

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line		: NEMA Premium Efficiency Three-Phase	Product code :	11431667
			Catalog # :	03018ST3QIE286T-W22
Frame	: 284/6T	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	: 469 lb	
Protection degree	: IP55	Moment of inertia (J)	: 5.85 sq.ft.lb	
Design	: B			
Output [HP]	30	30	30	30
Poles	4	4	4	4
Frequency [Hz]	60	50	50	50
Rated voltage [V]	460	380	400	415
Rated current [A]	35.1	43.1	41.1	39.7
L. R. Amperes [A]	214	228	247	238
LRC [A]	6.1x(Code G)	5.3x(Code F)	6.0x(Code G)	6.0x(Code G)
No load current [A]	12.3	12.2	13.1	13.8
Rated speed [RPM]	1770	1455	1460	1465
Slip [%]	1.67	3.00	2.67	2.33
Rated torque [ft.lb]	89.0	108	108	108
Locked rotor torque [%]	240	170	190	220
Breakdown torque [%]	240	200	220	250
Service factor	1.25	1.00	1.00	1.00
Temperature rise	80 K	105 K	105 K	105 K
Locked rotor time	36s (cold) 20s (hot)	23s (cold) 13s (hot)	23s (cold) 13s (hot)	21s (cold) 12s (hot)
Noise level ²	63.0 dB(A)	61.0 dB(A)	61.0 dB(A)	61.0 dB(A)
Efficiency (%)	25%			
	50%	93.0	90.0	90.5
	75%	93.0	90.2	91.0
	100%	93.6	90.2	91.0
Power Factor	25%			
	50%	0.70	0.76	0.73
	75%	0.80	0.83	0.82
	100%	0.84	0.86	0.85
Bearing type	: <u>Drive end</u> 6311 C3 <u>Non drive end</u> 6211 C3	Foundation loads		
Sealing	: Inpro/Seal Inpro/Seal	Max. traction	: 938 lb	
Lubrication interval	: 20000 h 20000 h	Max. compression	: 1407 lb	
Lubricant amount	: 18 g 11 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
Performed by				
Checked by			Page	Revision
Date	14/04/2022		1 / 21	

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



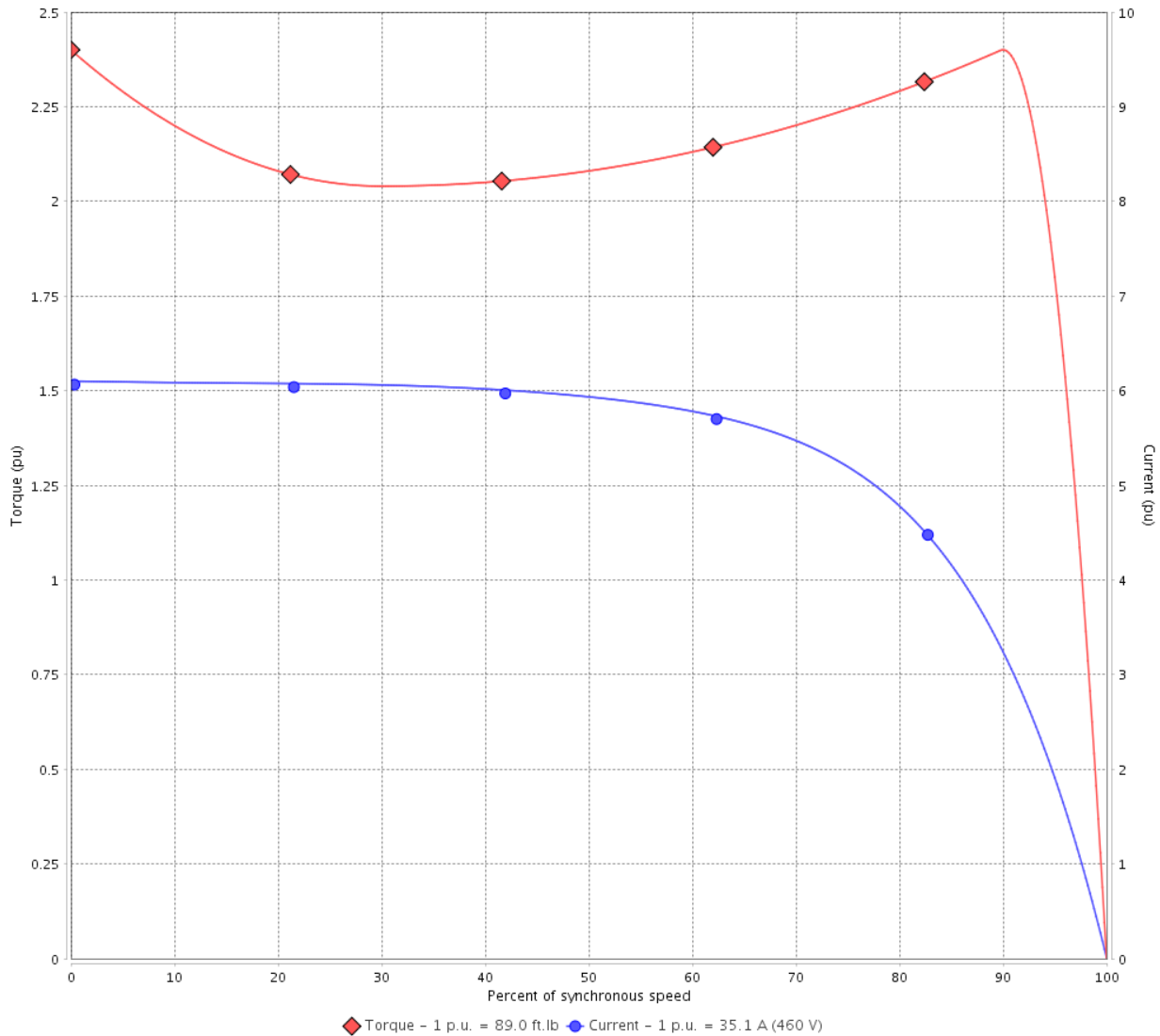
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 35.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 89.0 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: B

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



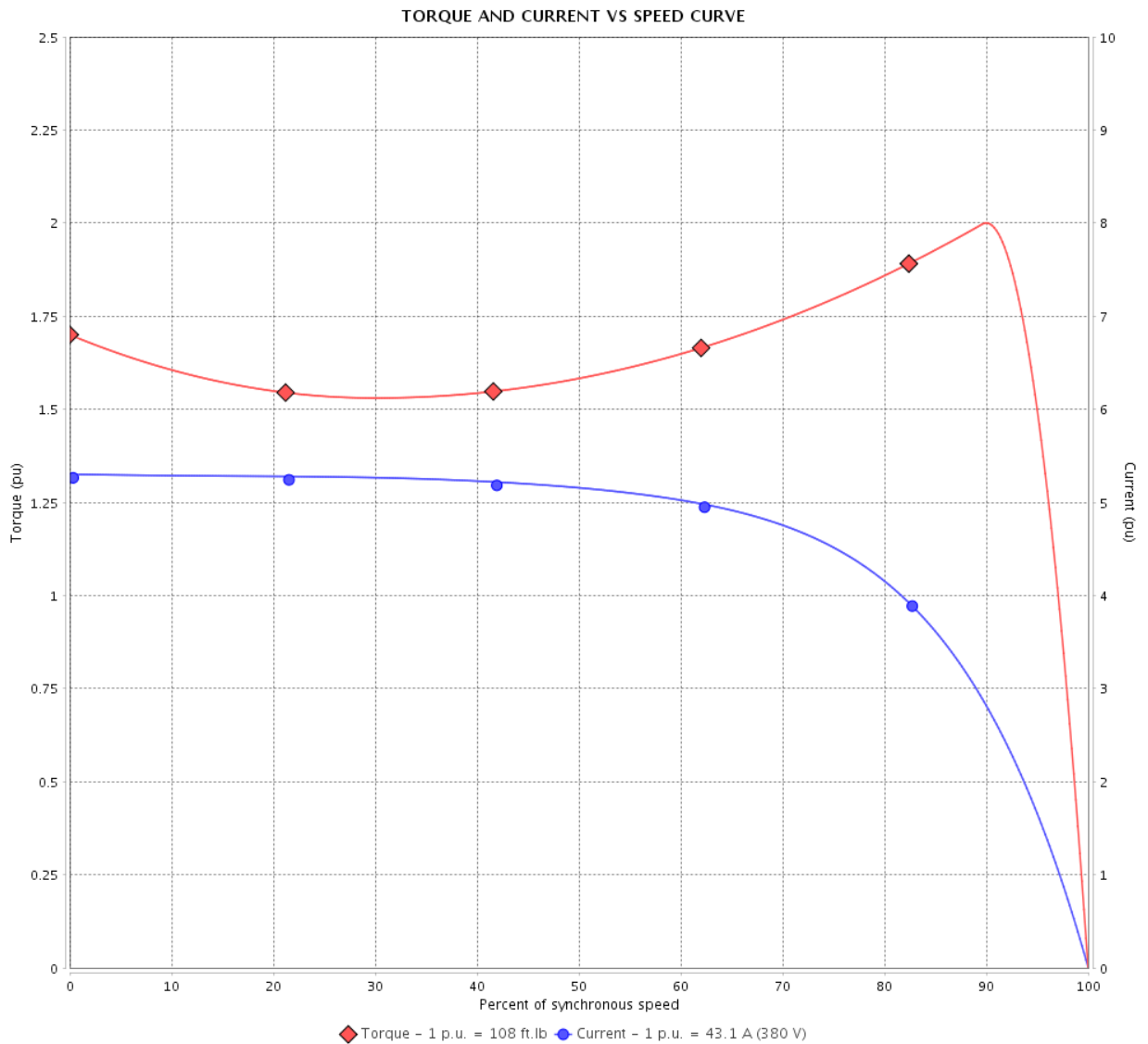
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 380 V 50 Hz 4P IE1

Rated current	: 43.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 5.3	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 105 K
Rated speed	: 1455 rpm	Design	: B

Locked rotor time : 23s (cold) 13s (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



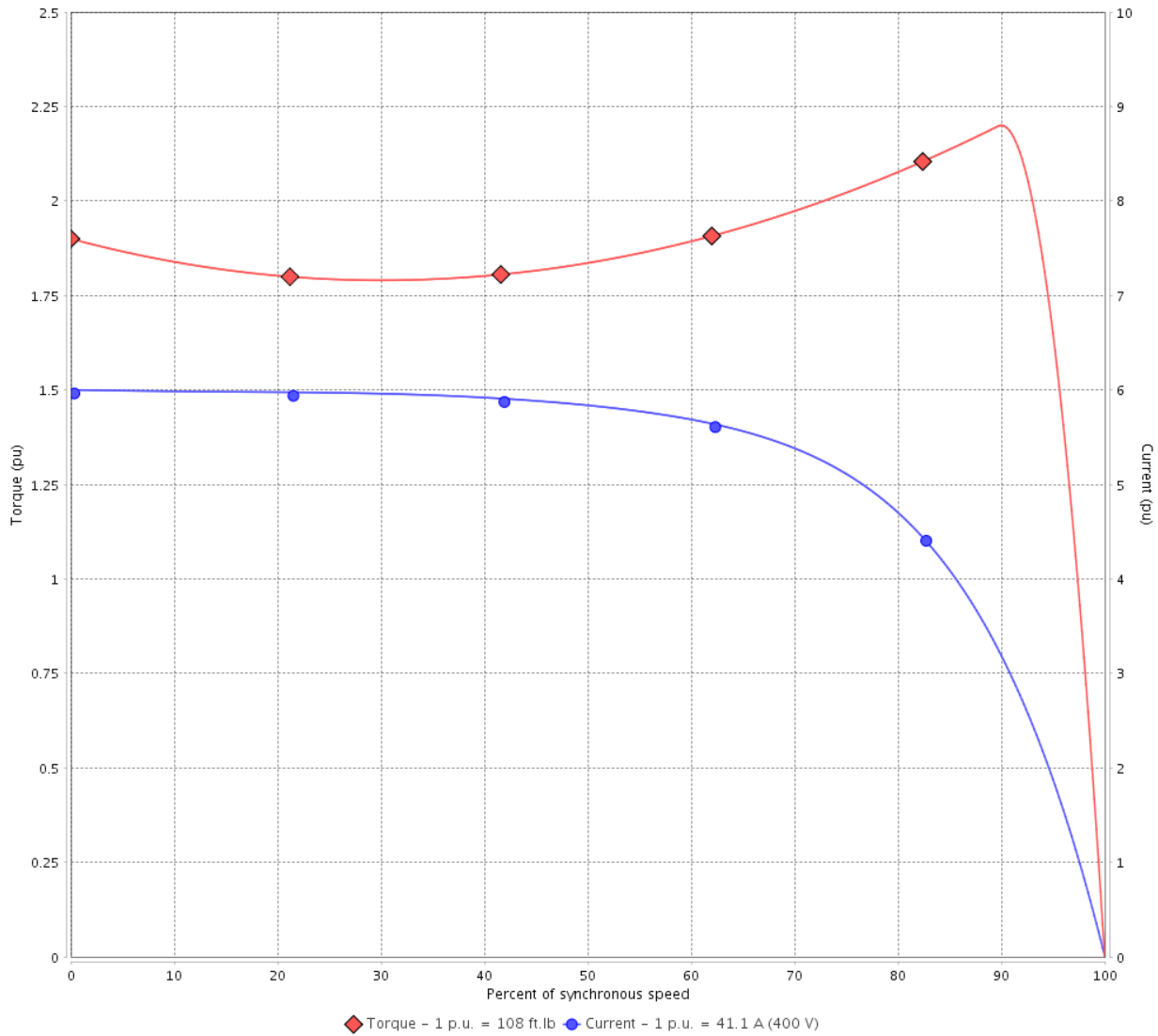
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE1

Rated current	: 41.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1460 rpm	Design	: B

Locked rotor time : 23s (cold) 13s (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



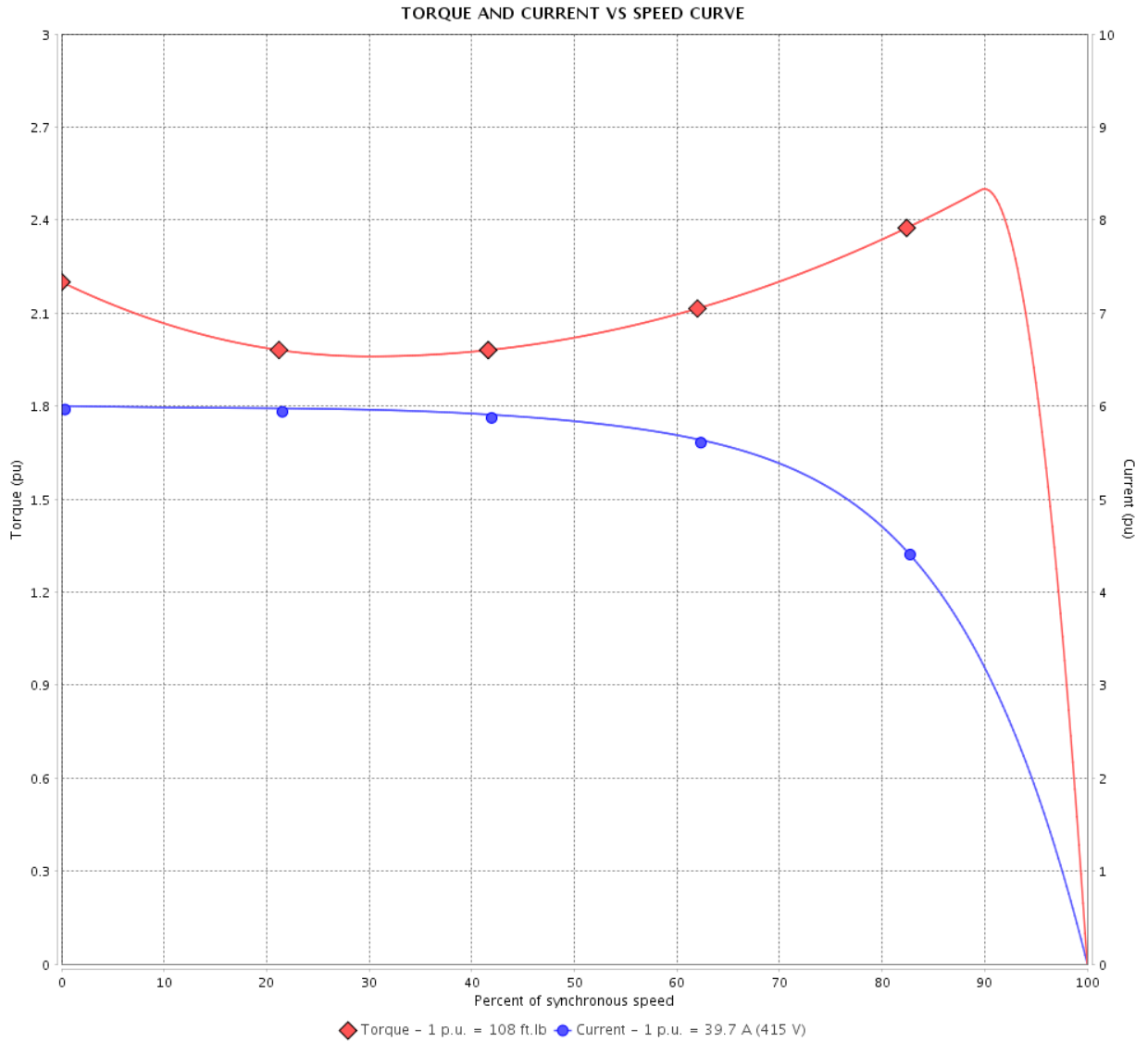
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 415 V 50 Hz 4P IE2

Rated current	: 39.7 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 105 K
Rated speed	: 1465 rpm	Design	: B

Locked rotor time : 21s (cold) 12s (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

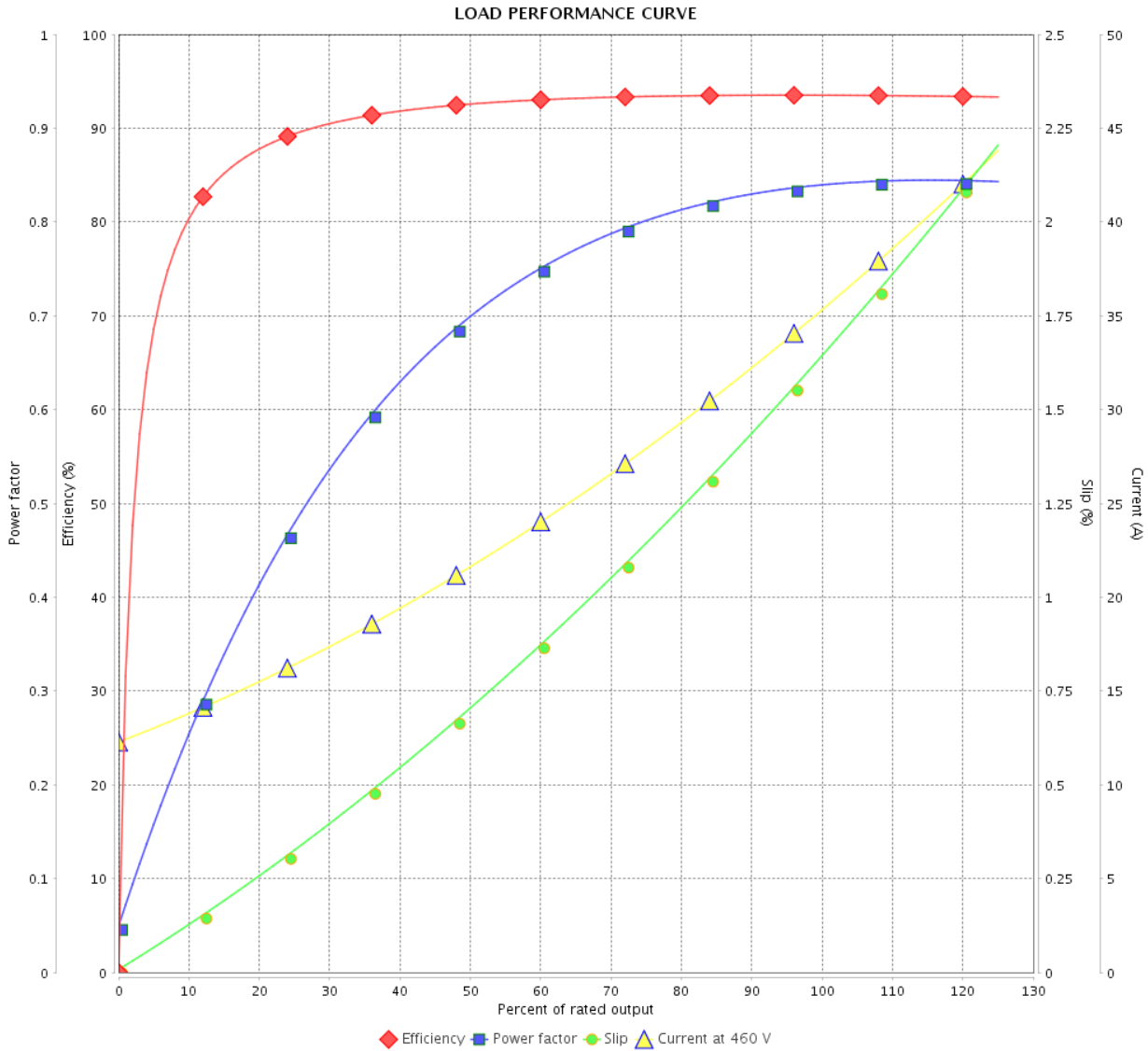


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 460 V 60 Hz 4P

Rated current	: 35.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 89.0 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: B

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

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

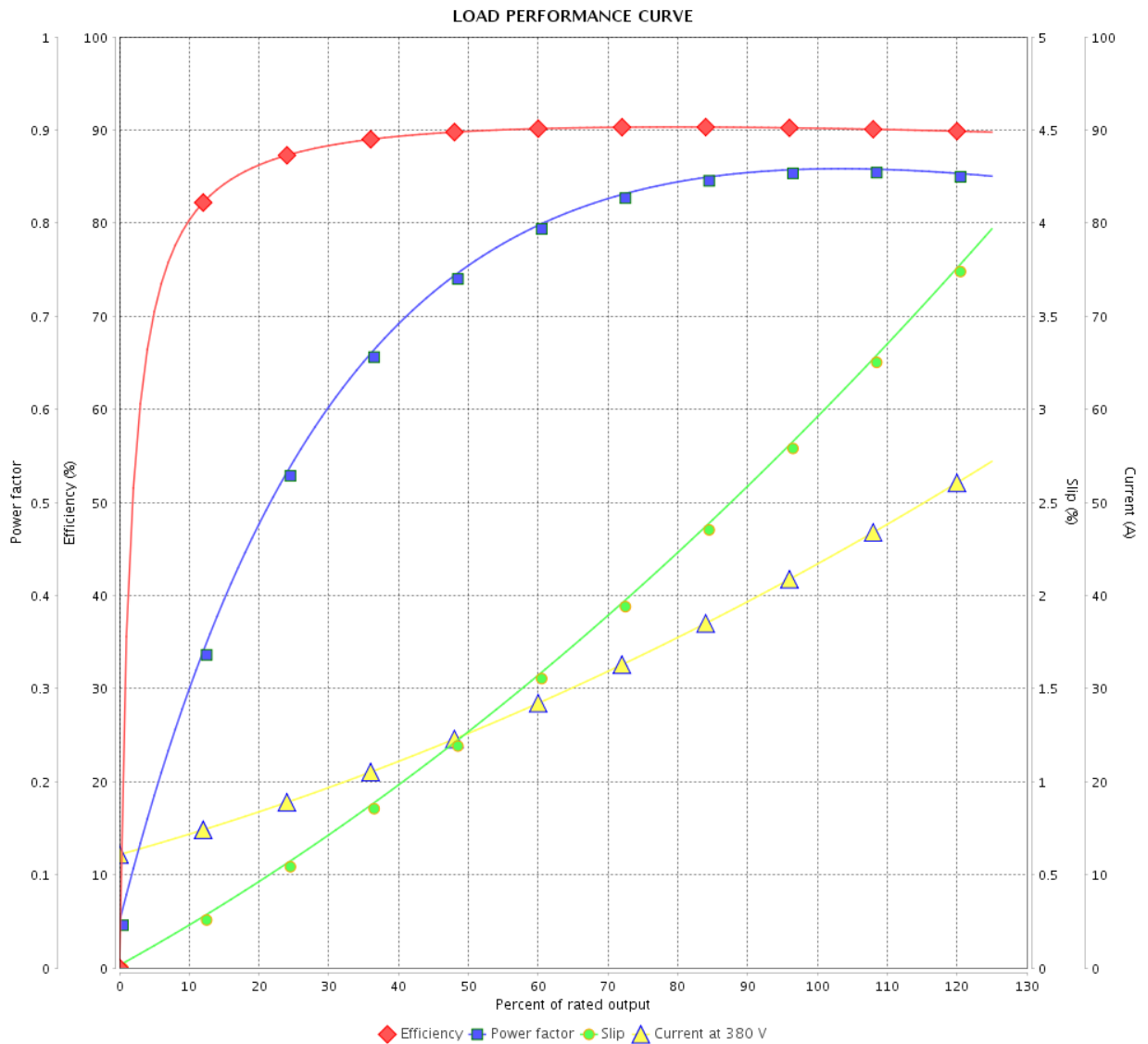


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 380 V 50 Hz 4P IE1

Rated current : 43.1 A
 LRC : 5.3
 Rated torque : 108 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 200 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 5.85 sq.ft.lb
 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		7 / 21		
Date		14/04/2022		

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



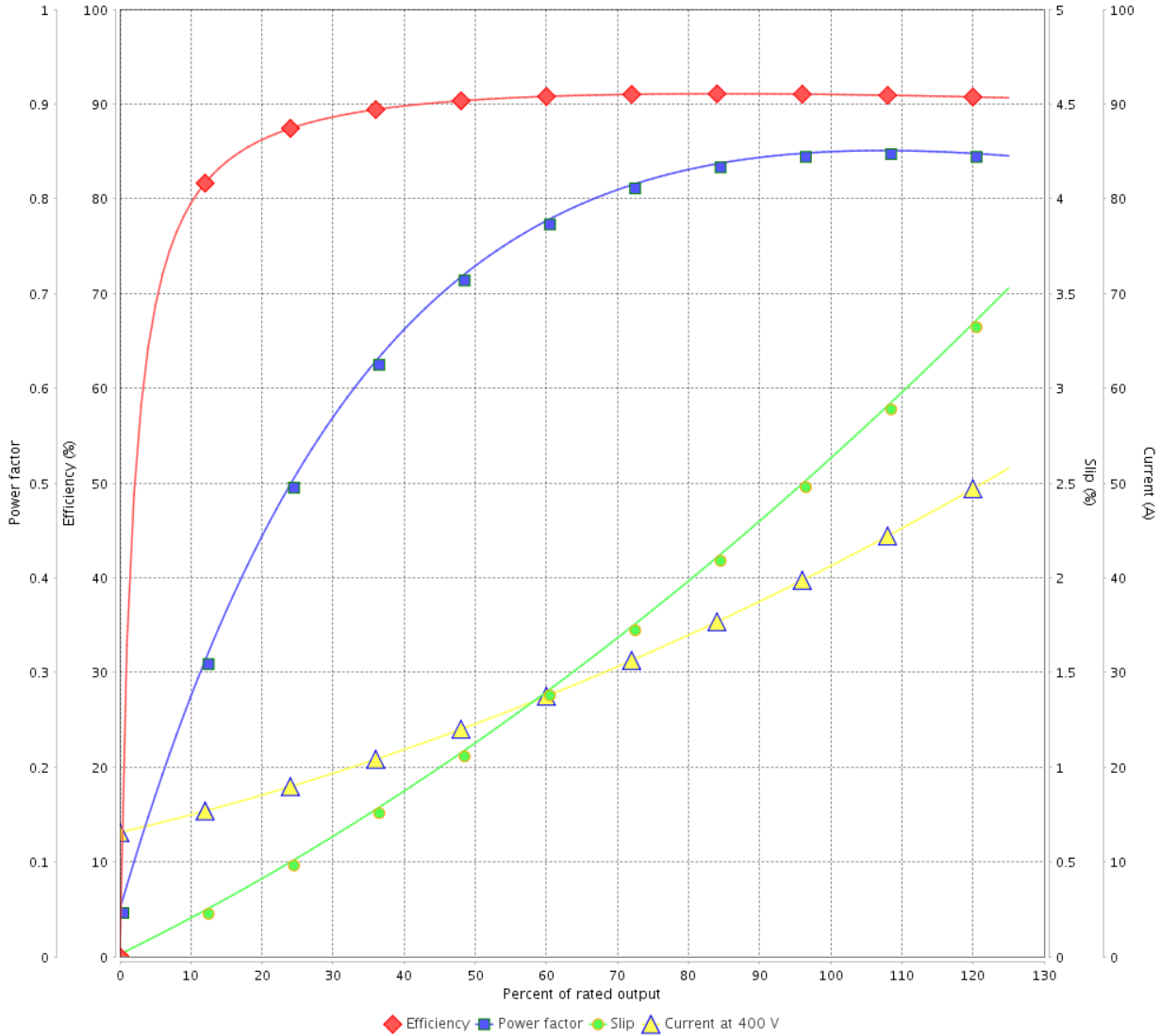
Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE1

Rated current : 41.1 A
 LRC : 6.0
 Rated torque : 108 ft.lb
 Locked rotor torque : 190 %
 Breakdown torque : 220 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 5.85 sq.ft.lb
 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 8 / 21	Revision
Checked by				
Date	14/04/2022			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

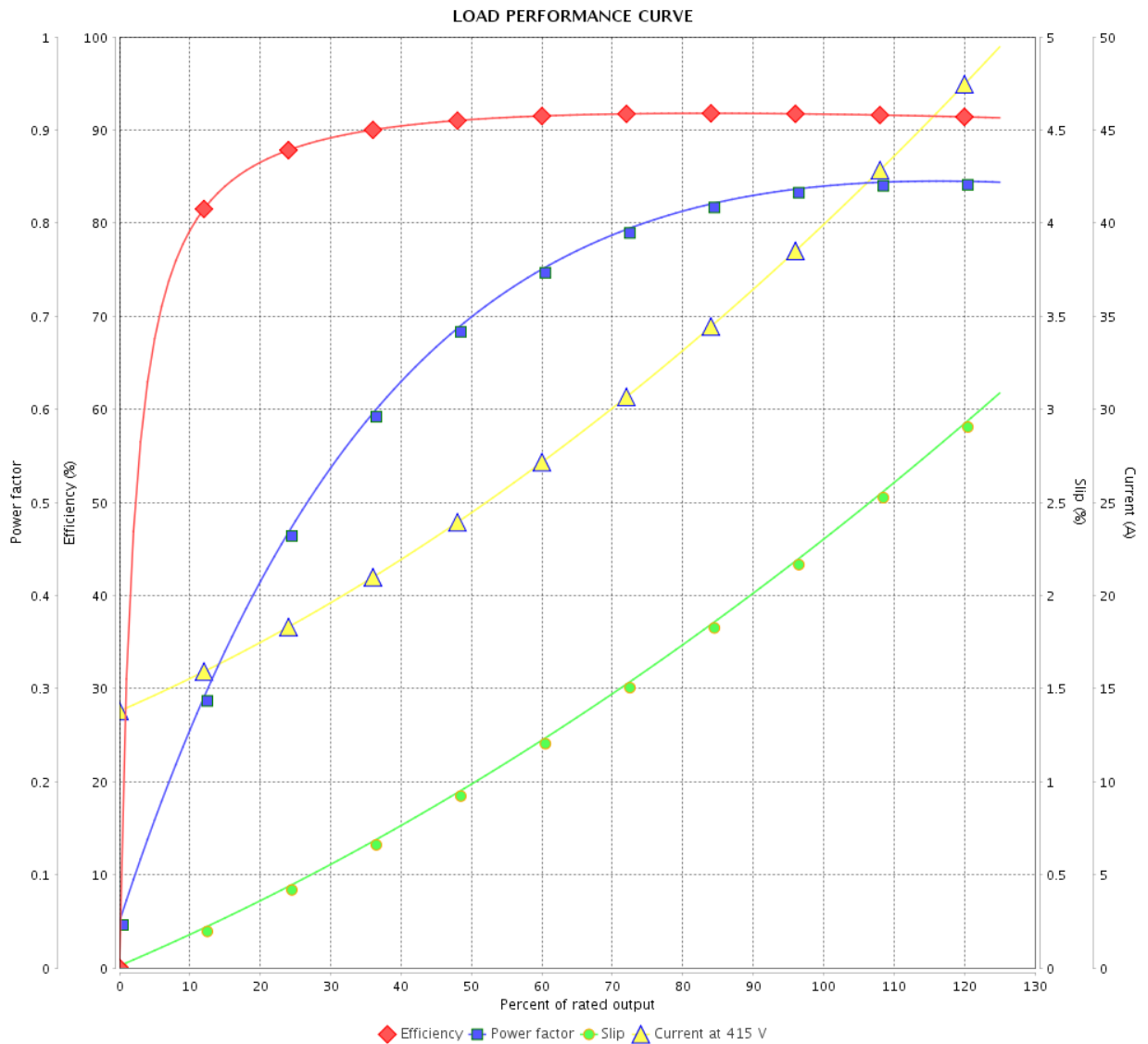


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 415 V 50 Hz 4P IE2

Rated current : 39.7 A
 LRC : 6.0
 Rated torque : 108 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 5.85 sq.ft.lb
 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

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 11431667
Catalog # : 03018ST3QIE286T-W22

Performance : 460 V 60 Hz 4P

Rated current	: 35.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.1	Duty cycle	: Cont.(S1)
Rated torque	: 89.0 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: B

Heating constant

Cooling constant

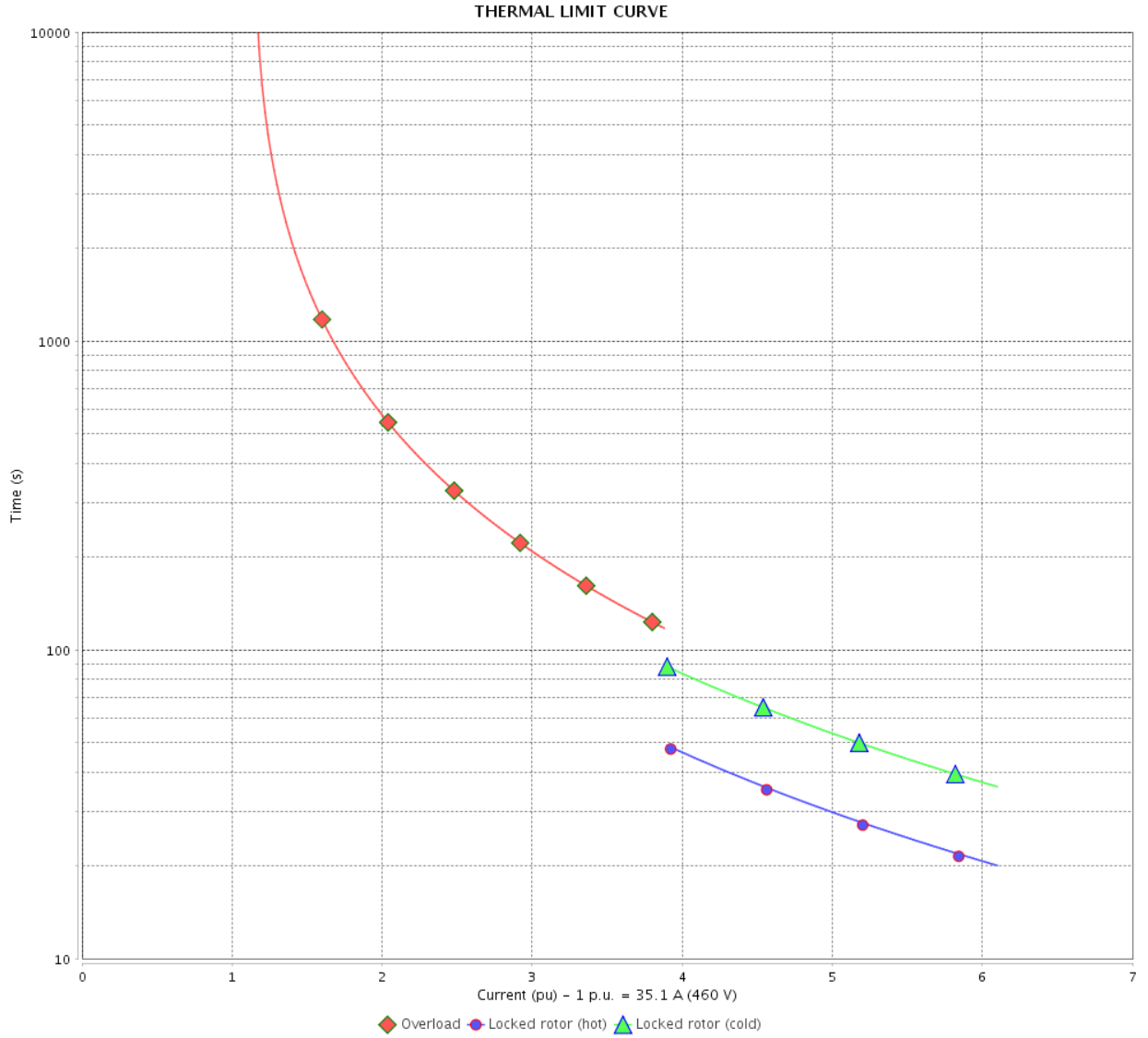
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		10 / 21	

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 : 11431667
 Catalog # : 03018ST3QIE286T-W22

Performance : 380 V 50 Hz 4P IE1

Rated current : 43.1 A	Moment of inertia (J) : 5.85 sq.ft.lb
LRC : 5.3	Duty cycle : Cont.(S1)
Rated torque : 108 ft.lb	Insulation class : F
Locked rotor torque : 170 %	Service factor : 1.00
Breakdown torque : 200 %	Temperature rise : 105 K
Rated speed : 1455 rpm	Design : B

Heating constant

Cooling constant

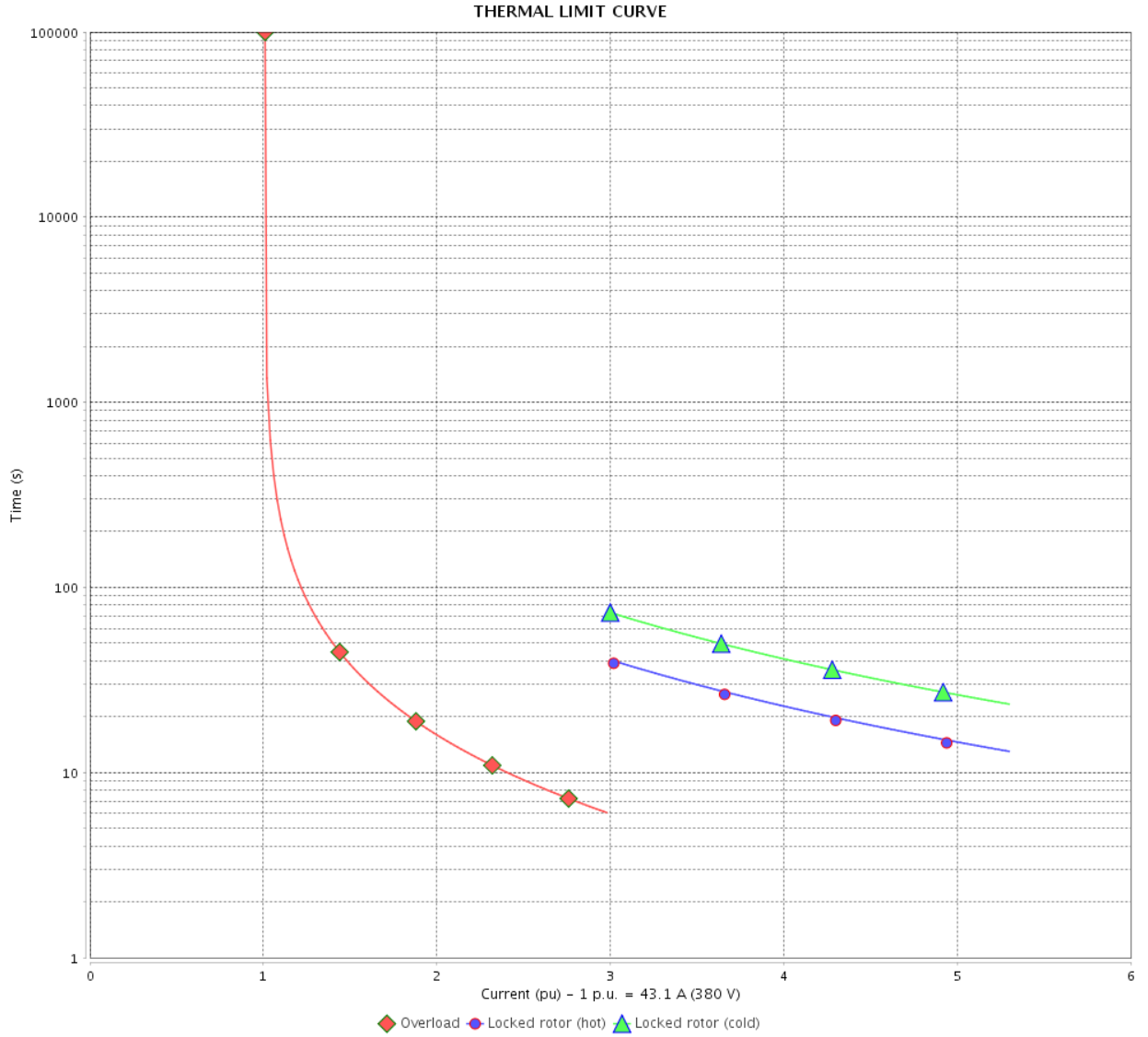
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 12 / 21	Revision
Checked by				
Date	14/04/2022			

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 : 11431667

Catalog # : 03018ST3QIE286T-W22

Performance : 400 V 50 Hz 4P IE1

Rated current	: 41.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1460 rpm	Design	: B

Heating constant

Cooling constant

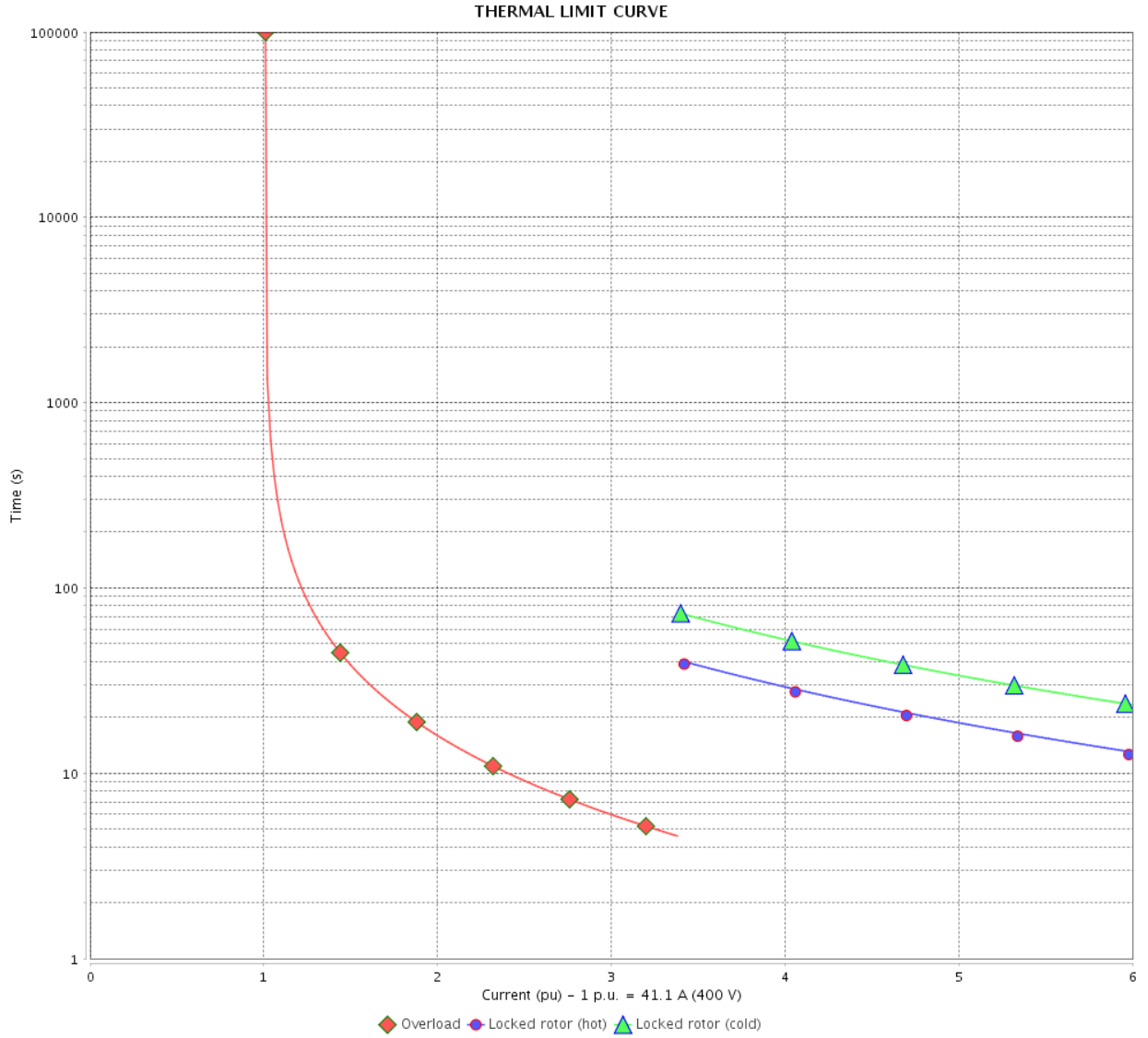
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		14 / 21	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase
Product code : 11431667
Catalog # : 03018ST3QIE286T-W22

Performance : 415 V 50 Hz 4P IE2

Rated current	: 39.7 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 105 K
Rated speed	: 1465 rpm	Design	: B

Heating constant

Cooling constant

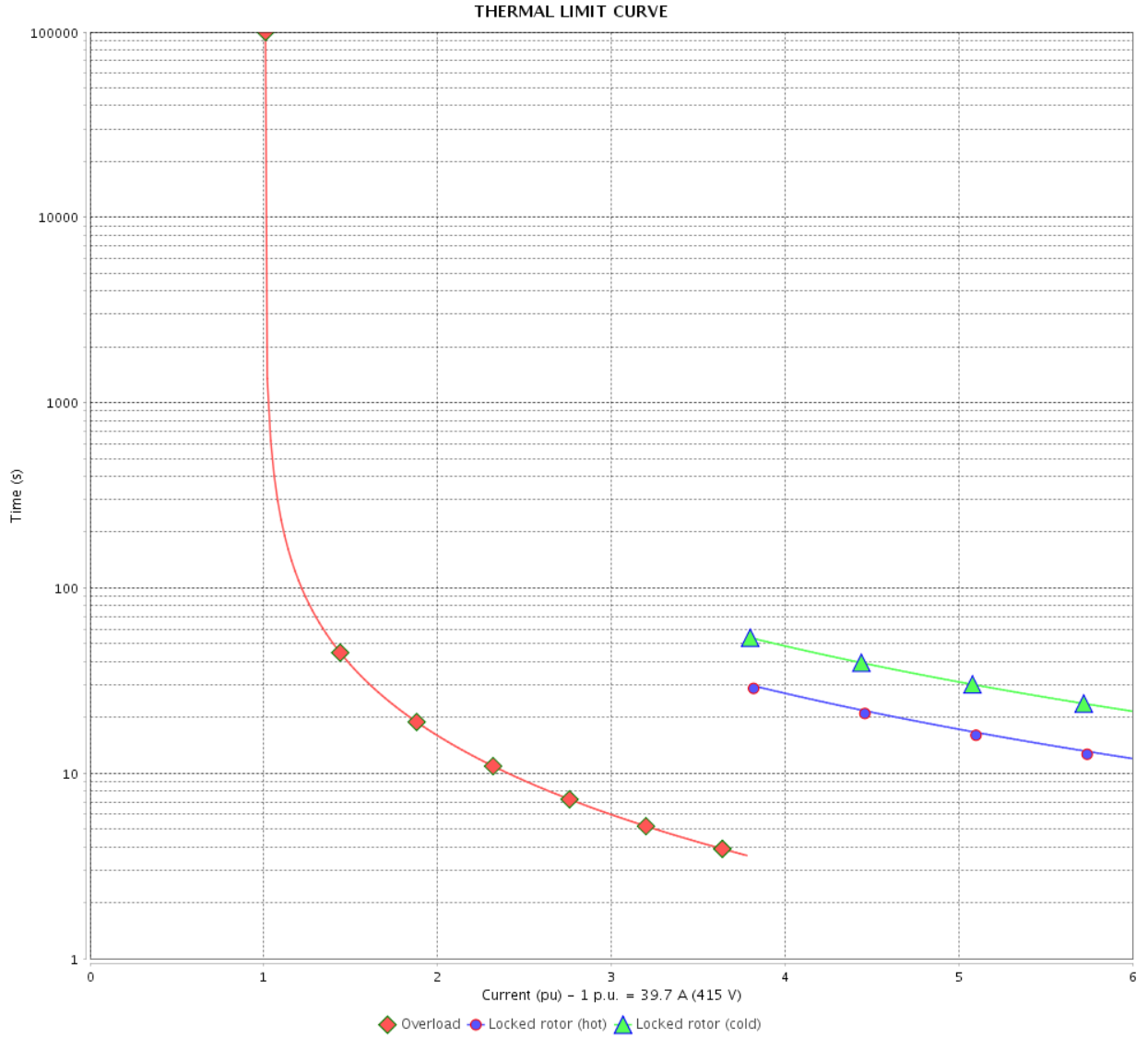
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		16 / 21	

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



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

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

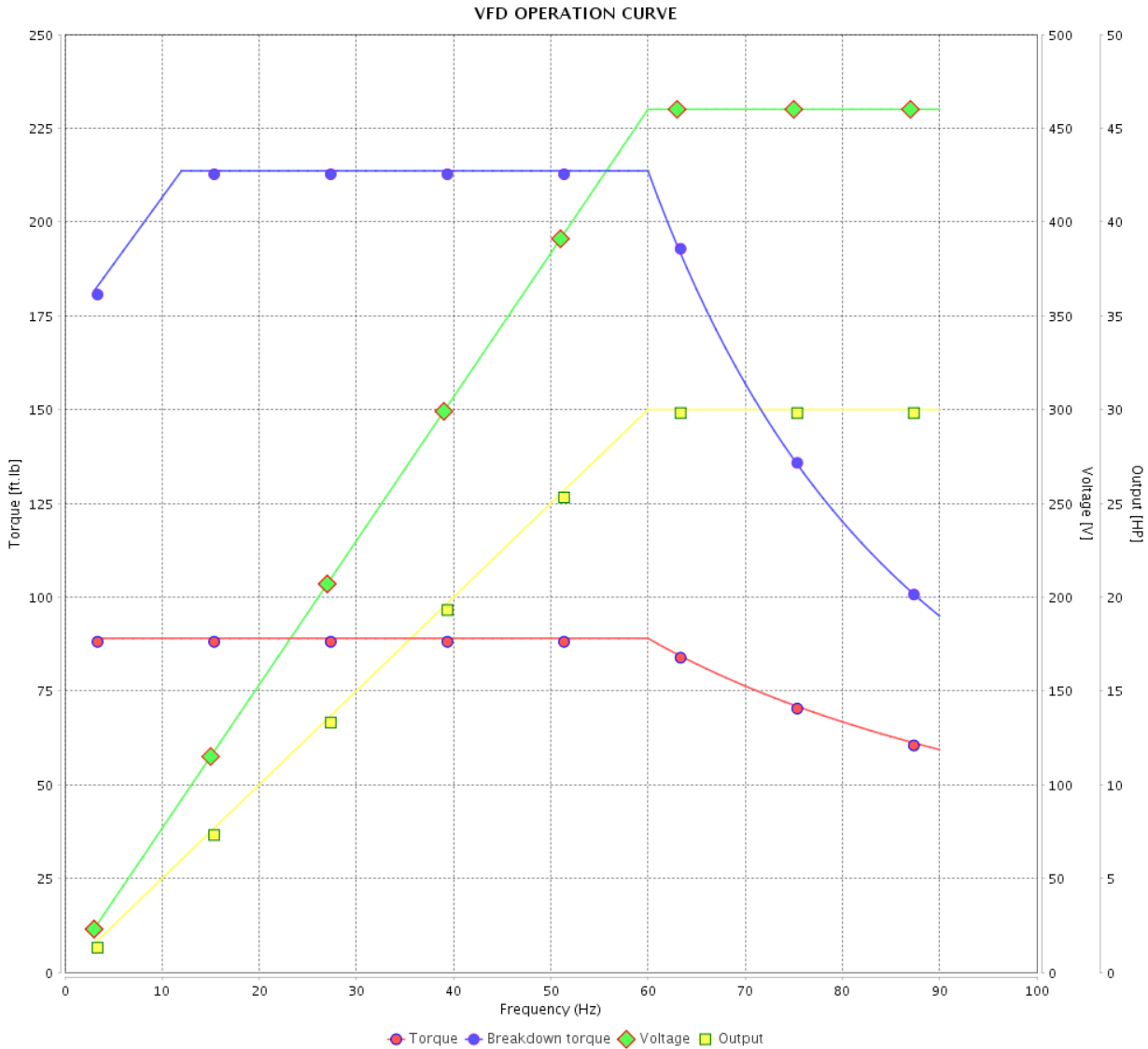


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 460 V 60 Hz 4P

Rated current : 35.1 A
 LRC : 6.1
 Rated torque : 89.0 ft.lb
 Locked rotor torque : 240 %
 Breakdown torque : 240 %
 Rated speed : 1770 rpm

Moment of inertia (J) : 5.85 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

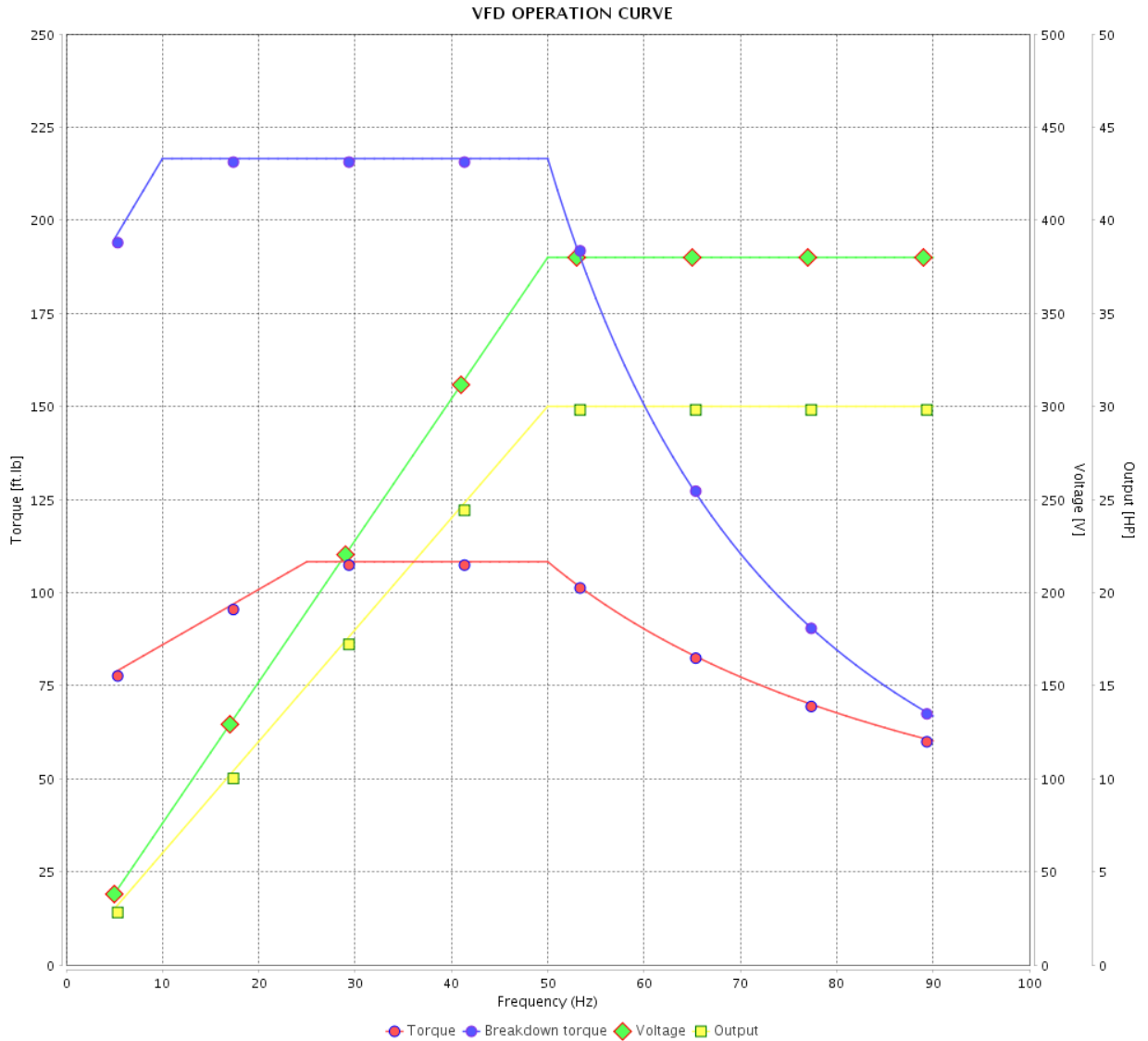


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 380 V 50 Hz 4P IE1

Rated current : 43.1 A
 LRC : 5.3
 Rated torque : 108 ft.lb
 Locked rotor torque : 170 %
 Breakdown torque : 200 %
 Rated speed : 1455 rpm

Moment of inertia (J) : 5.85 sq.ft.lb
 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 19 / 21	Revision
Checked by				
Date	14/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

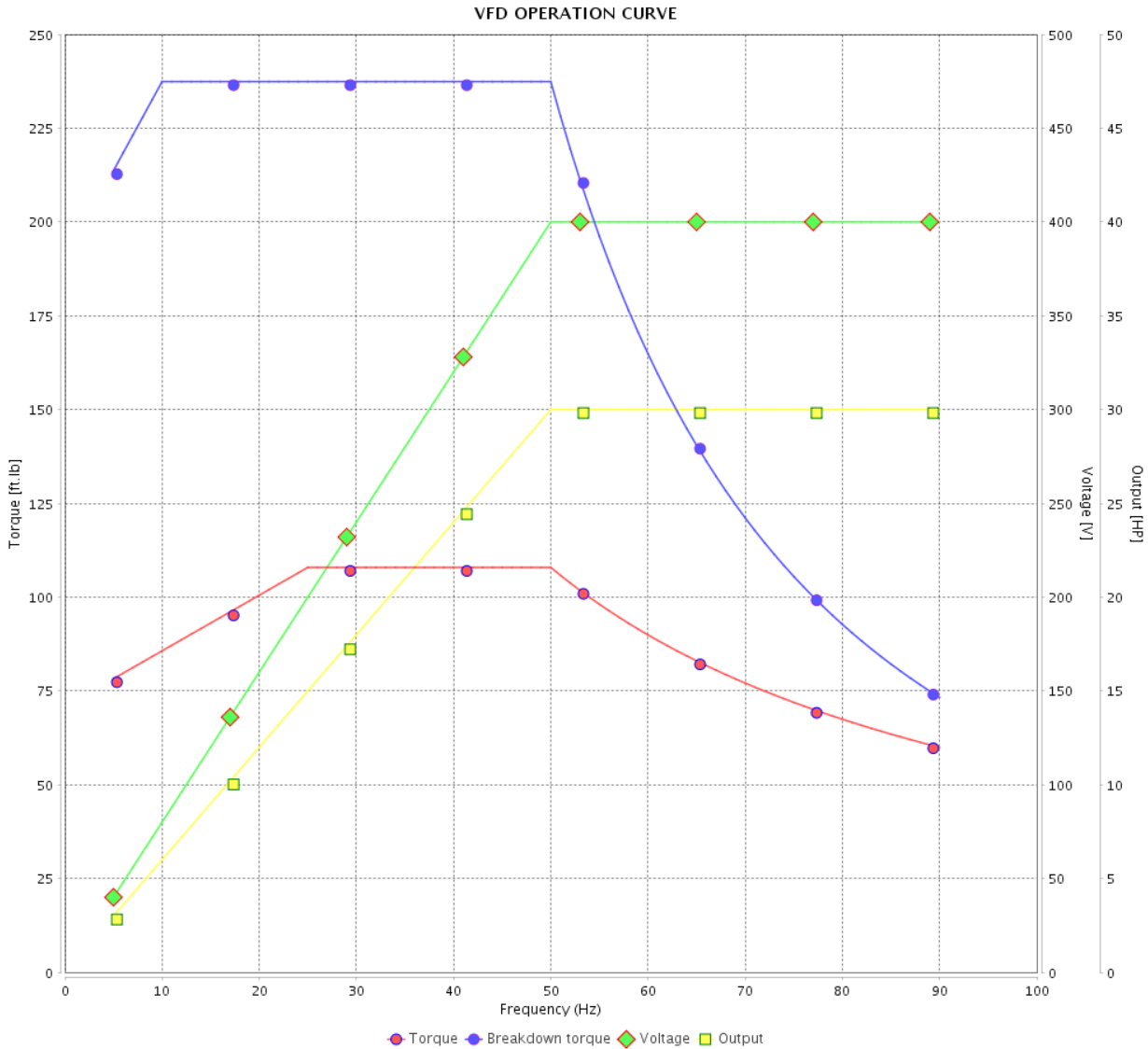


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 400 V 50 Hz 4P IE1

Rated current	: 41.1 A	Moment of inertia (J)	: 5.85 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 108 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 105 K
Rated speed	: 1460 rpm	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

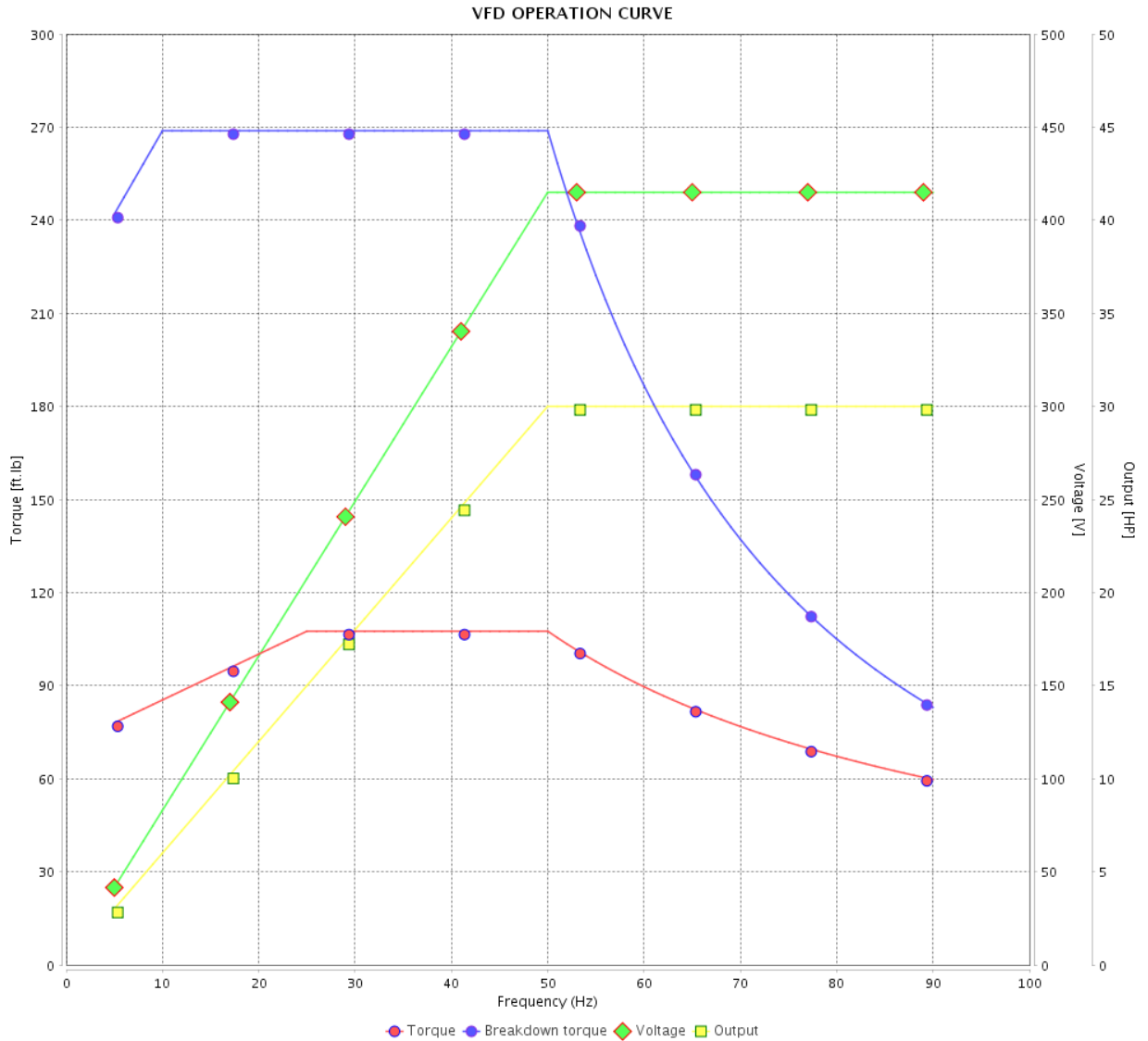


Customer : _____

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431667

Catalog # : 03018ST3QIE286T-W22



Performance : 415 V 50 Hz 4P IE2

Rated current : 39.7 A
 LRC : 6.0
 Rated torque : 108 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 5.85 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

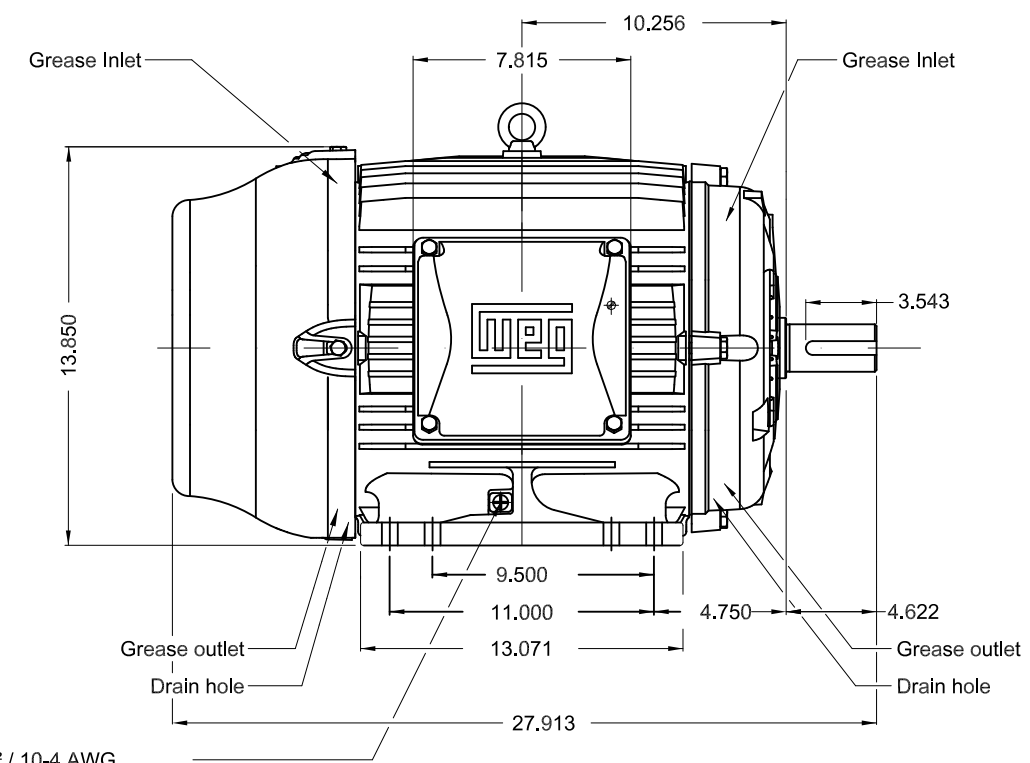
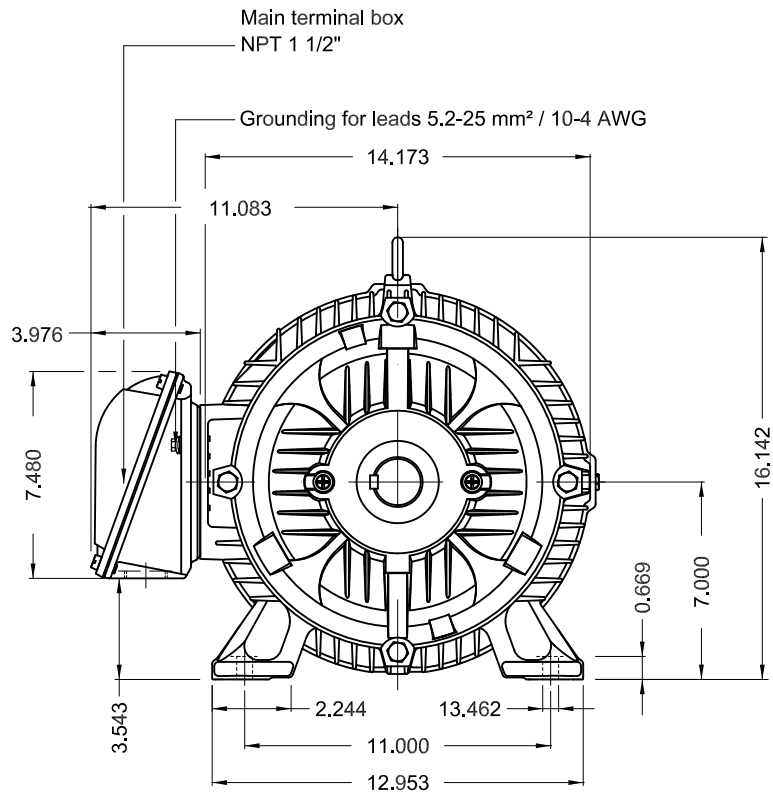
Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		21 / 21		
Date	14/04/2022			

1 2 3 4 5 6

A

B

C

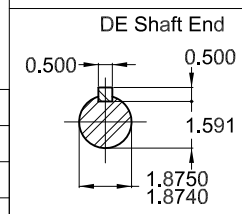


Grounding for leads 5.2-25 mm² / 10-4 AWG

D

E

Color RAL 5009
 Painting plan 202E
 Mounting NEMA F-1
 Mounting B3R(D)



30 HP 04 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 284/6T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
WDD





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

IE030404W22IS



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
11431667

PH3 60Hz Fr. 284/6T 1000m.a.s.l. IP55 TEFC 442lb

V 460

A 35.1

HP 30

kW 22

SF 1.25

SFA 43.9

RPM 1770

PF 0.84

AMB 40°C

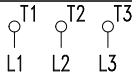
INS cl. F DT80K

NEMA NOM EFF 93.6%

DUTY CONT.

DES B Code G

GUARANT. EFF 92.4%



460V



→ 6311-C3 (18g) 55BC03X30

→ 6211-C3 (11g) 55BC02X30



MOBIL POLYREX EM (20000h)

