

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :	11431717	
			Catalog # :	10036ST3QIE405TS-W22	
Frame		: 404/5TS	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	: 1116 lb	
Protection degree		: IP55	Moment of inertia (J)	: 13.2 sq.ft.lb	
Design		: B			
Output [HP]	100	75	75	75	
Poles	2	2	2	2	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380/380	400/400	415/415	
Rated current [A]	112	99.6/99.6	94.6/94.6	92.2/92.2	
L. R. Amperes [A]	728	677/677	719/719	756/756	
LRC [A]	6.5x(Code G)	6.8x(Code G)	7.6x(Code H)	8.2x(Code J)	
No load current [A]	26.0	25.7/25.7	27.5/27.5	29.1/29.1	
Rated speed [RPM]	3545	2955	2960	2965	
Slip [%]	1.53	1.50	1.33	1.17	
Rated torque [ft.lb]	148	133	133	133	
Locked rotor torque [%]	240	250	280	300	
Breakdown torque [%]	260	280	310	330	
Service factor	1.25	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	
Noise level ²	79.0 dB(A)	74.0 dB(A)	74.0 dB(A)	74.0 dB(A)	
Efficiency (%)	25%				
	50%	93.0	93.0	93.1	
	75%	94.1	93.8	93.8	
	100%	94.1	94.3	94.3	
Power Factor	25%				
	50%	0.83	0.82	0.80	
	75%	0.88	0.88	0.86	
	100%	0.89	0.89	0.89	
Bearing type		Drive end : 6314 C3	Non drive end : 6314 C3	Foundation loads	
Sealing		: Inpro/Seal	: Inpro/Seal	Max. traction : 758 lb	
Lubrication interval		: 4000 h	: 4000 h	Max. compression : 1874 lb	
Lubricant amount		: 27 g	: 27 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	12/04/2022			1 / 21	

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



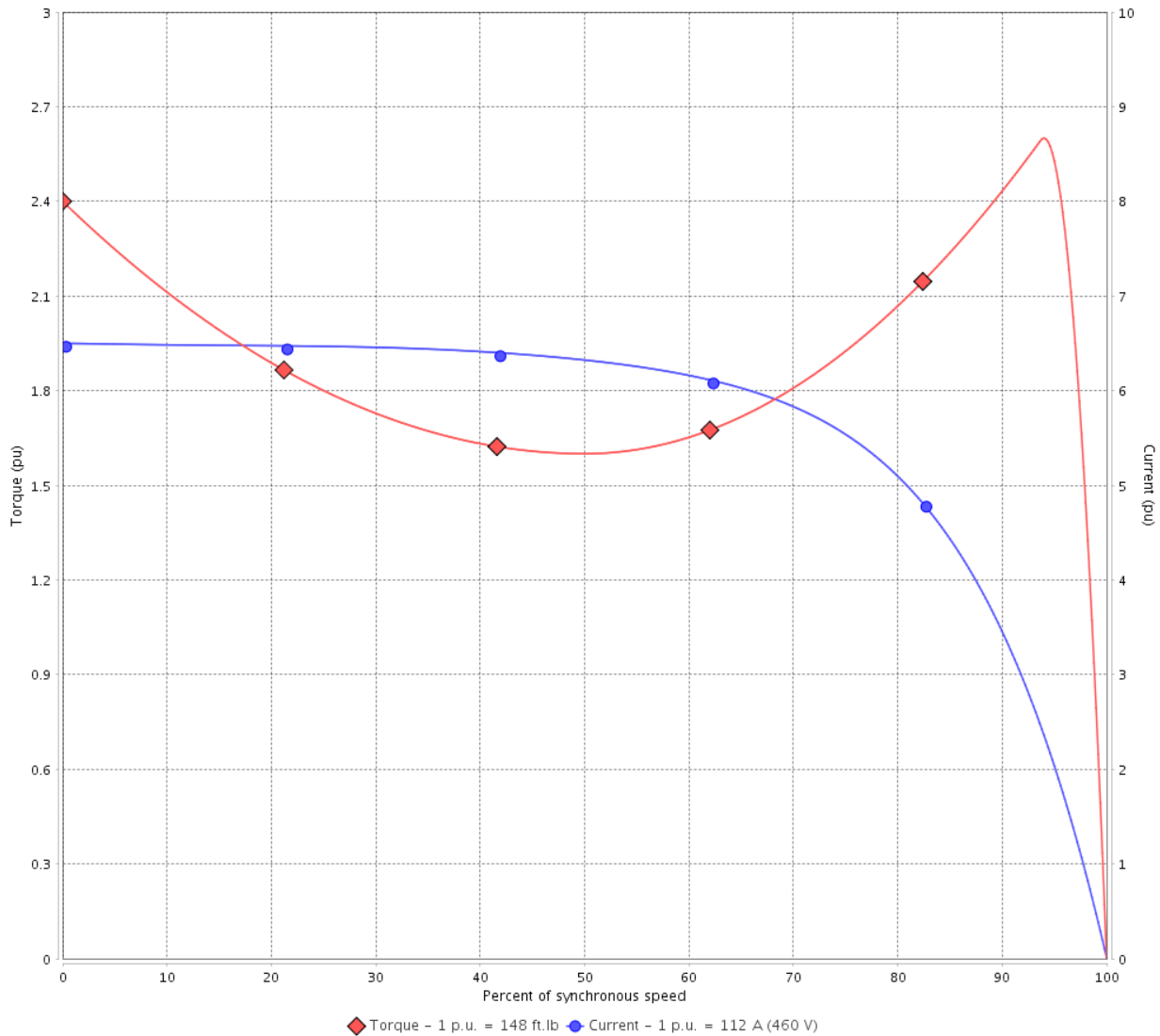
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 2P

Rated current	: 112 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 148 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 3545 rpm	Design	: B

Locked rotor time : 25s (cold) 14s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 21	Revision
Checked by				
Date	12/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



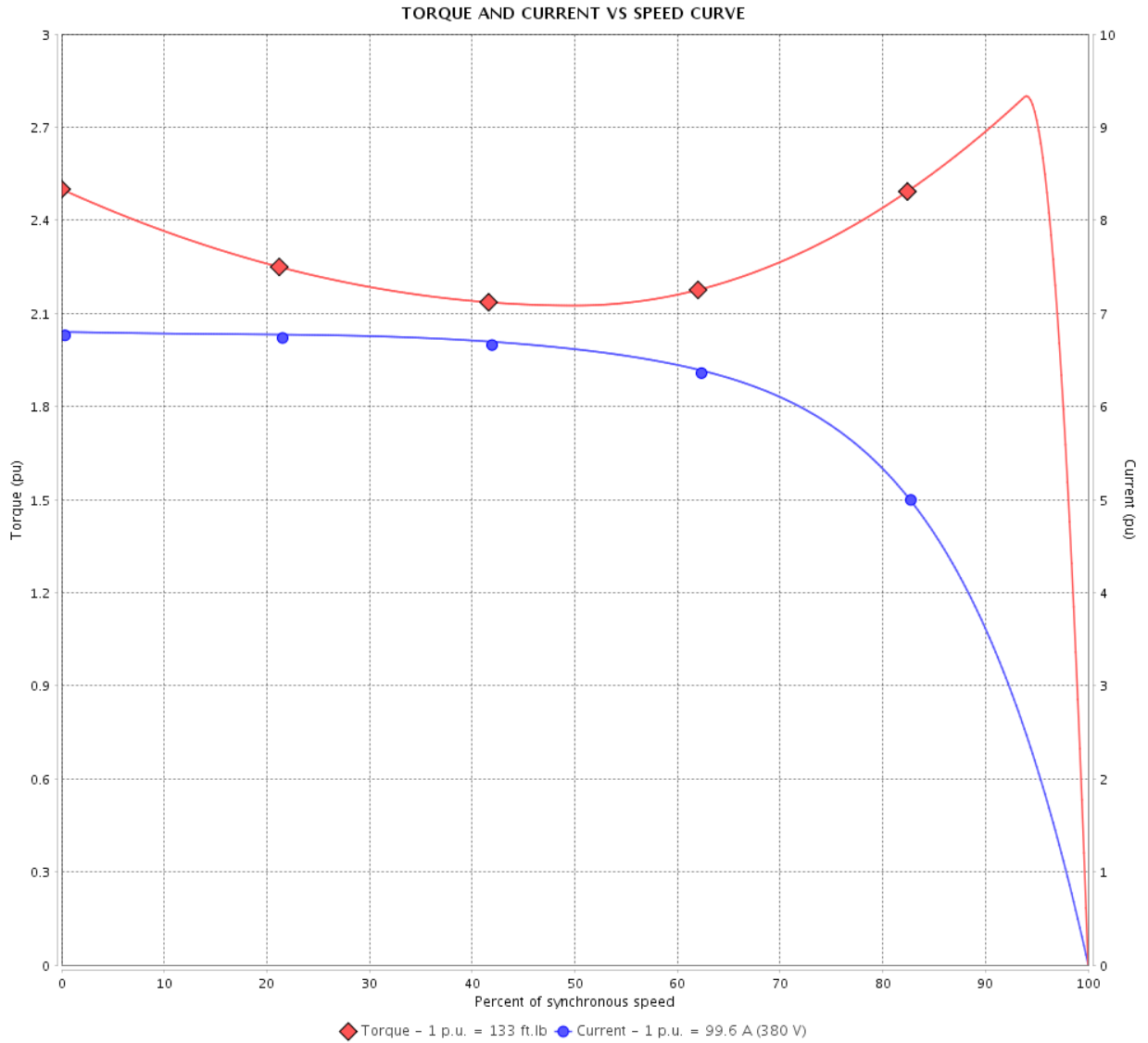
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22



Performance : 380/380 V 50 Hz 2P IE3

Rated current	: 99.6/99.6 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2955 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	12/04/2022			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



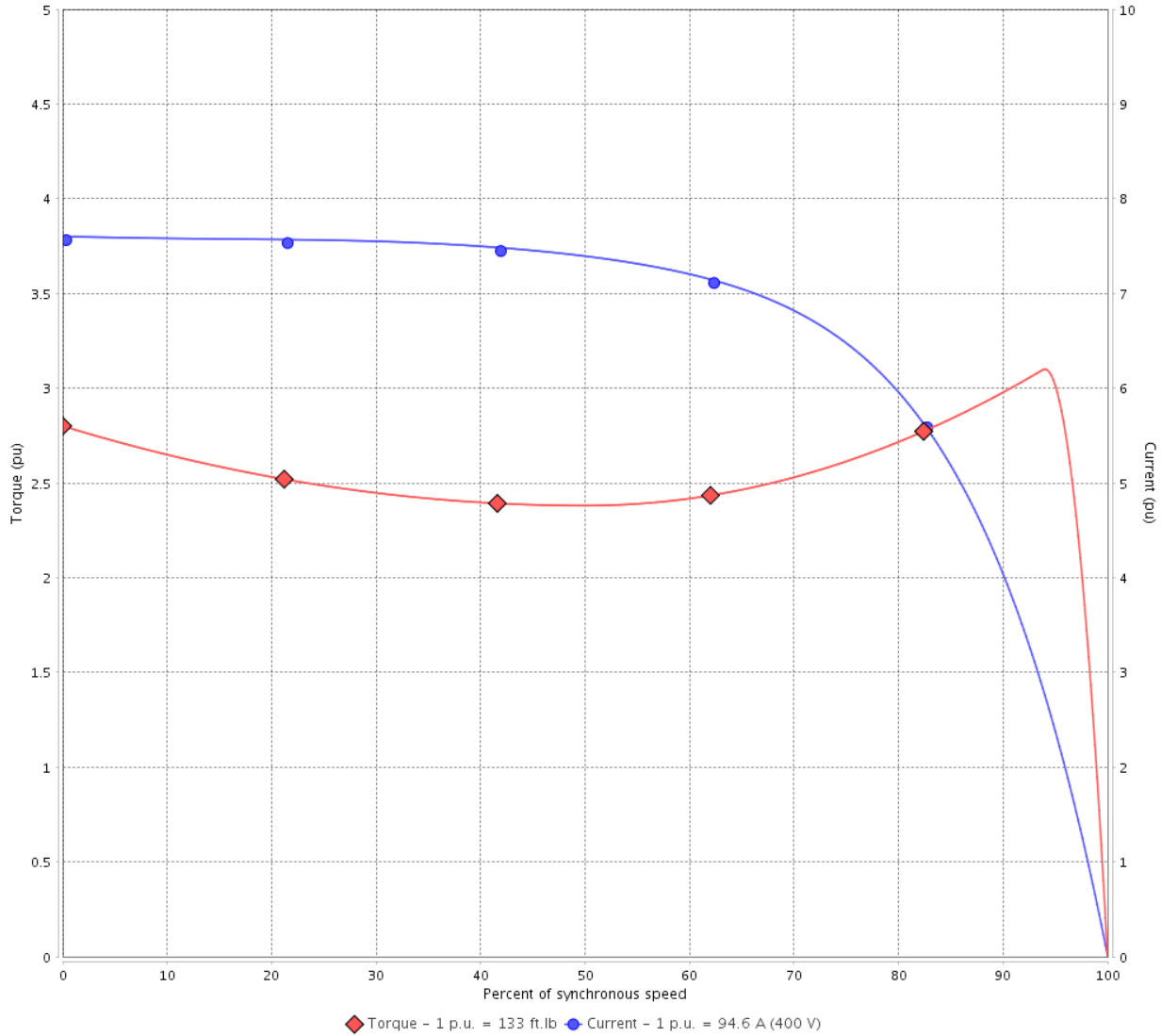
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400/400 V 50 Hz 2P IE3

Rated current	: 94.6/94.6 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2960 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	12/04/2022			

TORQUE AND CURRENT VS SPEED CURVE



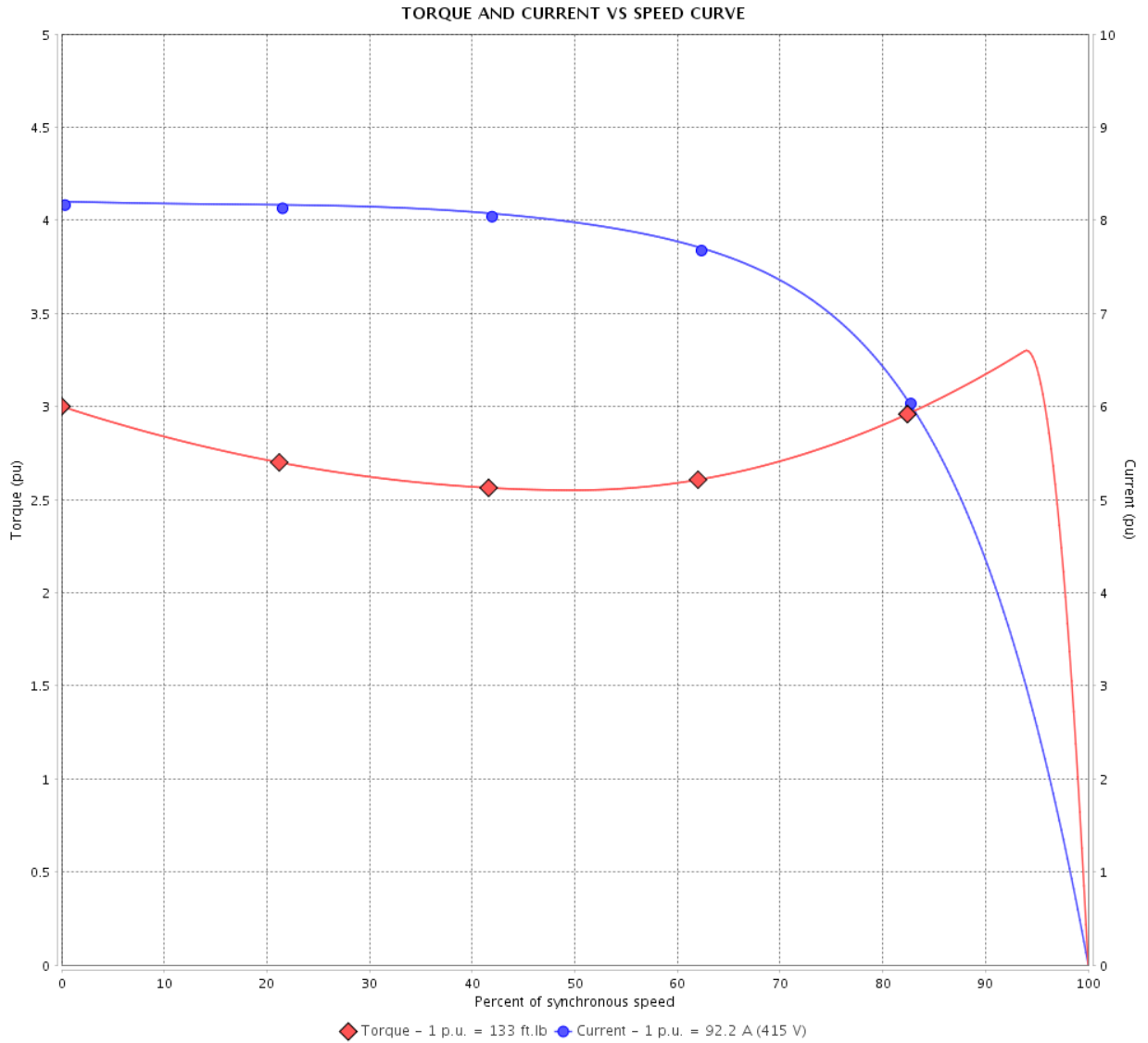
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22



Performance : 415/415 V 50 Hz 2P IE3

Rated current	: 92.2/92.2 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 8.2	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 21	Revision
Checked by				
Date	12/04/2022			

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Three Phase Induction Motor - Squirrel Cage

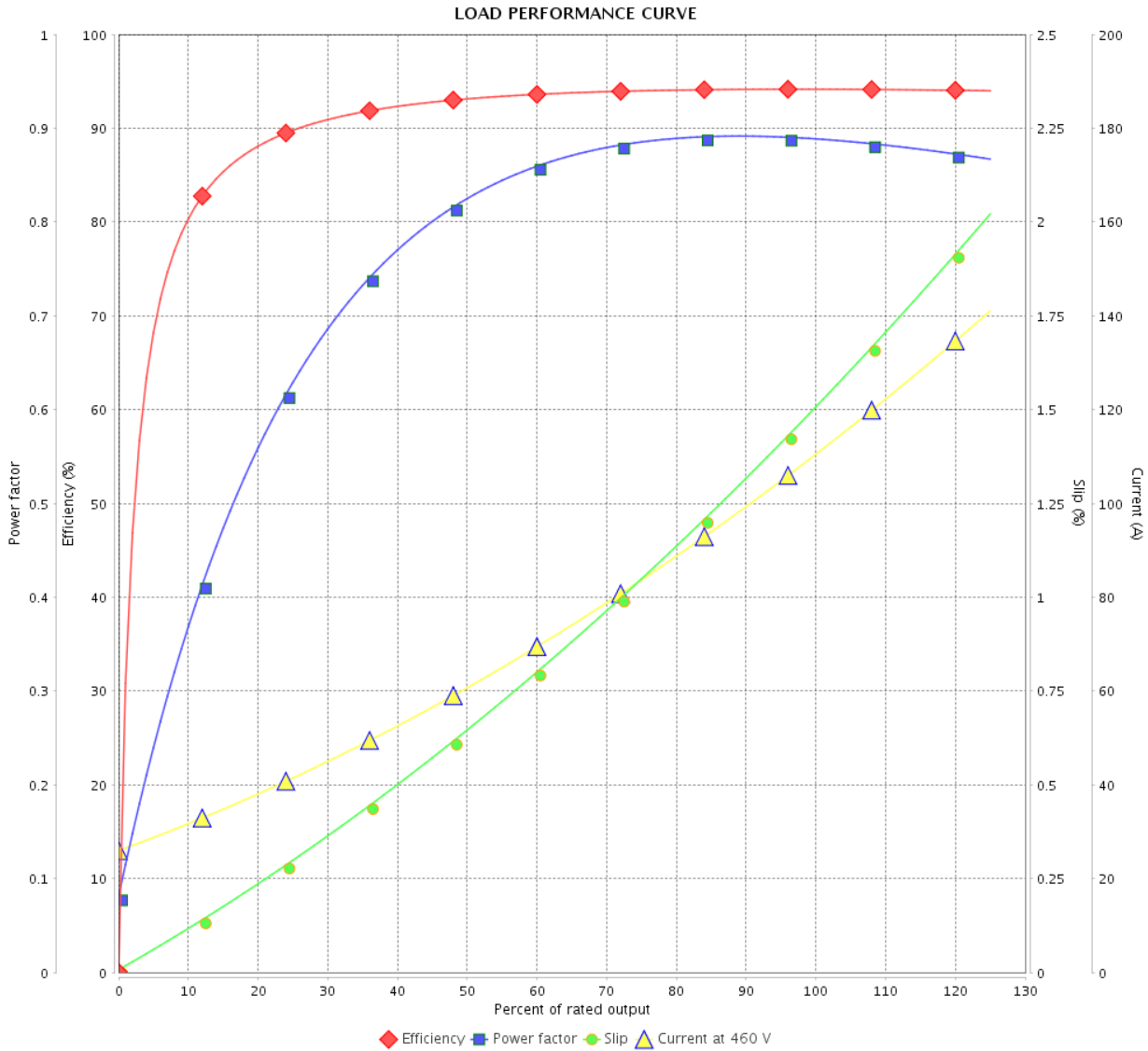


Customer :

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Performance : 460 V 60 Hz 2P

Rated current	: 112 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 148 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 3545 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			6 / 21	
Date	12/04/2022			

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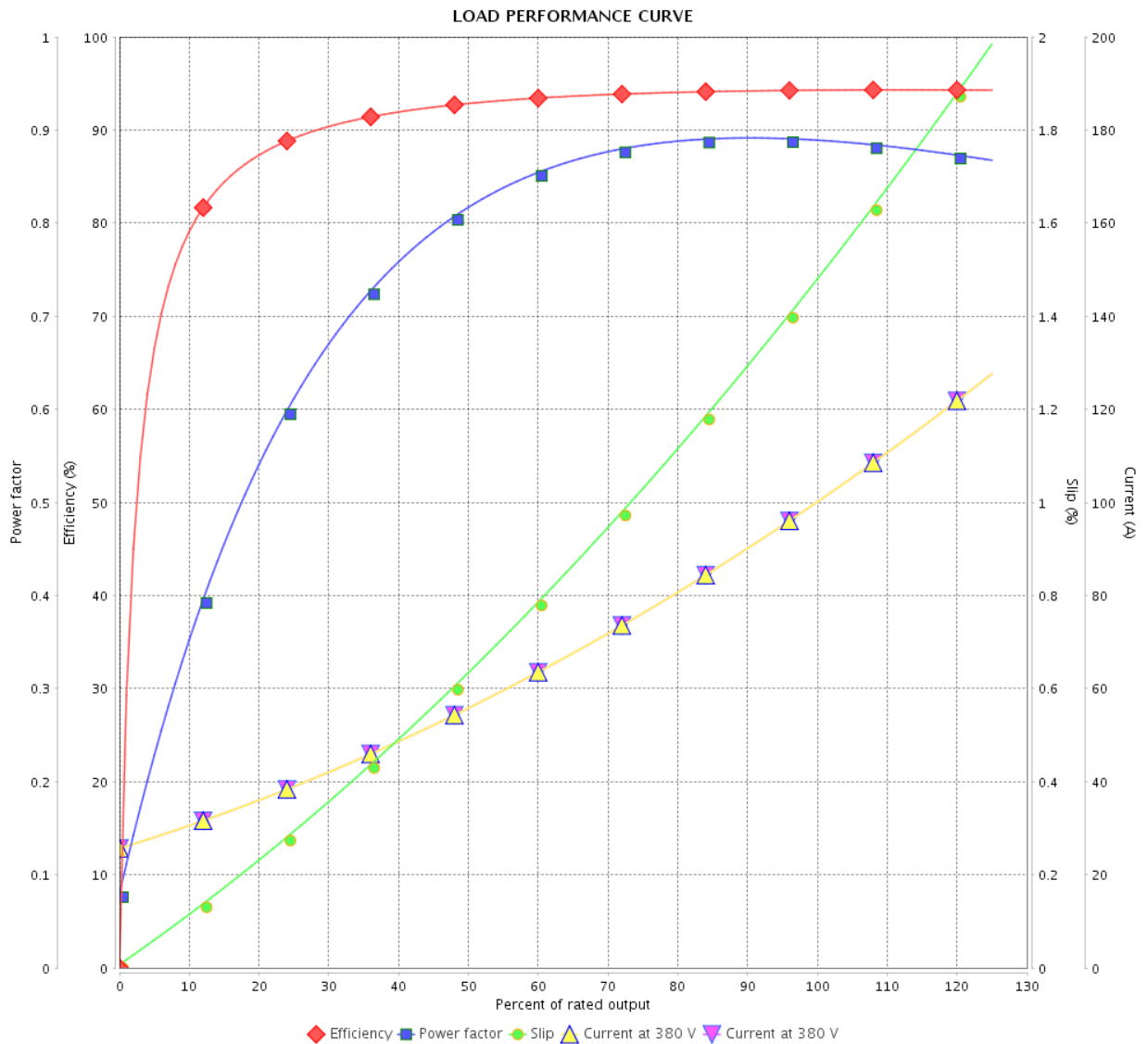


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22



Performance : 380/380 V 50 Hz 2P IE3

Rated current : 99.6/99.6 A
 LRC : 6.8
 Rated torque : 133 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 280 %
 Rated speed : 2955 rpm

Moment of inertia (J) : 13.2 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		12/04/2022		

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Three Phase Induction Motor - Squirrel Cage



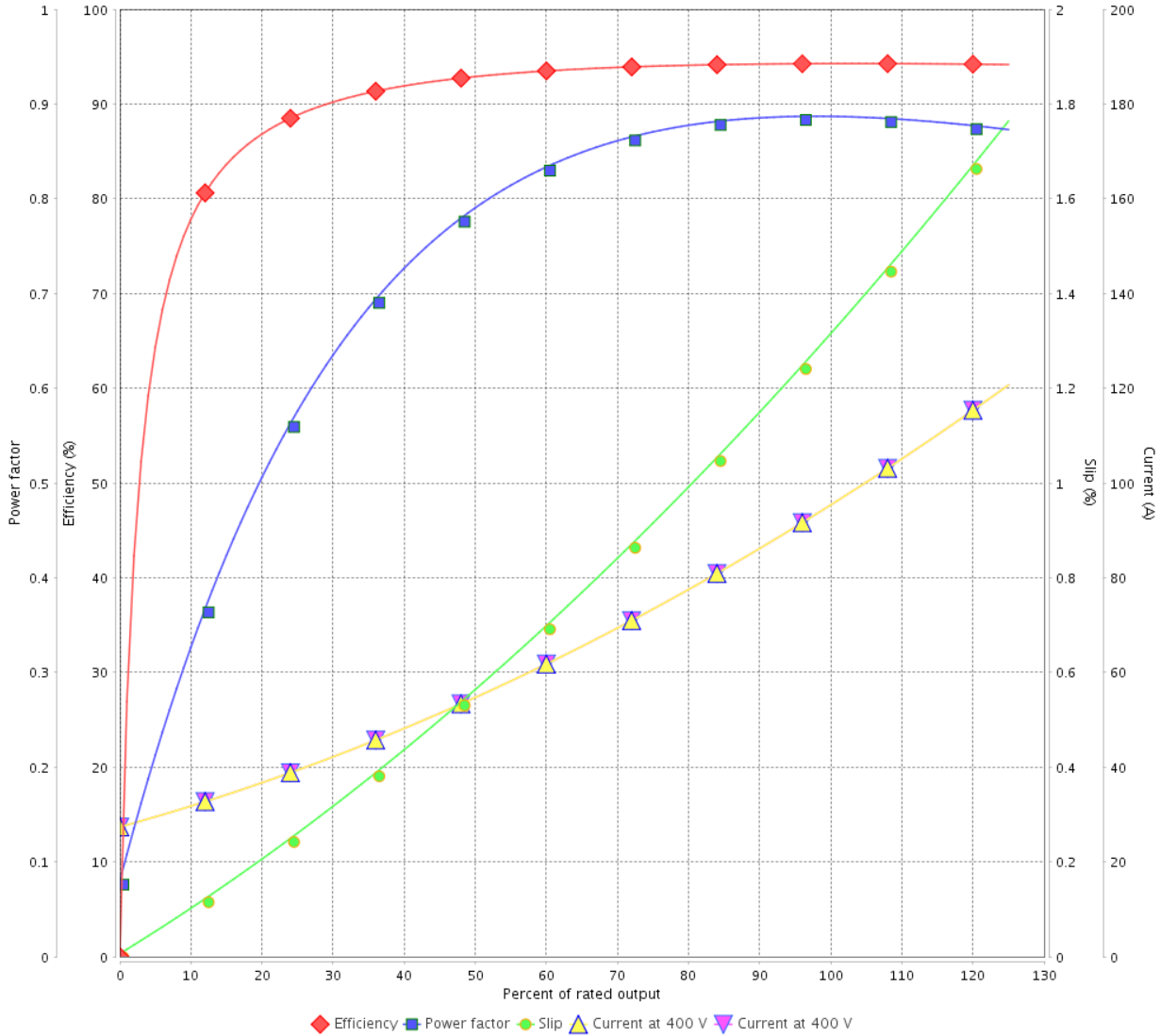
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22

LOAD PERFORMANCE CURVE



Performance : 400/400 V 50 Hz 2P IE3

Rated current : 94.6/94.6 A
 LRC : 7.6
 Rated torque : 133 ft.lb
 Locked rotor torque : 280 %
 Breakdown torque : 310 %
 Rated speed : 2960 rpm

Moment of inertia (J) : 13.2 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	12/04/2022			

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Three Phase Induction Motor - Squirrel Cage

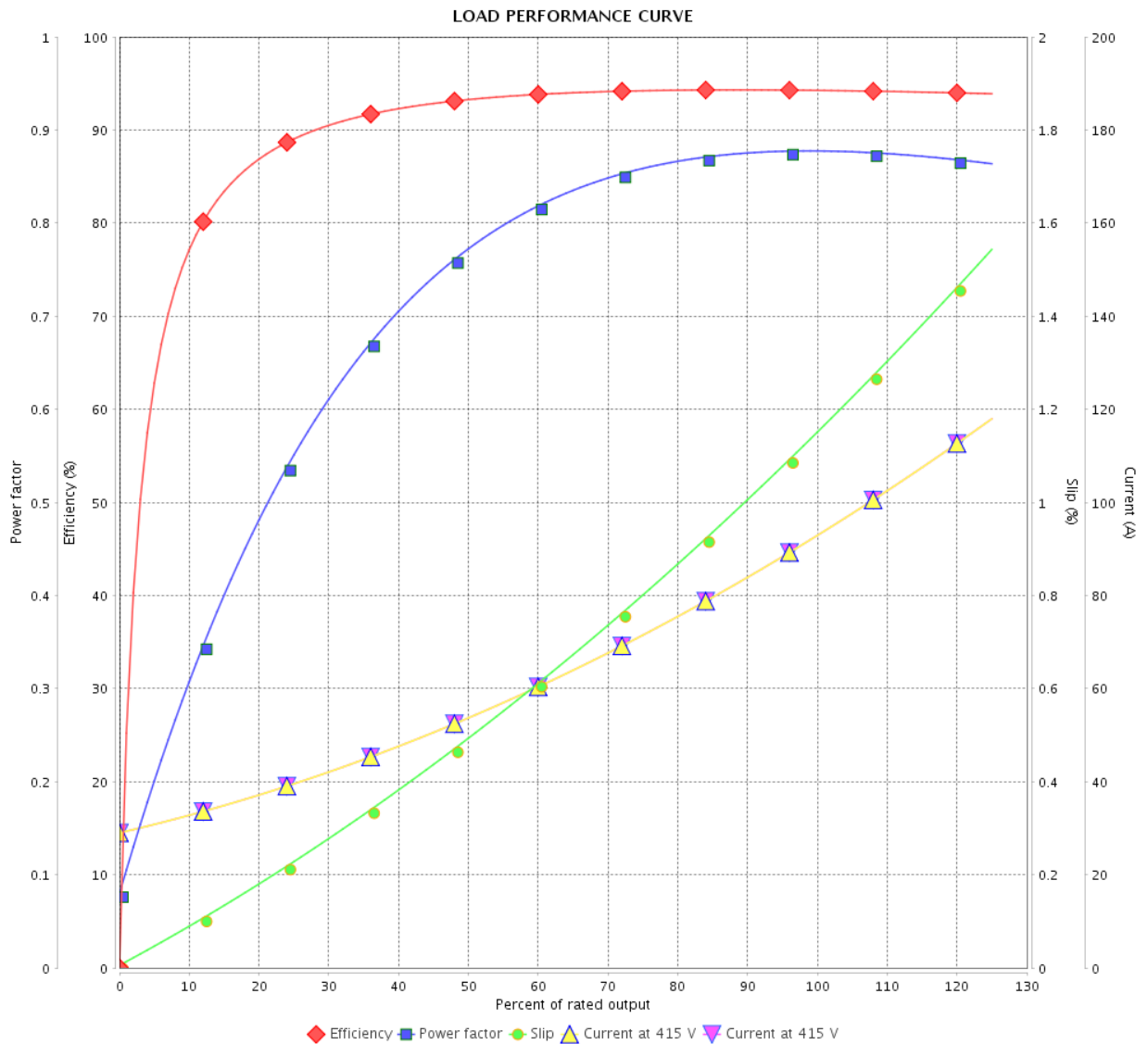


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11431717

Catalog # : 10036ST3QIE405TS-W22



Performance : 415/415 V 50 Hz 2P IE3

Rated current : 92.2/92.2 A
 LRC : 8.2
 Rated torque : 133 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 330 %
 Rated speed : 2965 rpm

Moment of inertia (J) : 13.2 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				
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THERMAL LIMIT CURVE



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Locked rotor torque : 240 %	Service factor : 1.25
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 3545 rpm	Design : B

Heating constant

Cooling constant

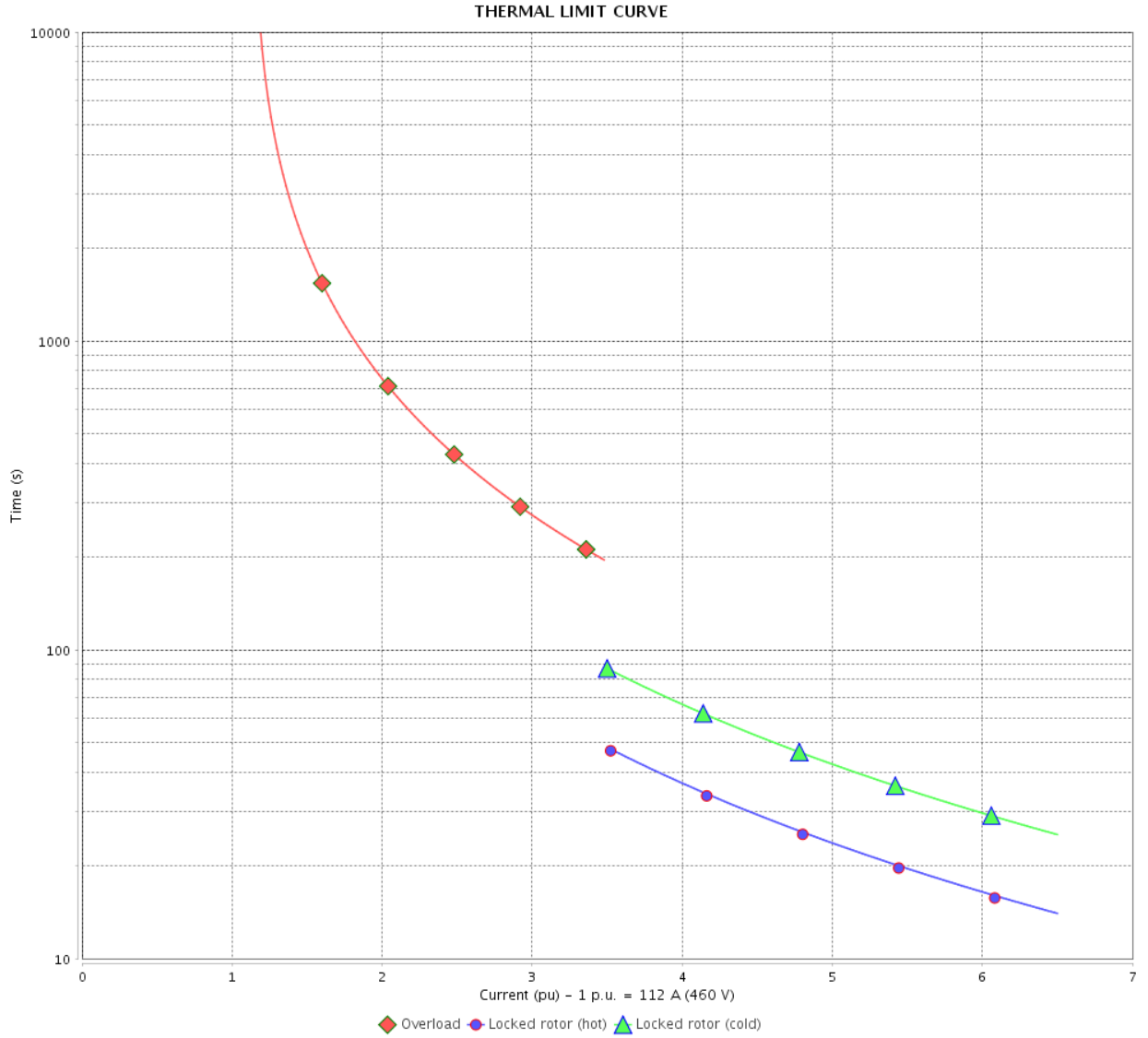
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Performed by			Page 10 / 21	Revision
Checked by				
Date	12/04/2022			

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		12/04/2022		

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Performance : 380/380 V 50 Hz 2P IE3

Rated current : 99.6/99.6 A	Moment of inertia (J) : 13.2 sq.ft.lb
LRC : 6.8	Duty cycle : Cont.(S1)
Rated torque : 133 ft.lb	Insulation class : F
Locked rotor torque : 250 %	Service factor : 1.00
Breakdown torque : 280 %	Temperature rise : 80 K
Rated speed : 2955 rpm	Design : B

Heating constant

Cooling constant

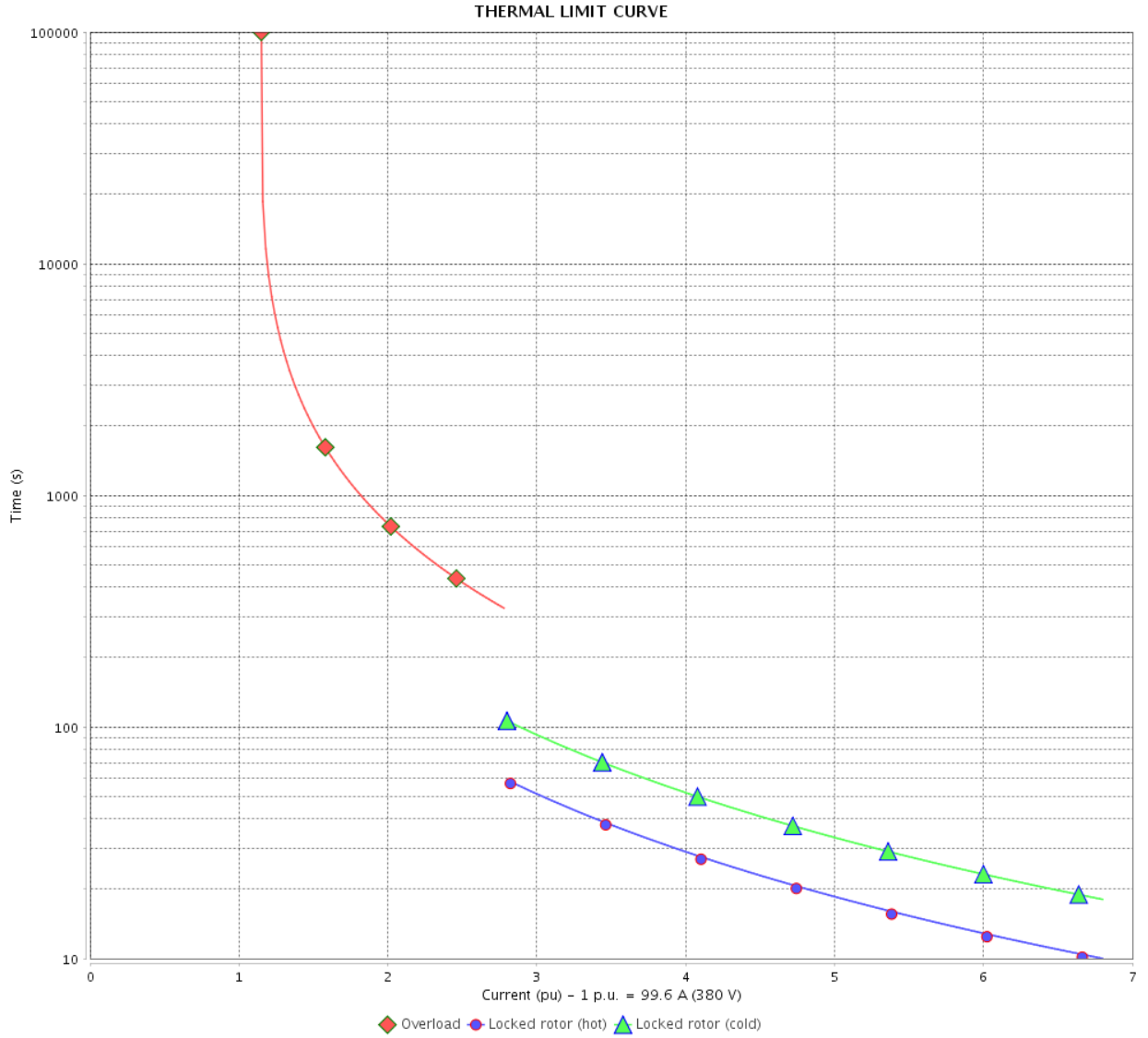
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Performed by			Page 12 / 21	Revision
Checked by				
Date	12/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 21		
Date		12/04/2022		

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Rated current	: 94.6/94.6 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 133 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: B

Heating constant

Cooling constant

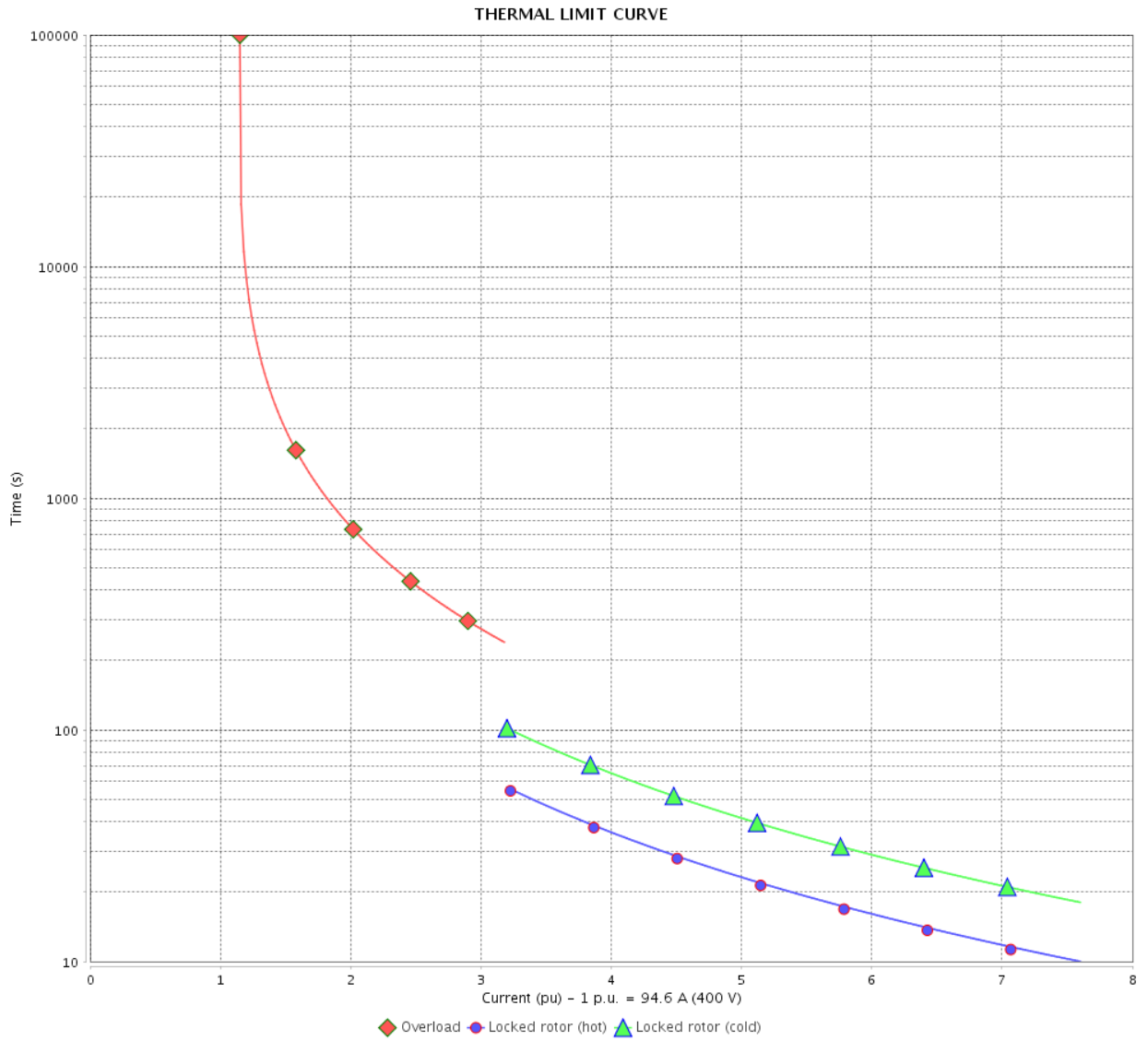
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Performed by				
Checked by			Page	Revision
Date	12/04/2022		14 / 21	

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Three Phase Induction Motor - Squirrel Cage



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

THERMAL LIMIT CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase
 Product code : 11431717
 Catalog # : 10036ST3QIE405TS-W22

Performance : 415/415 V 50 Hz 2P IE3

Rated current : 92.2/92.2 A	Moment of inertia (J) : 13.2 sq.ft.lb
LRC : 8.2	Duty cycle : Cont.(S1)
Rated torque : 133 ft.lb	Insulation class : F
Locked rotor torque : 300 %	Service factor : 1.00
Breakdown torque : 330 %	Temperature rise : 80 K
Rated speed : 2965 rpm	Design : B

Heating constant

Cooling constant

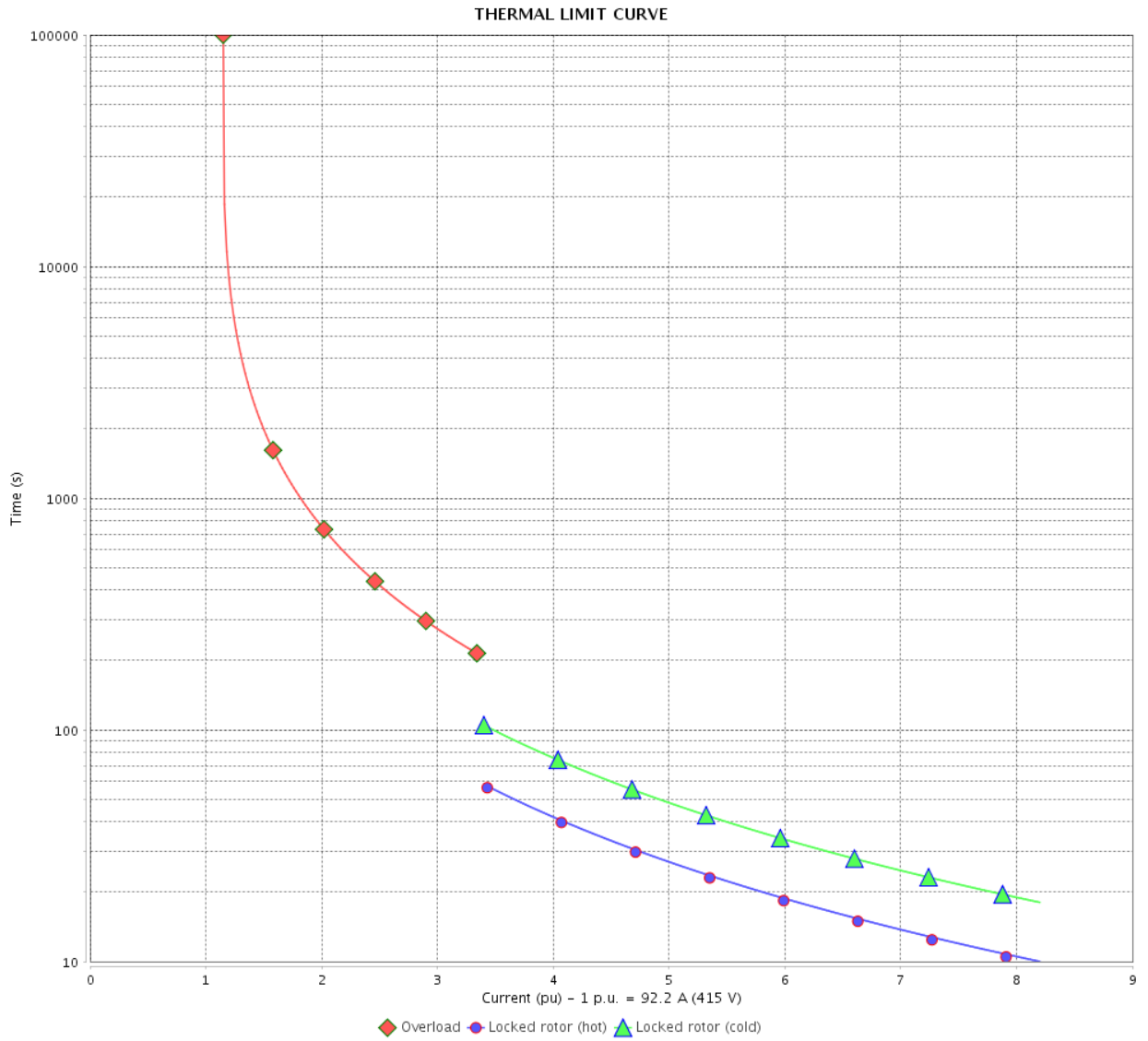
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Performed by			Page 16 / 21	Revision
Checked by				
Date	12/04/2022			

THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : _____



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		17 / 21		
Date		12/04/2022		

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



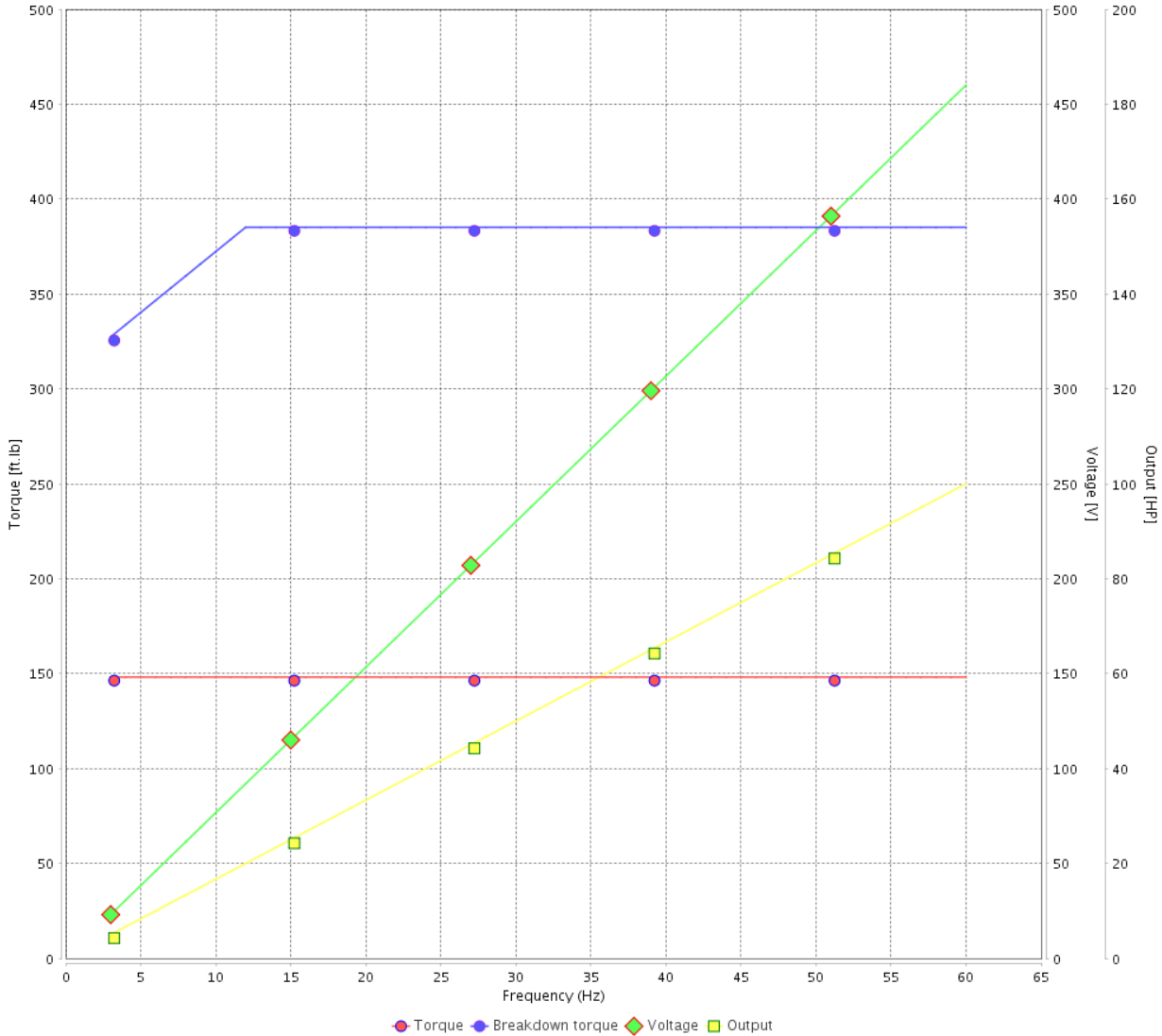
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VFD OPERATION CURVE



Performance : 460 V 60 Hz 2P

Rated current	: 112 A	Moment of inertia (J)	: 13.2 sq.ft.lb
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 148 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 3545 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 18 / 21	Revision
Checked by				
Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

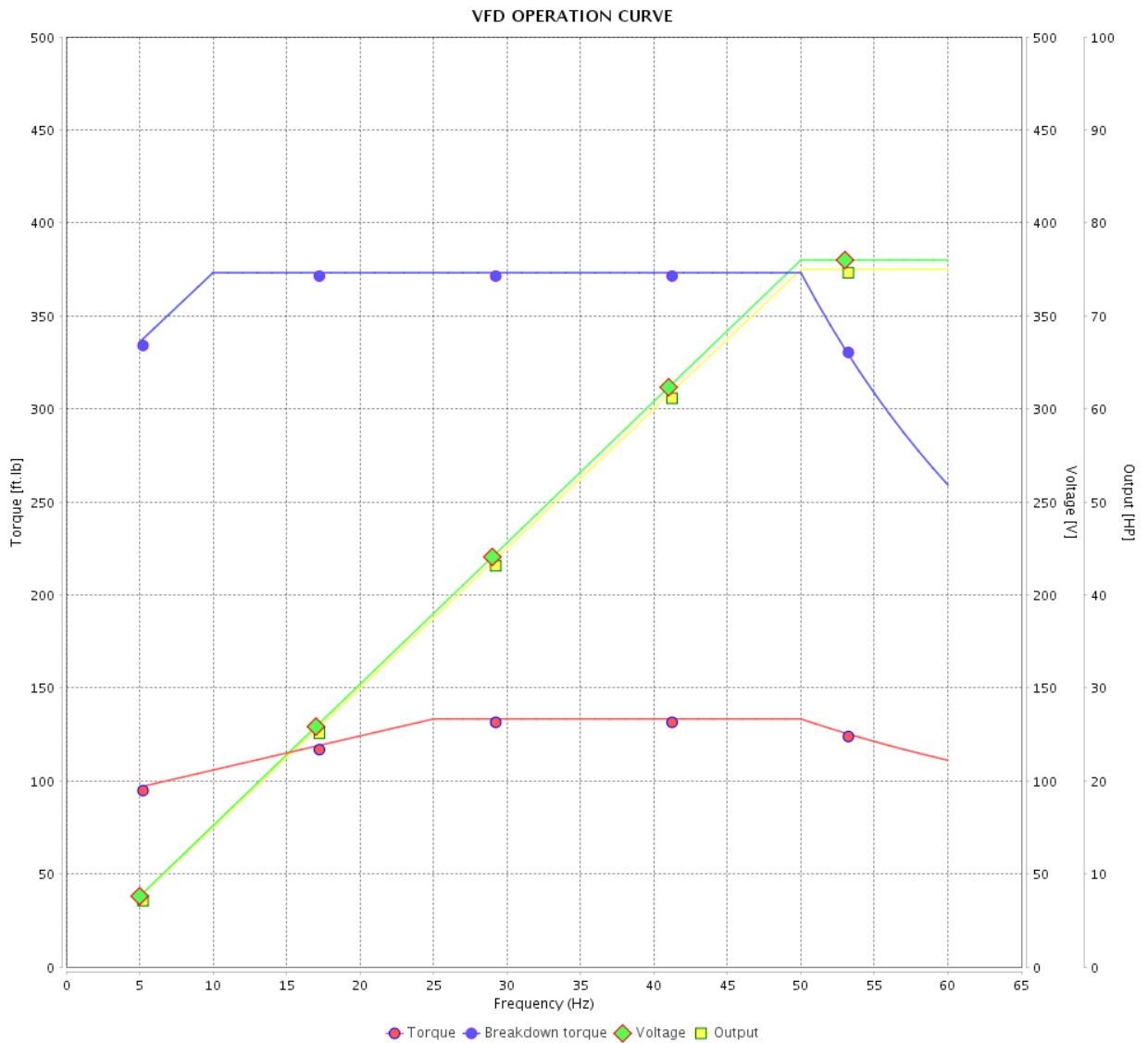


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Performance : 380/380 V 50 Hz 2P IE3

Rated current : 99.6/99.6 A
 LRC : 6.8
 Rated torque : 133 ft.lb
 Locked rotor torque : 250 %
 Breakdown torque : 280 %
 Rated speed : 2955 rpm

Moment of inertia (J) : 13.2 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	Revision
Checked by				
Date	12/04/2022			

VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



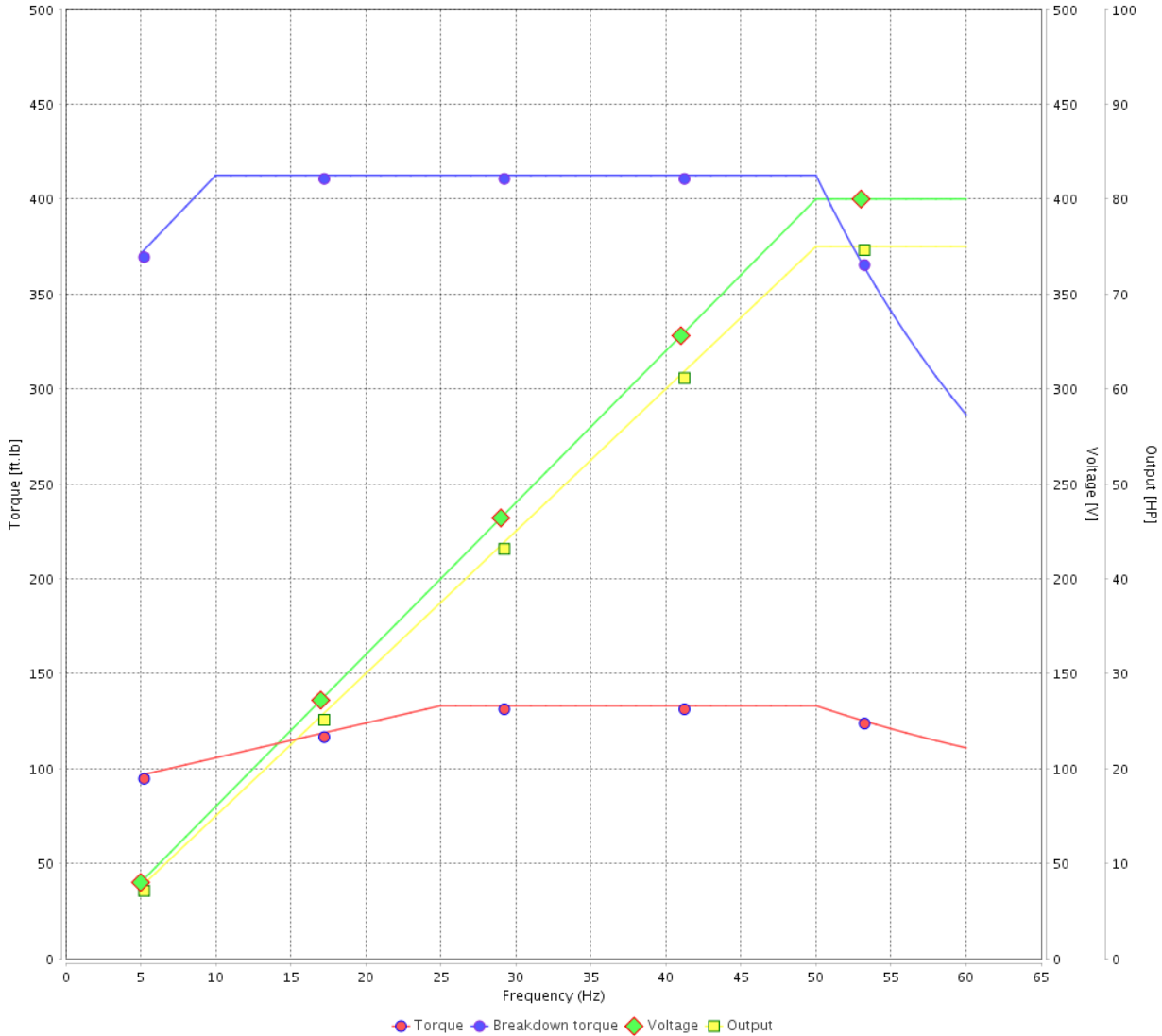
Customer :

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VFD OPERATION CURVE



Performance : 400/400 V 50 Hz 2P IE3

Rated current : 94.6/94.6 A
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 Breakdown torque : 310 %
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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
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VFD OPERATION CURVE

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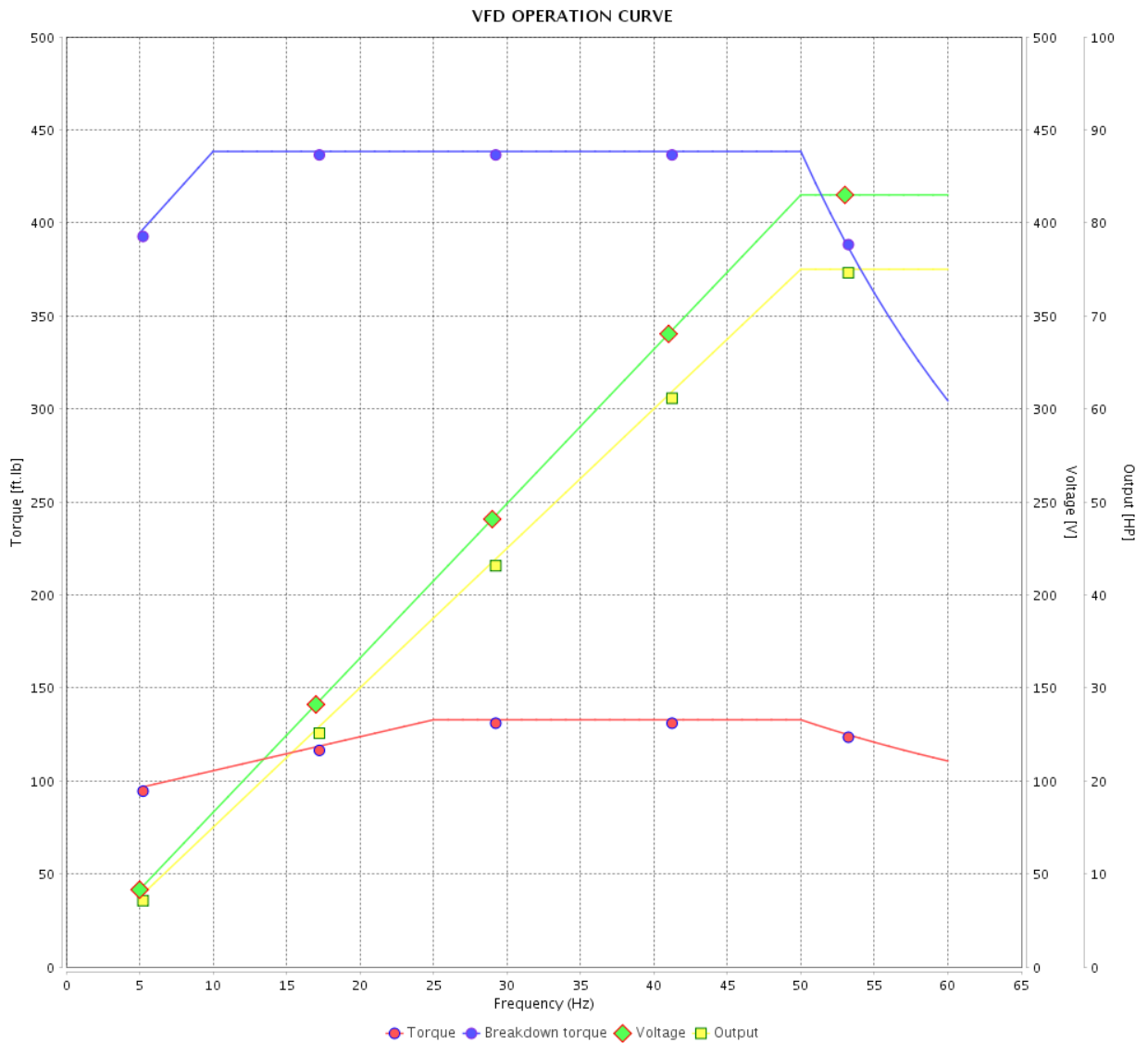


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Catalog # : 10036ST3QIE405TS-W22



Performance : 415/415 V 50 Hz 2P IE3

Rated current : 92.2/92.2 A
 LRC : 8.2
 Rated torque : 133 ft.lb
 Locked rotor torque : 300 %
 Breakdown torque : 330 %
 Rated speed : 2965 rpm

Moment of inertia (J) : 13.2 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
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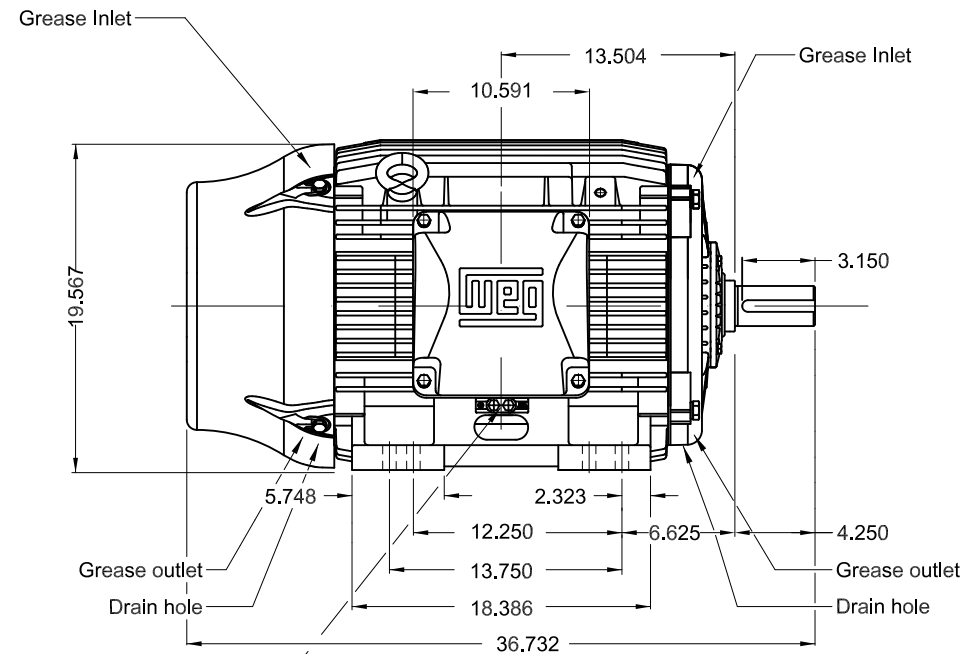
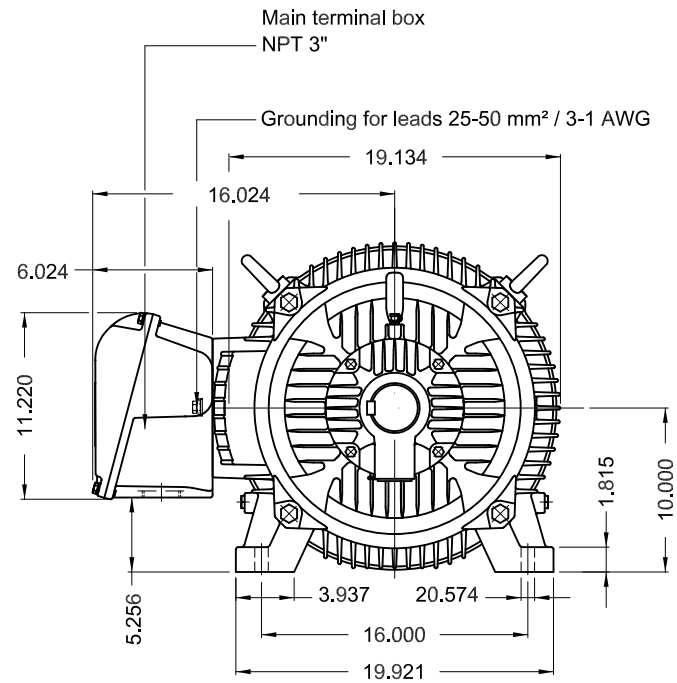
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

1 2 3 4 5 6

A

B

C

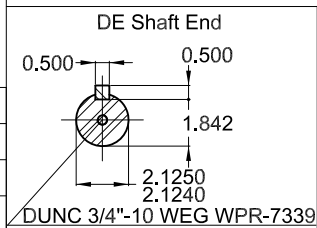


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

Without vertical jackscrews
 Color RAL 5009
 Painting plan 202E
 Mounting B3R(D)



100 HP 02 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR IEEE 841 W22 PREM. EFF. FRAME 404/5TS IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW
 WDD



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

MODEL 10036ST3QIE405TS-W22



Inverter Duty Motor
Severe Duty

MADE IN BRAZIL
11431717

PH3 60Hz Fr. 404/5TS 1000m.a.s.l. IP55 TEFC 1165lb

V 460

A 112

HP 100

kW 75

SF 1.25

SFA 140

RPM 3545

PF 0.89

AMB 40°C

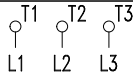
INS cl. F DT80K

NEMA NOM EFF 94.1%

DUTY CONT.

DES B Code G

GUARANT. EFF 93.0%



460V



→ 6314-C3 (27g) 70BC03X30

→ 6314-C3 (27g) 70BC03X30



MOBIL POLYREX EM (4000h)

