

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12757940		
		Catalog # :	00312ET3E213JP-W22		
Frame	: 213/5JP	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>	: 121 lb		
Protection degree	: IP55	Moment of inertia (J)	: 1.20 sq.ft.lb		
Design	: B				
Output [HP]	3	3	3	3	
Poles	6	6	6	6	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	8.83/4.41	5.09	4.92	4.87	
L. R. Amperes [A]	61.8/30.9	29.5	31.5	33.1	
LRC [A]	7.0x(Code K)	5.8x(Code H)	6.4x(Code J)	6.8x(Code J)	
No load current [A]	5.50/2.75	2.72	2.91	3.05	
Rated speed [RPM]	1175	965	970	970	
Slip [%]	2.08	3.50	3.00	3.00	
Rated torque [ft.lb]	13.4	16.3	16.2	16.2	
Locked rotor torque [%]	200	170	200	220	
Breakdown torque [%]	280	210	240	270	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	104s (cold) 58s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	
Noise level <sup>2</sup>	55.0 dB(A)	53.0 dB(A)	53.0 dB(A)	53.0 dB(A)	
Efficiency (%)	25%	85.4	88.0	86.1	86.1
	50%	86.5	87.5	86.5	86.5
	75%	88.5	88.5	88.5	88.5
	100%	89.5	87.5	88.5	88.5
Power Factor	25%	0.28	0.33	0.30	0.28
	50%	0.50	0.57	0.53	0.50
	75%	0.63	0.70	0.66	0.64
	100%	0.70	0.75	0.73	0.71
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6207 ZZ	Foundation loads			
Sealing	: V'Ring V'Ring	Max. traction	: 186 lb		
Lubrication interval	: 20000 h 40000 h	Max. compression	: 308 lb		
Lubricant amount	: 13 g 0 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 9.76A SF 1.15 SFA 11.2A					
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



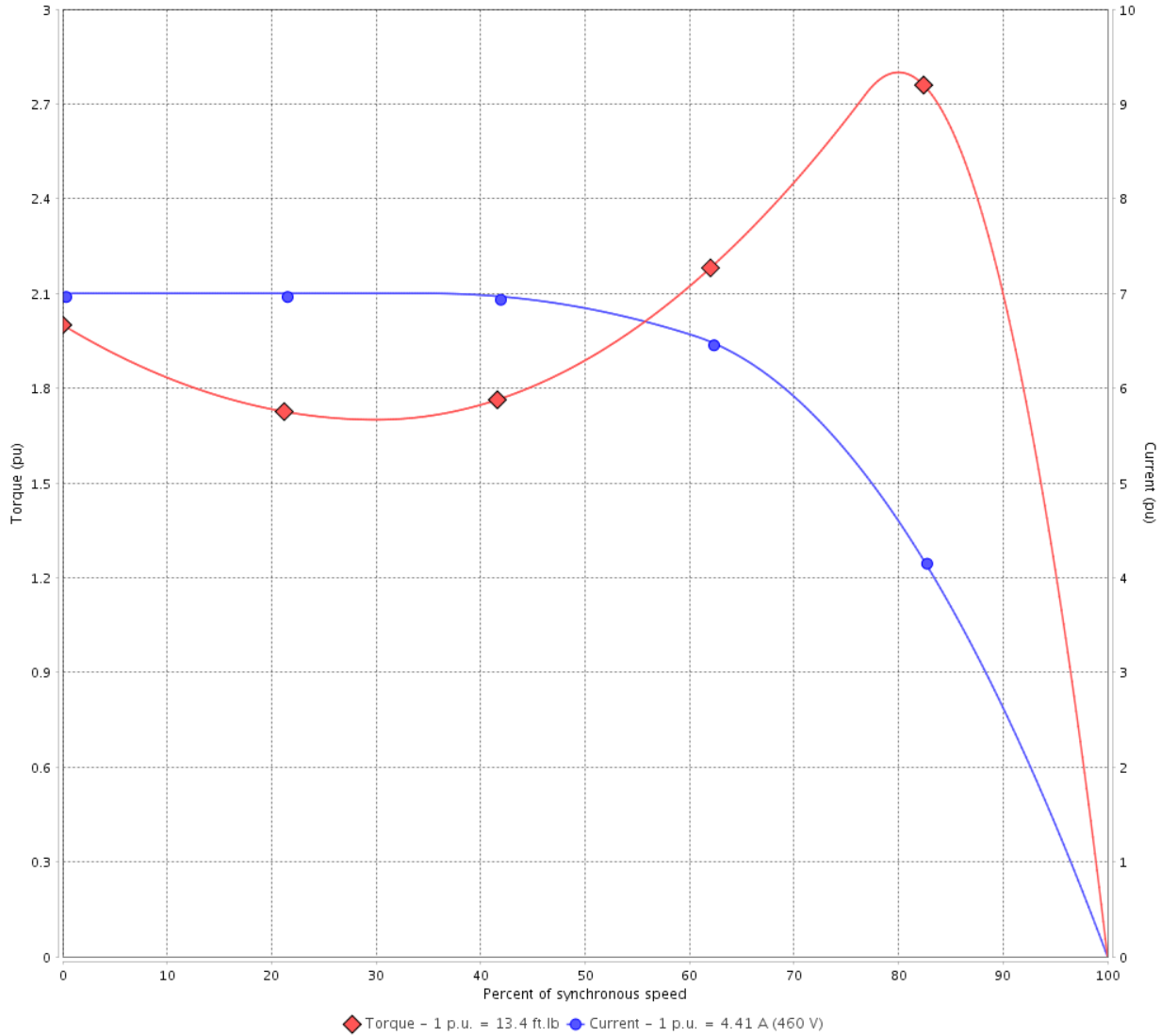
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 6P

Rated current	: 8.83/4.41 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 13.4 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Locked rotor time : 104s (cold) 58s (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



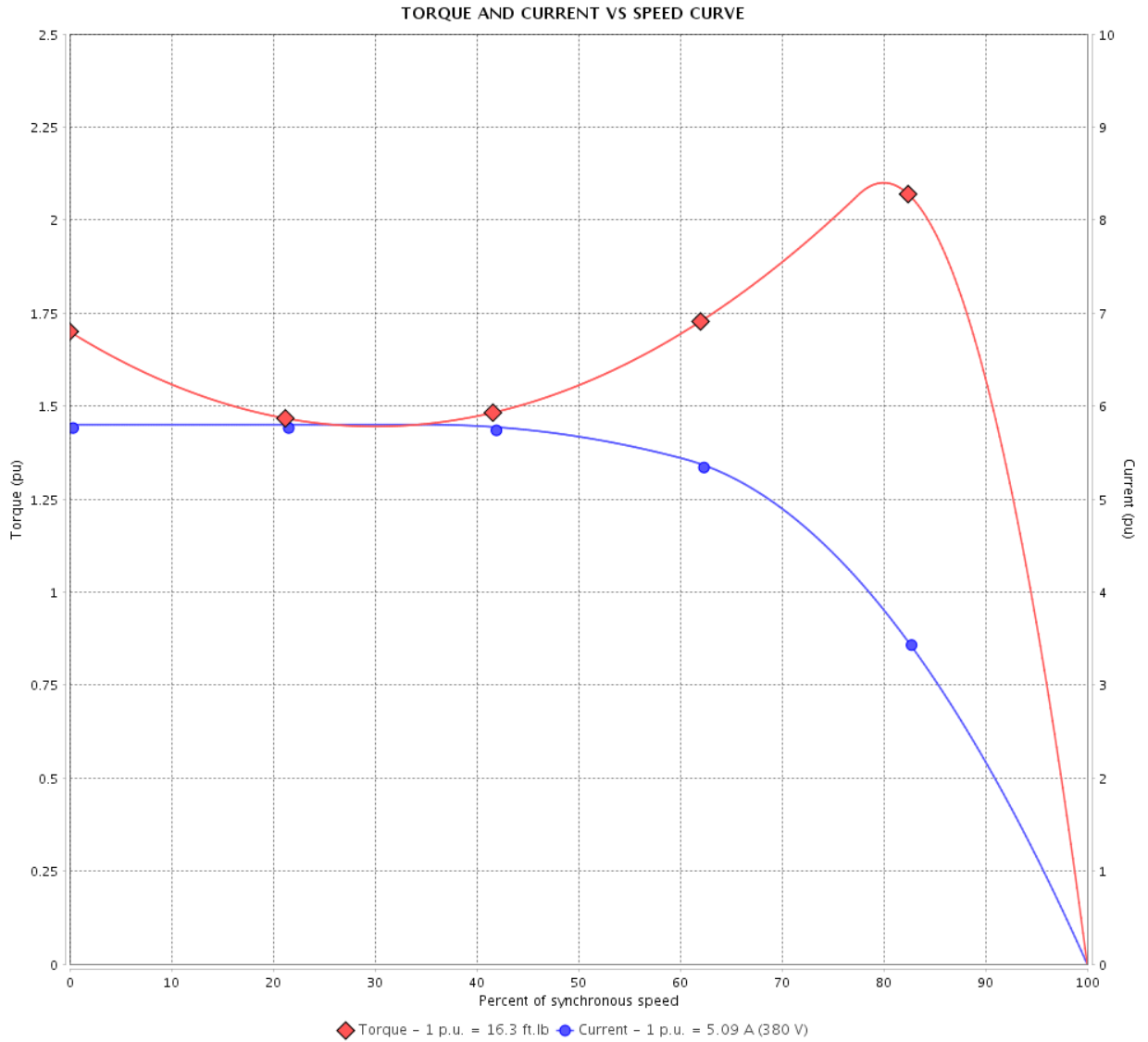
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 380 V 50 Hz 6P IE4

Rated current	: 5.09 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 16.3 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 965 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (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



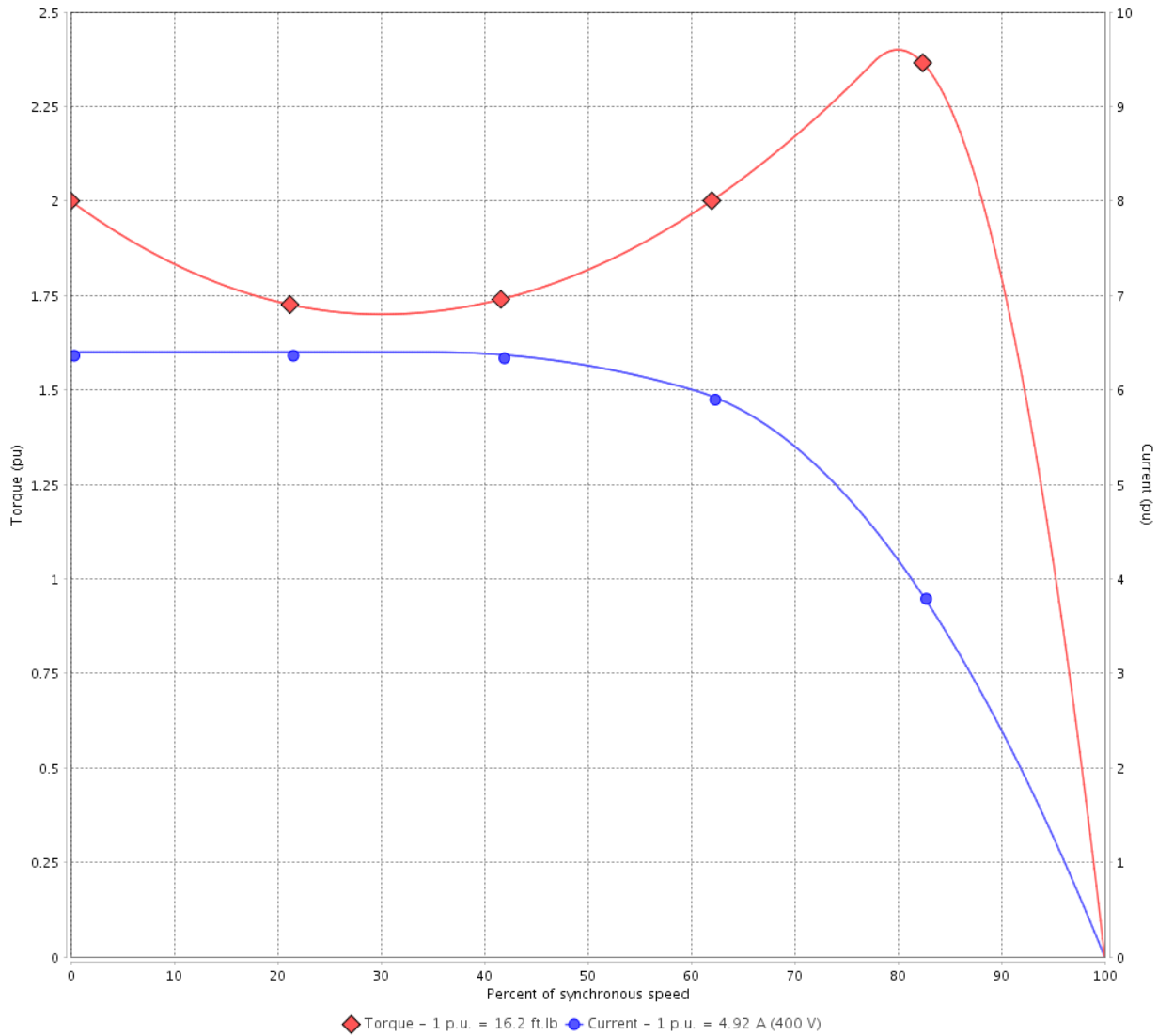
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE4

Rated current	: 4.92 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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

# TORQUE AND CURRENT VS SPEED CURVE



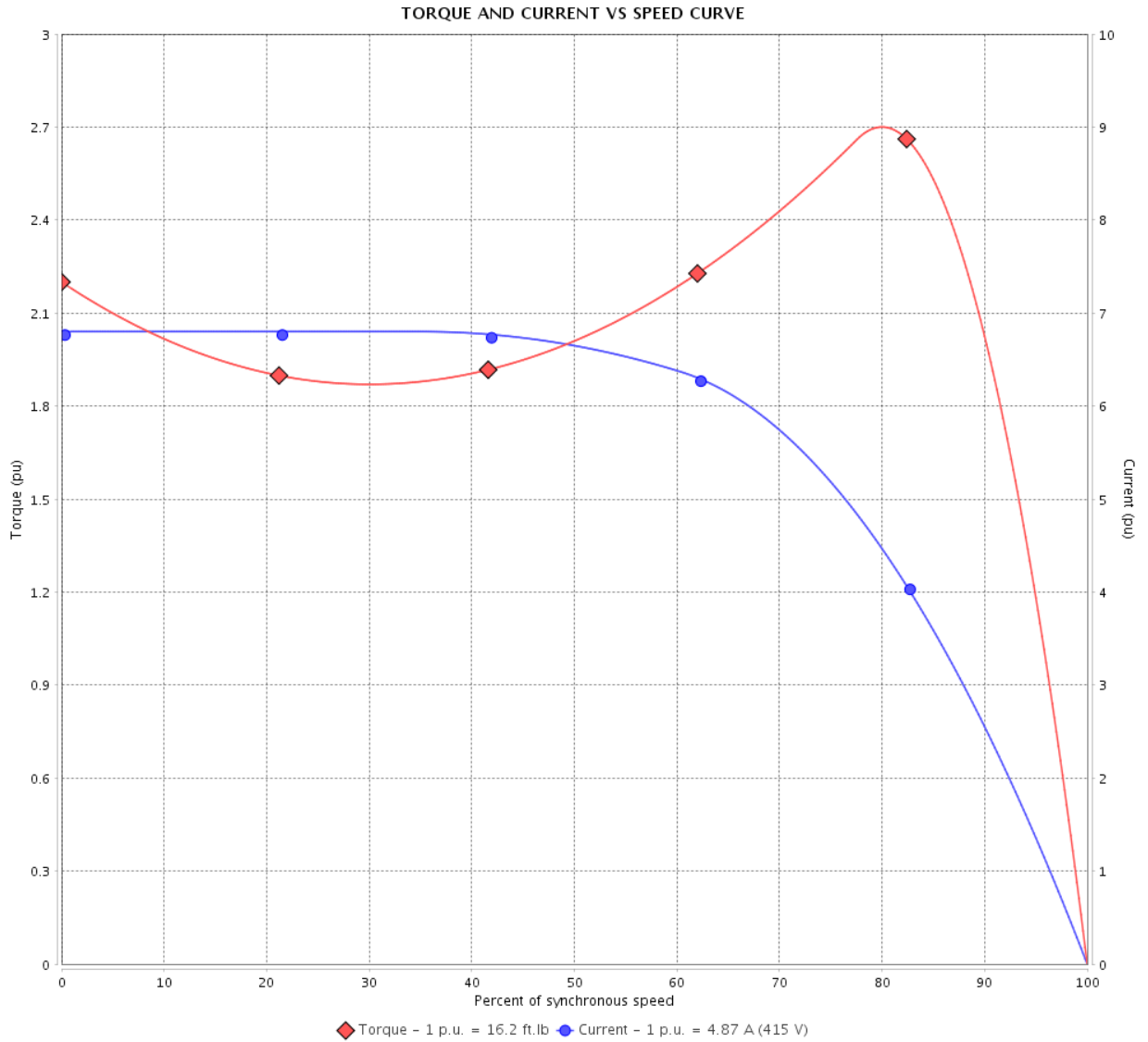
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 415 V 50 Hz 6P IE4

Rated current	: 4.87 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 72s (cold) 40s (hot)

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

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



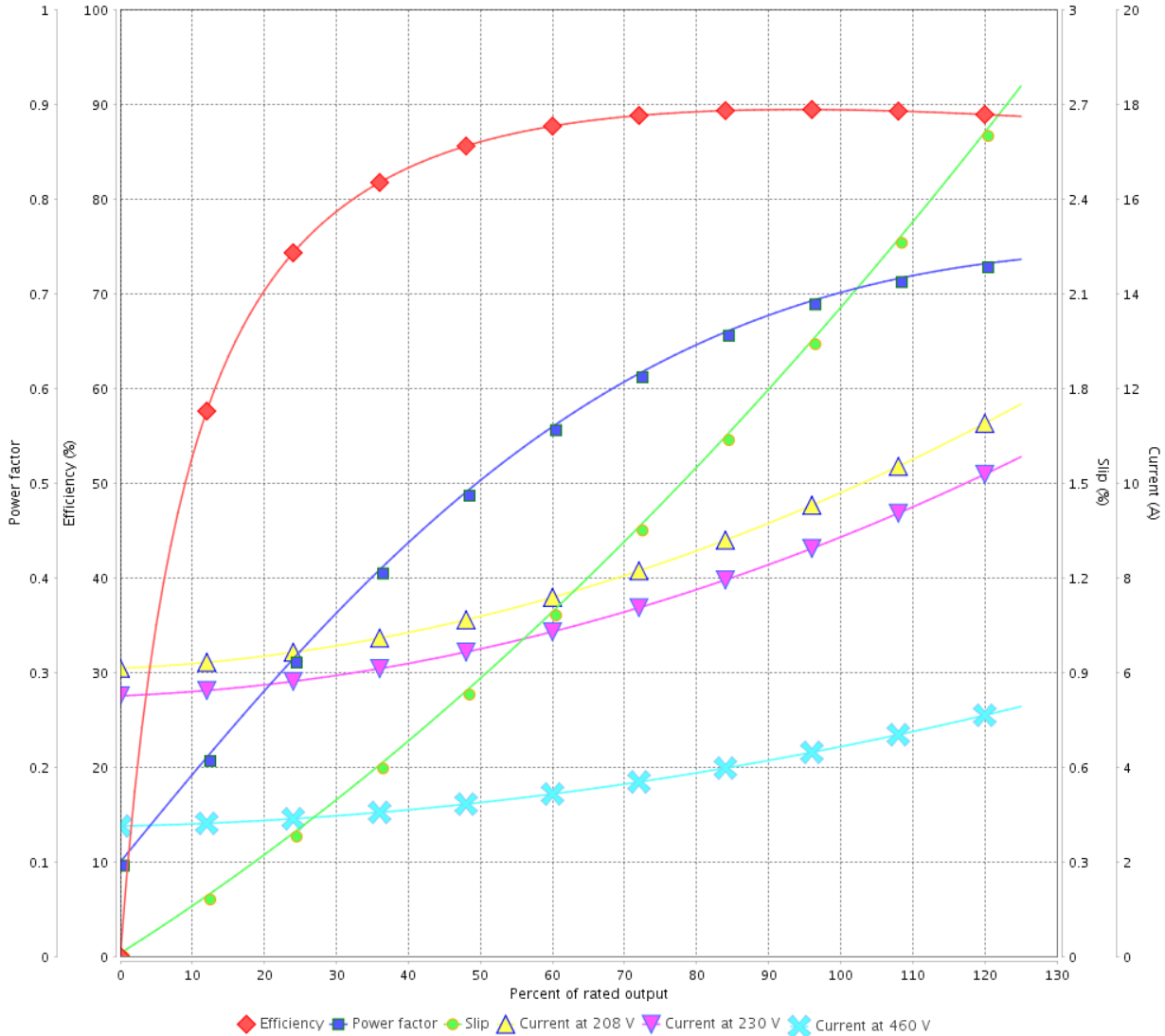
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22

LOAD PERFORMANCE CURVE



Performance : 230/460 V 60 Hz 6P

Rated current : 8.83/4.41 A  
 LRC : 7.0  
 Rated torque : 13.4 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 280 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 1.20 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

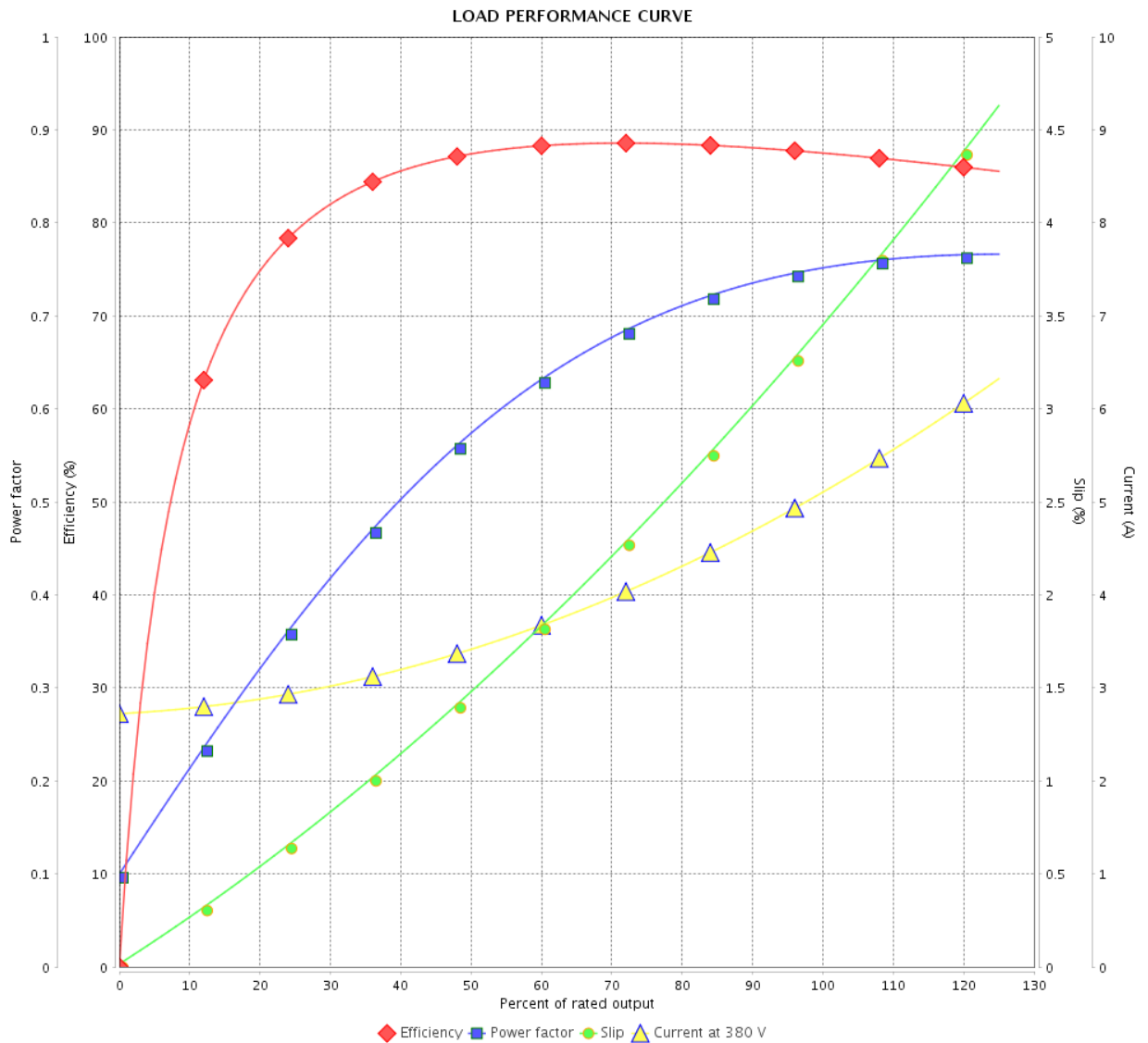


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 380 V 50 Hz 6P IE4

Rated current : 5.09 A  
 LRC : 5.8  
 Rated torque : 16.3 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 210 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 1.20 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		7 / 21		
Date		14/04/2022		

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



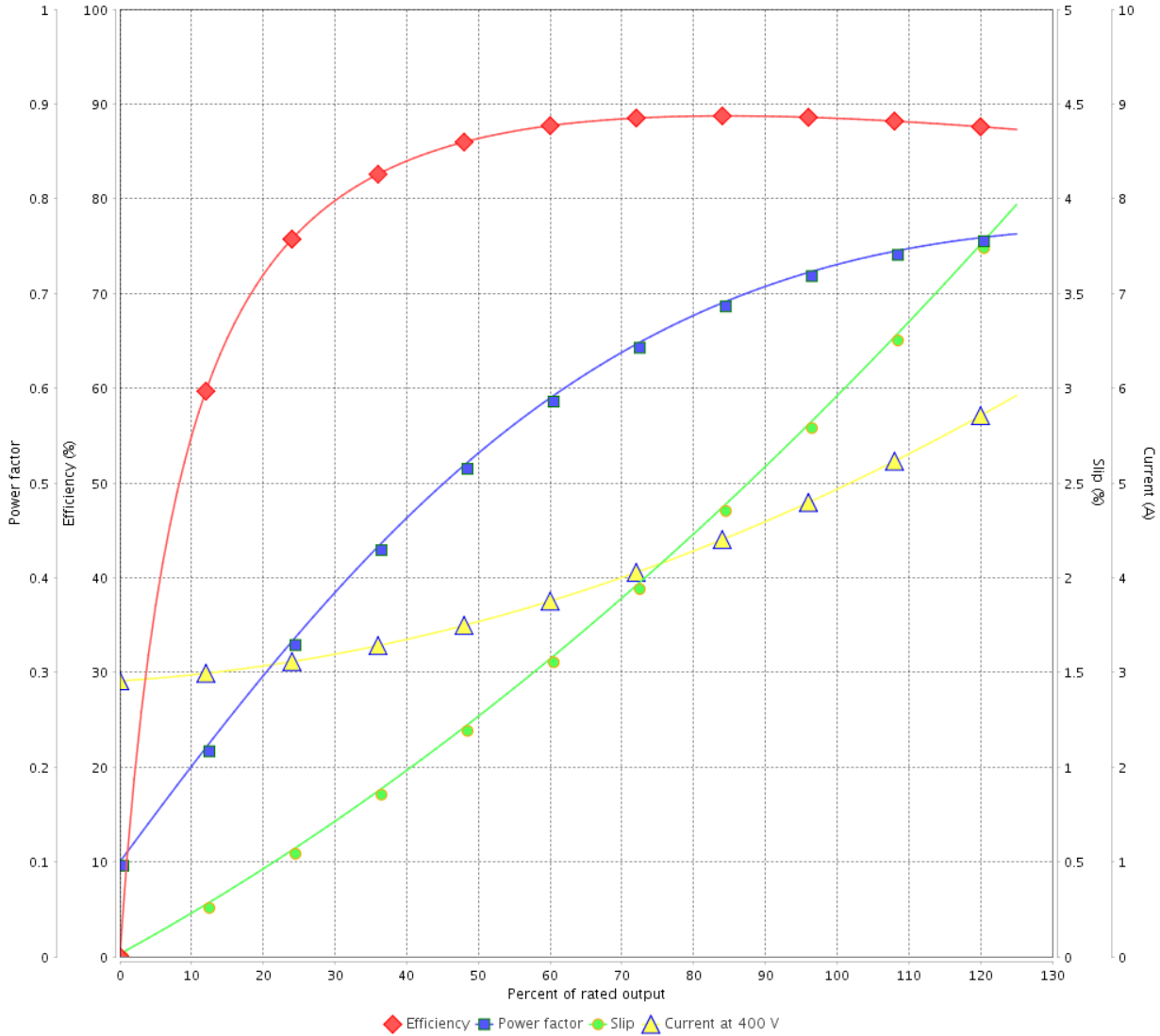
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 6P IE4

Rated current : 4.92 A  
 LRC : 6.4  
 Rated torque : 16.2 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 240 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 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				
Date	14/04/2022			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

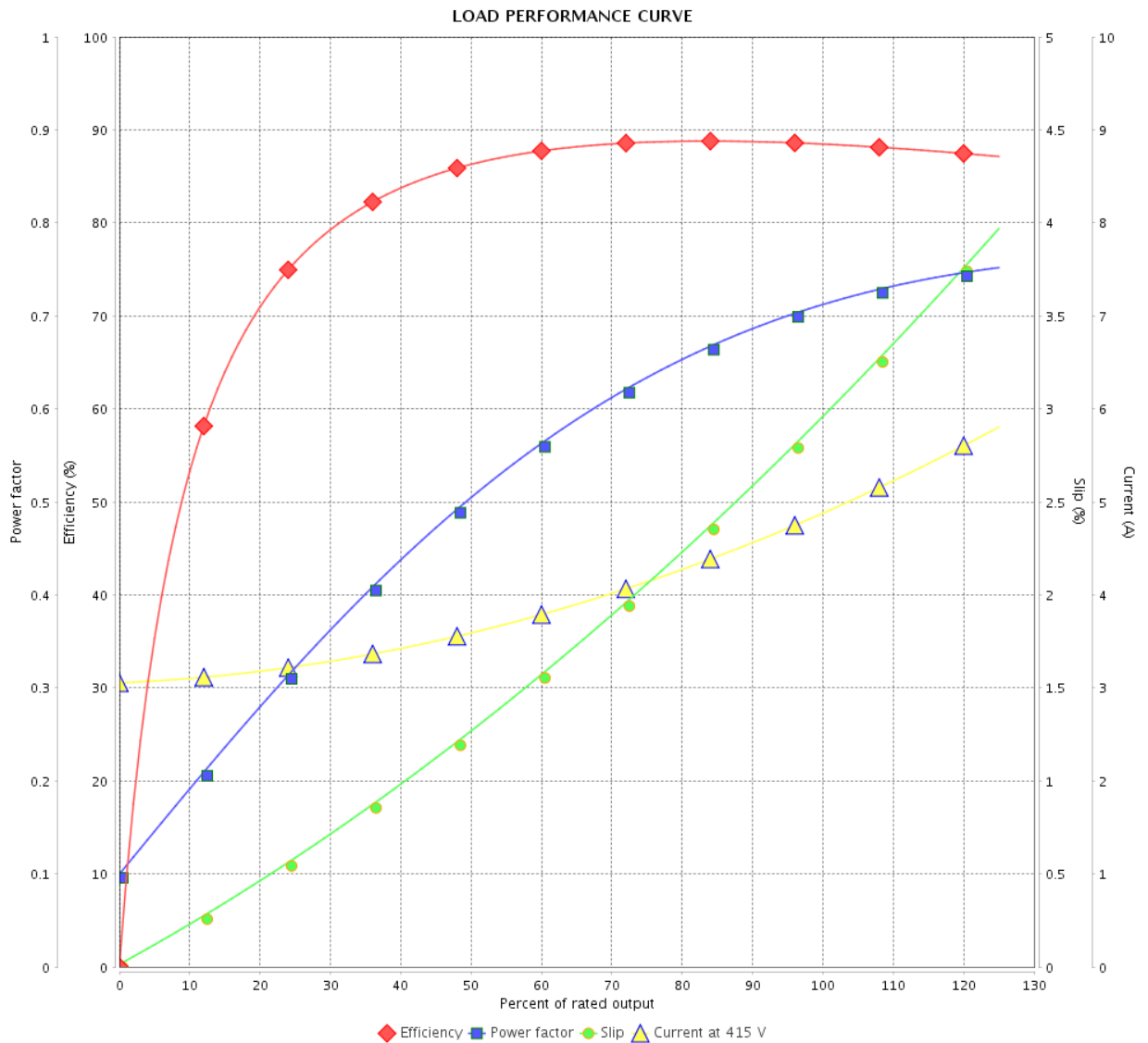


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 415 V 50 Hz 6P IE4

Rated current : 4.87 A  
 LRC : 6.8  
 Rated torque : 16.2 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 270 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 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 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12757940  
Catalog # : 00312ET3E213JP-W22

Performance : 230/460 V 60 Hz 6P

Rated current	: 8.83/4.41 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 13.4 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.25
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Heating constant

Cooling constant

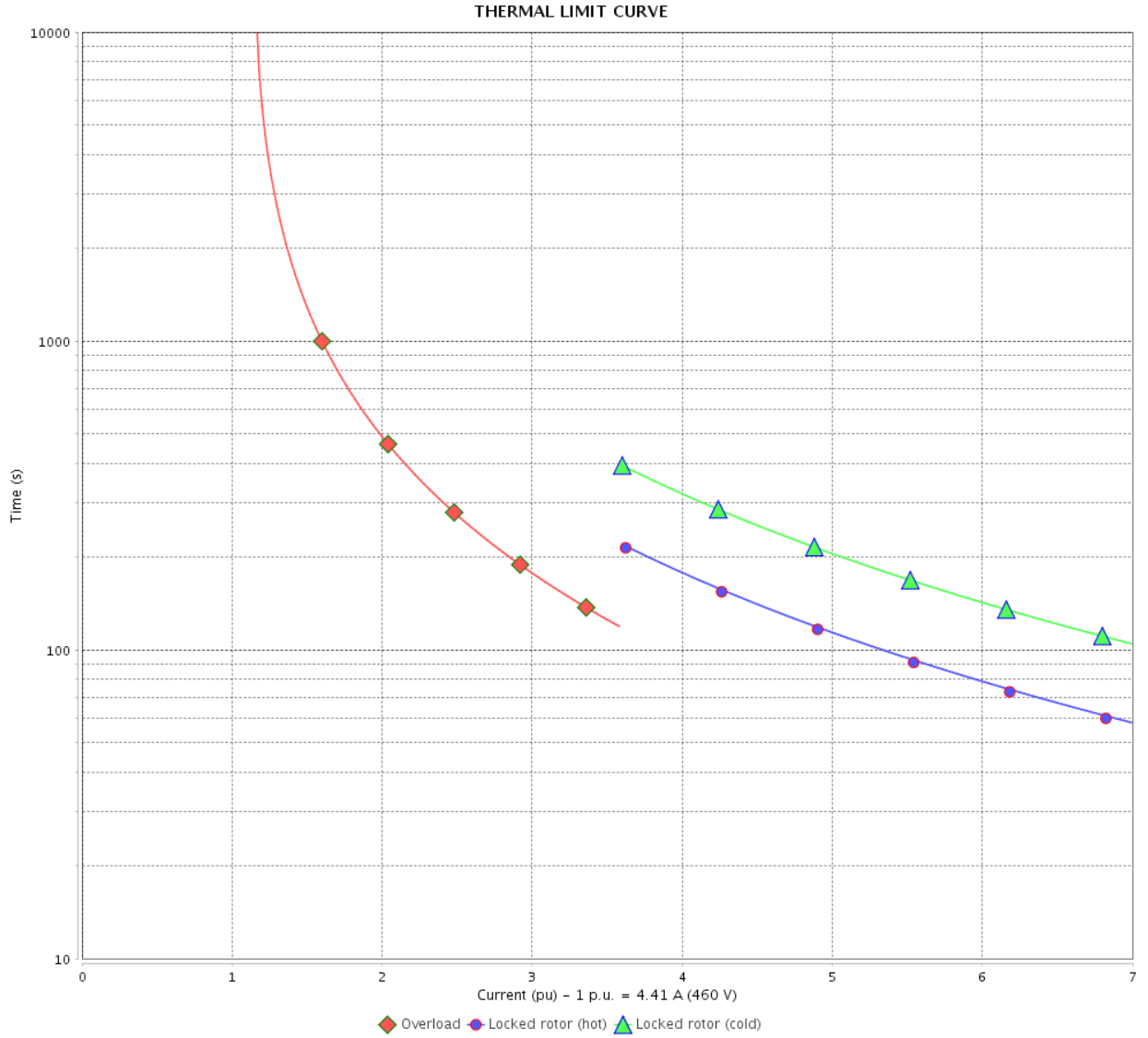
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		10 / 21	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12757940  
Catalog # : 00312ET3E213JP-W22

Performance : 380 V 50 Hz 6P IE4

Rated current	: 5.09 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 16.3 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 965 rpm	Design	: B

Heating constant

Cooling constant

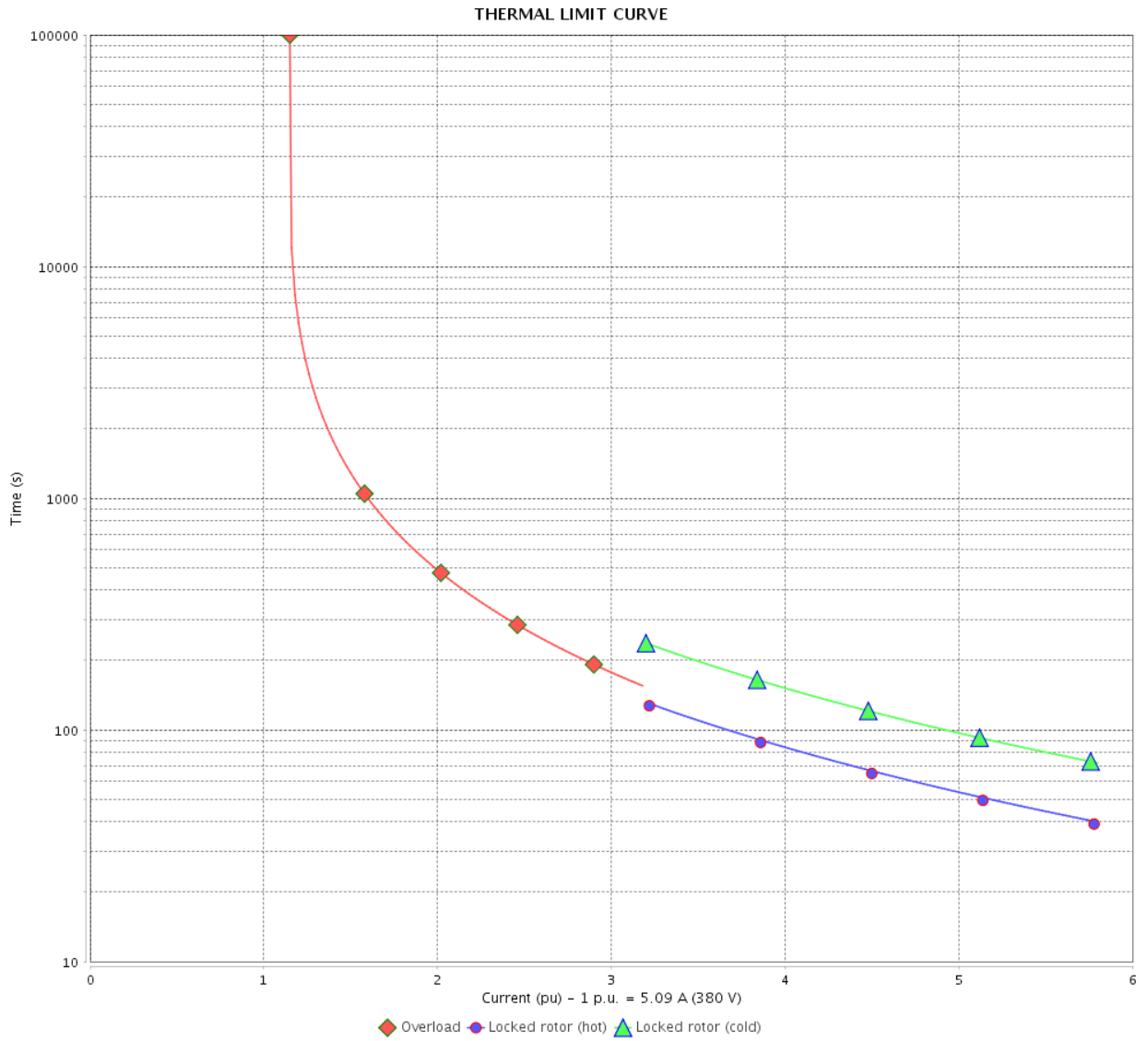
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		12 / 21	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12757940  
Catalog # : 00312ET3E213JP-W22

Performance : 400 V 50 Hz 6P IE4

Rated current	: 4.92 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.4	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Heating constant

Cooling constant

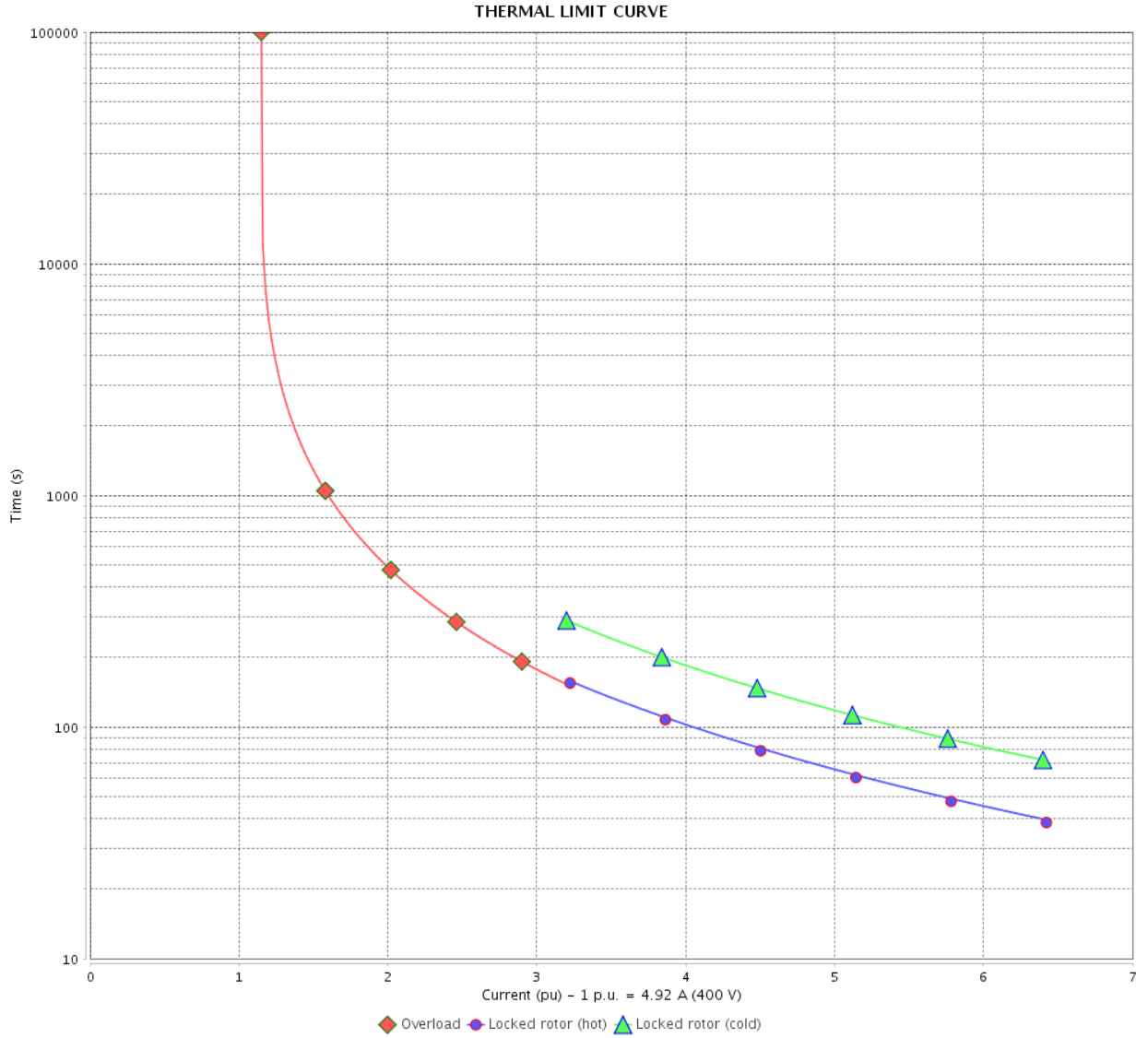
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		14 / 21	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		15 / 21		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12757940  
Catalog # : 00312ET3E213JP-W22

Performance : 415 V 50 Hz 6P IE4

Rated current	: 4.87 A	Moment of inertia (J)	: 1.20 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 16.2 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 970 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	

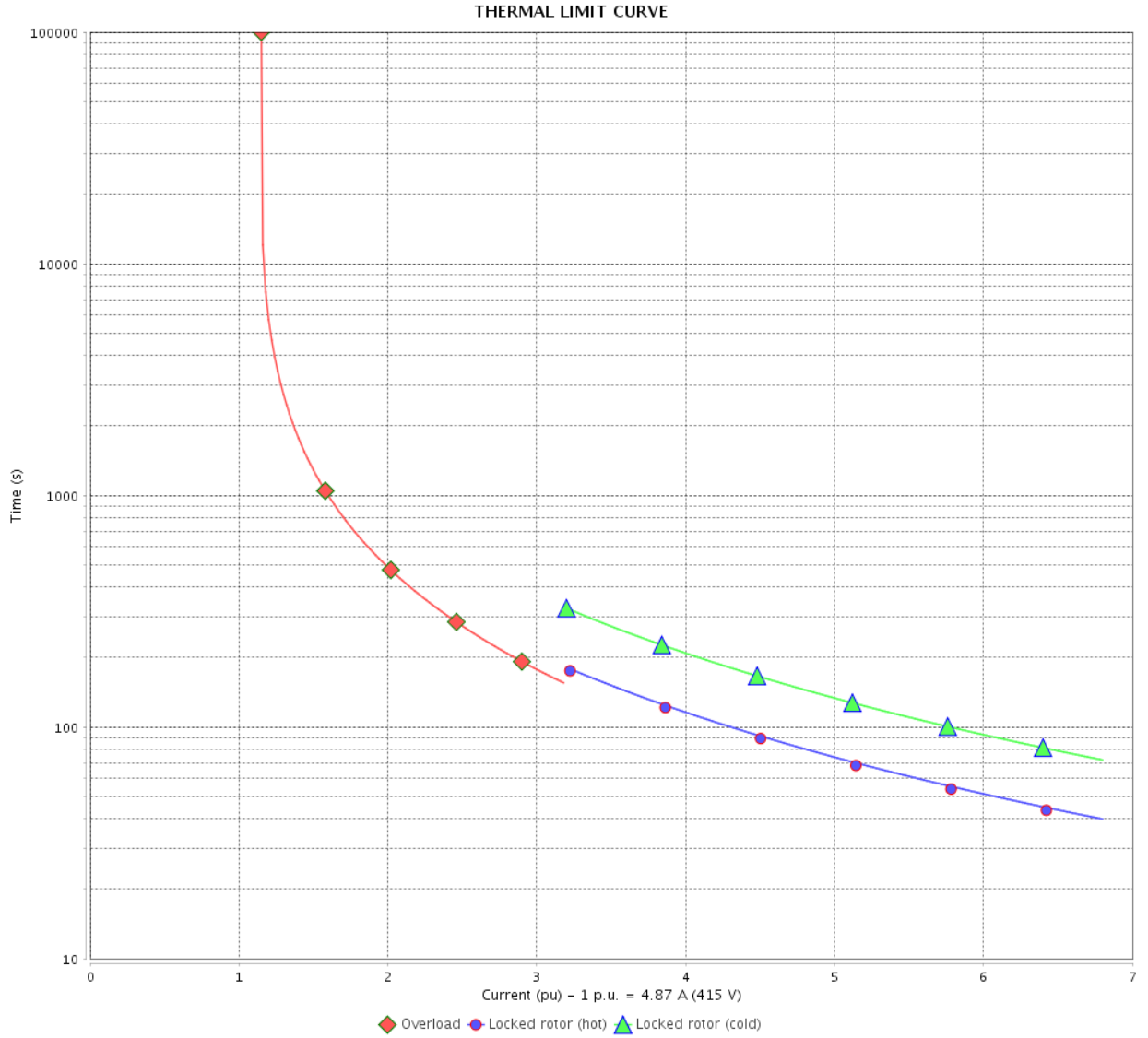


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

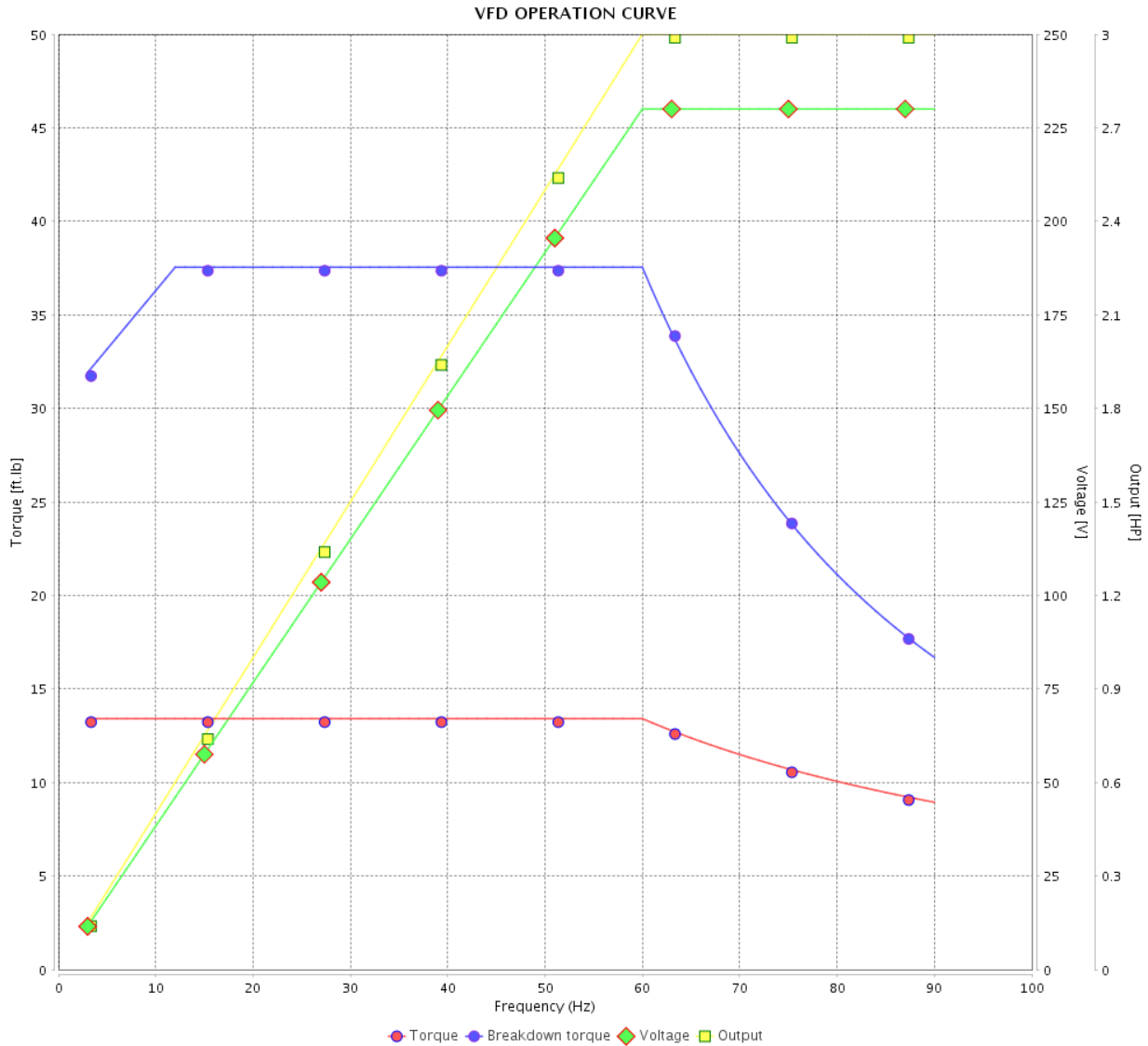


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 230/460 V 60 Hz 6P

Rated current : 8.83/4.41 A  
 LRC : 7.0  
 Rated torque : 13.4 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 280 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 1.20 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 18 / 21	Revision
Checked by				
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

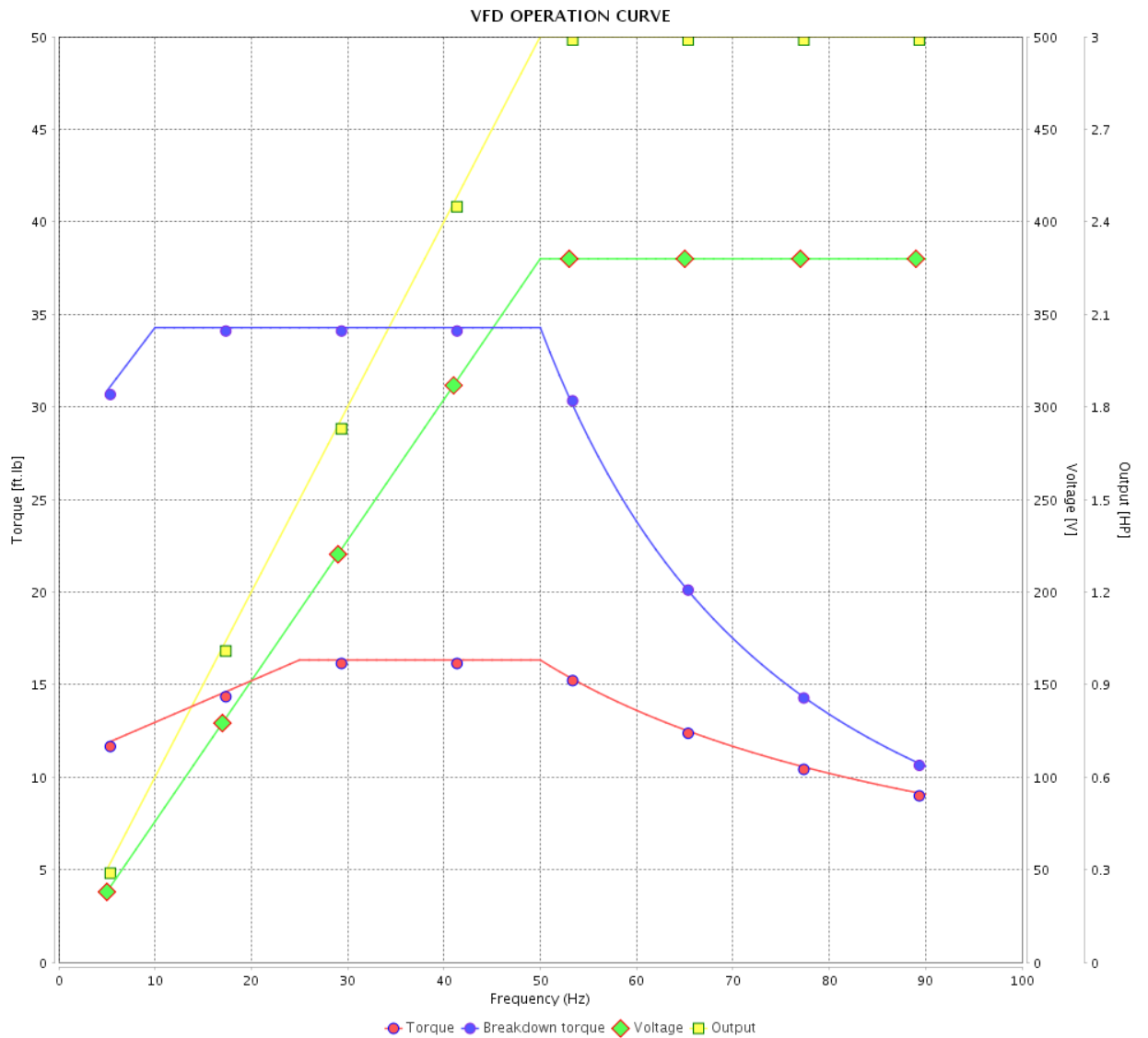


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 380 V 50 Hz 6P IE4

Rated current : 5.09 A  
 LRC : 5.8  
 Rated torque : 16.3 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 210 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 1.20 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			19 / 21	
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

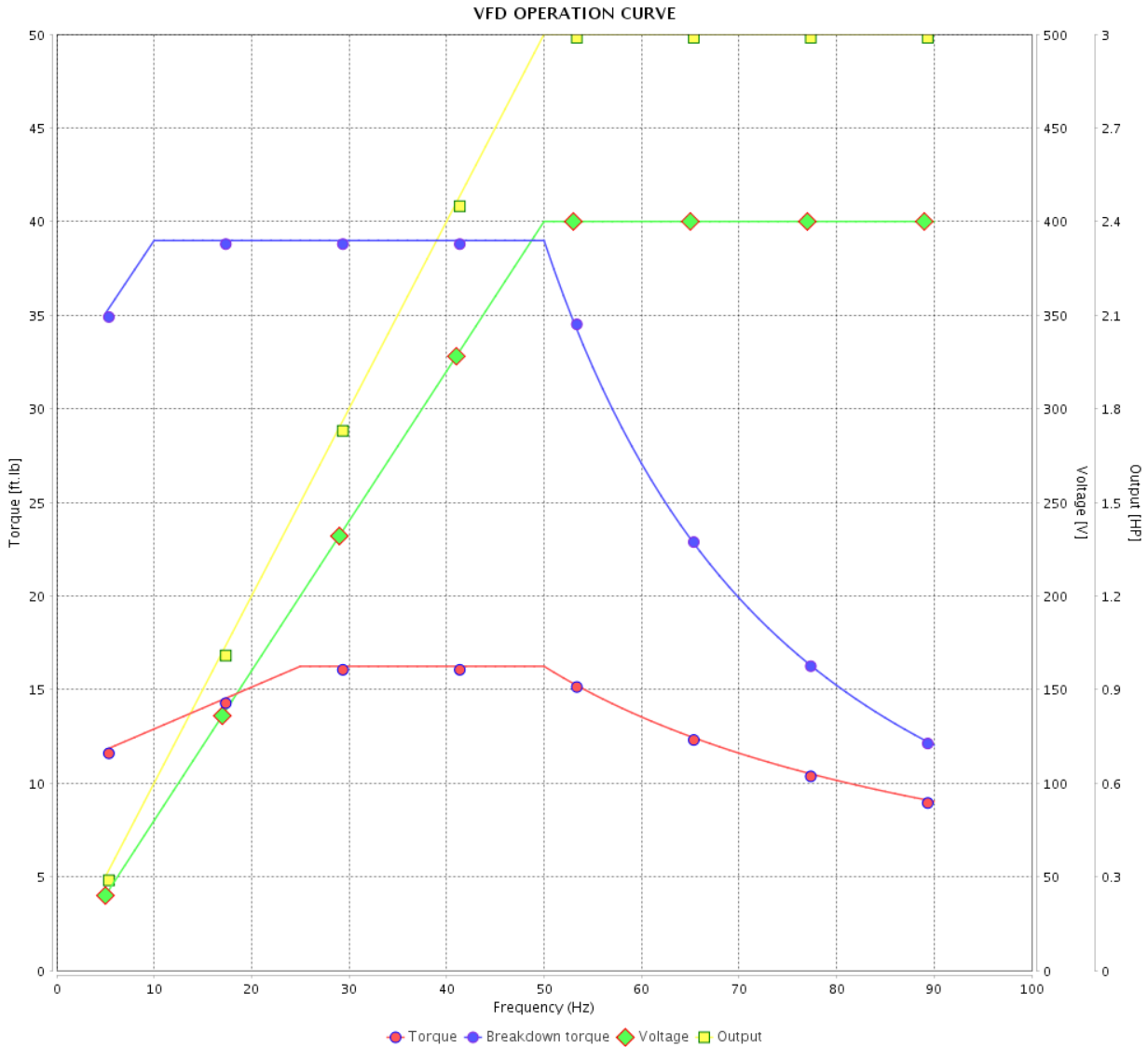


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 400 V 50 Hz 6P IE4

Rated current : 4.92 A  
 LRC : 6.4  
 Rated torque : 16.2 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 240 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 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 20 / 21	Revision
Checked by				
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

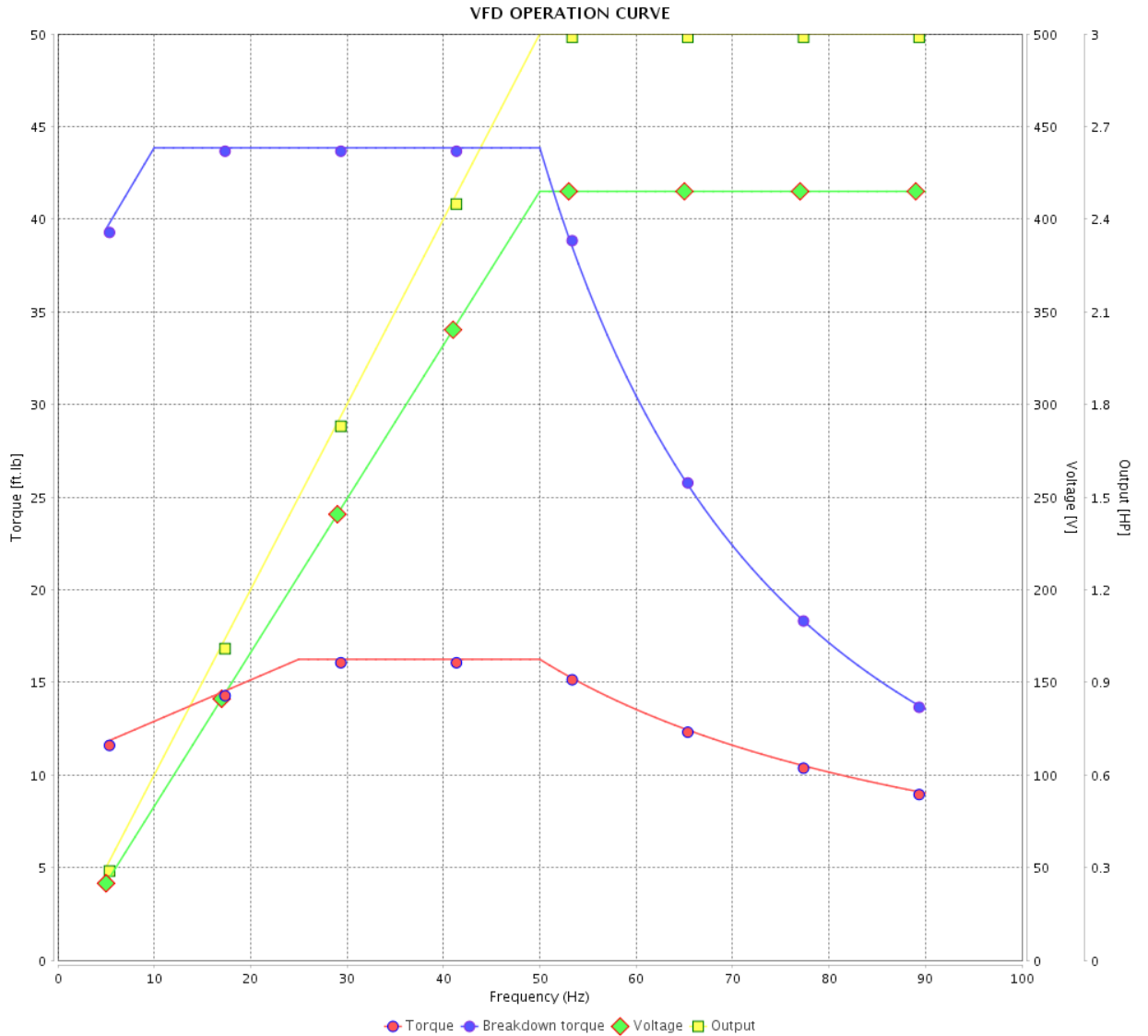


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12757940

Catalog # : 00312ET3E213JP-W22



Performance : 415 V 50 Hz 6P IE4

Rated current : 4.87 A  
 LRC : 6.8  
 Rated torque : 16.2 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 270 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 1.20 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

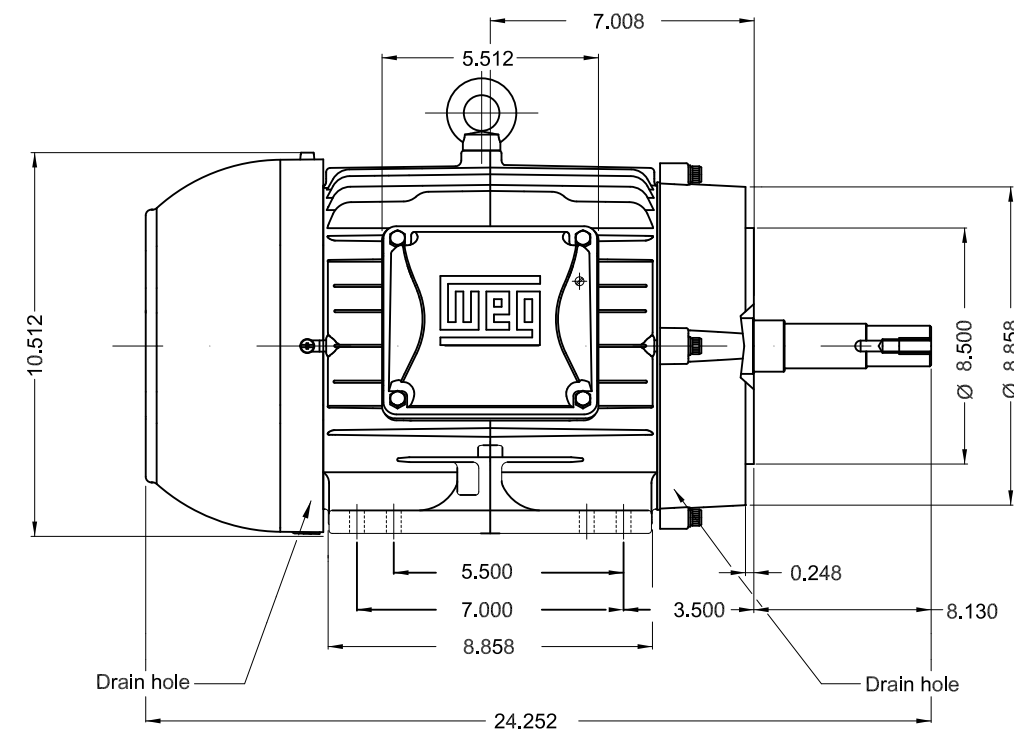
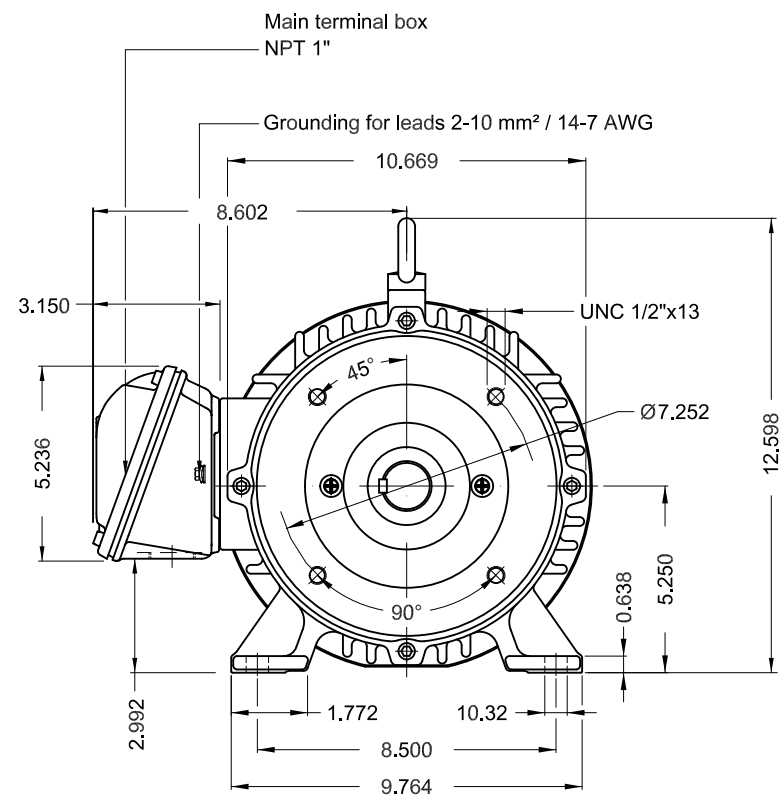
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 21 / 21	Revision
Checked by				
Date	14/04/2022			

1 2 3 4 5 6

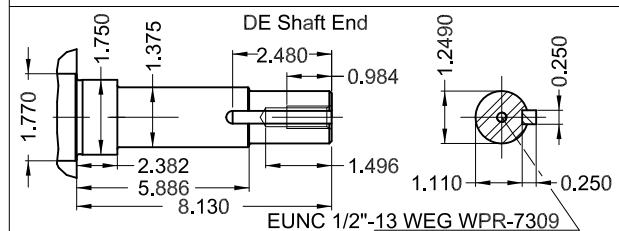
A

B

C



D



E

Color RAL 5009  
 Painting plan 207A  
 Mounting NEMA F-1  
 Mounting B34R(D)

3 HP 06 Poles 60 Hz

A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR JM/JP/JET PUMP W22 PREM. EFF.					
CHECKED		FRAME 213/5JP IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW  
 WDD

