

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line		: NEMA Premium Efficiency Three-Phase	Product code :	12378978
			Catalog # :	00718ST3QIE213TC-W22
Frame		: 213/5TC	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>	: 181 lb
Protection degree		: IP55	Moment of inertia (J)	: 1.34 sq.ft.lb
Design		: B		
Output [HP]	7.5	7.5	7.5	7.5
Poles	4	4	4	4
Frequency [Hz]	60	50	50	50
Rated voltage [V]	460	380	400	415
Rated current [A]	9.18	11.0	10.5	10.3
L. R. Amperes [A]	65.2	61.6	65.1	69.0
LRC [A]	7.1x(Code H)	5.6x(Code F)	6.2x(Code G)	6.7x(Code H)
No load current [A]	4.40	4.00	4.30	4.55
Rated speed [RPM]	1765	1455	1460	1460
Slip [%]	1.94	3.00	2.67	2.67
Rated torque [ft.lb]	22.3	27.1	27.0	27.0
Locked rotor torque [%]	220	170	190	210
Breakdown torque [%]	310	240	270	290
Service factor	1.25	1.25	1.25	1.25
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	36s (cold) 20s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)
Noise level <sup>2</sup>	58.0 dB(A)	56.0 dB(A)	56.0 dB(A)	56.0 dB(A)
Efficiency (%)	25%			
	50%	89.5	89.5	89.5
	75%	91.0	89.5	90.2
	100%	91.7	89.6	90.2
Power Factor	25%			
	50%	0.66	0.72	0.69
	75%	0.76	0.81	0.78
	100%	0.82	0.85	0.84
Bearing type		Drive end : 6308 C3 Non drive end : 6207 C3	Foundation loads	
Sealing		Inpro/Seal Inpro/Seal	Max. traction : 351 lb	
Lubrication interval		20000 h 20000 h	Max. compression : 532 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
Performed by			Page	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



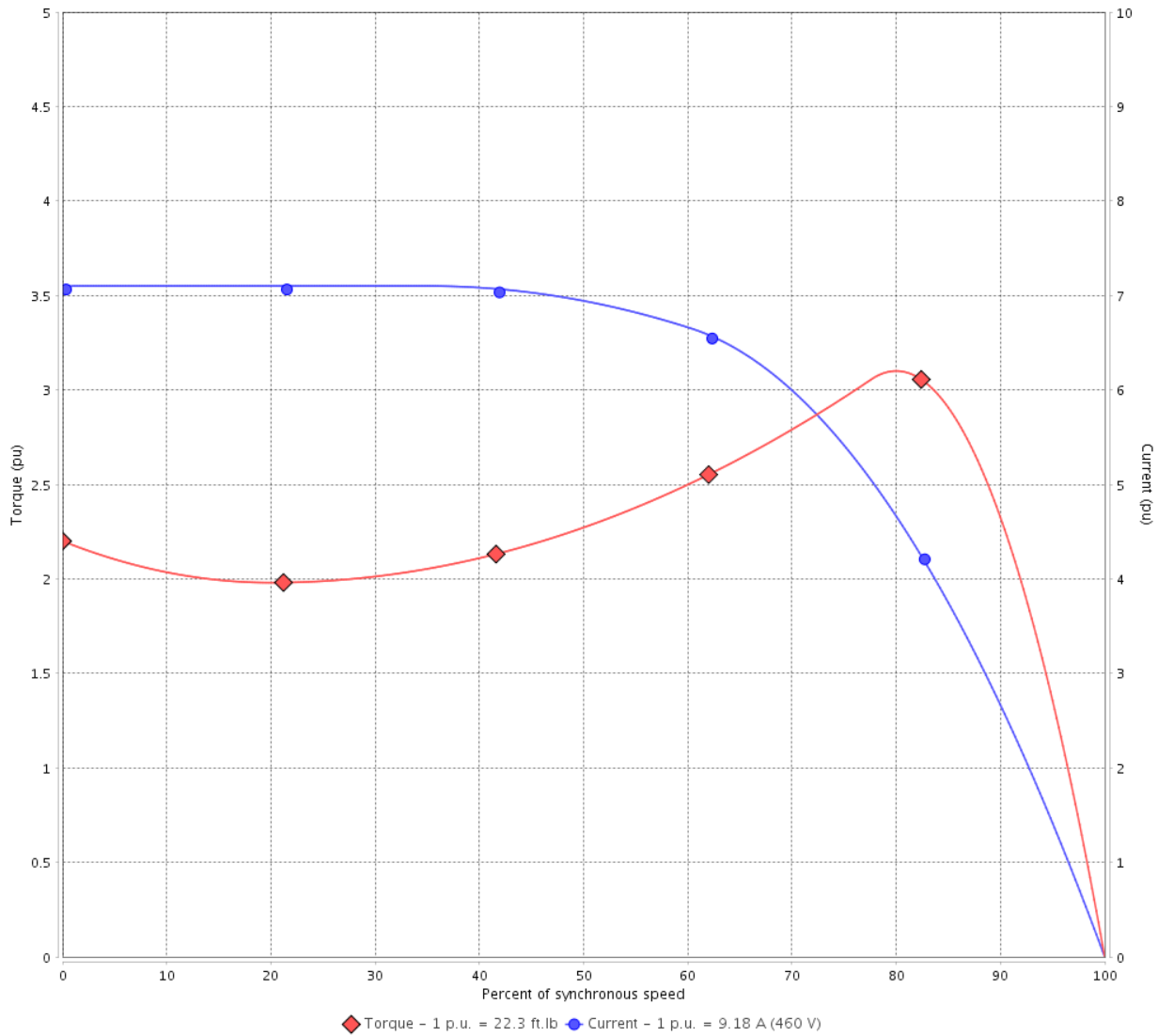
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 4P

Rated current	: 9.18 A	Moment of inertia (J)	: 1.34 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 22.3 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.25
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1765 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



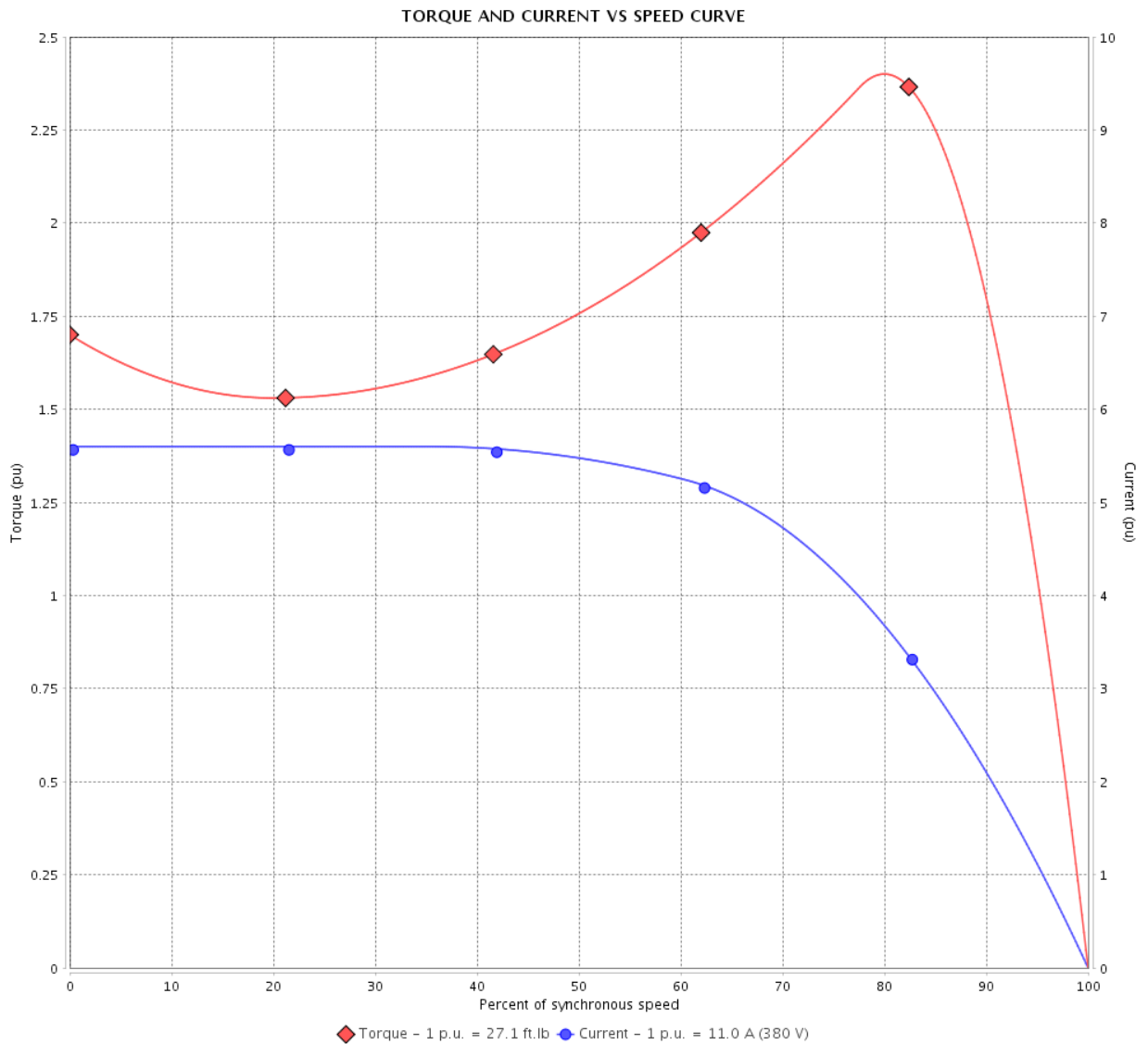
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22



Performance : 380 V 50 Hz 4P IE3

Rated current : 11.0 A  
 LRC : 5.6  
 Rated torque : 27.1 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 240 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 1.34 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

Locked rotor time : 27s (cold) 15s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



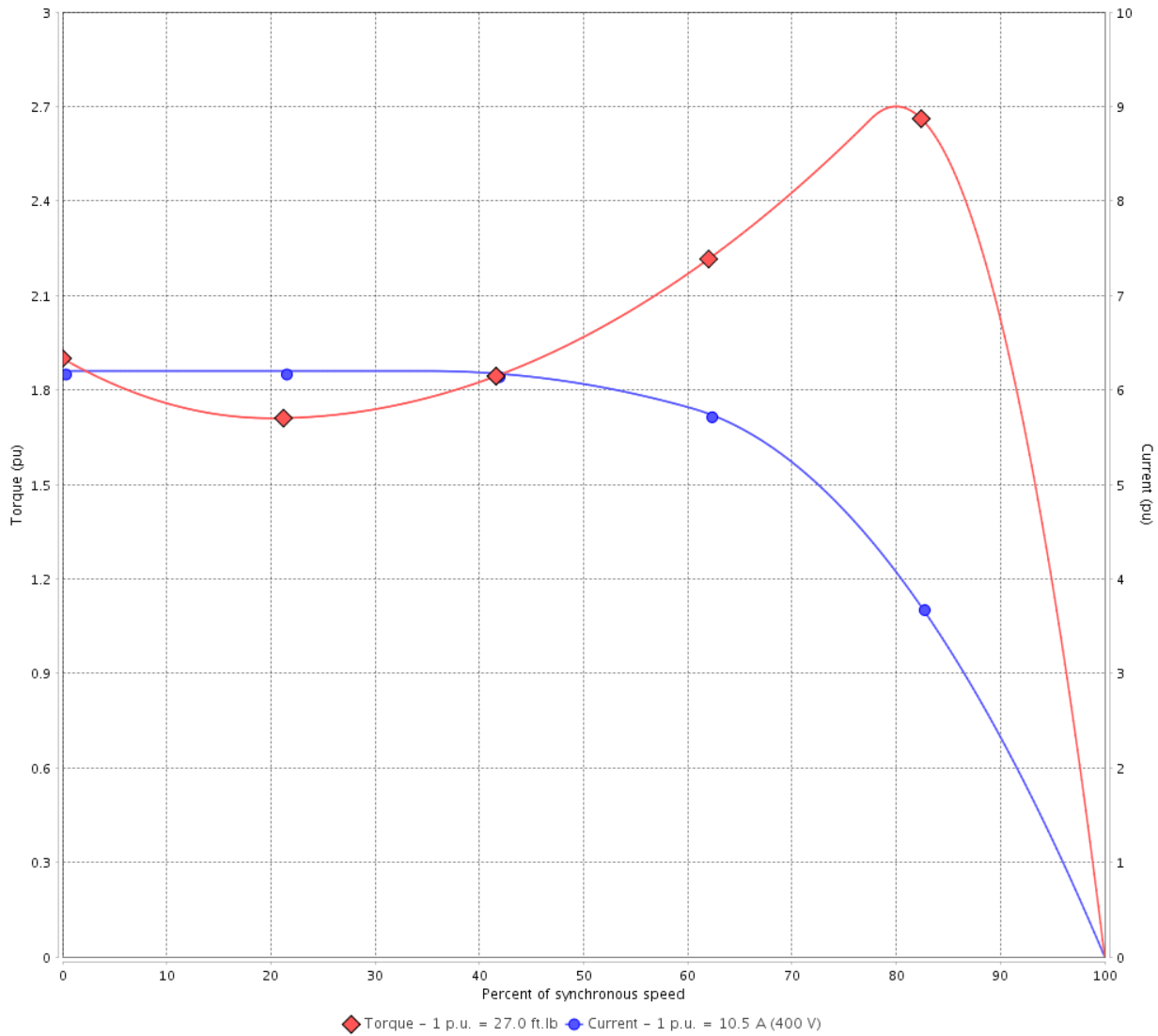
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current	: 10.5 A	Moment of inertia (J)	: 1.34 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 27.0 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.25
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



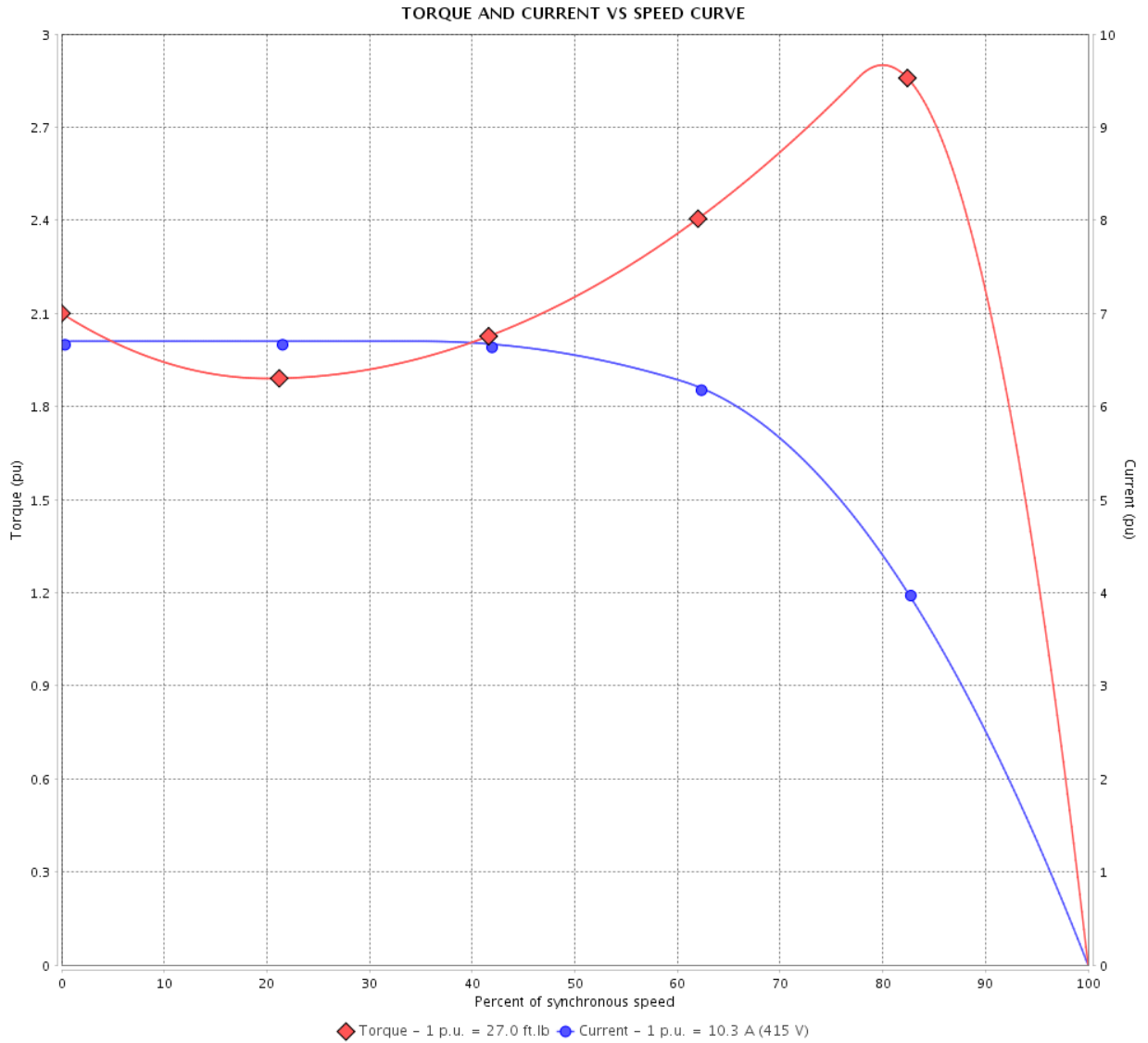
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Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current	: 10.3 A	Moment of inertia (J)	: 1.34 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 27.0 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



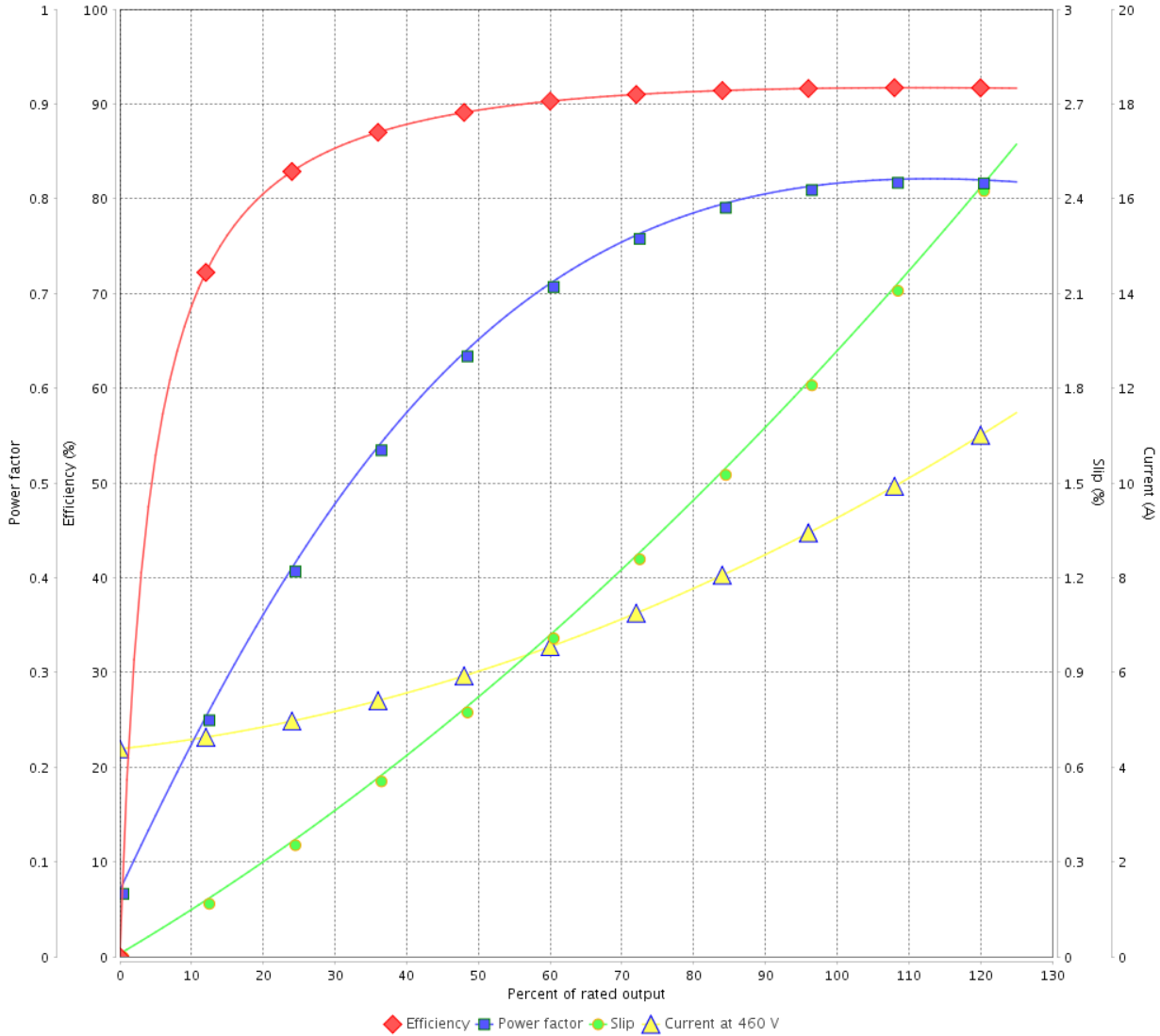
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 4P

Rated current : 9.18 A  
 LRC : 7.1  
 Rated torque : 22.3 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 310 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 1.34 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

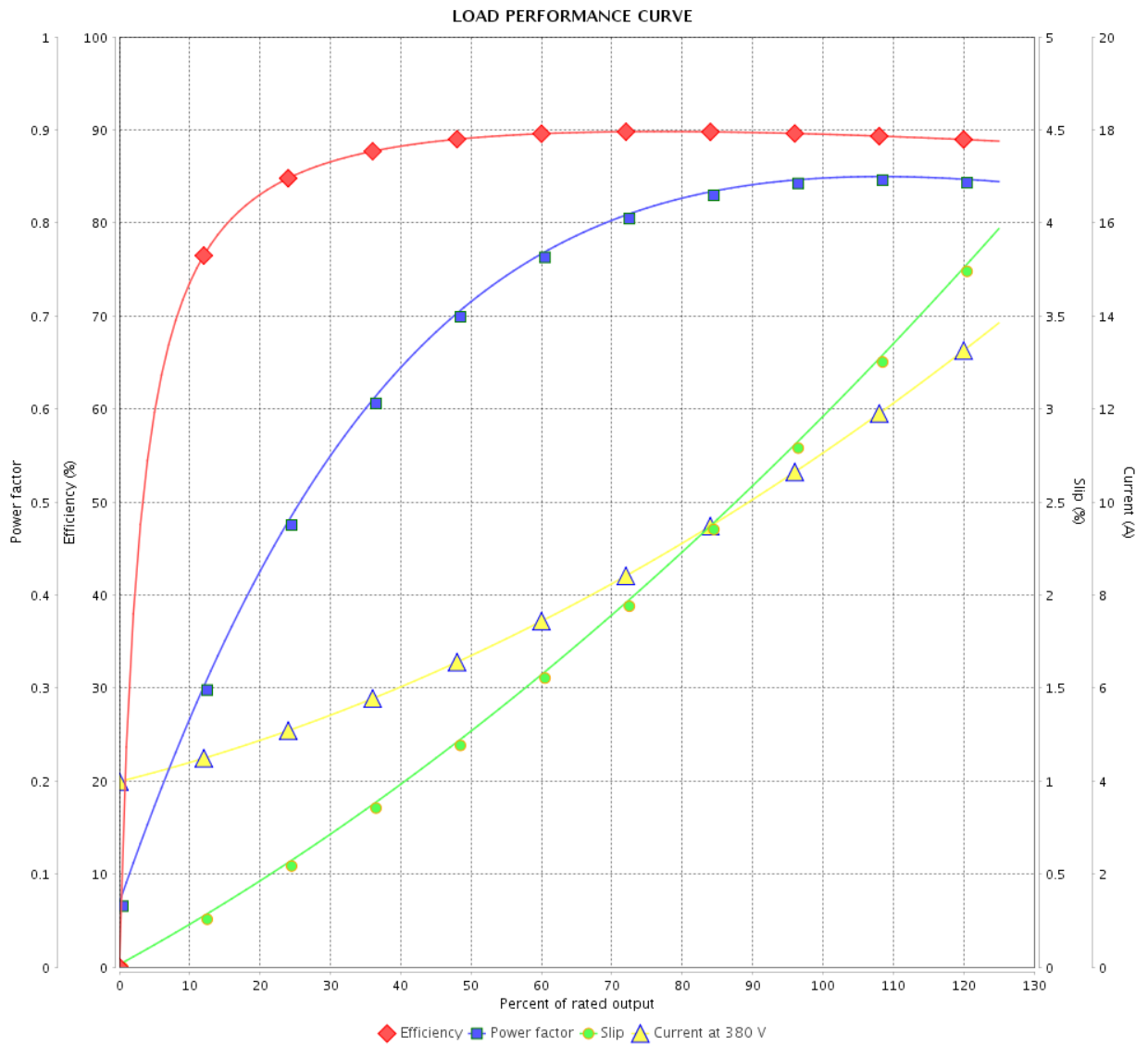


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22



Performance : 380 V 50 Hz 4P IE3

Rated current : 11.0 A  
 LRC : 5.6  
 Rated torque : 27.1 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 240 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 1.34 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



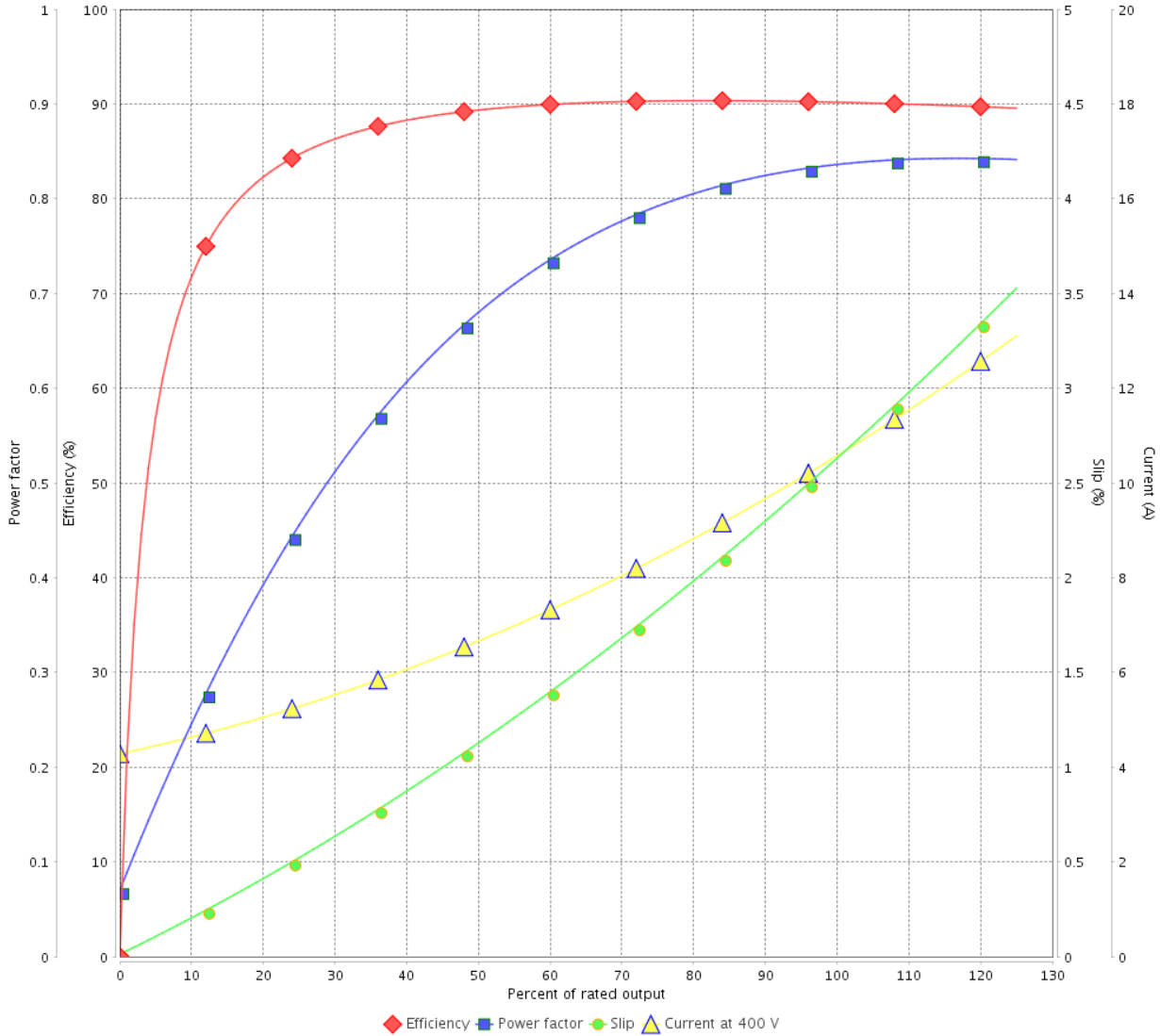
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 10.5 A  
 LRC : 6.2  
 Rated torque : 27.0 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 270 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 1.34 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

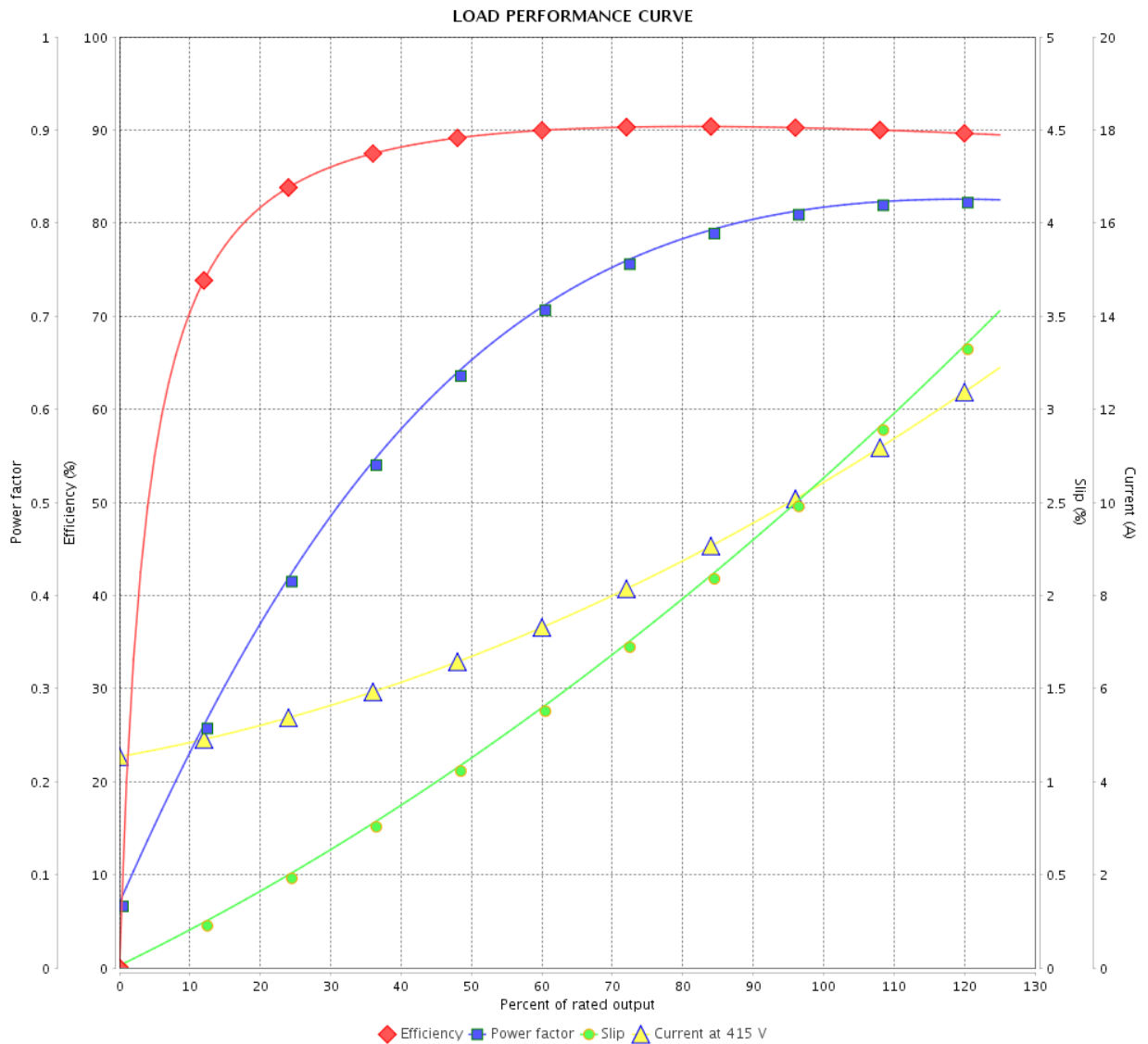


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current : 10.3 A  
 LRC : 6.7  
 Rated torque : 27.0 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 290 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 1.34 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE



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Locked rotor torque	: 220 %	Service factor	: 1.25
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1765 rpm	Design	: B

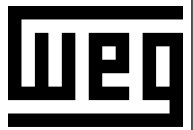
Heating constant

Cooling constant

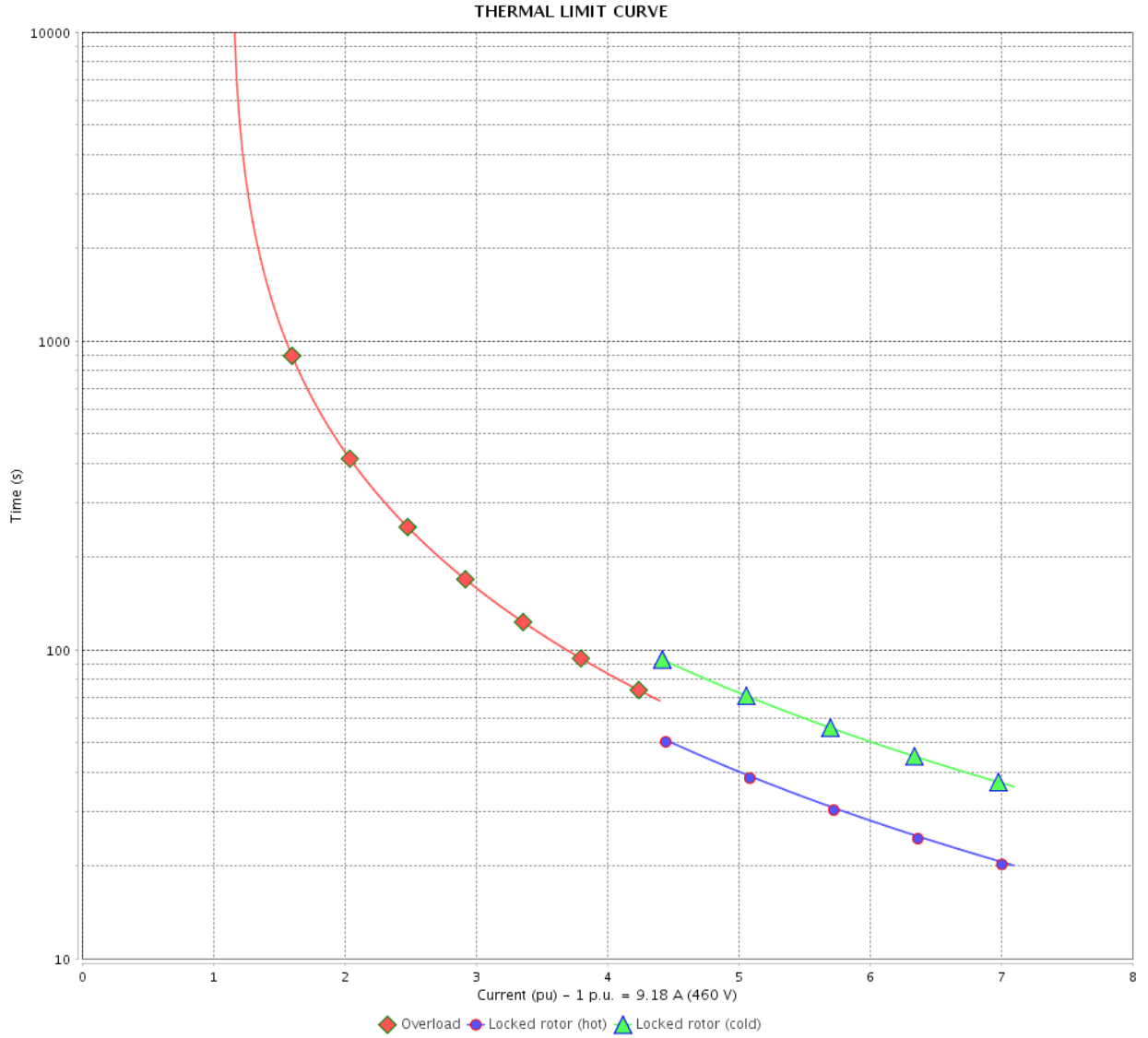
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12378978  
Catalog # : 00718ST3QIE213TC-W22

Performance : 380 V 50 Hz 4P IE3

Rated current	: 11.0 A	Moment of inertia (J)	: 1.34 sq.ft.lb
LRC	: 5.6	Duty cycle	: Cont.(S1)
Rated torque	: 27.1 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.25
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: B

Heating constant

Cooling constant

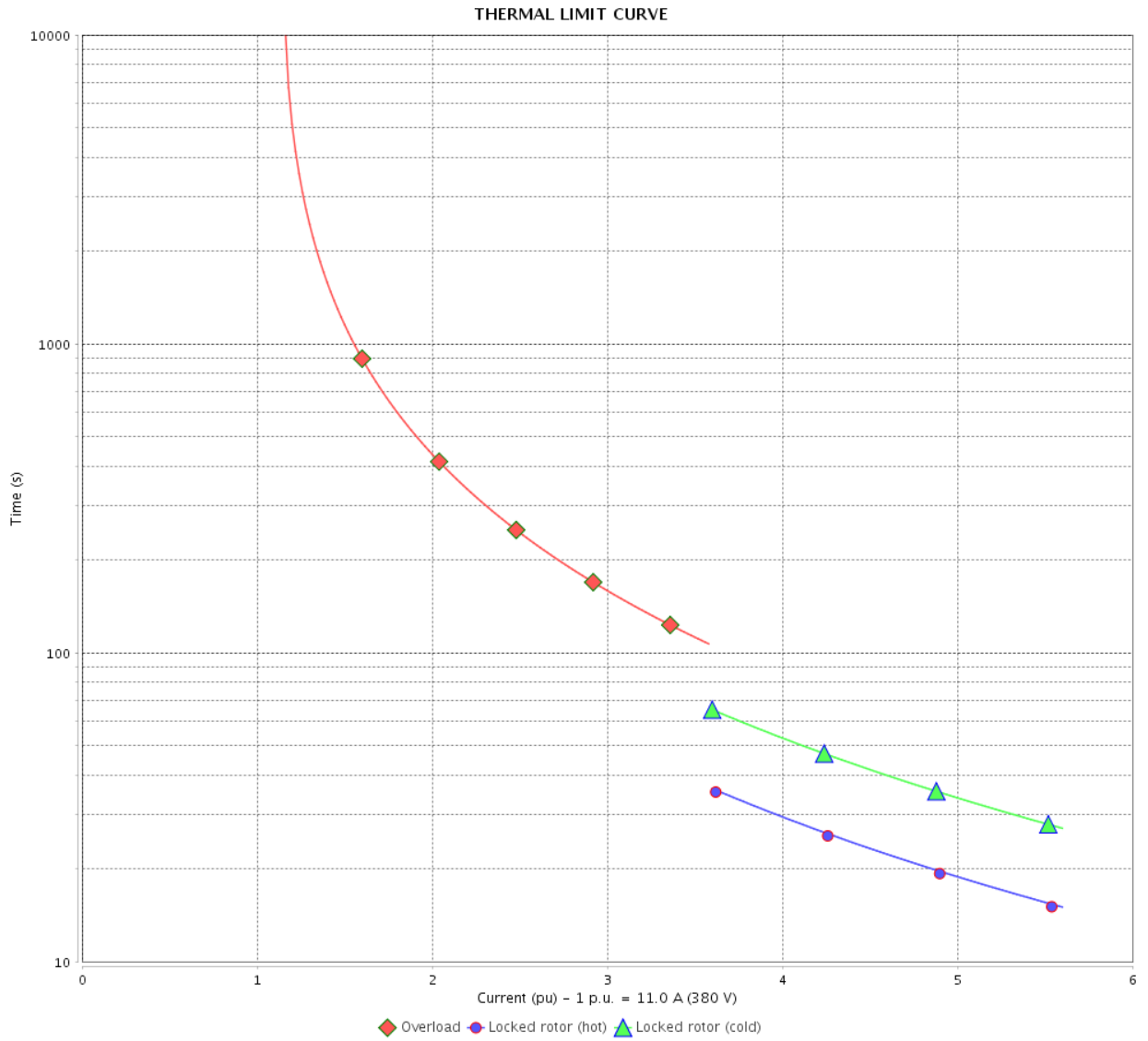
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Three Phase Induction Motor - Squirrel Cage



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22

Performance : 400 V 50 Hz 4P IE3

Rated current	: 10.5 A	Moment of inertia (J)	: 1.34 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 27.0 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.25
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: B

Heating constant

Cooling constant

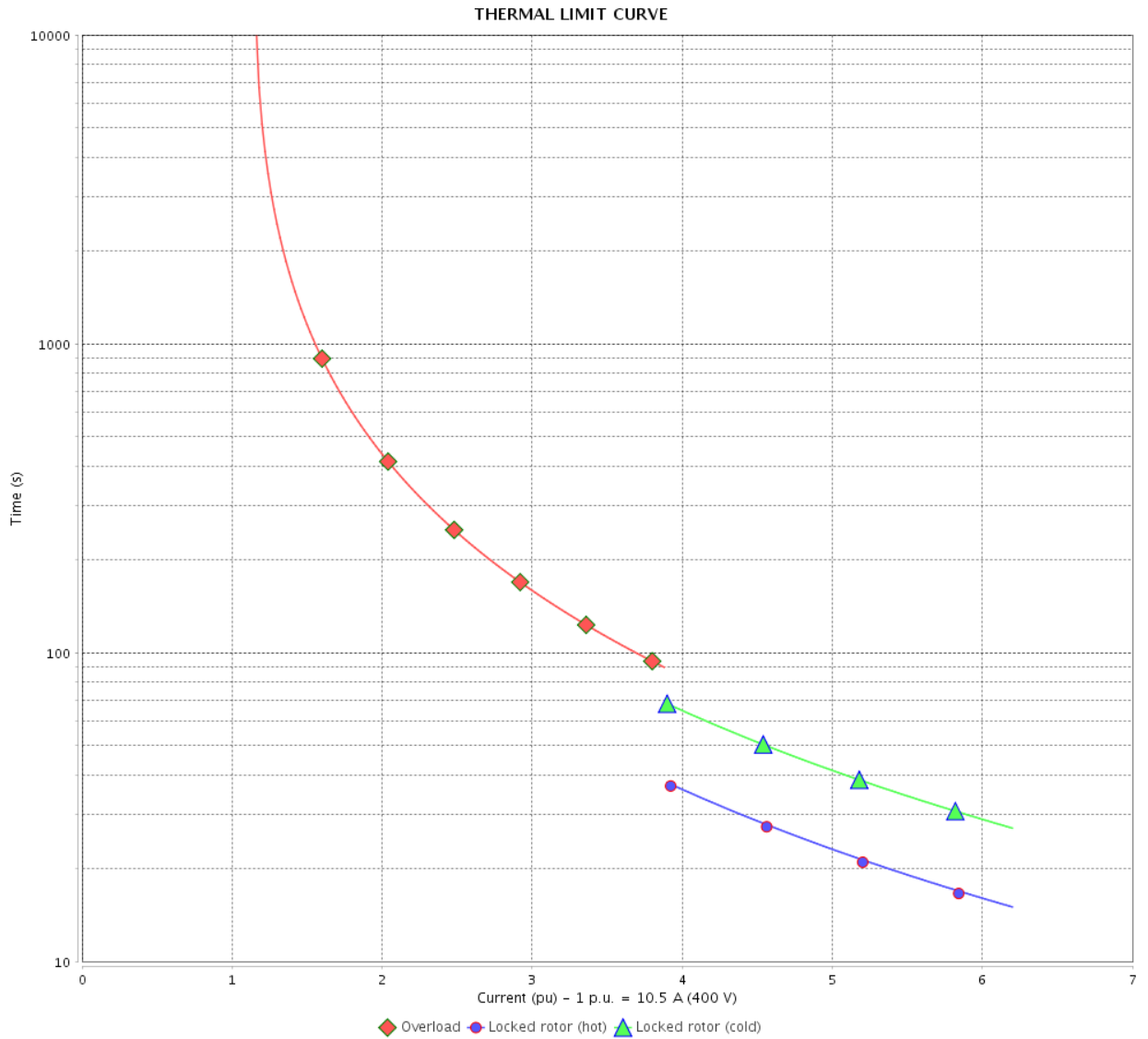
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



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Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12378978  
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Performance : 415 V 50 Hz 4P IE3

Rated current	: 10.3 A	Moment of inertia (J)	: 1.34 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 27.0 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.25
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: B

Heating constant

Cooling constant

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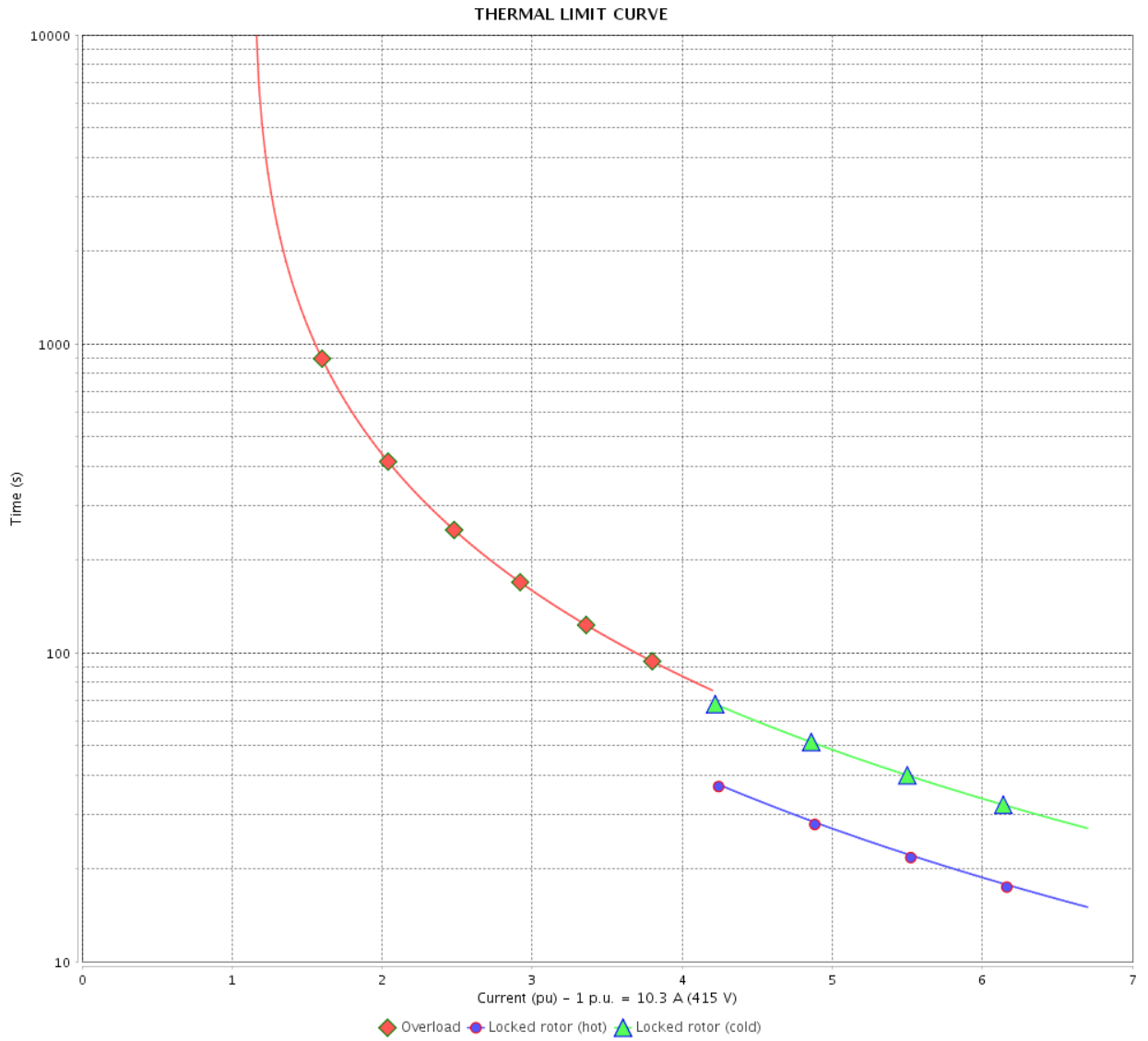


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



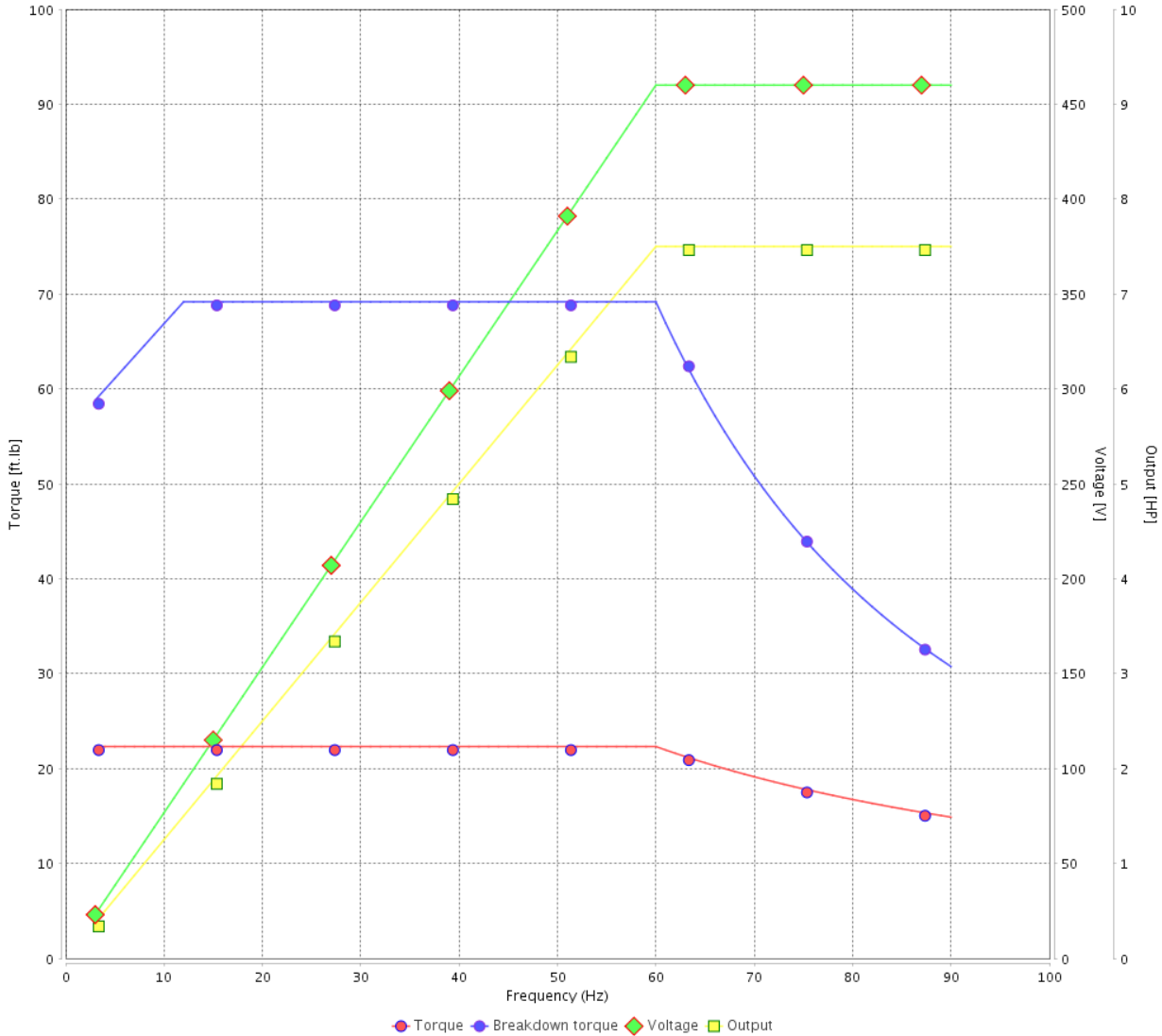
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Catalog # : 00718ST3QIE213TC-W22

VFD OPERATION CURVE



Performance : 460 V 60 Hz 4P

Rated current : 9.18 A  
 LRC : 7.1  
 Rated torque : 22.3 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 310 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 1.34 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

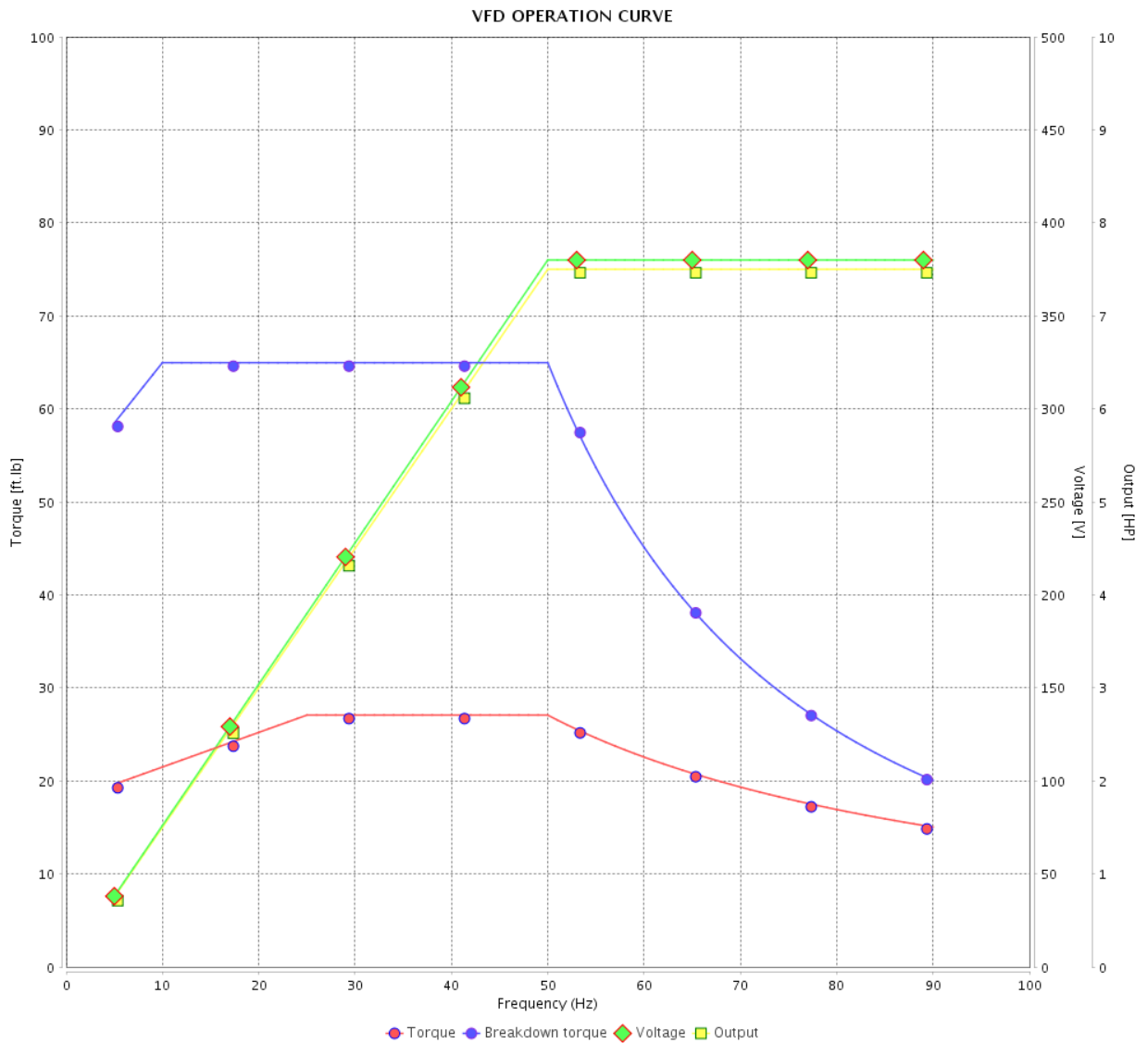


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Performance : 380 V 50 Hz 4P IE3

Rated current : 11.0 A  
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 Breakdown torque : 240 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 1.34 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



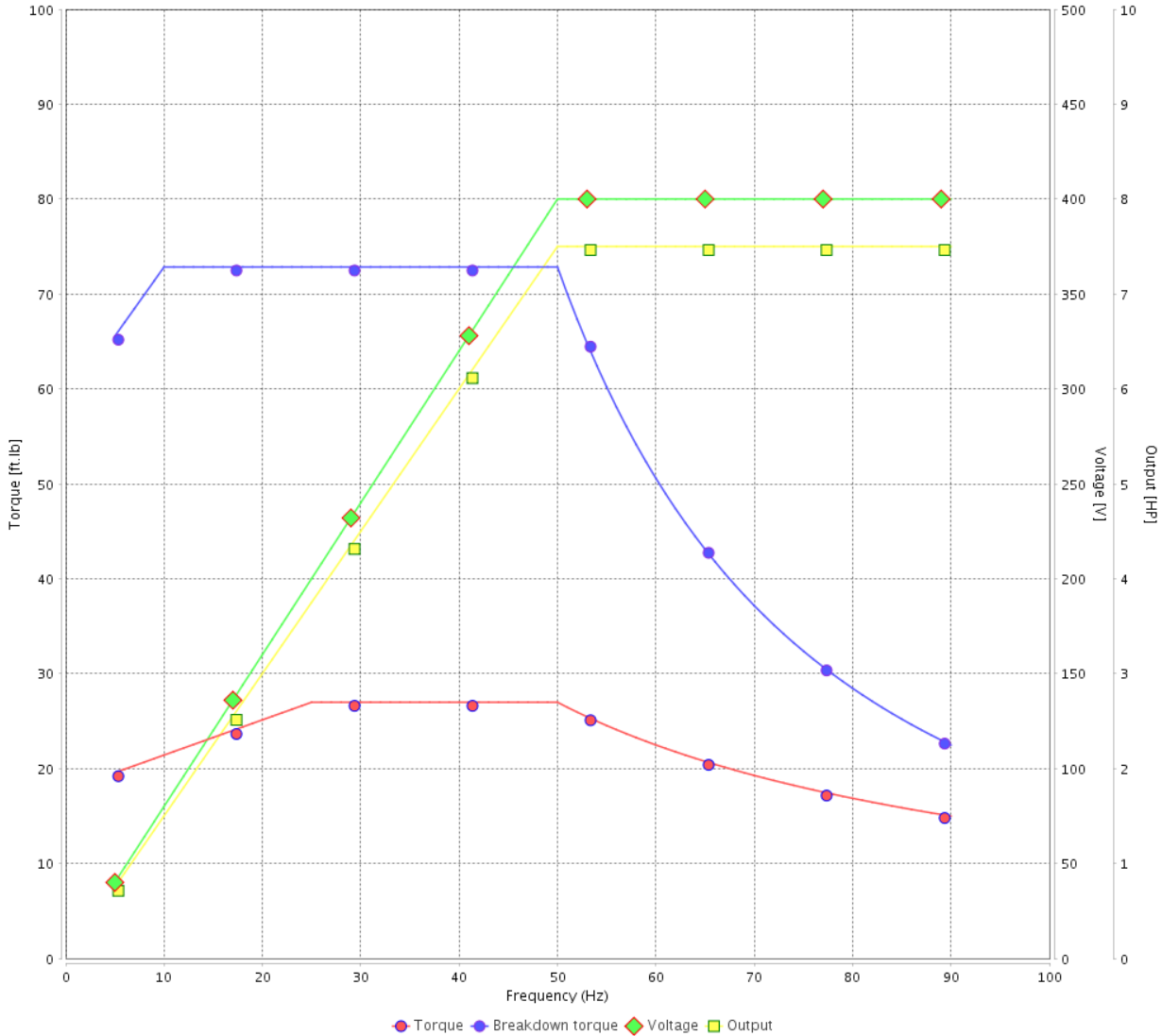
Customer : \_\_\_\_\_

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Product code : 12378978

Catalog # : 00718ST3QIE213TC-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 4P IE3

Rated current : 10.5 A  
 LRC : 6.2  
 Rated torque : 27.0 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 270 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 1.34 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

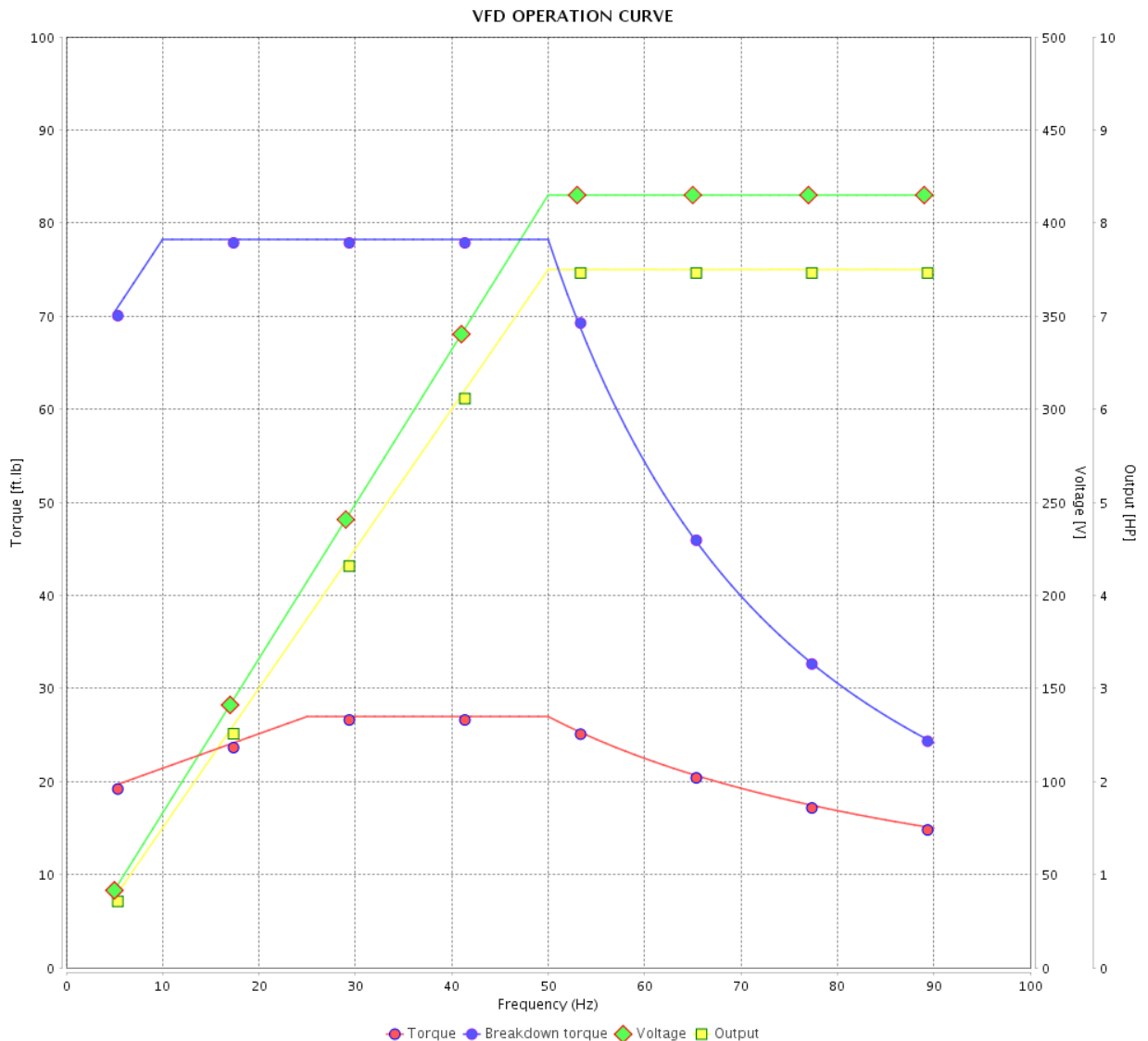


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Catalog # : 00718ST3QIE213TC-W22



Performance : 415 V 50 Hz 4P IE3

Rated current : 10.3 A  
 LRC : 6.7  
 Rated torque : 27.0 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 290 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 1.34 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
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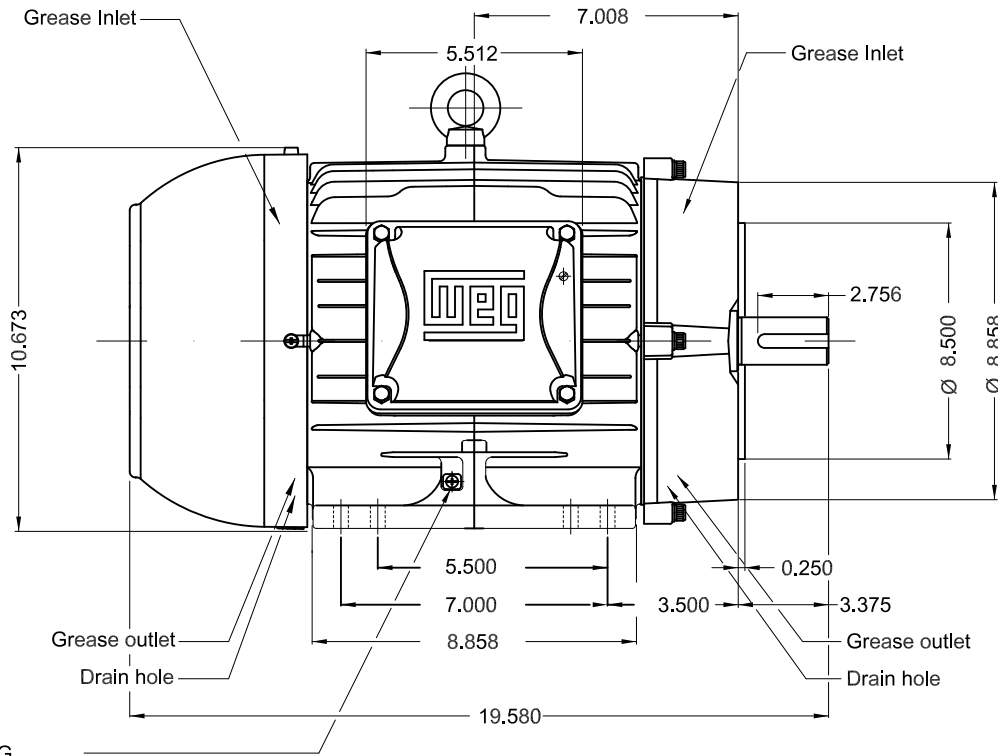
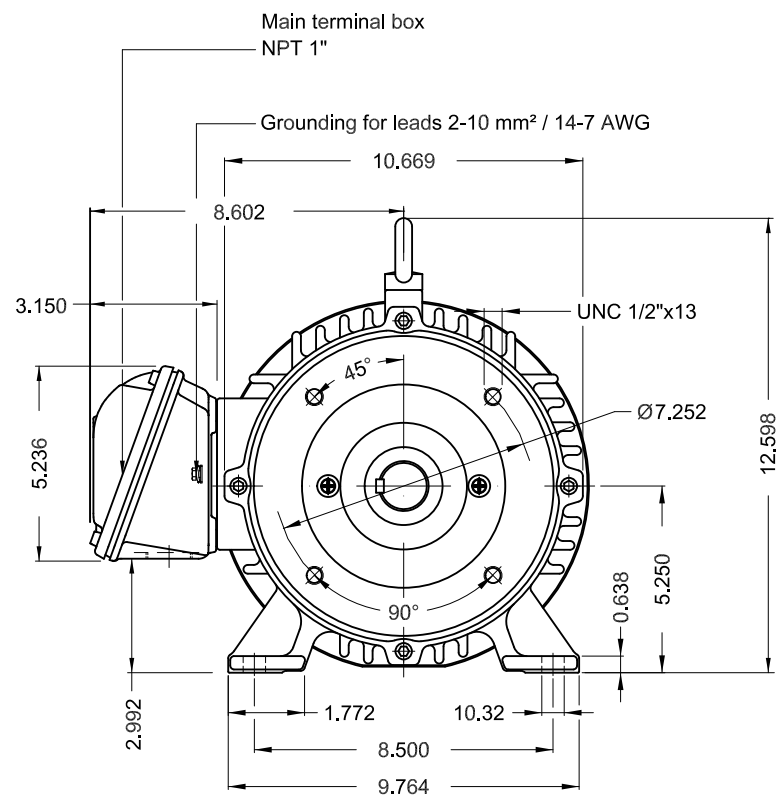
Rev.	Changes Summary	Performed	Checked	Date
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Date	13/04/2022			

1 2 3 4 5 6

A

B

C

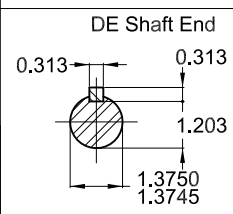


Grounding for leads 2-10 mm² / 14-7 AWG

D

E

Color RAL 5009  
 Painting plan 202E  
 Mounting B34R(D)



7.5 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 213/5TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**  
**WDD**



MADE IN BRAZIL  
12378978



**NEMA**  
Premium

**W22**

IE007404W22CIS

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 181lb

V 460

A 9.18

HP 7.5

kW 5.5

SF 1.25

SFA 11.5

RPM 1765

PF 0.82

AMB 40°C

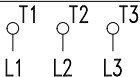
INS cl. F DT80K

NEMA NOM EFF 91.7%

DUTY CONT.

DES B Code H

GUARANT. EFF 90.2%



460V



→ 6308-C3 (11g) 40BC03X30

→ 6207-C3 (7g) 35BC02X30



MOBIL POLYREX EM (20000h)