

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 11496971	
				Catalog # : 10012XT3G444T	
Frame : 444/5T		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> : 2095 lb			
Protection degree : IP55		Moment of inertia (J) : 87.3 sq.ft.lb			
Design : B					
Output [HP]	100	75	75	75	
Poles	6	6	6	6	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	121	110	108	105	
L. R. Amperes [A]	822	770	842	872	
LRC [A]	6.8x(Code H)	7.0x(Code H)	7.8x(Code J)	8.3x(Code K)	
No load current [A]	48.7	48.2	51.6	54.1	
Rated speed [RPM]	1190	990	990	995	
Slip [%]	0.83	1.00	1.00	0.50	
Rated torque [ft.lb]	441	398	398	396	
Locked rotor torque [%]	229	240	260	290	
Breakdown torque [%]	260	260	320	350	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	88s (cold) 49s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	
Noise level <sup>2</sup>	70.0 dB(A)	66.0 dB(A)	66.0 dB(A)	66.0 dB(A)	
Efficiency (%)	25%	94.0	93.5	92.8	92.8
	50%	94.1	93.6	93.0	93.0
	75%	95.0	94.1	94.5	94.5
	100%	95.0	94.1	94.5	94.5
Power Factor	25%	0.41	0.39	0.36	0.33
	50%	0.66	0.63	0.59	0.56
	75%	0.76	0.74	0.71	0.68
	100%	0.82	0.81	0.78	0.77
Bearing type		Drive end : 6219 C3	Non drive end : 6316 C3	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 2646 lb	
Lubrication interval		: 12202 h	: 12823 h	Max. compression : 4740 lb	
Lubricant amount		: 28 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	13/04/2022			1 / 22	

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

### Thermal protection

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		2 / 22	

# TORQUE AND CURRENT VS SPEED CURVE



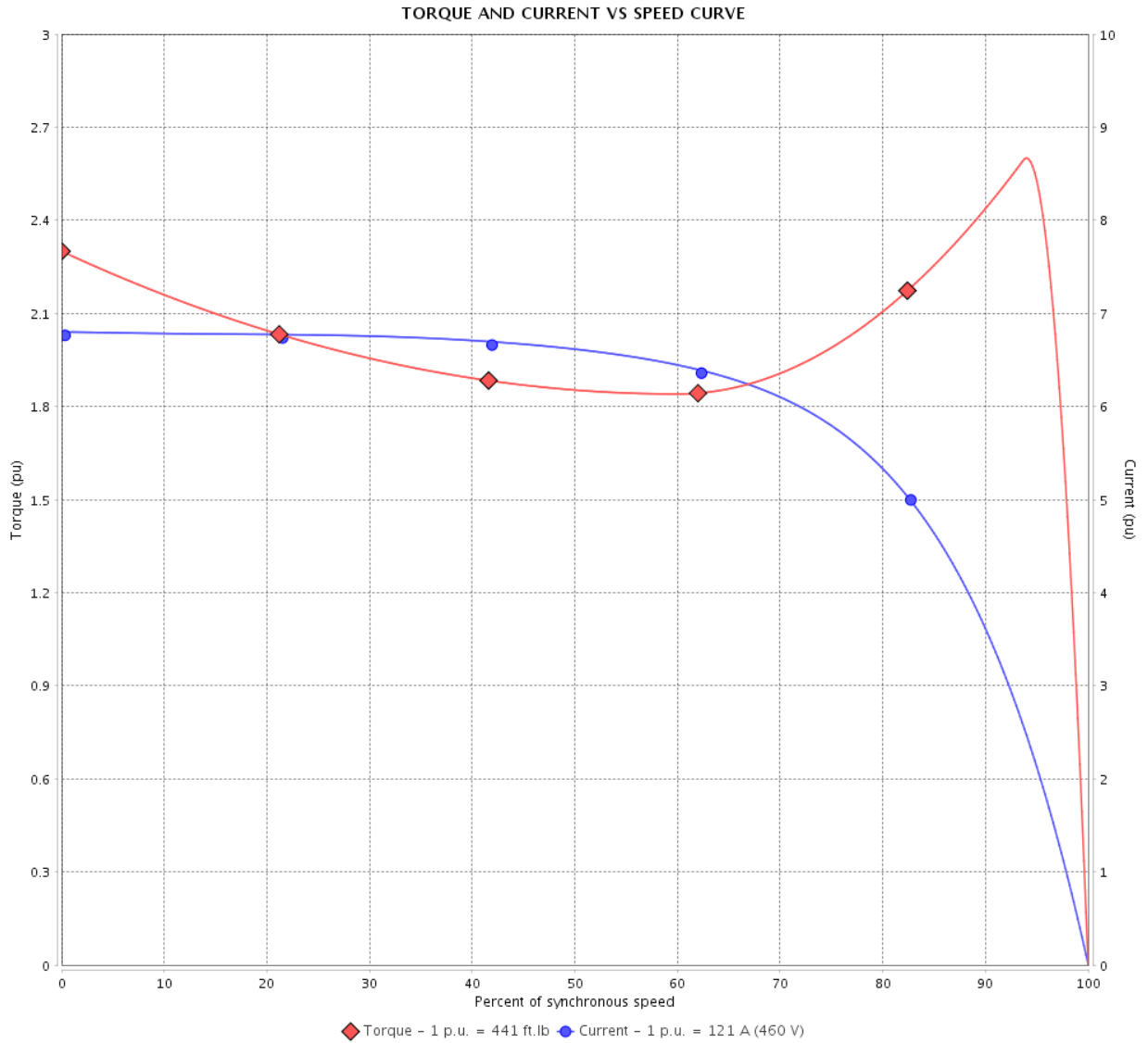
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 460 V 60 Hz 6P

Rated current	: 121 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1190 rpm	Design	: B

Locked rotor time : 88s (cold) 49s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 / 22	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



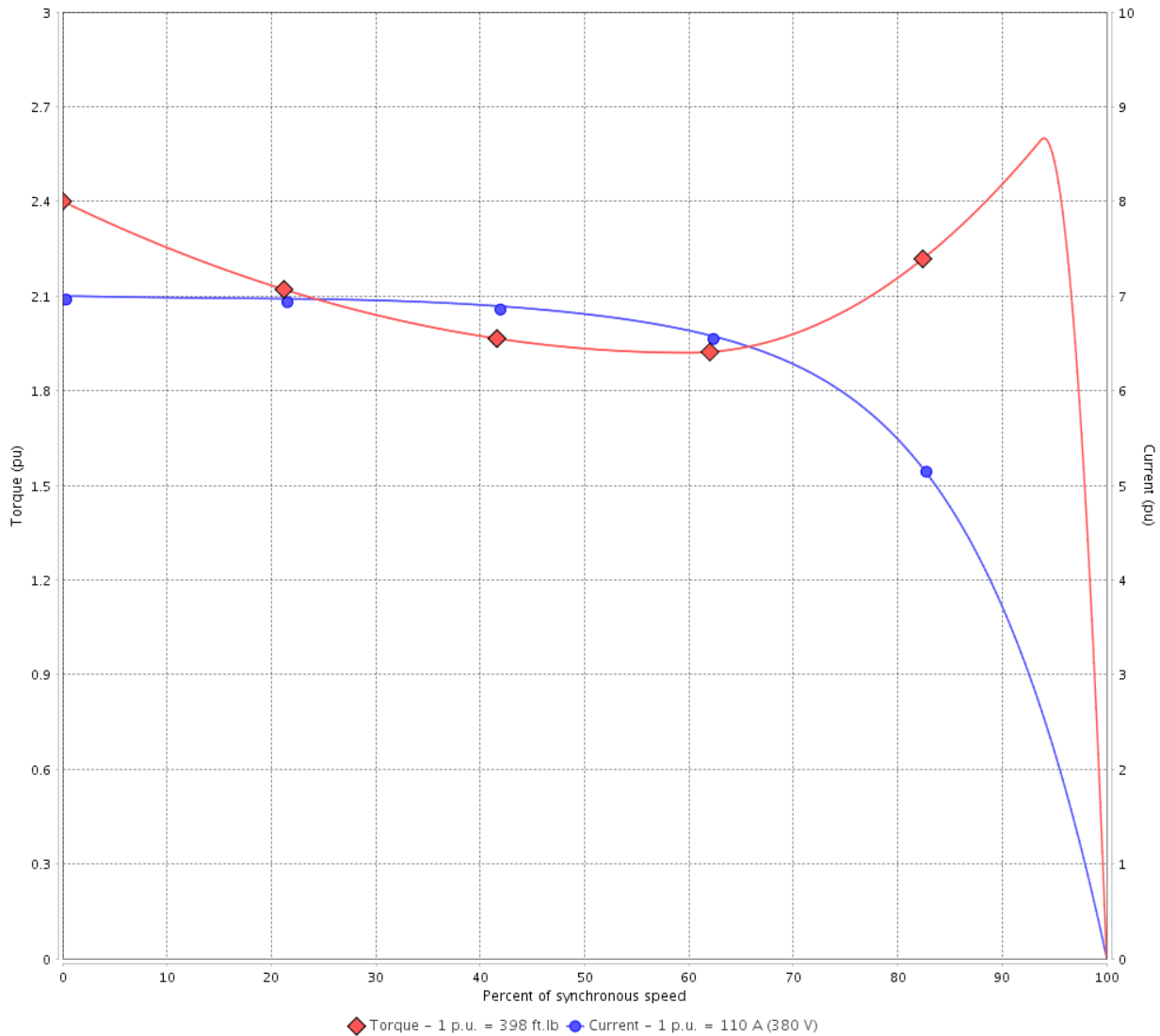
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 110 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 22	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



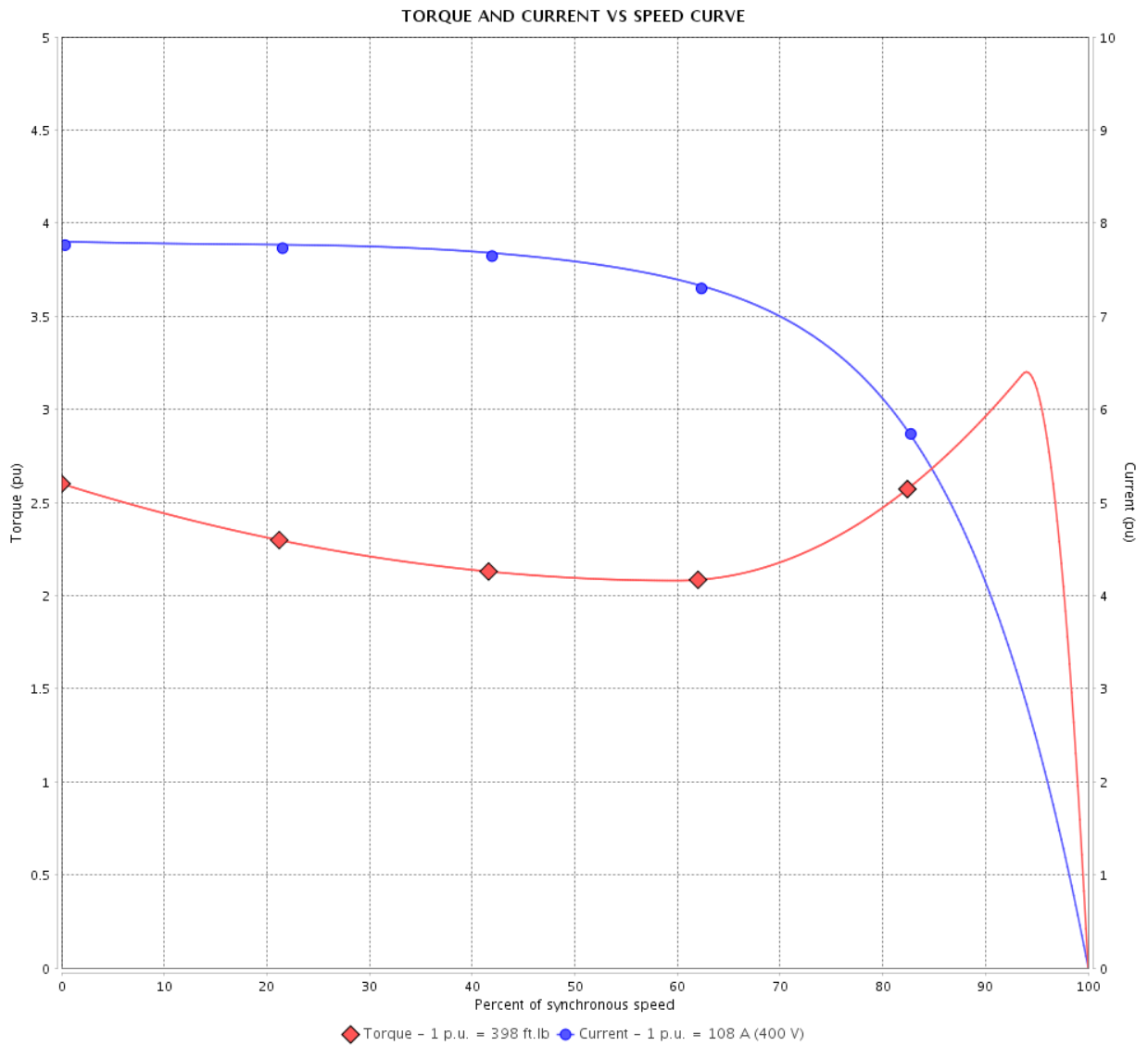
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 400 V 50 Hz 6P IE3

Rated current	: 108 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 22	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



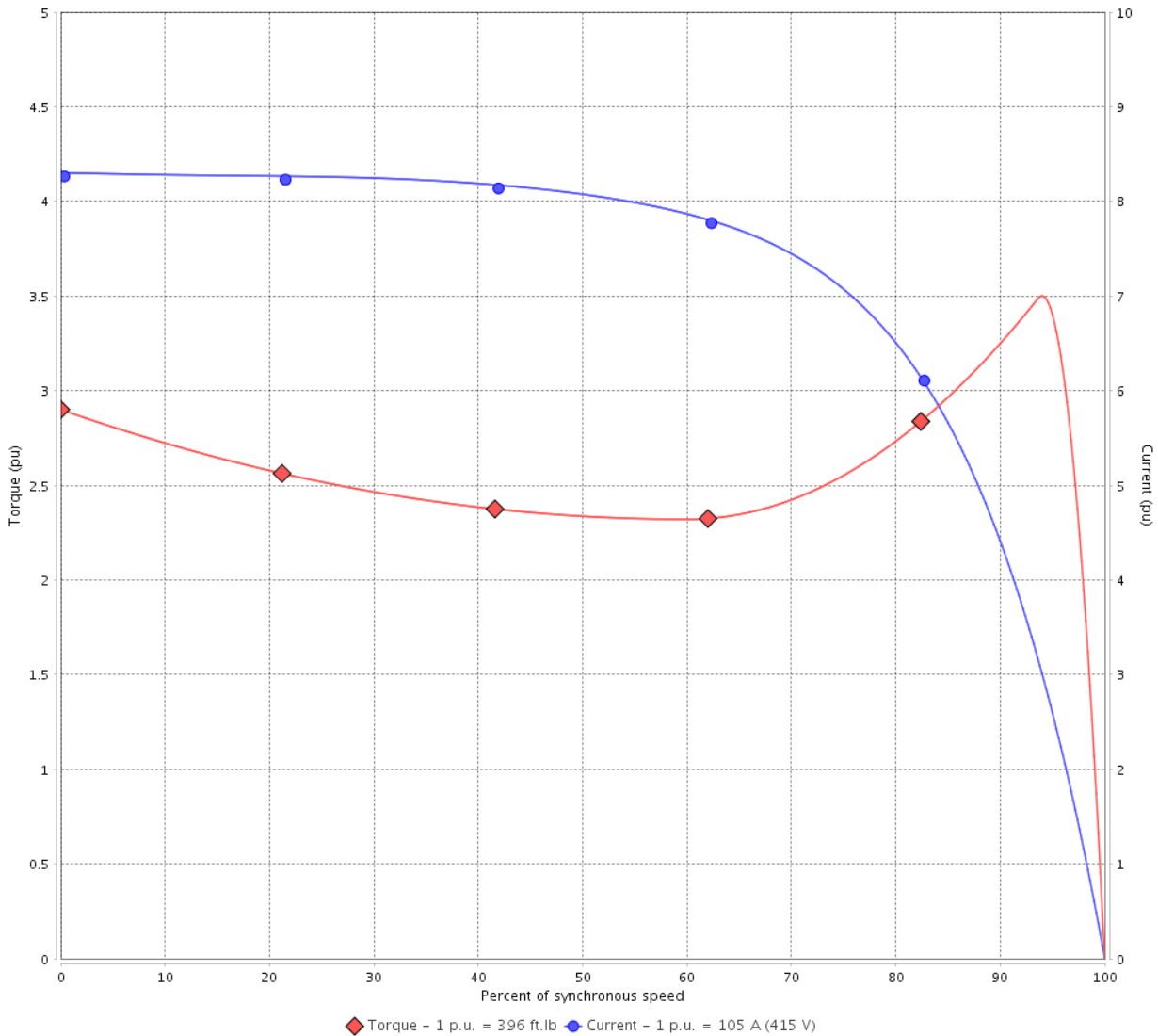
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 105 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 8.3	Duty cycle	: Cont.(S1)
Rated torque	: 396 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 995 rpm	Design	: B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 22	Revision
Checked by				
Date	13/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

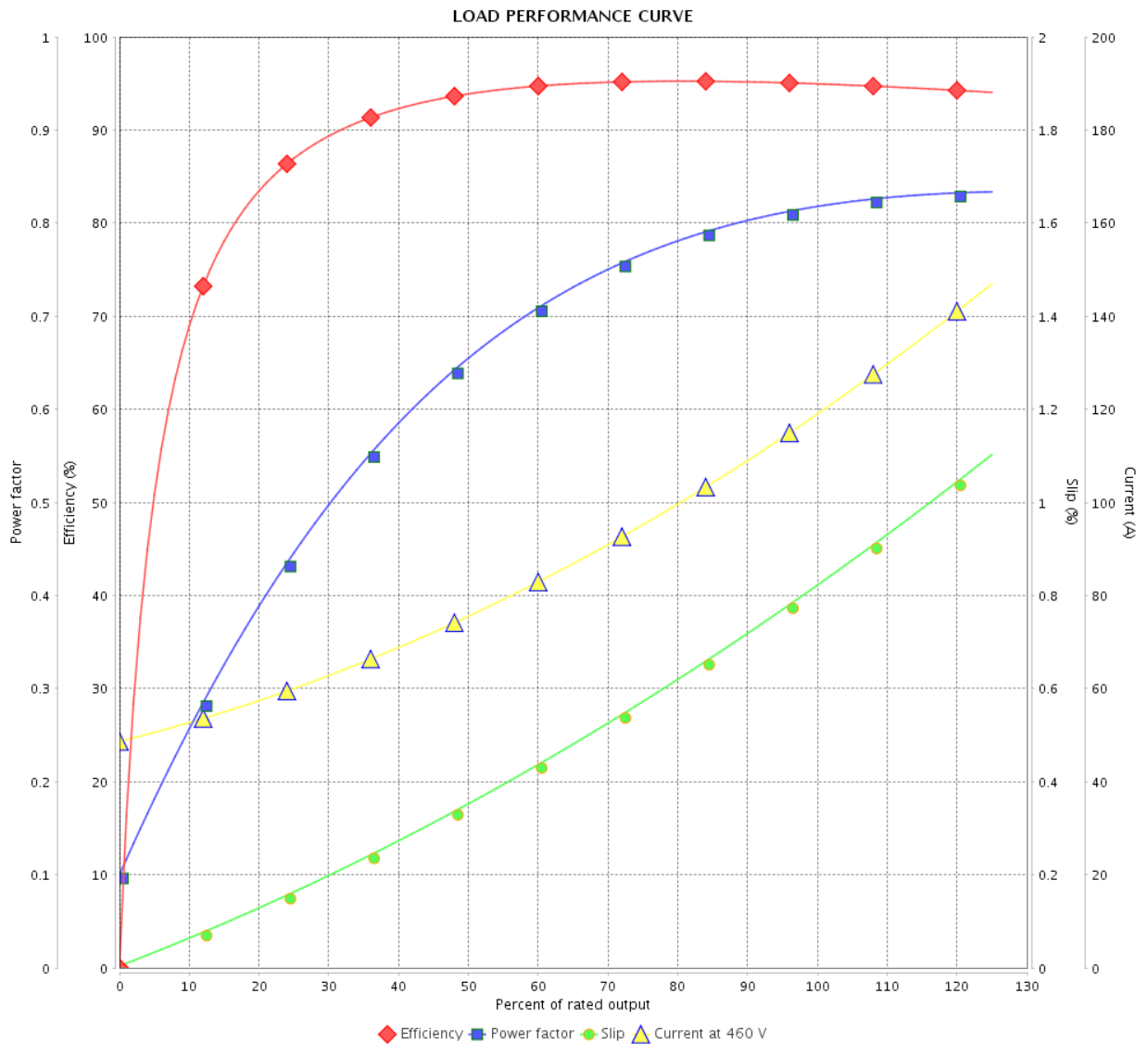


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 460 V 60 Hz 6P

Rated current : 121 A  
 LRC : 6.8  
 Rated torque : 441 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 1190 rpm

Moment of inertia (J) : 87.3 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		7 / 22		
Date		13/04/2022		

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



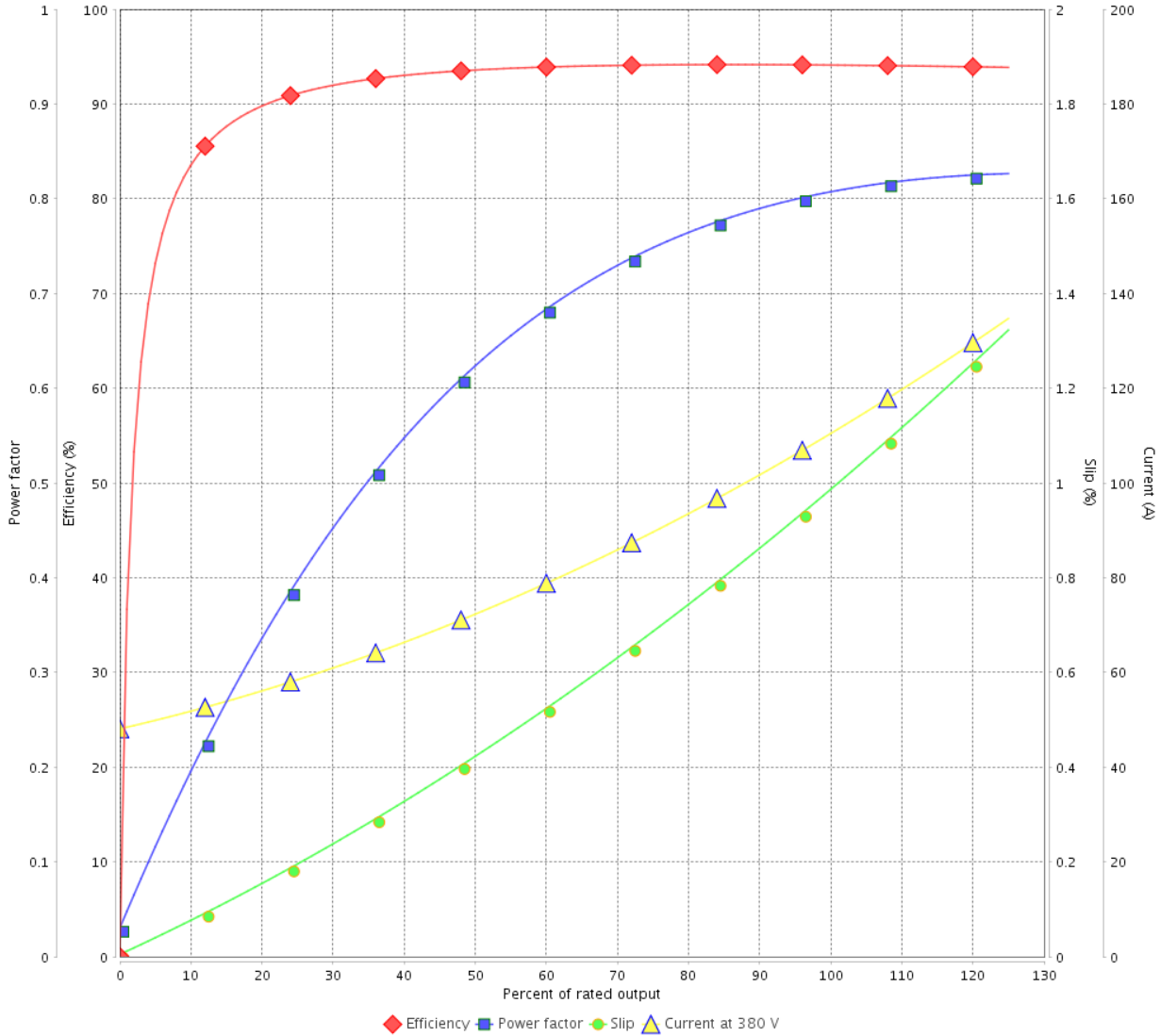
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T

LOAD PERFORMANCE CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current : 110 A  
 LRC : 7.0  
 Rated torque : 398 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 87.3 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 8 / 22	Revision
Checked by				
Date	13/04/2022			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

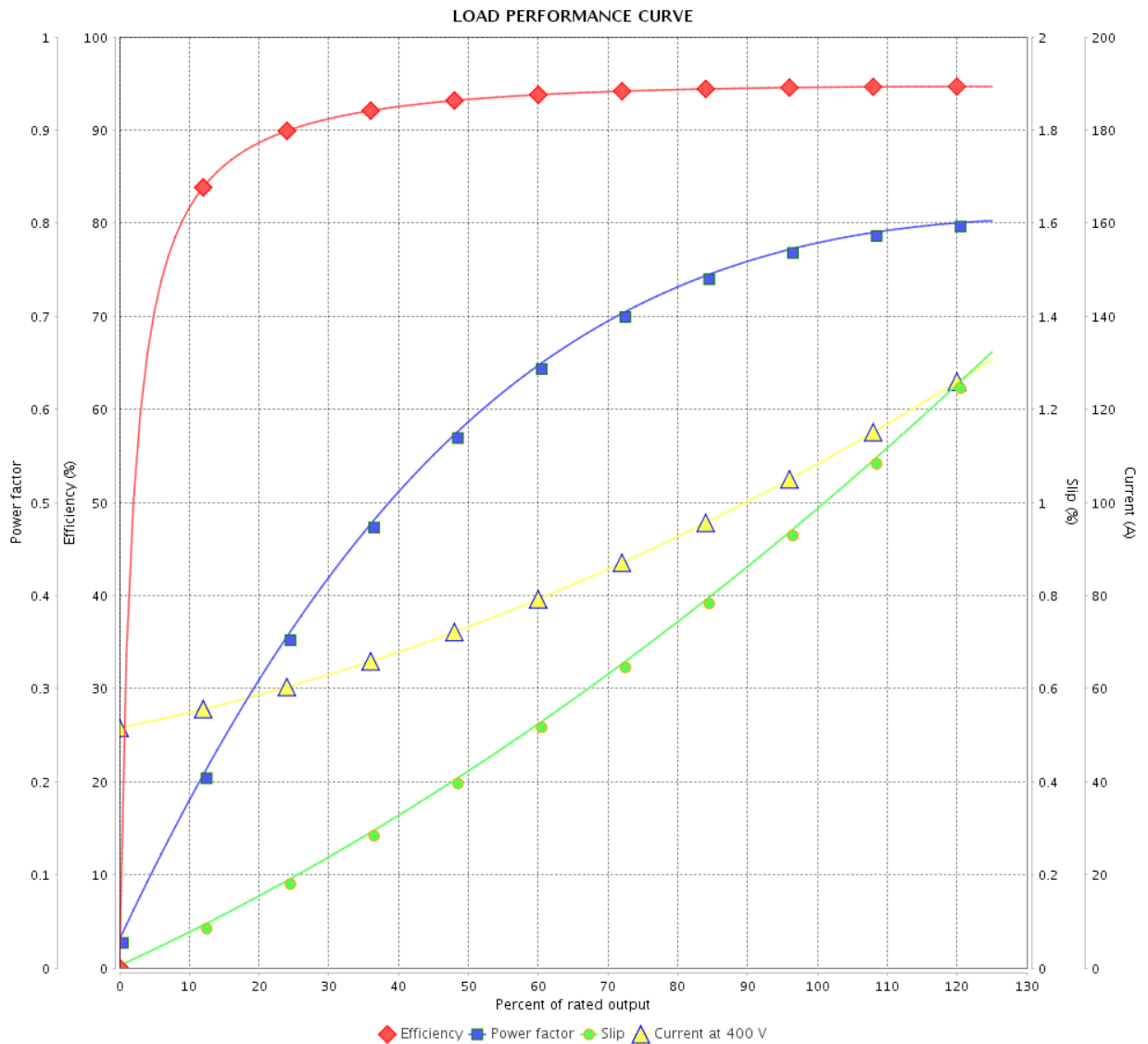


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 400 V 50 Hz 6P IE3

Rated current : 108 A  
 LRC : 7.8  
 Rated torque : 398 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 320 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 87.3 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		9 / 22		
Date		13/04/2022		

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

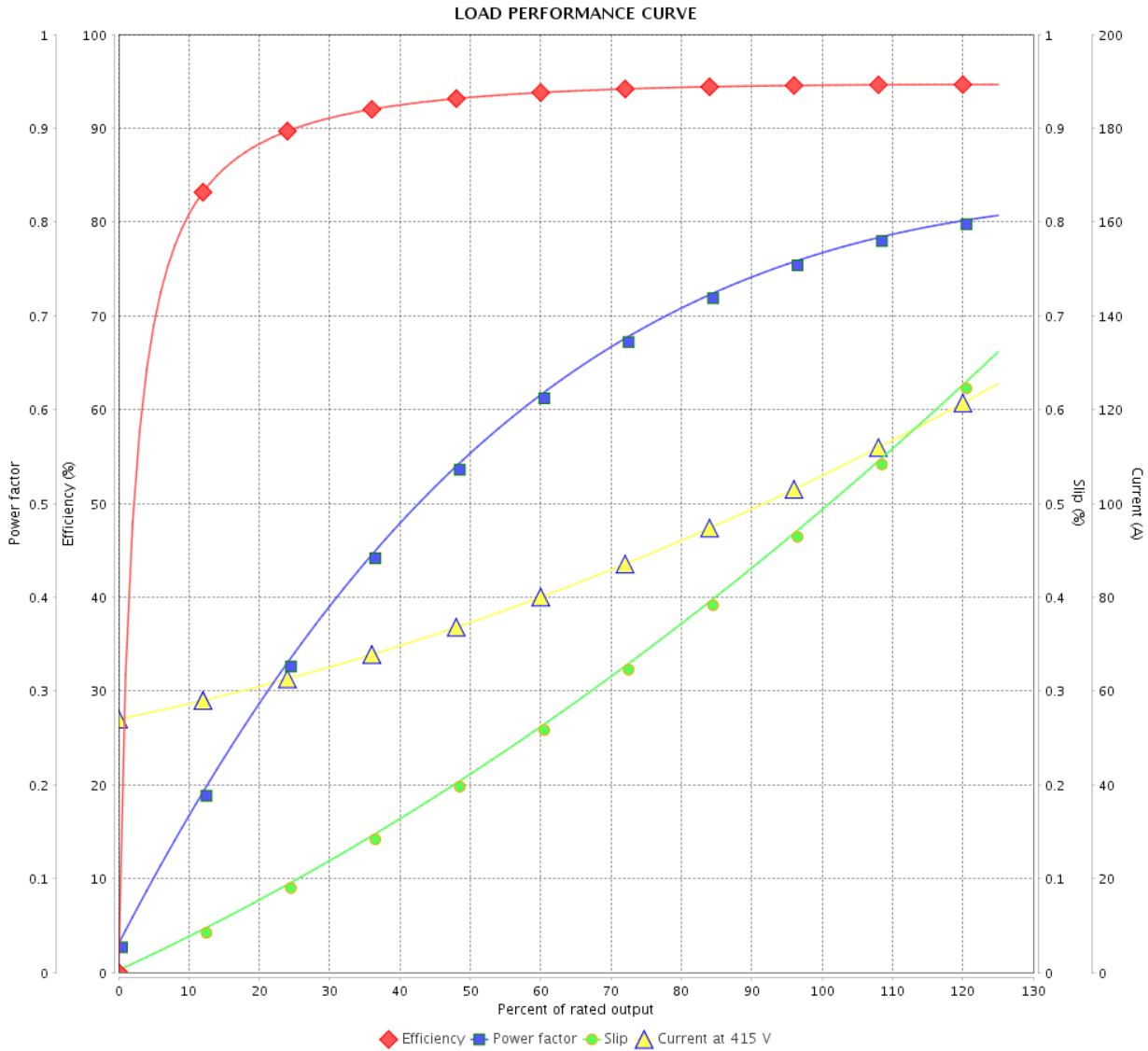


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 415 V 50 Hz 6P IE3

Rated current	: 105 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 8.3	Duty cycle	: Cont.(S1)
Rated torque	: 396 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 995 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 10 / 22	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11496971  
 Catalog # : 10012XT3G444T

Performance : 460 V 60 Hz 6P

Rated current : 121 A	Moment of inertia (J) : 87.3 sq.ft.lb
LRC : 6.8	Duty cycle : Cont.(S1)
Rated torque : 441 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.15
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1190 rpm	Design : B

Heating constant

Cooling constant

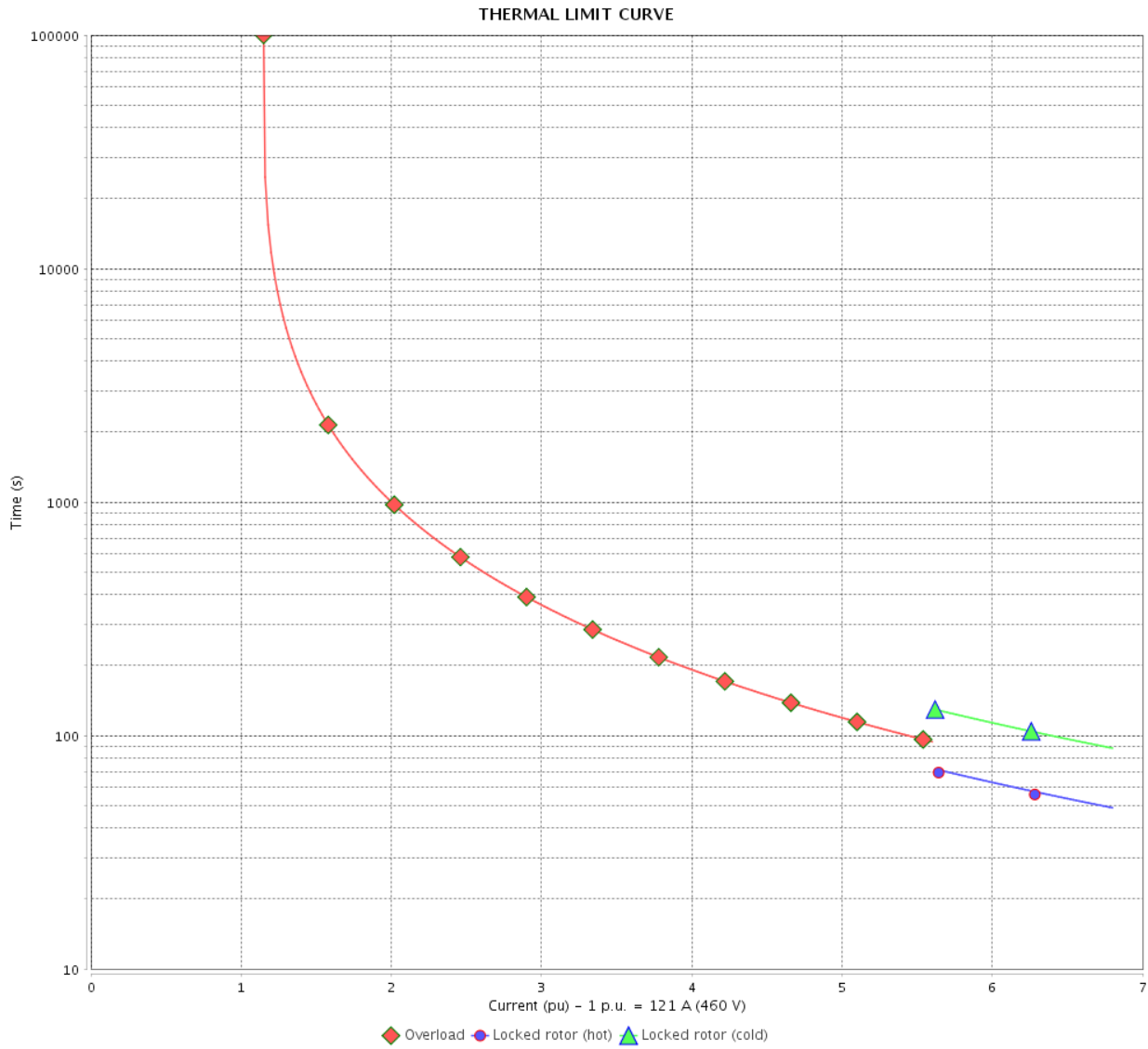
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 11 / 22	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		12 / 22		
Date		13/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 11496971  
Catalog # : 10012XT3G444T

Performance : 380 V 50 Hz 6P IE3

Rated current : 110 A	Moment of inertia (J) : 87.3 sq.ft.lb
LRC : 7.0	Duty cycle : Cont.(S1)
Rated torque : 398 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

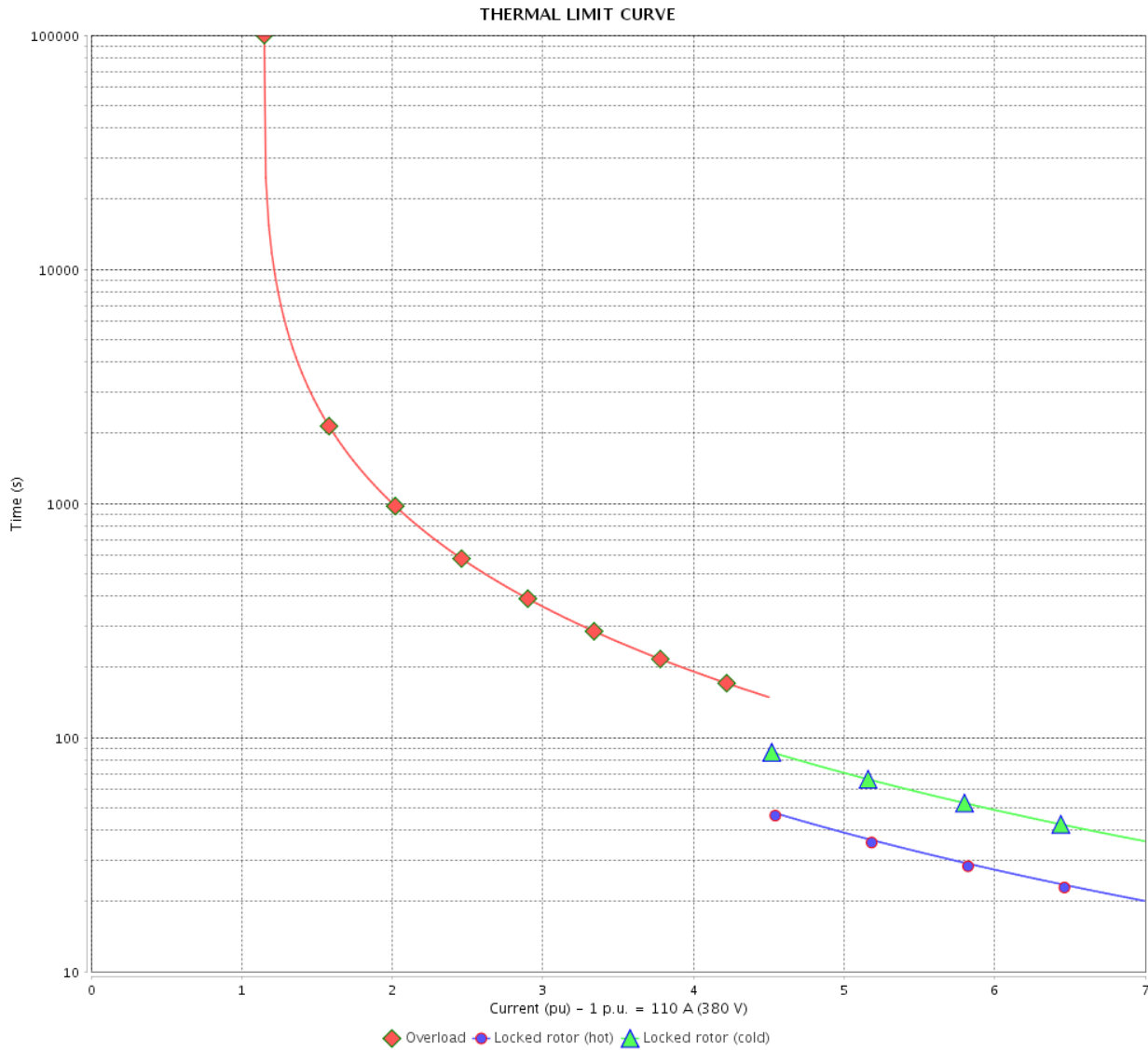
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		13 / 22	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		14 / 22		
Date		13/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11496971  
 Catalog # : 10012XT3G444T

Performance : 400 V 50 Hz 6P IE3

Rated current : 108 A	Moment of inertia (J) : 87.3 sq.ft.lb
LRC : 7.8	Duty cycle : Cont.(S1)
Rated torque : 398 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 320 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

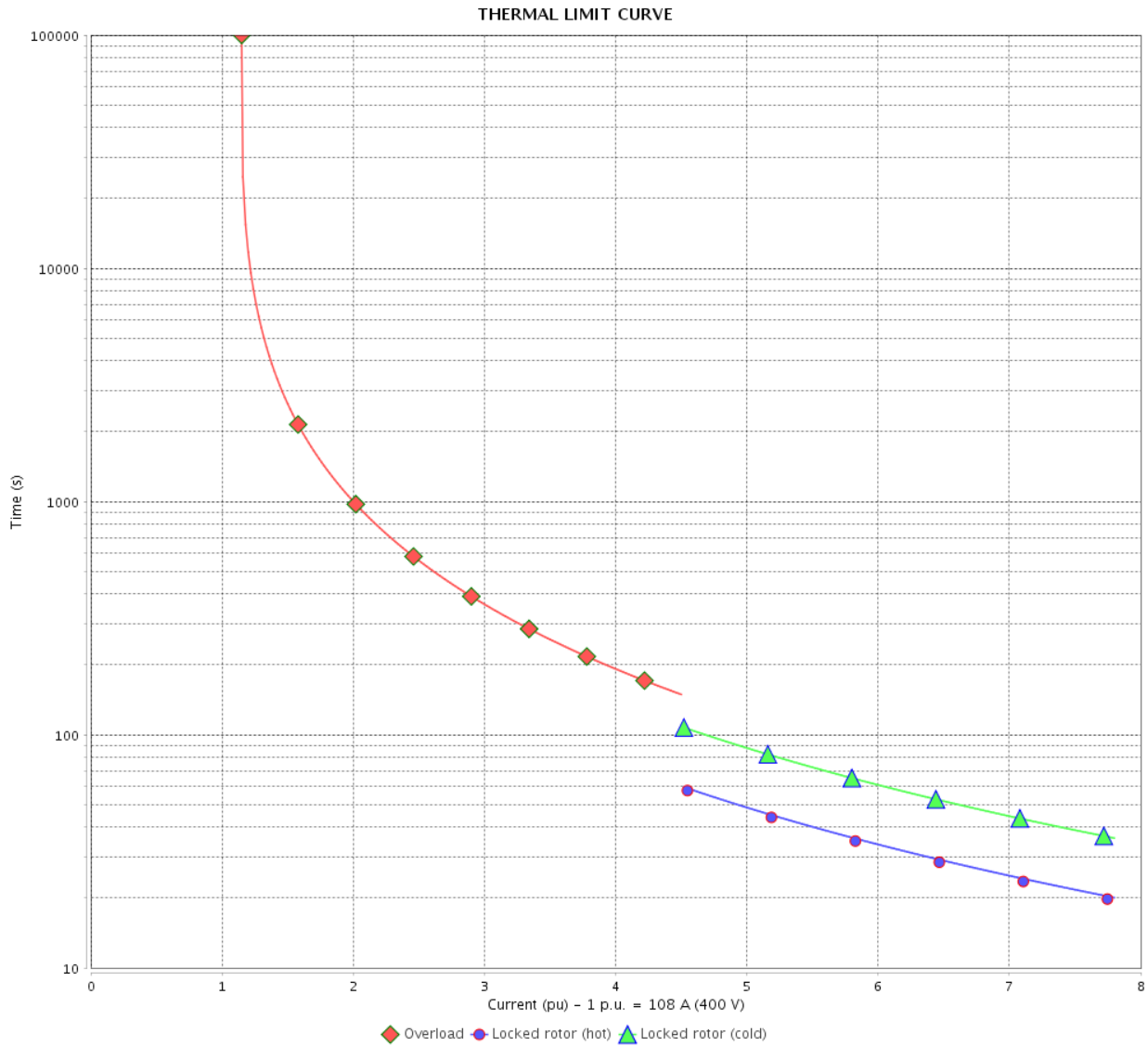
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 15 / 22	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		16 / 22		
Date		13/04/2022		



# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11496971  
 Catalog # : 10012XT3G444T

Performance : 415 V 50 Hz 6P IE3

Rated current : 105 A	Moment of inertia (J) : 87.3 sq.ft.lb
LRC : 8.3	Duty cycle : Cont.(S1)
Rated torque : 396 ft.lb	Insulation class : F
Locked rotor torque : 290 %	Service factor : 1.00
Breakdown torque : 350 %	Temperature rise : 80 K
Rated speed : 995 rpm	Design : B

Heating constant

Cooling constant

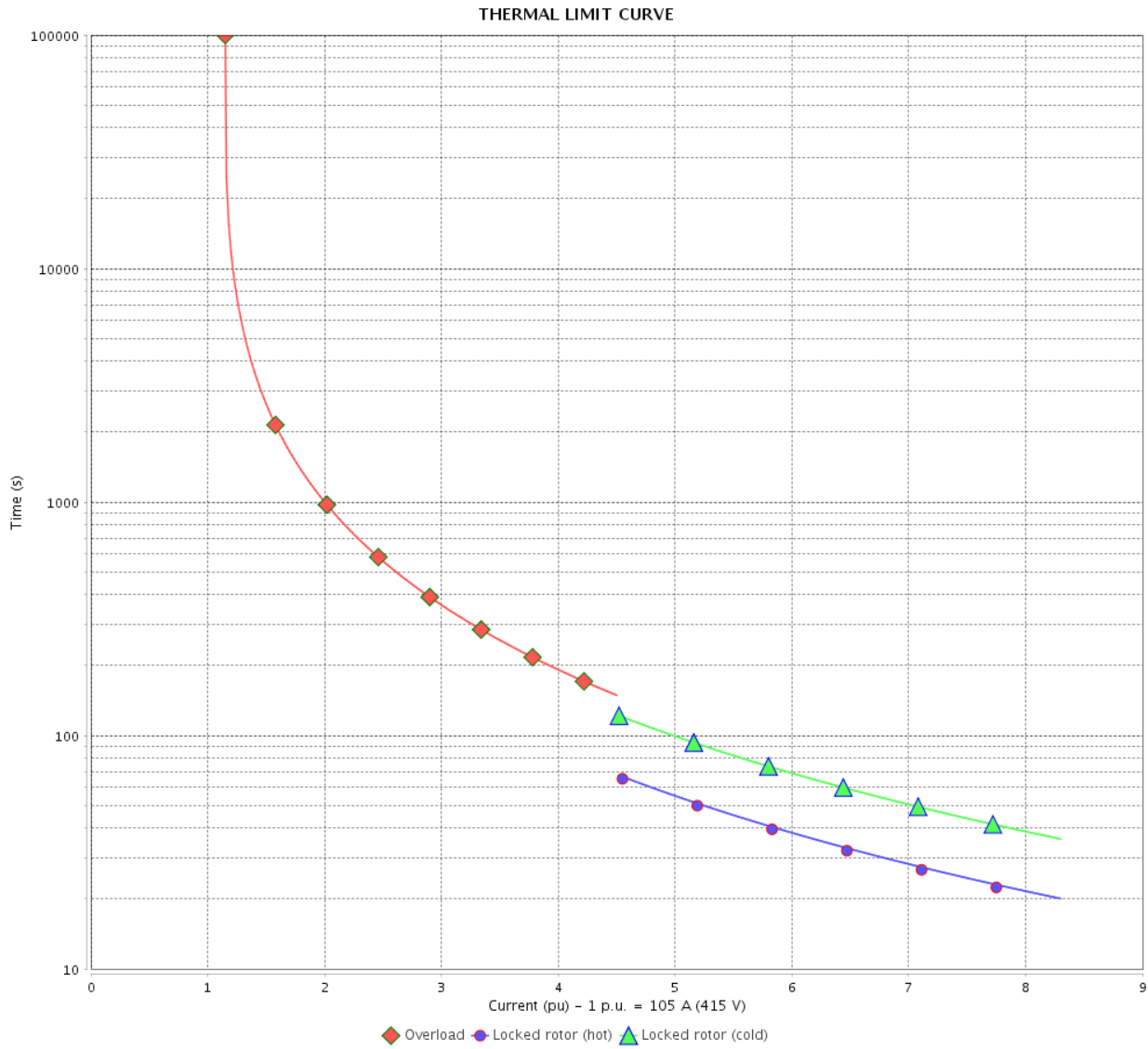
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 17 / 22	Revision
Checked by				
Date	13/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		18 / 22		
Date		13/04/2022		

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

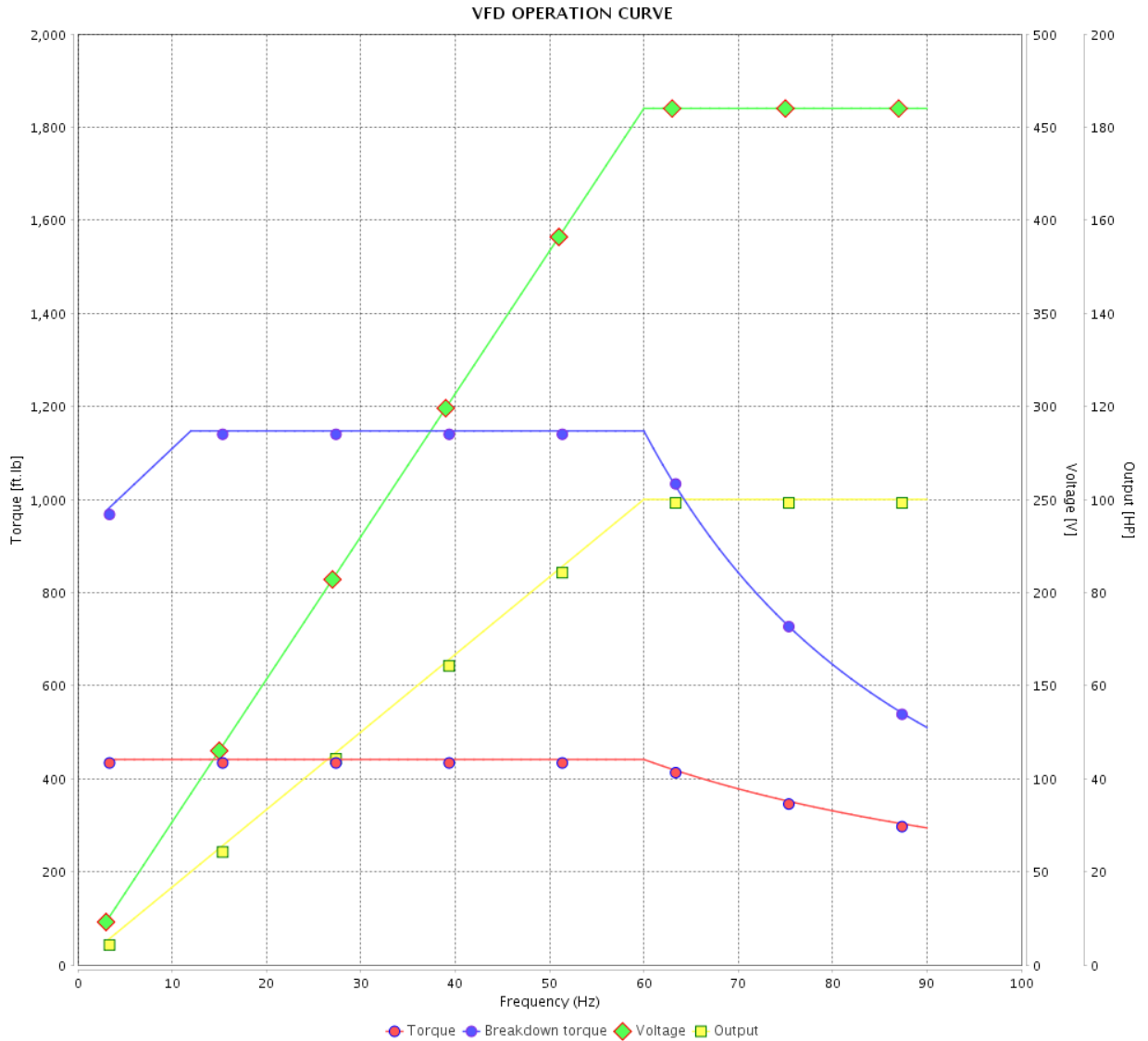


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 460 V 60 Hz 6P

Rated current : 121 A  
 LRC : 6.8  
 Rated torque : 441 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 1190 rpm

Moment of inertia (J) : 87.3 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 19 / 22
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



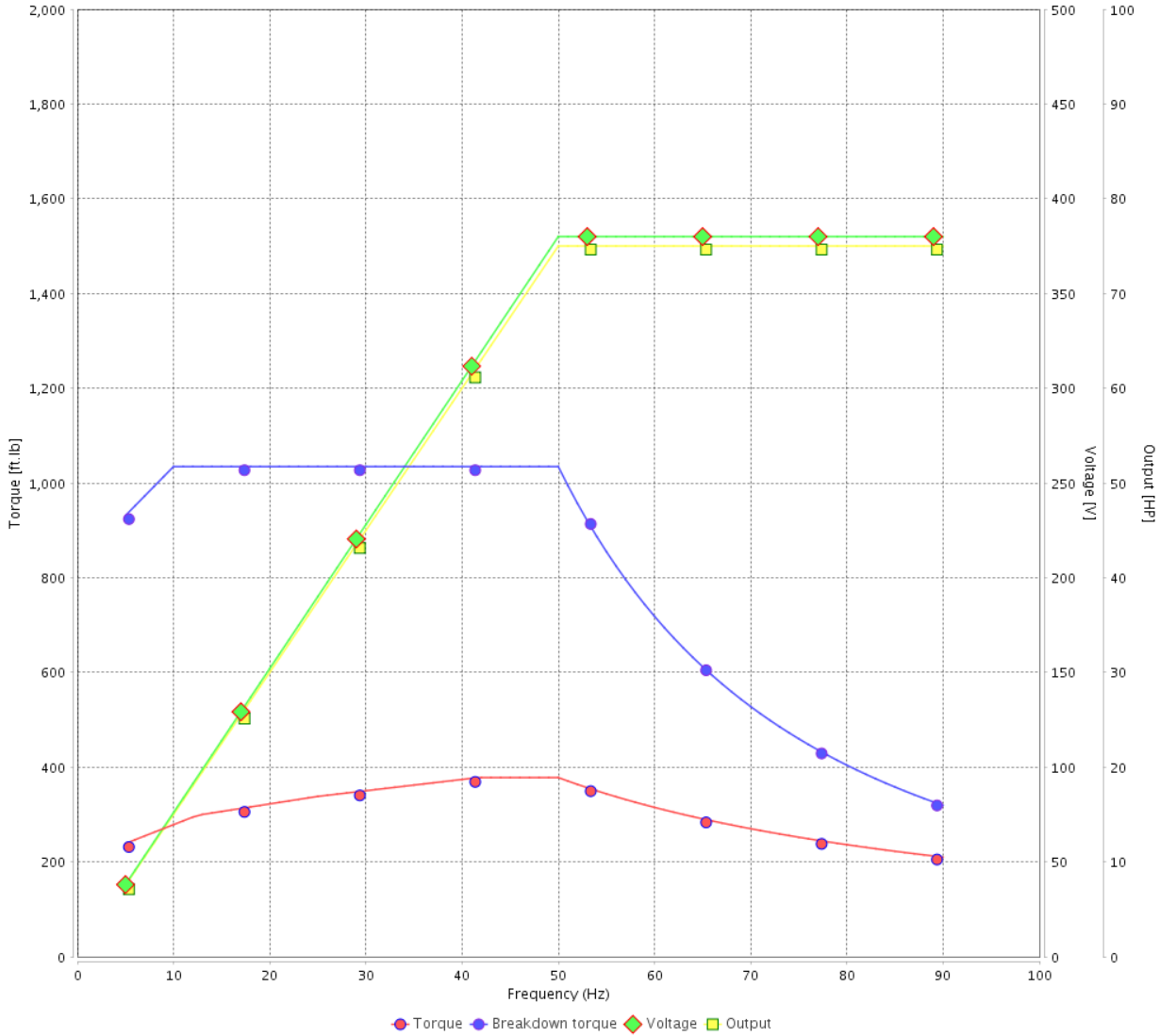
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 110 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 398 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			20 / 22	
Date	13/04/2022			

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

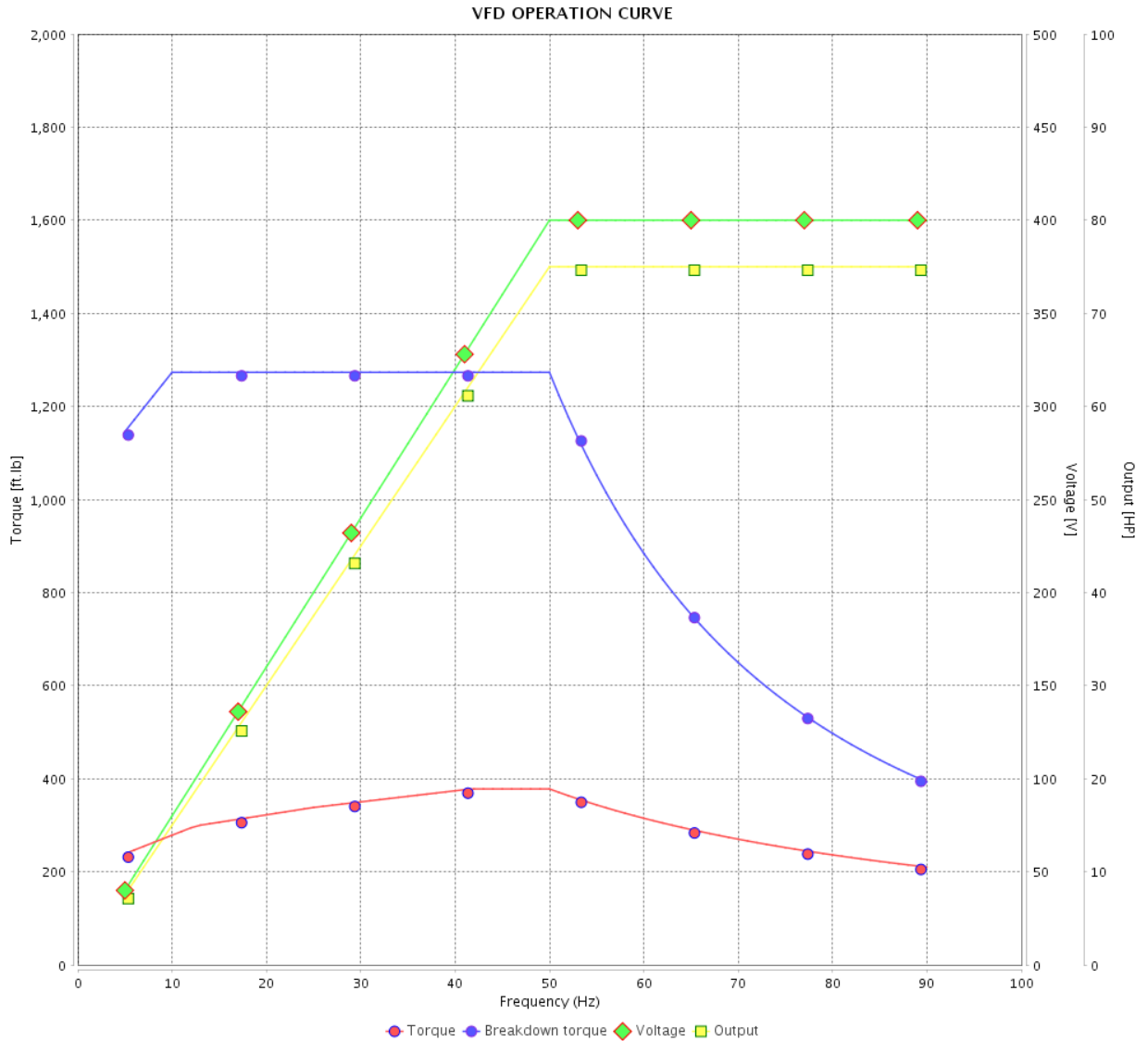


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T



Performance : 400 V 50 Hz 6P IE3

Rated current : 108 A  
 LRC : 7.8  
 Rated torque : 398 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 320 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 87.3 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 21 / 22	Revision
Checked by				
Date	13/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



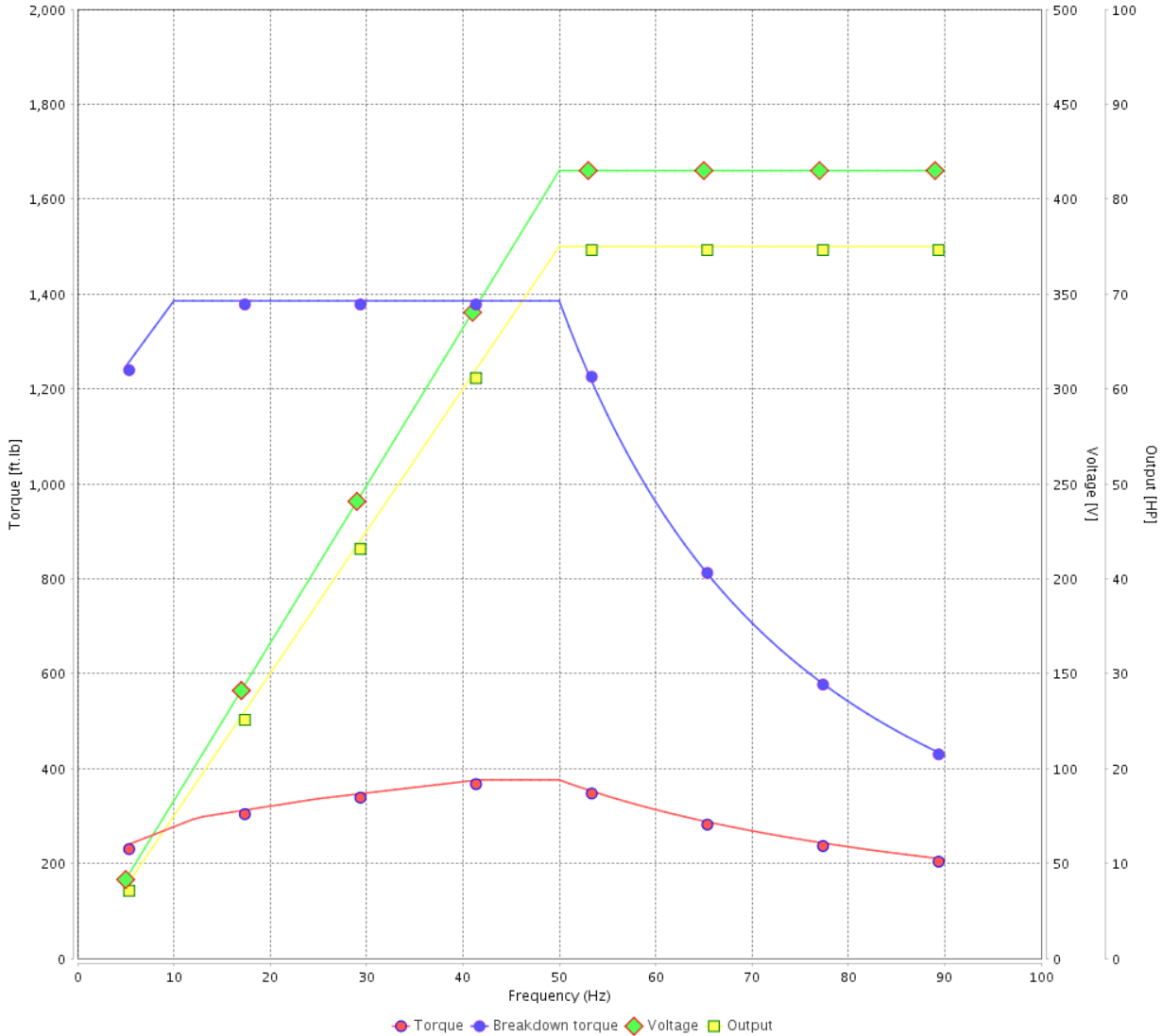
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11496971

Catalog # : 10012XT3G444T

VFD OPERATION CURVE

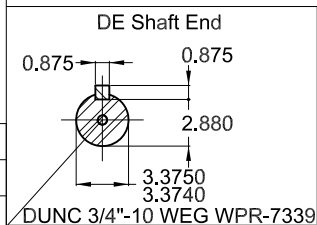
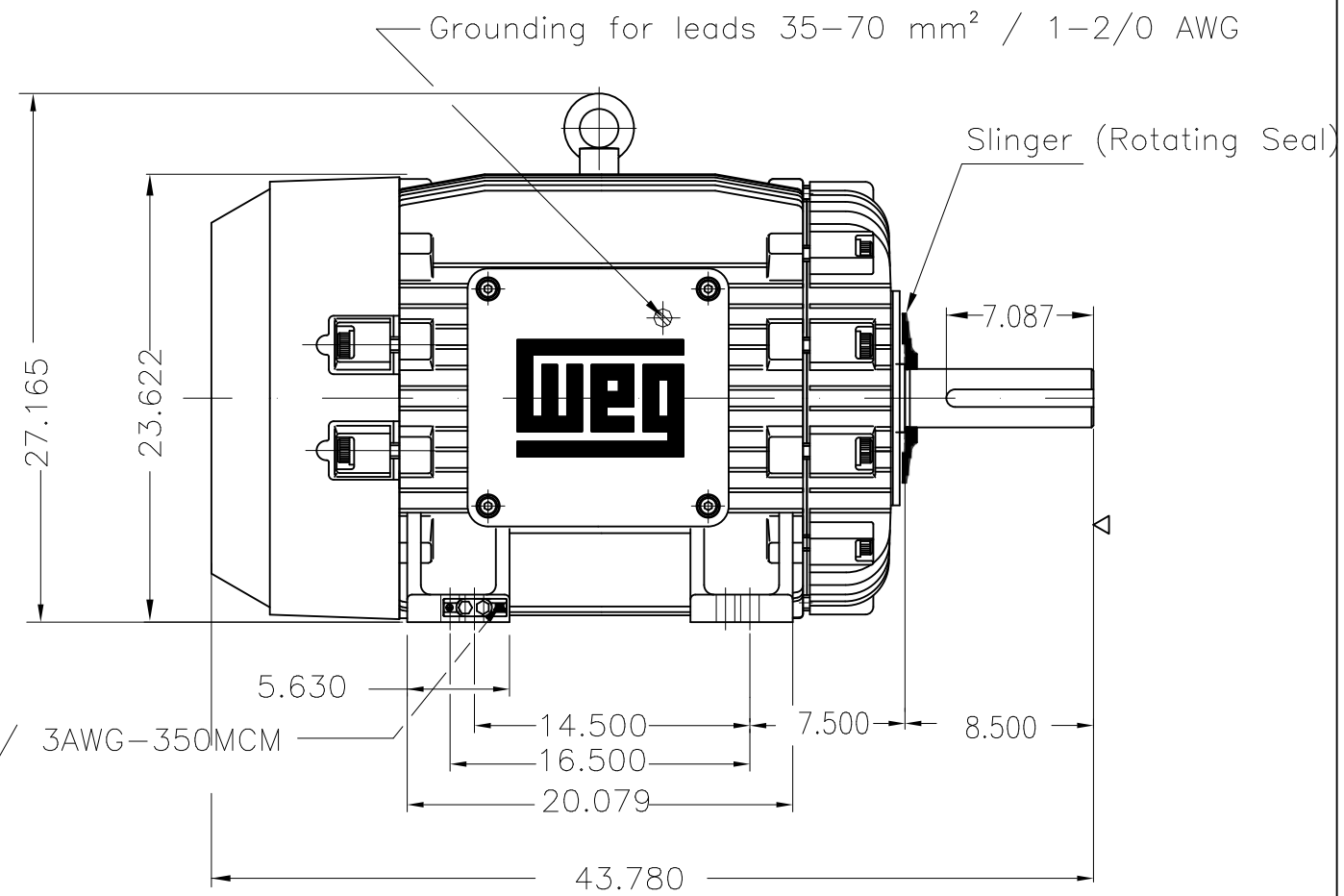
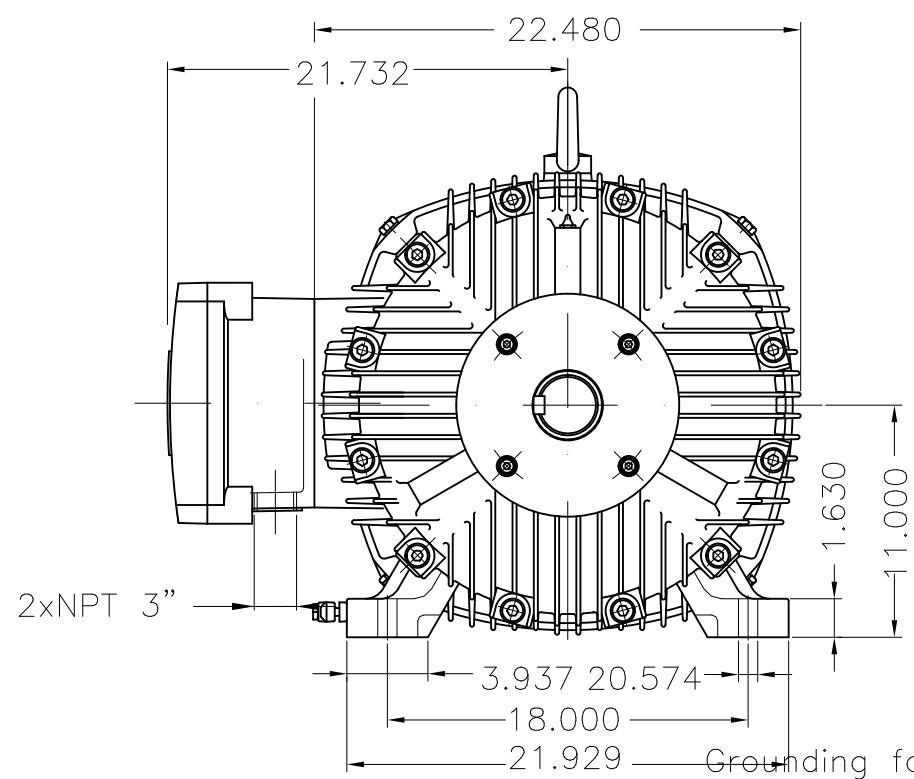


Performance : 415 V 50 Hz 6P IE3

Rated current : 105 A  
 LRC : 8.3  
 Rated torque : 396 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 350 %  
 Rated speed : 995 rpm

Moment of inertia (J) : 87.3 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 22 / 22	Revision
Checked by				
Date	13/04/2022			



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

100 HP 06 Poles 60 Hz

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 444/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW  
 WDD



SHEET 1 / 1