

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11603184		
		Catalog # :	01012ST3QIE256TC-W22		
Frame	: 254/6TC	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>	: 309 lb		
Protection degree	: IP55	Moment of inertia (J)	: 4.43 sq.ft.lb		
Design	: B				
Output [HP]	10	10	10	10	
Poles	6	6	6	6	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	460	380	400	415	
Rated current [A]	12.9	15.4	14.8	14.4	
L. R. Amperes [A]	80.0	73.9	79.9	83.5	
LRC [A]	6.2x(Code H)	4.8x(Code E)	5.4x(Code F)	5.8x(Code G)	
No load current [A]	6.00	4.90	6.30	6.60	
Rated speed [RPM]	1175	965	970	975	
Slip [%]	2.08	3.50	3.00	2.50	
Rated torque [ft.lb]	44.7	54.4	54.1	53.9	
Locked rotor torque [%]	220	160	190	210	
Breakdown torque [%]	270	210	229	250	
Service factor	1.25	1.00	1.15	1.15	
Temperature rise	80 K	105 K	105 K	80 K	
Locked rotor time	46s (cold) 26s (hot)	39s (cold) 22s (hot)	39s (cold) 22s (hot)	39s (cold) 22s (hot)	
Noise level <sup>2</sup>	59.0 dB(A)	57.0 dB(A)	57.0 dB(A)	57.0 dB(A)	
Efficiency (%)	25%	90.0	90.4	90.6	89.9
	50%	90.2	90.2	90.2	89.5
	75%	91.0	89.5	90.2	90.2
	100%	91.0	89.1	89.5	89.5
Power Factor	25%	0.38	0.47	0.41	0.38
	50%	0.63	0.70	0.66	0.64
	75%	0.74	0.79	0.77	0.75
	100%	0.80	0.83	0.82	0.81
Bearing type	: Drive end : 6309 C3 Non drive end : 6209 C3	Foundation loads			
Sealing	: Inpro/Seal Inpro/Seal	Max. traction	: 491 lb		
Lubrication interval	: 20000 h 20000 h	Max. compression	: 800 lb		
Lubricant amount	: 13 g 9 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.			
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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



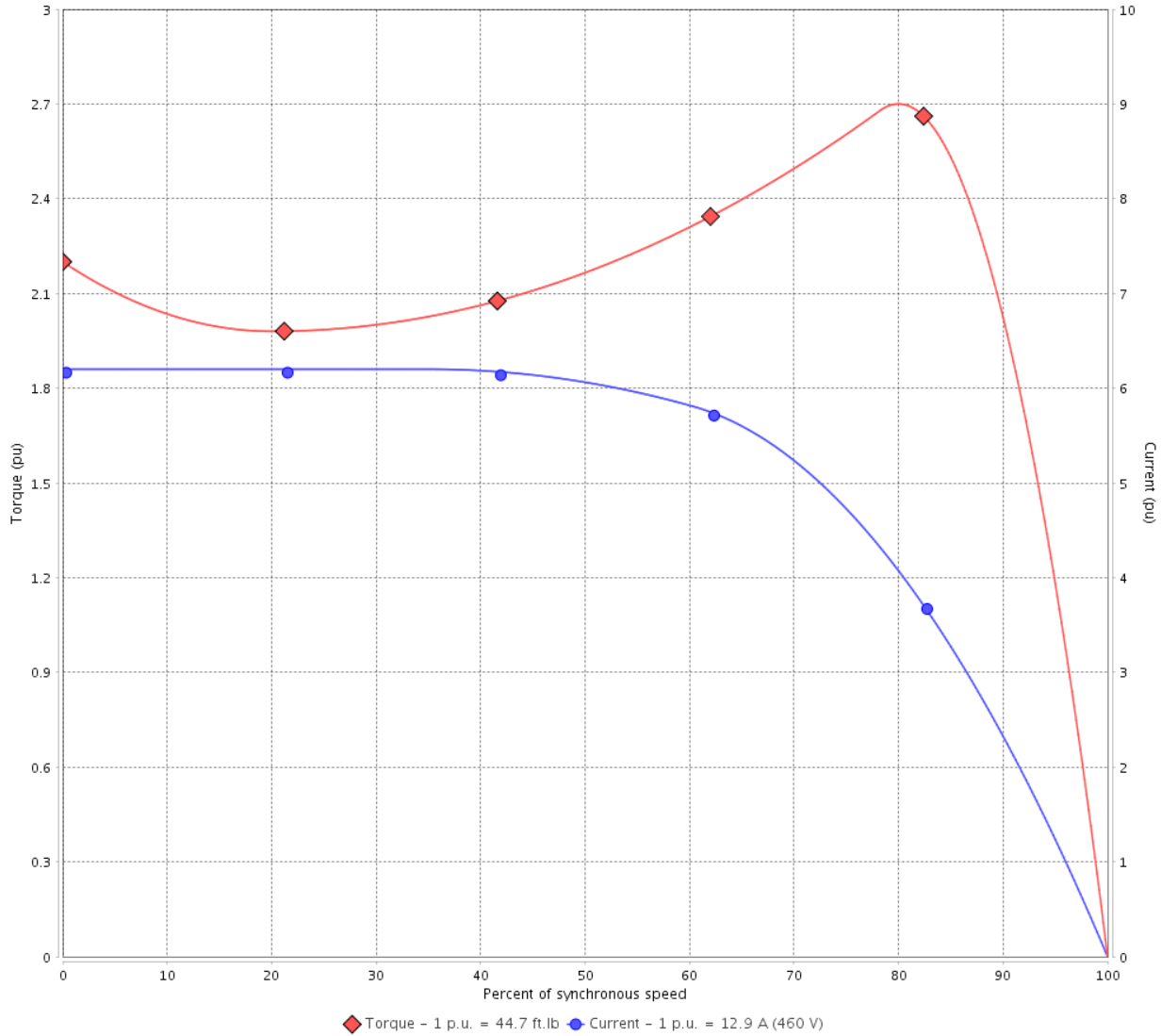
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 6P

Rated current	: 12.9 A	Moment of inertia (J)	: 4.43 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 44.7 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.25
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Locked rotor time : 46s (cold) 26s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



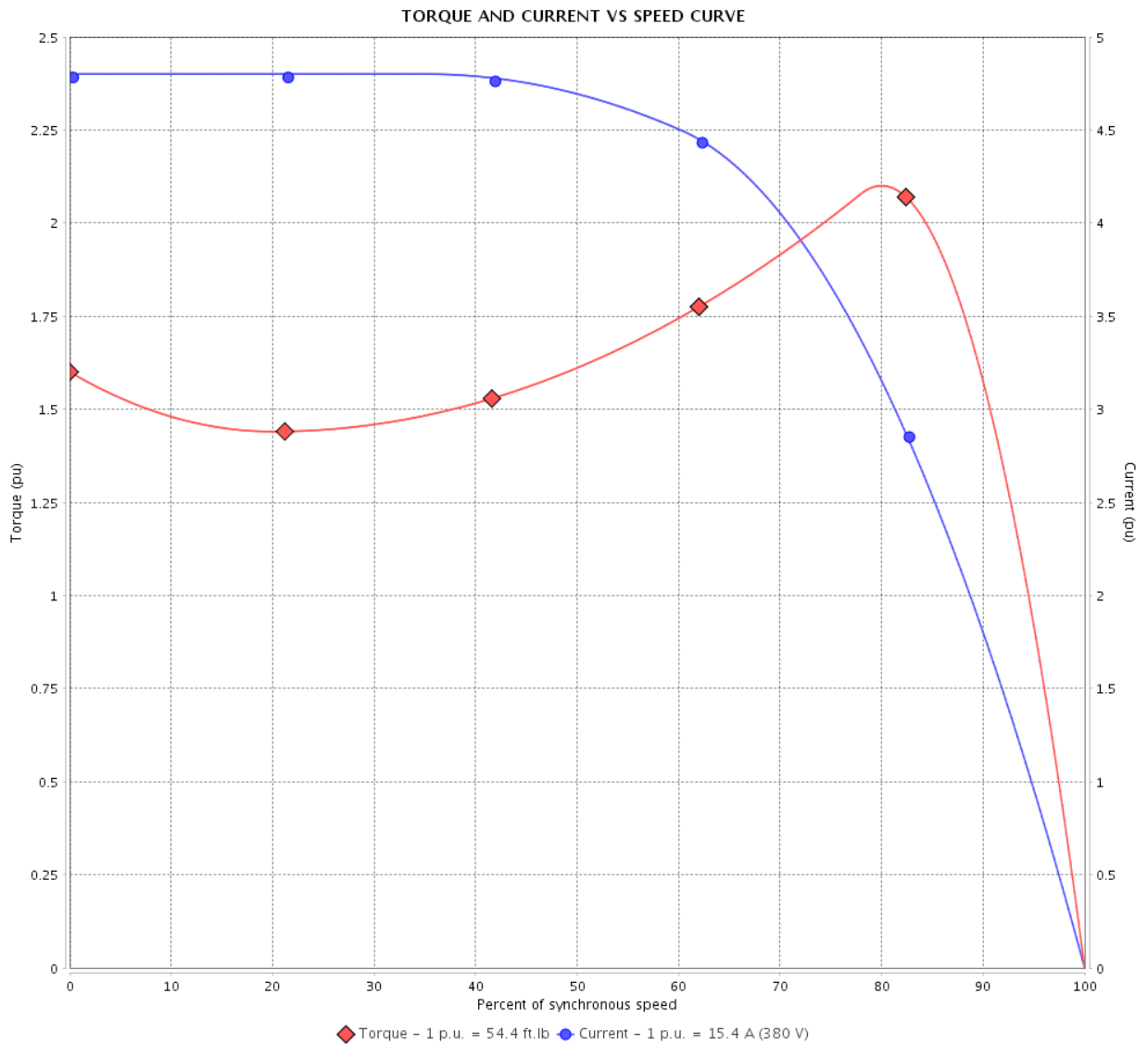
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22



Performance : 380 V 50 Hz 6P IE3

Rated current	: 15.4 A	Moment of inertia (J)	: 4.43 sq.ft.lb
LRC	: 4.8	Duty cycle	: Cont.(S1)
Rated torque	: 54.4 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 105 K
Rated speed	: 965 rpm	Design	: B

Locked rotor time : 39s (cold) 22s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



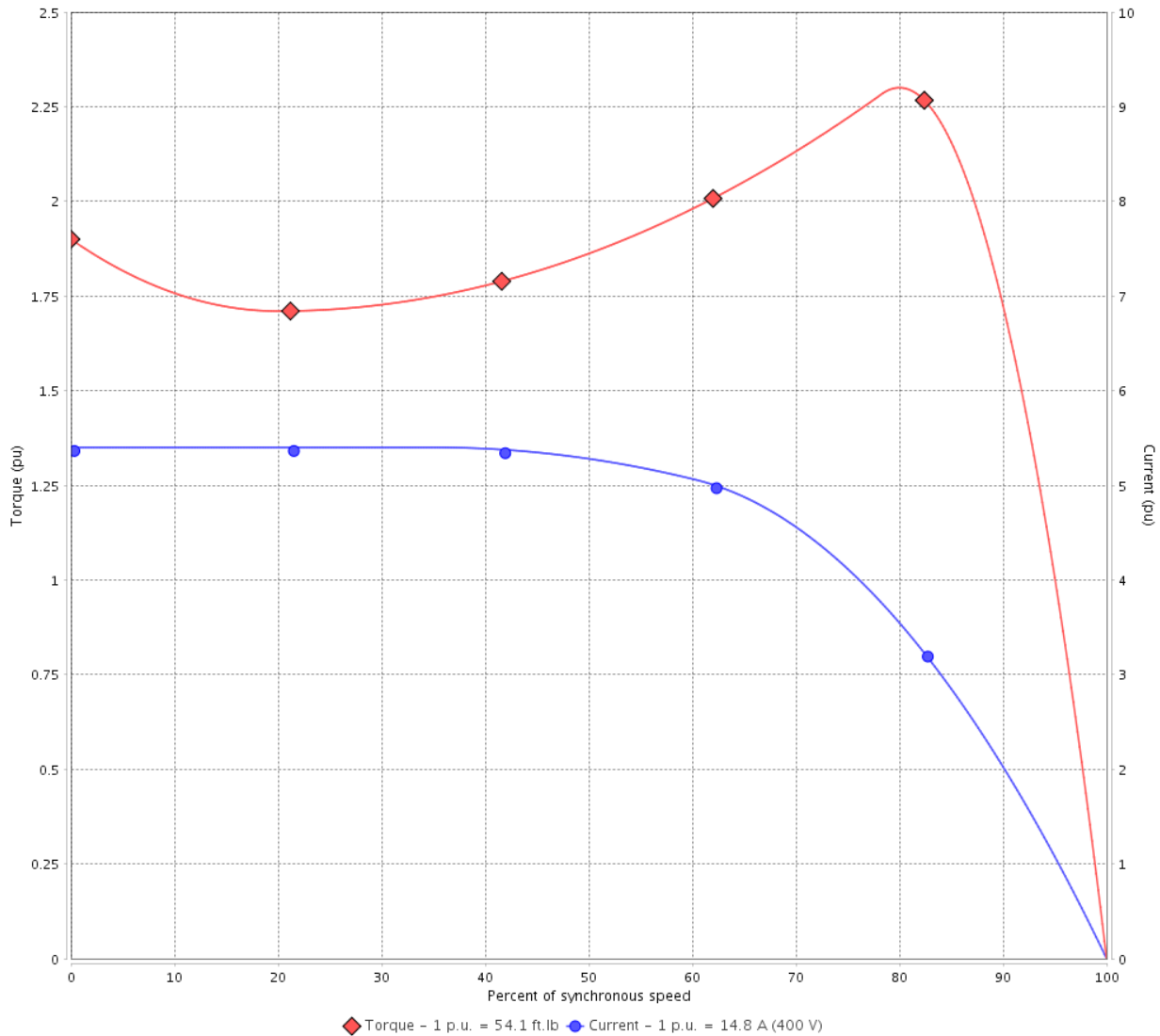
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current	: 14.8 A	Moment of inertia (J)	: 4.43 sq.ft.lb
LRC	: 5.4	Duty cycle	: Cont.(S1)
Rated torque	: 54.1 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 970 rpm	Design	: B

Locked rotor time : 39s (cold) 22s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



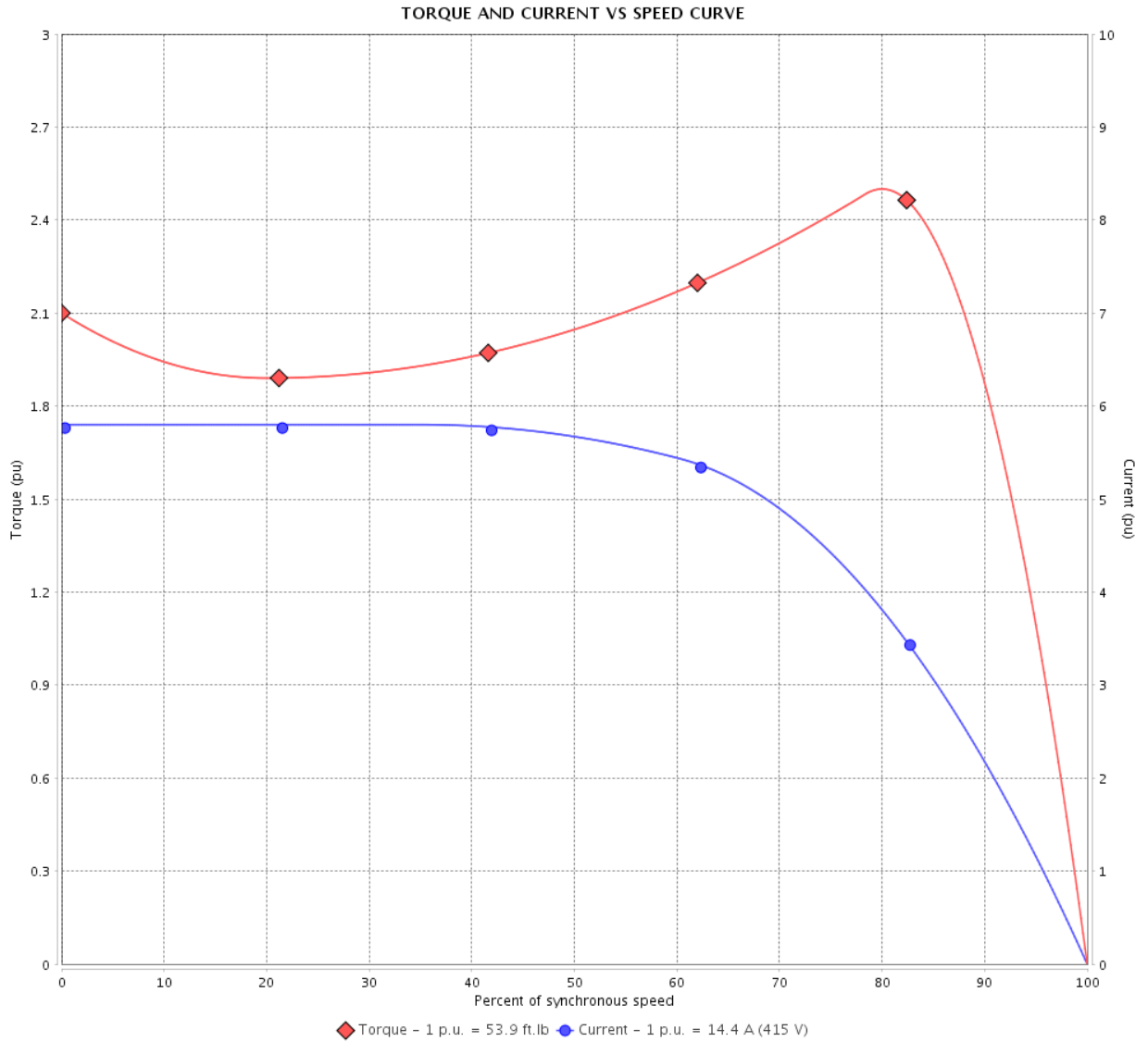
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Catalog # : 01012ST3QIE256TC-W22



Performance : 415 V 50 Hz 6P IE3

Rated current	: 14.4 A	Moment of inertia (J)	: 4.43 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 53.9 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Locked rotor time : 39s (cold) 22s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



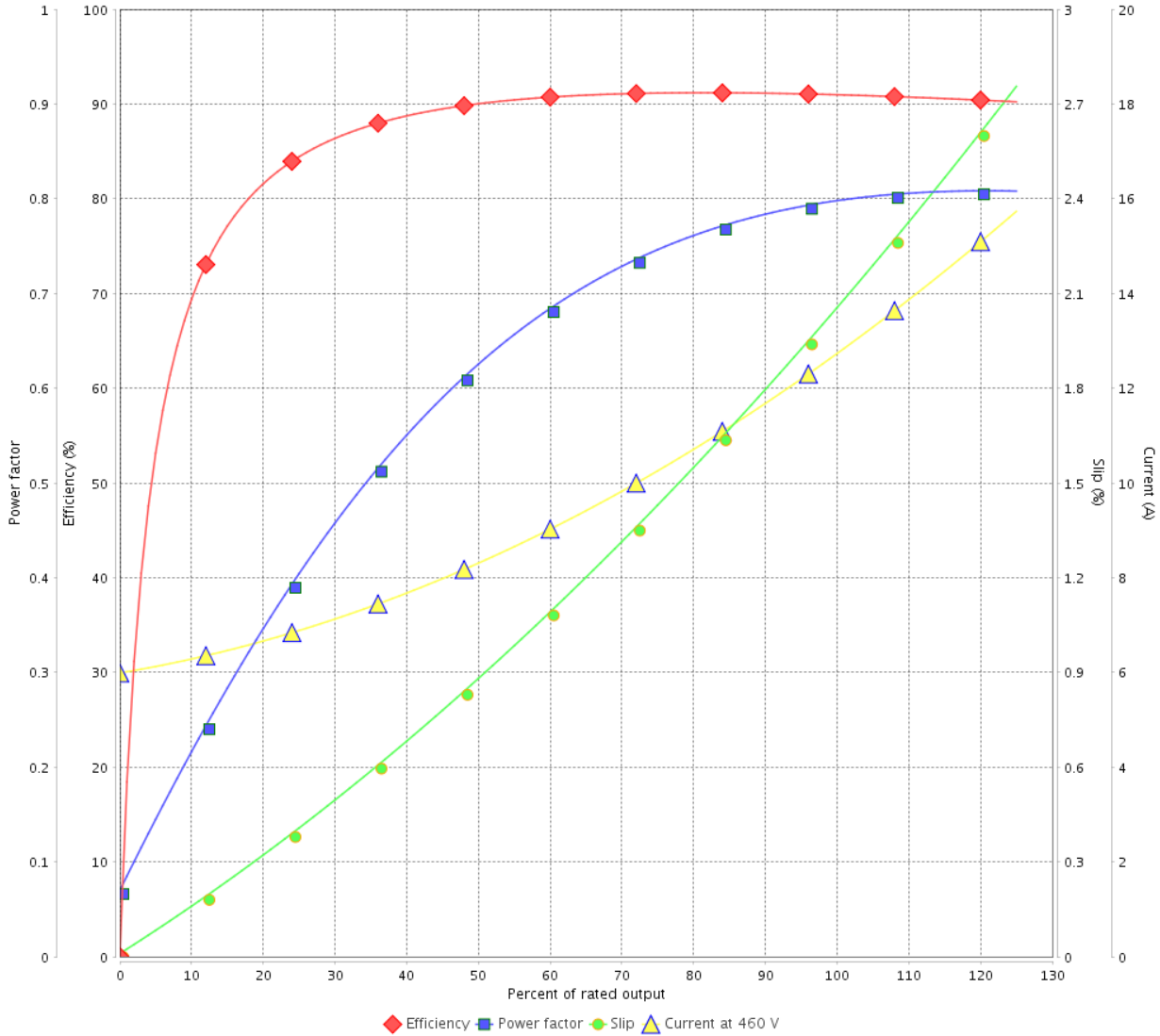
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 6P

Rated current : 12.9 A  
 LRC : 6.2  
 Rated torque : 44.7 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 270 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 4.43 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

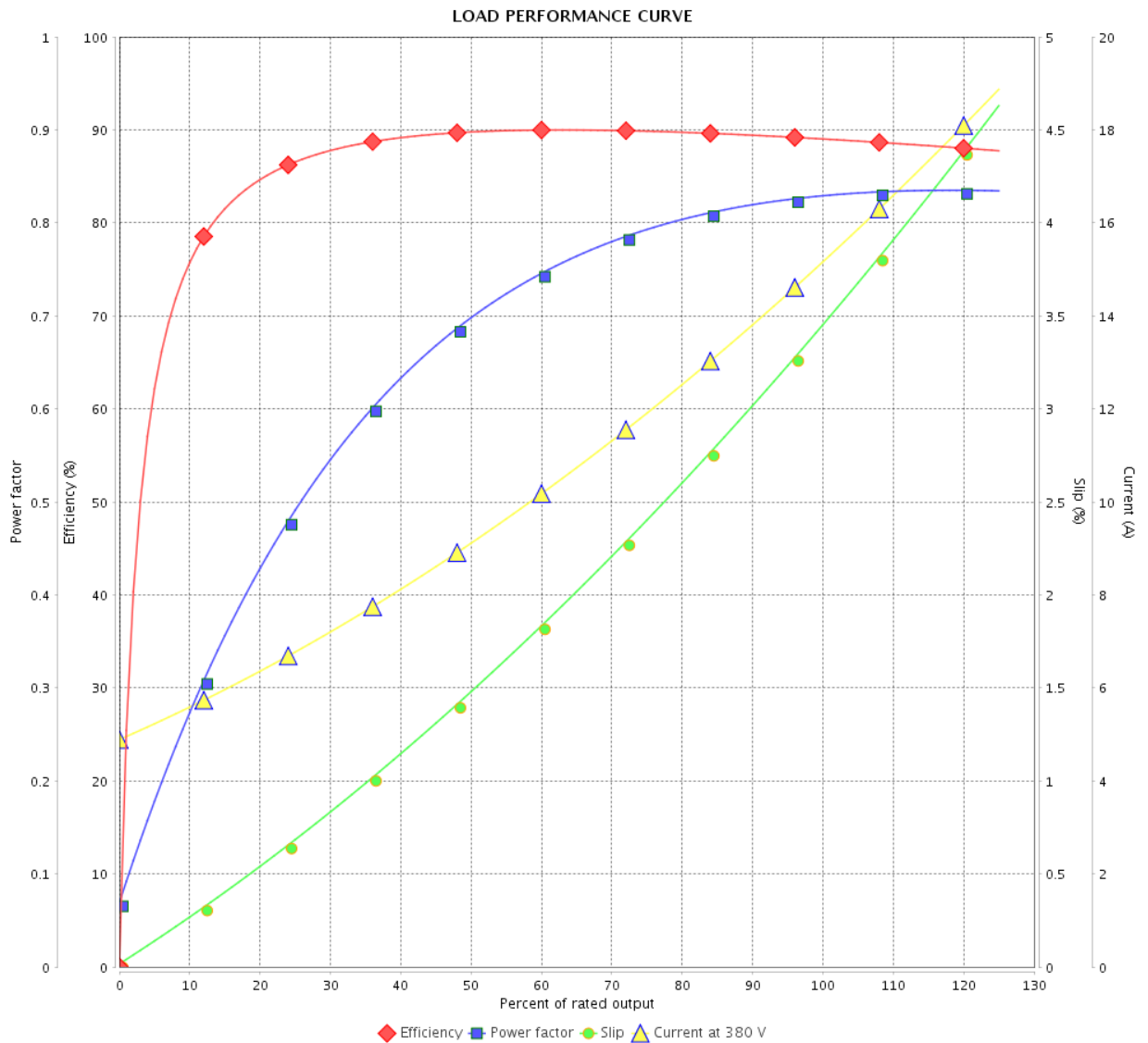


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22



Performance : 380 V 50 Hz 6P IE3

Rated current : 15.4 A  
 LRC : 4.8  
 Rated torque : 54.4 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 210 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 4.43 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



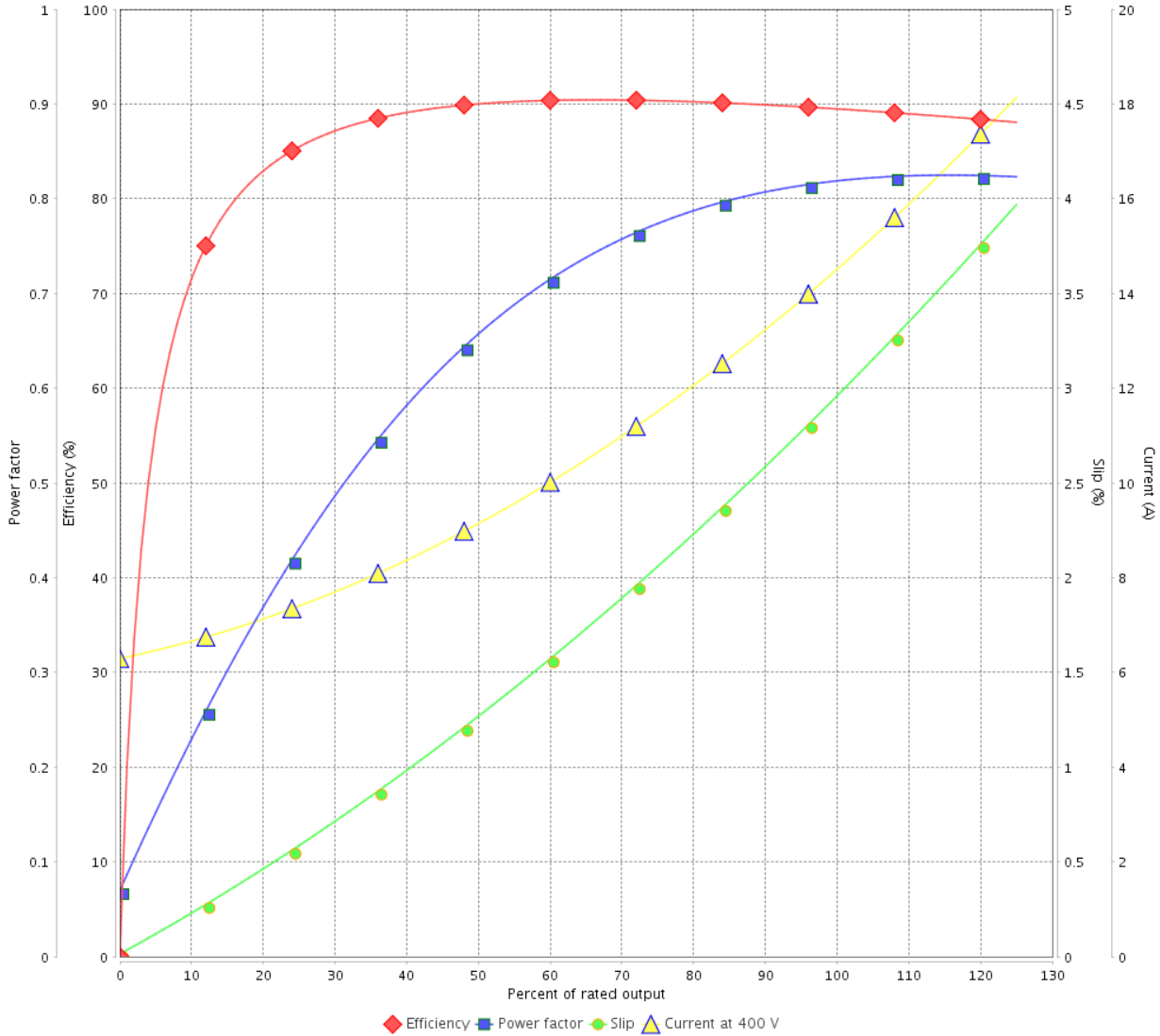
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 6P IE3

Rated current : 14.8 A  
 LRC : 5.4  
 Rated torque : 54.1 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 229 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 4.43 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 105 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

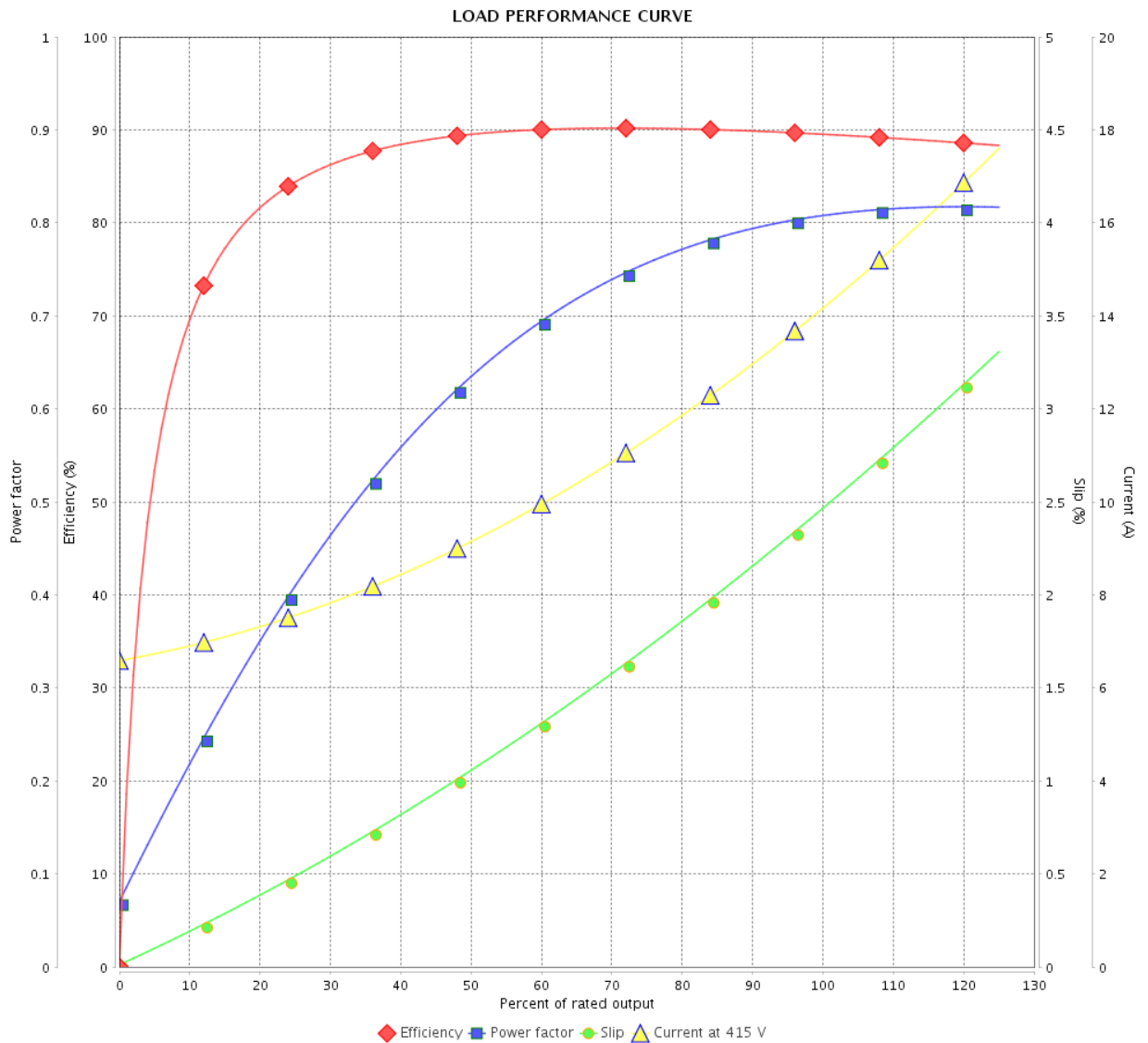


Customer : \_\_\_\_\_

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Performance : 415 V 50 Hz 6P IE3

Rated current : 14.4 A  
 LRC : 5.8  
 Rated torque : 53.9 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 250 %  
 Rated speed : 975 rpm

Moment of inertia (J) : 4.43 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE



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LRC : 6.2	Duty cycle : Cont.(S1)
Rated torque : 44.7 ft.lb	Insulation class : F
Locked rotor torque : 220 %	Service factor : 1.25
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 1175 rpm	Design : B

Heating constant

Cooling constant

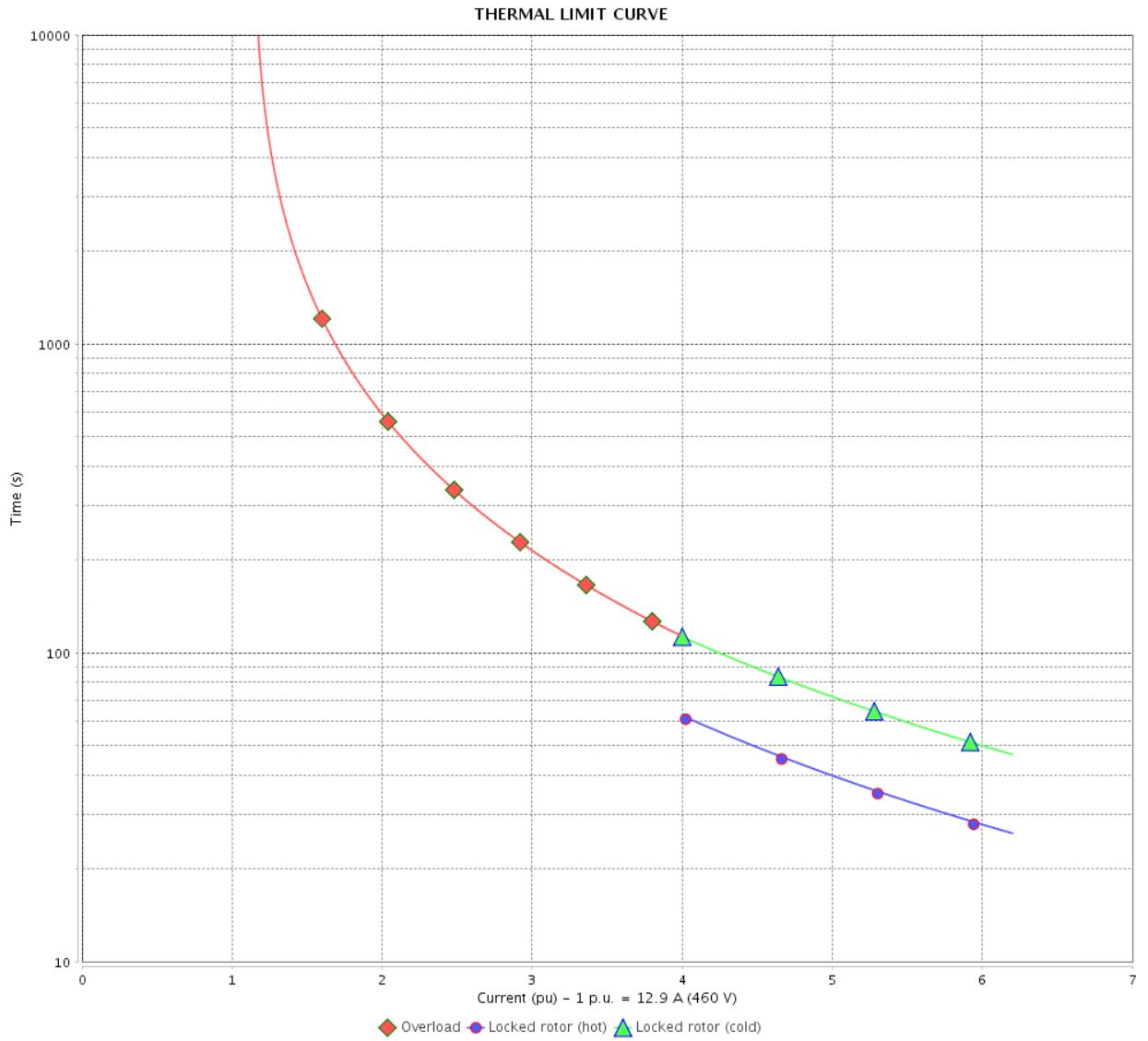
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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LRC	: 4.8	Duty cycle	: Cont.(S1)
Rated torque	: 54.4 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.00
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Rated speed	: 965 rpm	Design	: B

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Cooling constant

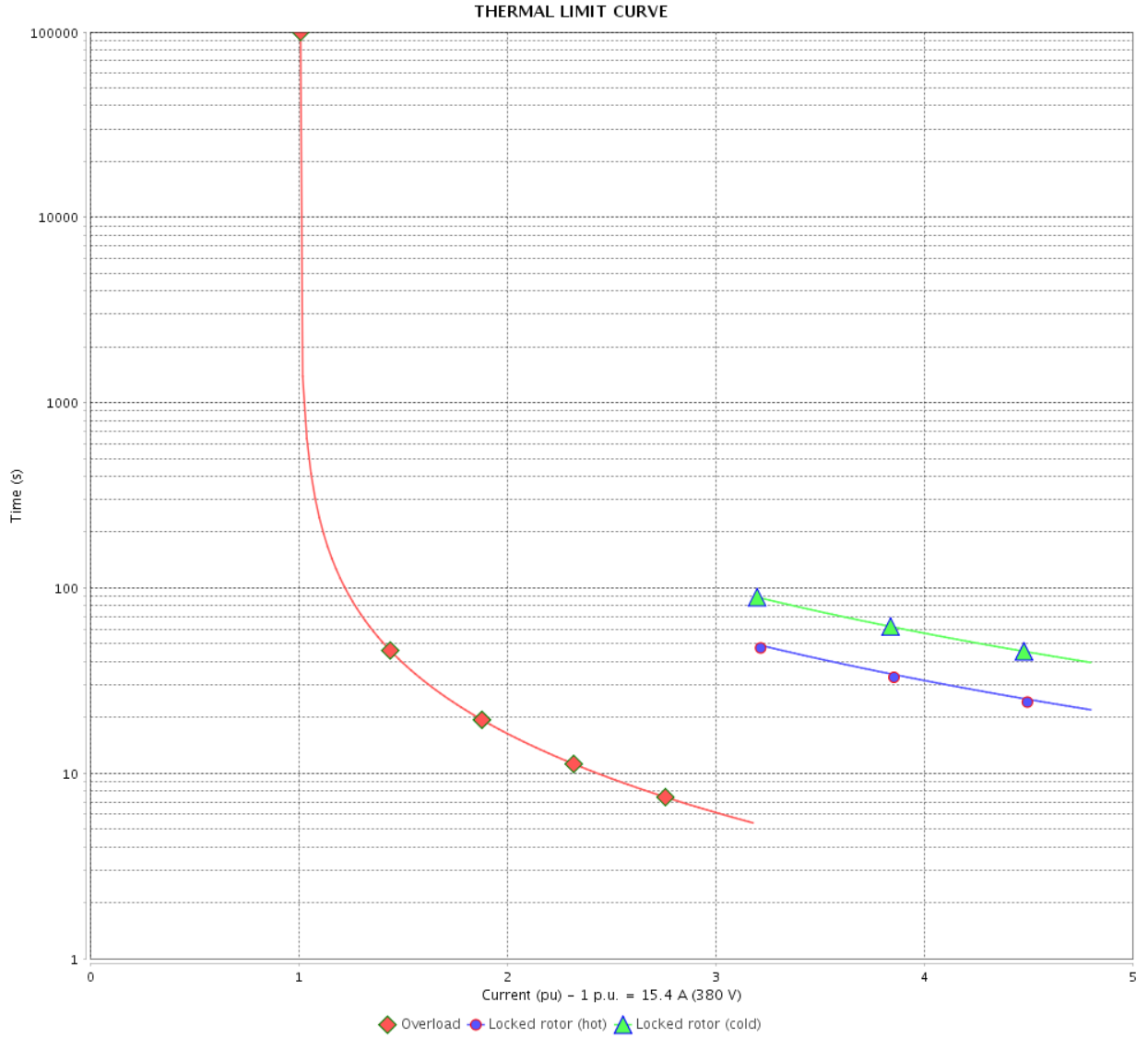
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Three Phase Induction Motor - Squirrel Cage



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Checked by				
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## Three Phase Induction Motor - Squirrel Cage

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Product line : NEMA Premium Efficiency Three-Phase  
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Performance : 400 V 50 Hz 6P IE3

Rated current	: 14.8 A	Moment of inertia (J)	: 4.43 sq.ft.lb
LRC	: 5.4	Duty cycle	: Cont.(S1)
Rated torque	: 54.1 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 105 K
Rated speed	: 970 rpm	Design	: B

Heating constant

Cooling constant

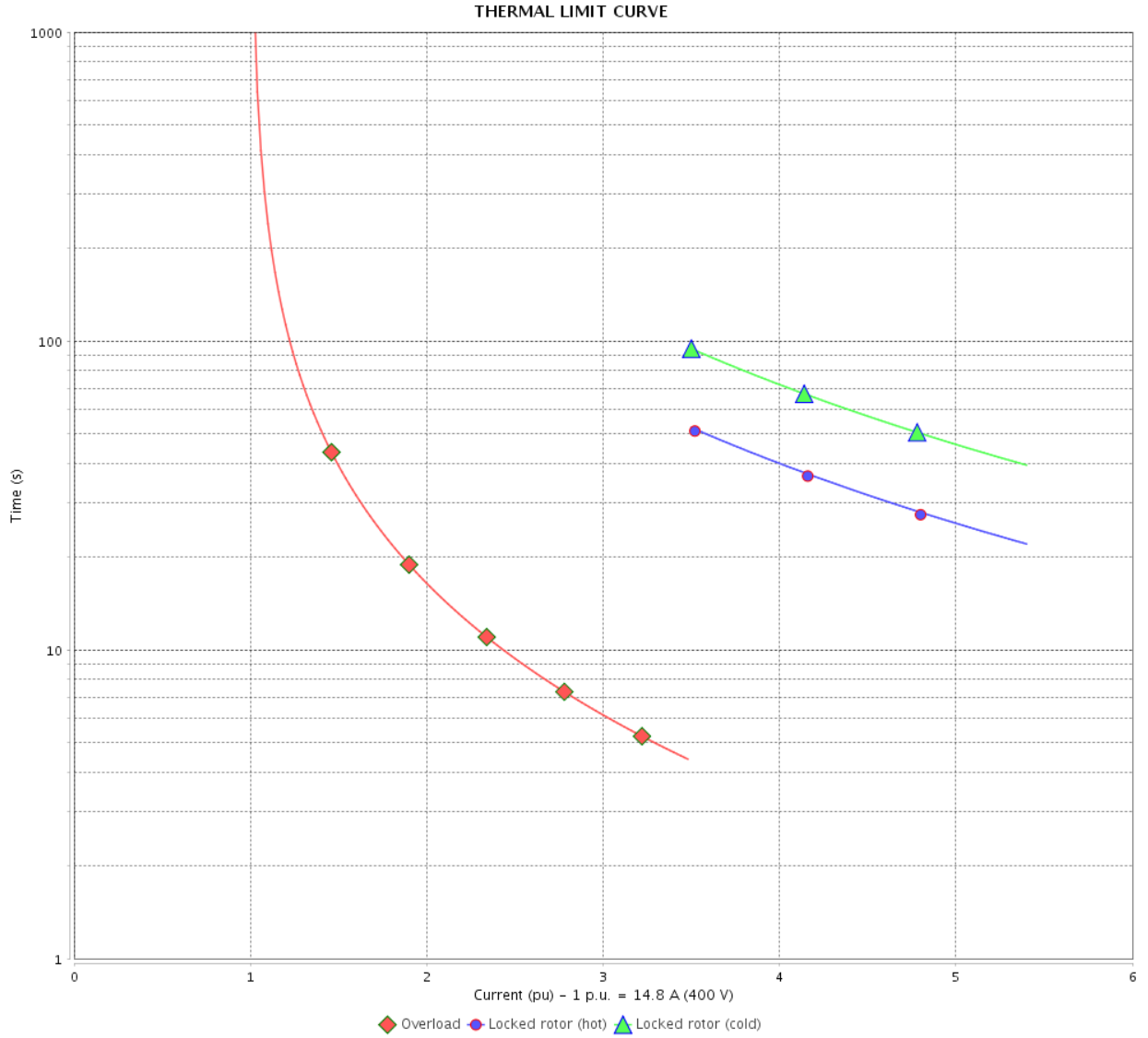
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# THERMAL LIMIT CURVE



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Rated torque	: 53.9 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 975 rpm	Design	: B

Heating constant

Cooling constant

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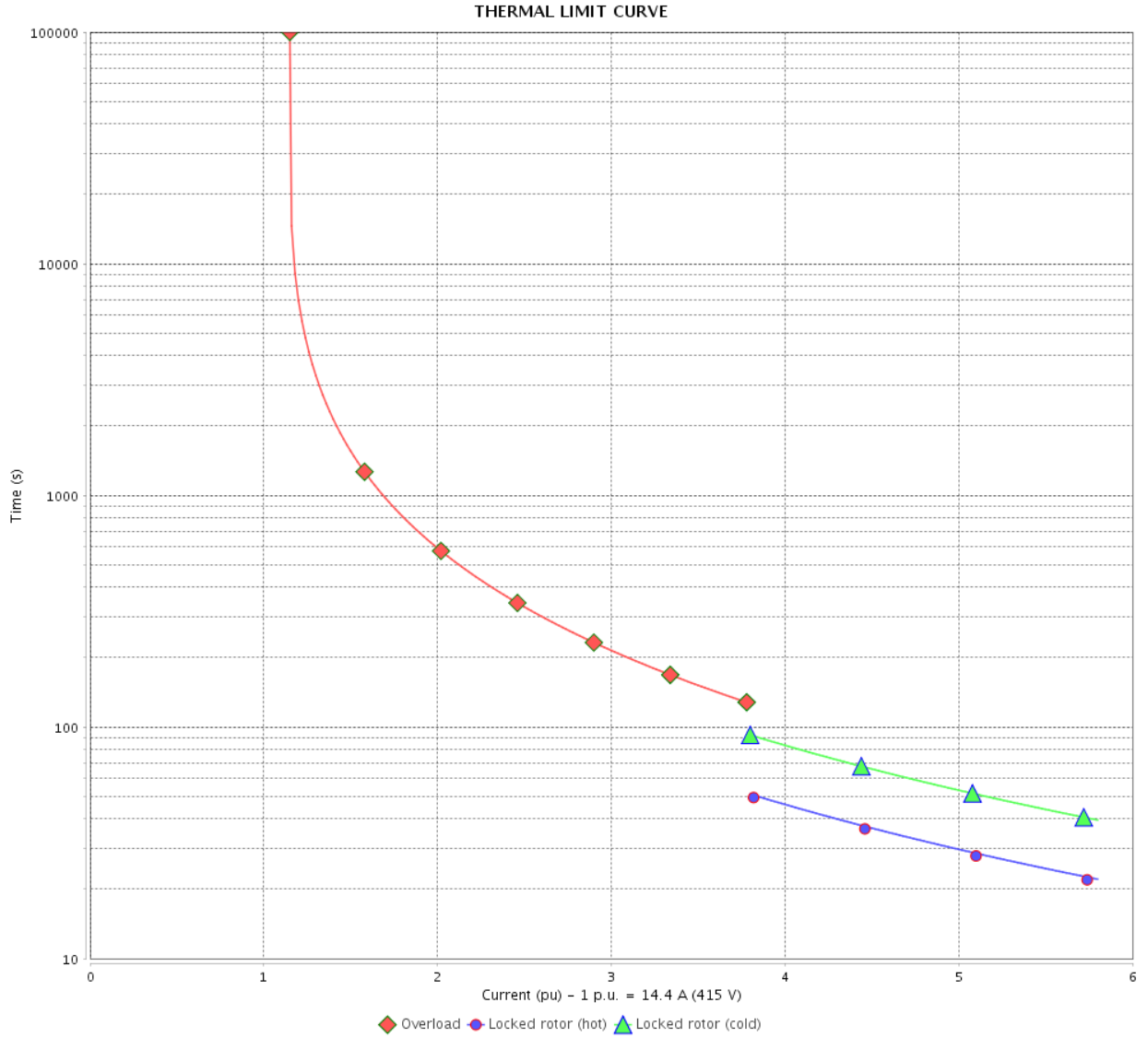


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



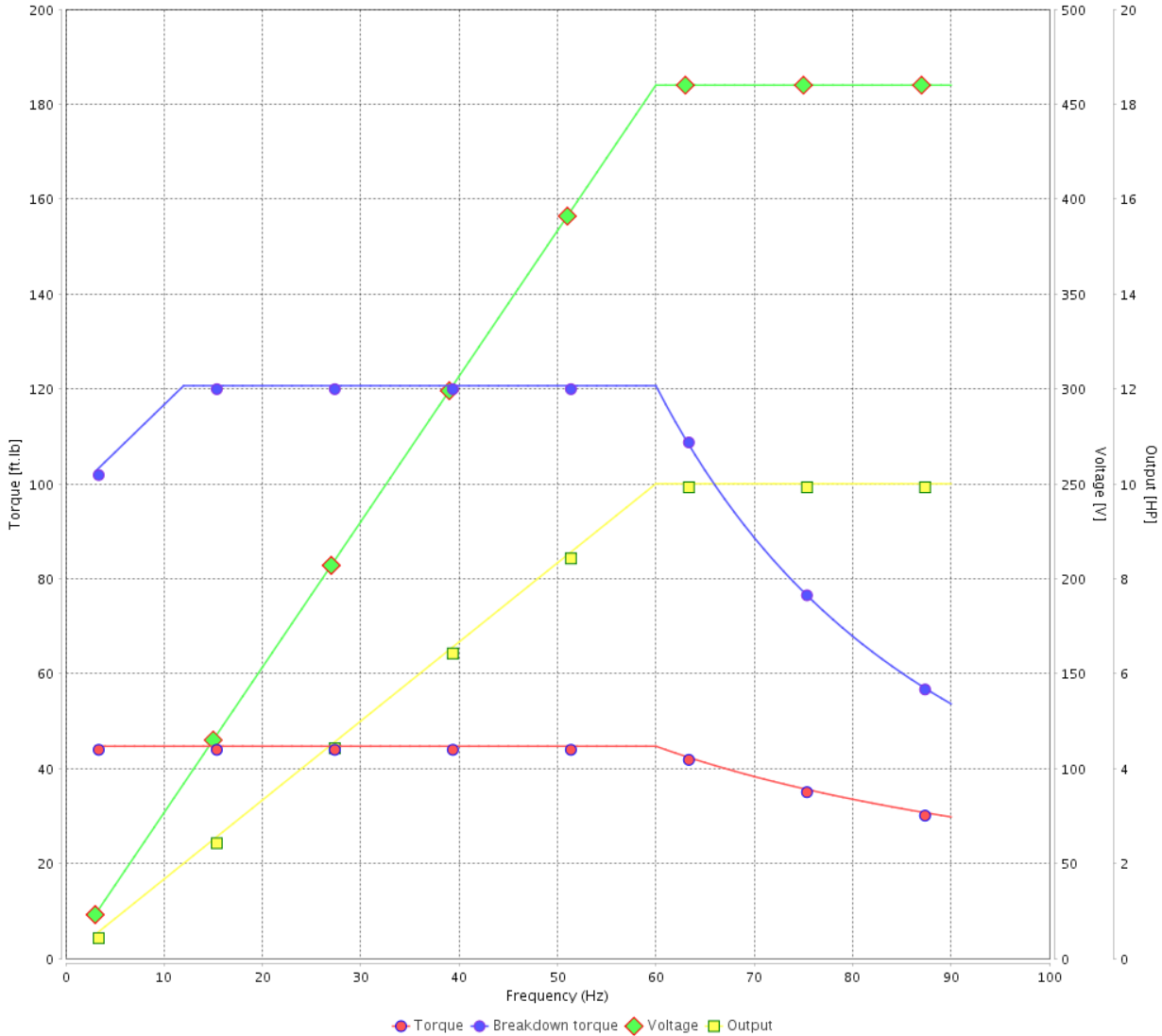
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11603184

Catalog # : 01012ST3QIE256TC-W22

VFD OPERATION CURVE



Performance : 460 V 60 Hz 6P

Rated current : 12.9 A  
 LRC : 6.2  
 Rated torque : 44.7 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 270 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 4.43 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

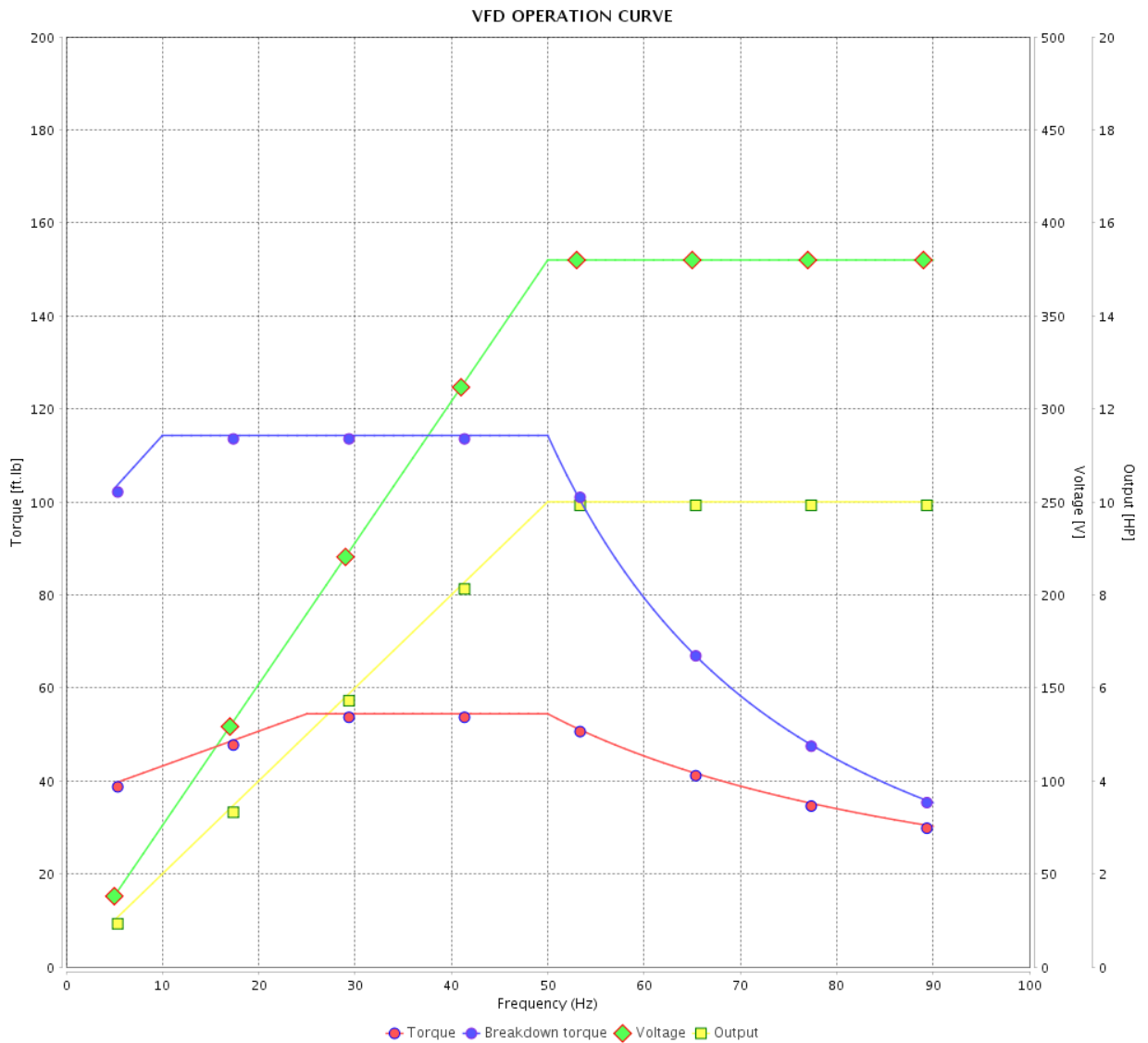


Customer : \_\_\_\_\_

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Catalog # : 01012ST3QIE256TC-W22



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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
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 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



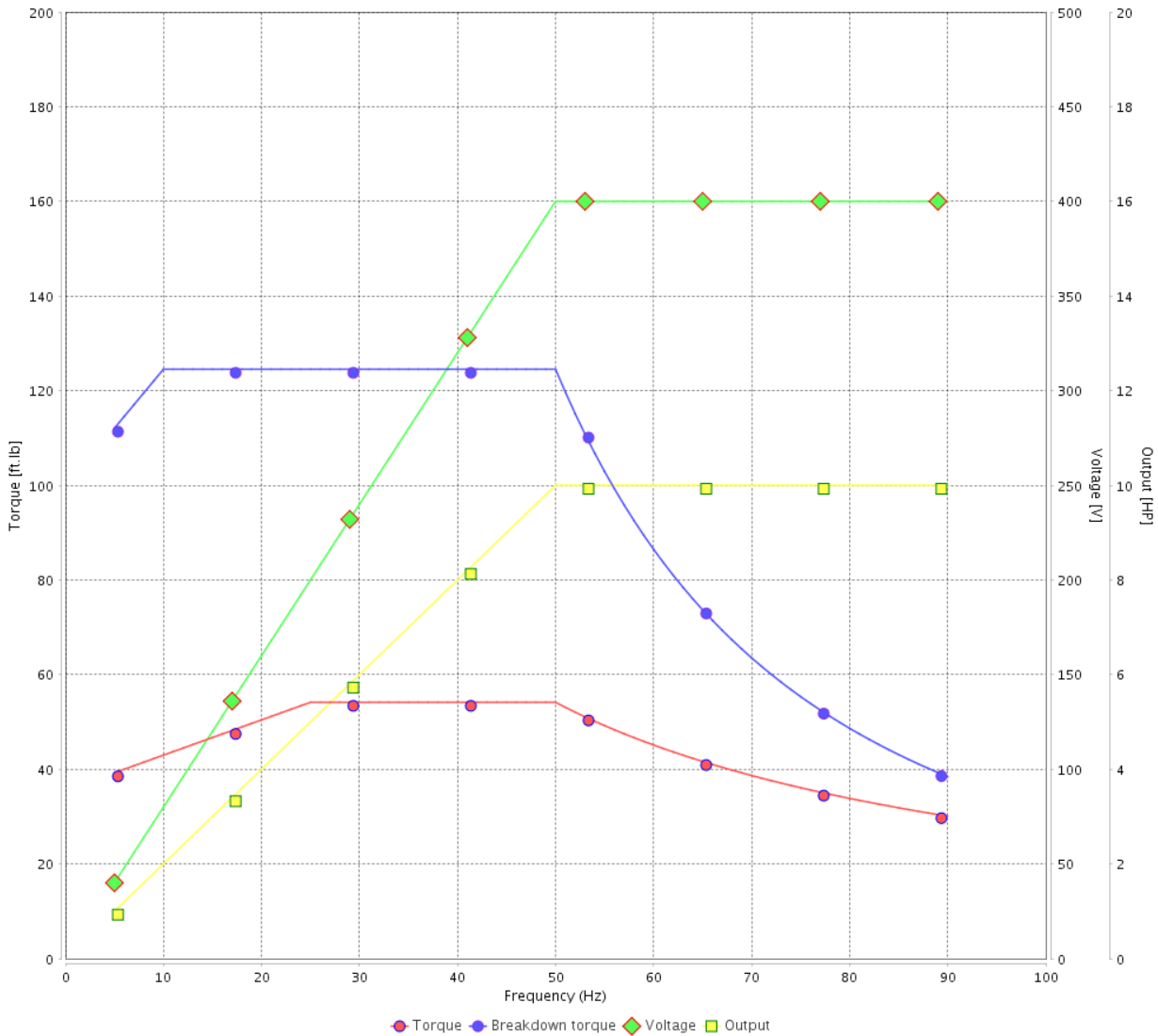
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

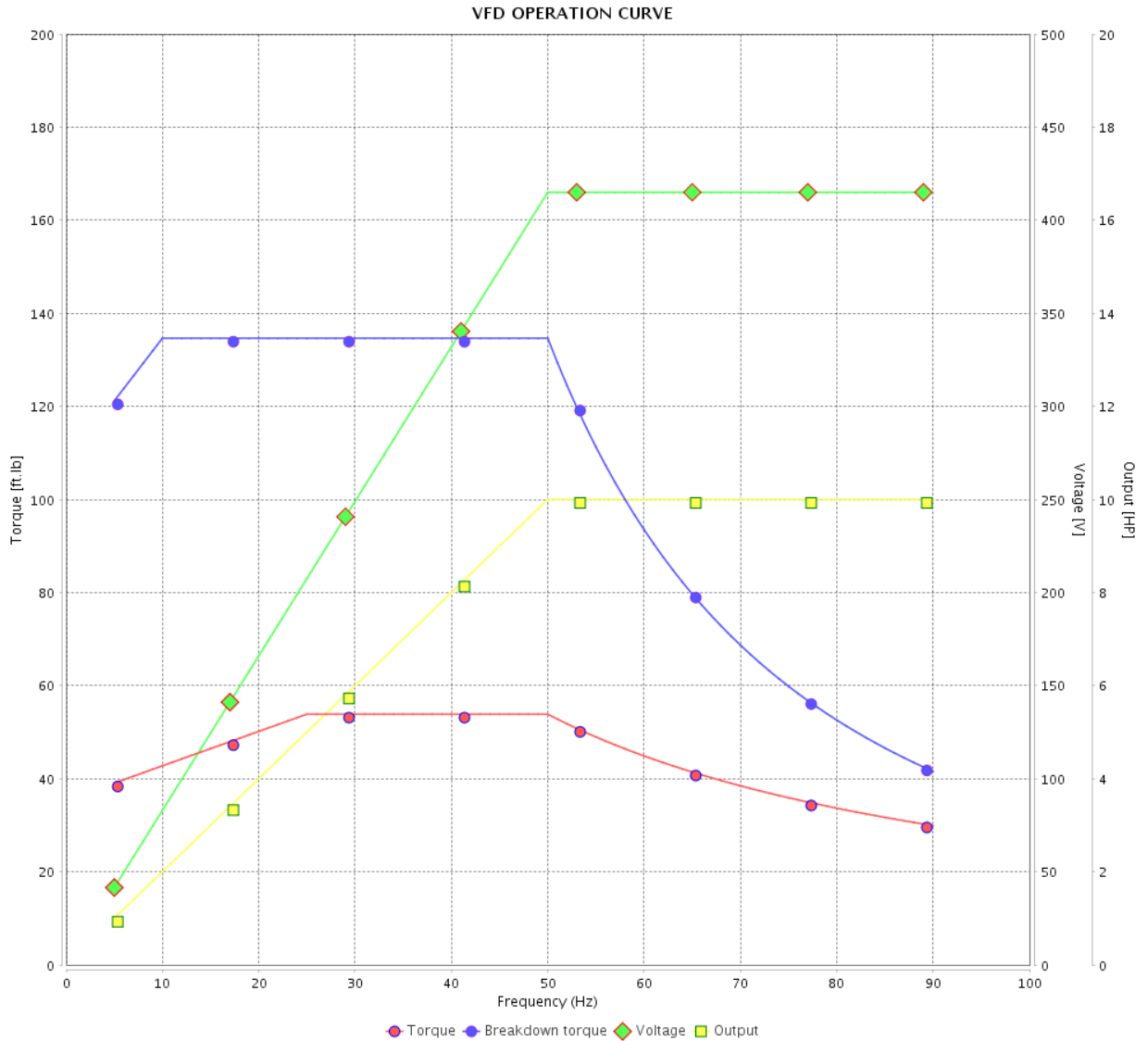


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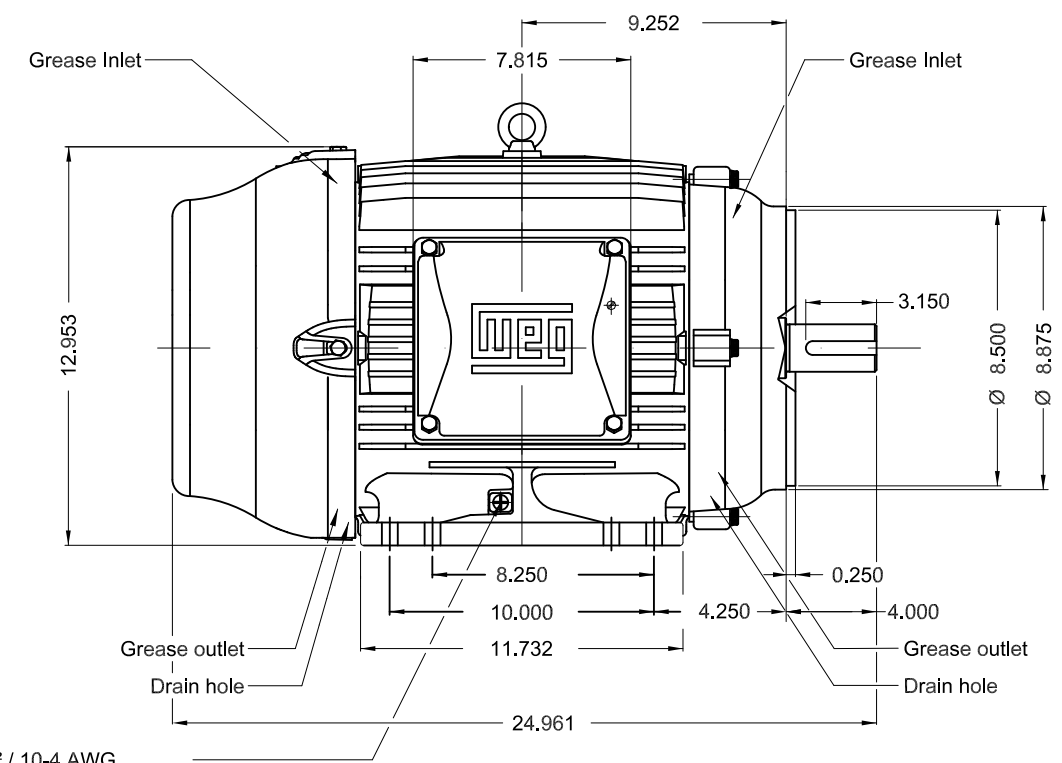
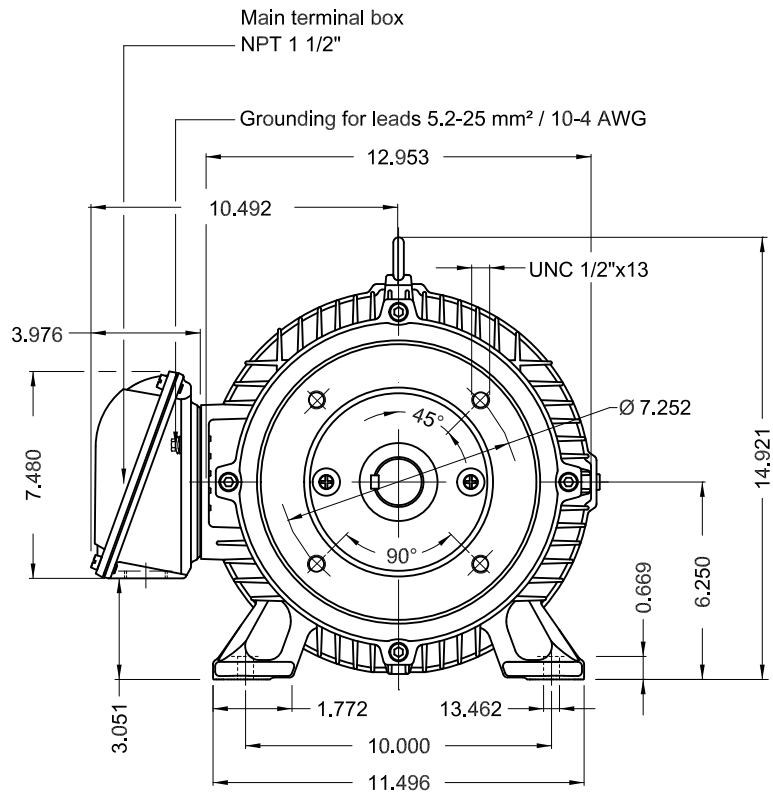
Rev.	Changes Summary	Performed	Checked	Date
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Checked by				
Date	12/04/2022			

1 2 3 4 5 6

A

B

C

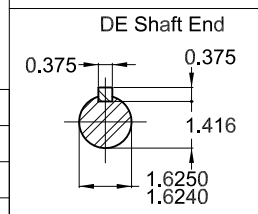


Grounding for leads 5.2-25 mm² / 10-4 AWG

D

E

Without vertical jackscrews  
 Color RAL 5009  
 Painting plan 202E  
 Mounting B34R(D)



10 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 254/6TC 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

MODEL 01012ST3QIE256TC-W22



Inverter Duty Motor  
Severe Duty

MADE IN BRAZIL  
11603184

PH3 60Hz Fr. 254/6TC 1000m.a.s.l. IP55 TEFC 310lb

V 460

A 12.9

HP 10

kW 7.5

SF 1.25

SFA 16.1

RPM 1175

PF 0.80

AMB 40°C

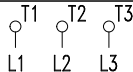
INS cl. F DT80K

NEMA NOM EFF 91.0%

DUTY CONT.

DES B Code H

GUARANT. EFF 89.5%



460V



→ 6309-C3 (13g) 45BC03X30

→ 6209-C3 (9g) 45BC02X30



MOBIL POLYREX EM (20000h)

