

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :	11431673	
			Catalog # :	20018ST3QIE447T-W22	
Frame		: 445/7T	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>	: 2213 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 <sup>2</sup>	73.0 dB(A)				
Efficiency (%)	25%				
	50%	95.8	94.5	95.0	
	75%	96.2	95.0	95.4	
	100%	96.2	95.0	95.4	
Power Factor	25%				
	50%	0.73	0.78	0.76	
	75%	0.82	0.85	0.84	
	100%	0.85	0.86	0.86	
Bearing type		Drive end : 6319 C3	Non drive end : 6316 C3	Foundation loads	
Sealing		: Inpro/Seal	: Inpro/Seal	Max. traction : 3434 lb	
Lubrication interval		: 8000 h	: 10000 h	Max. compression : 5646 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.		
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	14/04/2022			1 / 21	

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



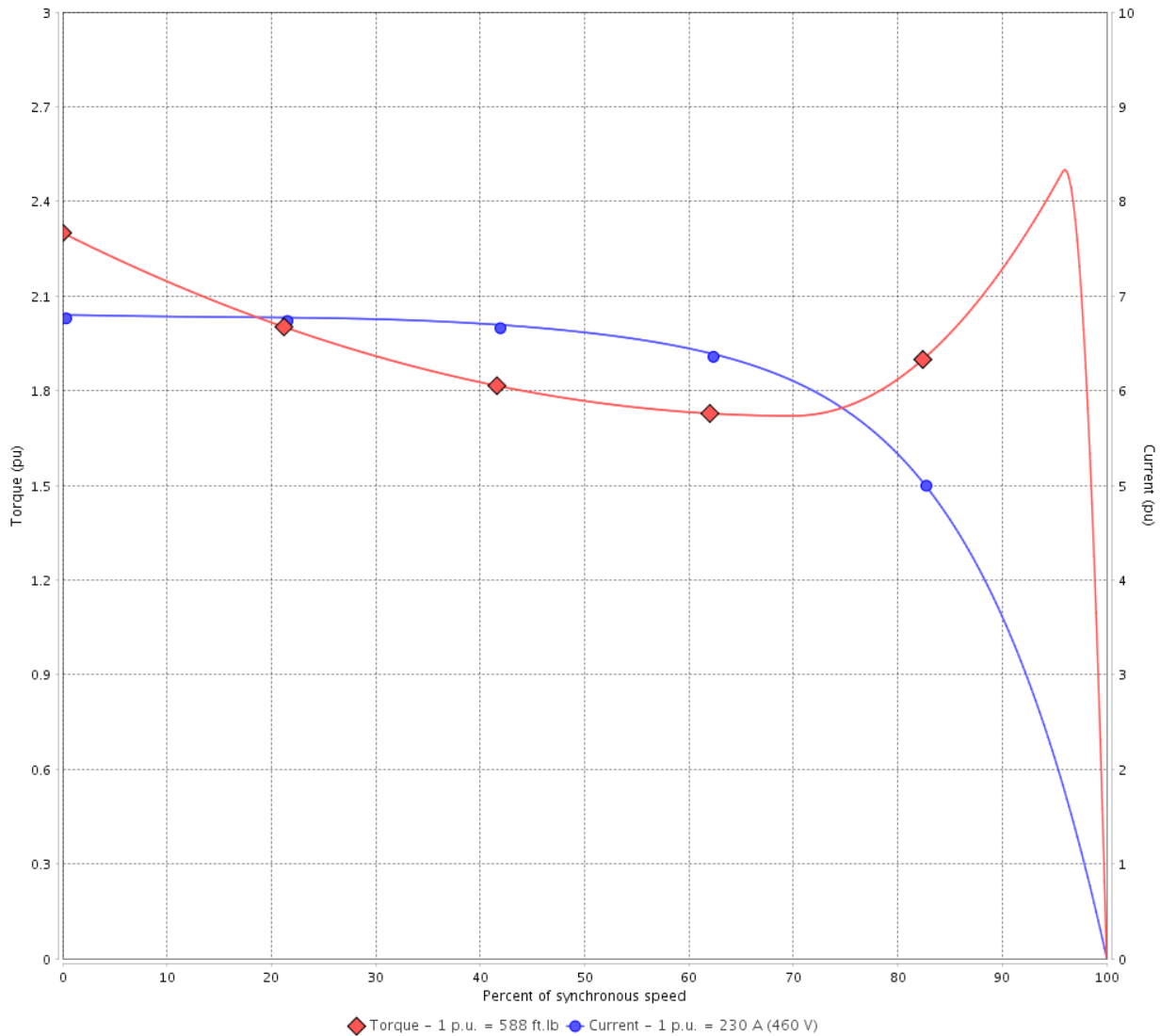
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431673

Catalog # : 20018ST3QIE447T-W22

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 21	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



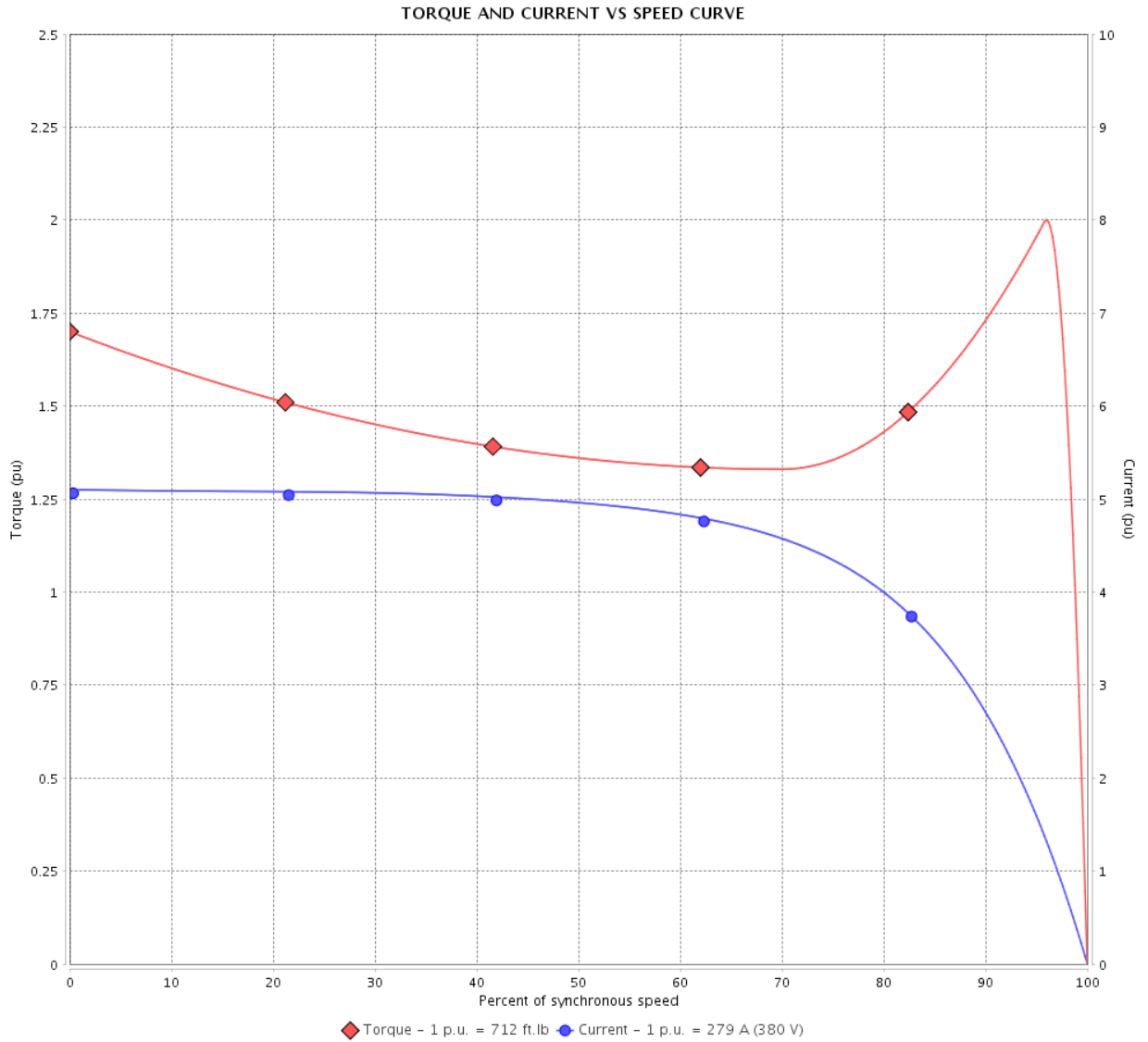
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431673

Catalog # : 20018ST3QIE447T-W22



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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 / 21	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



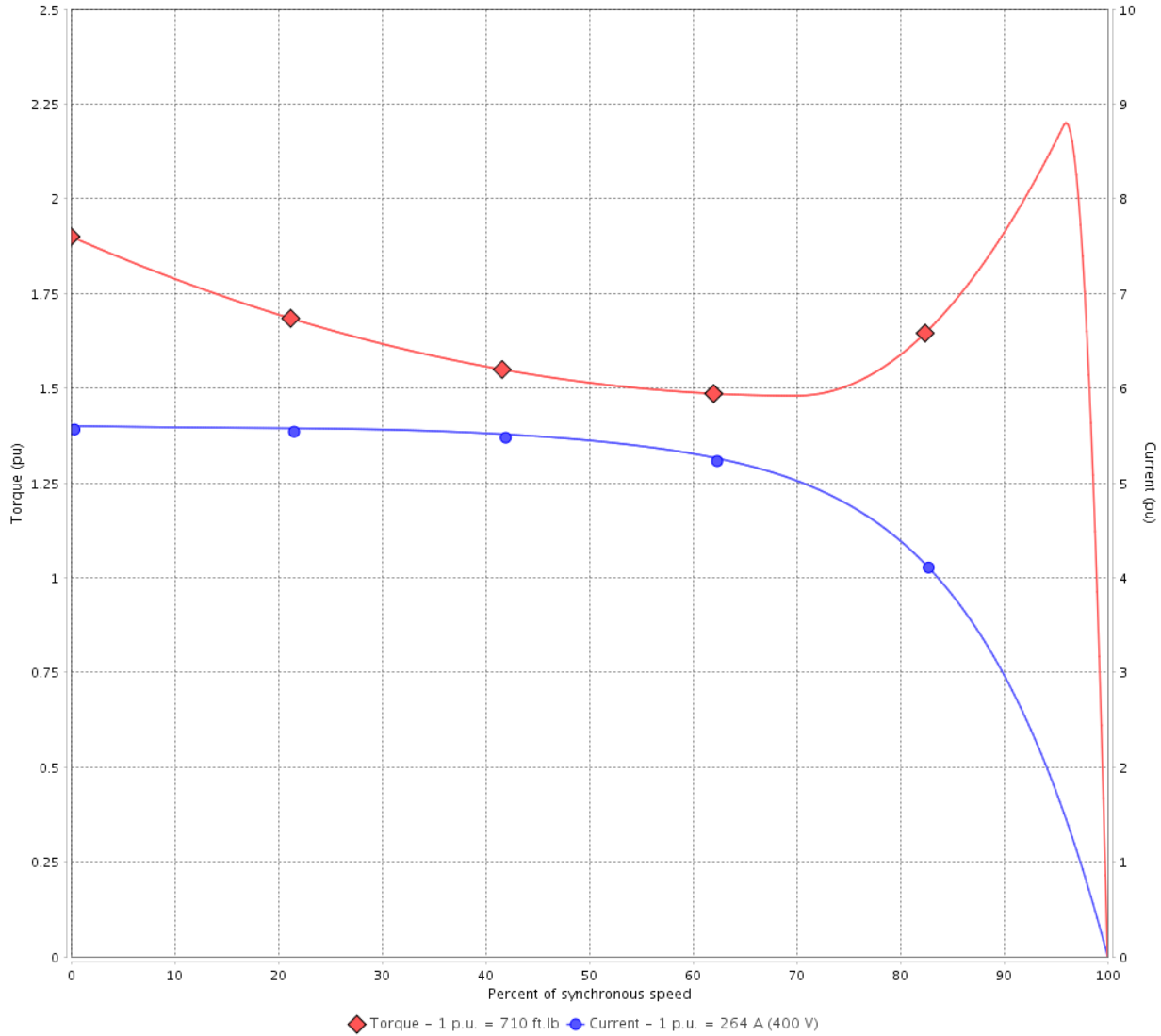
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431673

Catalog # : 20018ST3QIE447T-W22

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 21	Revision
Checked by				
Date	14/04/2022			

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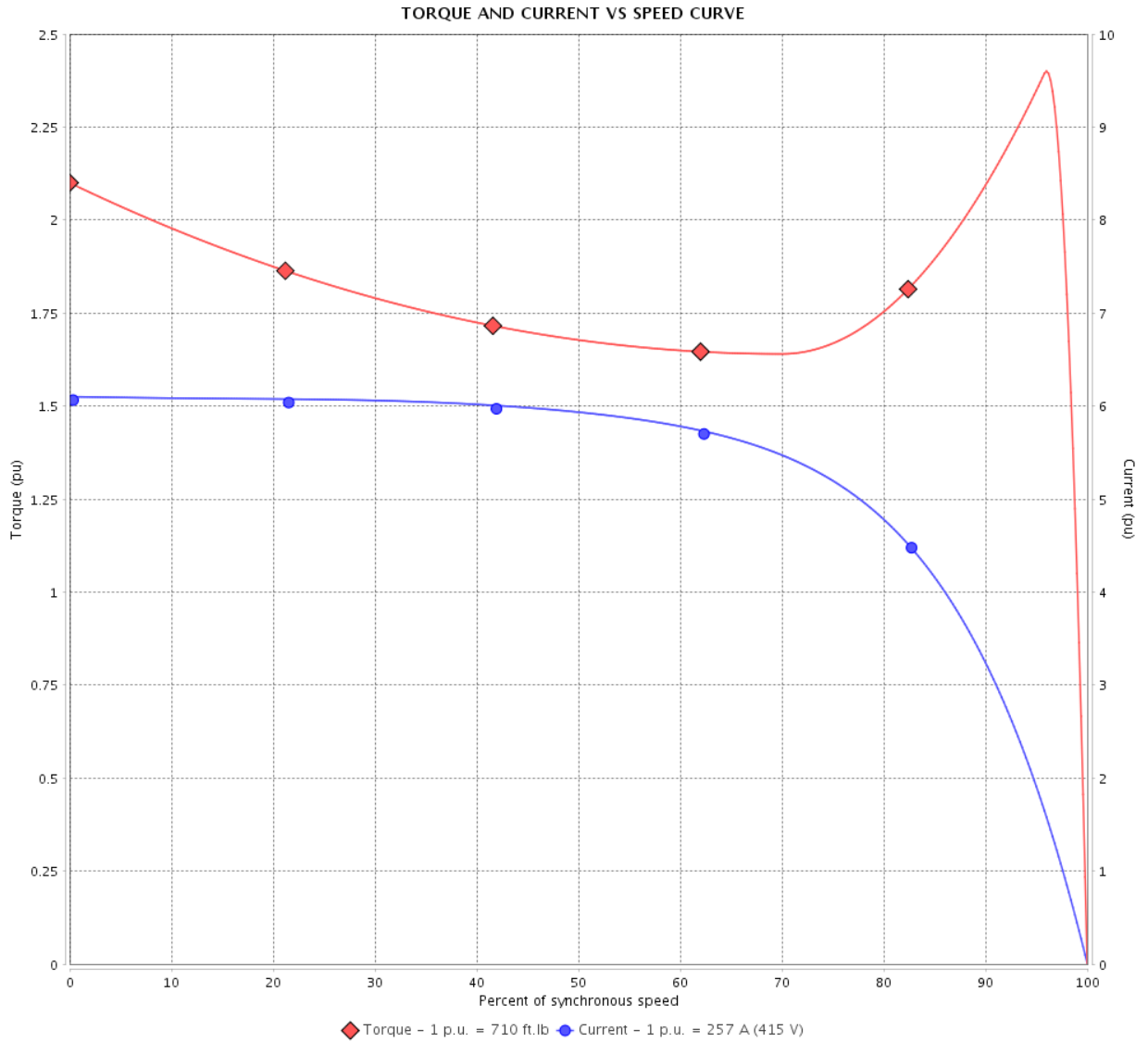
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LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 710 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 105 K
Rated speed	: 1480 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			5 / 21	
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

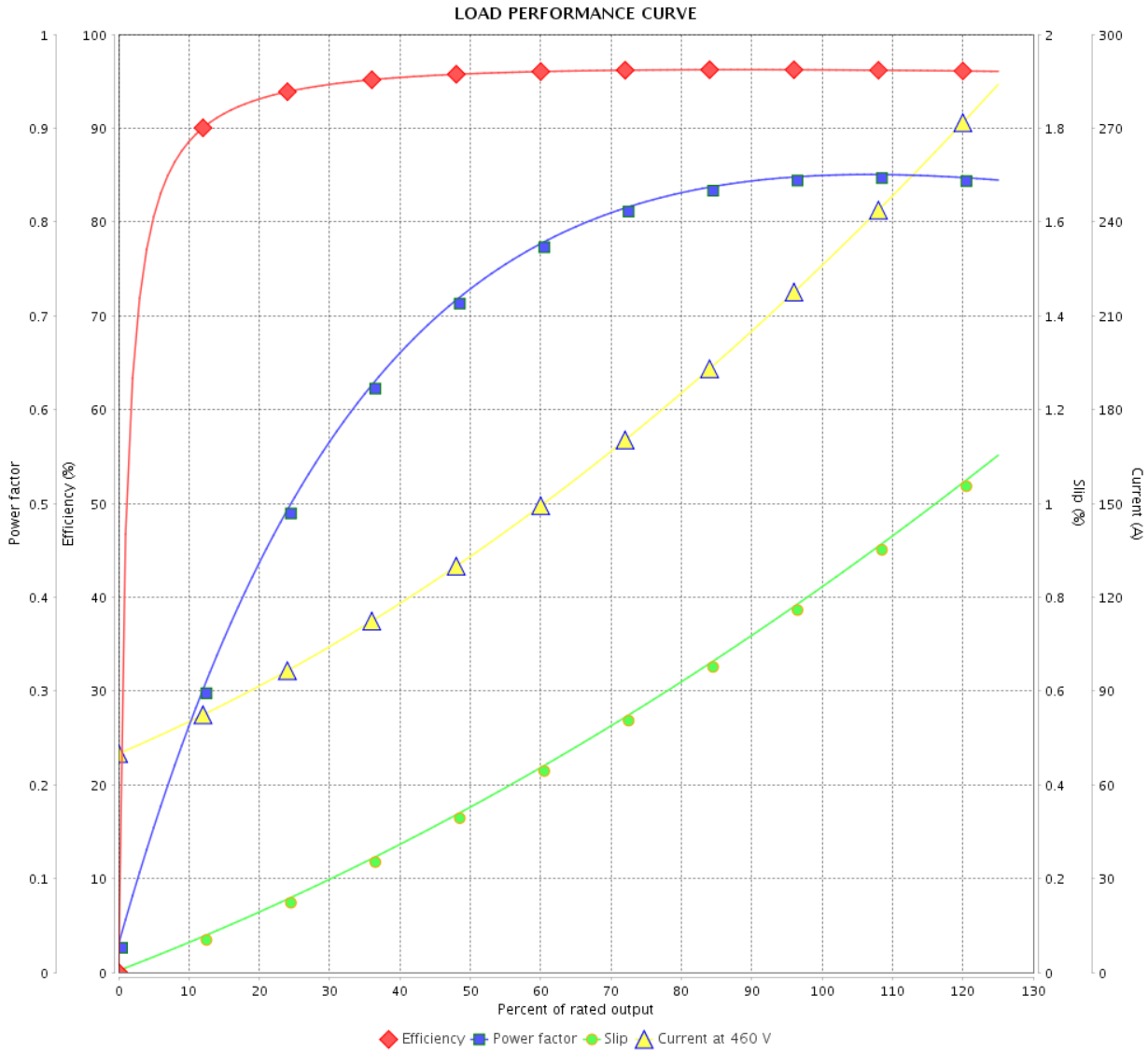


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431673

Catalog # : 20018ST3QIE447T-W22



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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 21	Revision
Checked by				
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

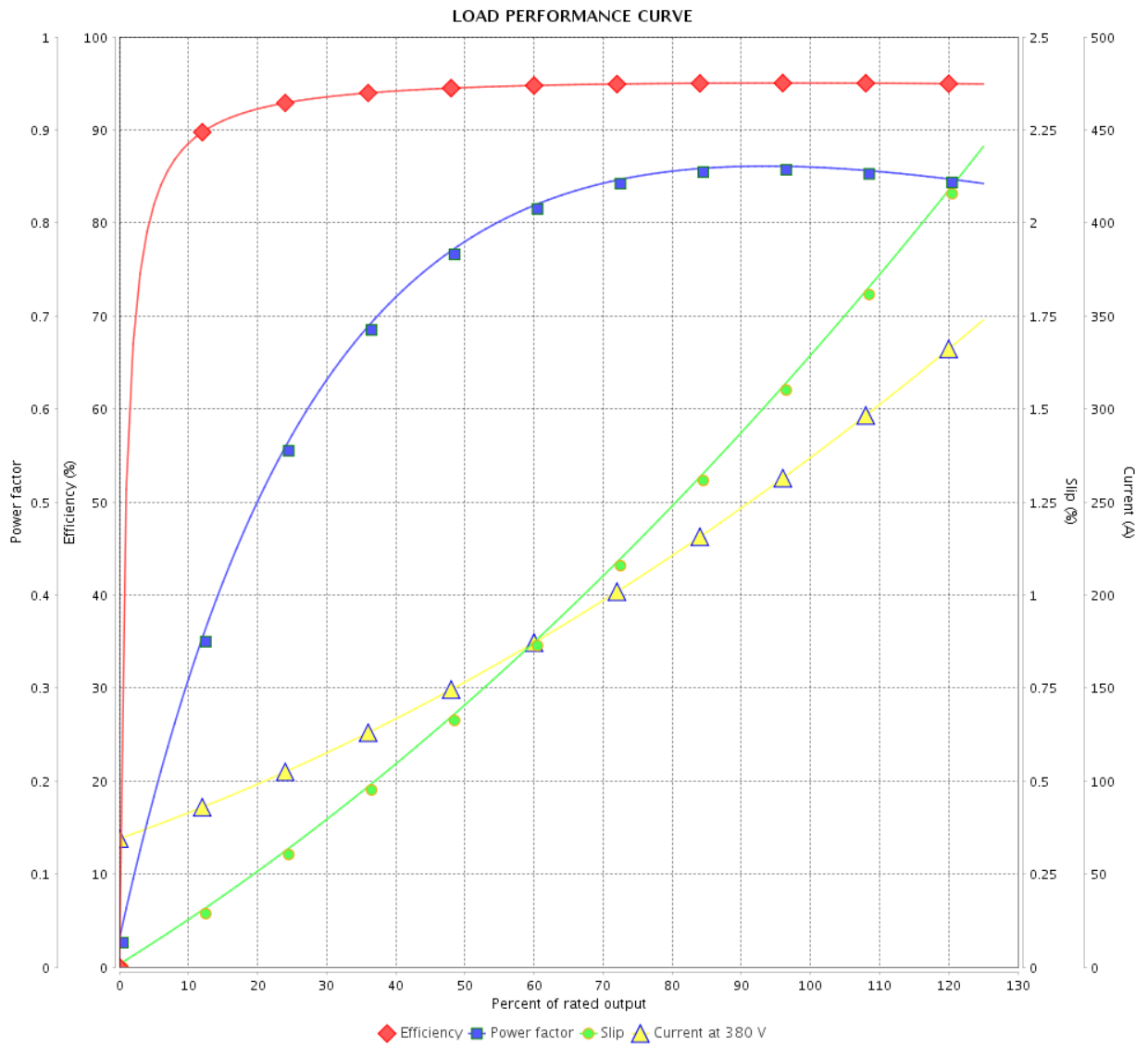


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Catalog # : 20018ST3QIE447T-W22



Performance : 380 V 50 Hz 4P IE2

Rated current : 279 A  
 LRC : 5.1  
 Rated torque : 712 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 200 %  
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Moment of inertia (J) : 76.2 sq.ft.lb  
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Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		7 / 21		

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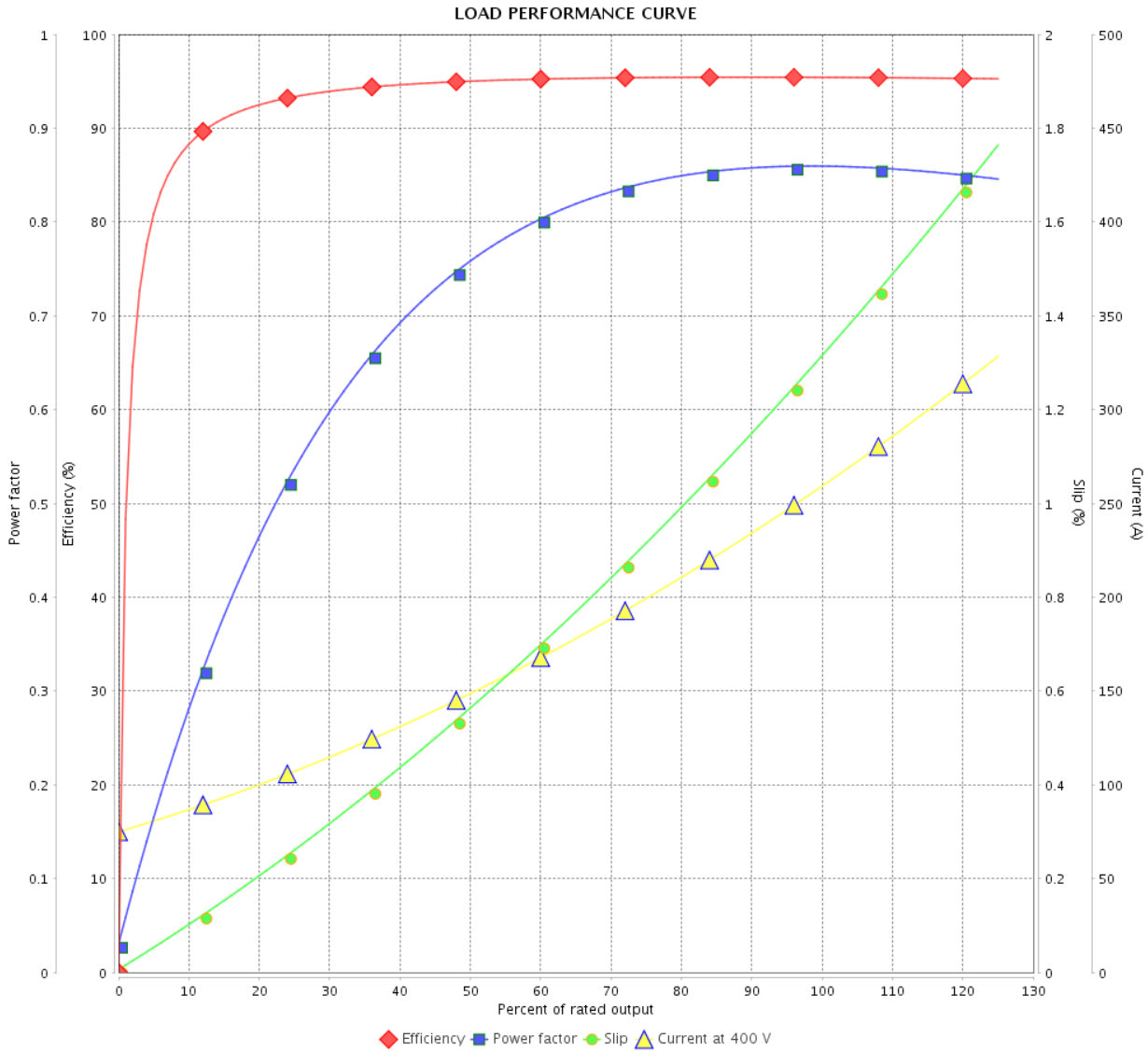


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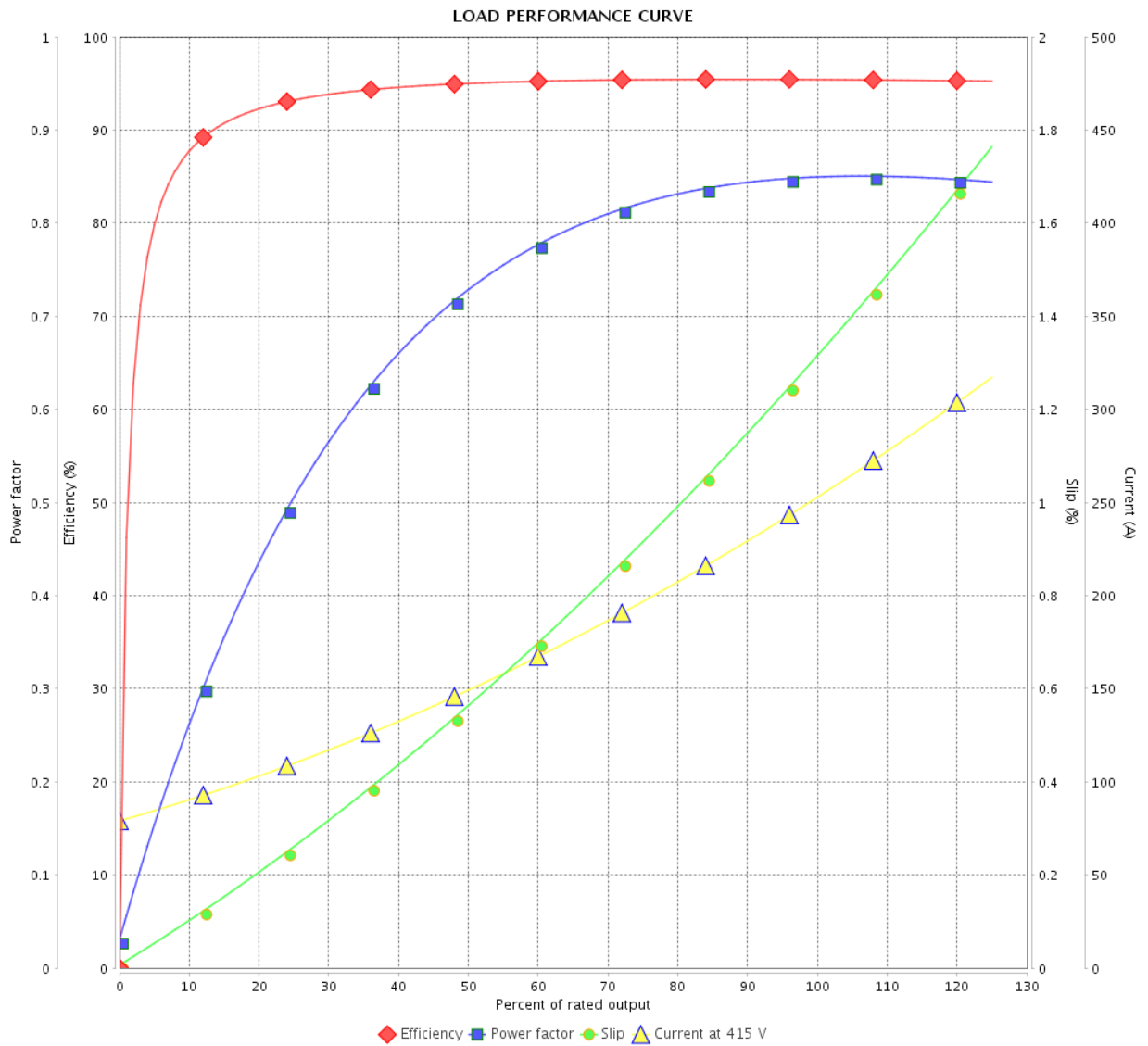


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 Breakdown torque : 240 %  
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		9 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



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Rated speed : 1785 rpm	Design : B

Heating constant

Cooling constant

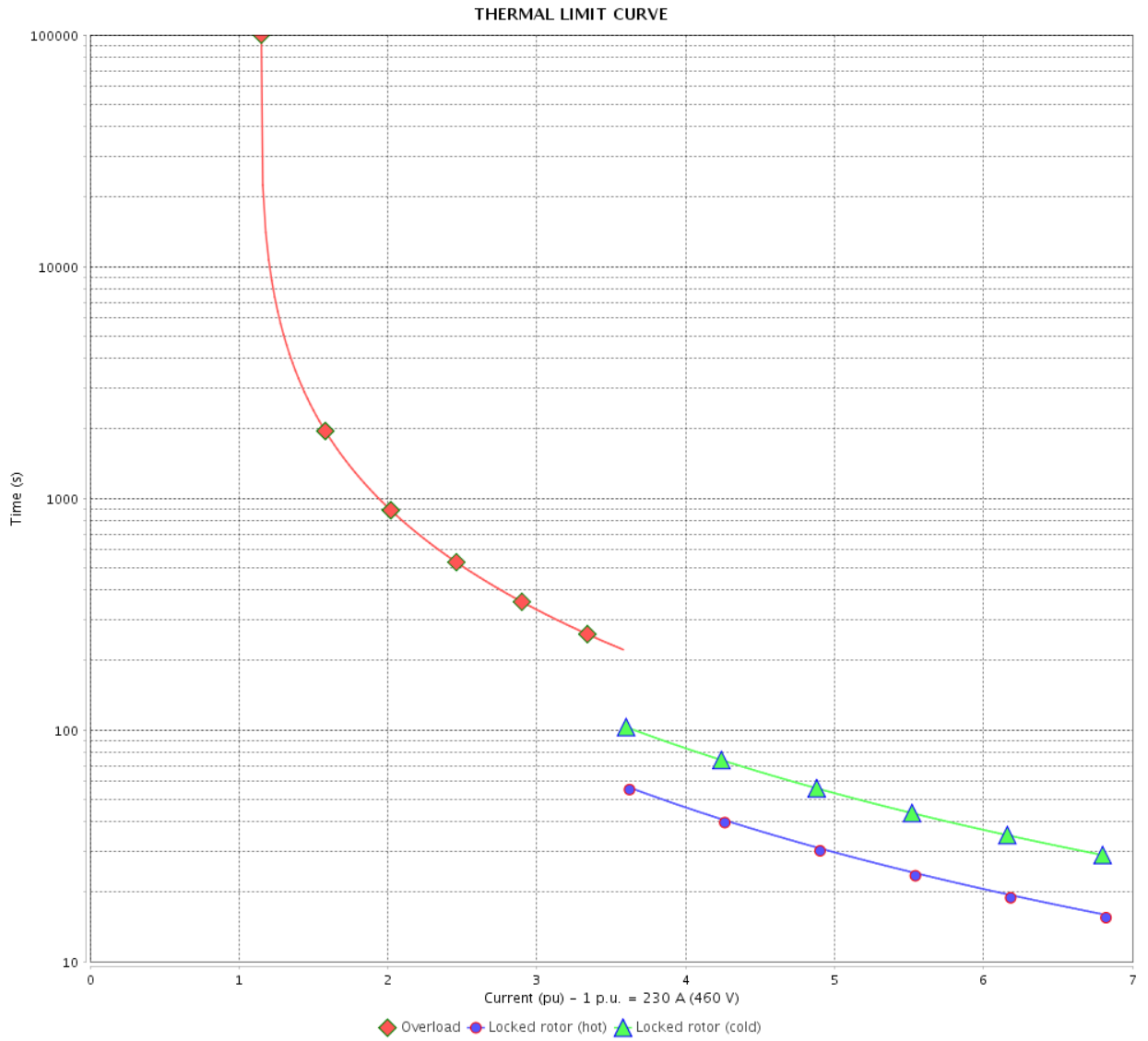
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 10 / 21	Revision
Checked by				
Date	14/04/2022			

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 / 21		
Date		14/04/2022		

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Rated torque	: 712 ft.lb	Insulation class	: F
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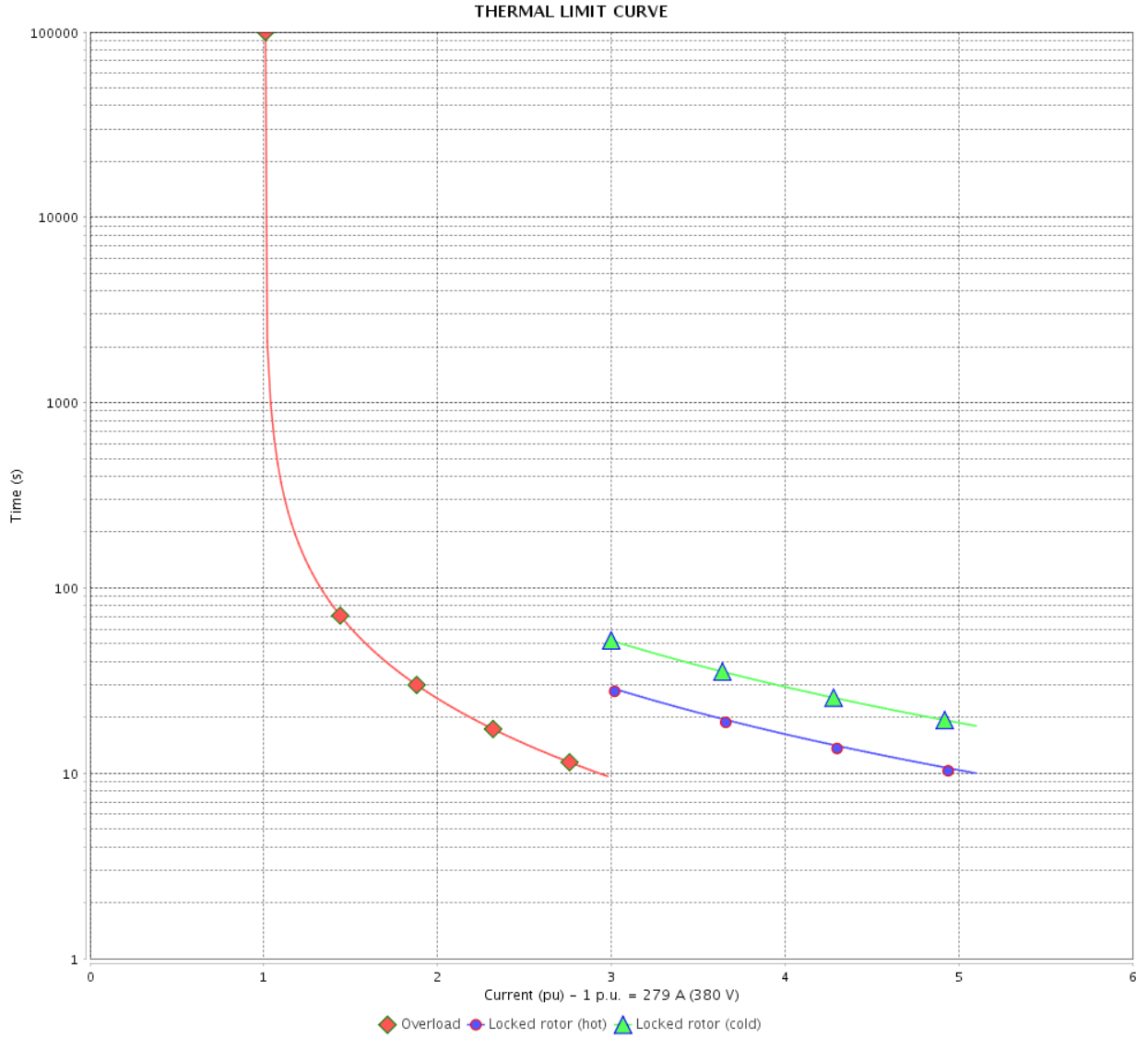
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		12 / 21	

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Rev.	Changes Summary	Performed	Checked	Date
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			13 / 21	

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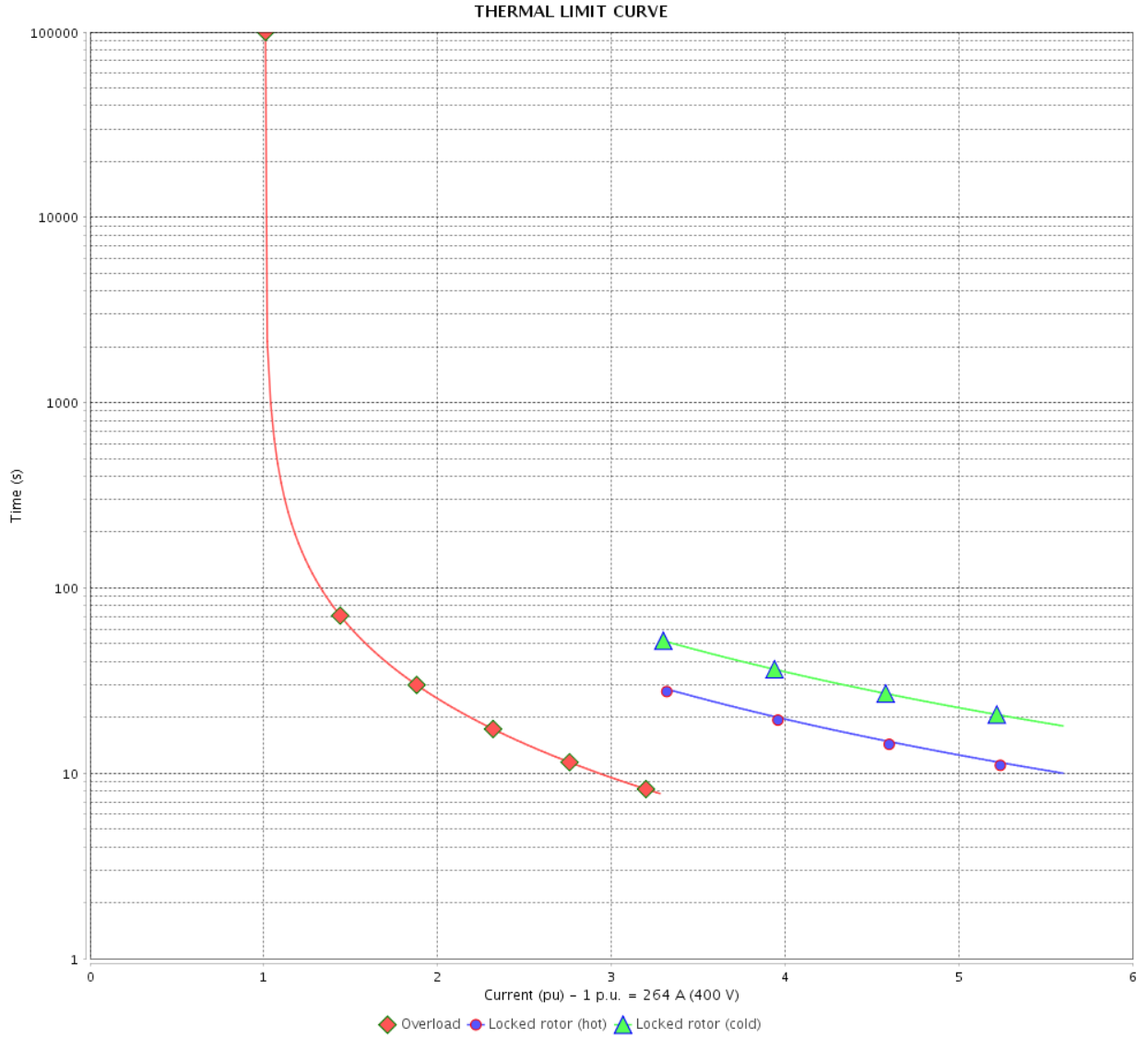
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Date	14/04/2022		14 / 21	

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		15 / 21		
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Rated current	: 257 A	Moment of inertia (J)	: 76.2 sq.ft.lb
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

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		16 / 21	

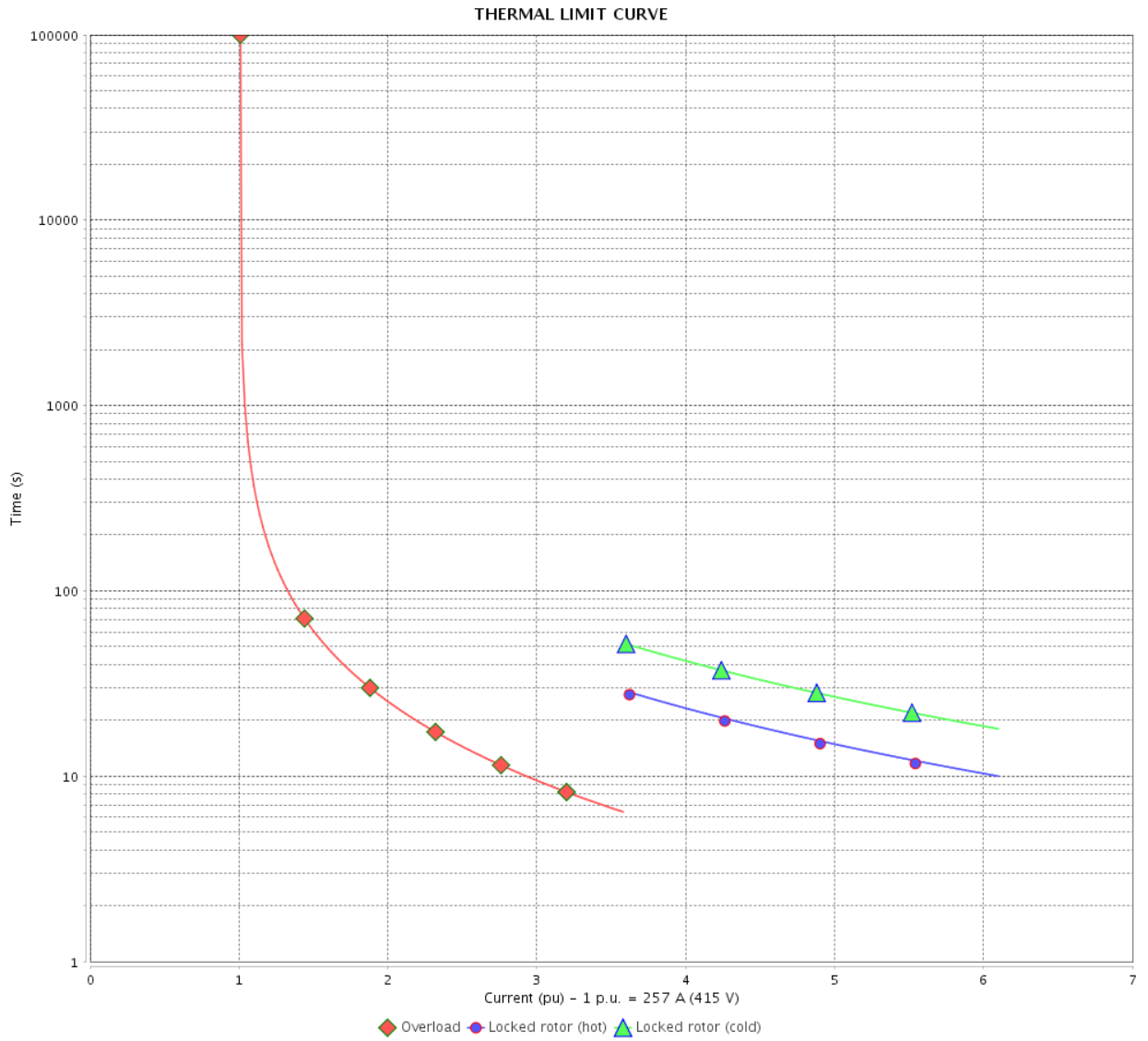


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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 17 / 21		Revision
Checked by				
Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

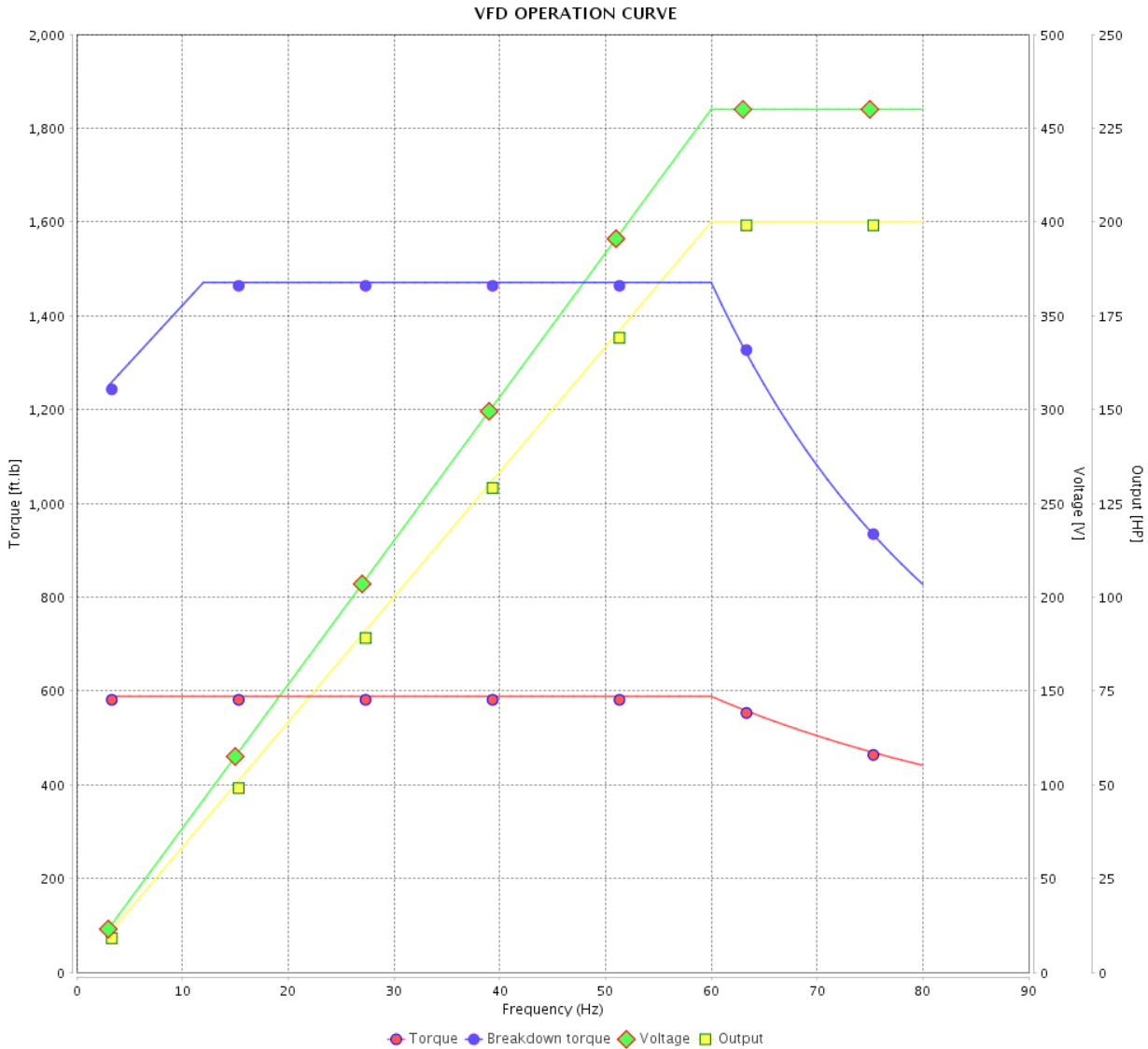


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Performed by			Page 18 / 21	Revision
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Date	14/04/2022			

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## Three Phase Induction Motor - Squirrel Cage

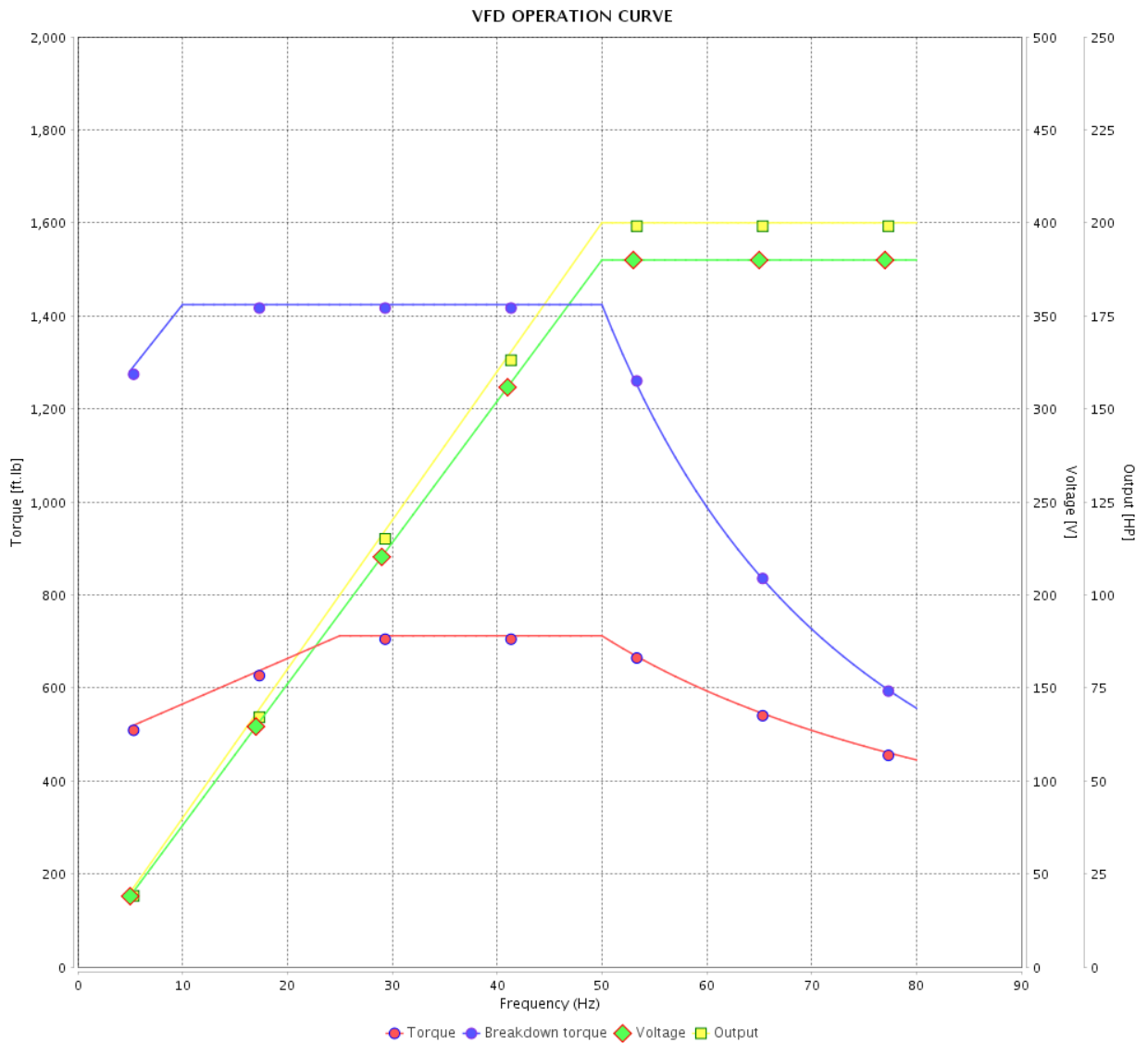


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Performed by		Page		Revision
Checked by		19 / 21		
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



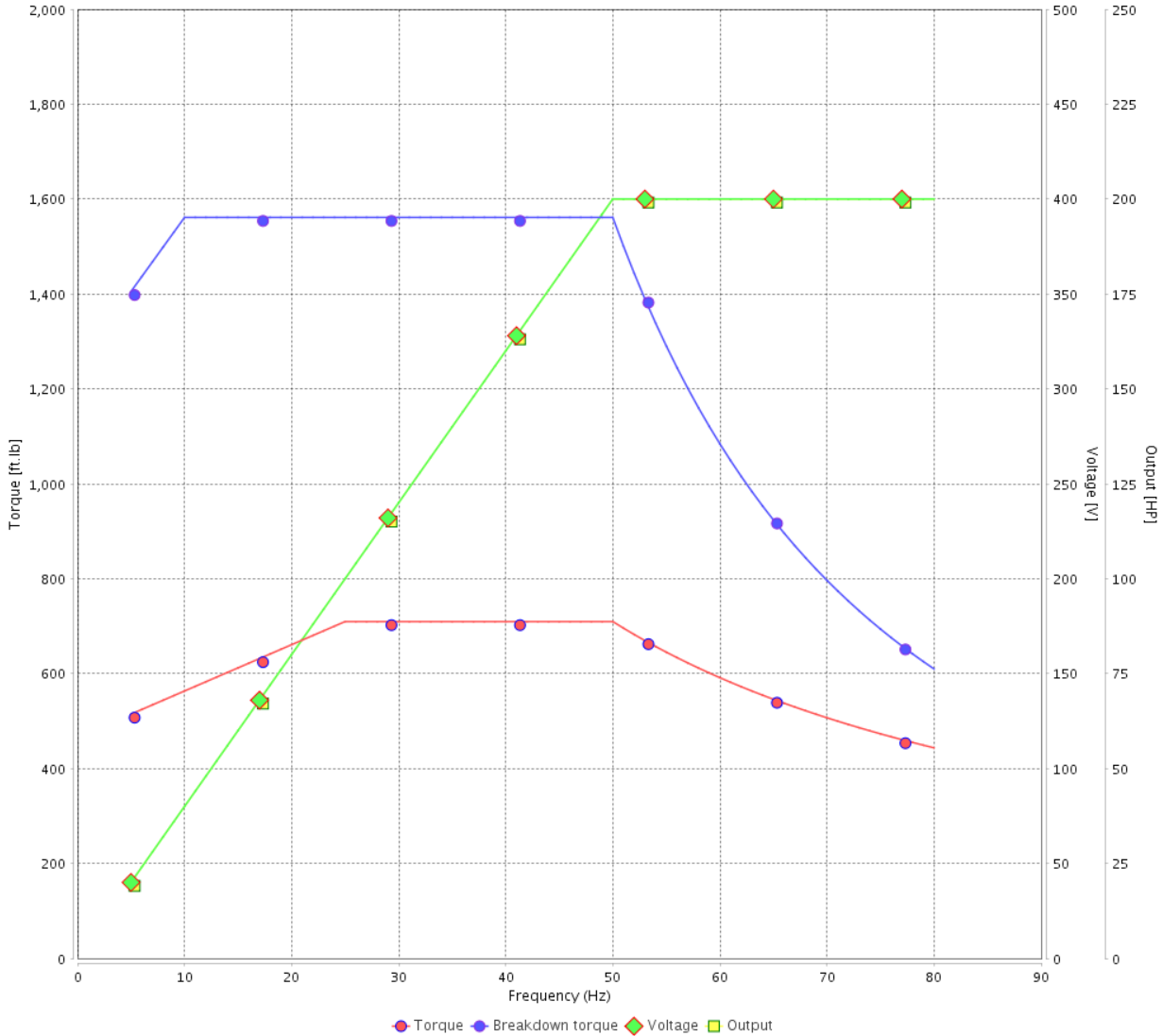
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VFD OPERATION CURVE



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Rated current : 264 A  
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 Temperature rise : 105 K  
 Design : B

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Performed by			Page 20 / 21	Revision
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

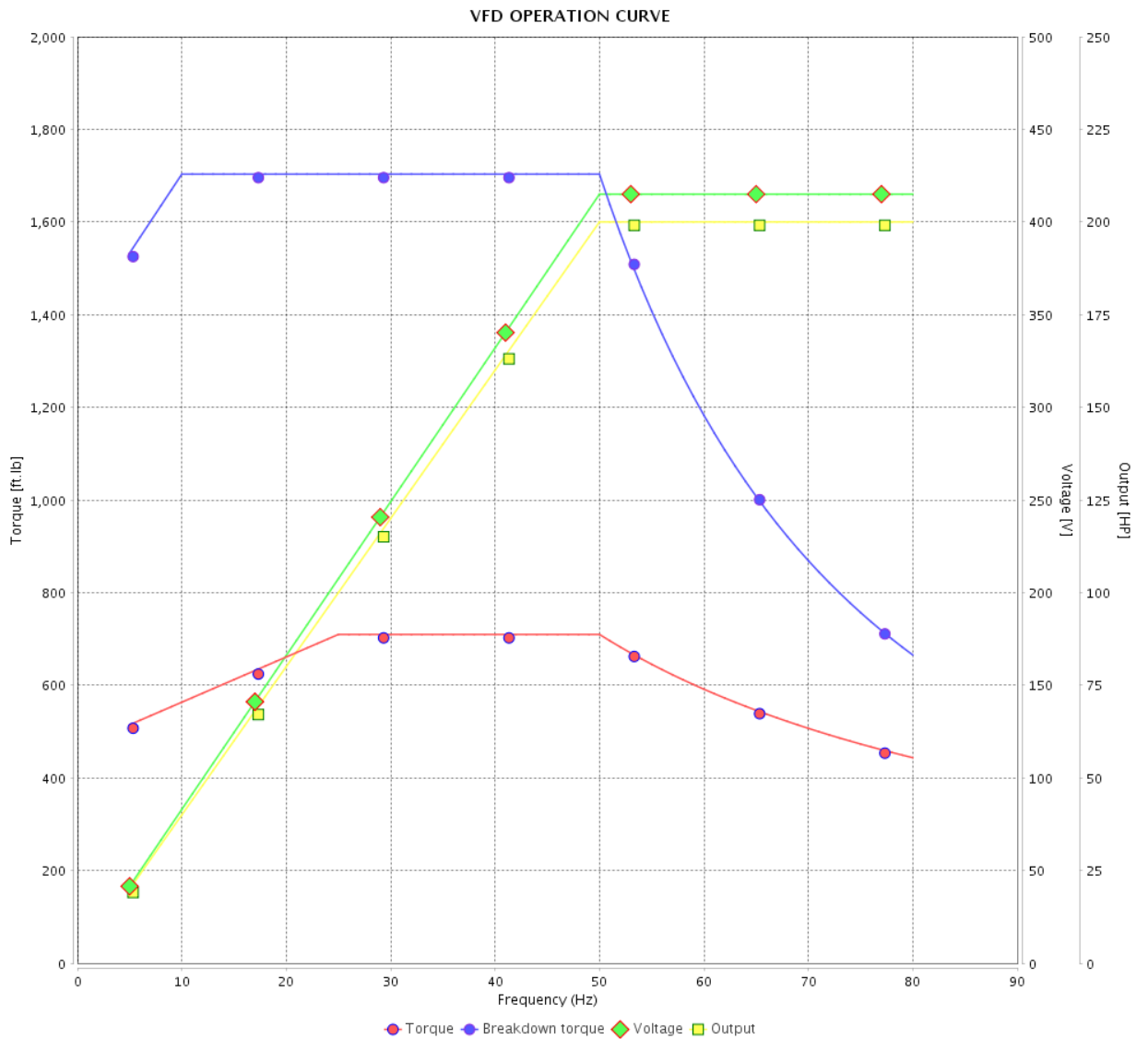


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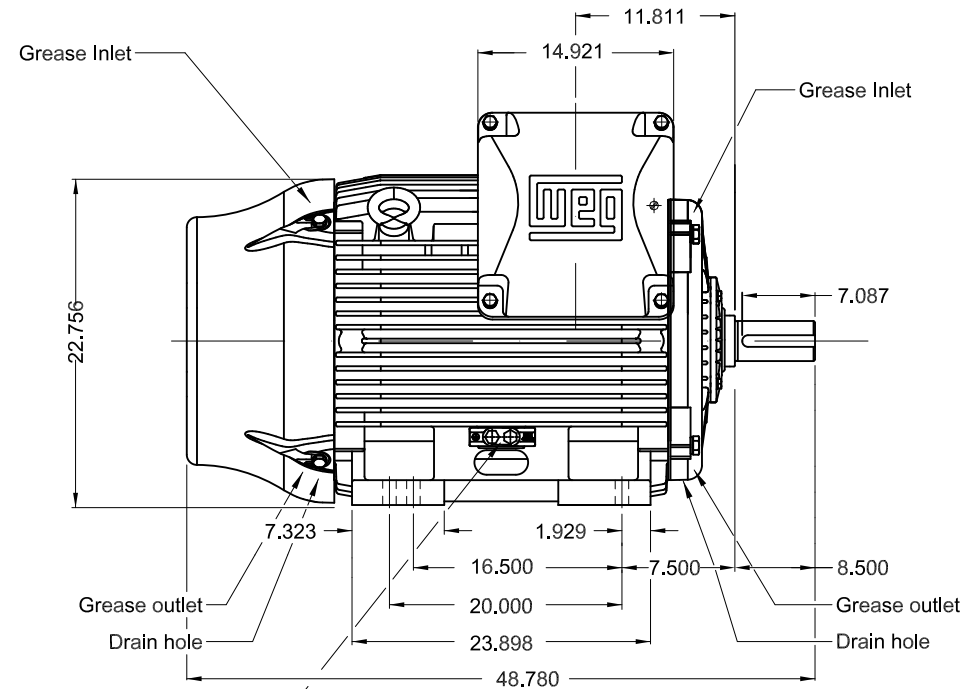
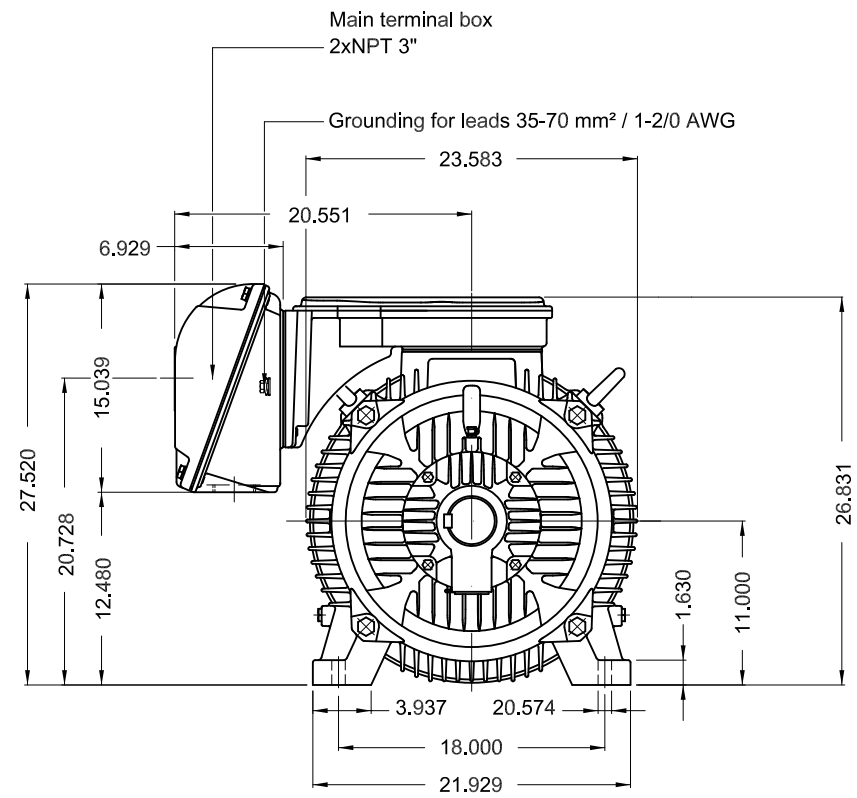


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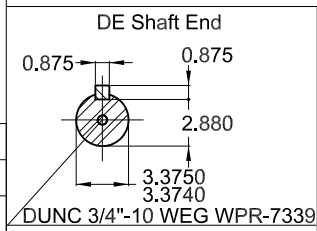
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Performed by		Page		Revision
Checked by		21 / 21		
Date	14/04/2022			



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

Color RAL 5009  
 Painting plan 202E  
 Mounting B3R(D)



200 HP 04 Poles 60 Hz

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	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 20018ST3QIE447T-W22



Inverter Duty Motor  
Severe Duty

MADE IN BRAZIL  
11431673

PH3 60Hz Fr. 445/7T 1000m.a.s.l. IP55 TEFC 2212lb

V 460

A 230

HP 200

kW 150

SF 1.15

SFA 265

RPM 1785

PF 0.85

AMB 40°C

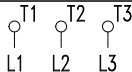
INS cl. F DT80K

NEMA NOM EFF 96.2%

DUTY CONT.

DES B Code G

GUARANT. EFF 95.4%



460V



→ 6319-C3 (45g) 95BC03X30

→ 6316-C3 (34g) 80BC03X30



MOBIL POLYREX EM (8000h)

