

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase	Product code :		13205894
			Catalog # :		00109ST3QIE182T-W22
Frame		: 182/4T	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>		: 102 lb
Protection degree		: IP55	Moment of inertia (J)		: 0.3991 sq.ft.lb
Design		: B			
Output [HP]		1	1	1	1
Poles		8	8	8	8
Frequency [Hz]		60	50	50	50
Rated voltage [V]		460	380	400	415
Rated current [A]		2.30	2.52	2.56	2.61
L. R. Amperes [A]		13.8	15.1	15.4	15.7
LRC [A]		6.0x(Code M)	6.0x(Code L)	6.0x(Code M)	6.0x(Code N)
No load current [A]		1.70	1.67	1.82	1.94
Rated speed [RPM]		875	715	715	720
Slip [%]		2.78	4.67	4.67	4.00
Rated torque [ft.lb]		6.00	7.34	7.34	7.29
Locked rotor torque [%]		300	240	270	300
Breakdown torque [%]		350	250	280	310
Service factor		1.25	1.00	1.00	1.00
Temperature rise		80 K	80 K	80 K	80 K
Locked rotor time		39s (cold) 22s (hot)	39s (cold) 22s (hot)	39s (cold) 22s (hot)	39s (cold) 22s (hot)
Noise level <sup>2</sup>		50.0 dB(A)	46.0 dB(A)	46.0 dB(A)	46.0 dB(A)
Efficiency (%)	25%	72.4	74.4	71.5	68.4
	50%	74.0	74.7	72.0	70.0
	75%	77.0	75.5	75.5	74.0
	100%	78.5	75.5	75.5	75.5
Power Factor	25%	0.18	0.21	0.19	0.18
	50%	0.32	0.38	0.35	0.33
	75%	0.42	0.50	0.46	0.43
	100%	0.52	0.60	0.56	0.53
Bearing type		: <u>Drive end</u> 6207 C3 <u>Non drive end</u> 6206 C3	Foundation loads		
Sealing		: Inpro/Seal Inpro/Seal	Max. traction		: 93 lb
Lubrication interval		: 20000 h 20000 h	Max. compression		: 195 lb
Lubricant amount		: 7 g 5 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



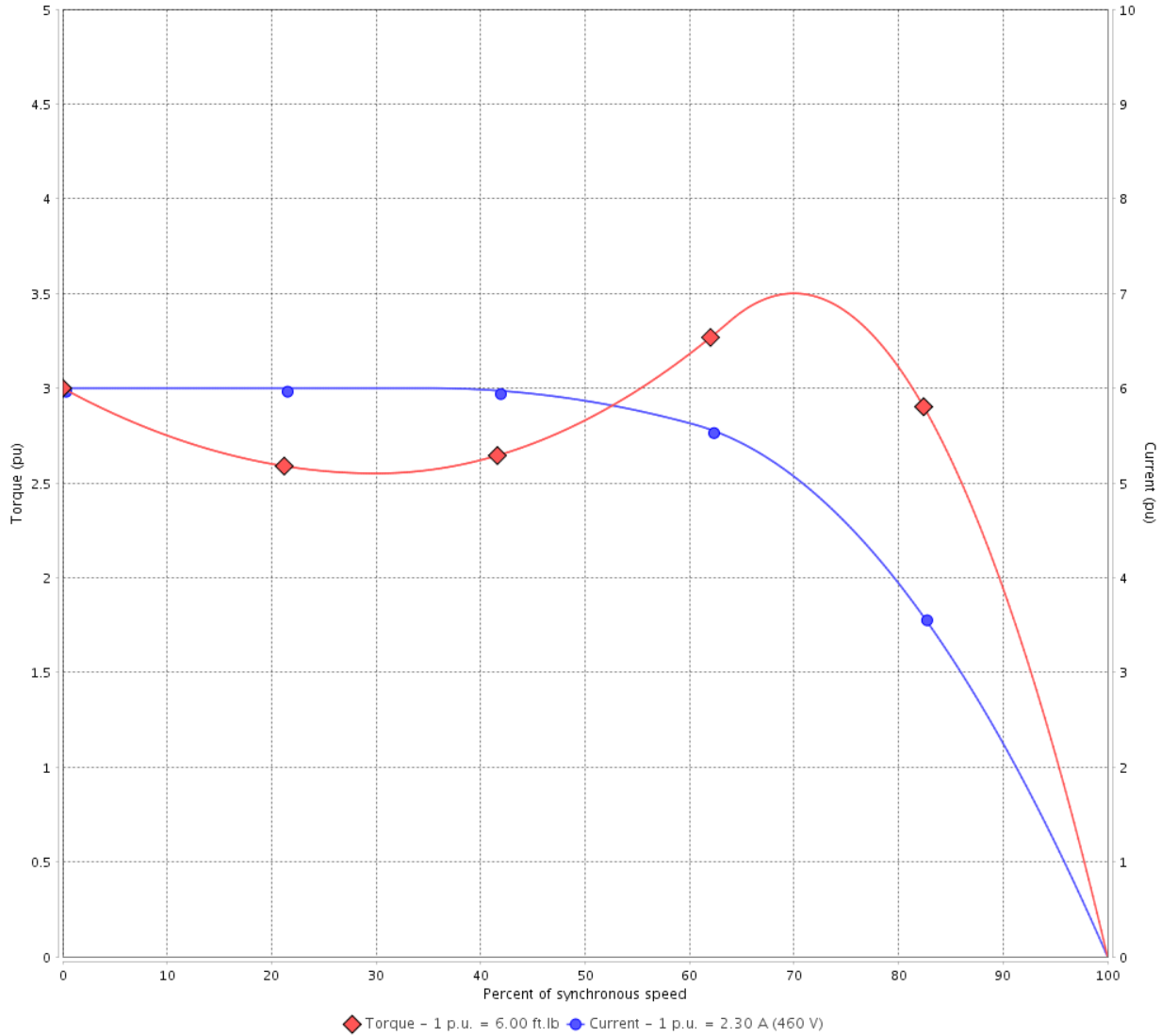
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 8P

Rated current	: 2.30 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 6.00 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.25
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 875 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



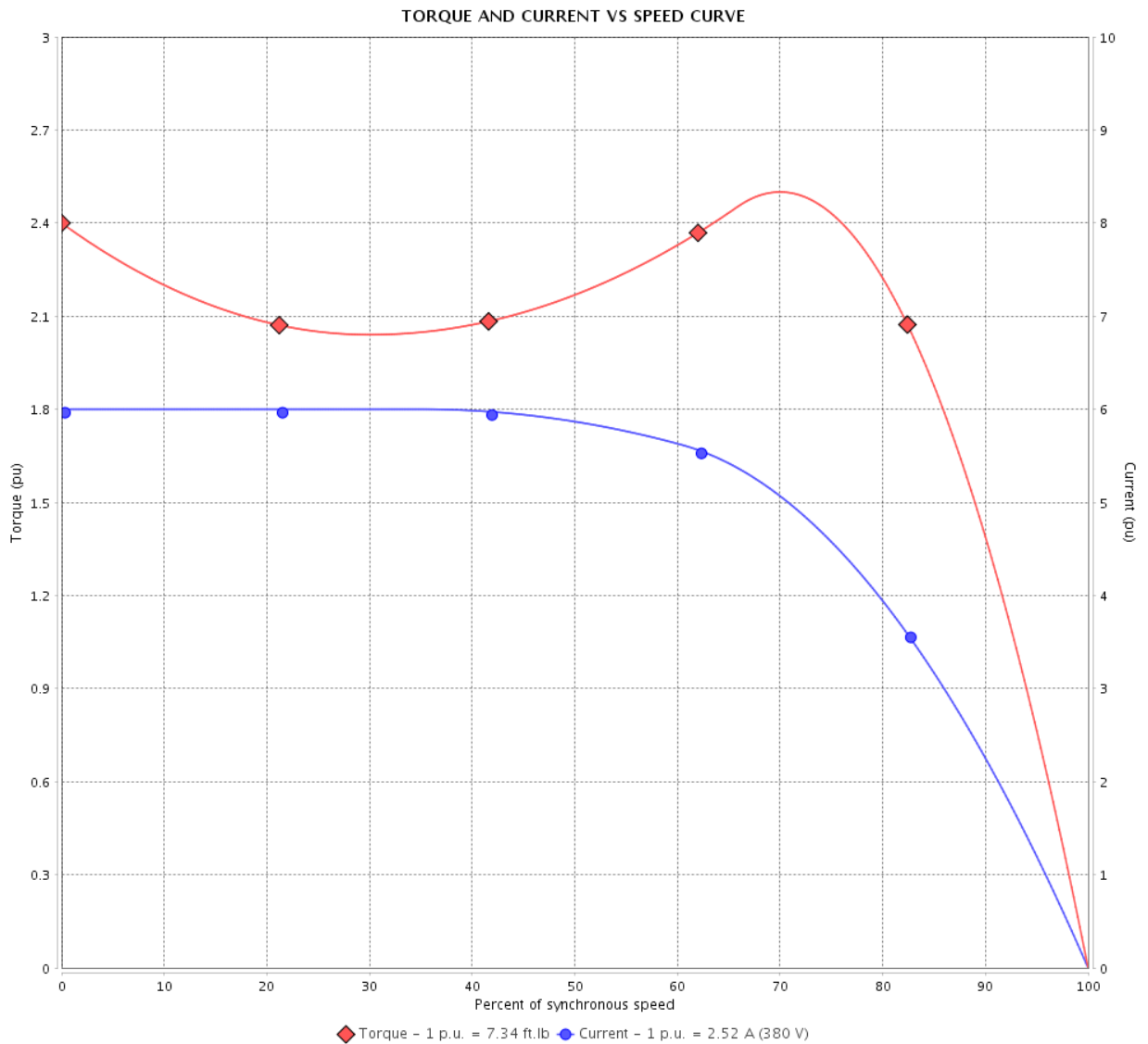
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current	: 2.52 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 7.34 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 715 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



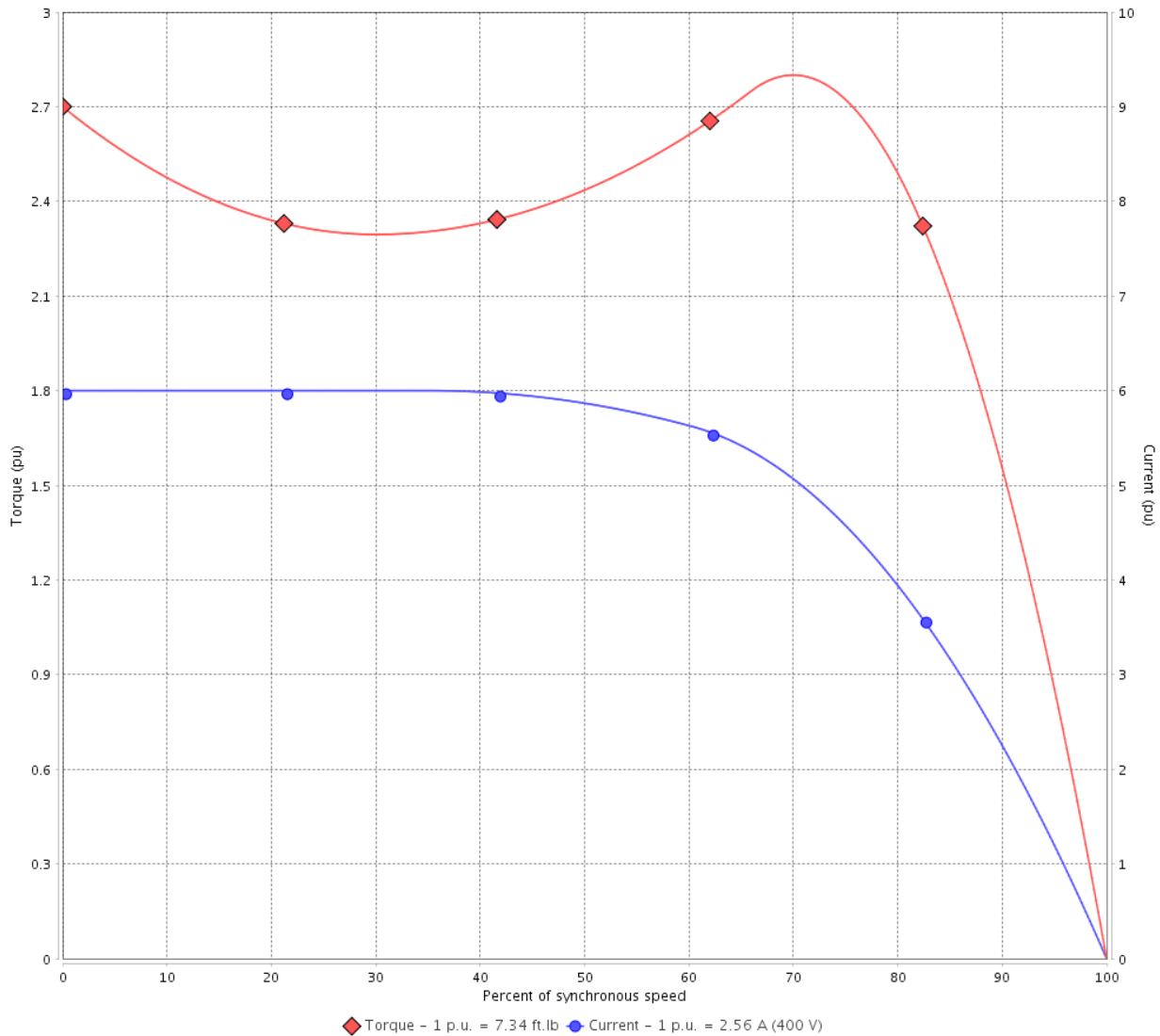
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current	: 2.56 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 7.34 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 715 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



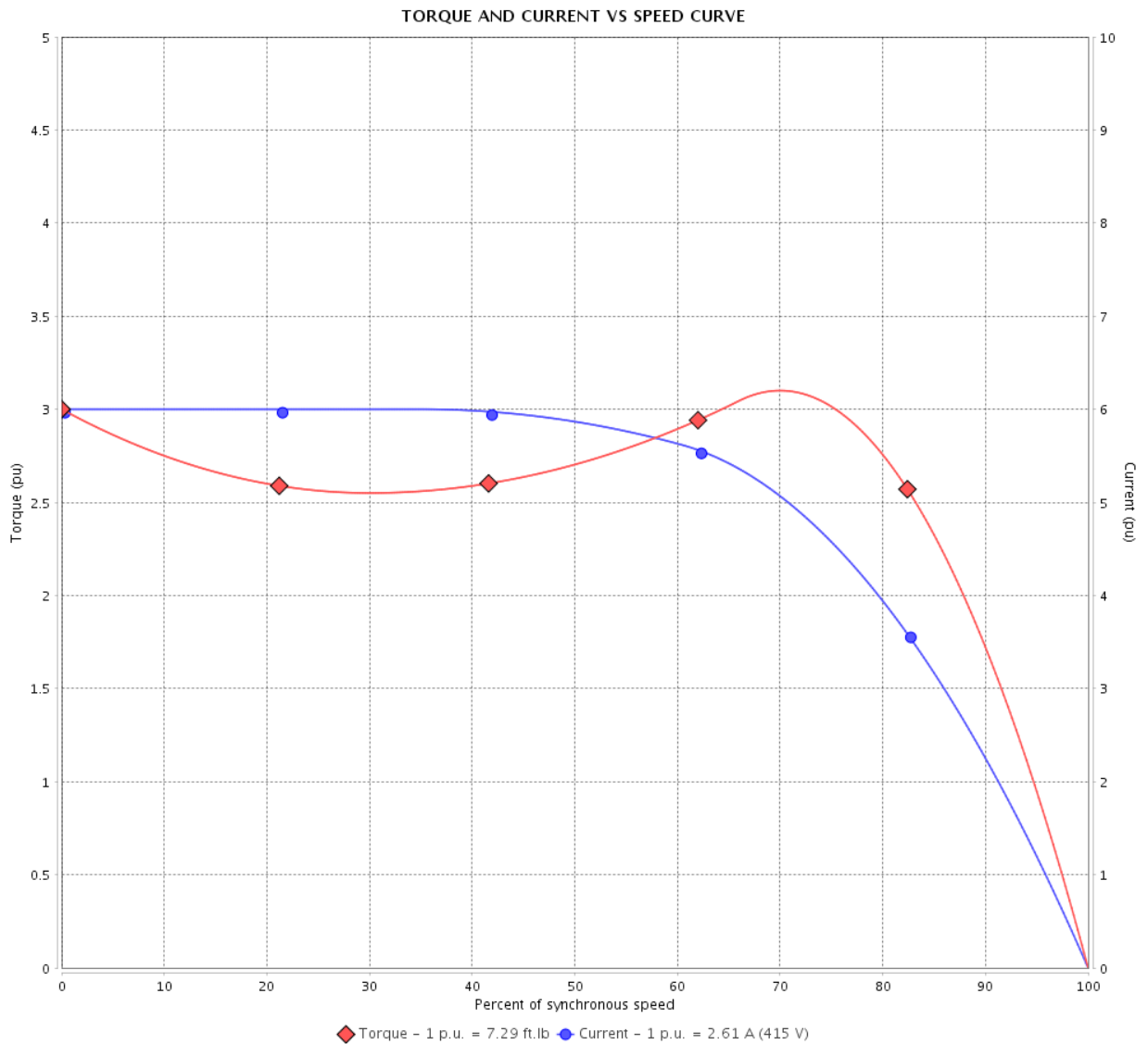
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22



Performance : 415 V 50 Hz 8P IE3

Rated current	: 2.61 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 7.29 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



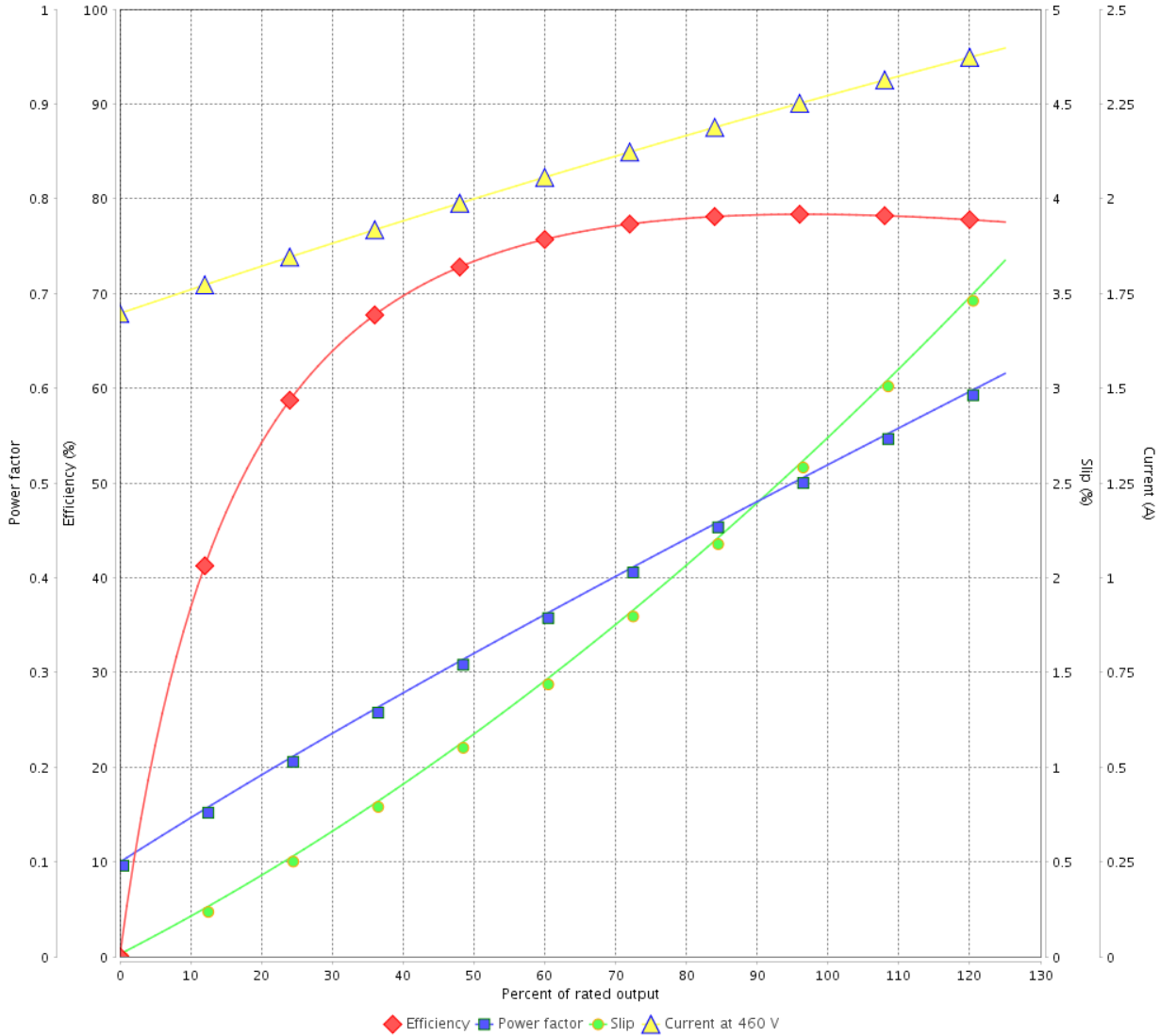
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 8P

Rated current : 2.30 A  
 LRC : 6.0  
 Rated torque : 6.00 ft.lb  
 Locked rotor torque : 300 %  
 Breakdown torque : 350 %  
 Rated speed : 875 rpm

Moment of inertia (J) : 0.3991 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

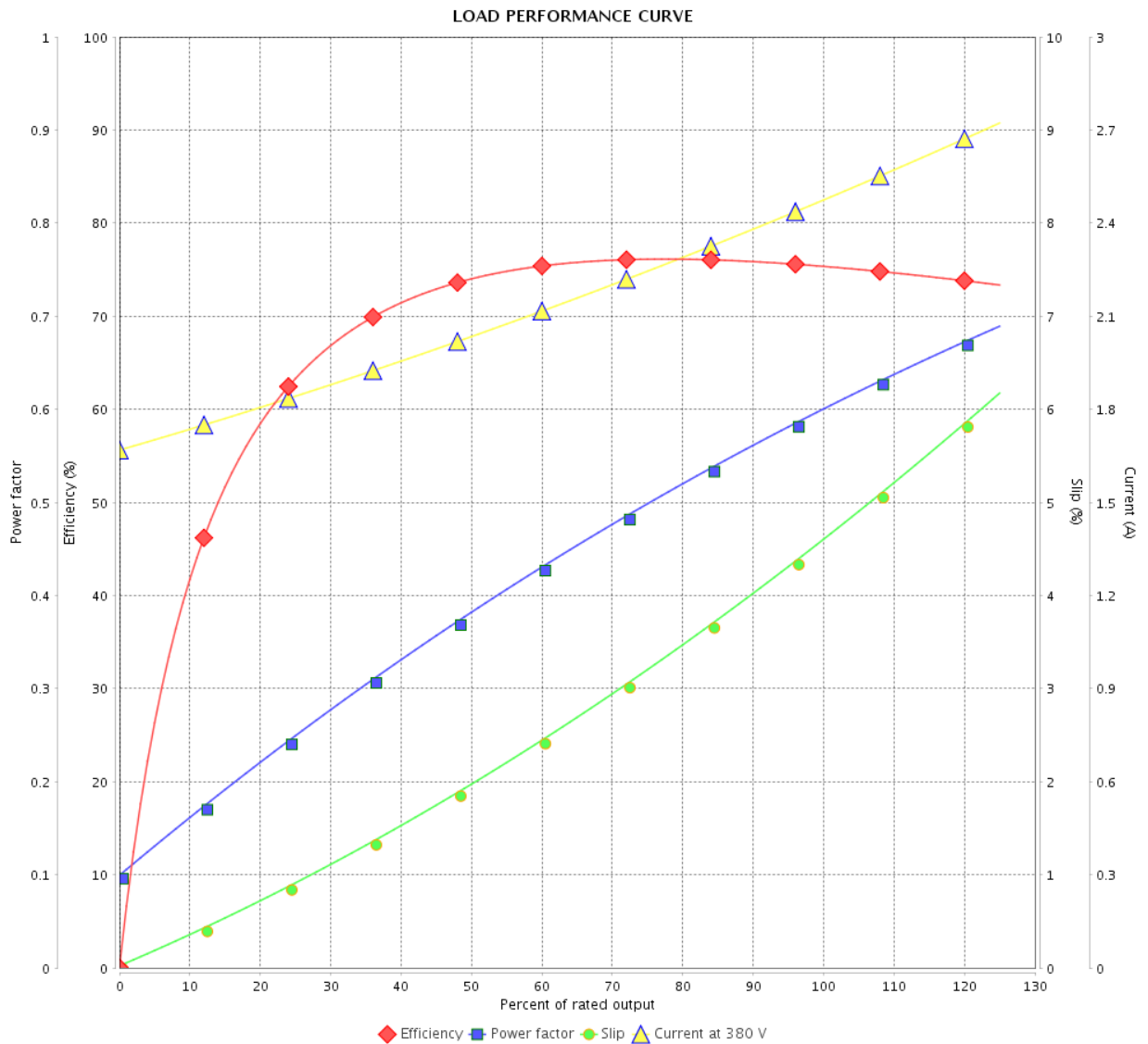


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 2.52 A  
 LRC : 6.0  
 Rated torque : 7.34 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 250 %  
 Rated speed : 715 rpm

Moment of inertia (J) : 0.3991 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



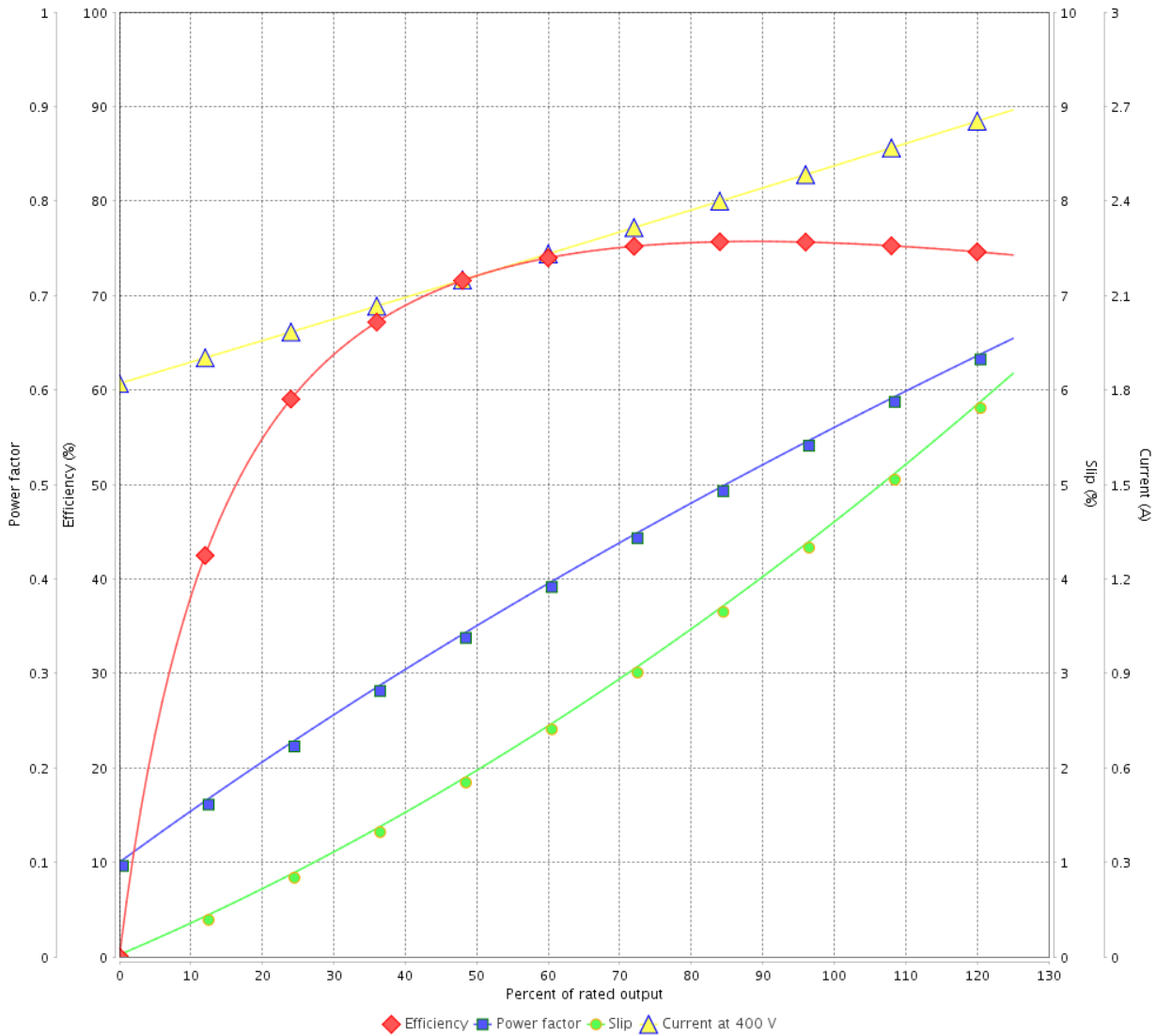
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current : 2.56 A  
 LRC : 6.0  
 Rated torque : 7.34 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 280 %  
 Rated speed : 715 rpm

Moment of inertia (J) : 0.3991 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

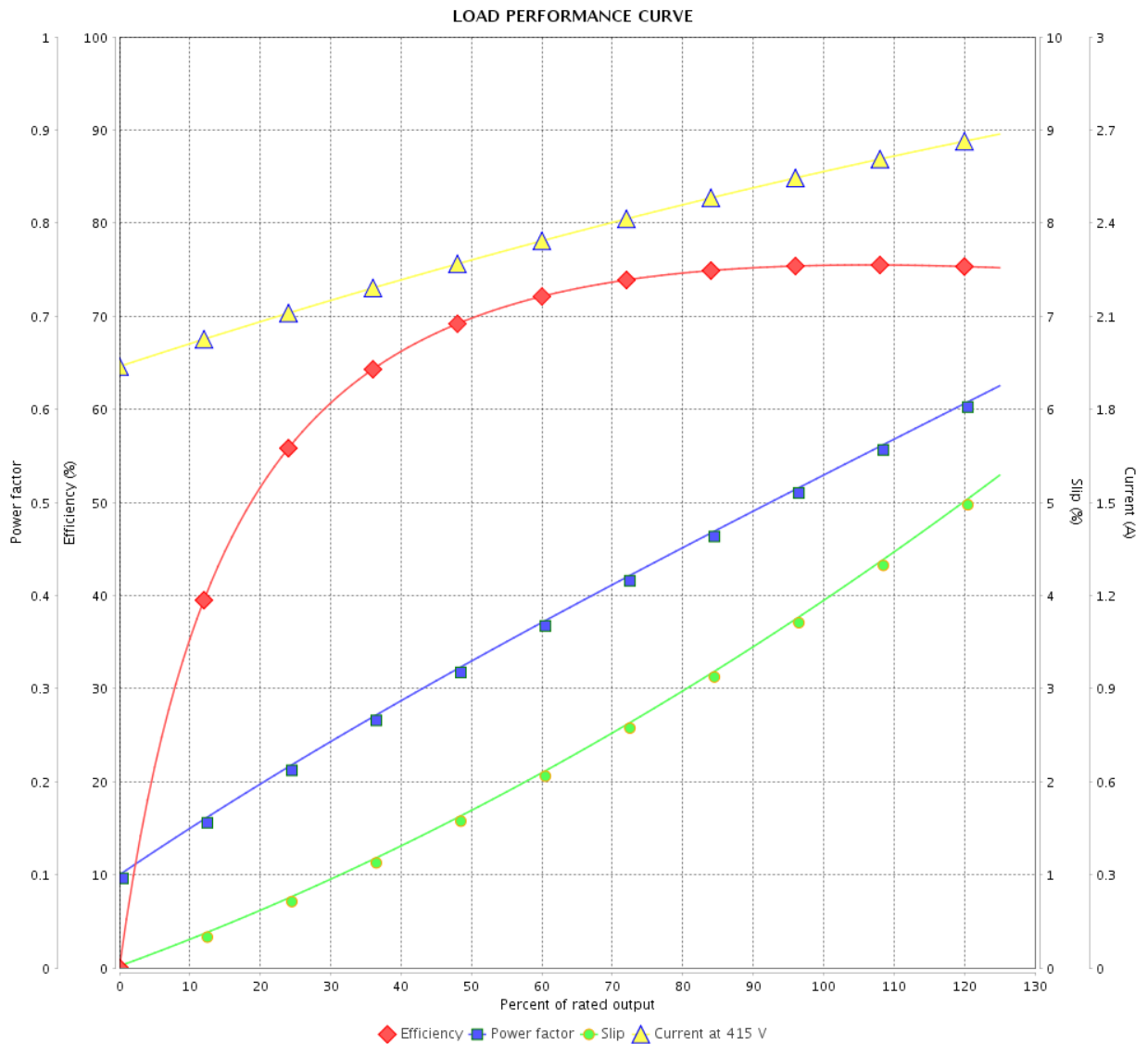


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Product code : 13205894

Catalog # : 00109ST3QIE182T-W22



Performance : 415 V 50 Hz 8P IE3

Rated current : 2.61 A  
 LRC : 6.0  
 Rated torque : 7.29 ft.lb  
 Locked rotor torque : 300 %  
 Breakdown torque : 310 %  
 Rated speed : 720 rpm

Moment of inertia (J) : 0.3991 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE



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LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 6.00 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.25
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 875 rpm	Design	: B

Heating constant

Cooling constant

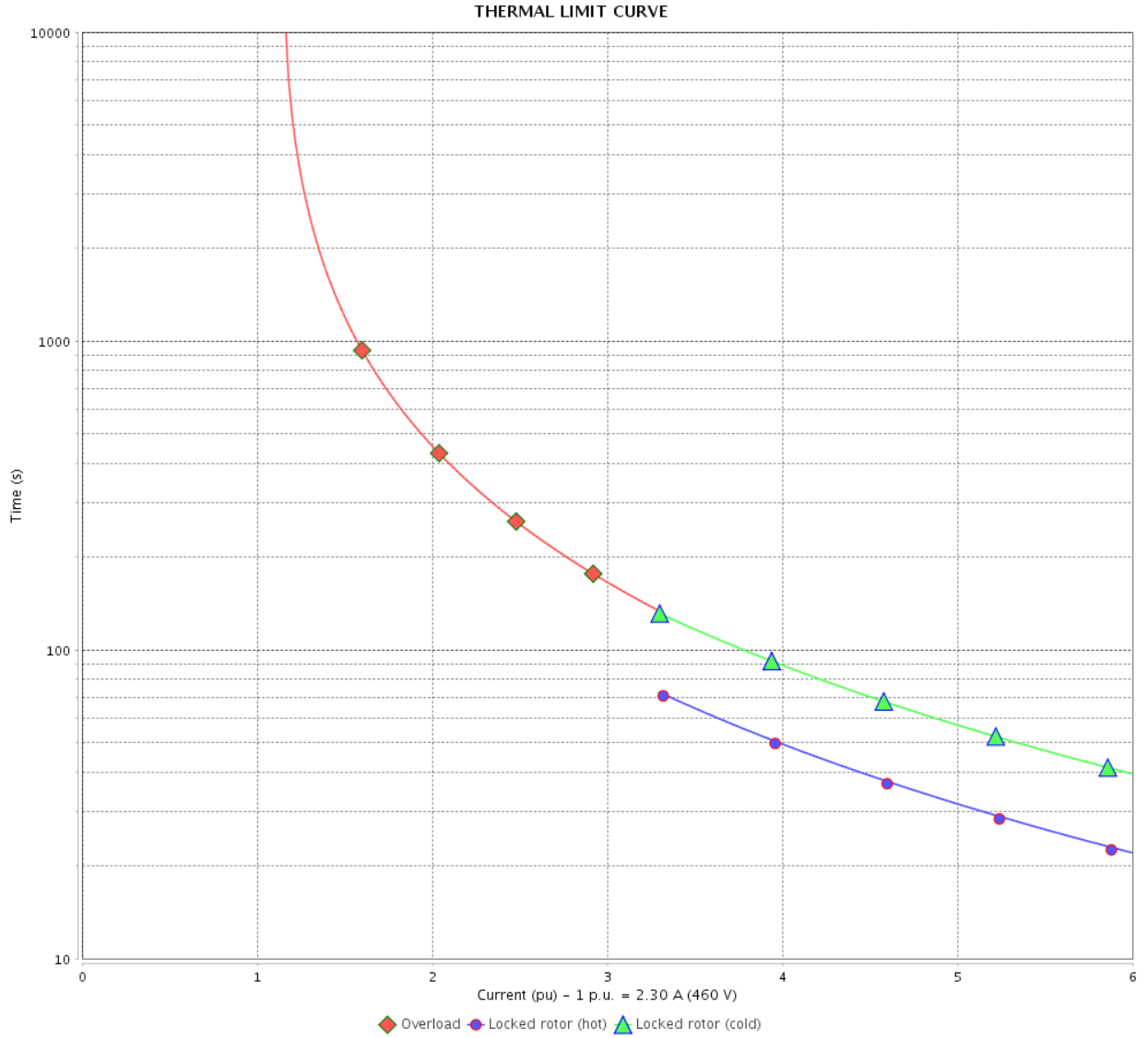
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Three Phase Induction Motor - Squirrel Cage



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



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## Three Phase Induction Motor - Squirrel Cage



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Performance : 380 V 50 Hz 8P IE3

Rated current	: 2.52 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 7.34 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 715 rpm	Design	: B

Heating constant

Cooling constant

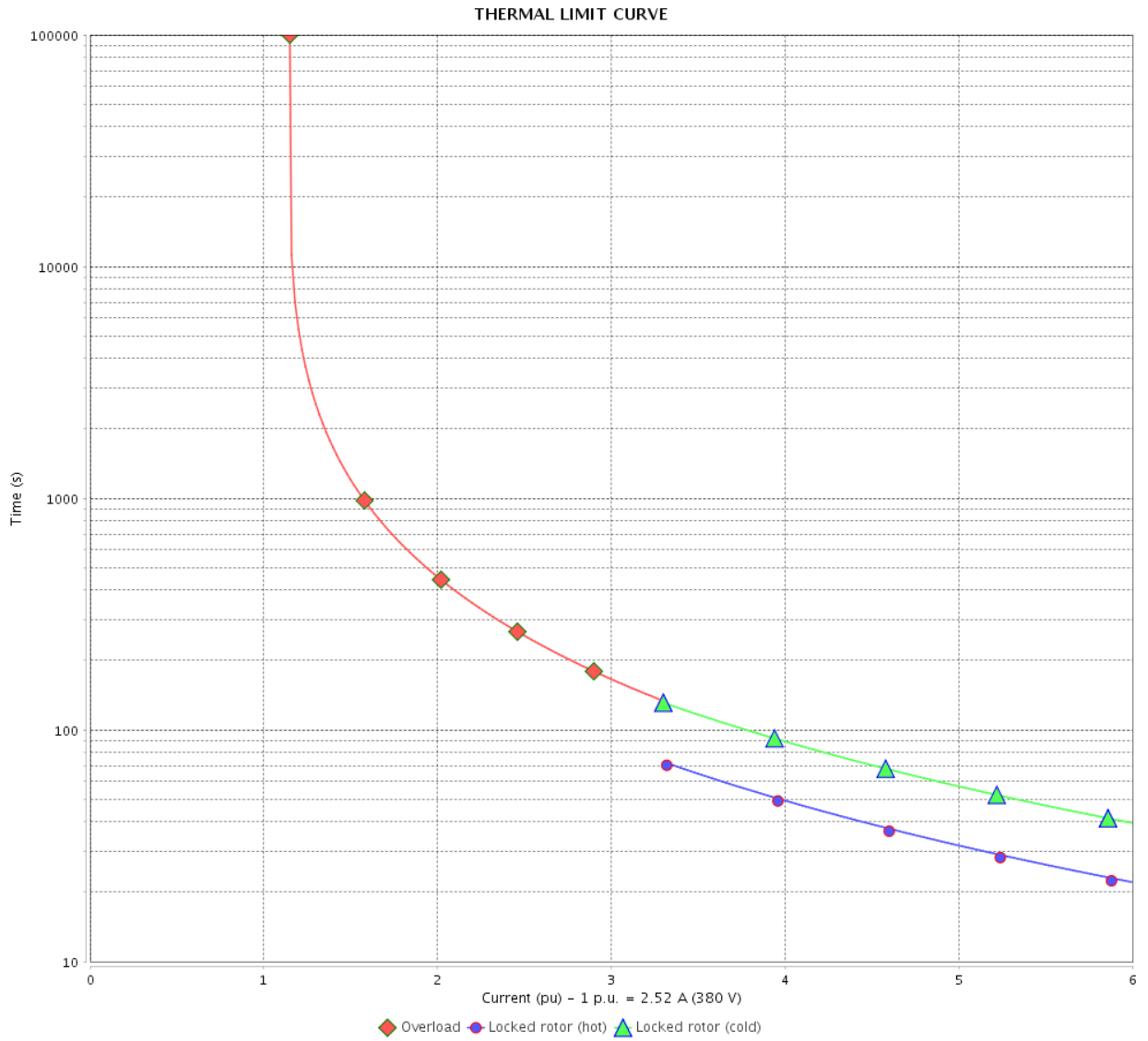
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13205894  
Catalog # : 00109ST3QIE182T-W22

Performance : 400 V 50 Hz 8P IE3

Rated current	: 2.56 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 7.34 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 715 rpm	Design	: B

Heating constant

Cooling constant

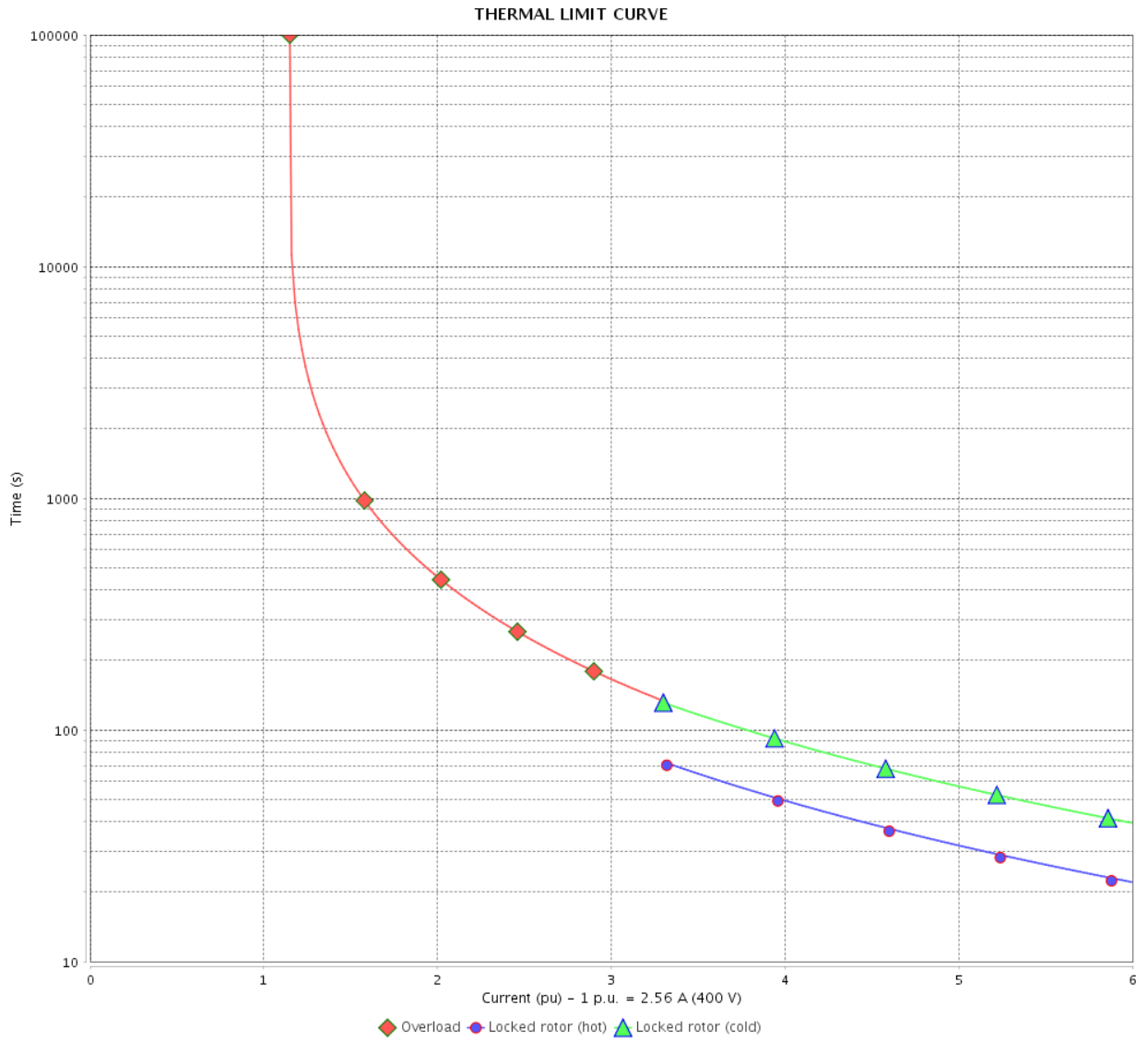
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Checked by			Page	Revision
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13205894

Catalog # : 00109ST3QIE182T-W22

Performance : 415 V 50 Hz 8P IE3

Rated current	: 2.61 A	Moment of inertia (J)	: 0.3991 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 7.29 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: B

Heating constant

Cooling constant

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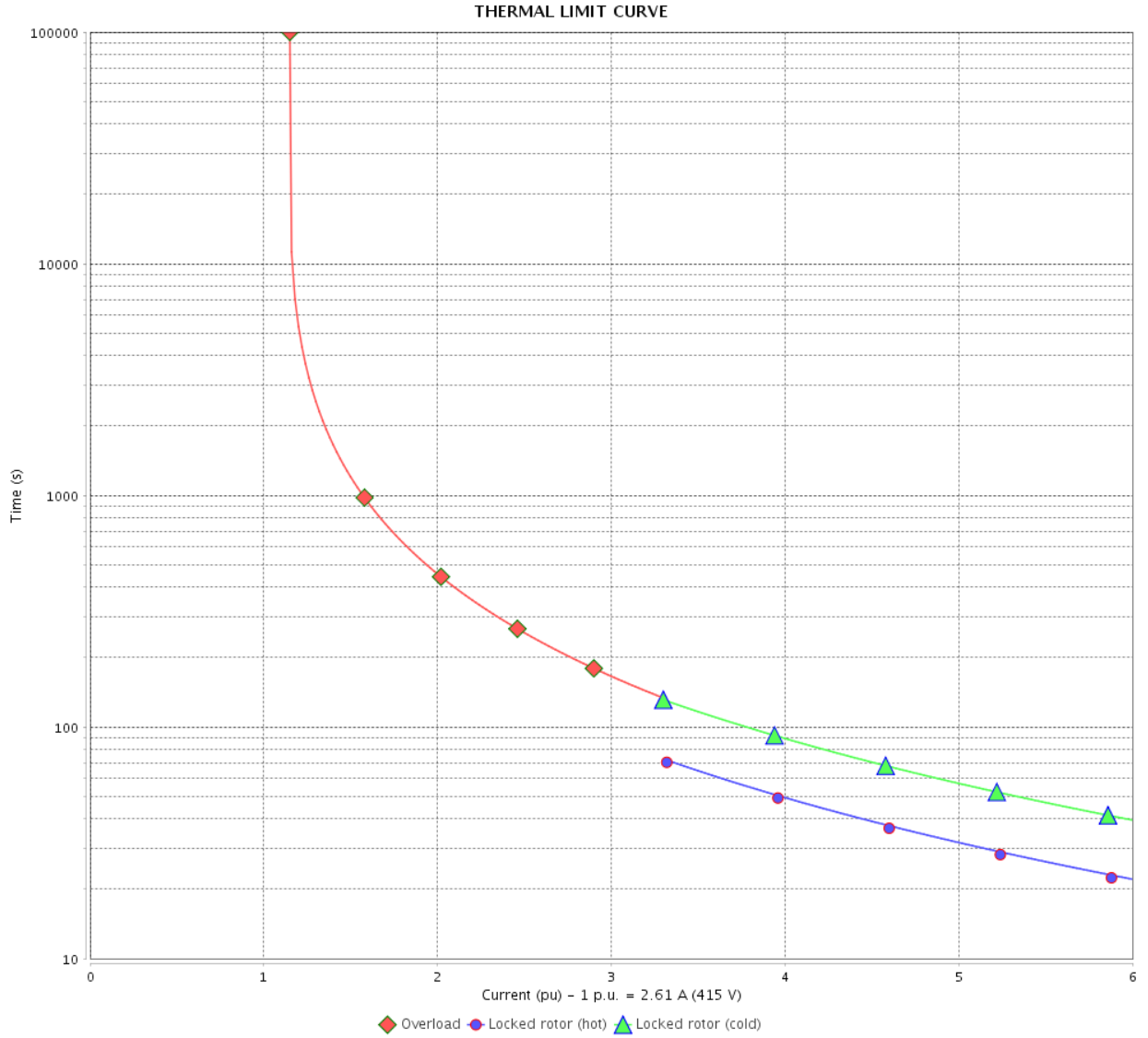


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

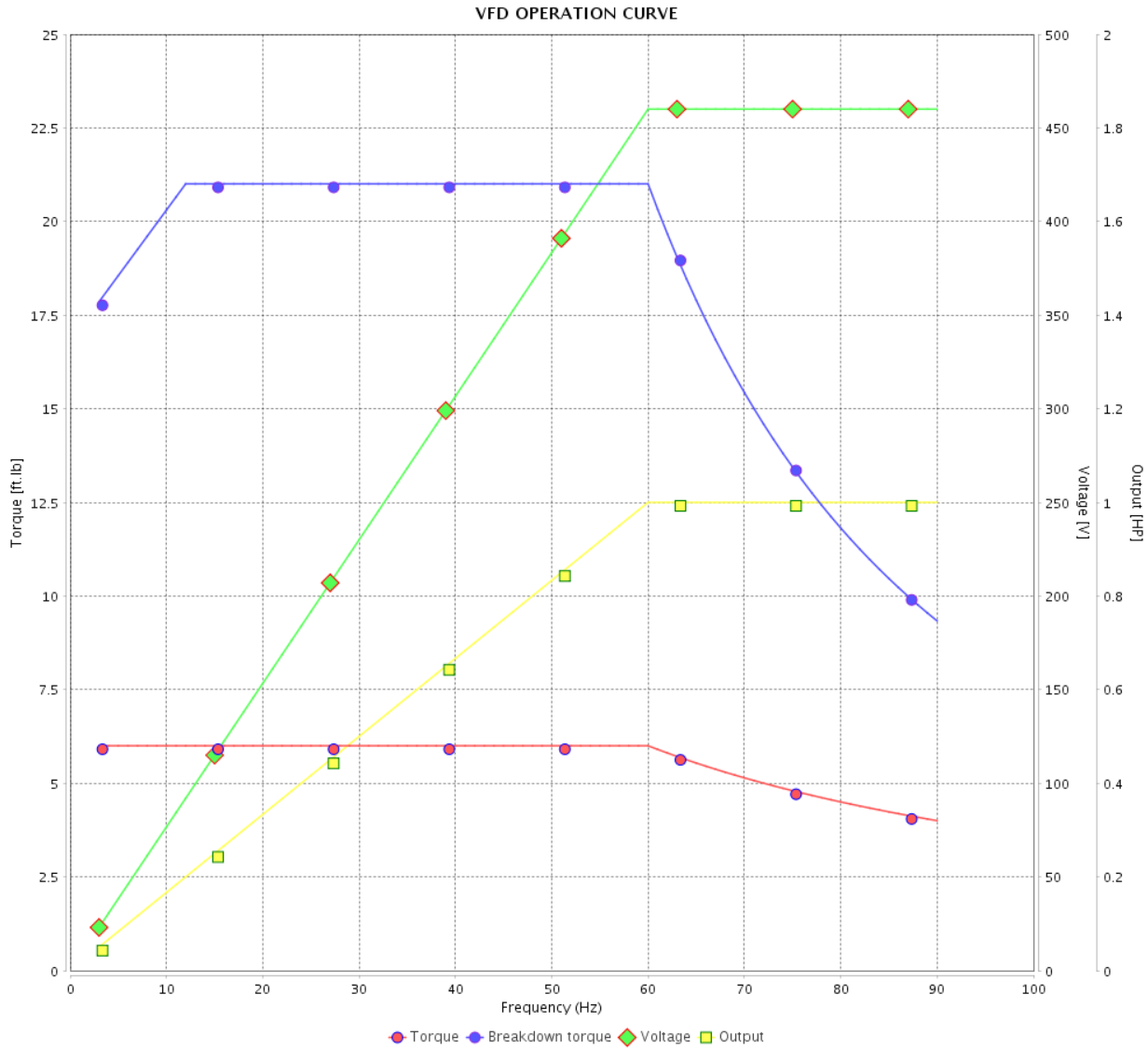


Customer :

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Product code : 13205894

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Performance : 460 V 60 Hz 8P

Rated current : 2.30 A  
 LRC : 6.0  
 Rated torque : 6.00 ft.lb  
 Locked rotor torque : 300 %  
 Breakdown torque : 350 %  
 Rated speed : 875 rpm

Moment of inertia (J) : 0.3991 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

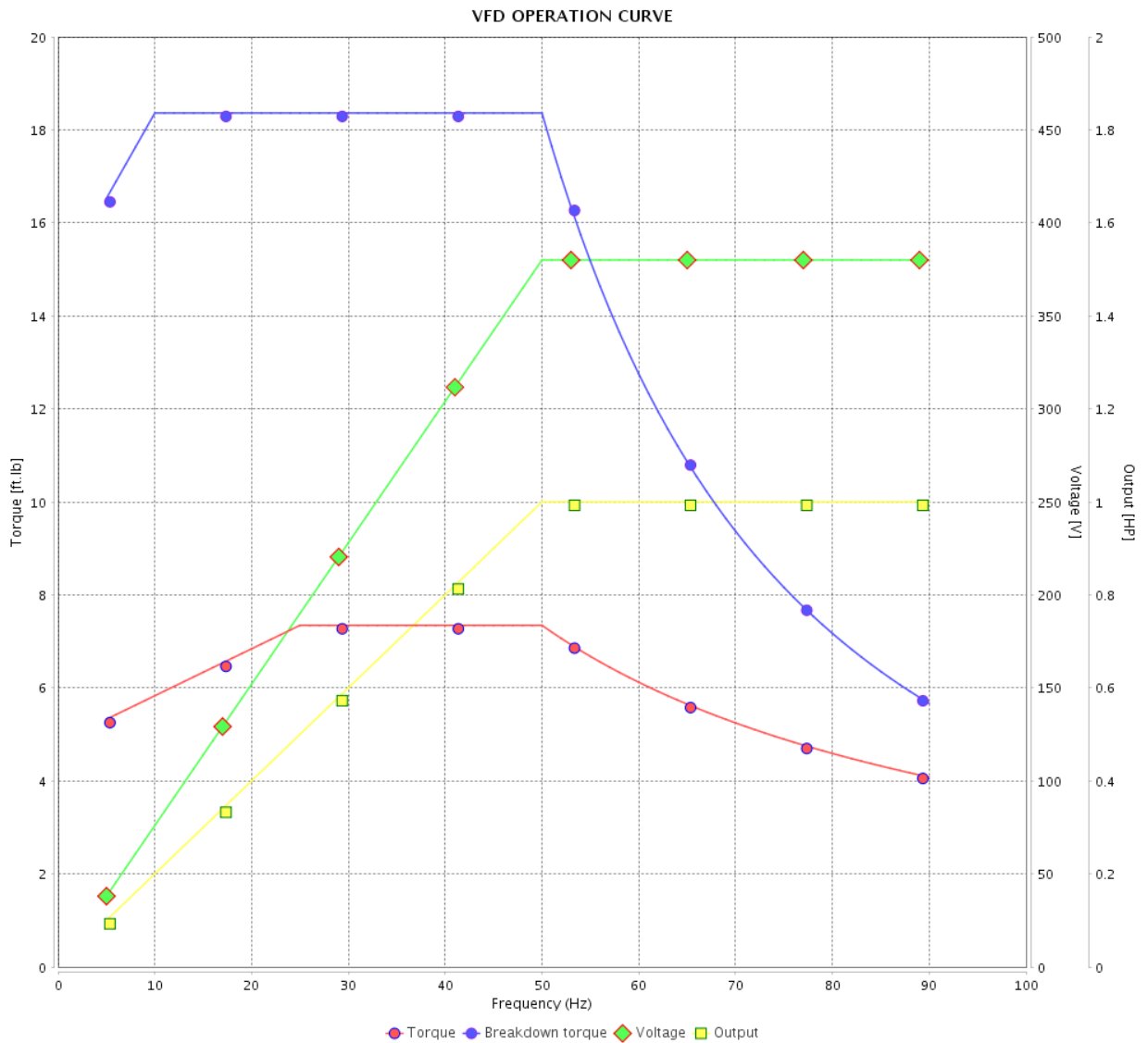


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Product code : 13205894

Catalog # : 00109ST3QIE182T-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 2.52 A  
 LRC : 6.0  
 Rated torque : 7.34 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 250 %  
 Rated speed : 715 rpm

Moment of inertia (J) : 0.3991 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



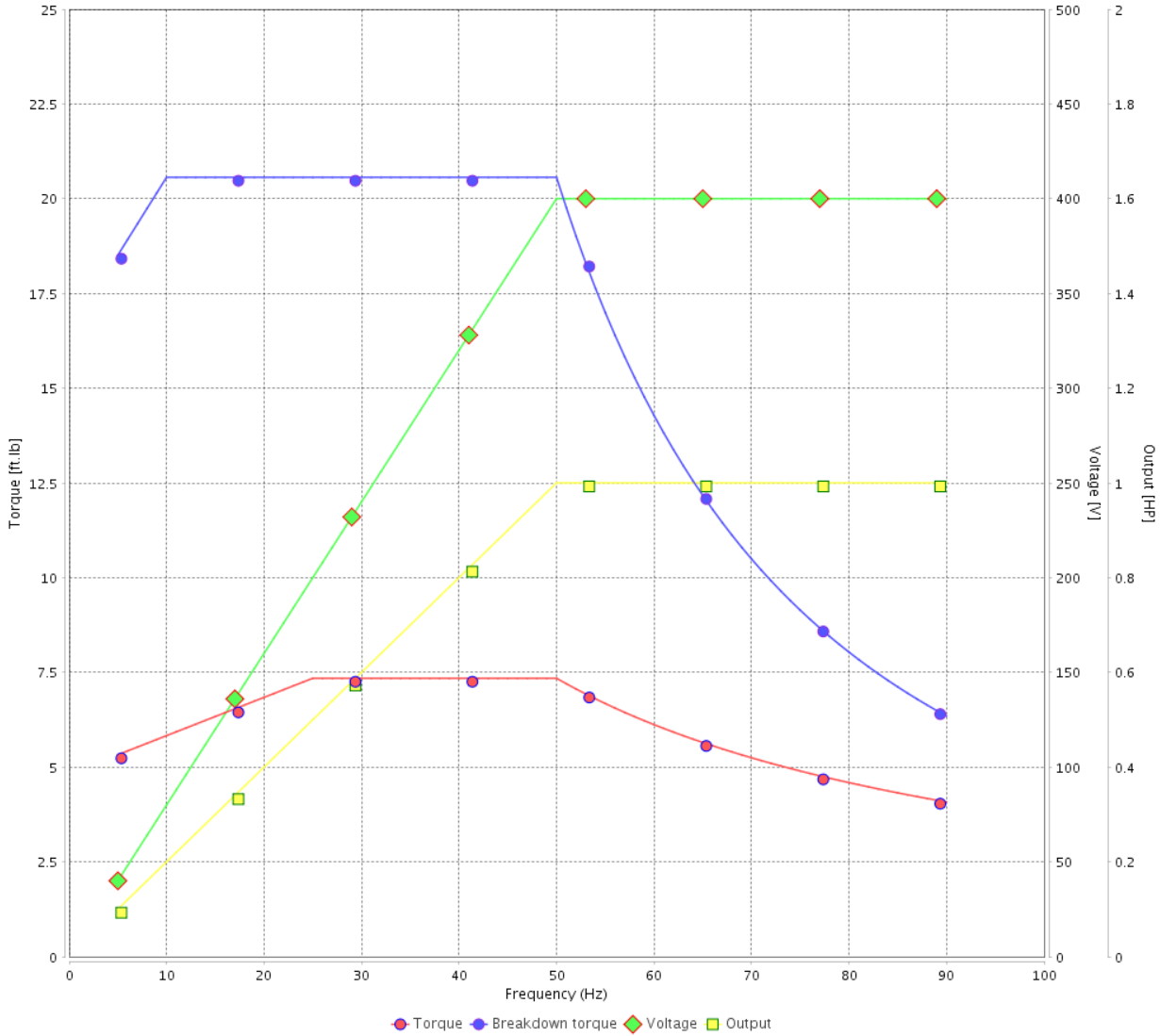
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Catalog # : 00109ST3QIE182T-W22

VFD OPERATION CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current : 2.56 A  
 LRC : 6.0  
 Rated torque : 7.34 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 280 %  
 Rated speed : 715 rpm

Moment of inertia (J) : 0.3991 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
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

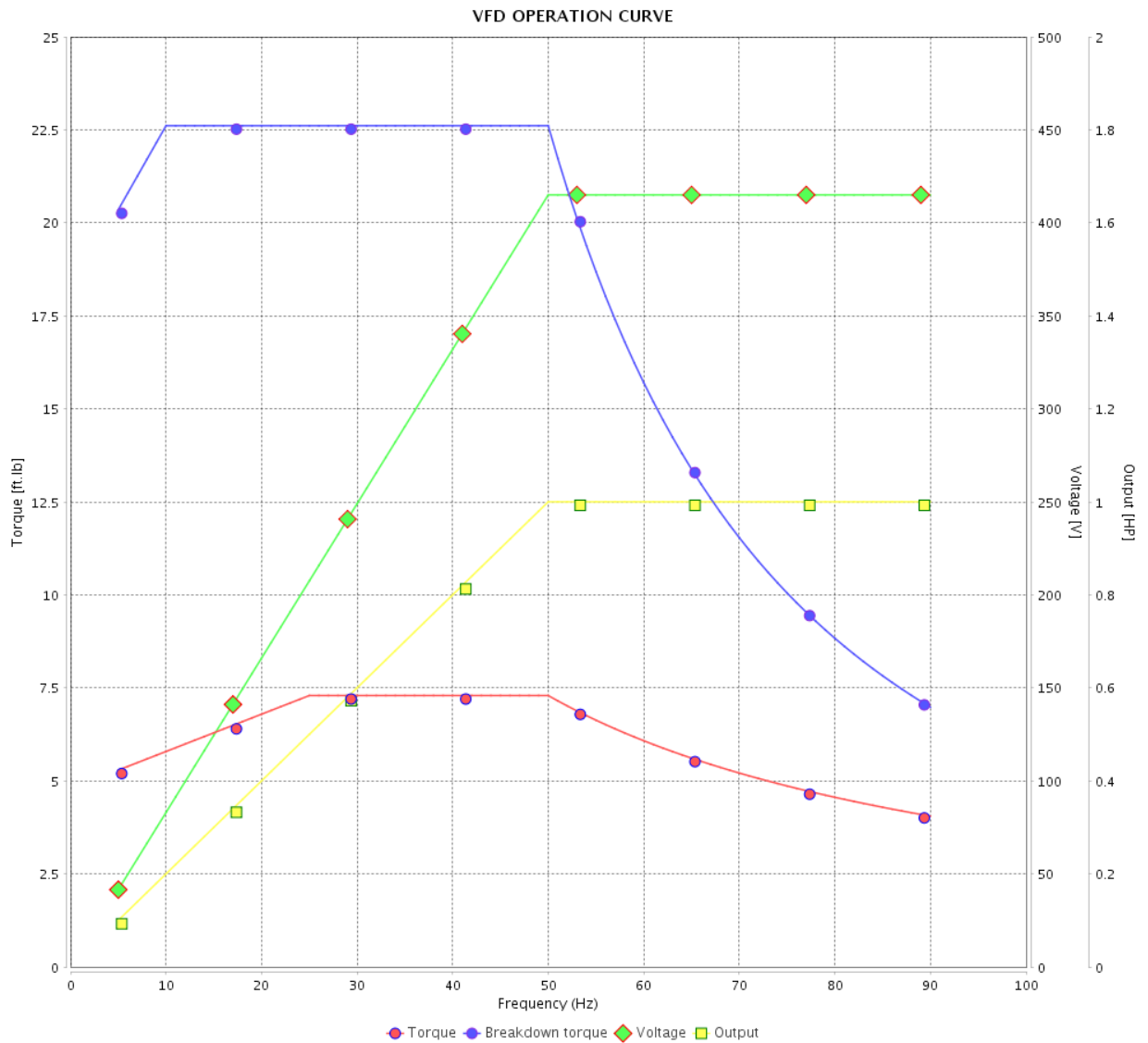


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Performance : 415 V 50 Hz 8P IE3

Rated current : 2.61 A  
 LRC : 6.0  
 Rated torque : 7.29 ft.lb  
 Locked rotor torque : 300 %  
 Breakdown torque : 310 %  
 Rated speed : 720 rpm

Moment of inertia (J) : 0.3991 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
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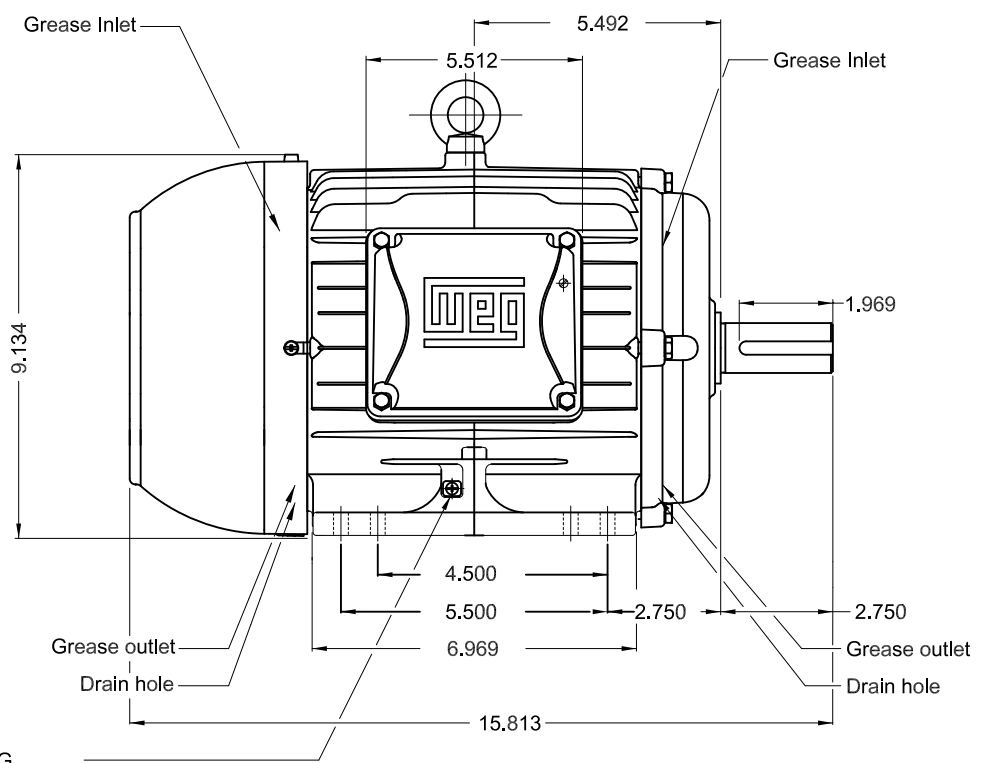
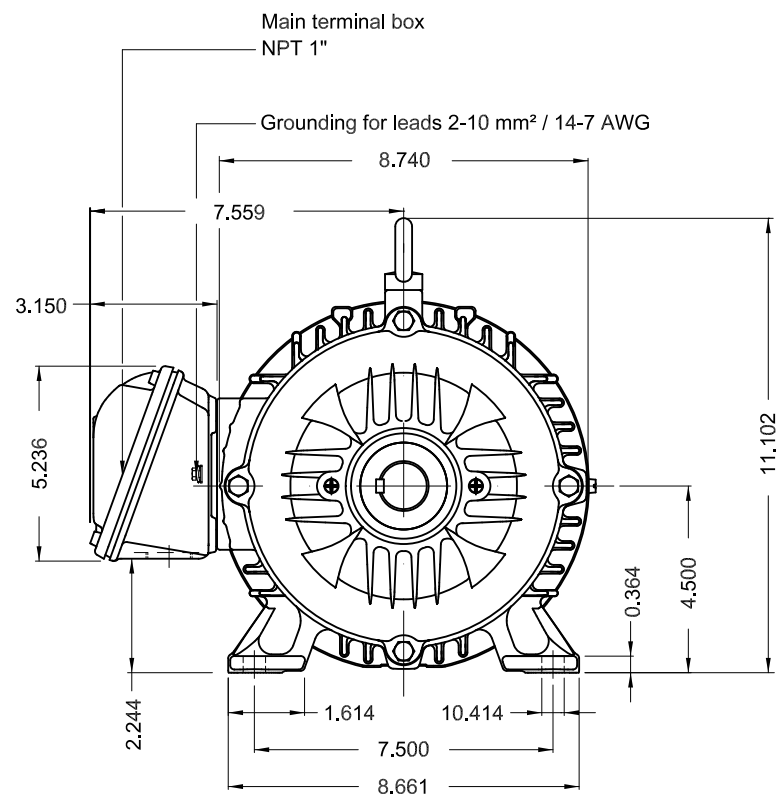
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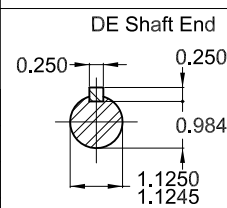


Grounding for leads 2-10 mm² / 14-7 AWG

D

E

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



1 HP 08 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 182/4T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW  
 WDD



MADE IN BRAZIL  
13205894



**NEMA**  
Premium



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 - T5  
For use on PWM: Gr. A, B, C, D, F and G,  
VT 1000:1, CT 20:1, 1.00SF - T4A

MODEL 00109ST3QIE182T-W22

Inverter Duty Motor  
Severe Duty

**IEEE**  
841-2009



FOR SAFE AREA  
Mod. TE1BFOXON  
CC029A

PH3 60Hz Fr. 182/4T 1000m.a.s.l. IP55 TEFC 102lb

V 460

A 2.30

HP 1.0

kW 0.75

SF 1.25

SFA 2.88

RPM 875

PF 0.52

AMB 40°C

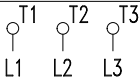
INS cl. F DT80K

NEMA NOM EFF 78.5%

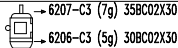
DUTY CONT.

DES B Code M

GUARANT. EFF 75.5%



460V



MOBIL POLYREX EM (20000h)

