

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line	: NEMA Premium Efficiency Three-Phase	Product code	: 12575059		
		Catalog #	: 00159ST3QIE184TC-W22		
Frame	: 182/4TC	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>	: 111 lb		
Protection degree	: IP55	Moment of inertia (J)	: 0.5766 sq.ft.lb		
Design	: B				
Output [HP]	1.5	1.5	1.5	1.5	1.5
Poles	8	8	8	8	8
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	460	380	400	415	415
Rated current [A]	2.70	3.04	3.01	2.99	2.99
L. R. Amperes [A]	15.9	15.2	16.6	17.9	17.9
LRC [A]	5.9x(Code K)	5.0x(Code H)	5.5x(Code J)	6.0x(Code K)	6.0x(Code K)
No load current [A]	2.00	1.90	2.00	2.10	2.10
Rated speed [RPM]	865	705	710	715	715
Slip [%]	3.89	6.00	5.33	4.67	4.67
Rated torque [ft.lb]	9.11	11.2	11.1	11.0	11.0
Locked rotor torque [%]	290	229	260	290	290
Breakdown torque [%]	340	260	290	320	320
Service factor	1.25	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	30s (cold) 17s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)	30s (cold) 17s (hot)
Noise level <sup>2</sup>	50.0 dB(A)	46.0 dB(A)	46.0 dB(A)	46.0 dB(A)	46.0 dB(A)
Efficiency (%)	25%	79.6	80.9	78.1	76.5
	50%	80.0	80.0	78.5	77.0
	75%	82.5	80.0	80.0	80.0
	100%	82.5	78.5	80.0	80.0
Power Factor	25%	0.23	0.28	0.26	0.24
	50%	0.43	0.51	0.47	0.44
	75%	0.54	0.62	0.58	0.55
	100%	0.62	0.70	0.66	0.64
Bearing type	: <u>Drive end</u> 6207 C3 <u>Non drive end</u> 6206 C3	Foundation loads			
Sealing	: Inpro/Seal Inpro/Seal	Max. traction : 169 lb			
Lubrication interval	: 20000 h 20000 h	Max. compression : 281 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



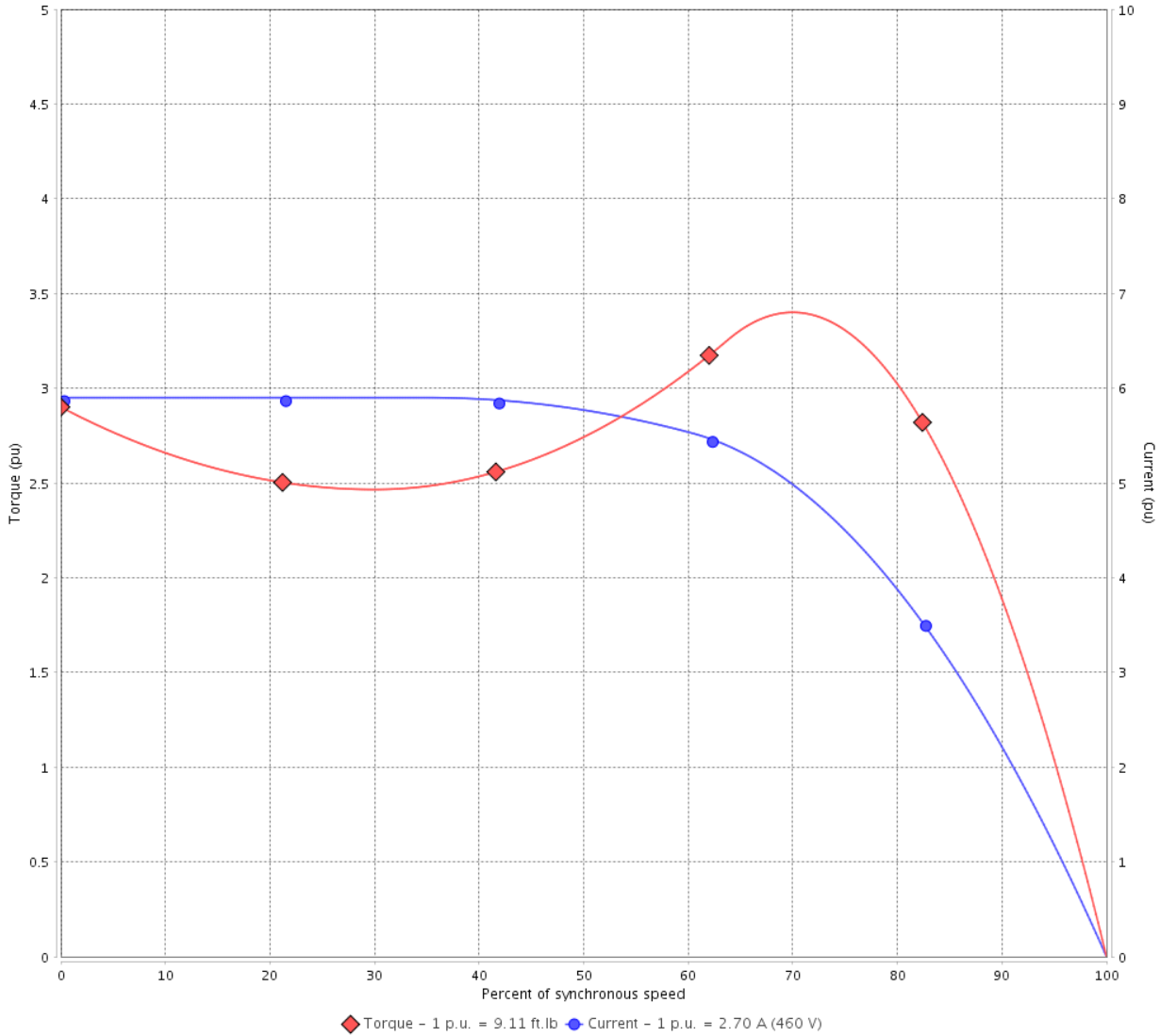
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 8P

Rated current	: 2.70 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 9.11 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.25
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 865 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



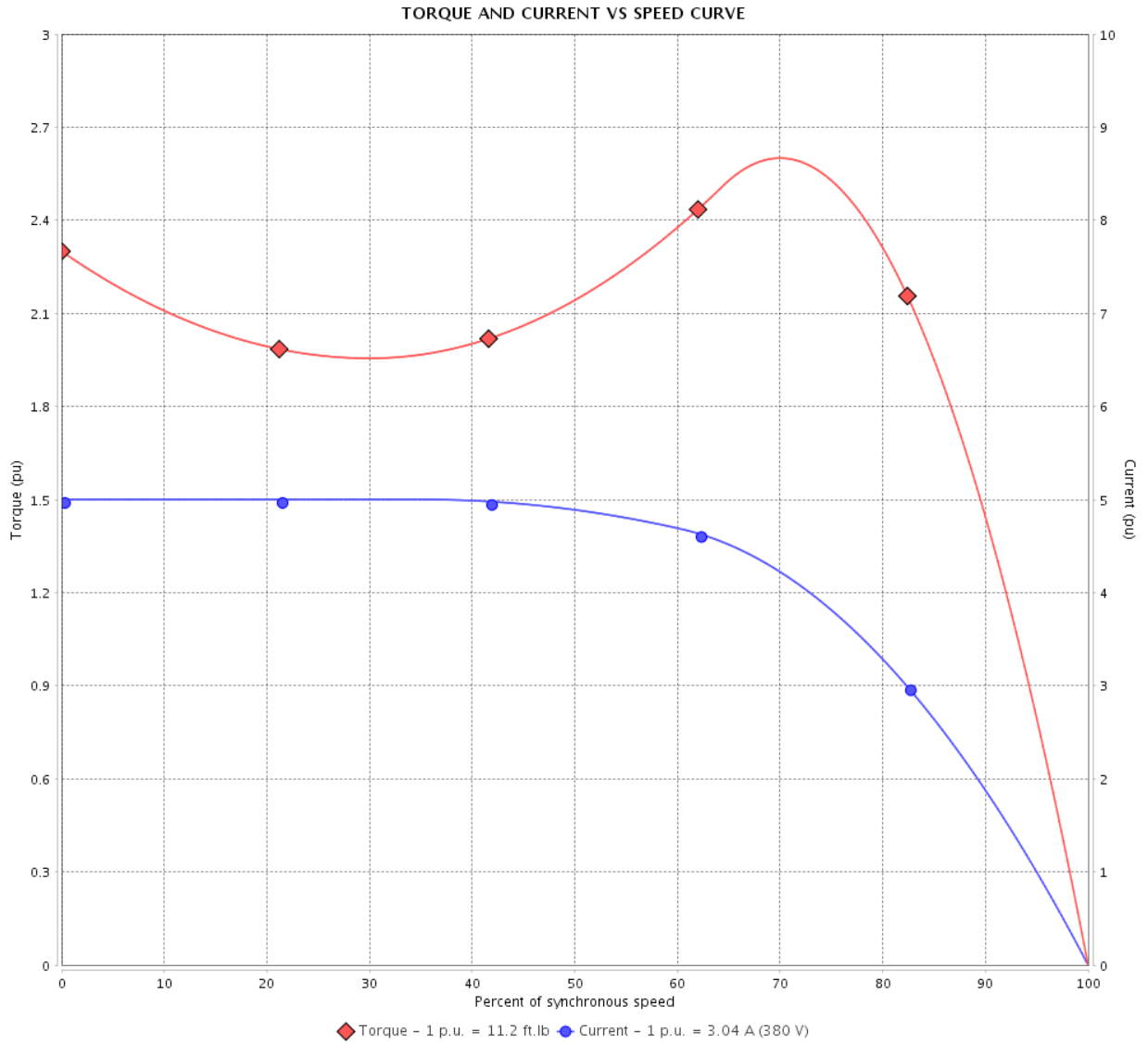
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22



Performance : 380 V 50 Hz 8P IE3

Rated current	: 3.04 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 11.2 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 705 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



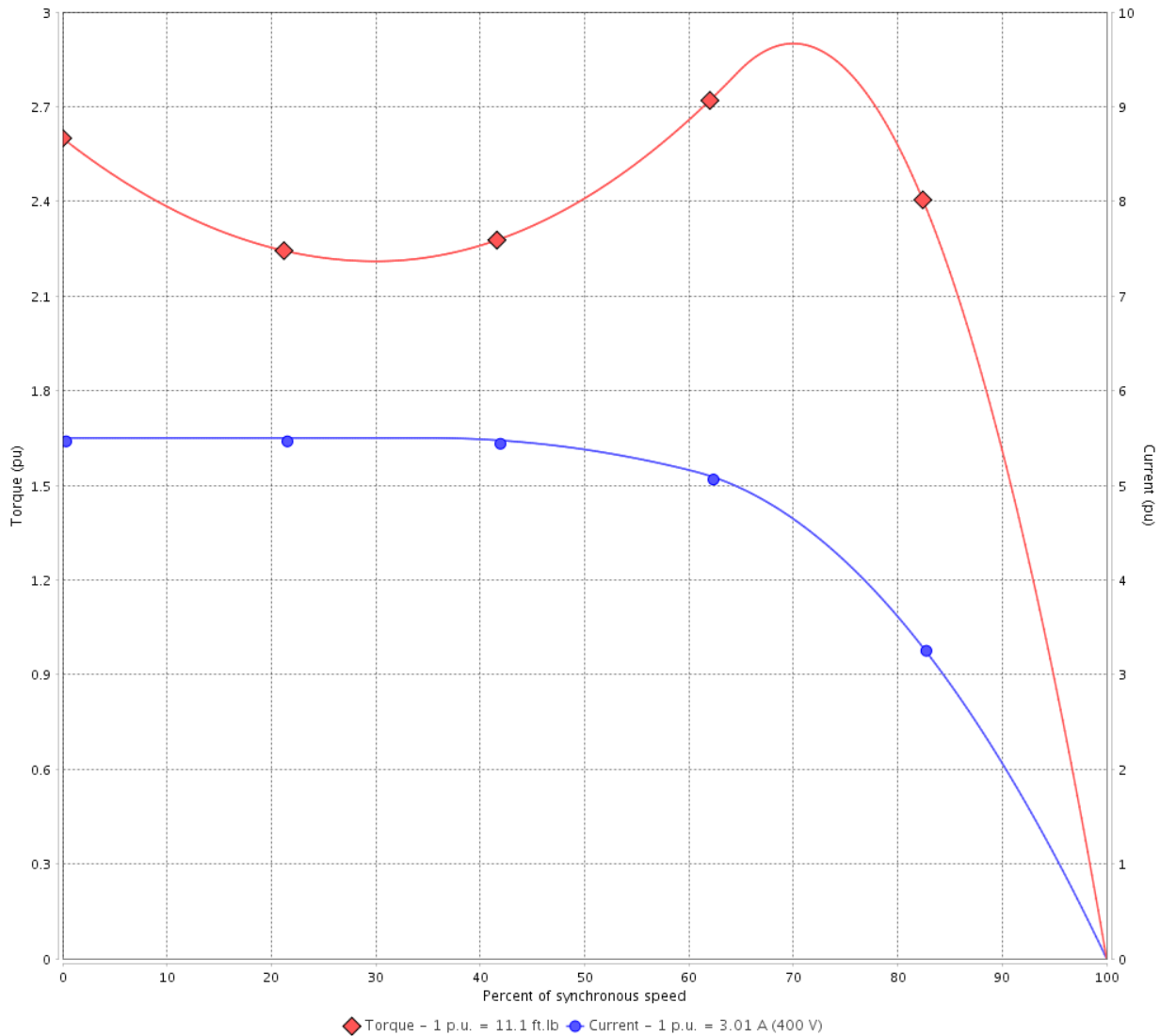
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current	: 3.01 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 11.1 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 710 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



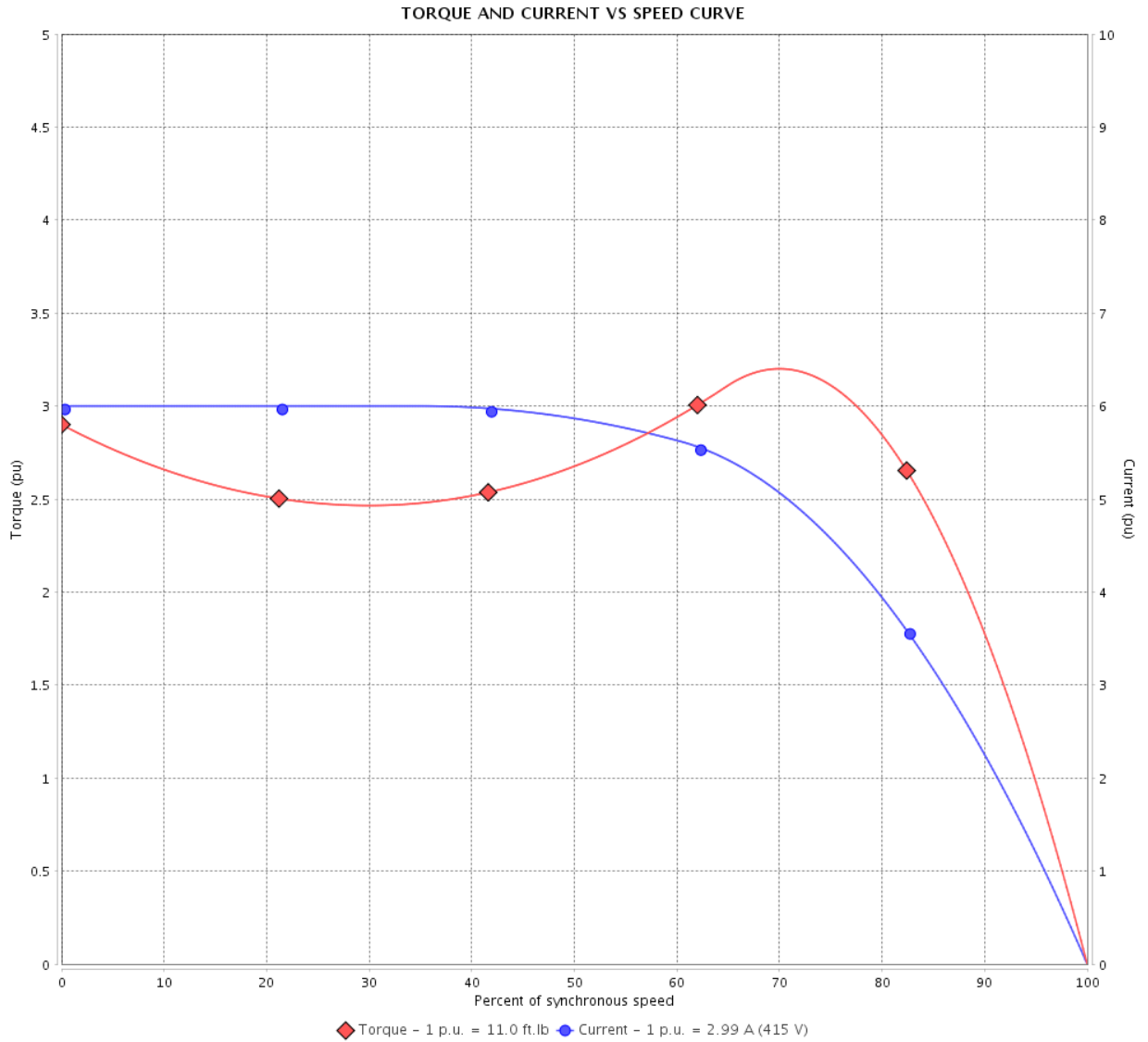
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22



Performance : 415 V 50 Hz 8P IE3

Rated current	: 2.99 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 11.0 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 715 rpm	Design	: B

Locked rotor time : 30s (cold) 17s (hot)

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



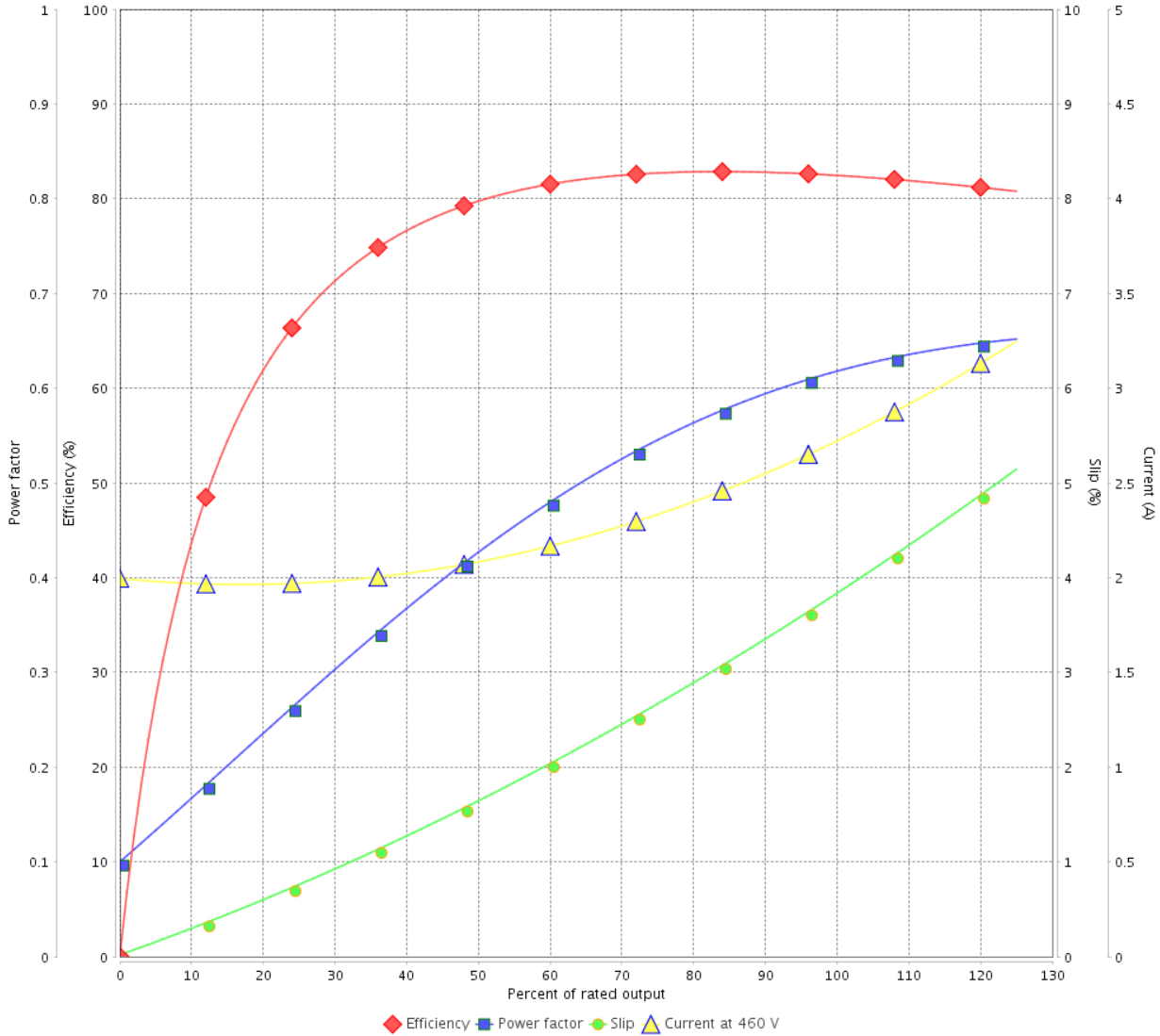
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22

LOAD PERFORMANCE CURVE



Performance : 460 V 60 Hz 8P

Rated current : 2.70 A  
 LRC : 5.9  
 Rated torque : 9.11 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 340 %  
 Rated speed : 865 rpm

Moment of inertia (J) : 0.5766 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

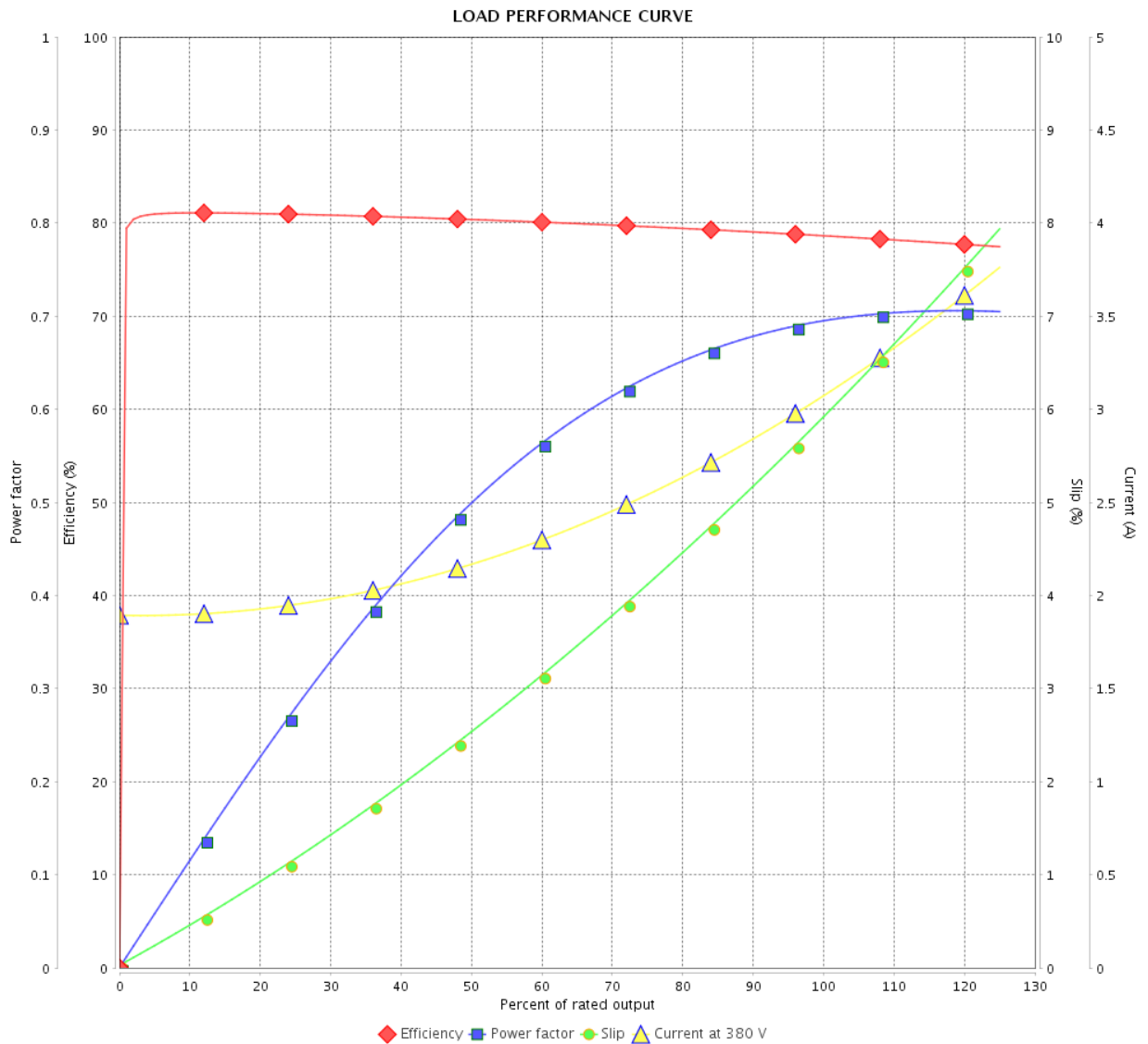


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 3.04 A  
 LRC : 5.0  
 Rated torque : 11.2 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 705 rpm

Moment of inertia (J) : 0.5766 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



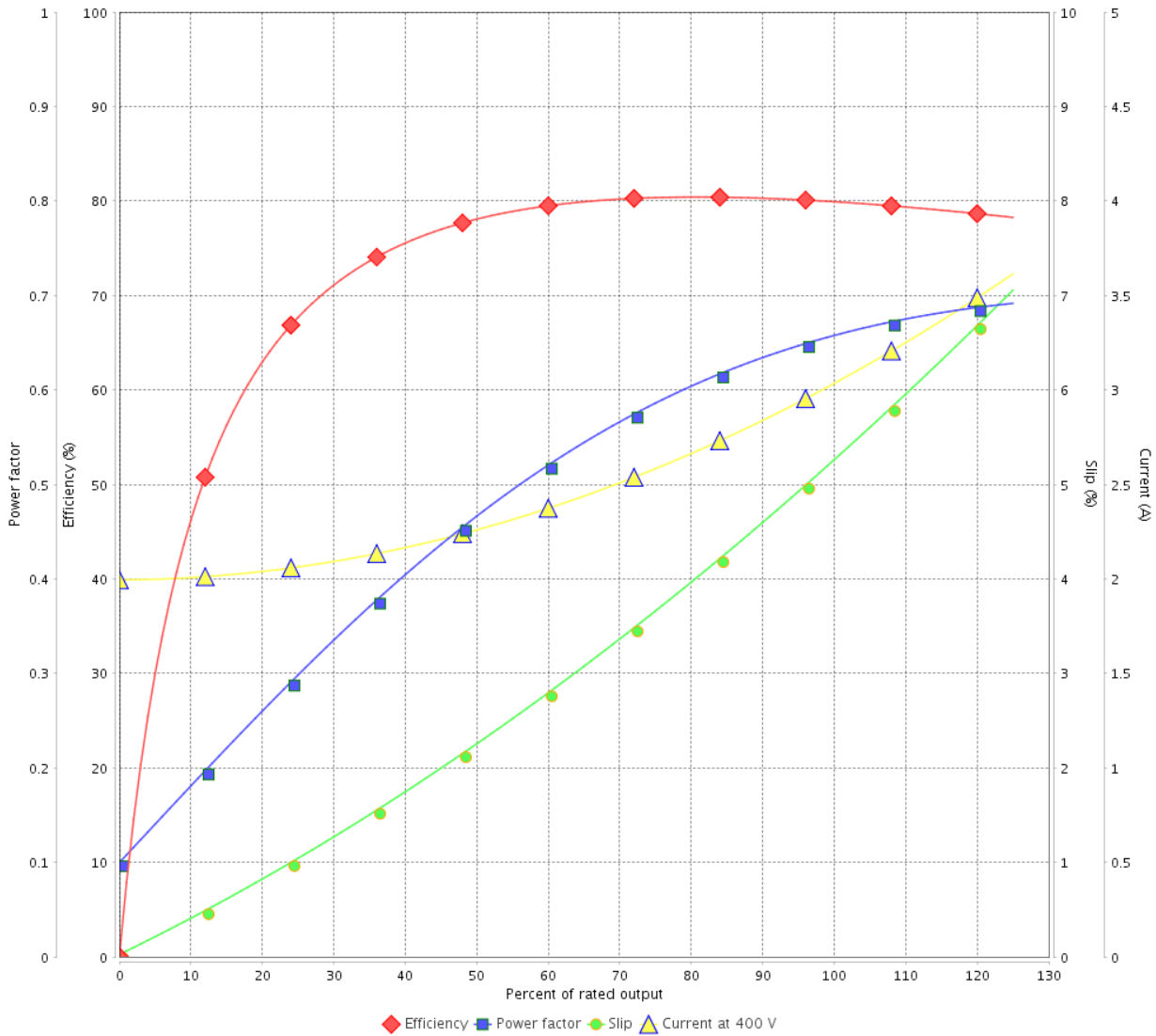
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22

LOAD PERFORMANCE CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current : 3.01 A  
 LRC : 5.5  
 Rated torque : 11.1 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 710 rpm

Moment of inertia (J) : 0.5766 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

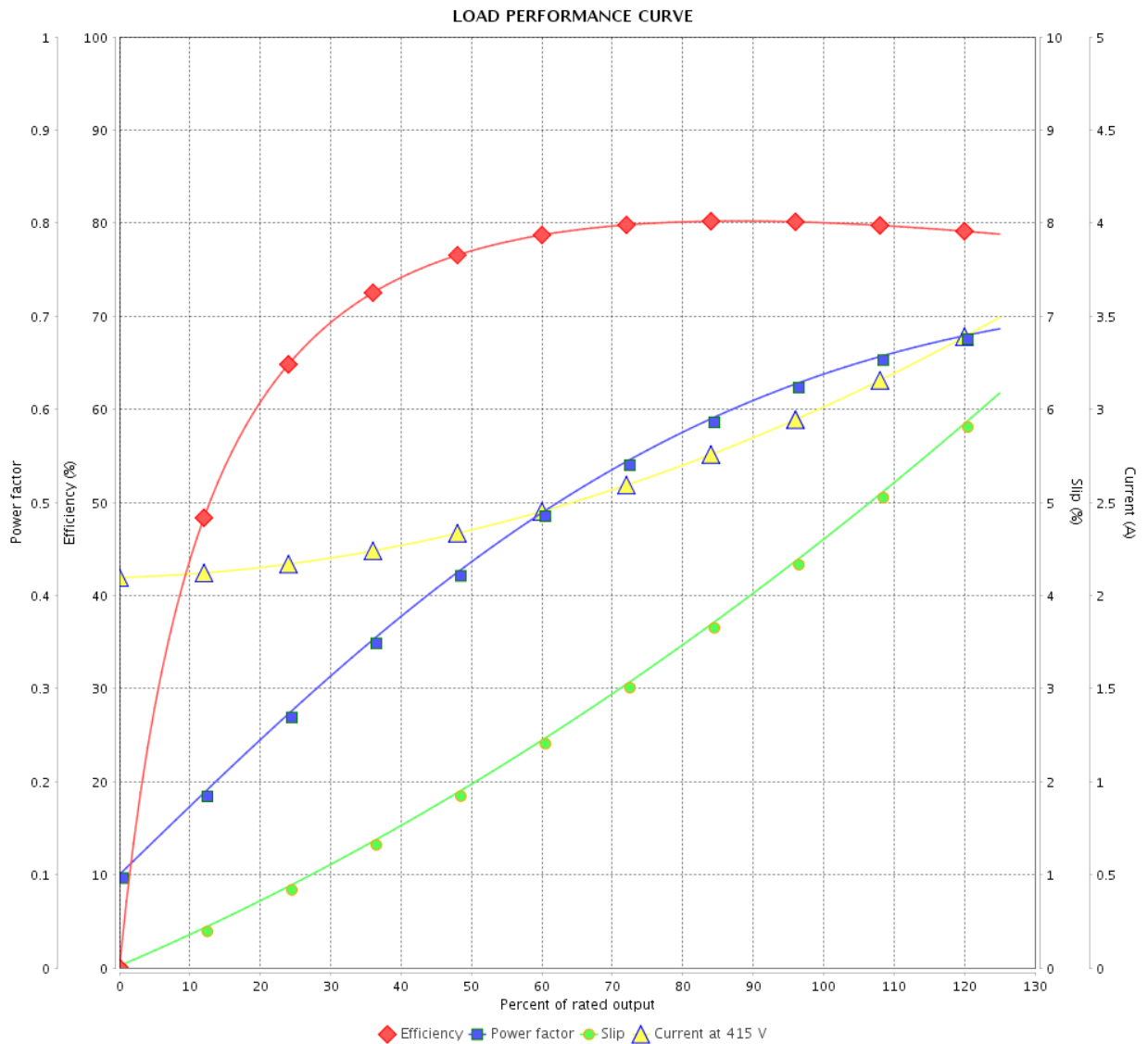


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22



Performance : 415 V 50 Hz 8P IE3

Rated current : 2.99 A  
 LRC : 6.0  
 Rated torque : 11.0 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 320 %  
 Rated speed : 715 rpm

Moment of inertia (J) : 0.5766 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

## Three Phase Induction Motor - Squirrel Cage



Customer :

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Product code : 12575059  
Catalog # : 00159ST3QIE184TC-W22

Performance : 460 V 60 Hz 8P

Rated current	: 2.70 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 5.9	Duty cycle	: Cont.(S1)
Rated torque	: 9.11 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.25
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 865 rpm	Design	: B

Heating constant

Cooling constant

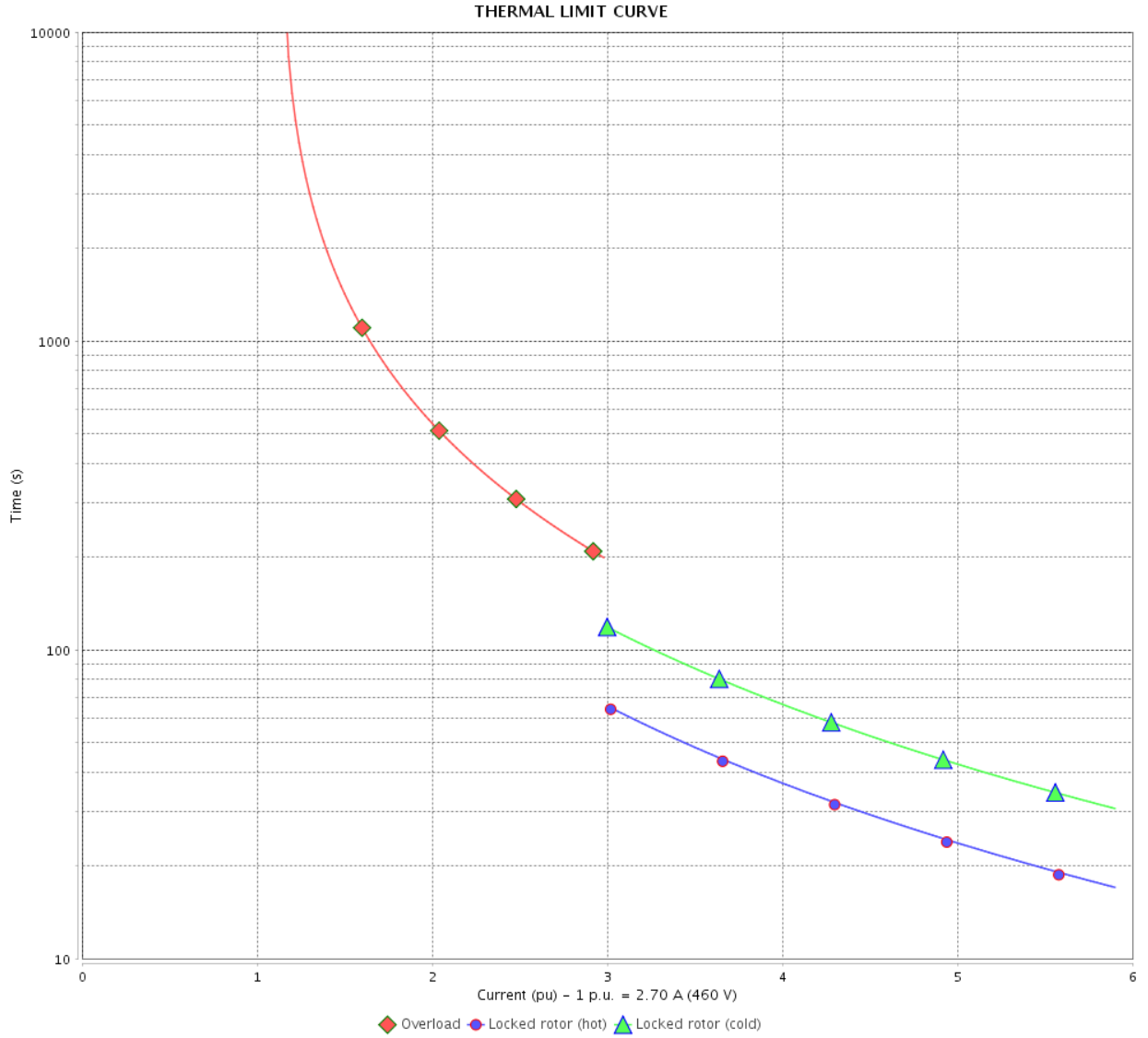
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12575059  
Catalog # : 00159ST3QIE184TC-W22

Performance : 380 V 50 Hz 8P IE3

Rated current	: 3.04 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 5.0	Duty cycle	: Cont.(S1)
Rated torque	: 11.2 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 705 rpm	Design	: B

Heating constant

Cooling constant

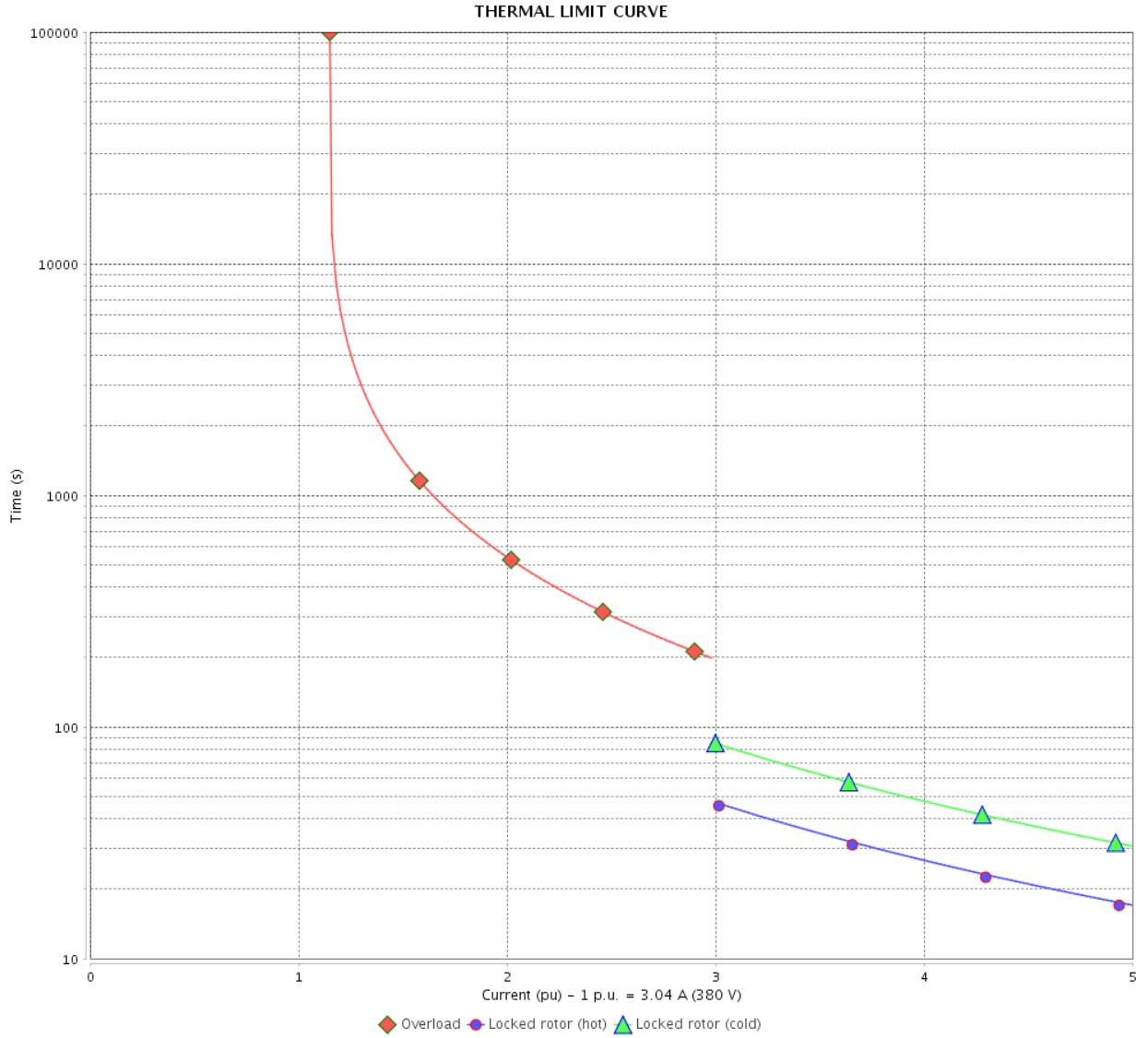
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date		14/04/2022		

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12575059  
Catalog # : 00159ST3QIE184TC-W22

Performance : 400 V 50 Hz 8P IE3

Rated current	: 3.01 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 5.5	Duty cycle	: Cont.(S1)
Rated torque	: 11.1 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 710 rpm	Design	: B

Heating constant

Cooling constant

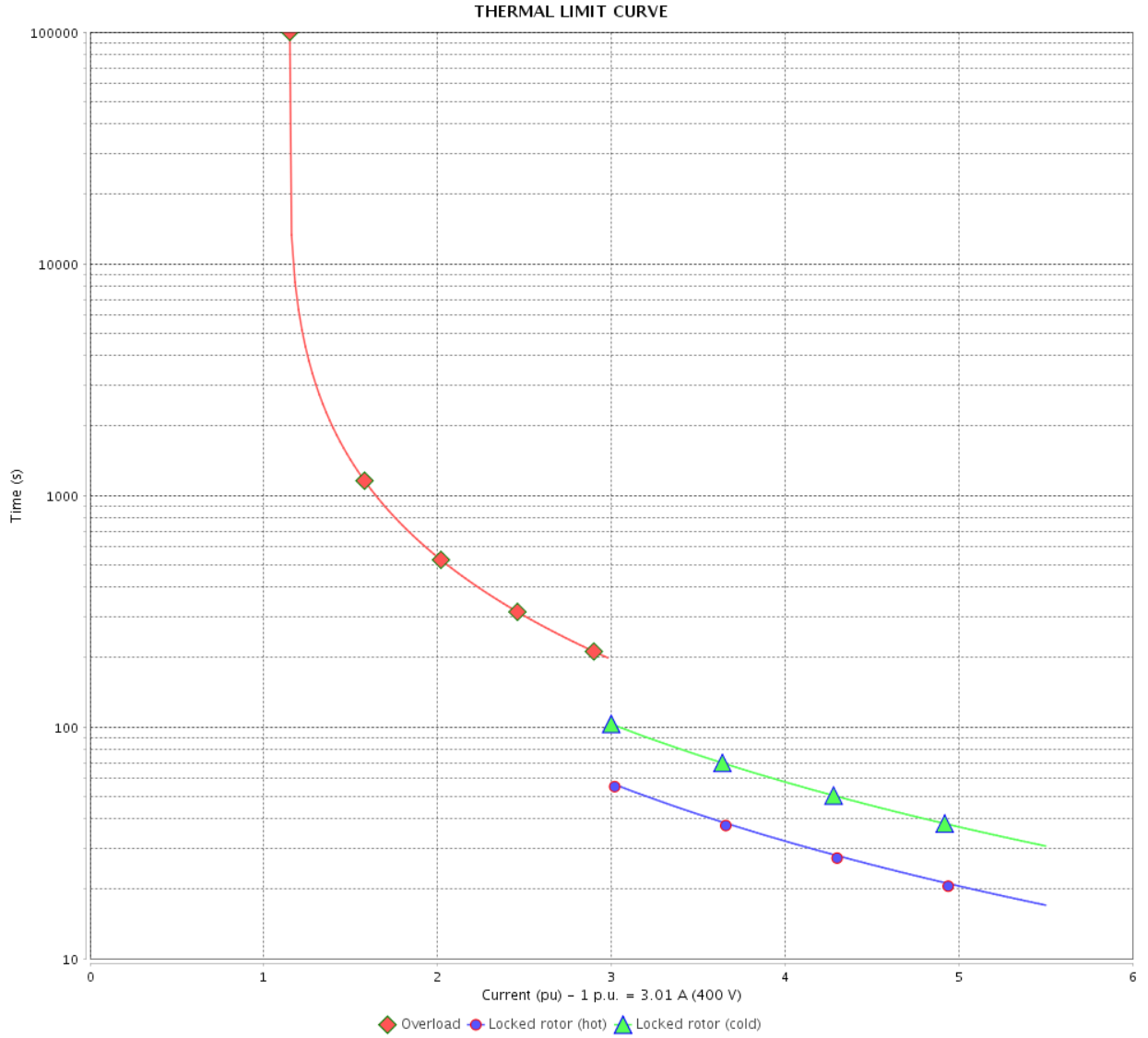
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12575059  
Catalog # : 00159ST3QIE184TC-W22

Performance : 415 V 50 Hz 8P IE3

Rated current	: 2.99 A	Moment of inertia (J)	: 0.5766 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 11.0 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 715 rpm	Design	: B

Heating constant

Cooling constant

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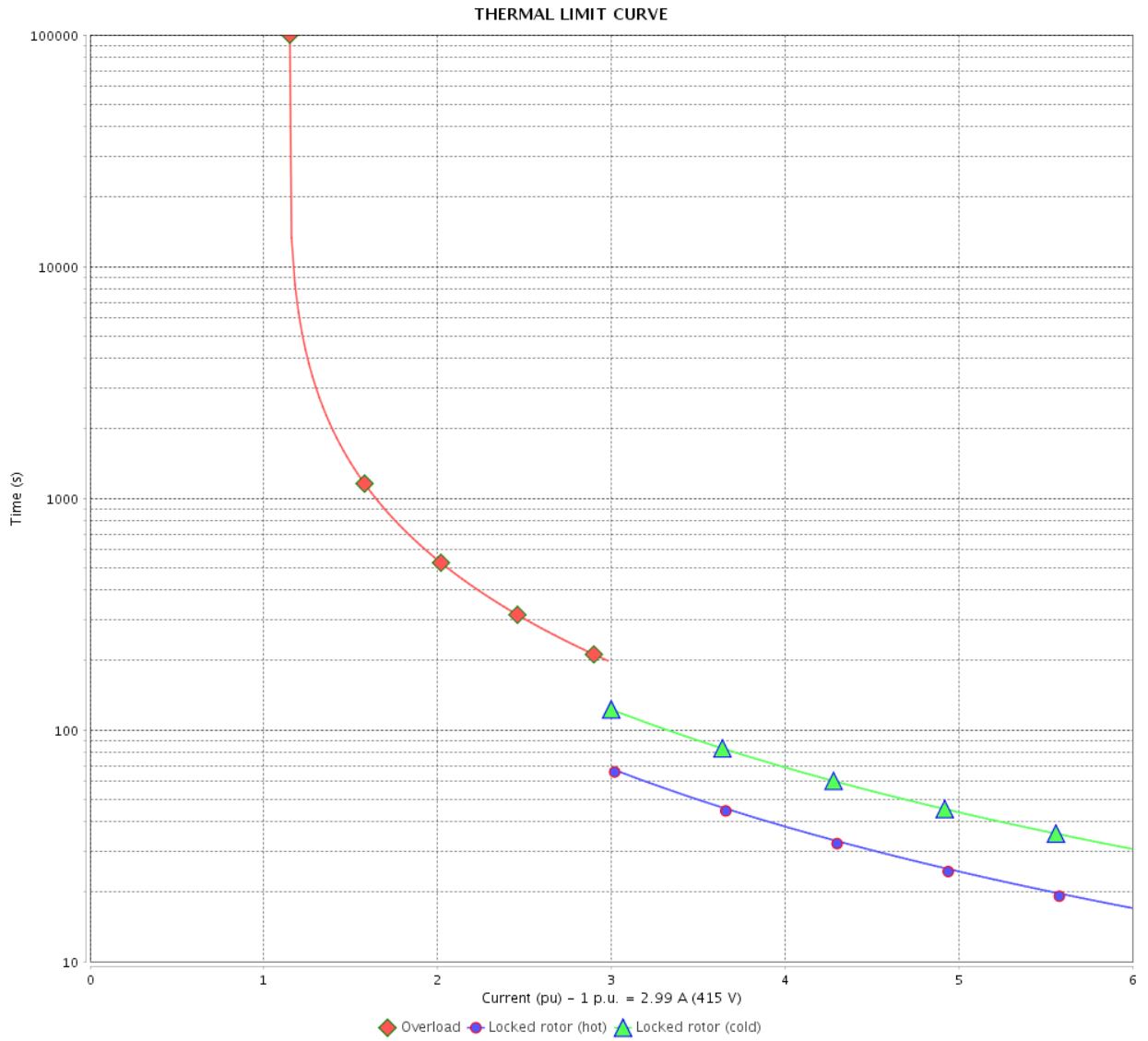


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



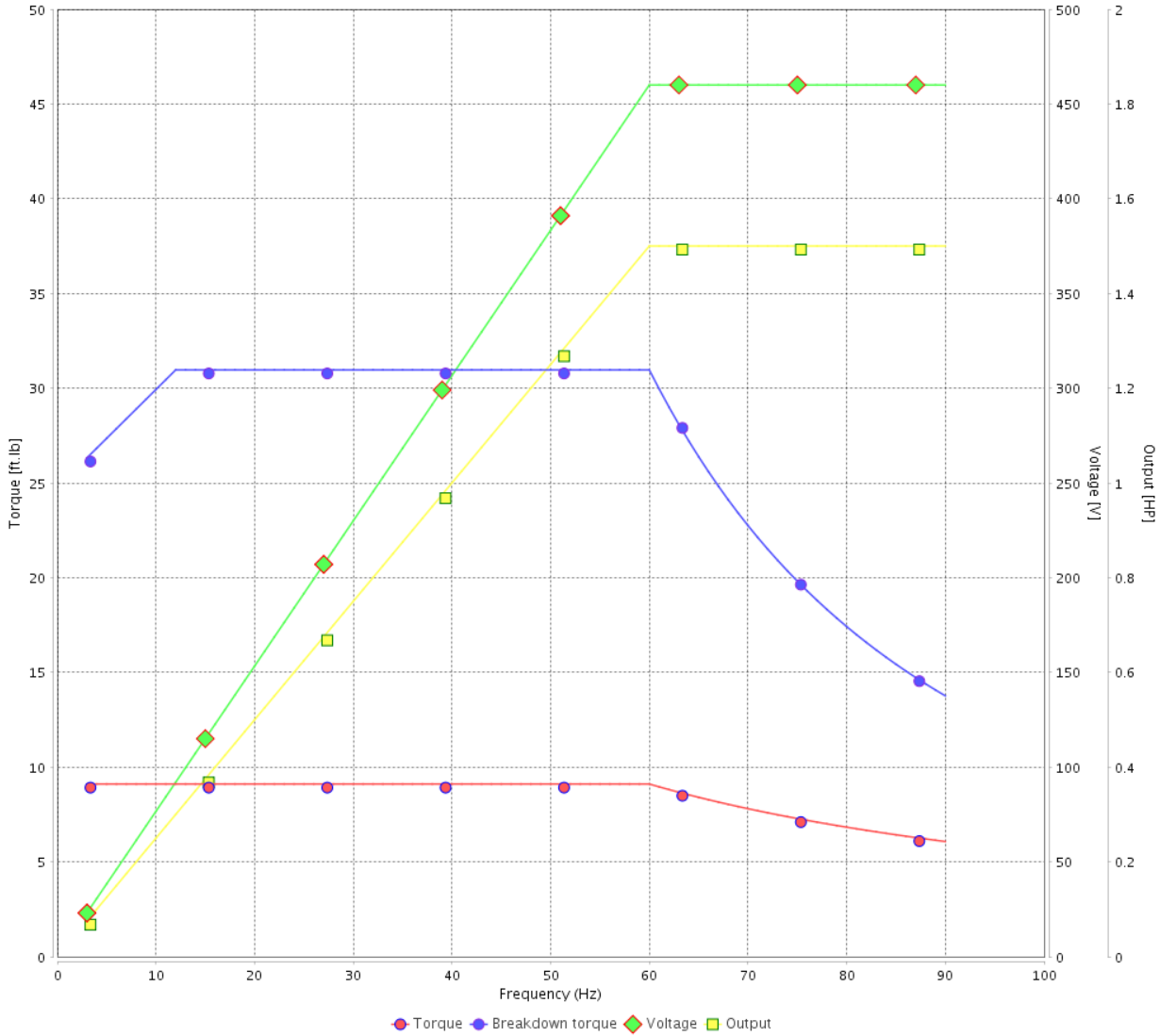
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22

VFD OPERATION CURVE



Performance : 460 V 60 Hz 8P

Rated current : 2.70 A  
 LRC : 5.9  
 Rated torque : 9.11 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 340 %  
 Rated speed : 865 rpm

Moment of inertia (J) : 0.5766 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

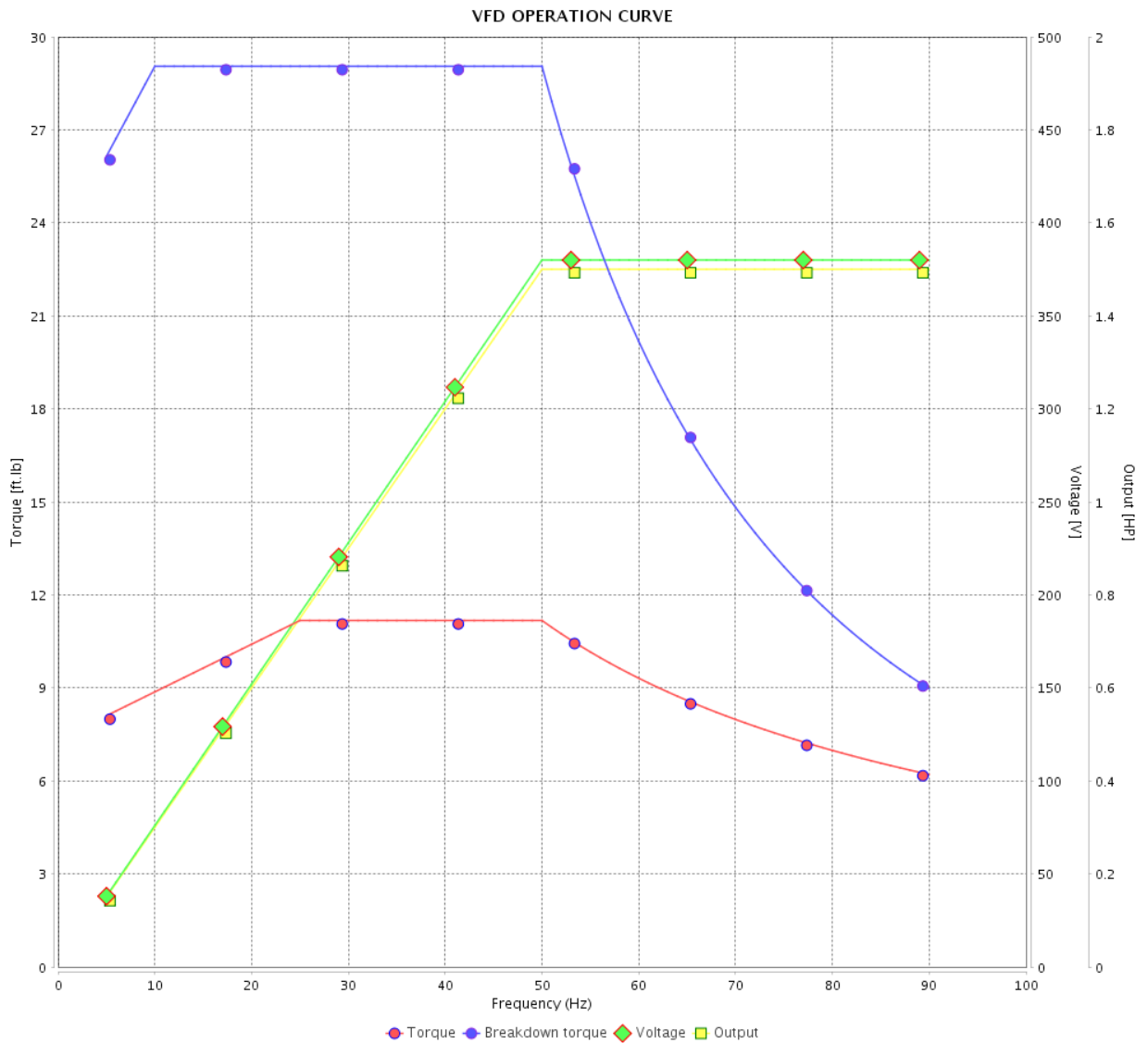


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12575059

Catalog # : 00159ST3QIE184TC-W22



Performance : 380 V 50 Hz 8P IE3

Rated current : 3.04 A  
 LRC : 5.0  
 Rated torque : 11.2 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 705 rpm

Moment of inertia (J) : 0.5766 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



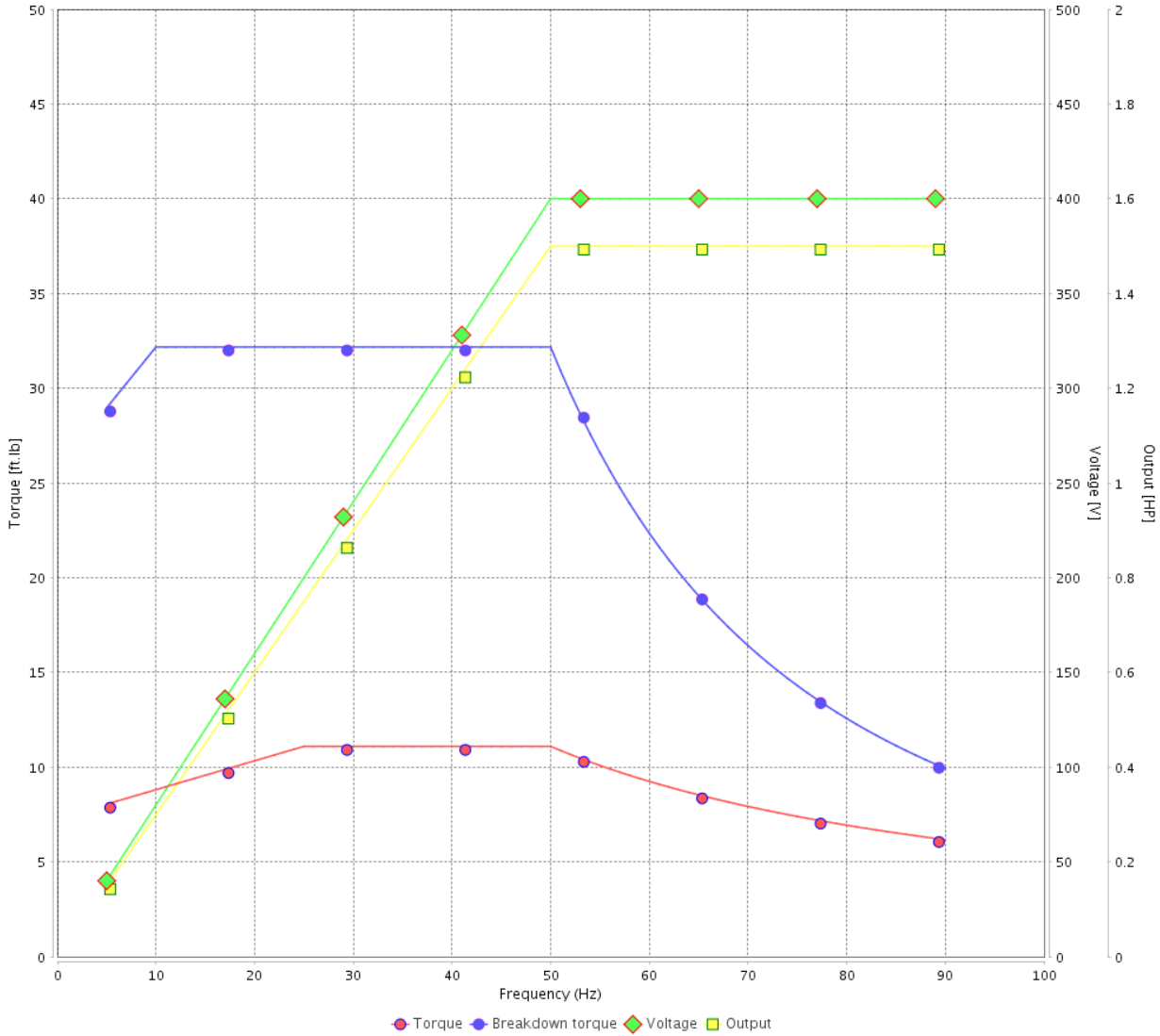
Customer : \_\_\_\_\_

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VFD OPERATION CURVE



Performance : 400 V 50 Hz 8P IE3

Rated current : 3.01 A  
 LRC : 5.5  
 Rated torque : 11.1 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 710 rpm

Moment of inertia (J) : 0.5766 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

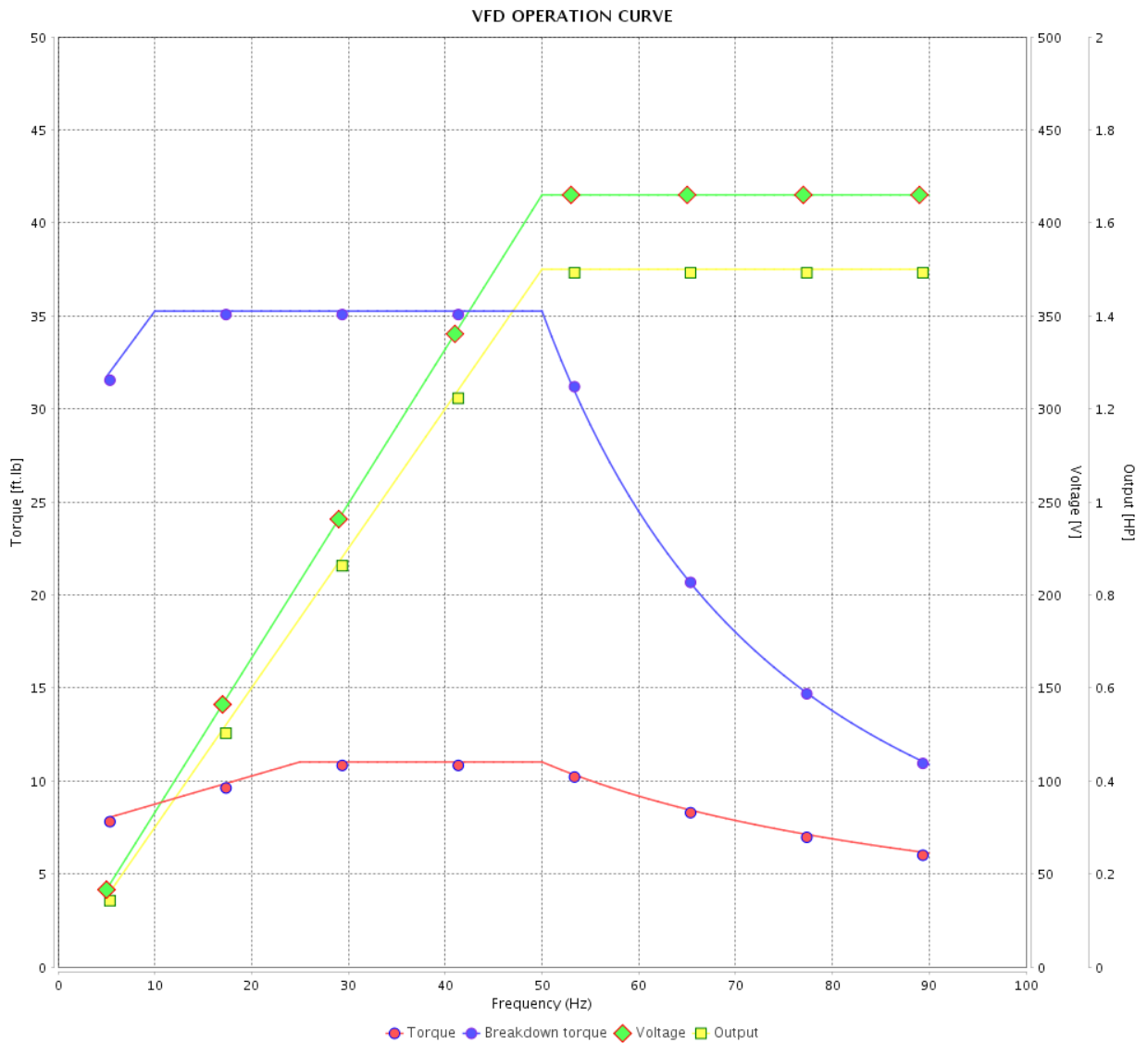


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Performance : 415 V 50 Hz 8P IE3

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 LRC : 6.0  
 Rated torque : 11.0 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 320 %  
 Rated speed : 715 rpm

Moment of inertia (J) : 0.5766 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

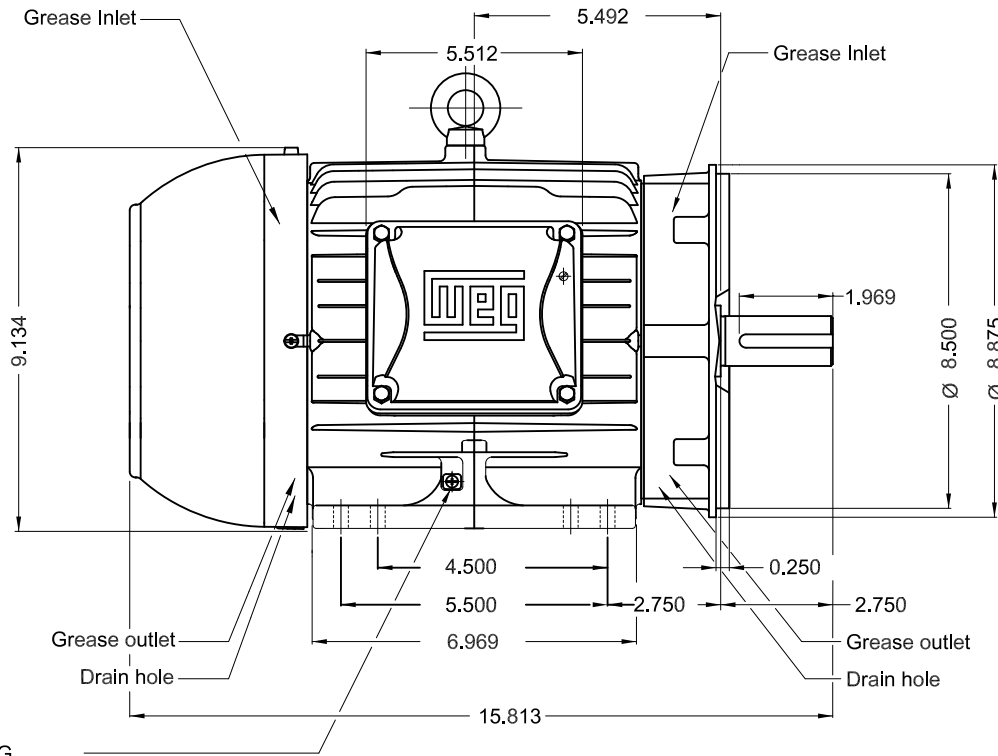
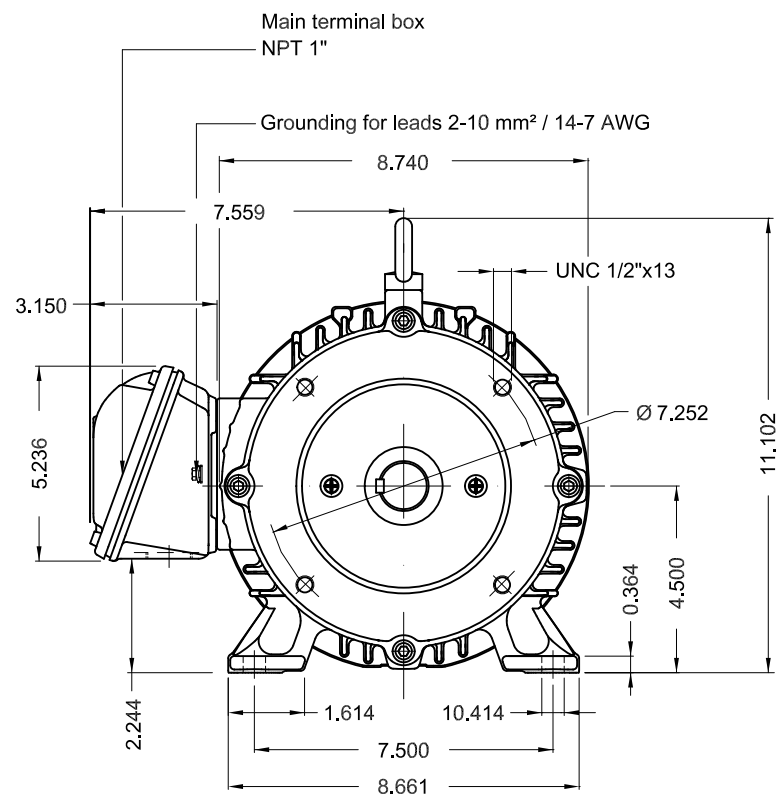
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1 2 3 4 5 6

A

B

C

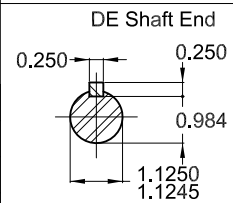


Grounding for leads 2-10 mm² / 14-7 AWG

D

E

Color RAL 5009  
 Painting plan 202E  
 Mounting NEMA F-1  
 Mounting B34R(D)



1.5 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 182/4TC IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

PREVIEW  
 WDD

