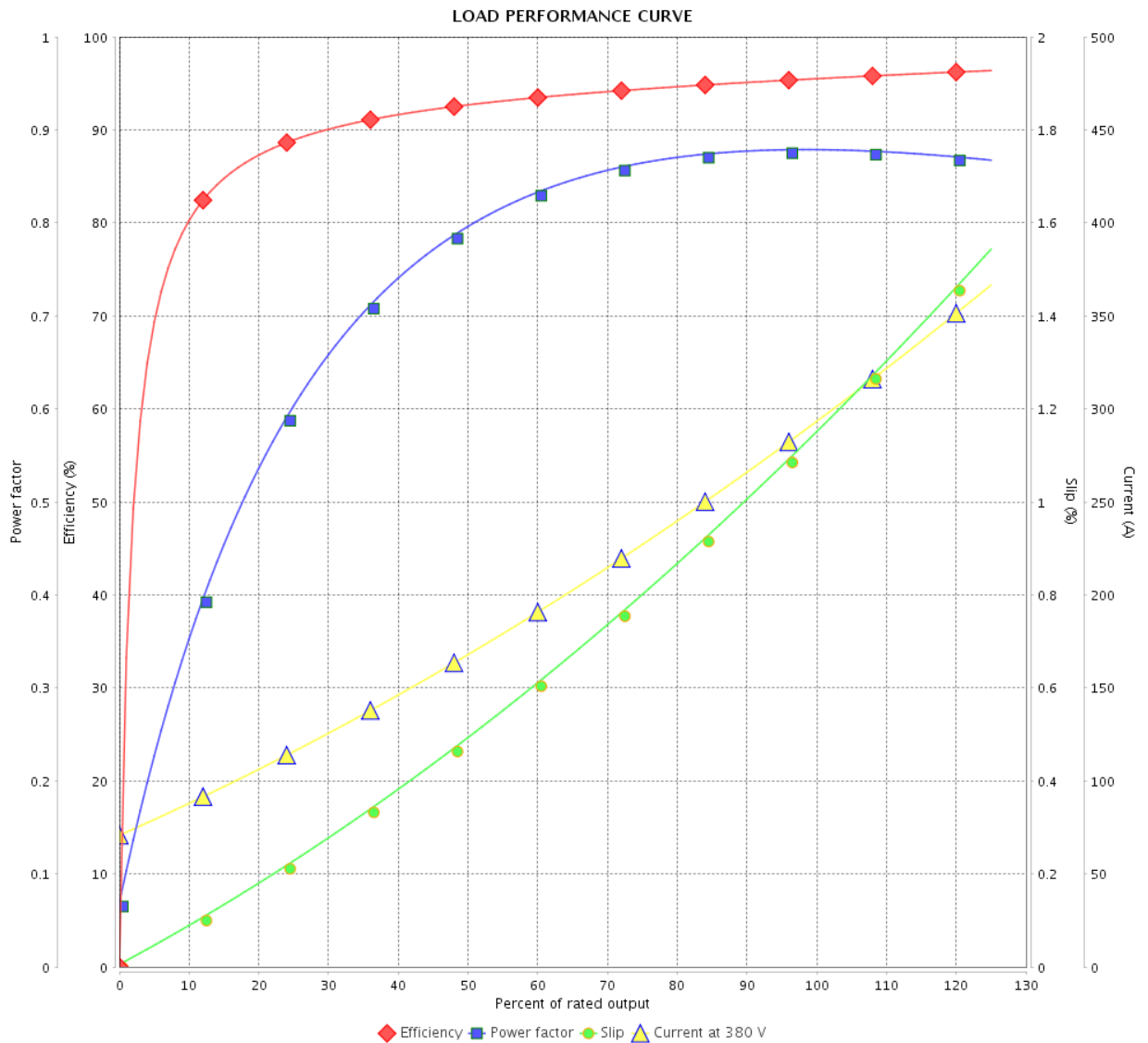


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Performance : 380 V 50 Hz 2P IE3

Rated current : 289 A  
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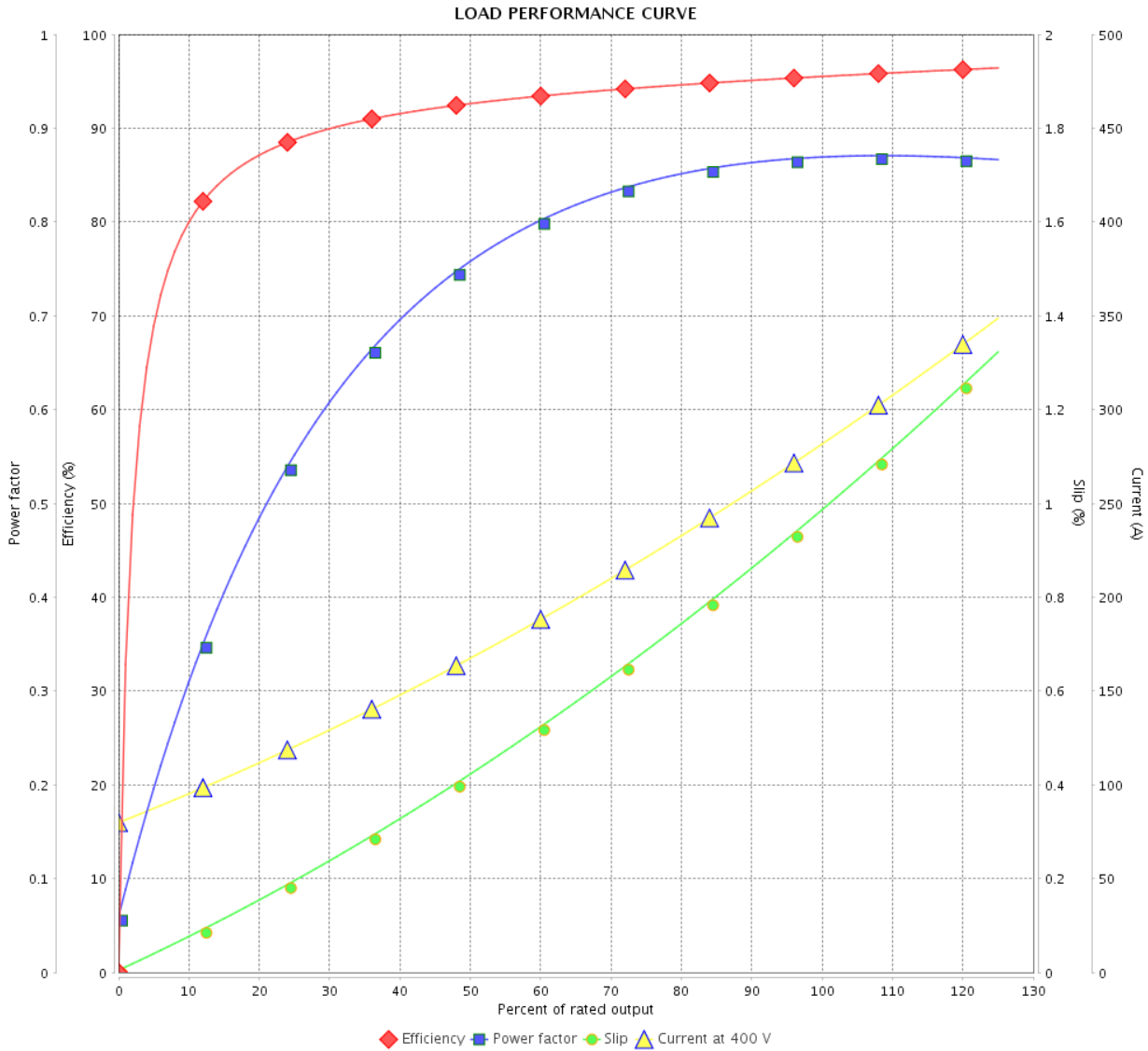


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Performance : 400 V 50 Hz 2P IE3

Rated current : 278 A  
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 Rated torque : 389 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 240 %  
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Moment of inertia (J) : 26.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			8 / 21	
Date	13/04/2022			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

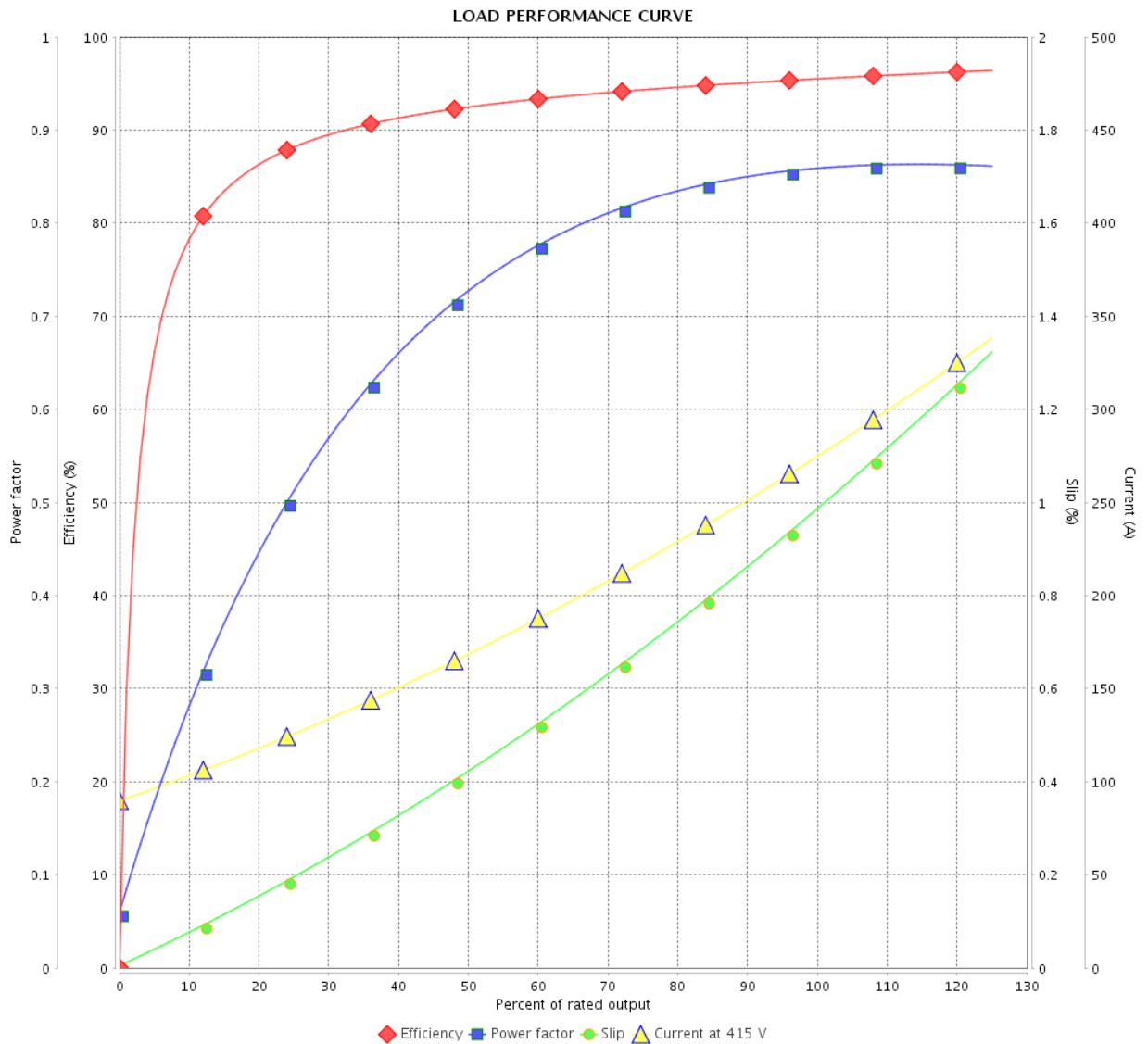


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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
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# THERMAL LIMIT CURVE



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Heating constant

Cooling constant

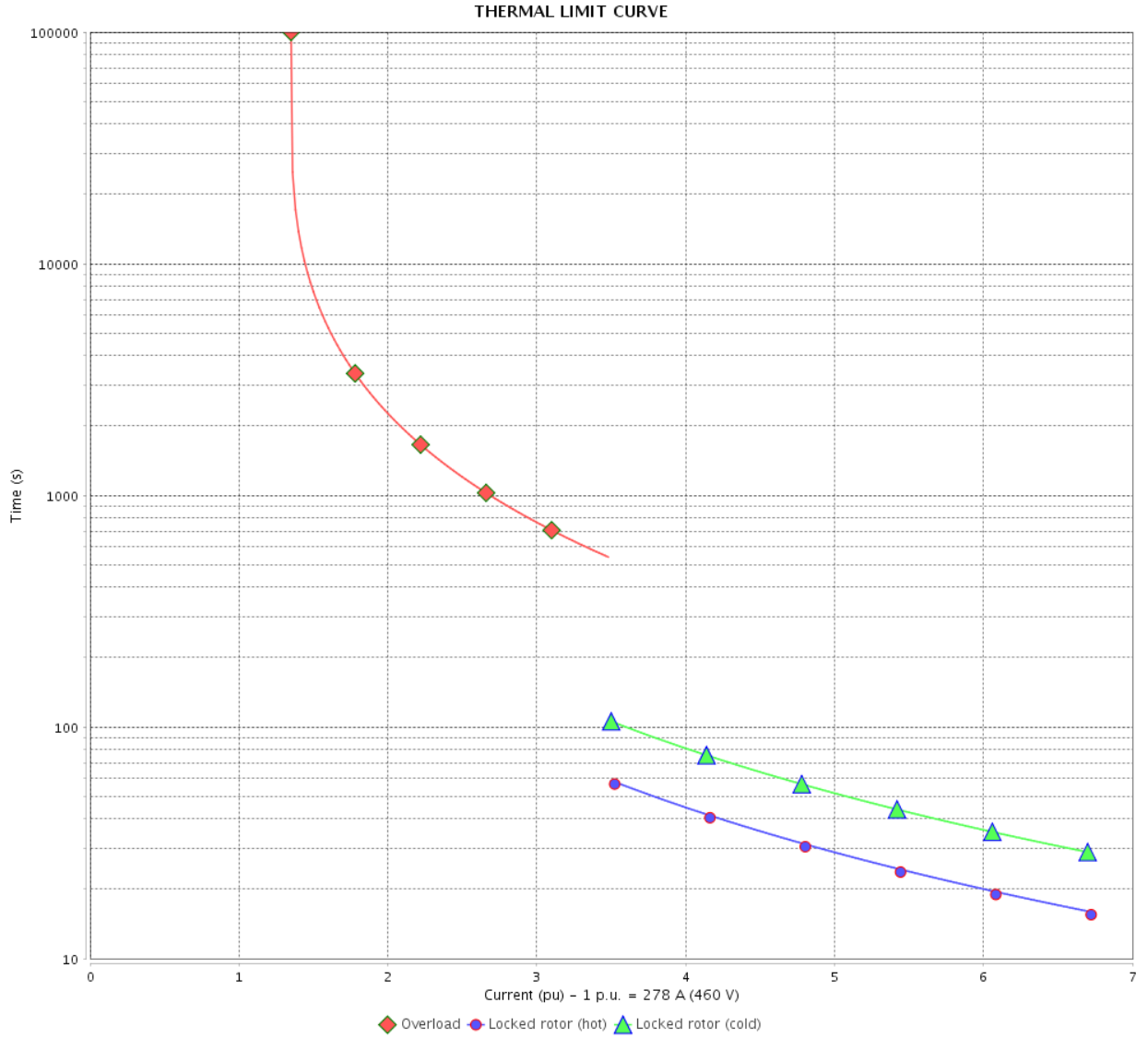
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 10 / 21	Revision
Checked by				
Date	13/04/2022			

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 11 / 21		Revision
Checked by				
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Locked rotor torque	: 150 %	Service factor	: 1.00
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Cooling constant

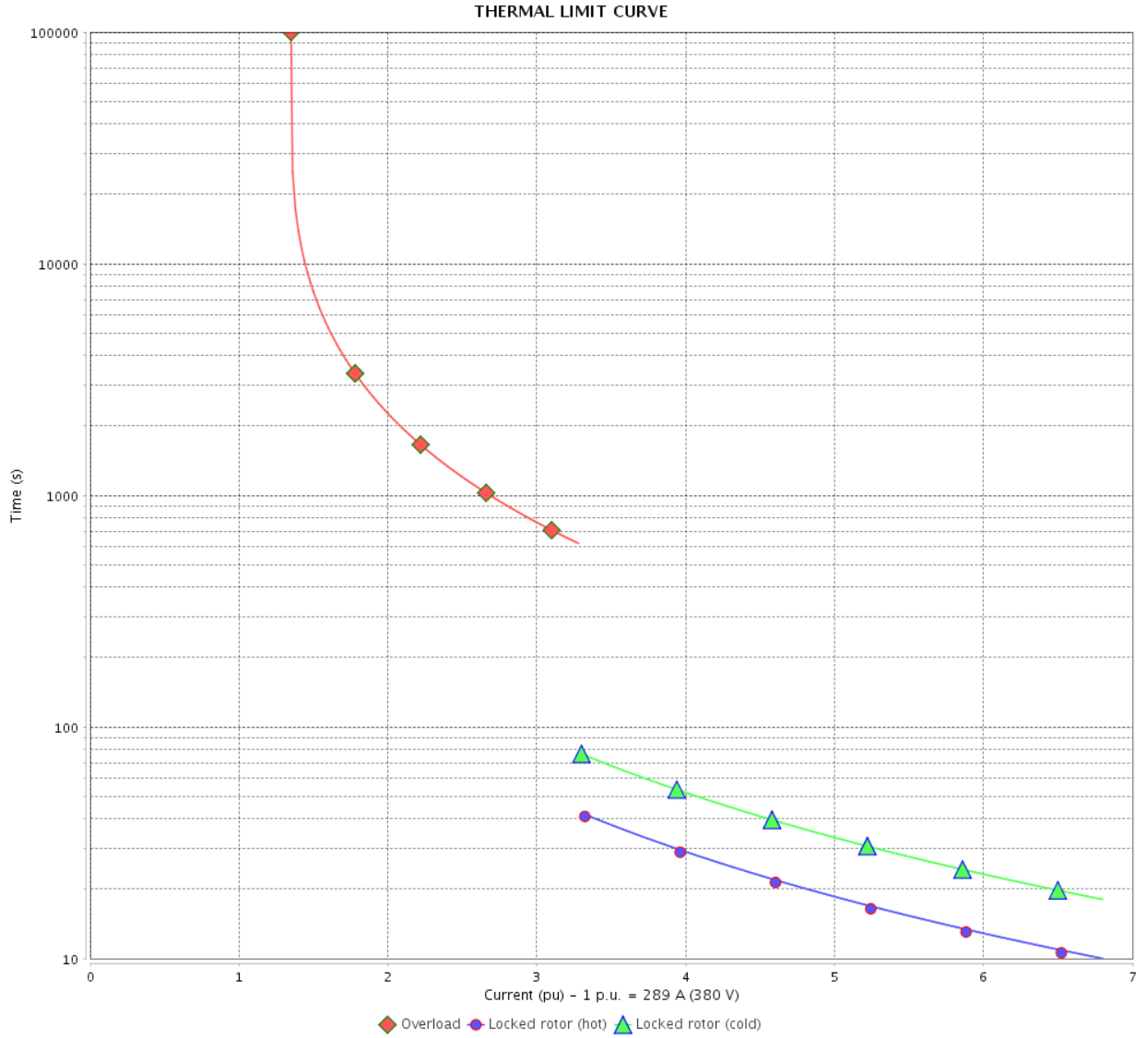
Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		12 / 21		
Date	13/04/2022			

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Rev.	Changes Summary	Performed	Checked	Date
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LRC	: 7.3	Duty cycle	: Cont.(S1)
Rated torque	: 389 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 2970 rpm	Design	: B

Heating constant

Cooling constant

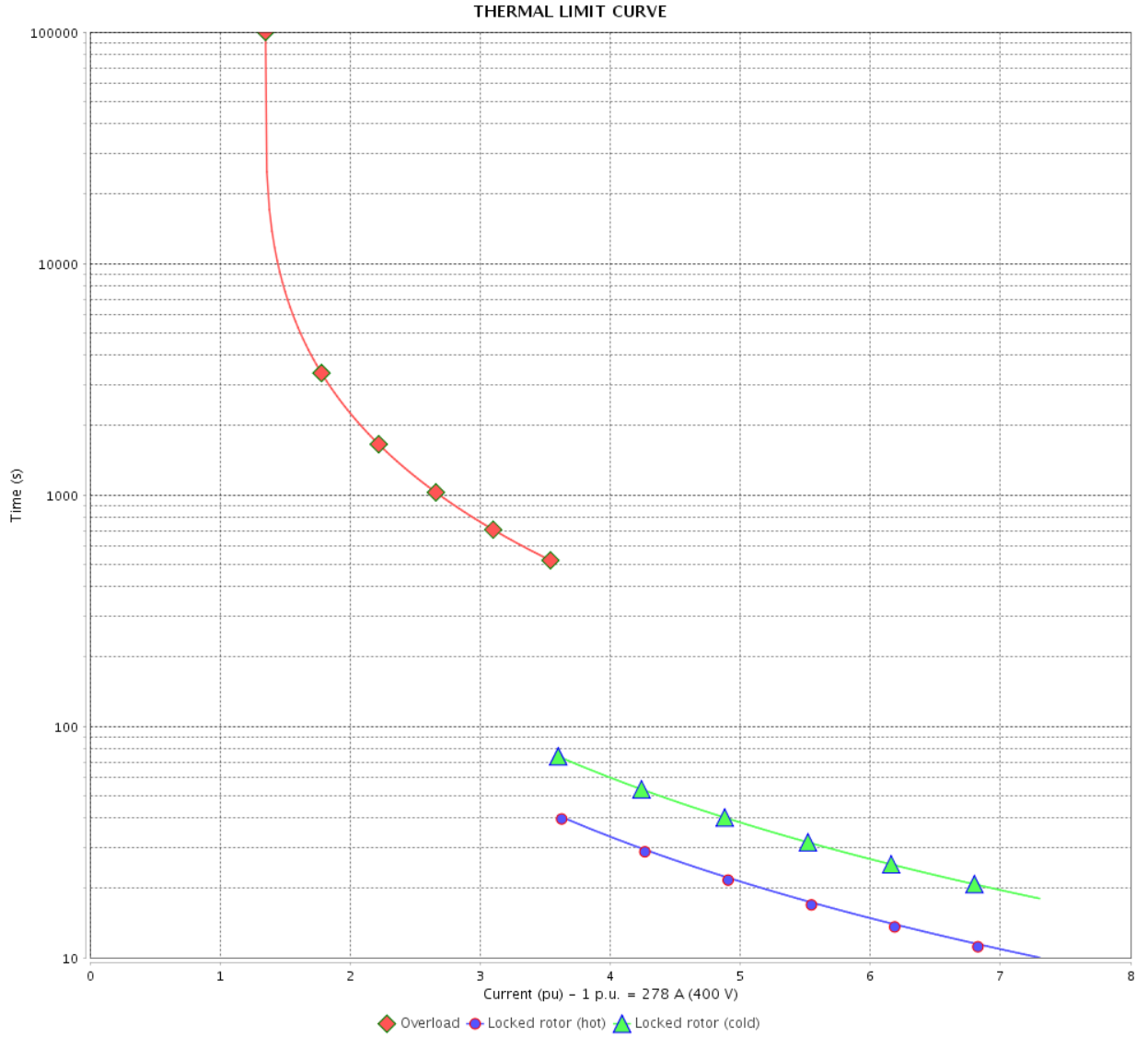
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		14 / 21	

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LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 389 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 2970 rpm	Design	: B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		16 / 21	

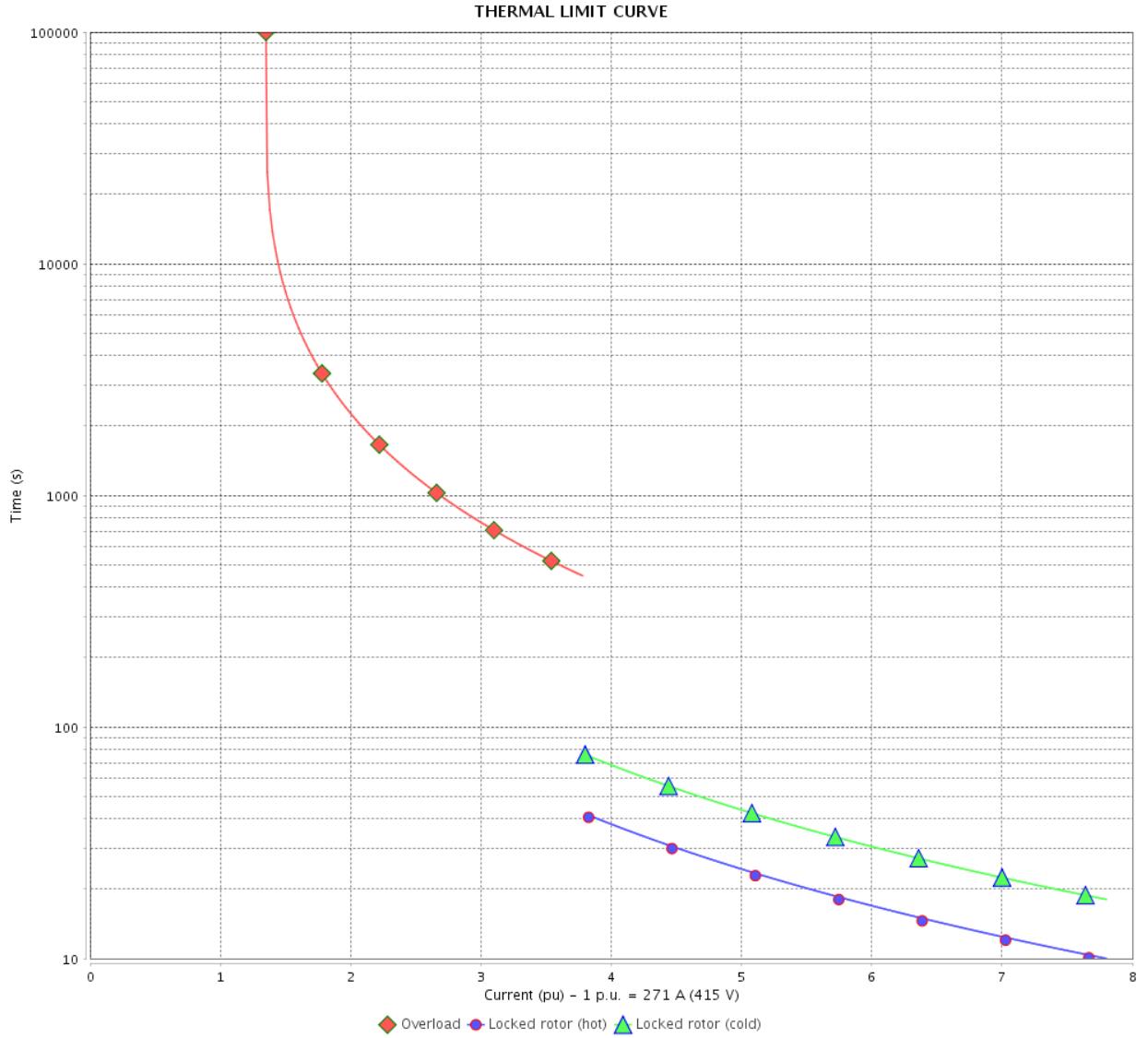


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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 17 / 21		Revision
Checked by				
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



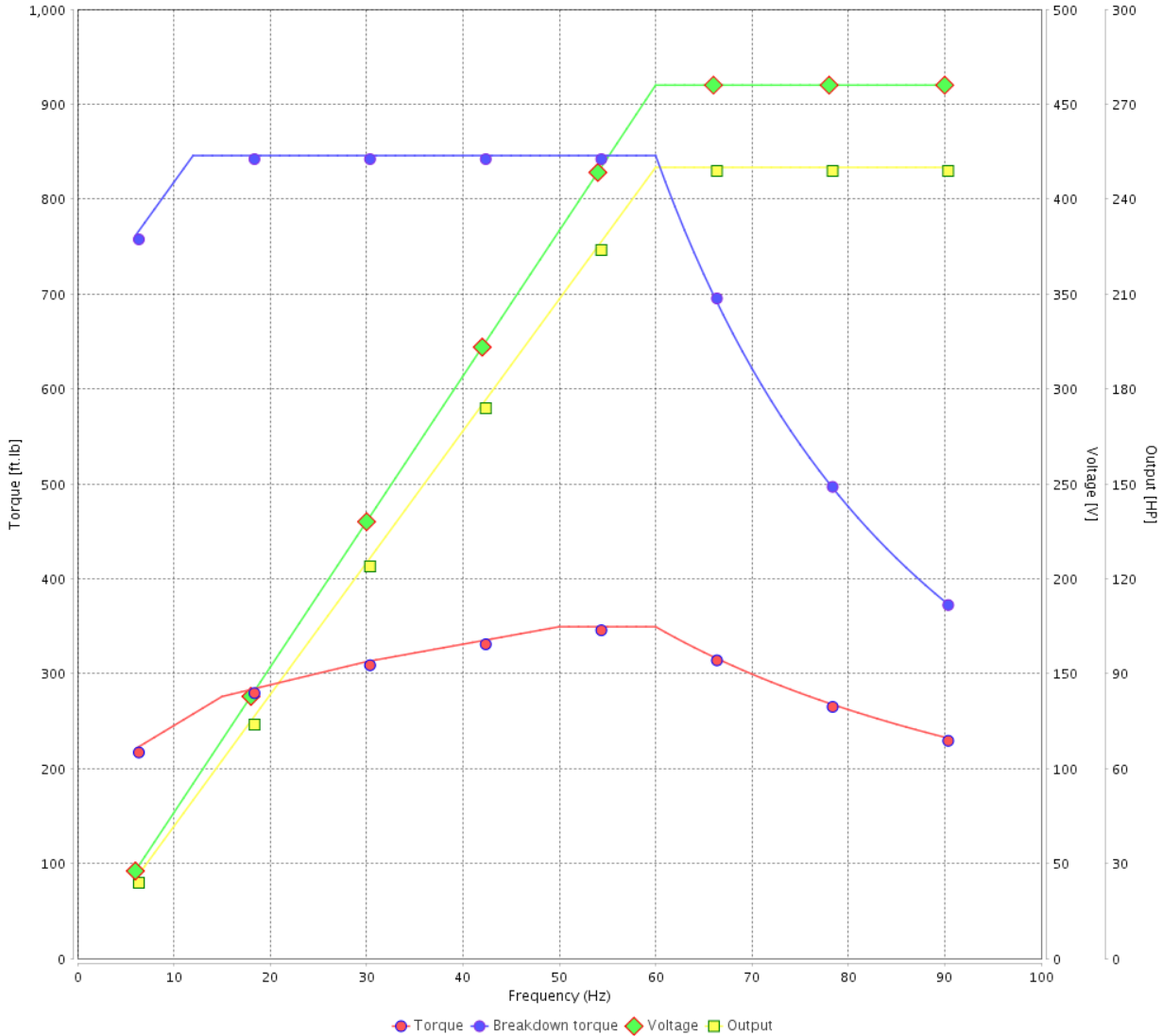
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VFD OPERATION CURVE



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 Breakdown torque : 229 %  
 Rated speed : 3570 rpm

Moment of inertia (J) : 26.9 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
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Performed by			Page 18 / 21	Revision
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

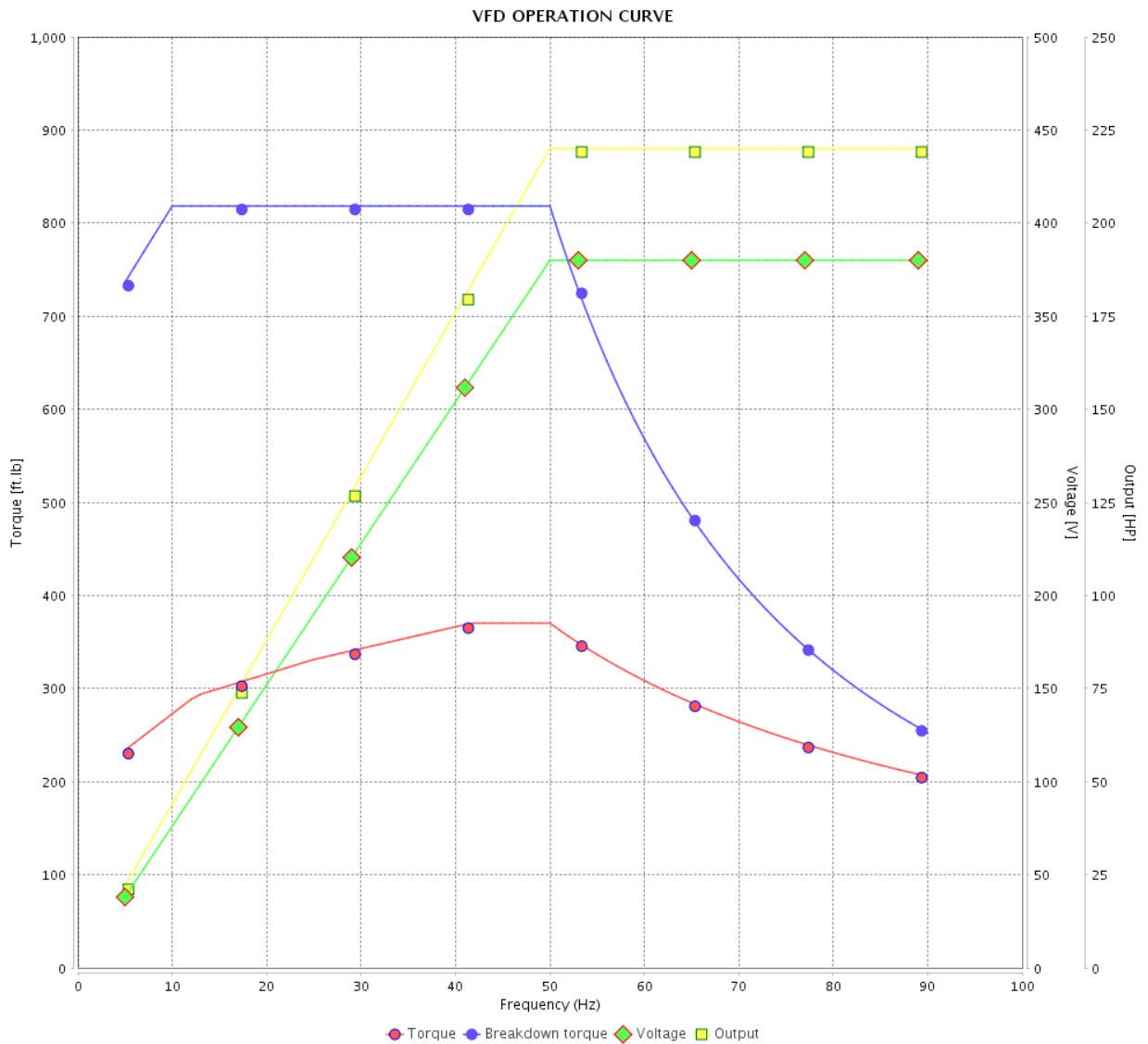


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Performance : 380 V 50 Hz 2P IE3

Rated current : 289 A  
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Breakdown torque : 210 %  
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Moment of inertia (J) : 26.9 sq.ft.lb  
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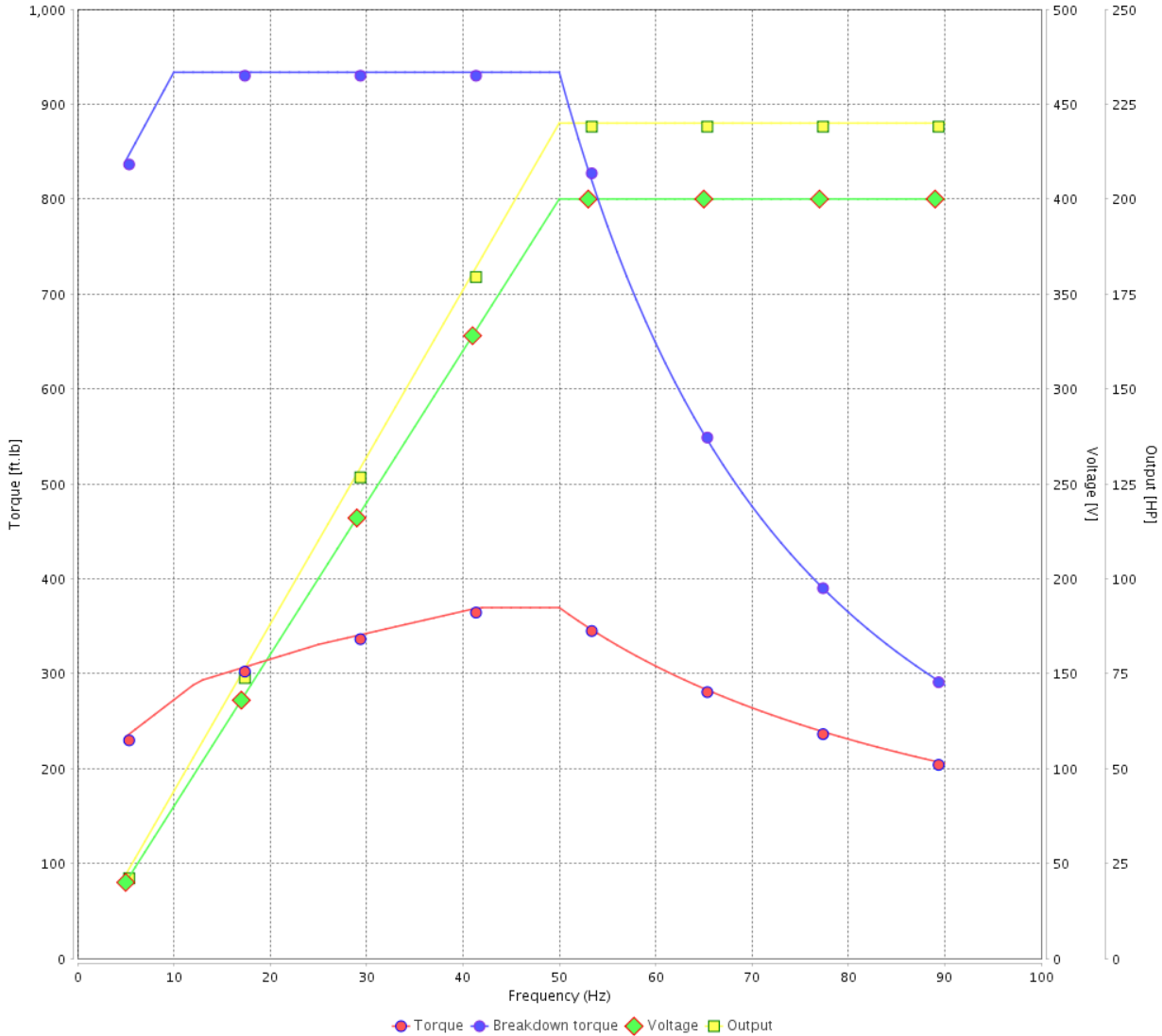
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VFD OPERATION CURVE



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Performed by			Page	Revision
Checked by			20 / 21	
Date	13/04/2022			

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Three Phase Induction Motor - Squirrel Cage

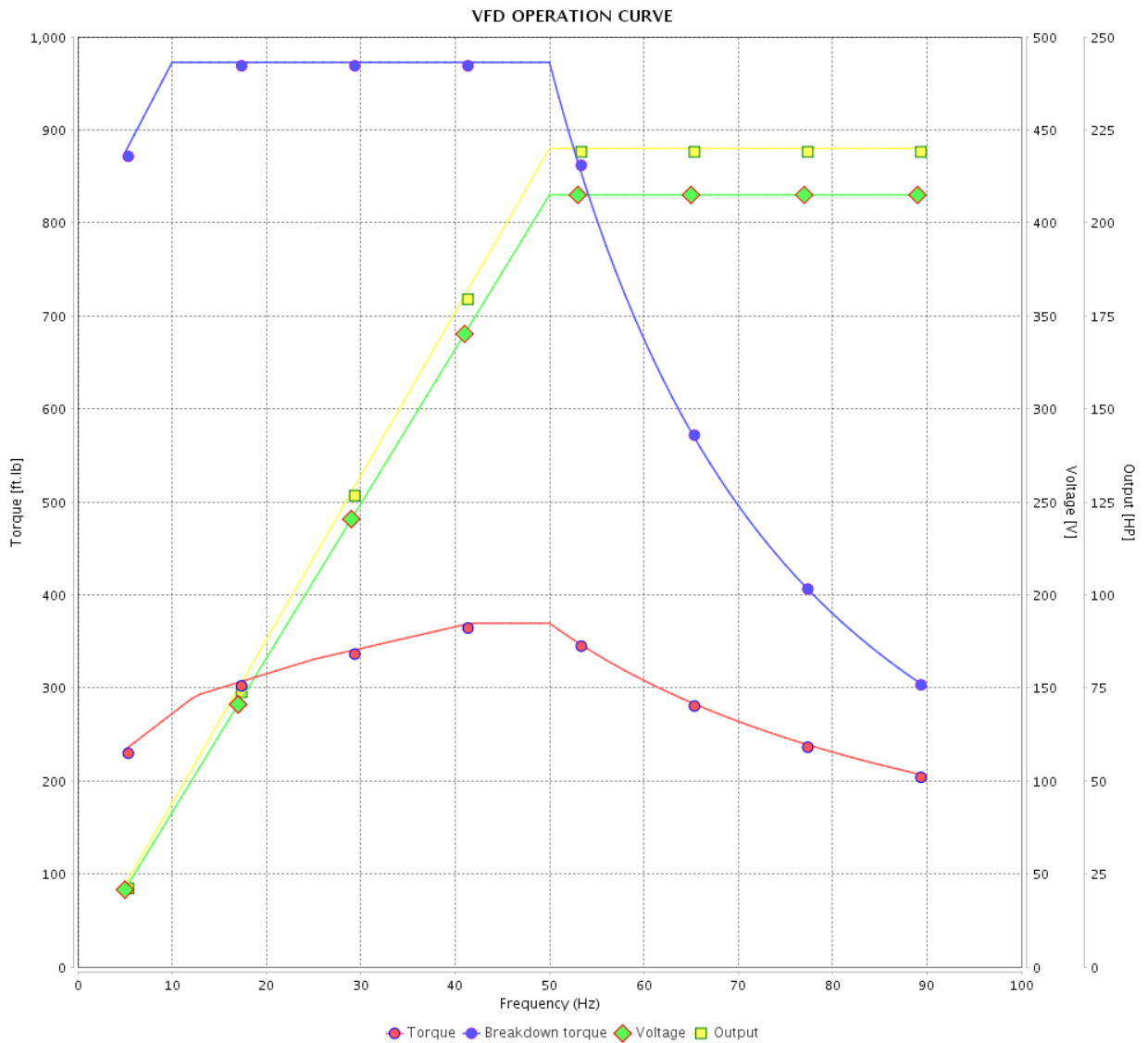


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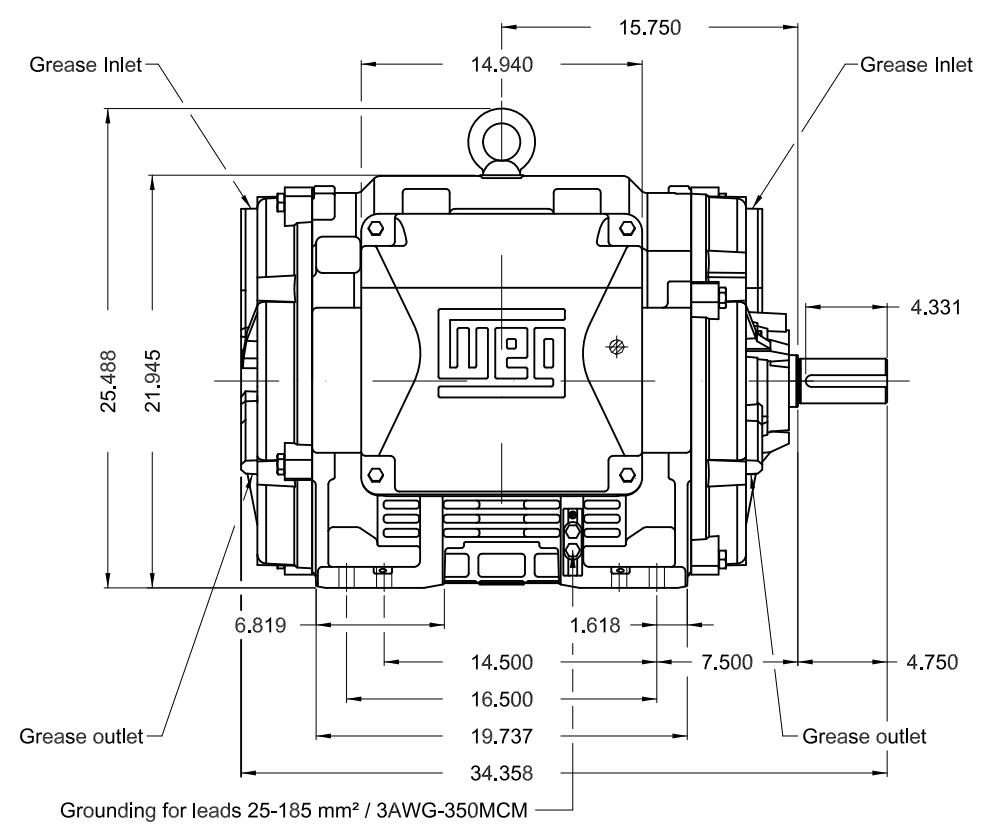
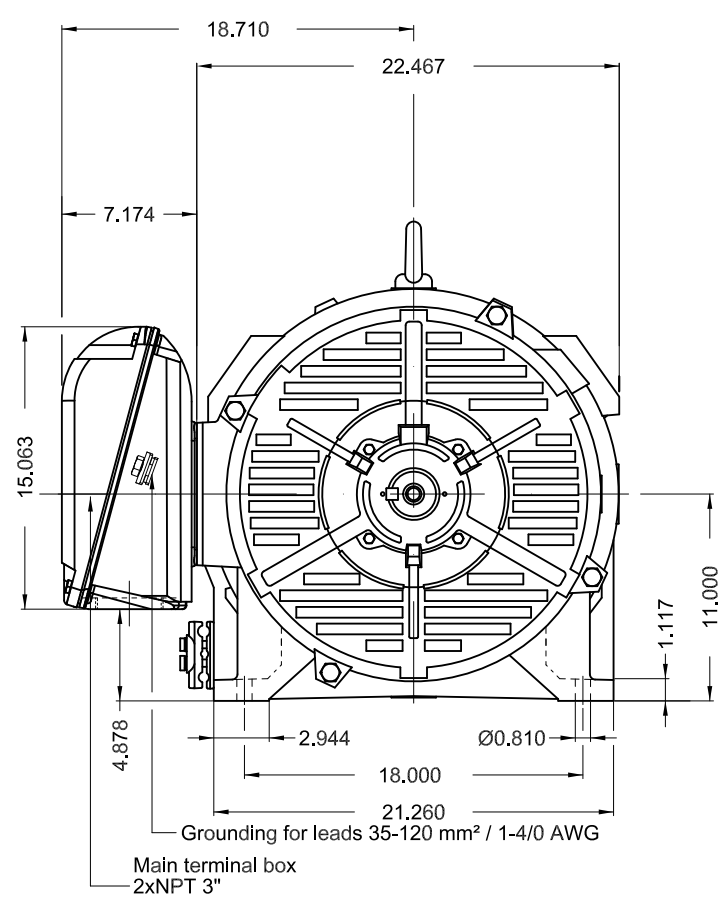


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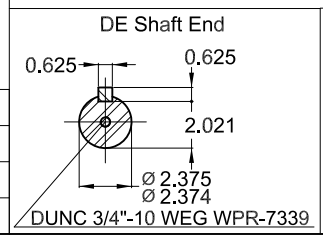
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Checked by		21 / 21		
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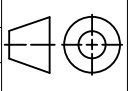


Color RAL 5009  
 Painting plan 203A  
 Mounting NEMA F-1  
 Mounting B3R(D)



250 HP 02 Poles 60 Hz A

1:10

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	 THREE PH. MOTOR W40 PREM. EFF. FRAME 444/5TS IP23 ODP					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
 WDD

