

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer		:	
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	14802468
		Catalog # :	00156ET3E143TC-S
Frame	: 143/5TC	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>	: 35.5 lb
Protection degree	: IP55	Moment of inertia (J)	: 0.1023 sq.ft.lb
Design	: B		
Output [HP]	1.5	1.5	1.5
Poles	2	2	2
Frequency [Hz]	60	50	50
Rated voltage [V]	230/460	190/380	220/415
Rated current [A]	3.74/1.87	4.44/2.22	4.02/2.13
L. R. Amperes [A]	34.0/17.0	32.0/16.0	32.1/17.0
LRC [A]	9.1x(Code L)	7.2x(Code H)	8.0x(Code J)
No load current [A]	1.72/0.859	1.69/0.845	1.72/0.914
Rated speed [RPM]	3520	2895	2905
Slip [%]	2.22	3.50	3.17
Rated torque [ft.lb]	2.24	2.72	2.71
Locked rotor torque [%]	229	190	220
Breakdown torque [%]	300	280	310
Service factor		1.15	1.15
Temperature rise	80 K	80 K	80 K
Locked rotor time	30s (cold) 17s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)
Noise level <sup>2</sup>	68.0 dB(A)	65.0 dB(A)	65.0 dB(A)
Efficiency (%)	25%	78.4	82.2
	50%	80.0	82.2
	75%	82.5	84.0
	100%	84.0	83.6
Power Factor	25%	0.44	0.46
	50%	0.71	0.73
	75%	0.82	0.84
	100%	0.88	0.89
Bearing type	: <u>Drive end</u> 6205 ZZ <u>Non drive end</u> 6203 ZZ	Foundation loads	
Sealing	: V'Ring Without Bearing Seal	Max. traction	: 55 lb
		Max. compression	: 91 lb
Lubrication interval	: -		
Lubricant amount	: -		
Lubricant type	: Mobil Polyrex EM		
Notes			
USABLE @208V 4.13A SF 1.00 SFA 4.13A			
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

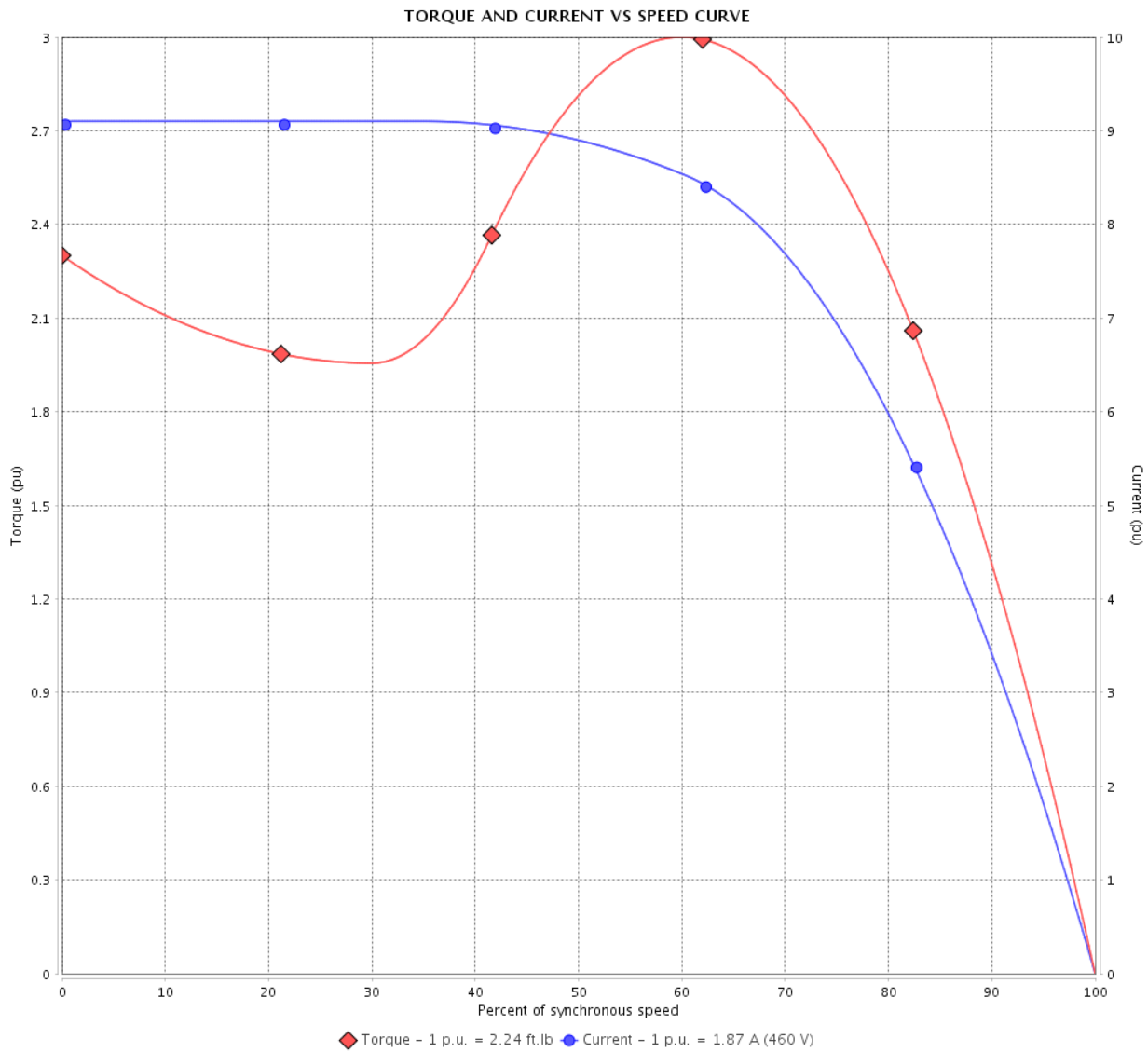


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14802468

Catalog # : 00156ET3E143TC-S



Performance : 230/460 V 60 Hz 2P

Rated current	: 3.74/1.87 A	Moment of inertia (J)	: 0.1023 sq.ft.lb
LRC	: 9.1	Duty cycle	: Cont.(S1)
Rated torque	: 2.24 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	:
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 3520 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



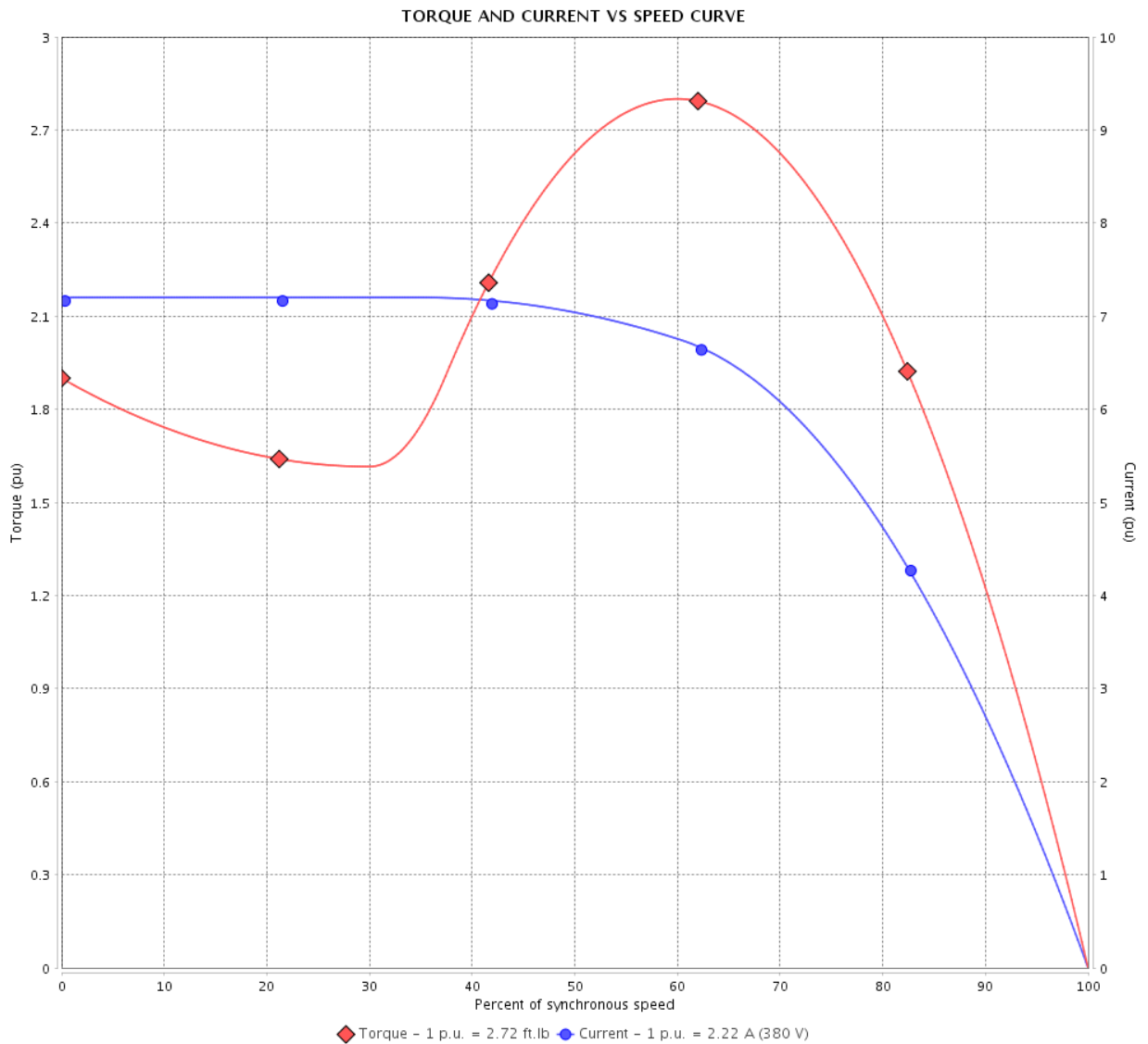
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14802468

Catalog # : 00156ET3E143TC-S



Performance : 190/380 V 50 Hz 2P

Rated current : 4.44/2.22 A  
 LRC : 7.2  
 Rated torque : 2.72 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 280 %  
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.1023 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



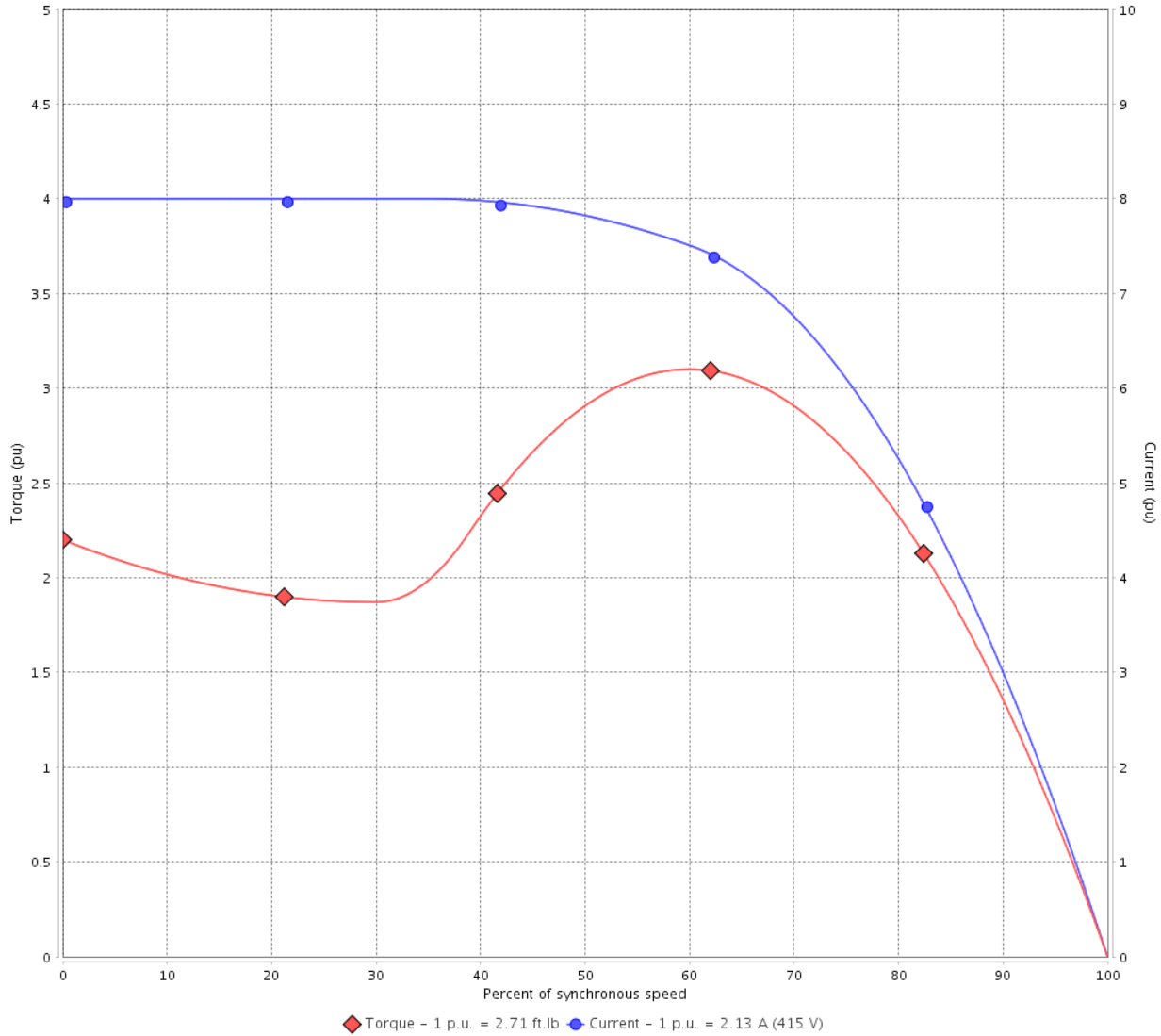
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14802468

Catalog # : 00156ET3E143TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current	: 4.02/2.13 A	Moment of inertia (J)	: 0.1023 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 2.71 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2905 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

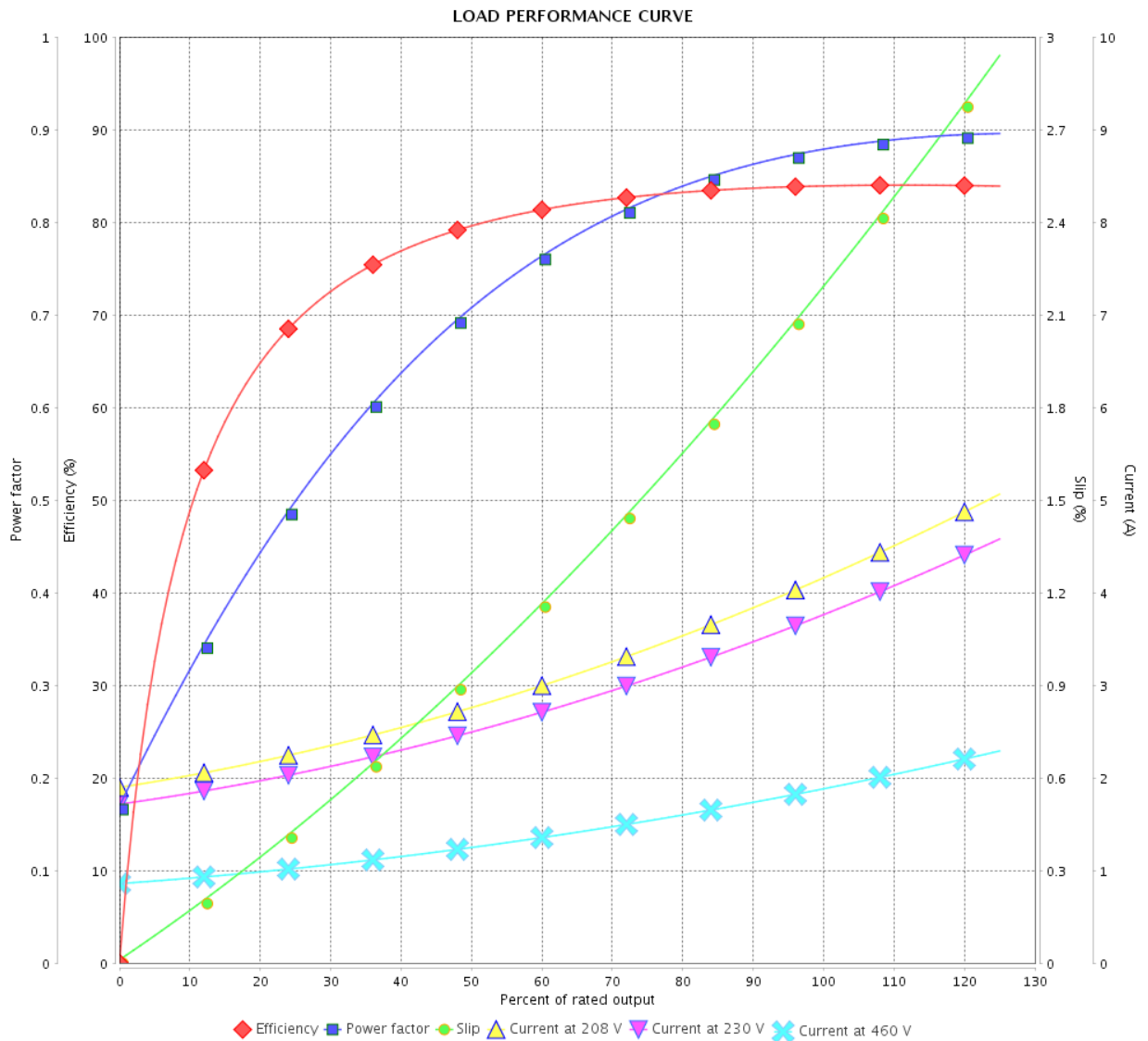


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14802468

Catalog # : 00156ET3E143TC-S



Performance : 230/460 V 60 Hz 2P

Rated current : 3.74/1.87 A  
 LRC : 9.1  
 Rated torque : 2.24 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 300 %  
 Rated speed : 3520 rpm

Moment of inertia (J) : 0.1023 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



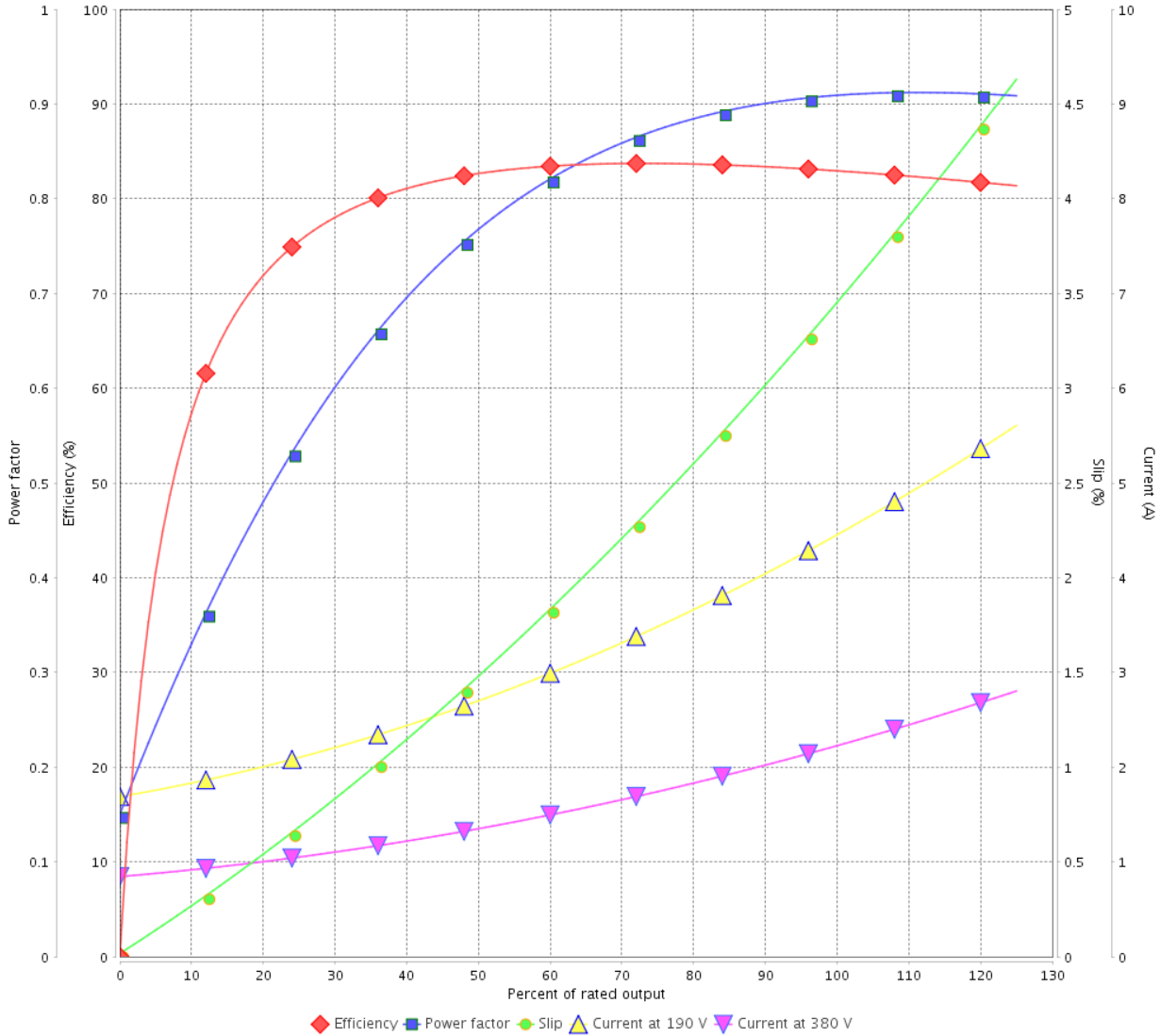
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14802468

Catalog # : 00156ET3E143TC-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 2P

Rated current : 4.44/2.22 A  
 LRC : 7.2  
 Rated torque : 2.72 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 280 %  
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.1023 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

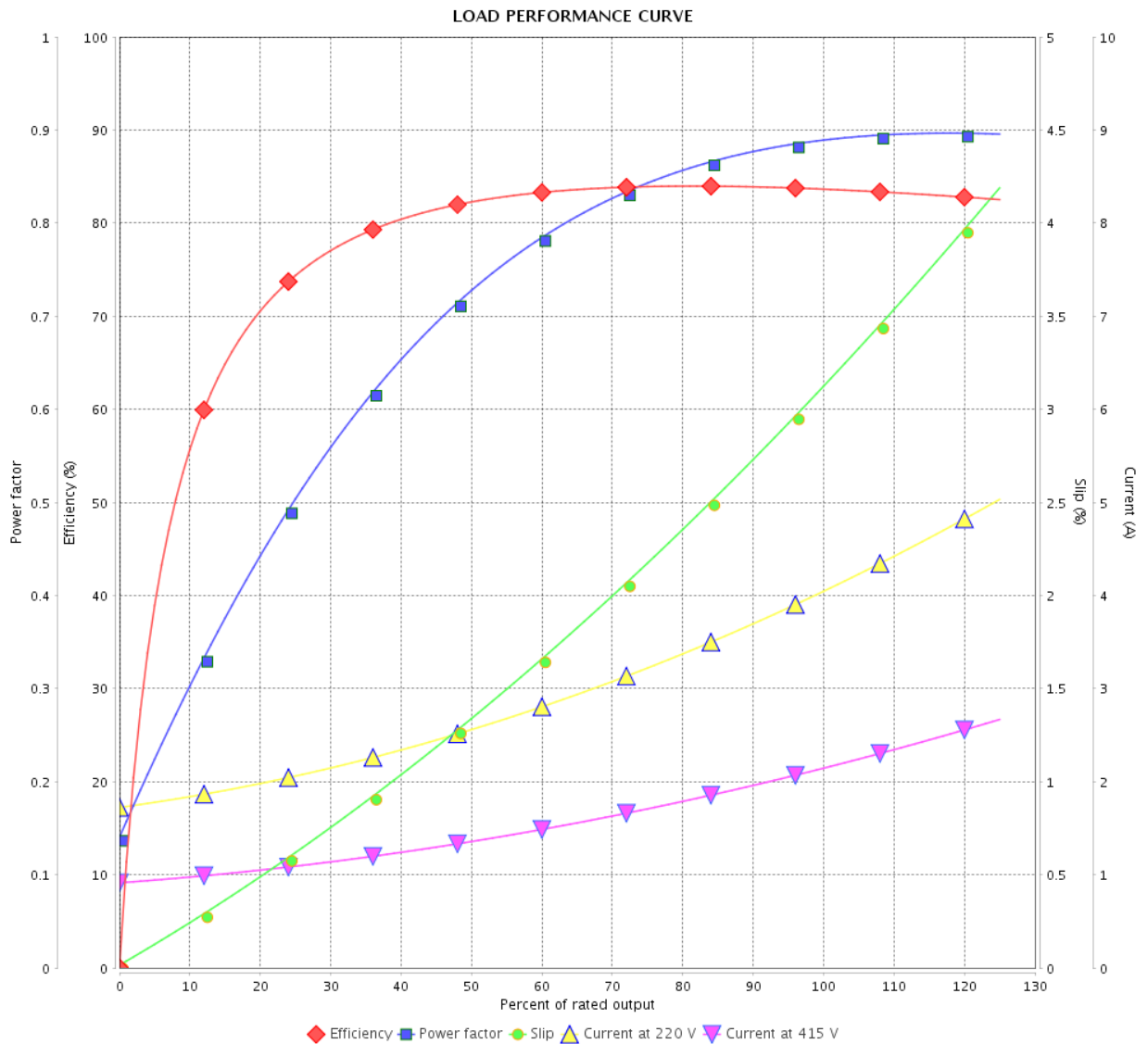


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Product code : 14802468

Catalog # : 00156ET3E143TC-S



Performance : 220/415 V 50 Hz 2P

Rated current : 4.02/2.13 A  
 LRC : 8.0  
 Rated torque : 2.71 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 310 %  
 Rated speed : 2905 rpm

Moment of inertia (J) : 0.1023 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 : 14802468  
Catalog # : 00156ET3E143TC-S

Performance : 230/460 V 60 Hz 2P

Rated current : 3.74/1.87 A	Moment of inertia (J) : 0.1023 sq.ft.lb
LRC : 9.1	Duty cycle : Cont.(S1)
Rated torque : 2.24 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor :
Breakdown torque : 300 %	Temperature rise : 80 K
Rated speed : 3520 rpm	Design : B

Heating constant

Cooling constant

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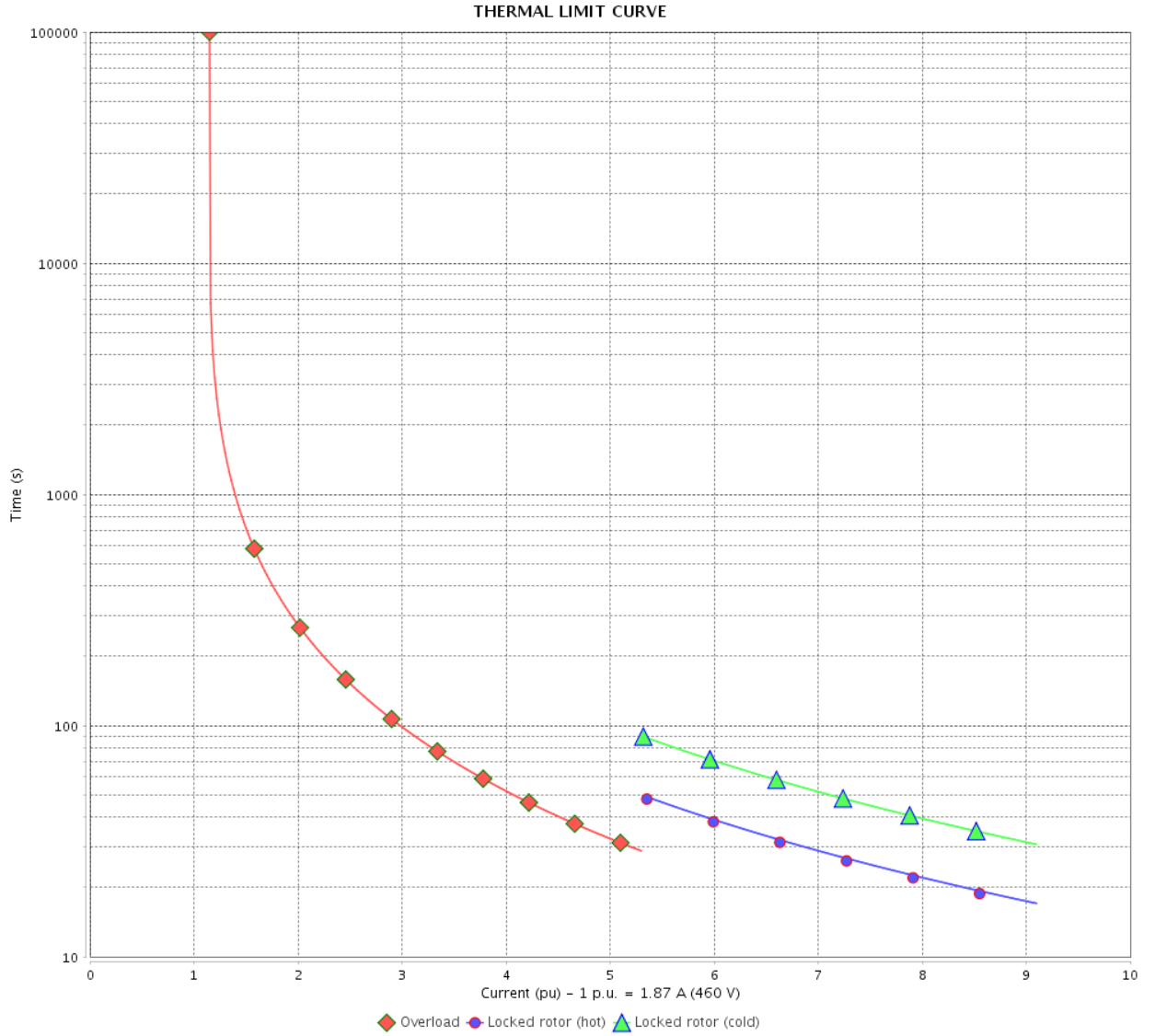


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				
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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 14802468  
Catalog # : 00156ET3E143TC-S

Performance : 190/380 V 50 Hz 2P

Rated current	: 4.44/2.22 A	Moment of inertia (J)	: 0.1023 sq.ft.lb
LRC	: 7.2	Duty cycle	: Cont.(S1)
Rated torque	: 2.72 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 2895 rpm	Design	: B

Heating constant

Cooling constant

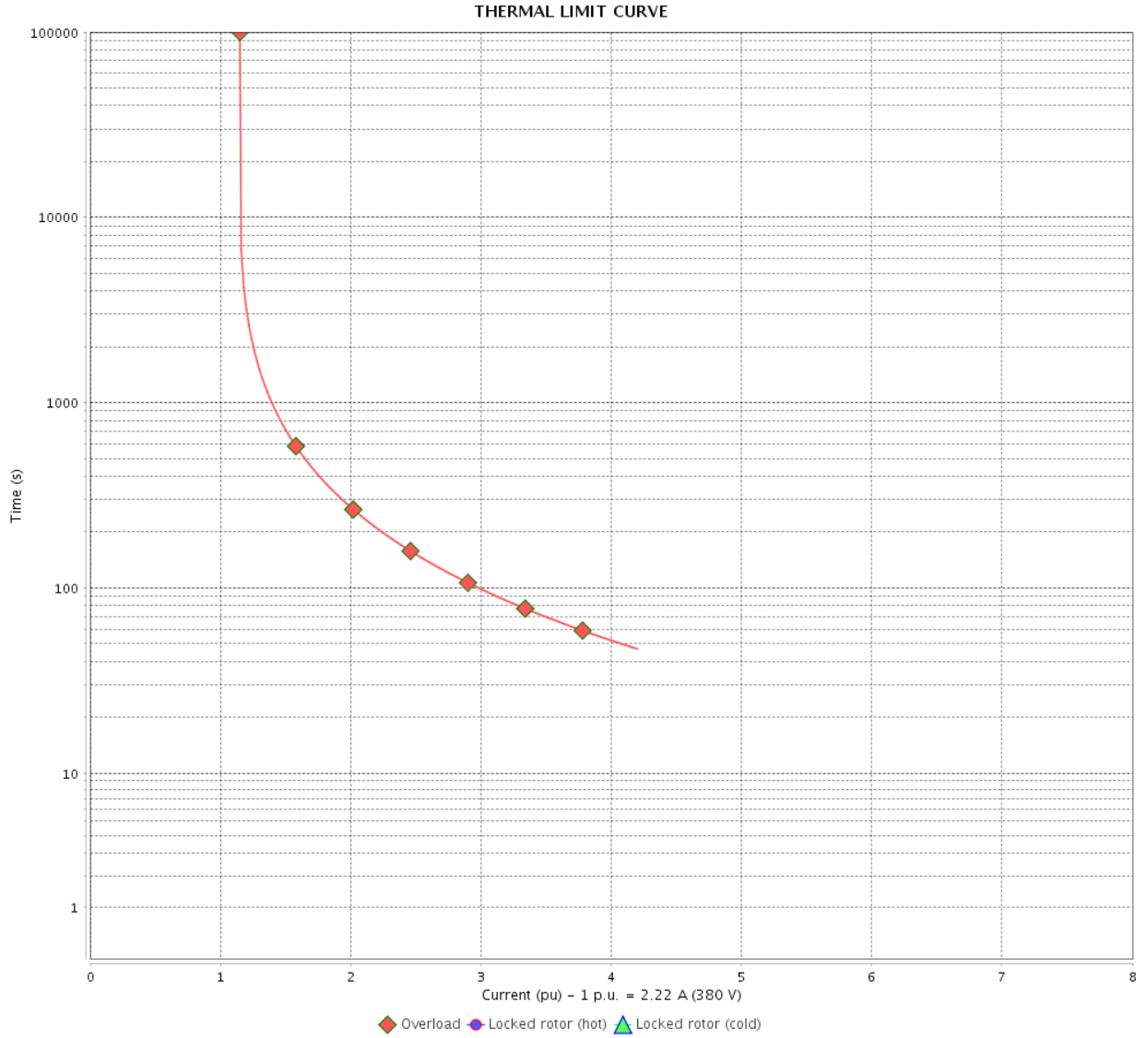
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LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 2.71 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2905 rpm	Design	: B

Heating constant

Cooling constant

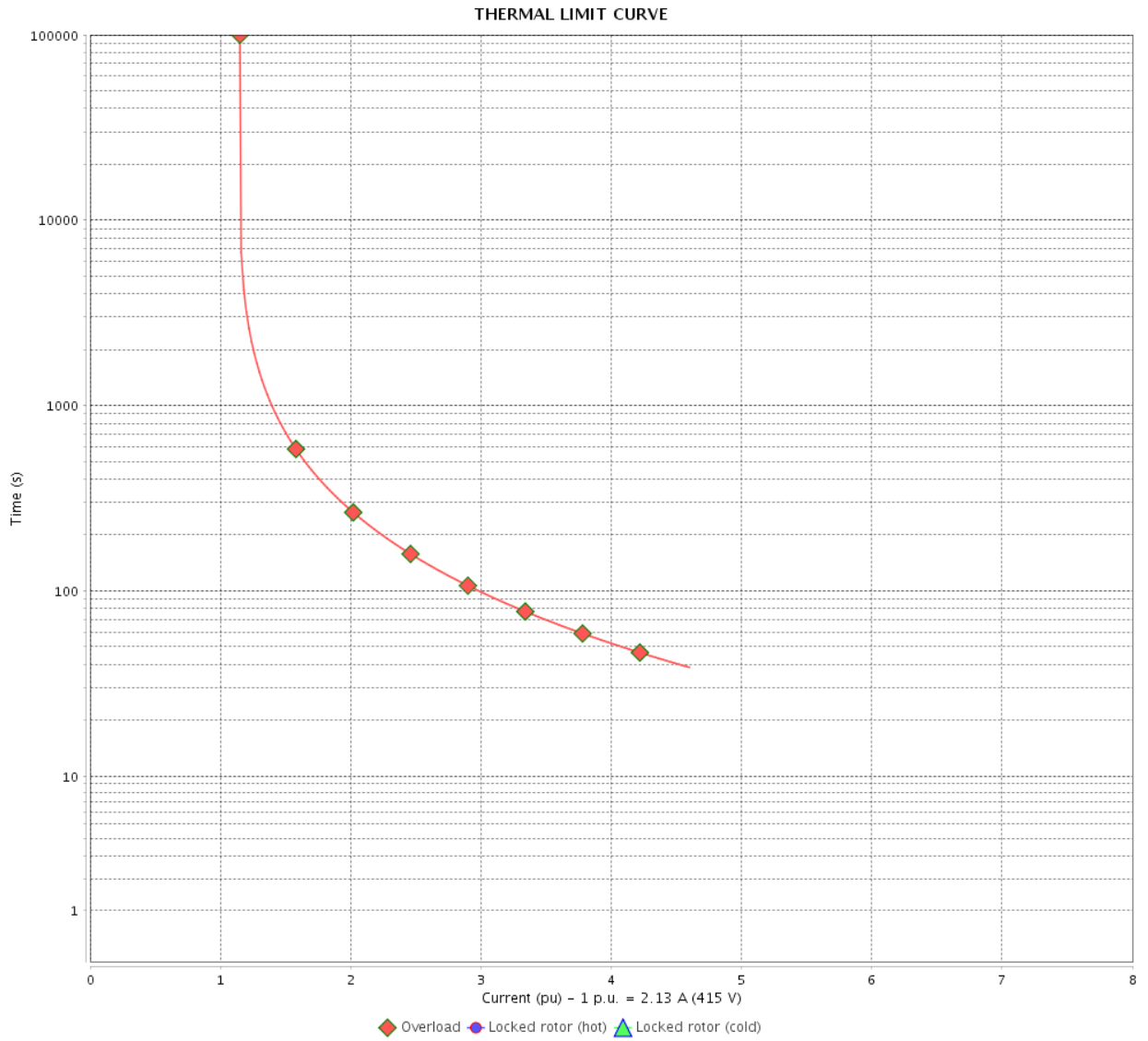
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# THERMAL LIMIT CURVE

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

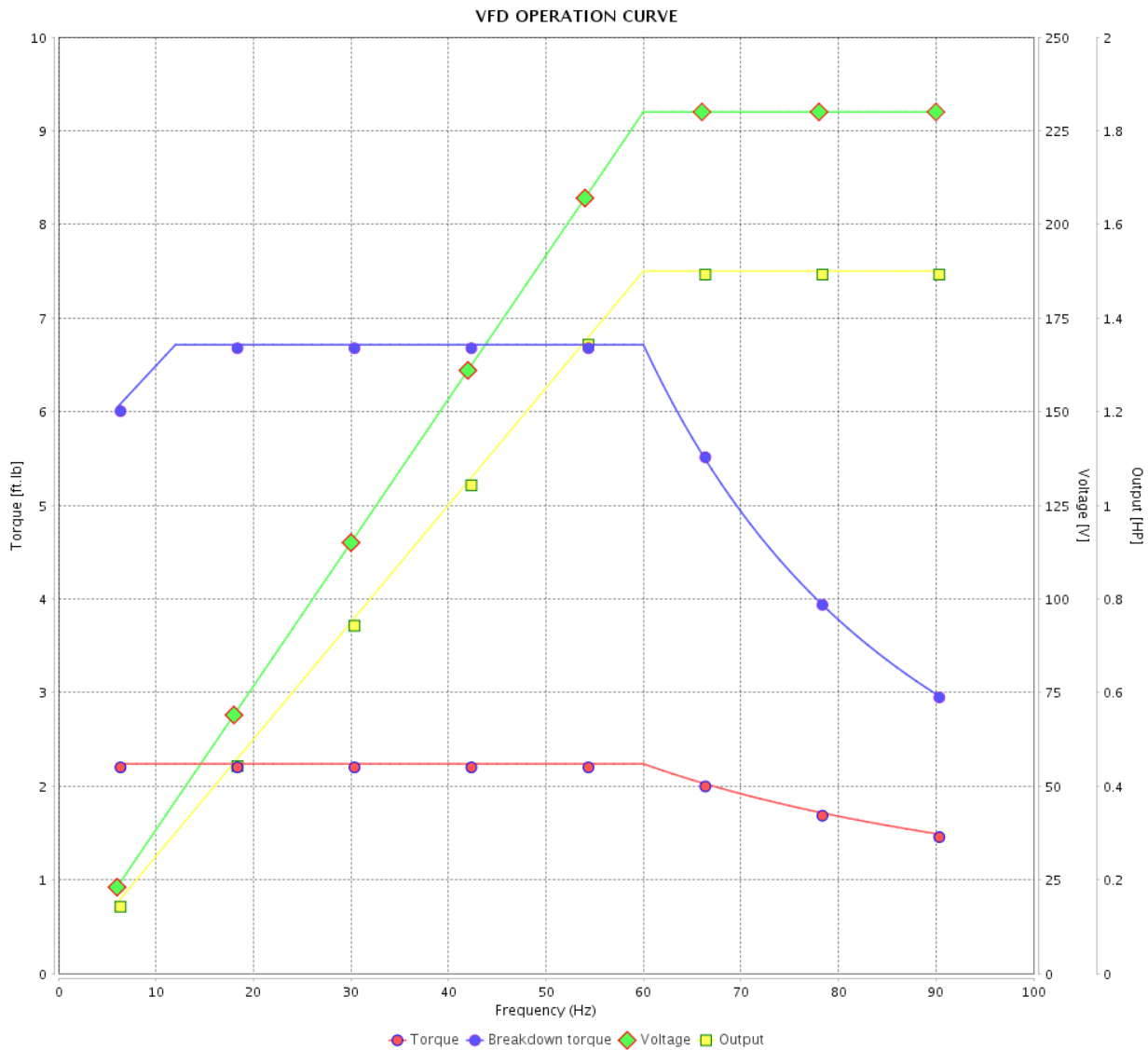


Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Catalog # : 00156ET3E143TC-S



Performance : 230/460 V 60 Hz 2P

Rated current : 3.74/1.87 A  
 LRC : 9.1  
 Rated torque : 2.24 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 300 %  
 Rated speed : 3520 rpm

Moment of inertia (J) : 0.1023 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

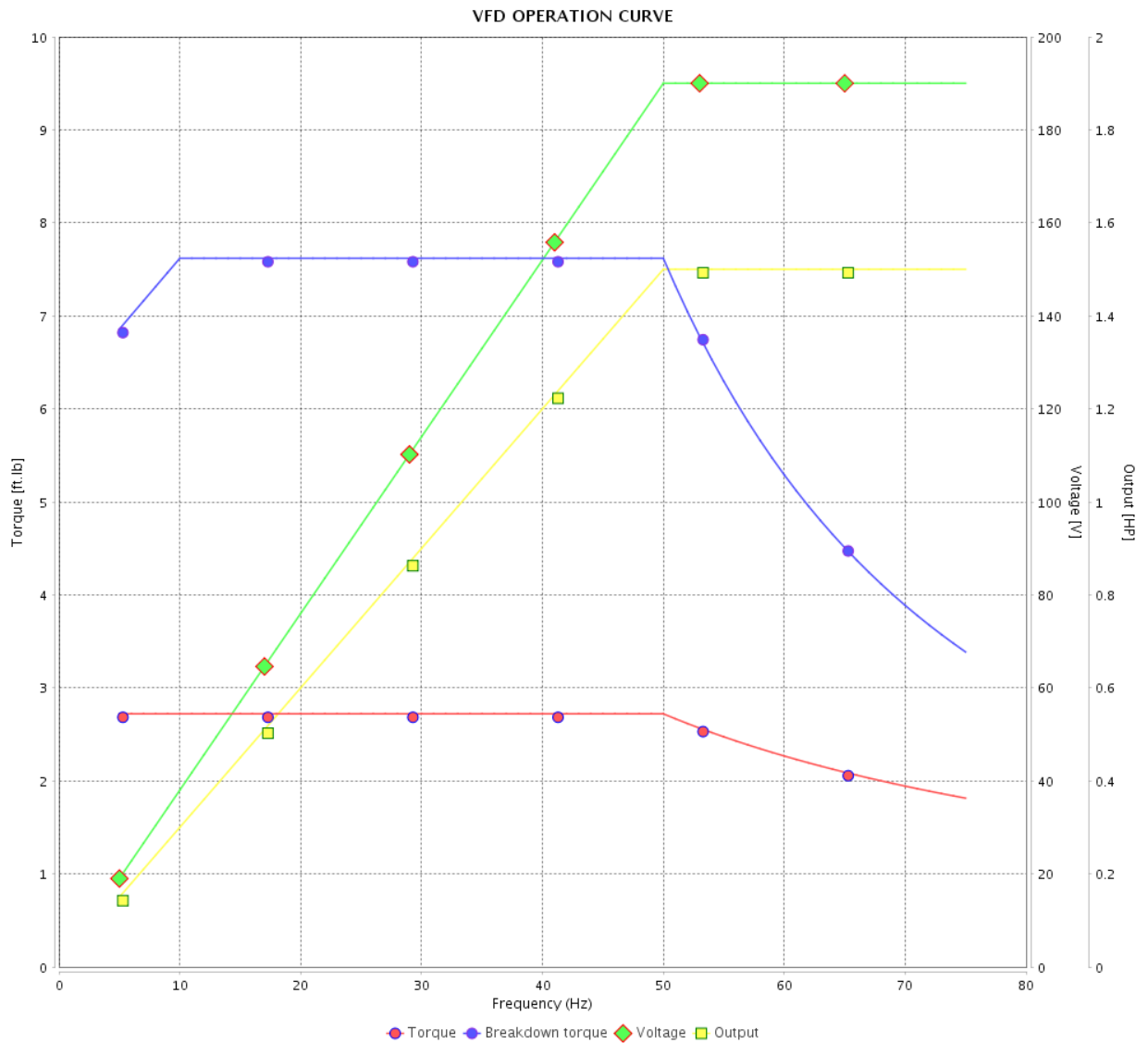


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 Breakdown torque : 280 %  
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.1023 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



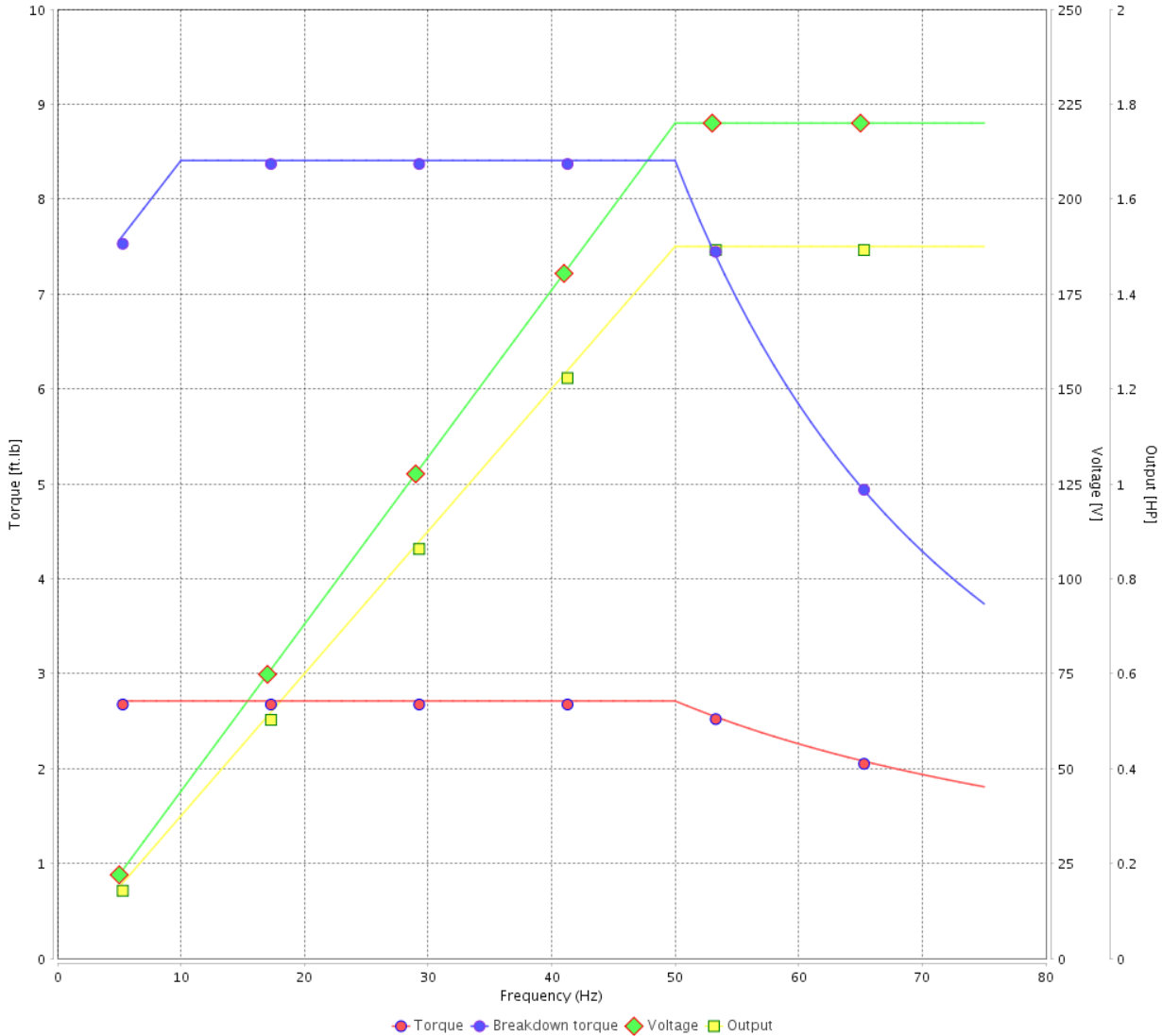
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14802468

Catalog # : 00156ET3E143TC-S

VFD OPERATION CURVE



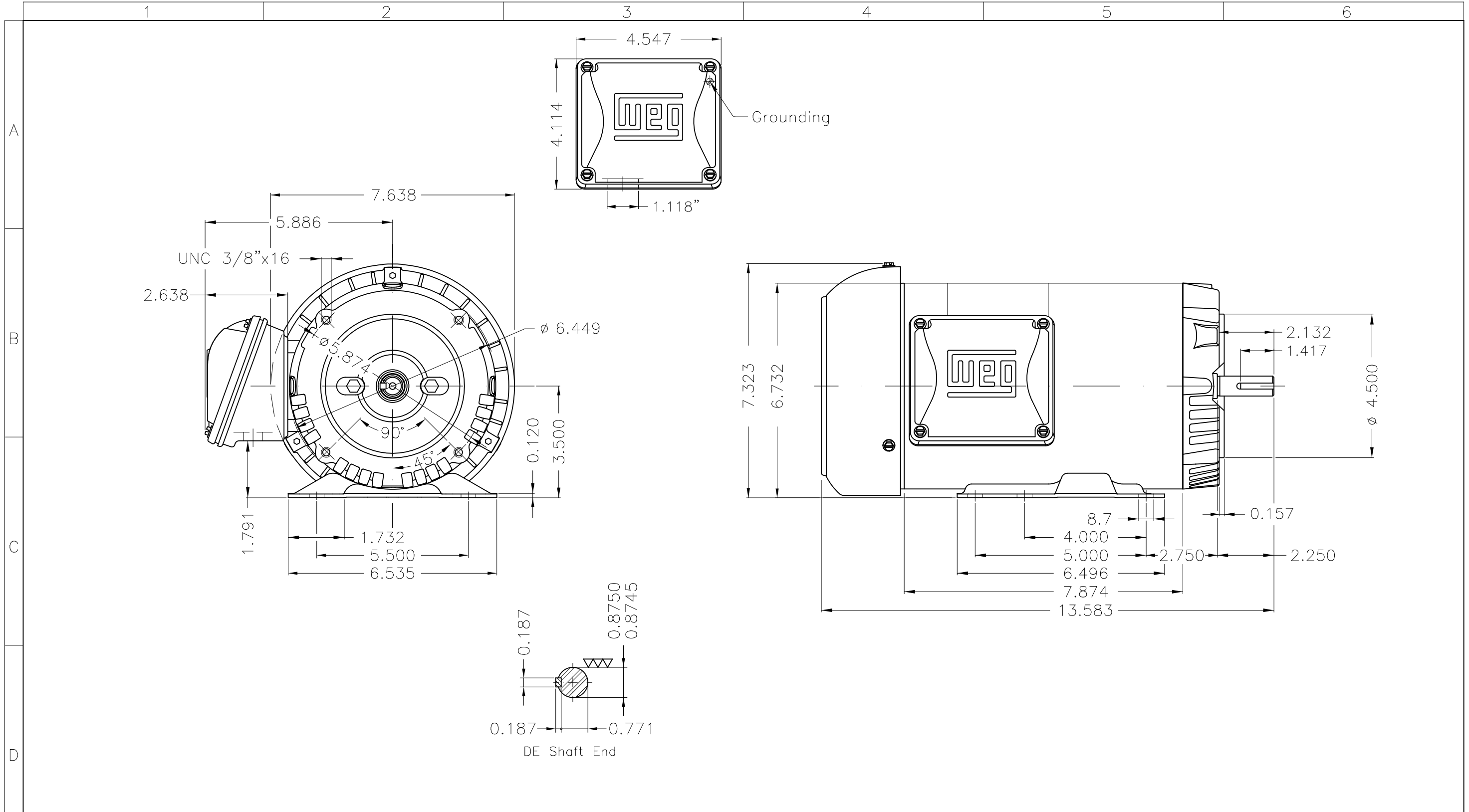
Performance : 220/415 V 50 Hz 2P

Rated current : 4.02/2.13 A  
 LRC : 8.0  
 Rated torque : 2.71 ft.lb  
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 Rated speed : 2905 rpm

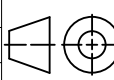
Moment of inertia (J) : 0.1023 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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Fan cover - steel plate  
 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 143/5TC IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

1.5 HP 02 Poles 60 Hz

PREVIEW  
 WDD  




**NEMA**  
**Premium**



3PT9



FOR SAFE AREA  
Energy Verified

MADE IN MEXICO

**MAT: 14802468 CC029A**

**W01.TE0IC0X0N**

**MODEL 00156ET3E143TC-S**

**05NOV2021 B/N:**

**For 60Hz: Class I, Zone 2, IIC  
Class I, Div.2, Gr. A,B,C,D - T3  
Div 2 Inverter Duty (SF1.00)**

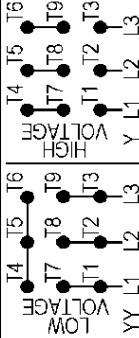
**CT 2:1/VT 1000:1**

<b>PH 3</b>	<b>Hz 60</b>	<b>HP 1.5</b>
<b>FR 143/5TC</b>		<b>KW 1.1</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 3.74/1.87</b>
<b>INS CL F AT 80K</b>	<b>IP55</b>	<b>SFA 4.30/2.15</b>
<b>AMB 40°C</b>	<b>DES B</b>	<b>SF 1.15</b>
<b>ENCL TEFC</b>	<b>CODE L</b>	<b>PF 0.88</b>
<b>USABLE @ 208V 4.14A</b>		<b>RPM 3520</b>
<b>SF1.00</b>		<b>NEMA NOM. EFF 84.0%</b>

<b>ALTERNATE RATING: 1.5HP 50Hz 190-220/380-415V SF1.15</b>
<b>4.44-3.90/2.22-2.07A 2895RPM EFF 82.9% (IE3) IEC 60034-1</b>

For safe area-Inverter duty motor For 60Hz use on VPWM 1000:1 VT, 10:1 CT

<b>DE 6205-ZZ</b>	<b>ODE 6203-ZZ</b>	<b>MOBIL POLYREX EM</b>
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T1-BLU T2-WHT  
T3-ORG T4-YEL  
T5-BLK T6-GRY  
T7-PNK T8-RED  
T9-BRK RED

INTERCHANGE ANY TWO LINE WIRES TO REVERSE THE ROTATION



**WARNING:** Motor must be grounded in accordance with local and national electrical codes to prevent serious electrical shocks. Disconnect power source before servicing unit.

**AVERTISSEMENT:** Le moteur doit être mis à la terre conformément aux codes électriques locaux et nationaux afin d'éviter tout choc électrique grave. Déconnectez l'alimentation avant l'entretien de la machine.

