

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	13163407	
		Catalog # :	01018ET3E215TC-SG	
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>	: 142 lb	
Protection degree	: IP55	Moment of inertia (J)	: 1.07 sq.ft.lb	
Design	: B			
Output [HP]	10	7.5	7.5	
Poles	4	4	4	
Frequency [Hz]	60	50	50	
Rated voltage [V]	230/460	190/380	220/415	
Rated current [A]	24.4/12.2	22.4/11.2	20.8/11.0	
L. R. Amperes [A]	171/85.4	170/85.1	172/91.3	
LRC [A]	7.0x(Code H)	7.6x(Code J)	8.3x(Code K)	
No load current [A]	11.1/5.54	10.9/5.46	11.3/5.97	
Rated speed [RPM]	1760	1465	1470	
Slip [%]	2.22	2.33	2.00	
Rated torque [ft.lb]	29.8	26.9	26.8	
Locked rotor torque [%]	250	250	290	
Breakdown torque [%]	300	320	360	
Service factor	1.15	1.15	1.15	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	27s (cold) 15s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)	
Noise level <sup>2</sup>	60.0 dB(A)	57.0 dB(A)	57.0 dB(A)	
Efficiency (%)	25%	90.2	89.3	
	50%	91.0	89.4	
	75%	91.0	90.5	
	100%	91.7	90.3	
Power Factor	25%	0.41	0.34	
	50%	0.67	0.59	
	75%	0.78	0.73	
	100%	0.84	0.80	
Bearing type	: <u>Drive end</u> 6208 ZZ <u>Non drive end</u> 6206 ZZ	Foundation loads		
Sealing	: V'Ring Without Bearing Seal	Max. traction	: 473 lb	
		Max. compression	: 615 lb	
Lubrication interval	: -			
Lubricant amount	: -			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V 27.0A SF 1.00 SFA 27.0A				
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



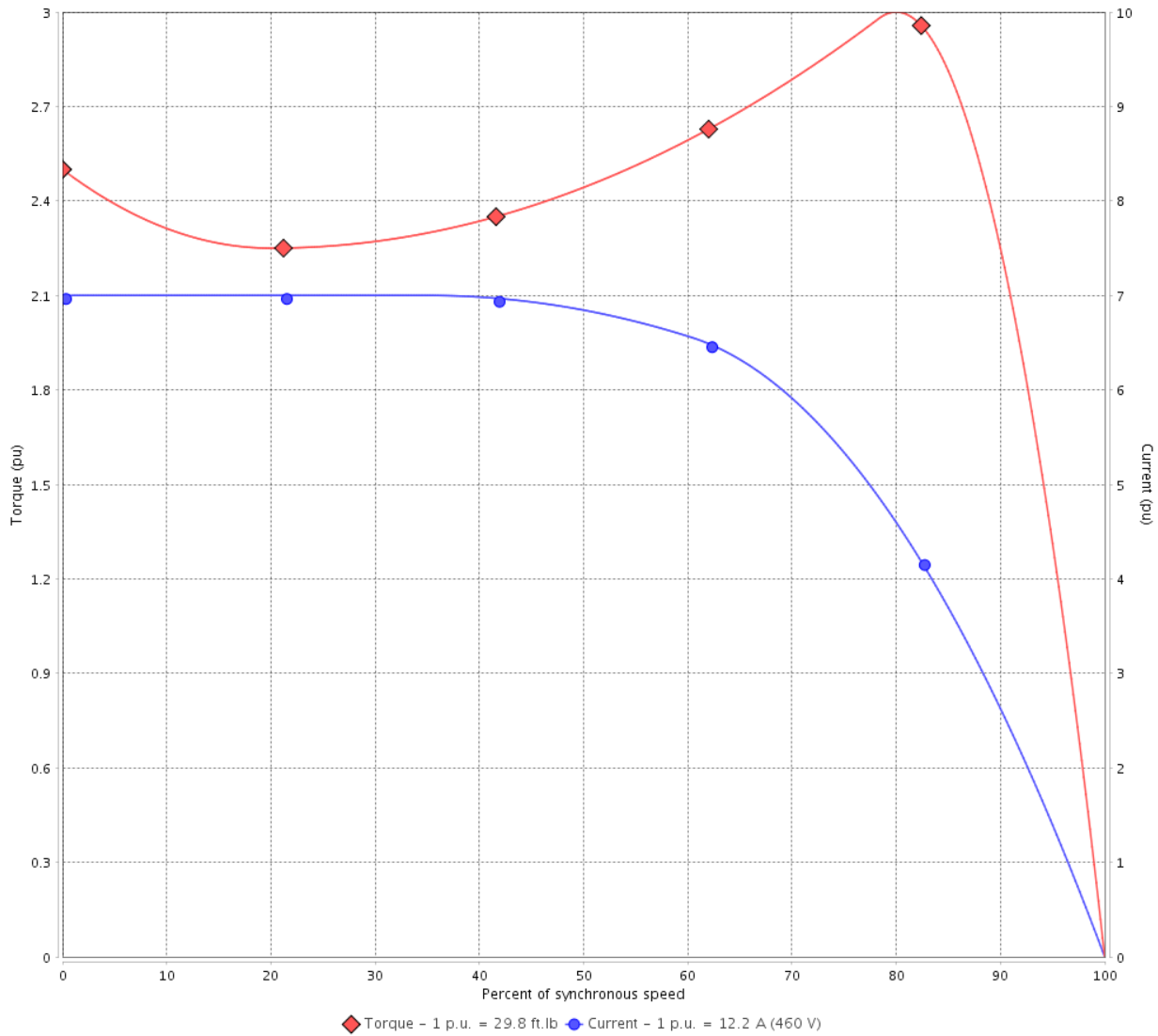
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 24.4/12.2 A	Moment of inertia (J)	: 1.07 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 29.8 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1760 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



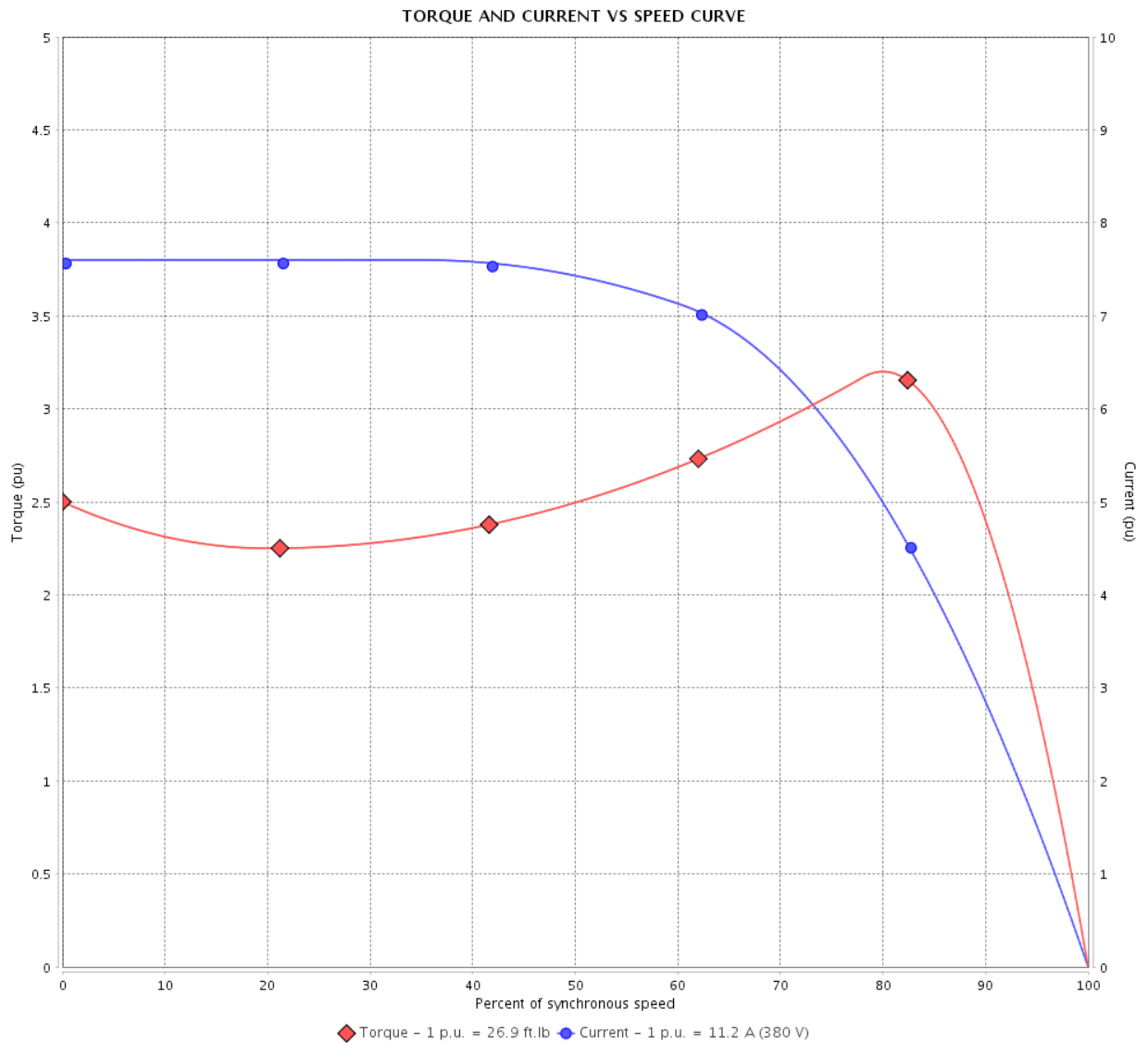
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG



Performance : 190/380 V 50 Hz 4P

Rated current : 22.4/11.2 A  
 LRC : 7.6  
 Rated torque : 26.9 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 320 %  
 Rated speed : 1465 rpm

Moment of inertia (J) : 1.07 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Locked rotor time : 0s (cold) 0s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



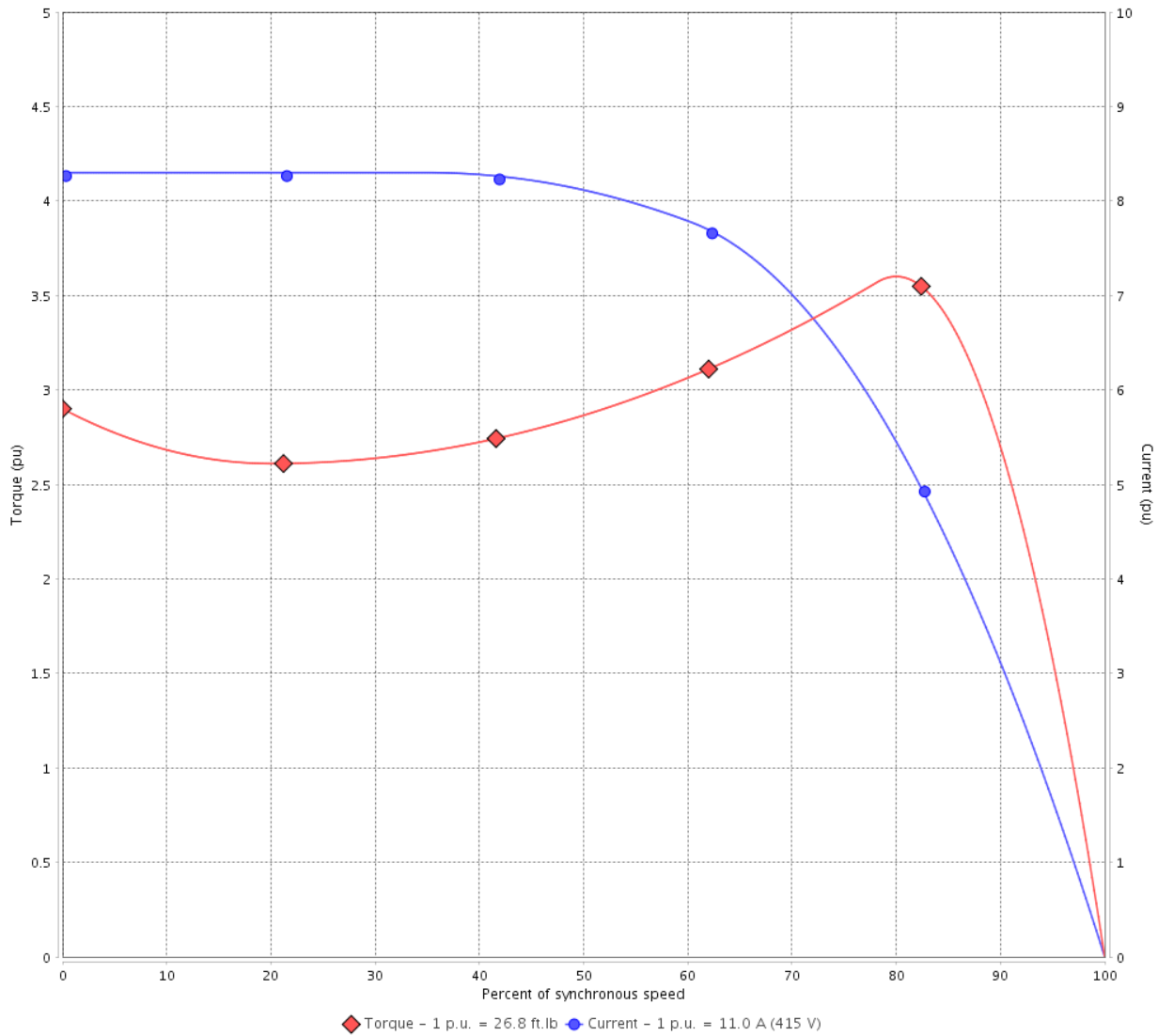
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current	: 20.8/11.0 A	Moment of inertia (J)	: 1.07 sq.ft.lb
LRC	: 8.3	Duty cycle	: Cont.(S1)
Rated torque	: 26.8 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.15
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1470 rpm	Design	: B

Locked rotor time : 0s (cold) 0s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

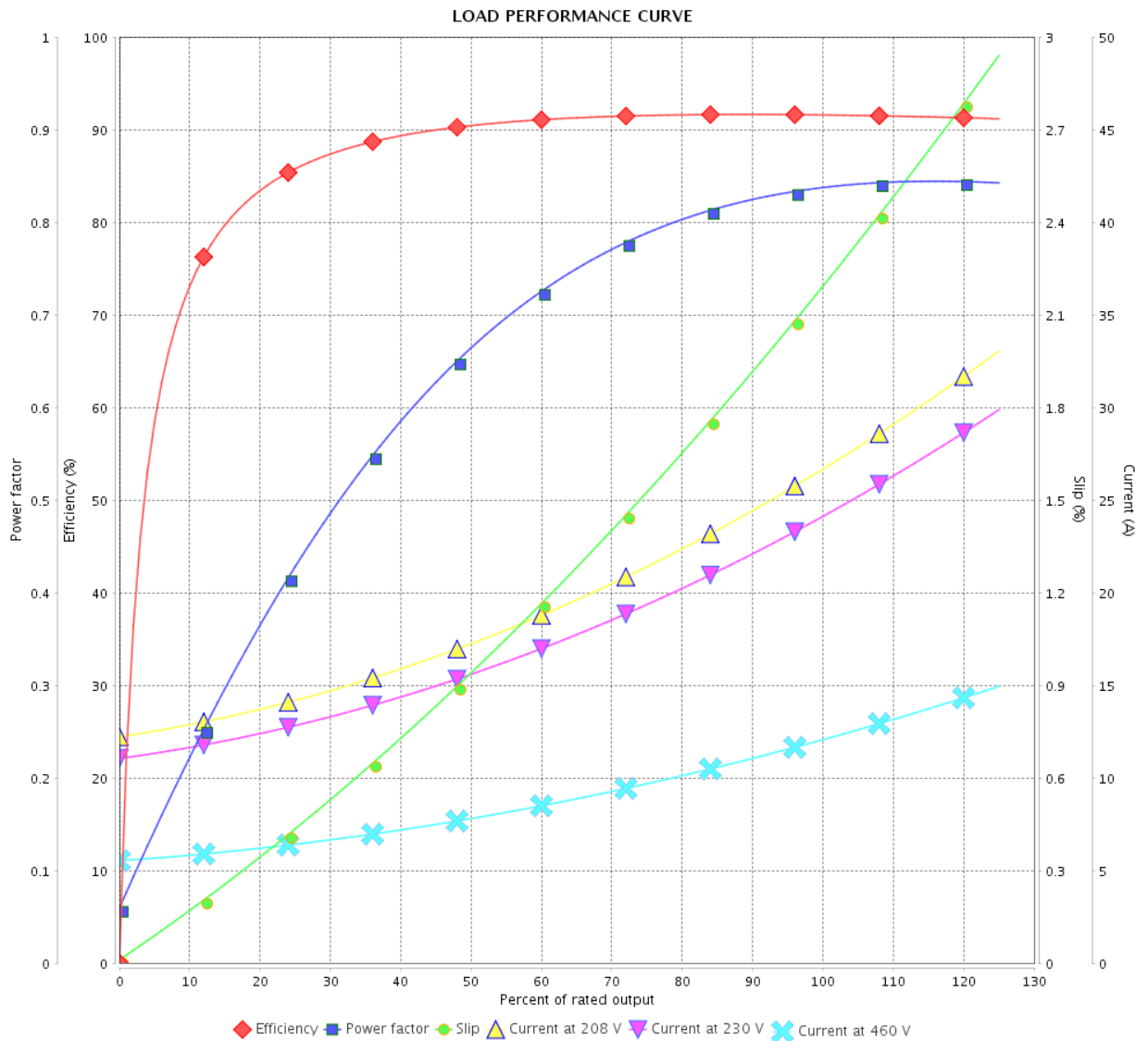


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG



Performance : 230/460 V 60 Hz 4P

Rated current : 24.4/12.2 A  
 LRC : 7.0  
 Rated torque : 29.8 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 300 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 1.07 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



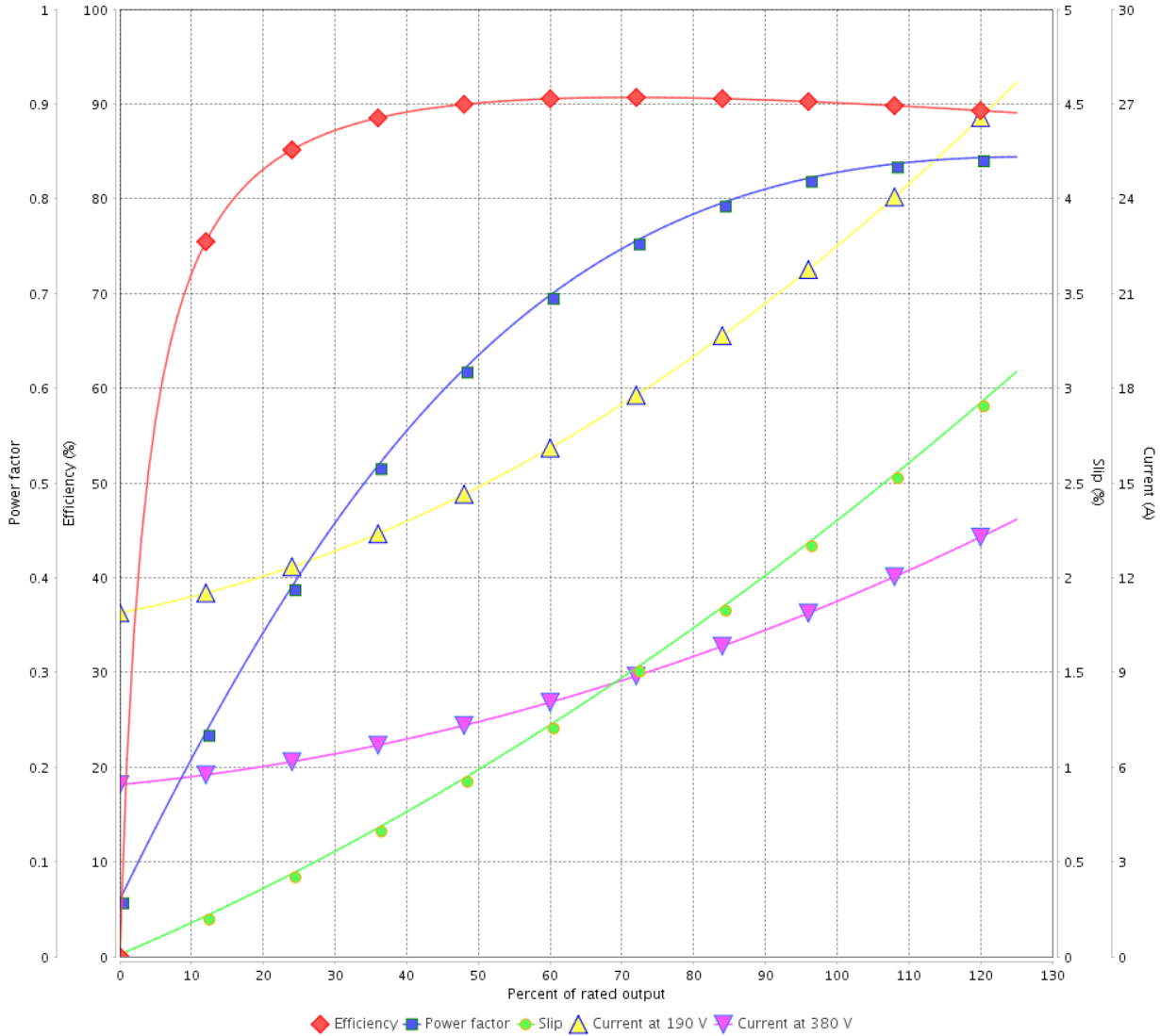
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

Rated current : 22.4/11.2 A  
 LRC : 7.6  
 Rated torque : 26.9 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 320 %  
 Rated speed : 1465 rpm

Moment of inertia (J) : 1.07 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

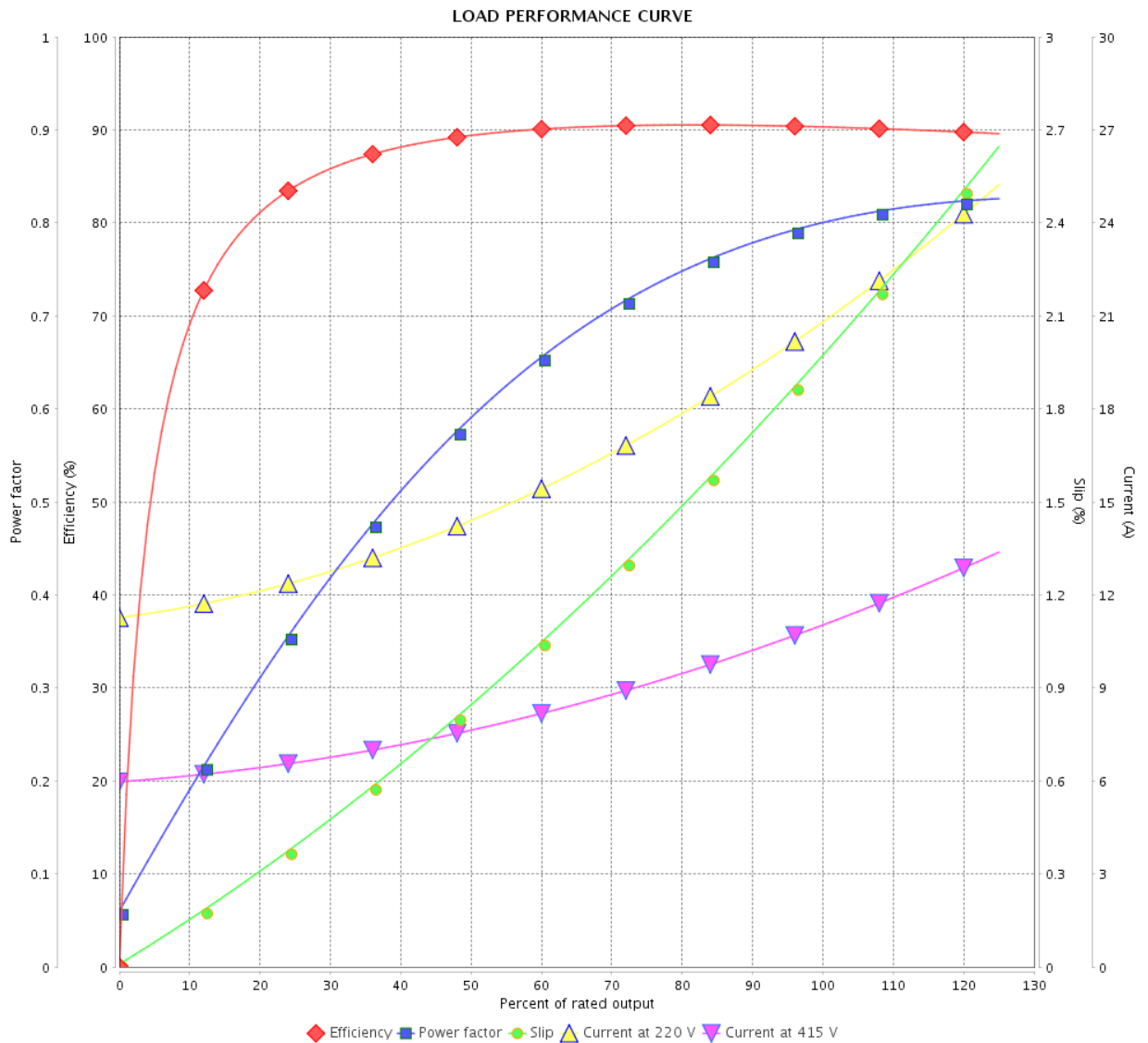


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG



Performance : 220/415 V 50 Hz 4P

Rated current : 20.8/11.0 A  
 LRC : 8.3  
 Rated torque : 26.8 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 360 %  
 Rated speed : 1470 rpm

Moment of inertia (J) : 1.07 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



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13163407  
Catalog # : 01018ET3E215TC-SG

Performance : 230/460 V 60 Hz 4P

Rated current	: 24.4/12.2 A	Moment of inertia (J)	: 1.07 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 29.8 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1760 rpm	Design	: B

Heating constant

Cooling constant

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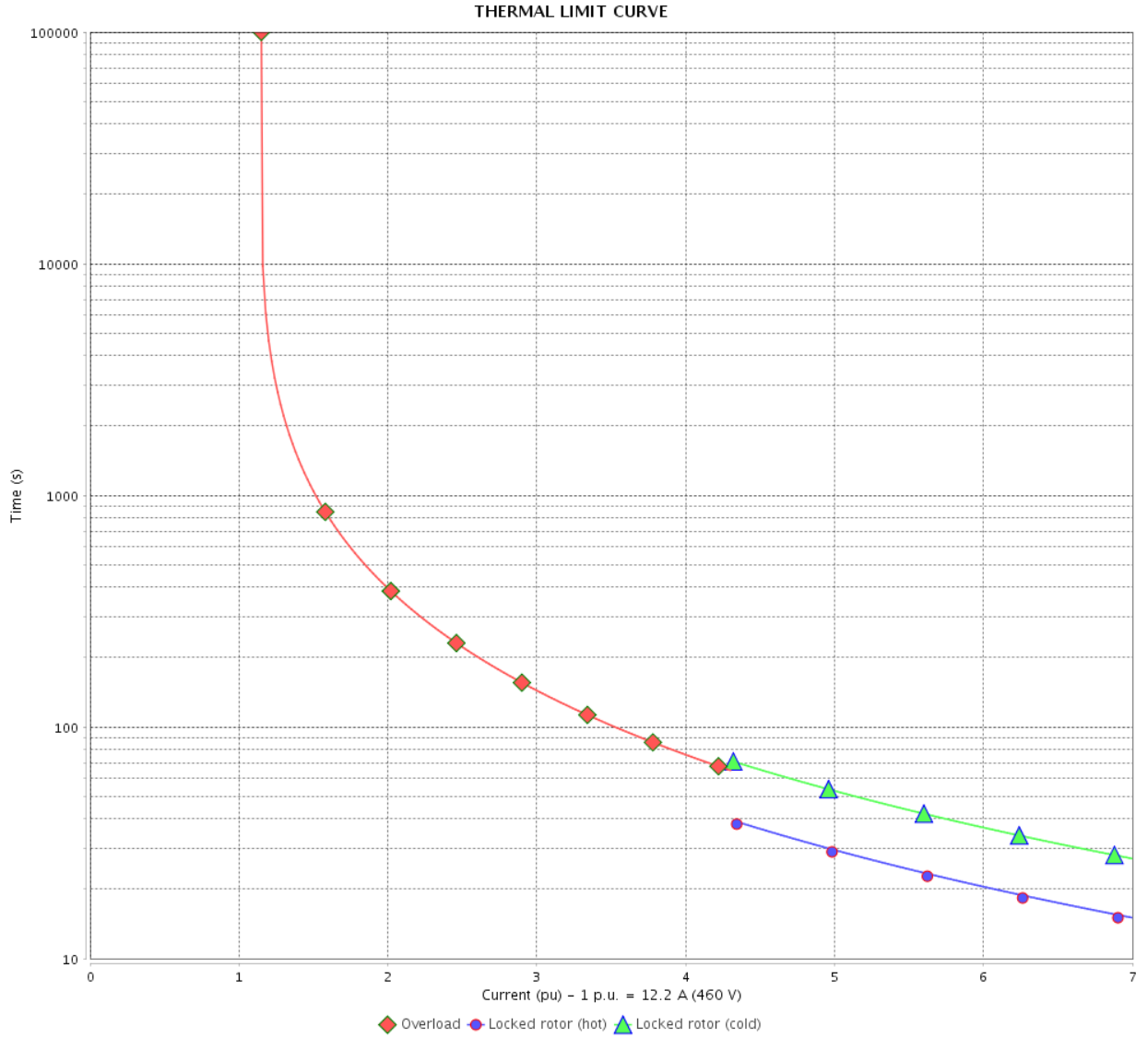


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13163407  
Catalog # : 01018ET3E215TC-SG

Performance : 190/380 V 50 Hz 4P

Rated current	: 22.4/11.2 A	Moment of inertia (J)	: 1.07 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 26.9 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.15
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

Heating constant

Cooling constant

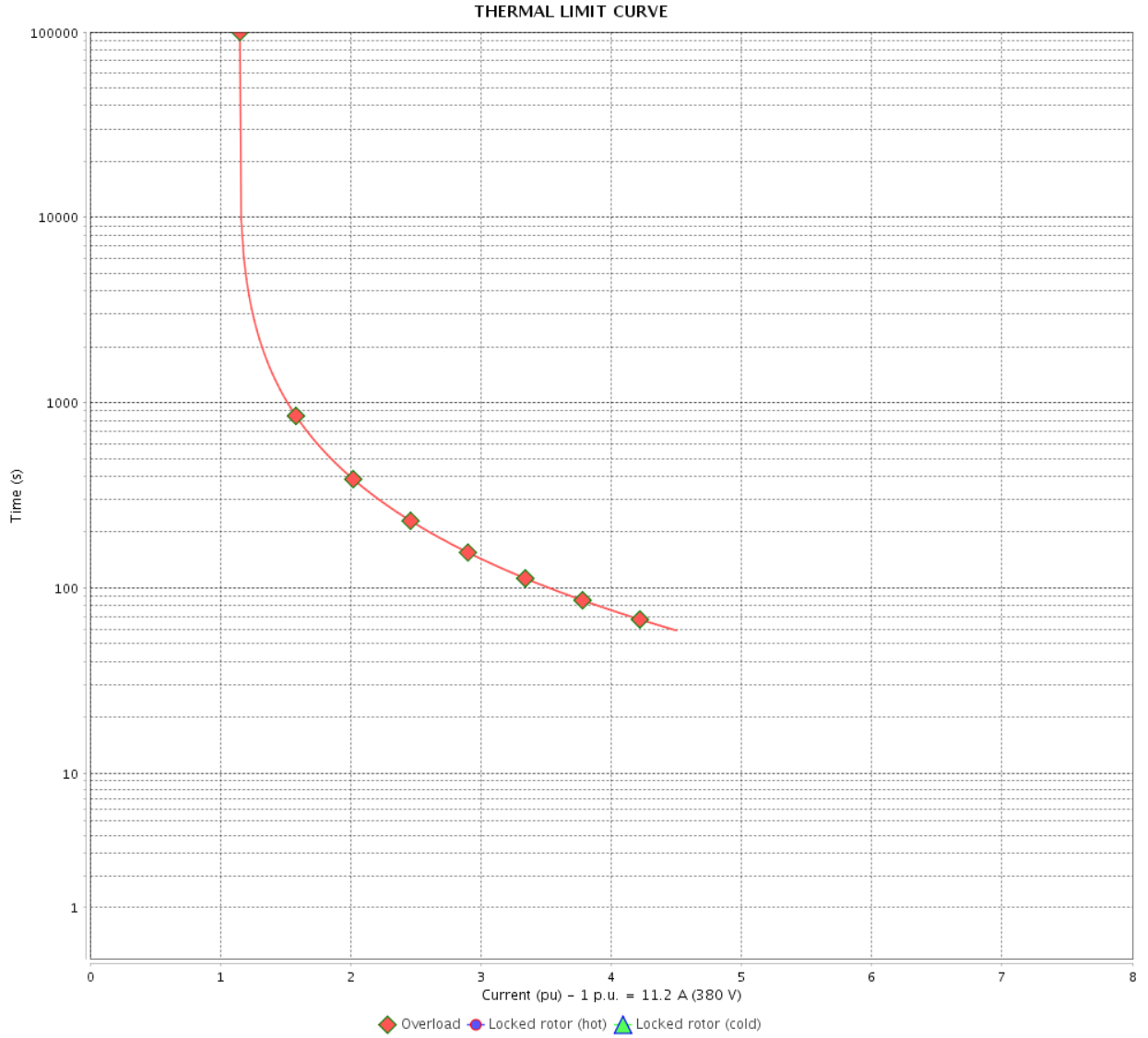
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13163407  
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Performance : 220/415 V 50 Hz 4P

Rated current	: 20.8/11.0 A	Moment of inertia (J)	: 1.07 sq.ft.lb
LRC	: 8.3	Duty cycle	: Cont.(S1)
Rated torque	: 26.8 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.15
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1470 rpm	Design	: B

Heating constant

Cooling constant

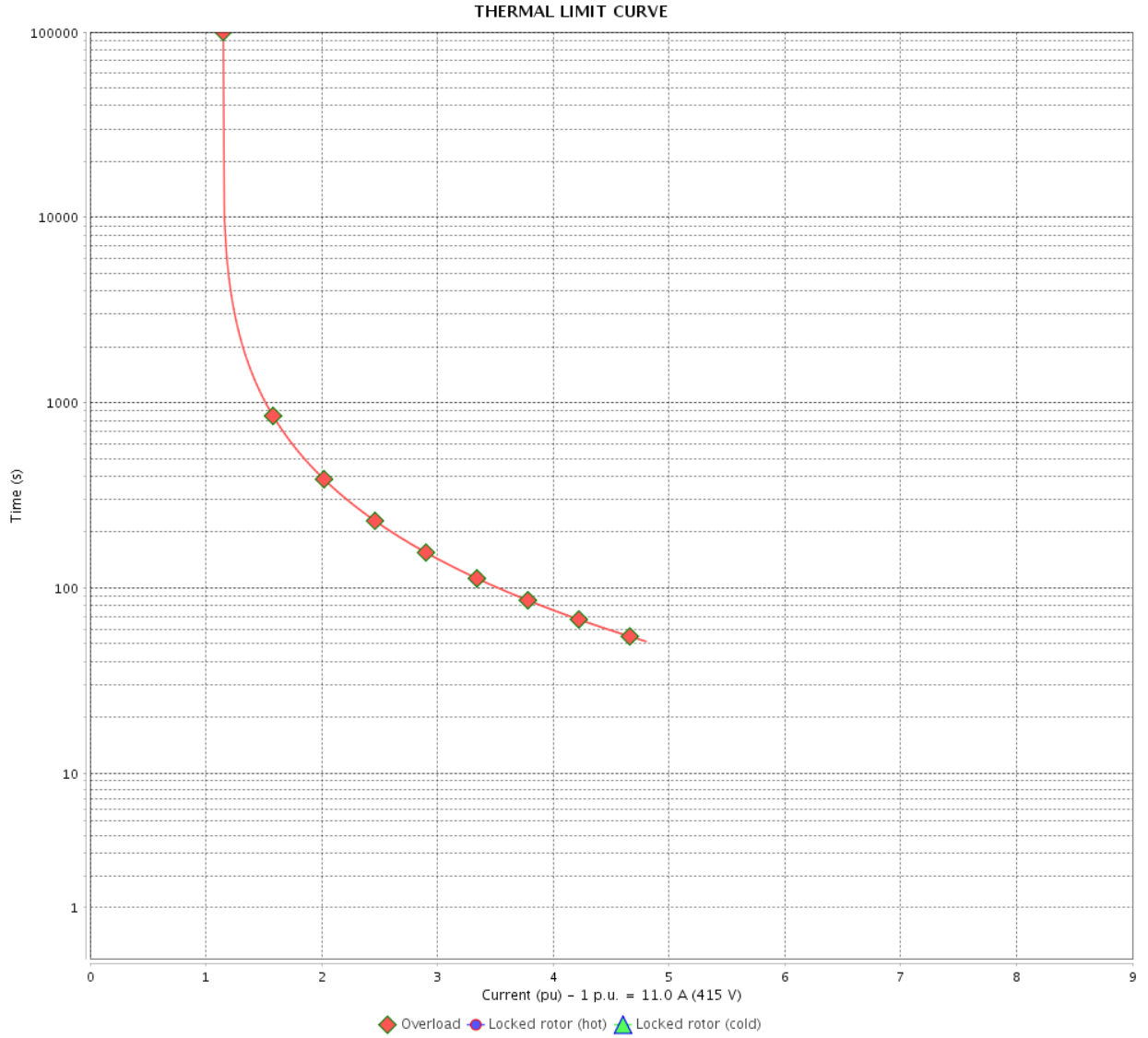
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



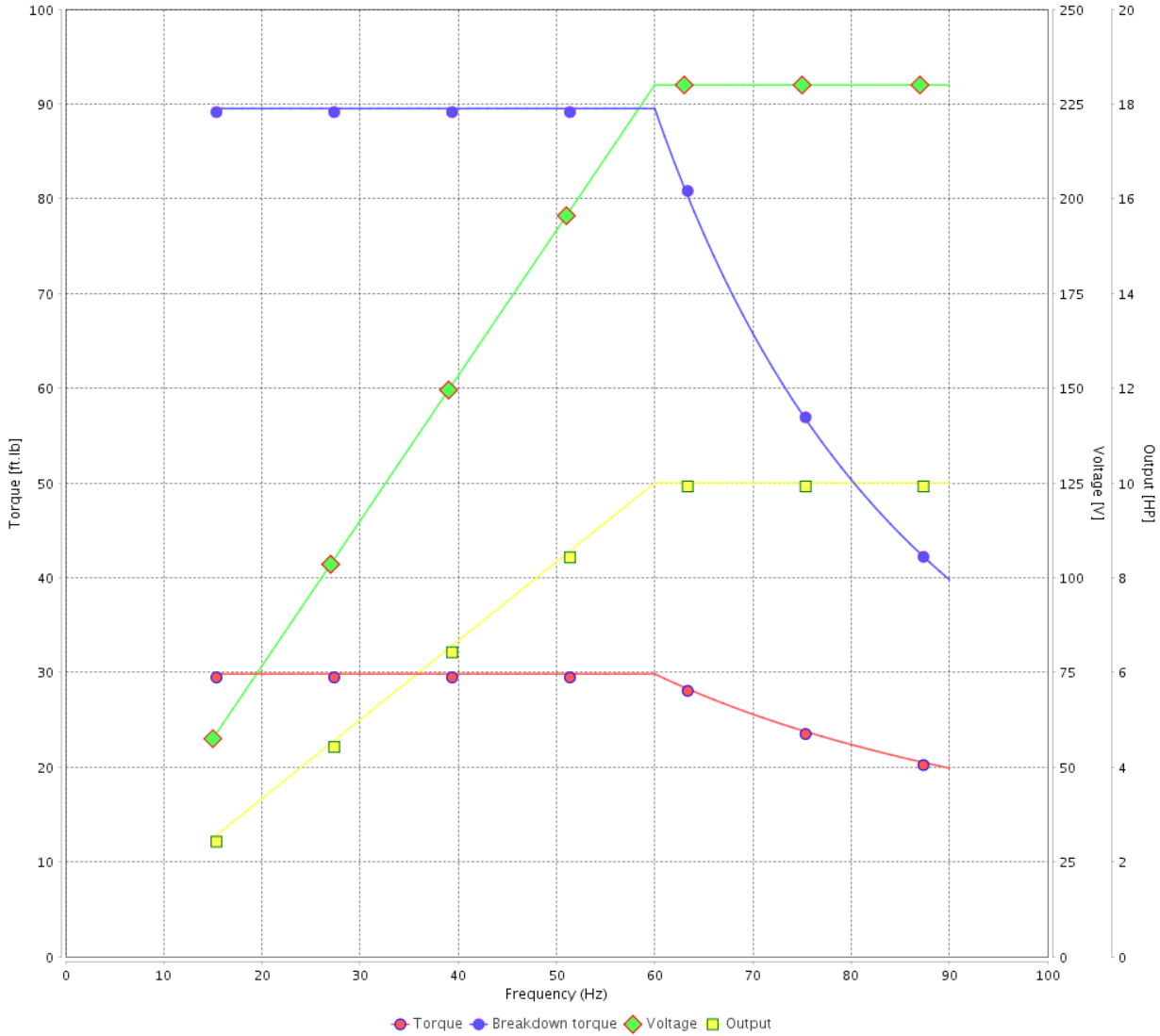
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13163407

Catalog # : 01018ET3E215TC-SG

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 24.4/12.2 A  
 LRC : 7.0  
 Rated torque : 29.8 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 300 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 1.07 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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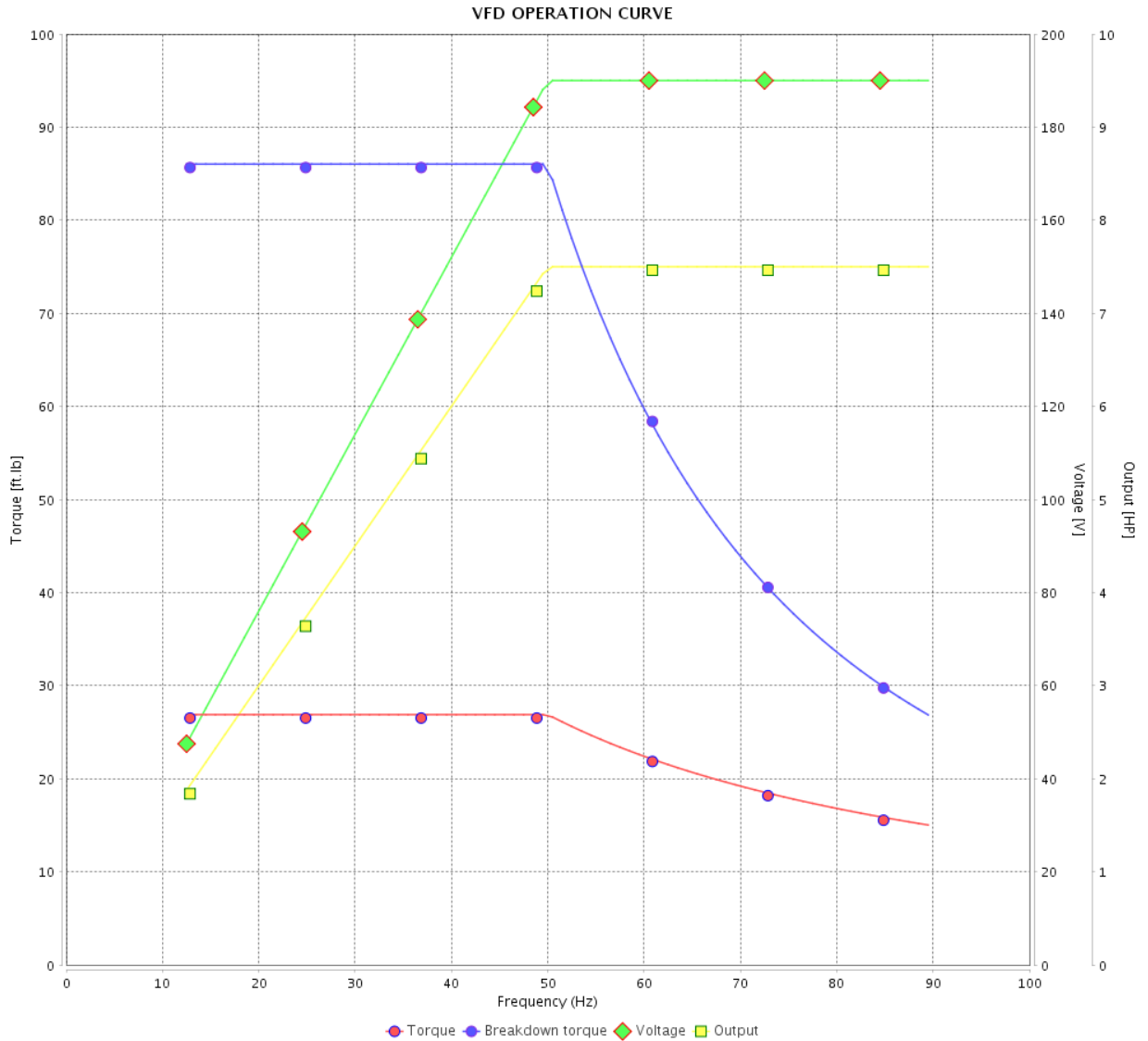
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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 Rated speed : 1465 rpm

Moment of inertia (J) : 1.07 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

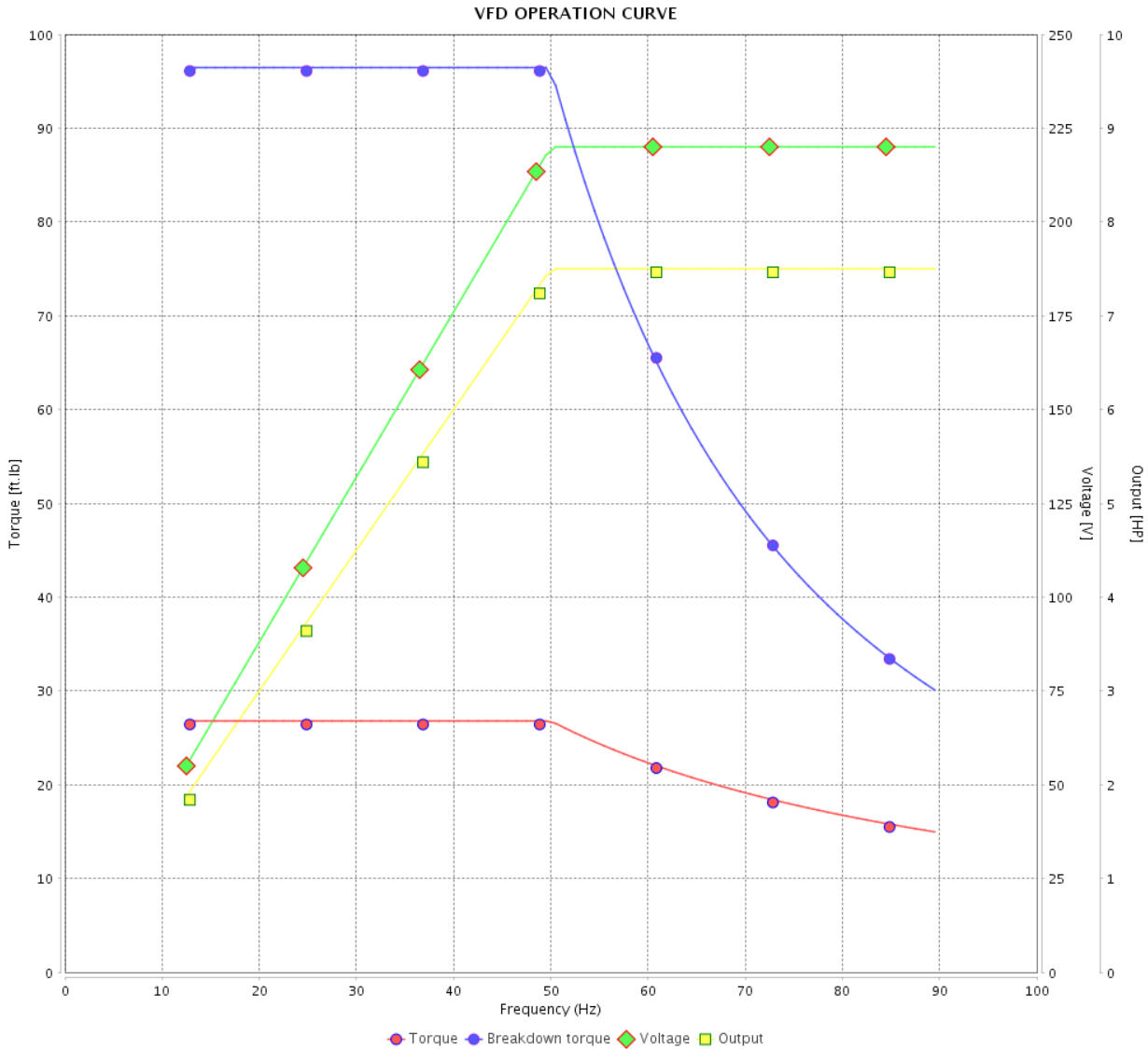


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 Insulation class : F  
 Service factor : 1.15  
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 Design : B

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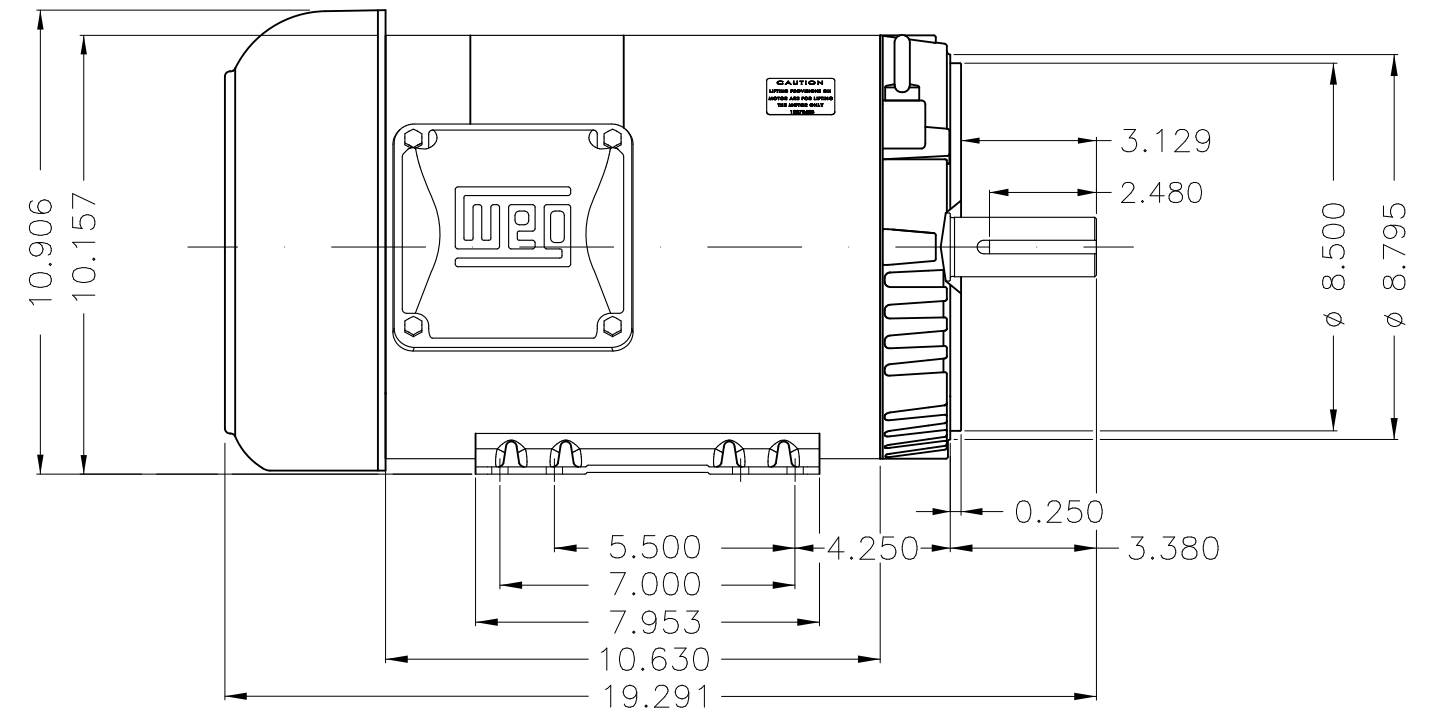
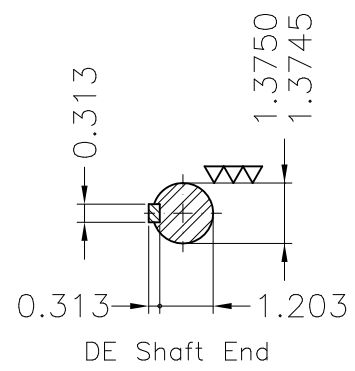
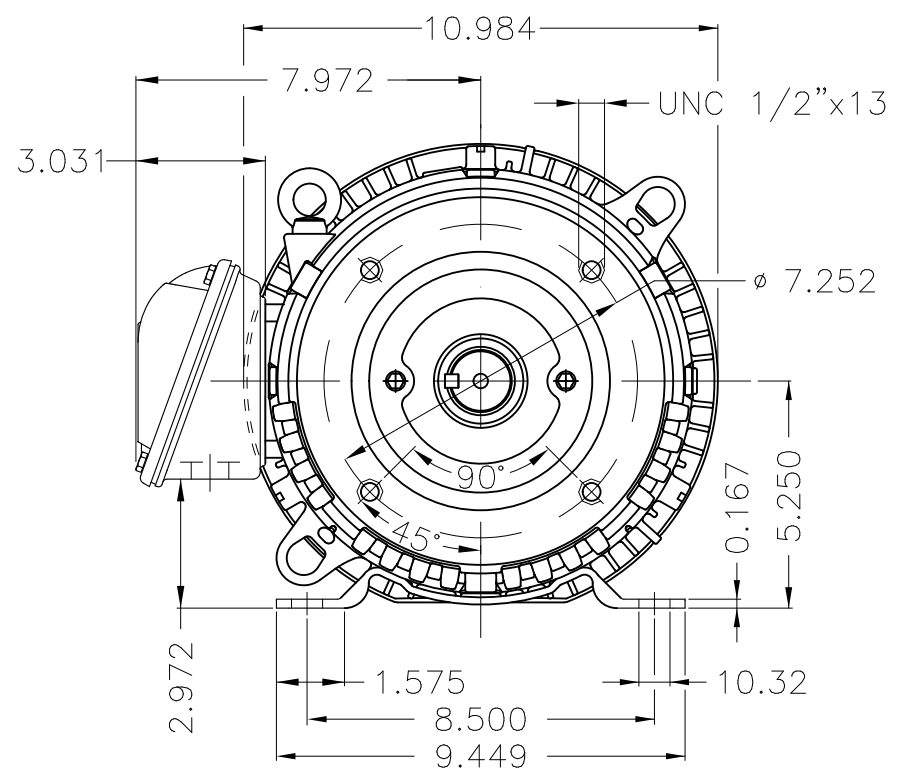
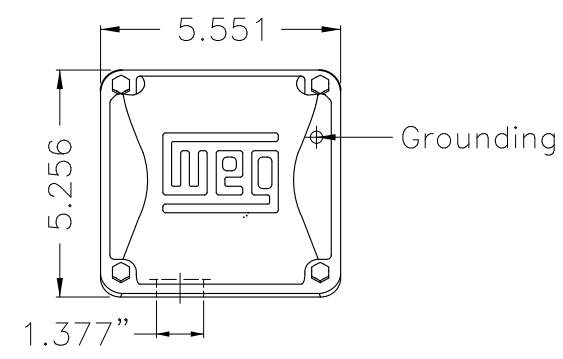
A

B

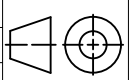
C

D

E



Internal AEGIS ground ring on the DE  
 Color Munsell N 1 matte black  
 Painting plan 207N  
 Mounting F-1/B34R(D)

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	 THREE PH. MOTOR ROLLED STEEL PREM. EFF. FRAME 213/5TC IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET 1 / 1			

10 HP 04 Poles 60 Hz

A

PREVIEW  
WDD

