

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	12376408	
		Catalog # :	00312ST3QIE213TC-W22	
Frame	: 213/5TC	Cooling method	: IC411 - TEFC	
Insulation class	: F	Mounting	: F-1	
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)	
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line	
Altitude	: 1000 m.a.s.l.	Approx. weight ²	: 176 lb	
Protection degree	: IP55	Moment of inertia (J)	: 1.20 sq.ft.lb	
Design	: B			
Output [HP]	3	3	3	
Poles	6	6	6	
Frequency [Hz]	60	50	50	
Rated voltage [V]	460	380	400	
Rated current [A]	4.41	5.09	4.92	
L. R. Amperes [A]	30.9	29.5	31.5	
LRC [A]	7.0x(Code K)	5.8x(Code H)	6.4x(Code J)	
No load current [A]	2.75	2.72	2.91	
Rated speed [RPM]	1175	965	970	
Slip [%]	2.08	3.50	3.00	
Rated torque [ft.lb]	13.4	16.3	16.2	
Locked rotor torque [%]	200	170	200	
Breakdown torque [%]	280	210	240	
Service factor	1.25	1.00	1.00	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	104s (cold) 58s (hot)	72s (cold) 40s (hot)	72s (cold) 40s (hot)	
Noise level ²	55.0 dB(A)	53.0 dB(A)	53.0 dB(A)	
Efficiency (%)	25%	85.4	88.0	86.1
	50%	86.5	87.5	86.5
	75%	88.5	88.5	88.5
	100%	89.5	87.5	88.5
Power Factor	25%	0.28	0.33	0.30
	50%	0.50	0.57	0.53
	75%	0.63	0.70	0.66
	100%	0.70	0.75	0.73
Bearing type	: <u>Drive end</u> 6308 C3 <u>Non drive end</u> 6207 C3	Foundation loads		
Sealing	: Inpro/Seal Inpro/Seal	Max. traction	: 159 lb	
Lubrication interval	: 20000 h 20000 h	Max. compression	: 335 lb	
Lubricant amount	: 11 g 7 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	
Date	14/04/2022		Revision	
			1 / 21	

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



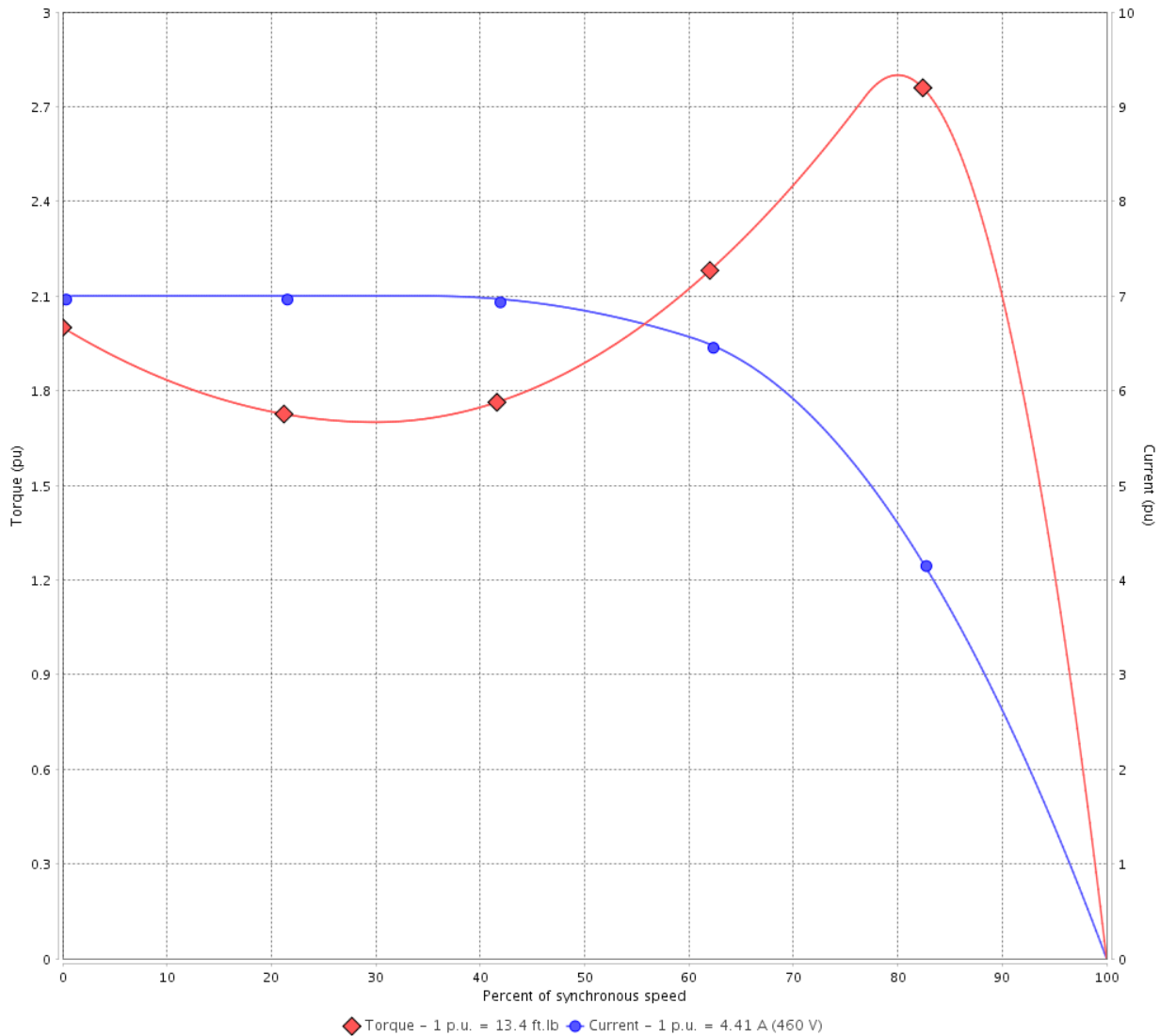
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 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		Revision
Checked by		2 / 21		
Date	14/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



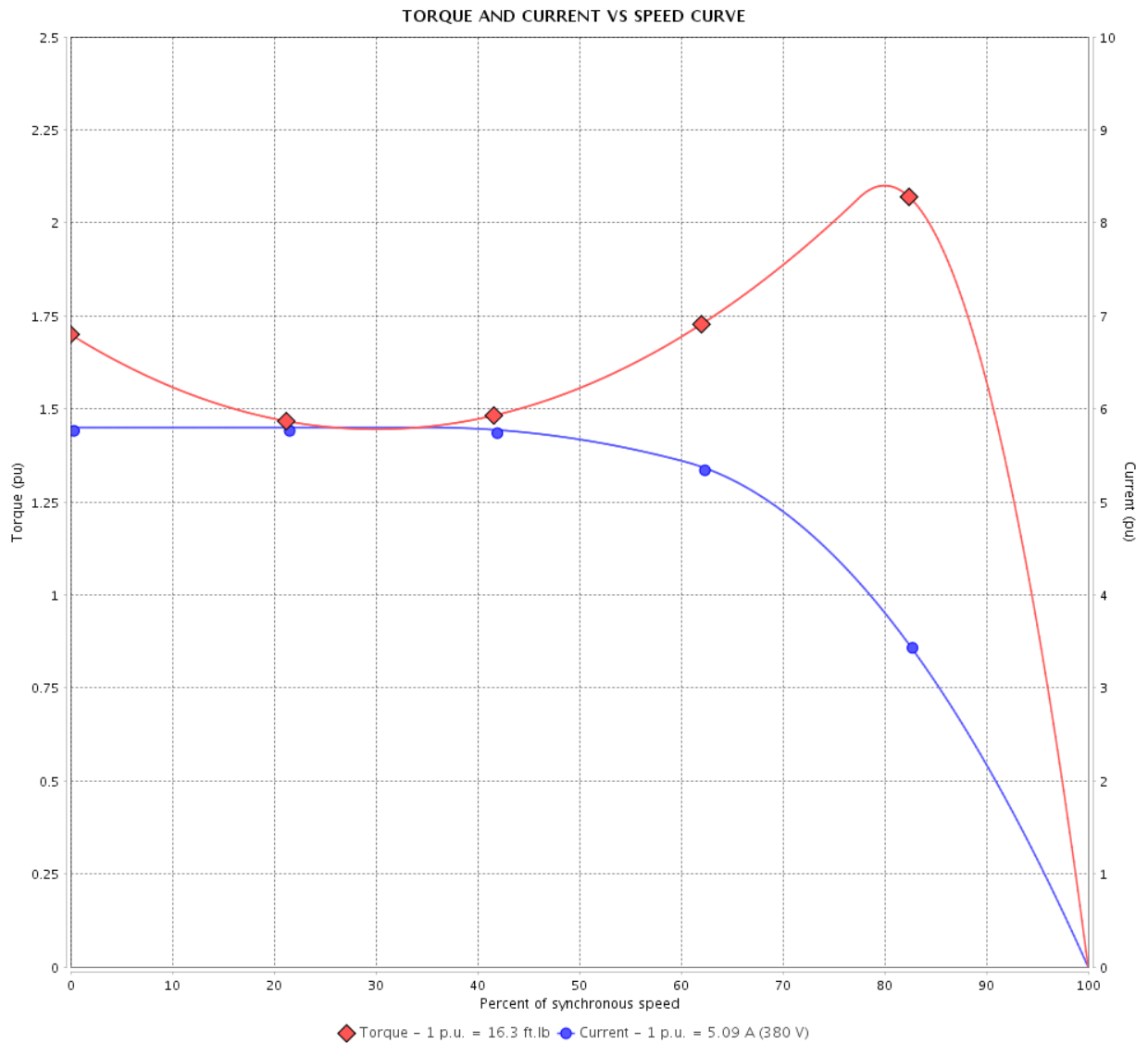
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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



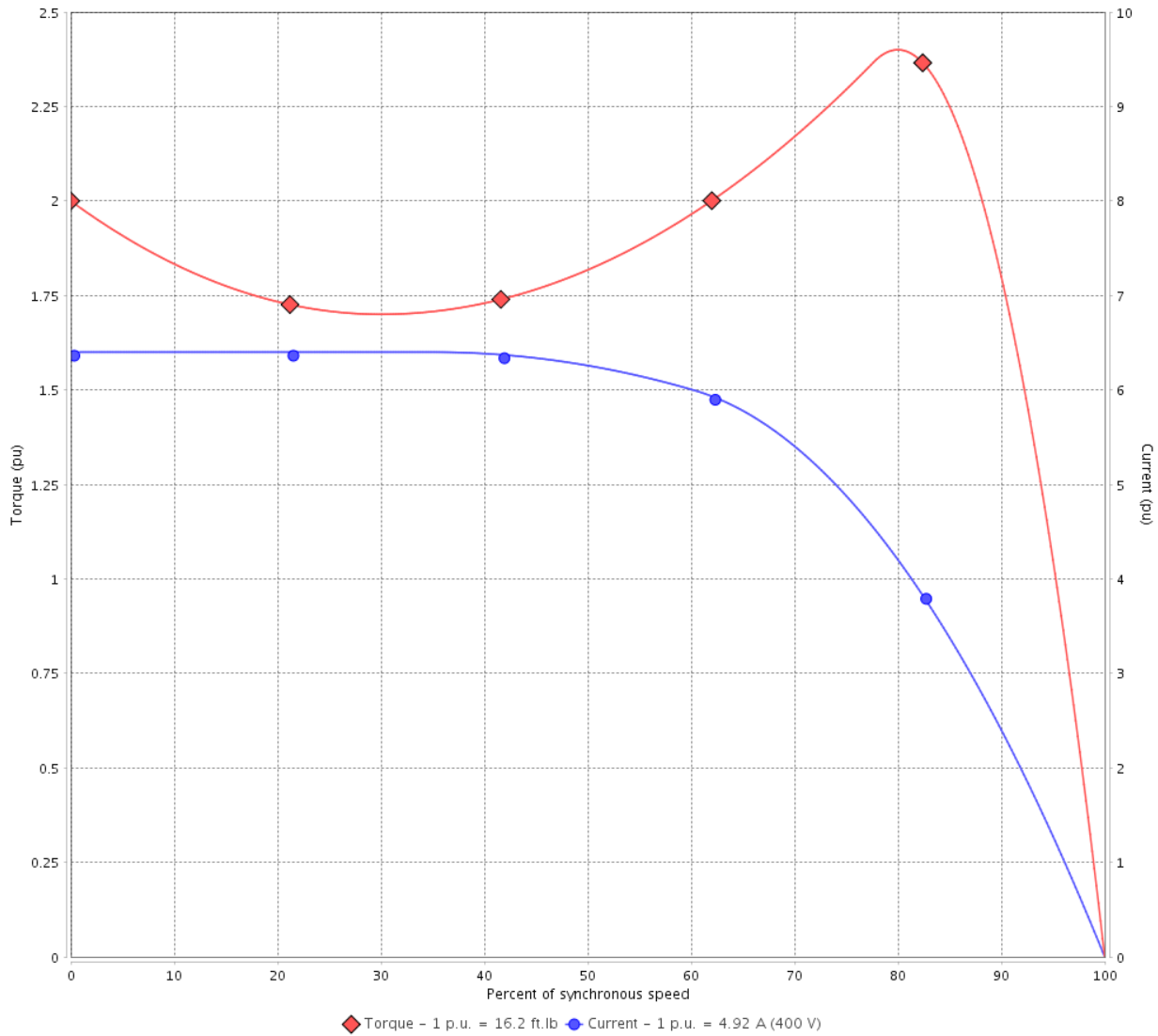
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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 4 / 21	Revision
Checked by				
Date	14/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



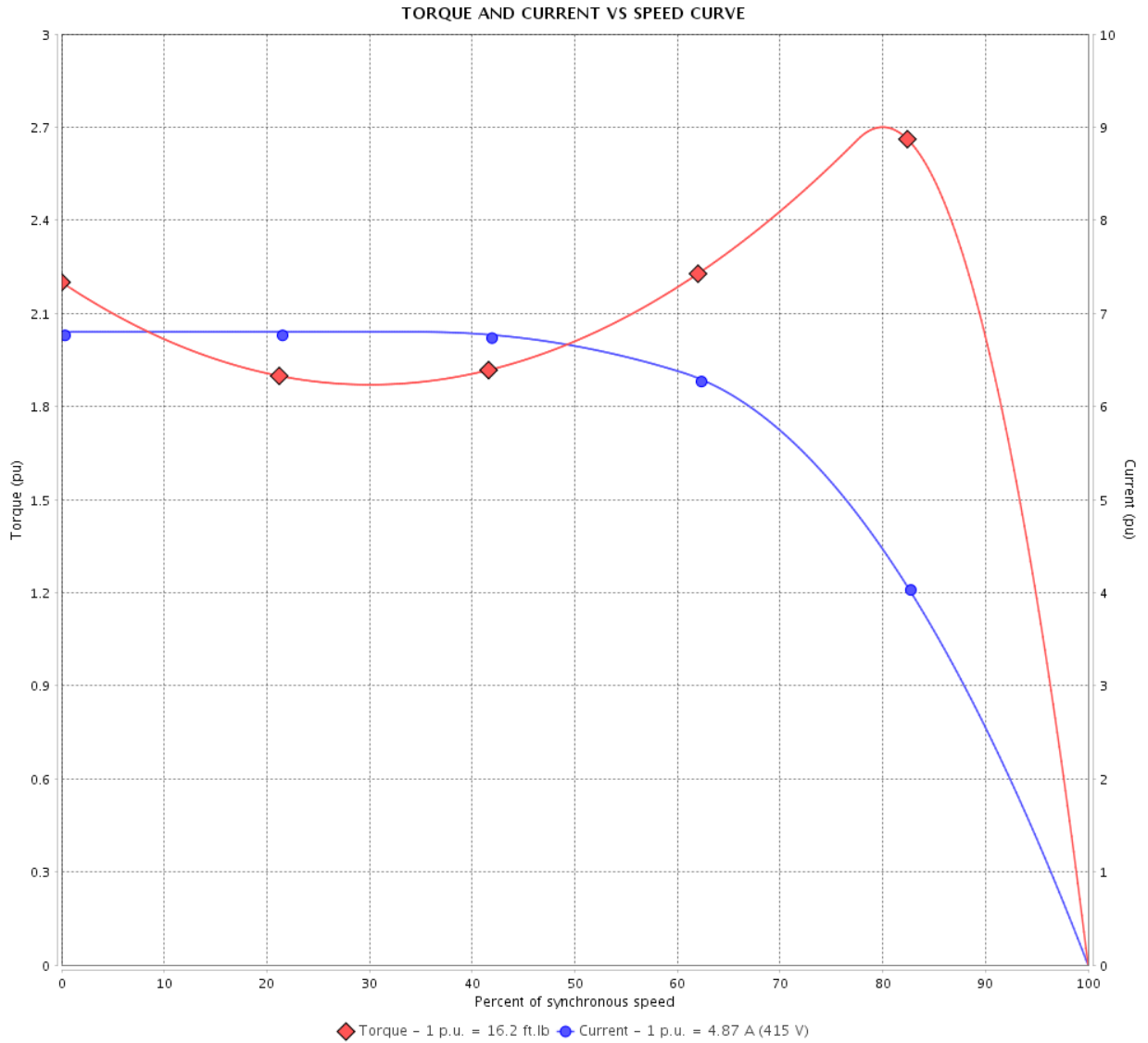
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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



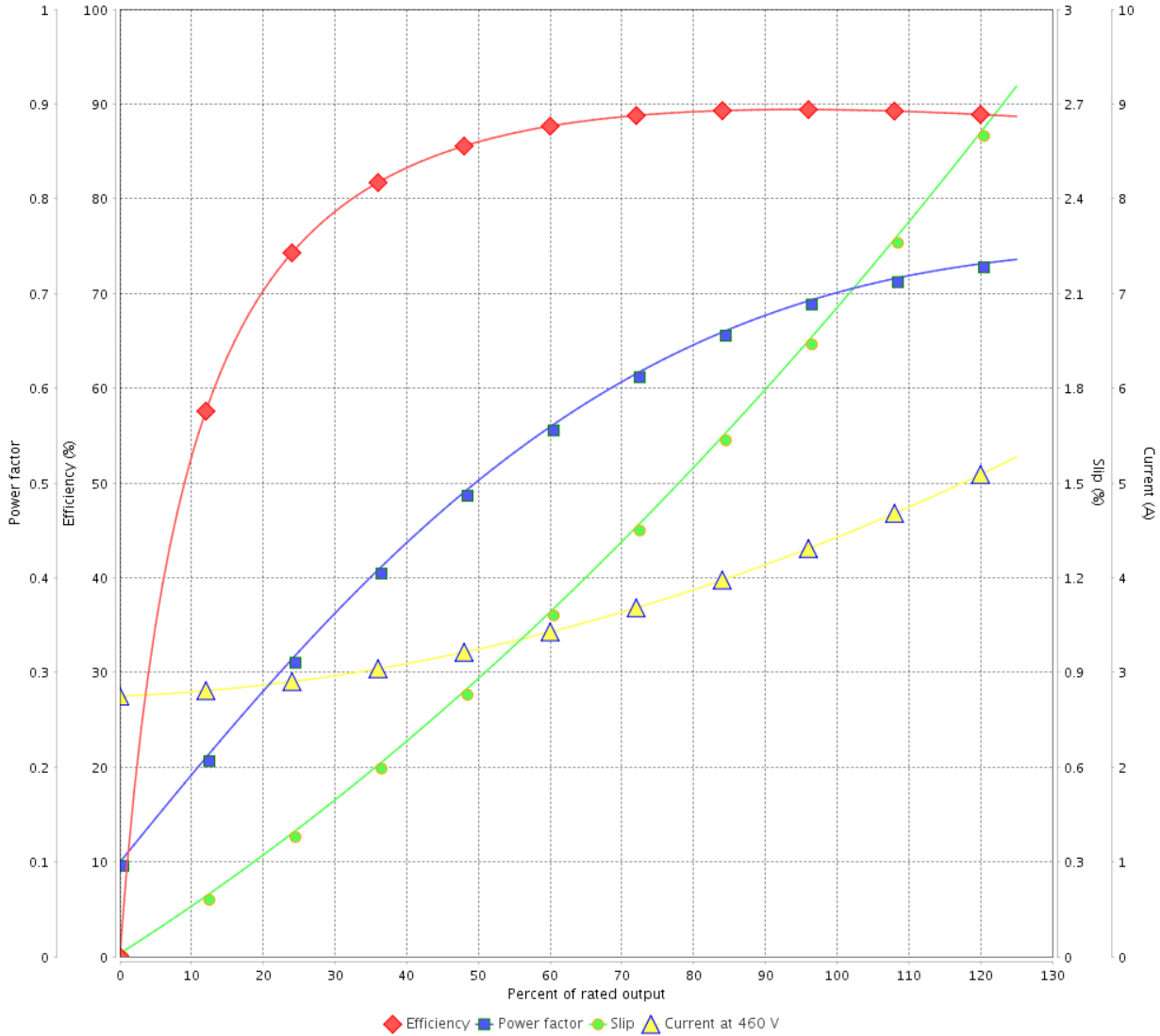
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 6P

Rated current : 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 6 / 21	Revision
Checked by				
Date	14/04/2022			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

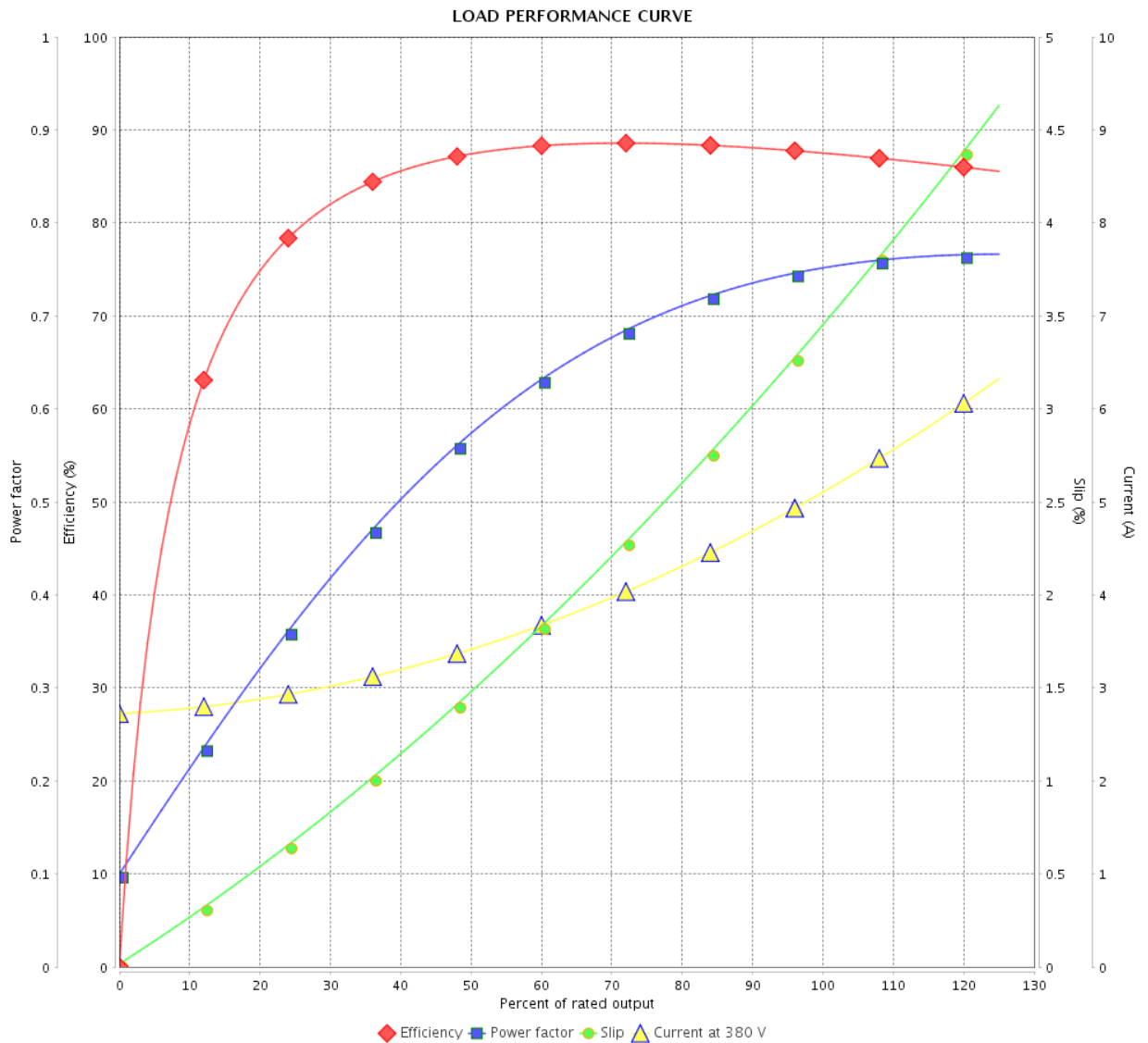


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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



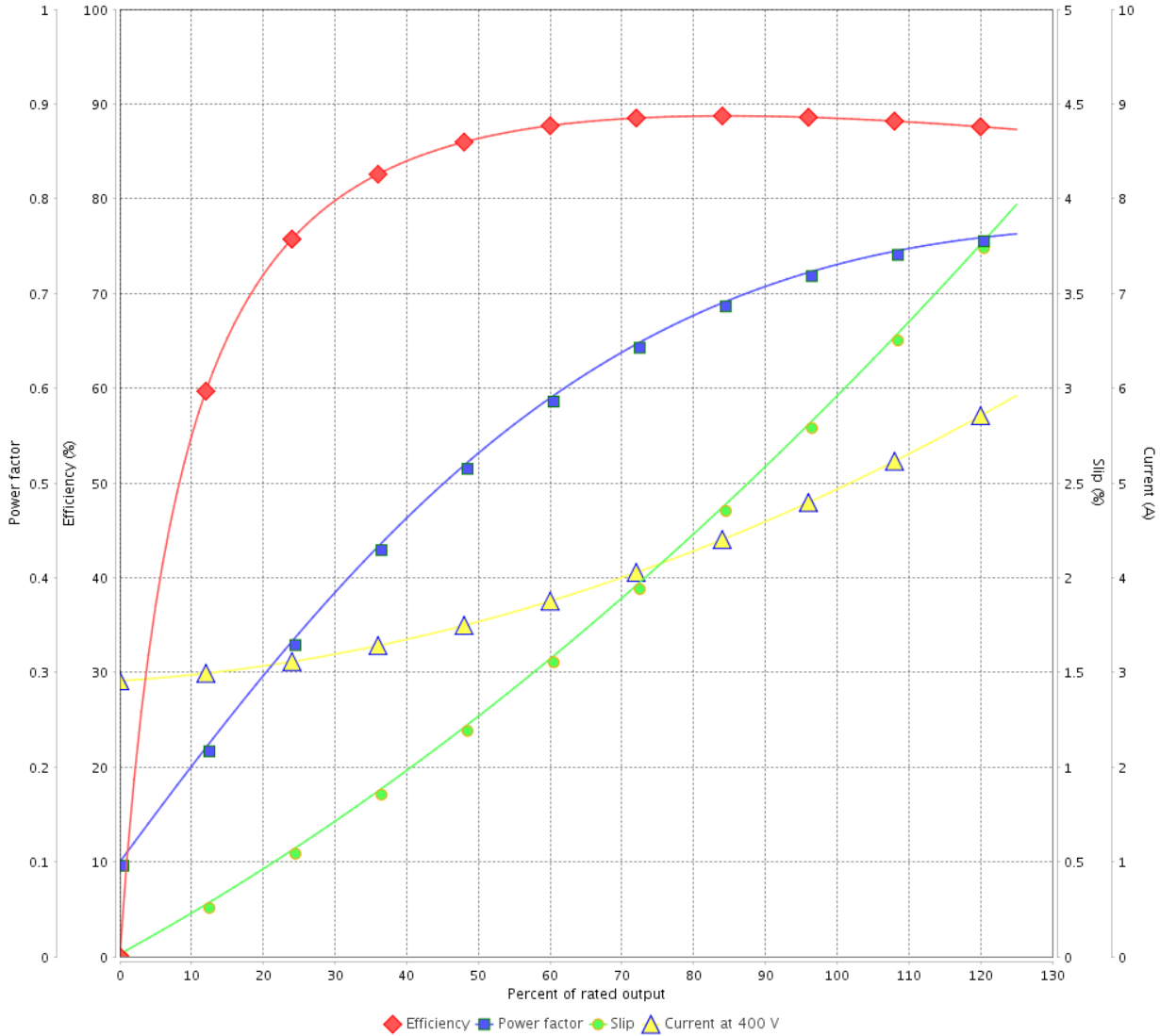
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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			8 / 21	
Date	14/04/2022			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

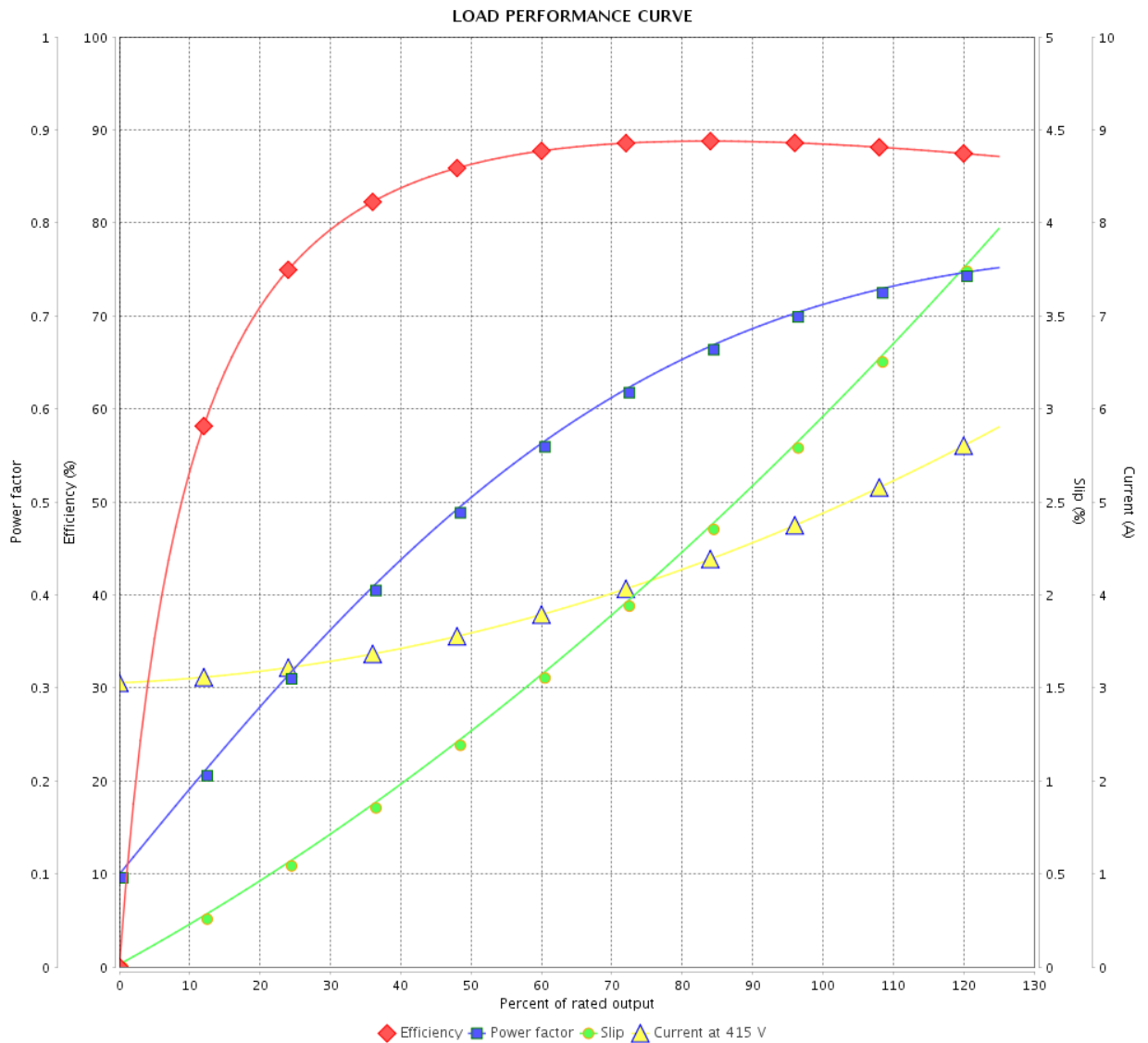


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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 : 12376408
Catalog # : 00312ST3QIE213TC-W22

Performance : 460 V 60 Hz 6P

Rated current	: 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

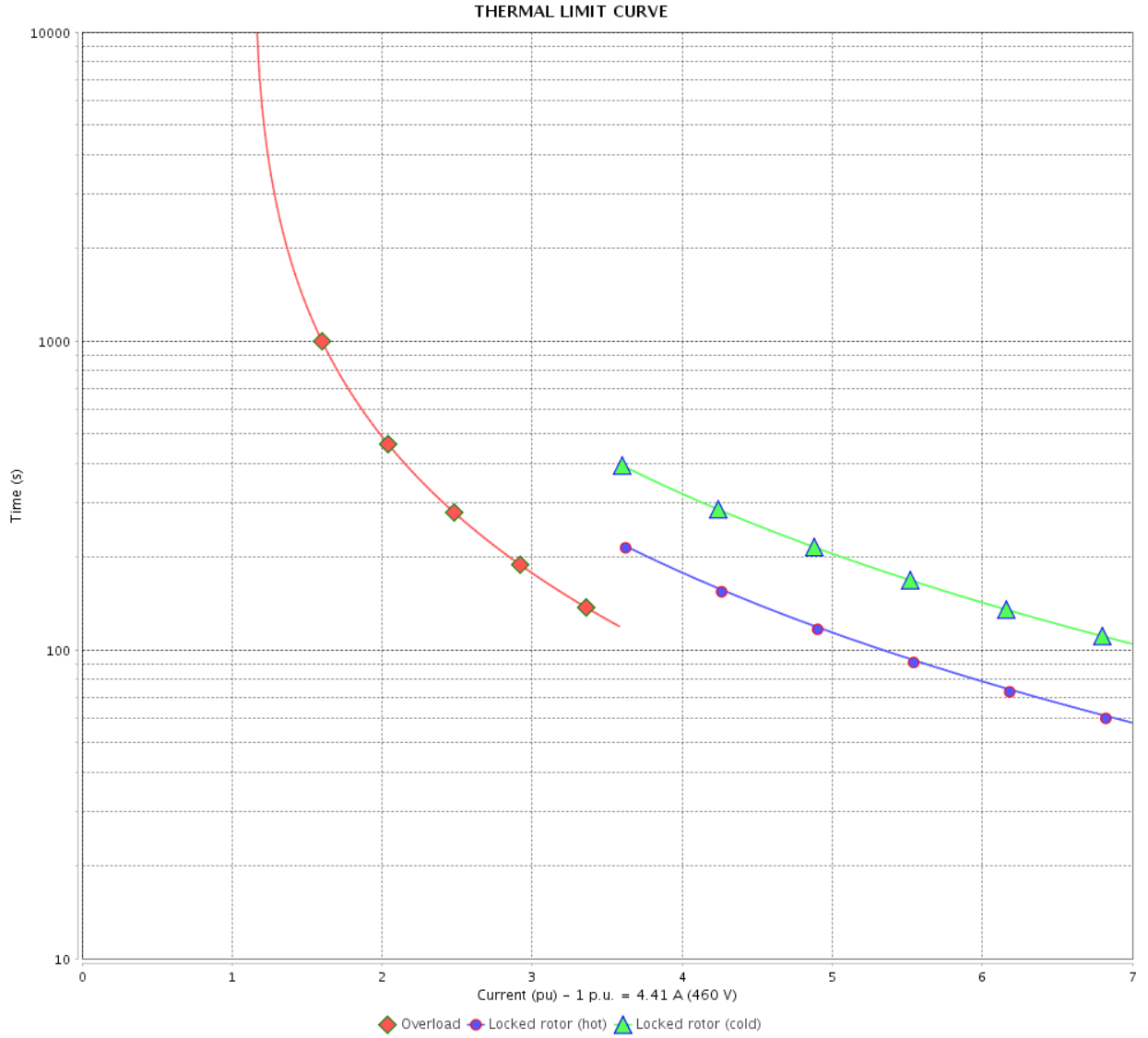
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		10 / 21	

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 : 12376408
Catalog # : 00312ST3QIE213TC-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

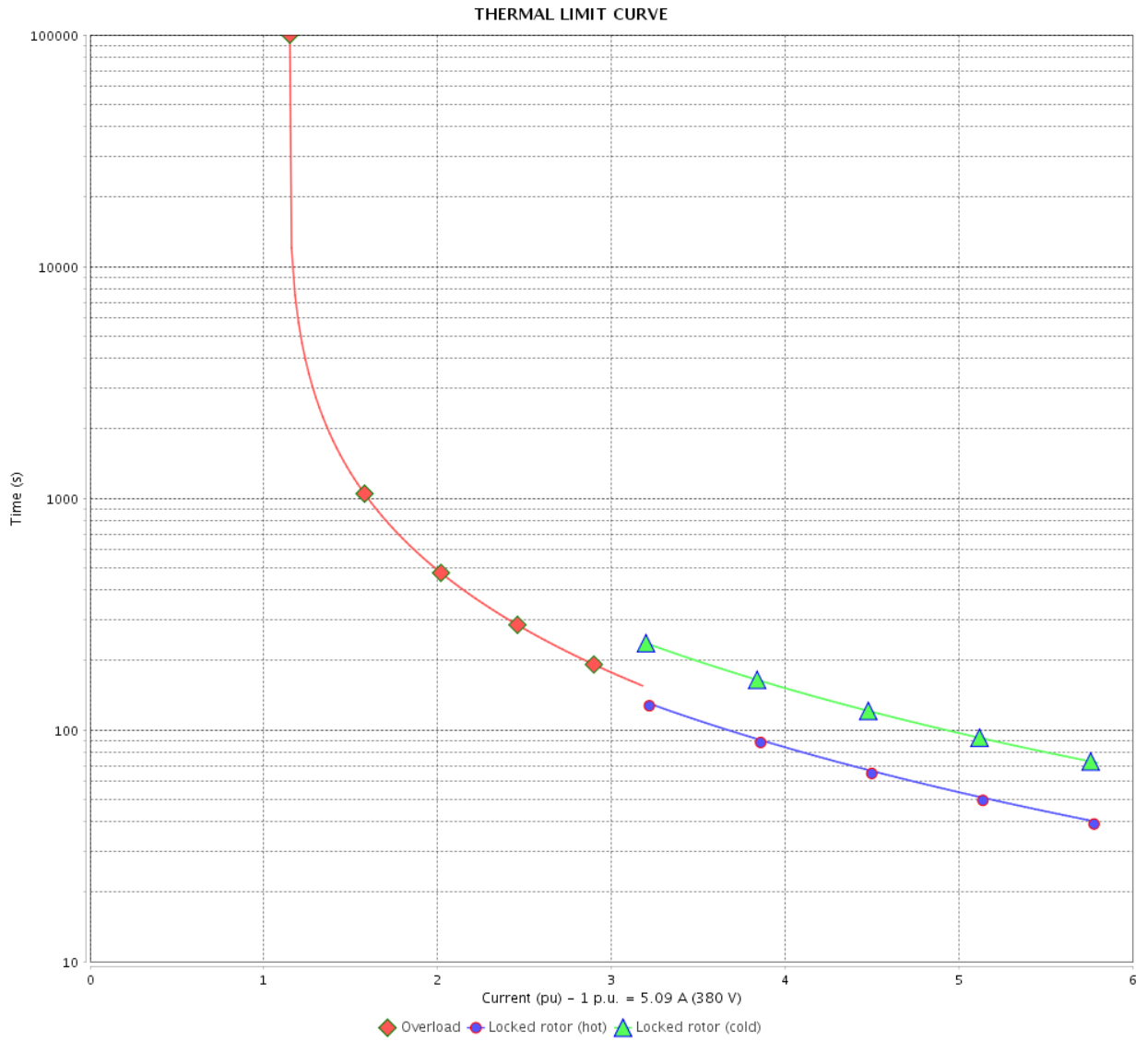
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		12 / 21	

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 : 12376408
Catalog # : 00312ST3QIE213TC-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

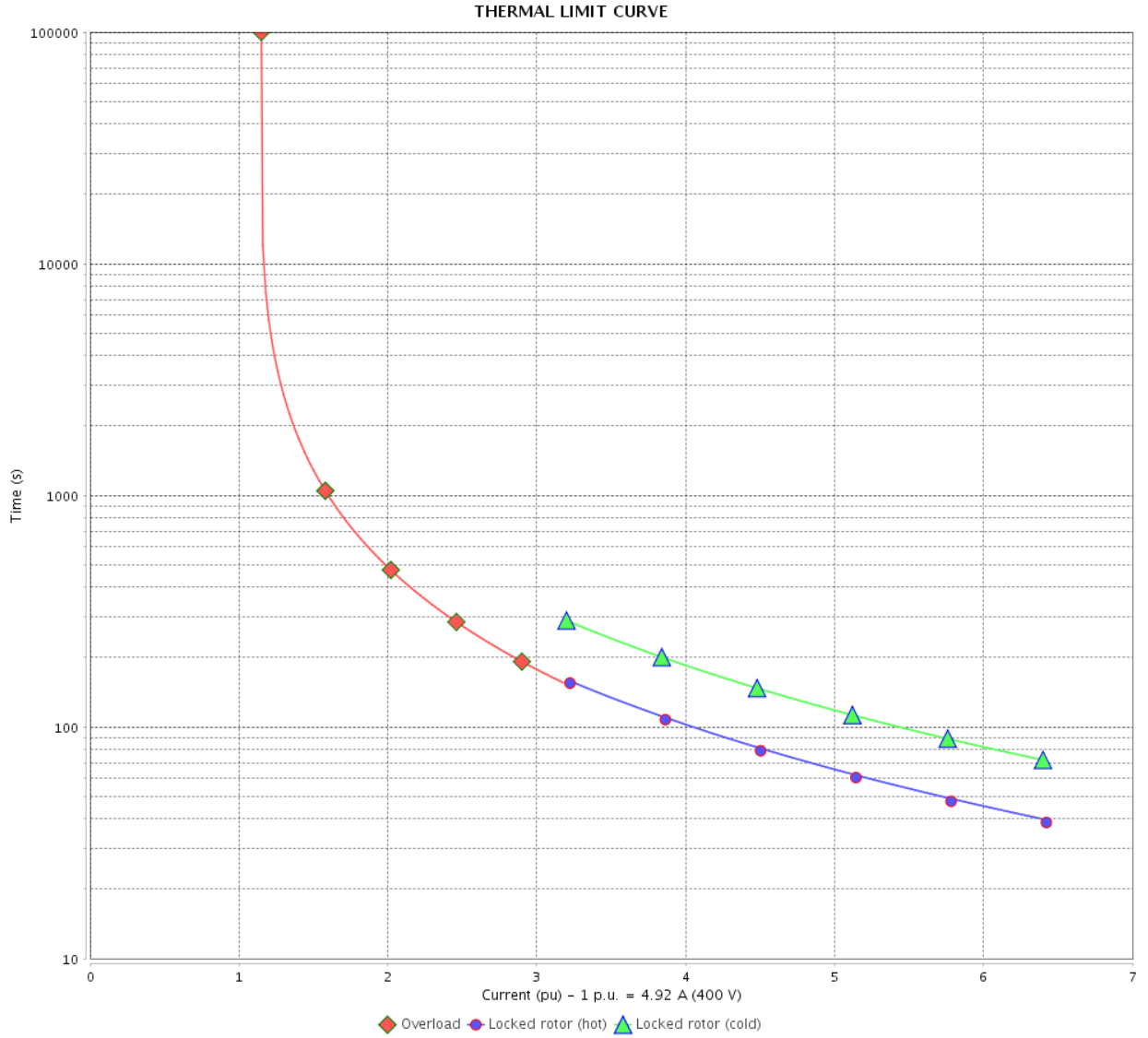
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		14 / 21	

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 : 12376408
Catalog # : 00312ST3QIE213TC-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

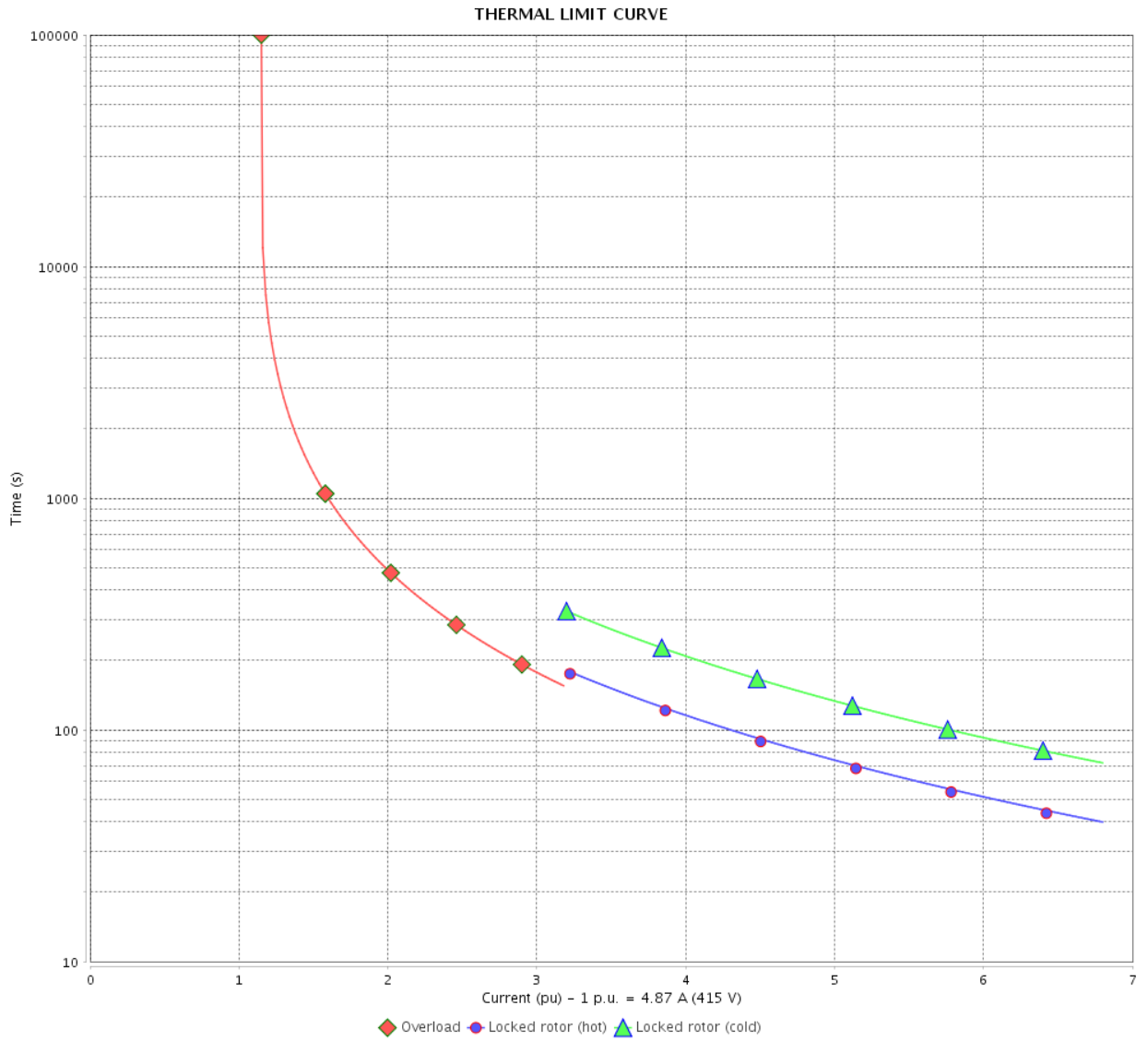
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		16 / 21	

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

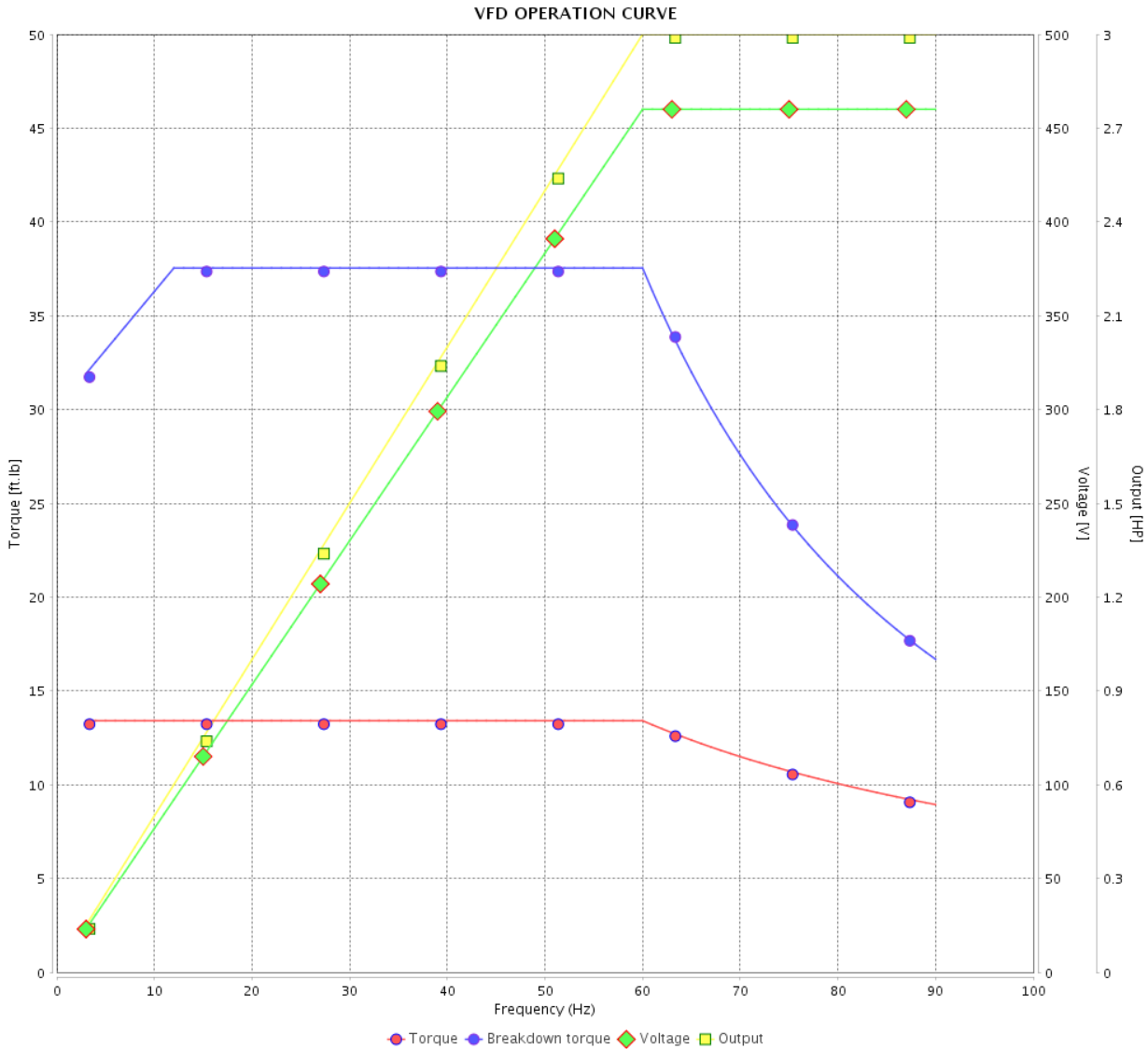


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-W22



Performance : 460 V 60 Hz 6P

Rated current : 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				

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

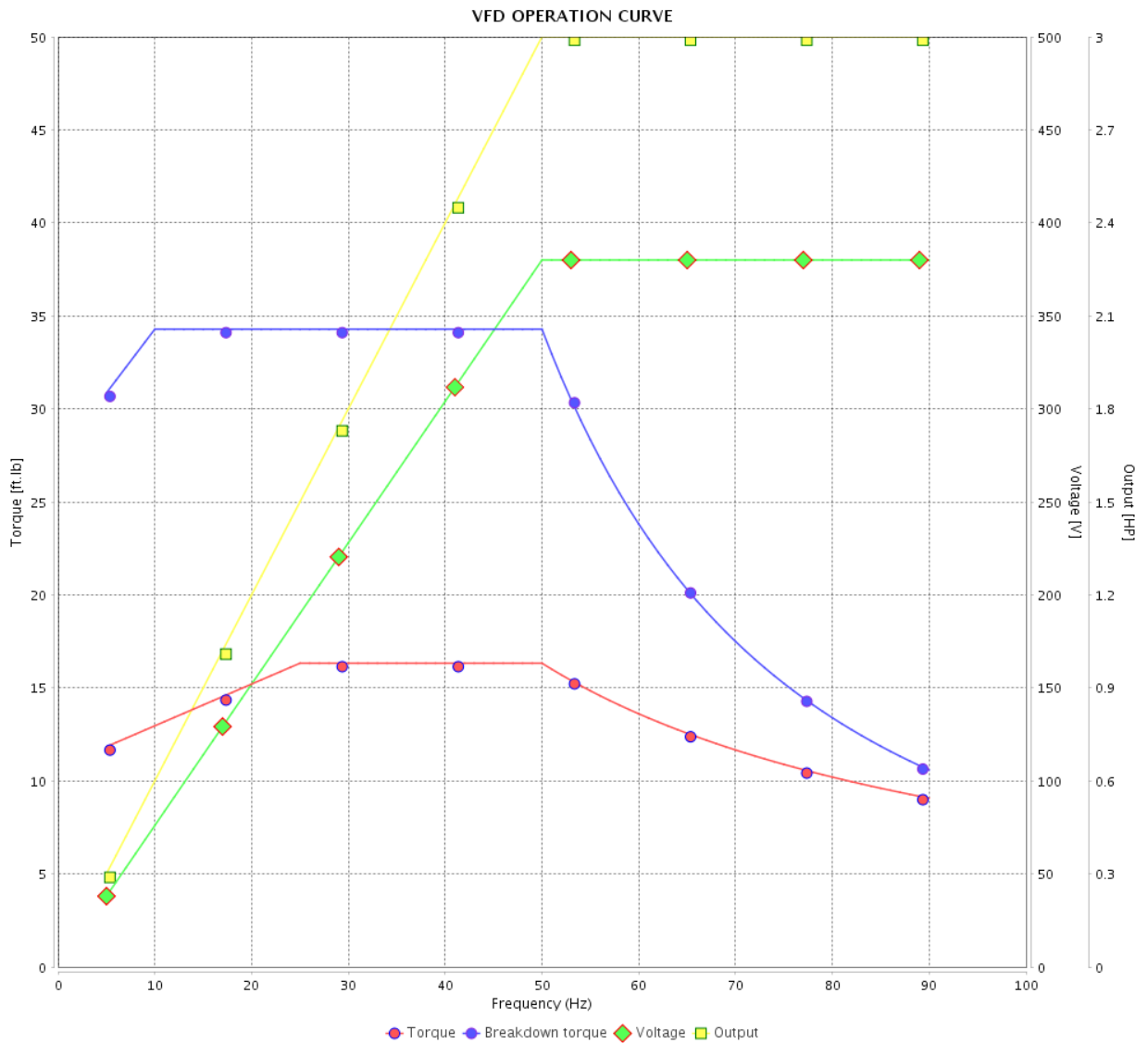


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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 19 / 21
Checked by				
Date	14/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

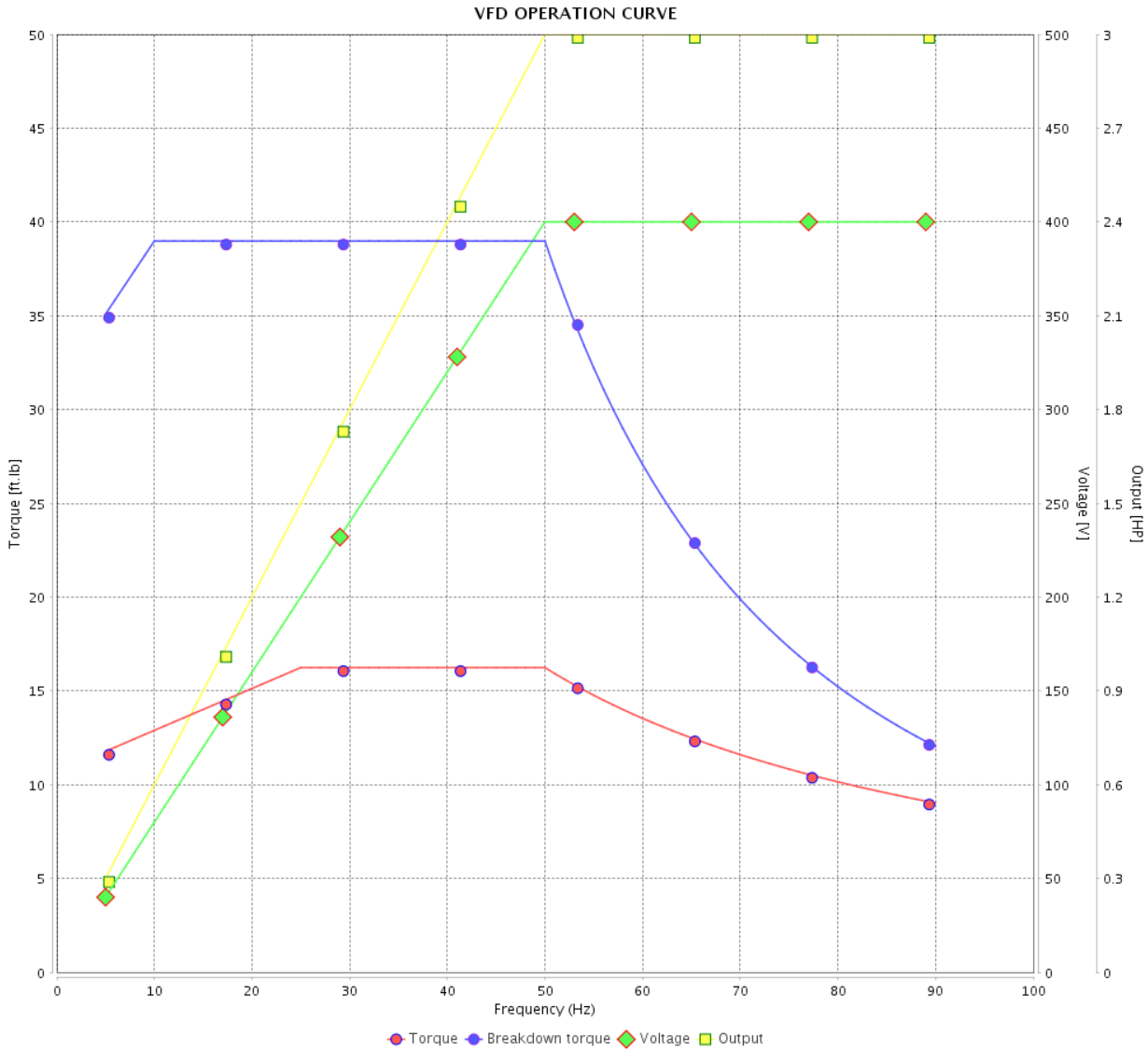


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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

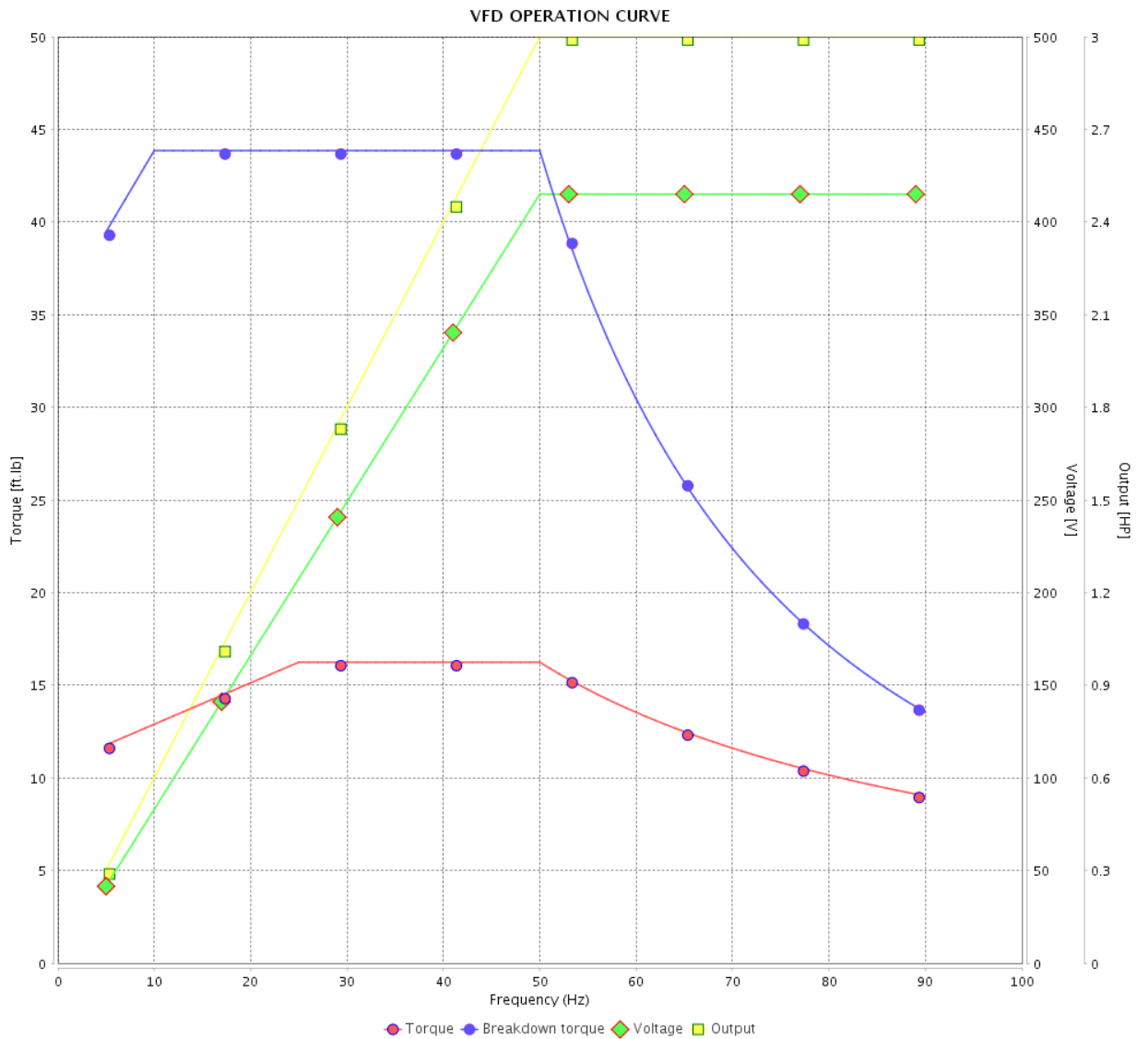


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12376408

Catalog # : 00312ST3QIE213TC-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

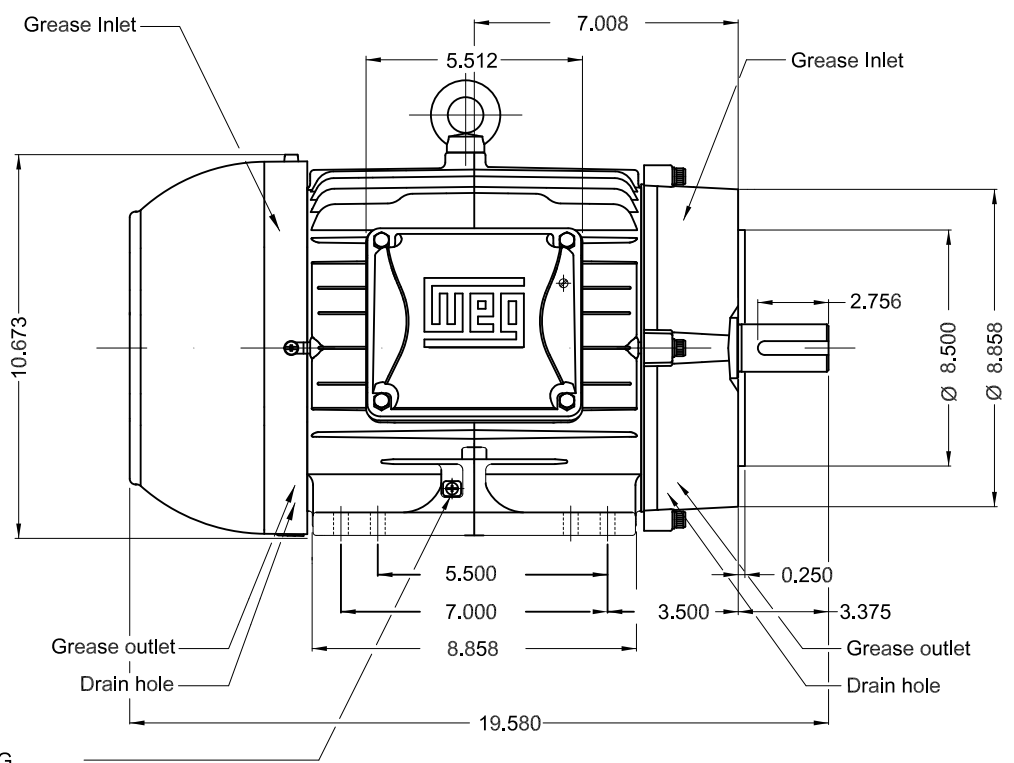
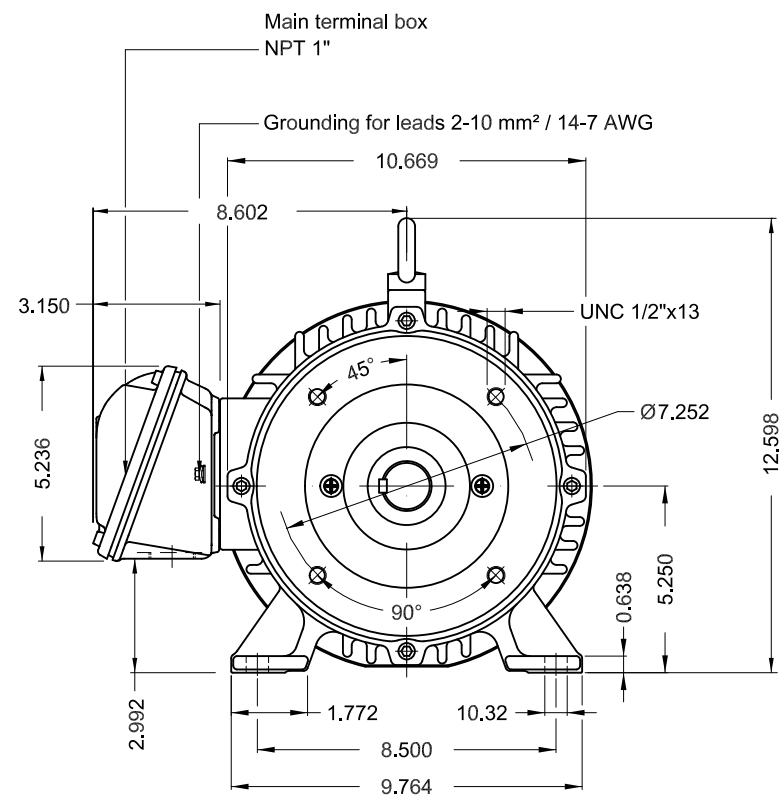
Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		21 / 21		
Date		14/04/2022		

1 2 3 4 5 6

A

B

C

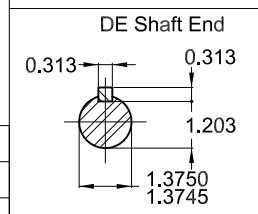


Grounding for leads 2-10 mm² / 14-7 AWG

D

E

Color RAL 5009
 Painting plan 202E
 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 IEEE 841 W22 PREM. EFF.					
CHECKED		FRAME 213/5TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD



MADE IN BRAZIL
12376408



NEMA
Premium

W22

IE003406W22CIS

Inverter Duty Motor
Severe Duty

IEEE
841-2009



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 - T4
For use on PWM: Gr. A, B, C, D and F,
VT 1000:1, CT 20:1, 1.00SF - T3A



FOR SAFE AREA
Mod. TE1BFOXON
CC029A

PH3 60Hz Fr. 213/5TC 1000m.a.s.l. IP55 TEFC 172lb

V 460

A 4.41

HP 3.0

kW 2.2

SF 1.25

SFA 5.51

RPM 1175

PF 0.70

AMB 40°C

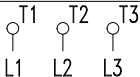
INS cl. F DT80K

NEMA NOM EFF 89.5%

DUTY CONT.

DES B Code K

GUARANT. EFF 87.5%



→ 6308-C3 (11g) 40BC03X30

→ 6207-C3 (7g) 35BC02X30

MOBIL POLYREX EM (20000h)

