

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer	:			
Product line	: Premium Efficiency Three-Phase	Product code : 14786563 Catalog # : 00156ET3E56CFL-S		
Frame	: 56C	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>3</sup> : 33.0 lb		
Protection degree	: IP55	Moment of inertia (J) : 0.1023 sq.ft.lb		
Design	: B			
Output [HP]	1.5	1.5		
Poles	2	2		
Frequency [Hz]	60	50		
Rated voltage [V]	230/460	190/380		
Rated current [A]	3.74/1.87	4.44/2.22		
L. R. Amperes [A]	34.0/17.0	32.0/16.0		
LRC [A]	9.1x(Code L)	7.2x(Code H)		
No load current [A]	1.72/0.859	1.69/0.845		
Rated speed [RPM]	3520	2895		
Slip [%]	2.22	3.50		
Rated torque [ft.lb]	2.24	2.72		
Locked rotor torque [%]	229	190		
Breakdown torque [%]	300	280		
Service factor		1.15		
Temperature rise	80 K	80 K		
Locked rotor time	30s (cold) 17s (hot)	28s (cold) 16s (hot)		
Noise level <sup>2</sup>	68.0 dB(A)	65.0 dB(A)		
Efficiency (%)	25%	78.4		
	50%	80.0		
	75%	82.5		
	100%	84.0		
Power Factor	25%	0.44		
	50%	0.71		
	75%	0.82		
	100%	0.88		
Bearing type	: <u>Drive end</u> 6204 ZZ <u>Non drive end</u> 6202 ZZ	Foundation loads		
Sealing	: V'Ring    Without Bearing Seal	Max. traction : 66 lb		
Lubrication interval	: -    -	Max. compression : 99 lb		
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

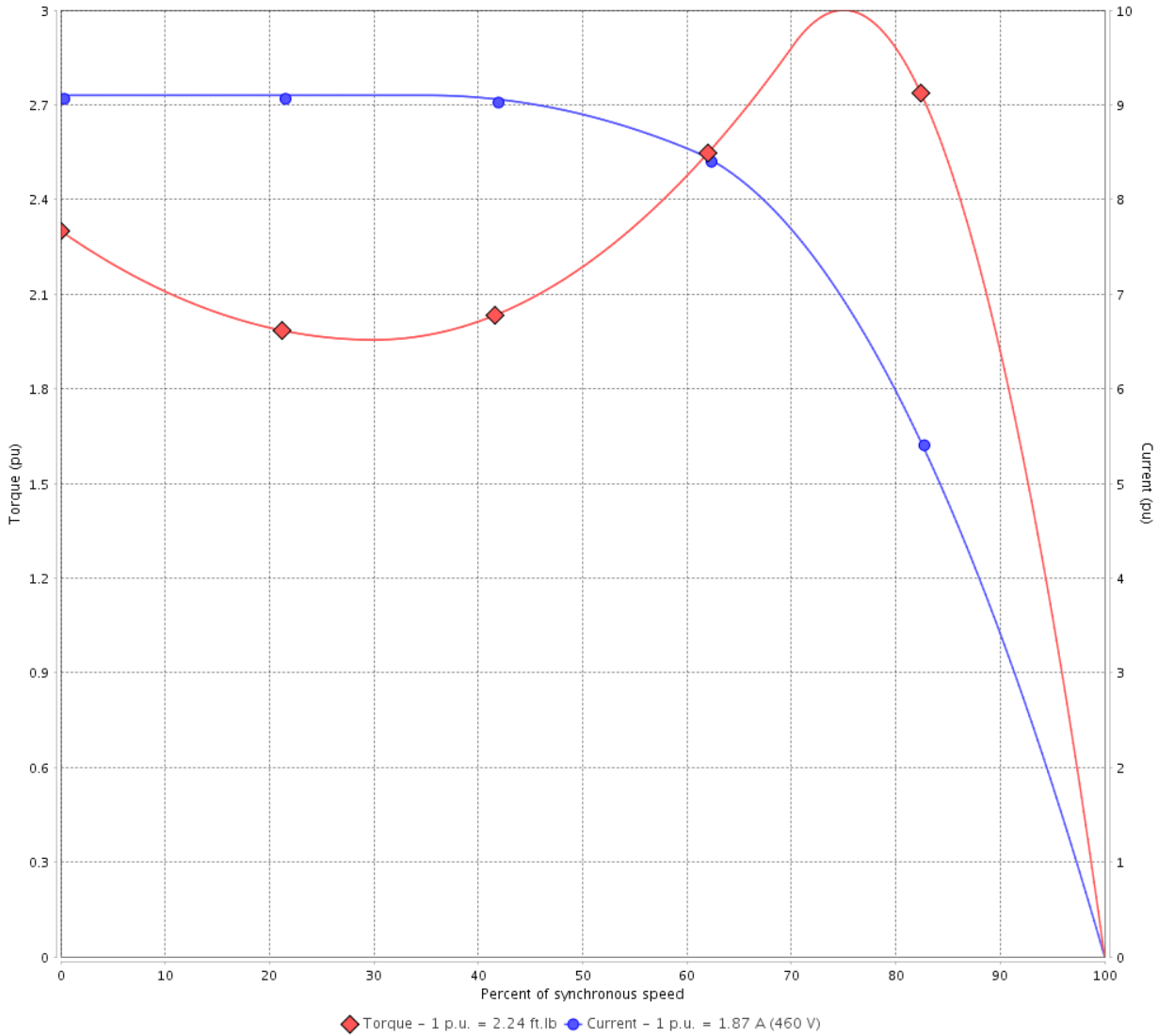
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-S

TORQUE AND CURRENT VS SPEED CURVE



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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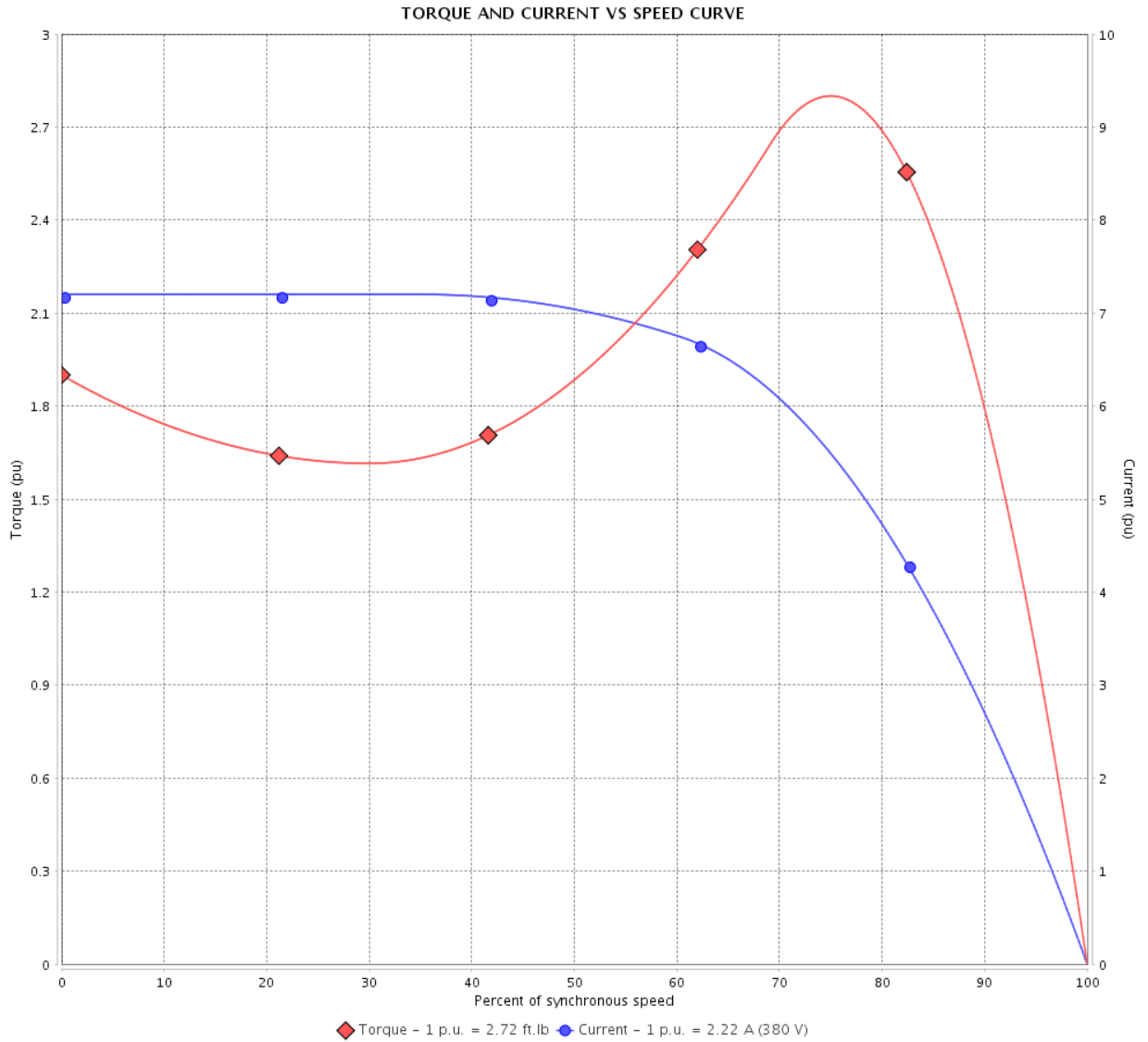
# TORQUE AND CURRENT VS SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-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

Locked rotor time : 28s (cold) 16s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

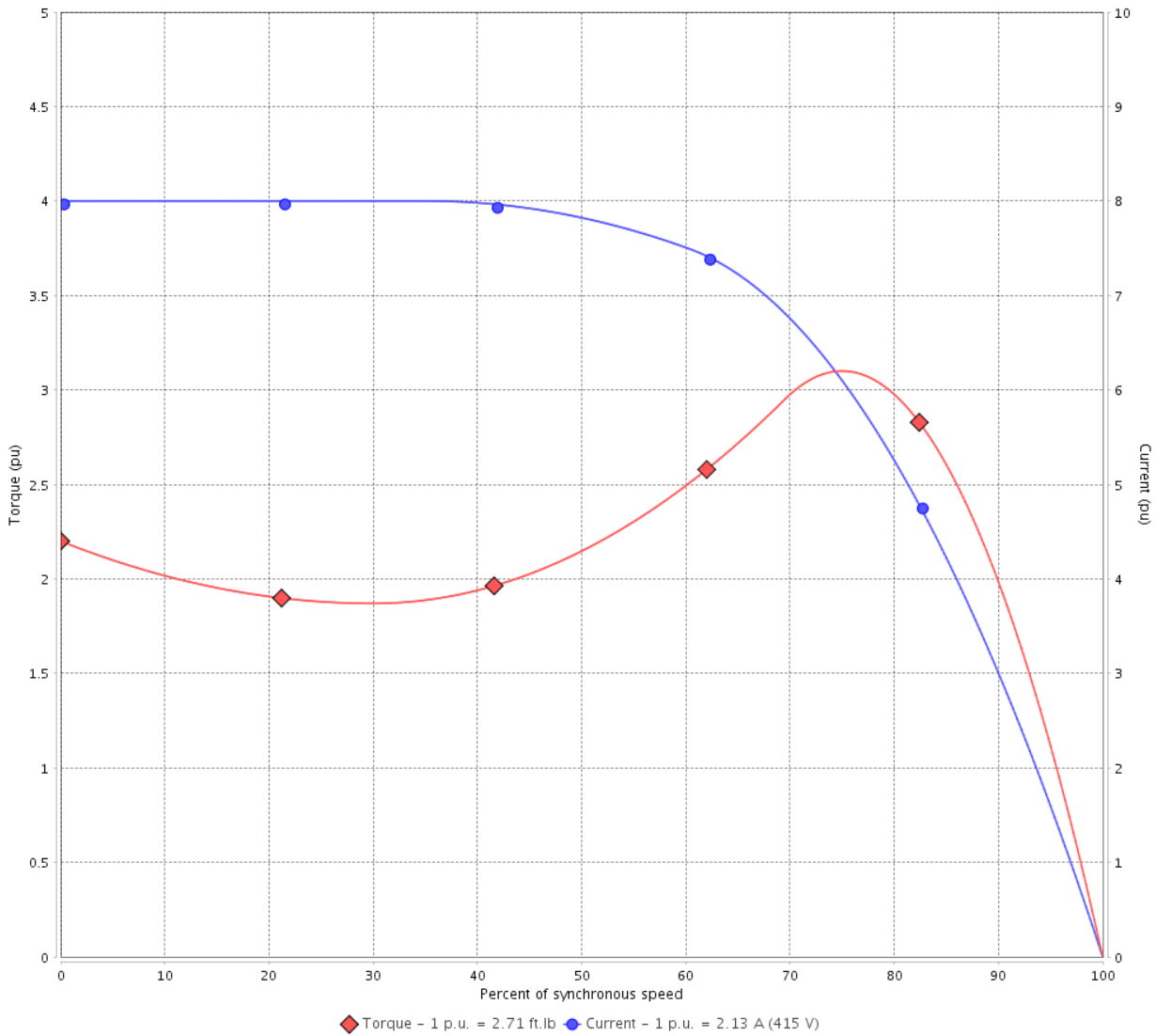
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-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 : 27s (cold) 15s (hot)

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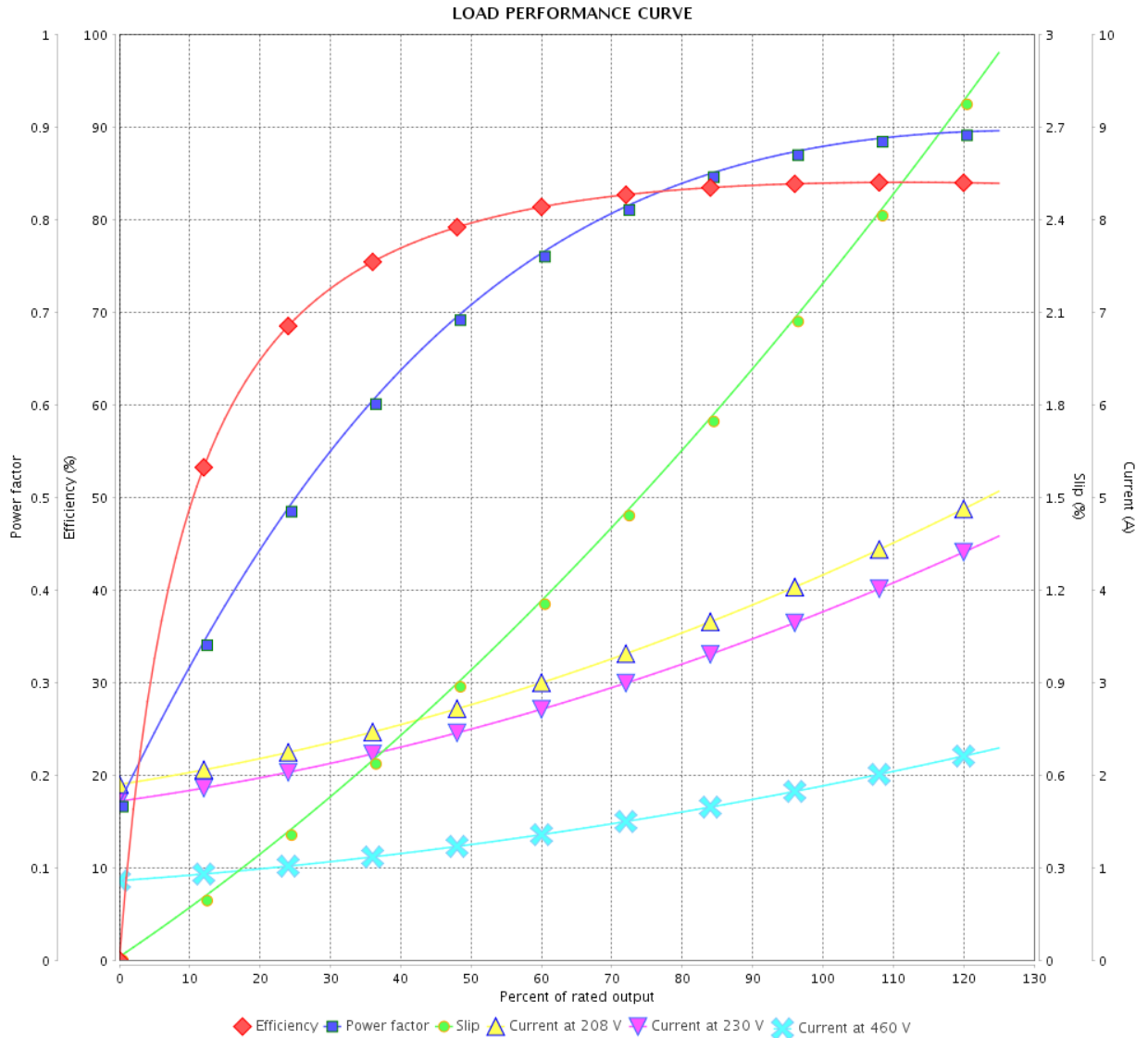
# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-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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Date				

# LOAD PERFORMANCE CURVE

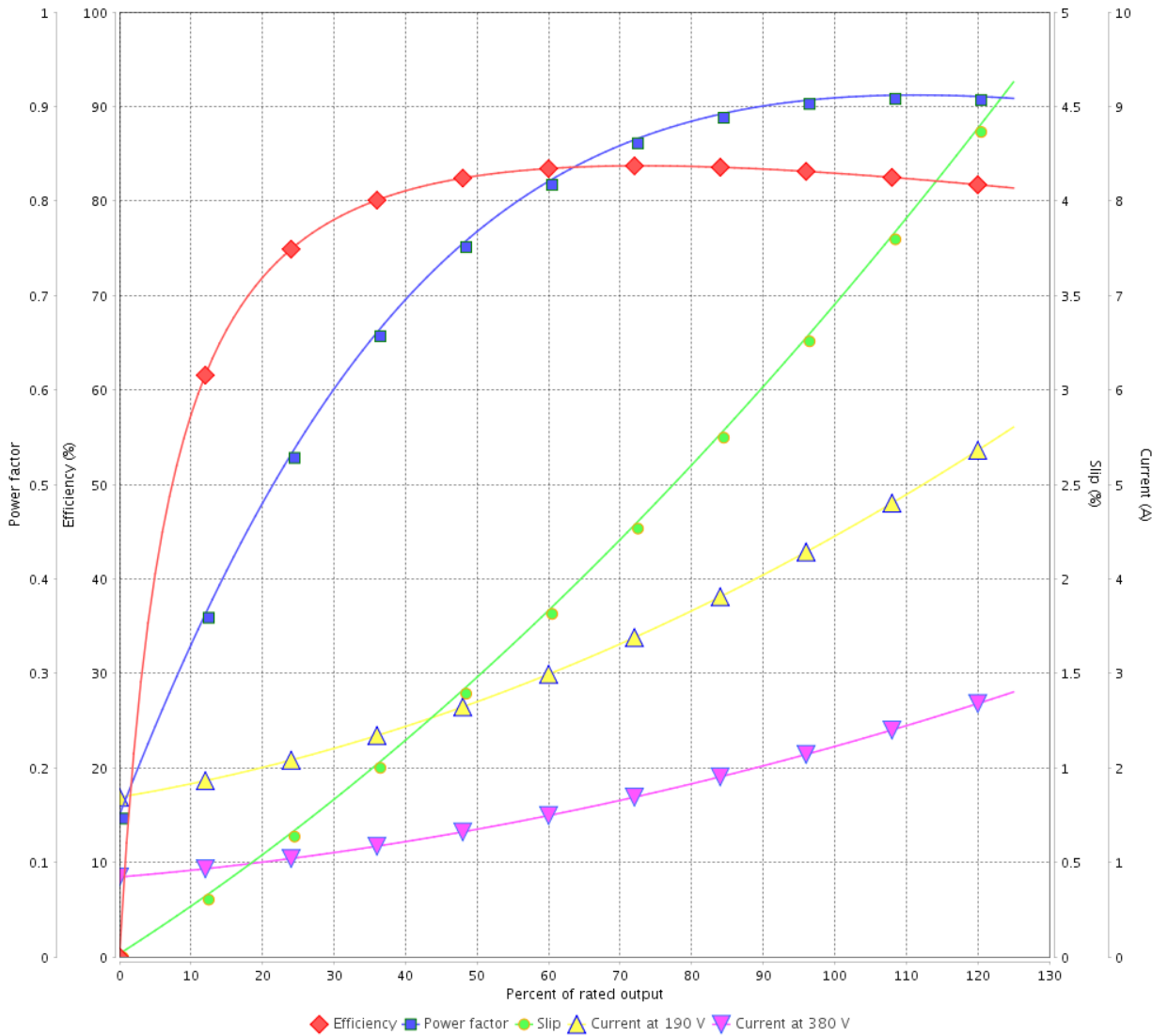
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Customer :

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-S

LOAD PERFORMANCE CURVE



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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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

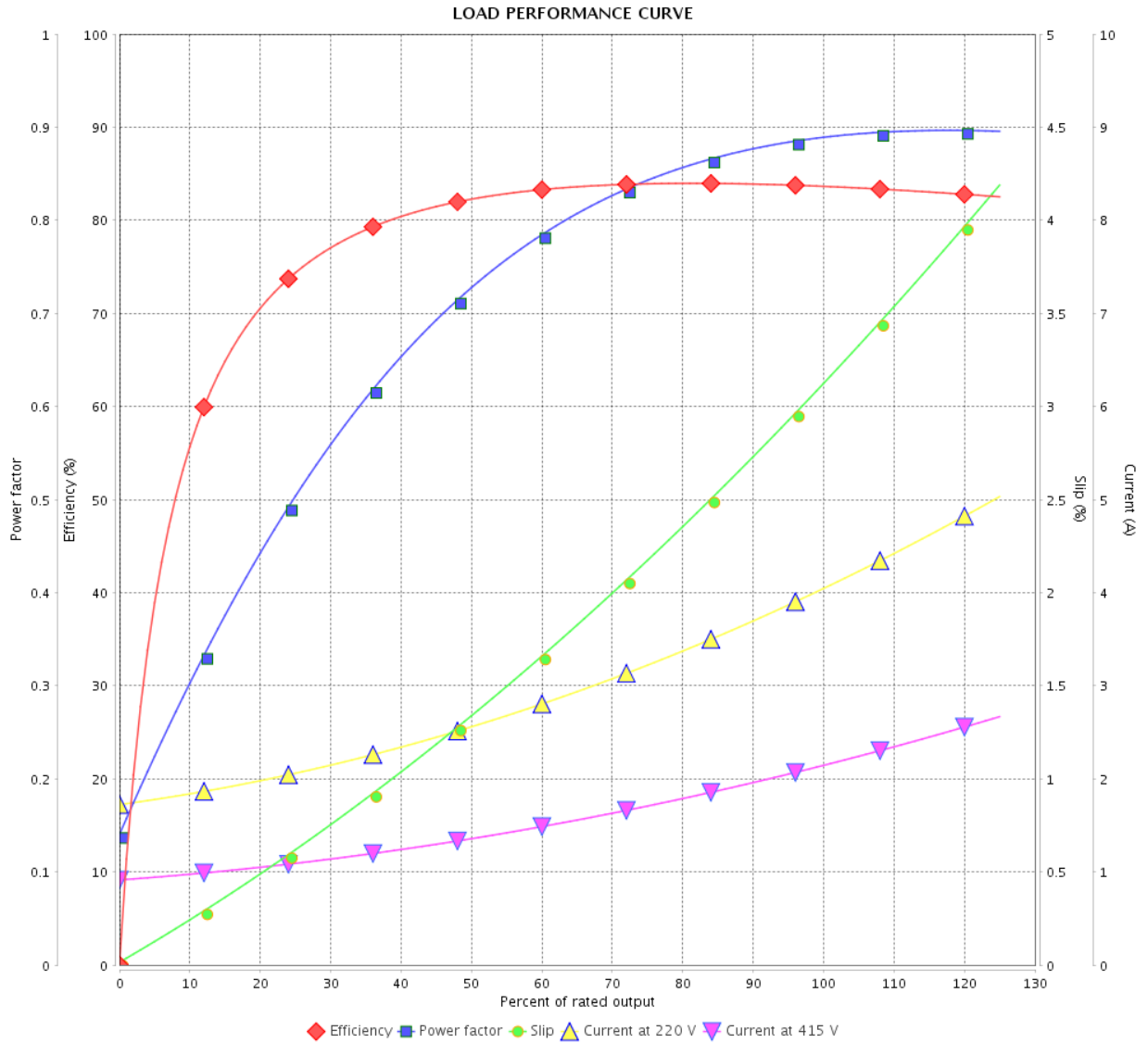
Product line : Premium Efficiency Three-Phase

Product code :

14786563

Catalog # :

00156ET3E56CFL-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

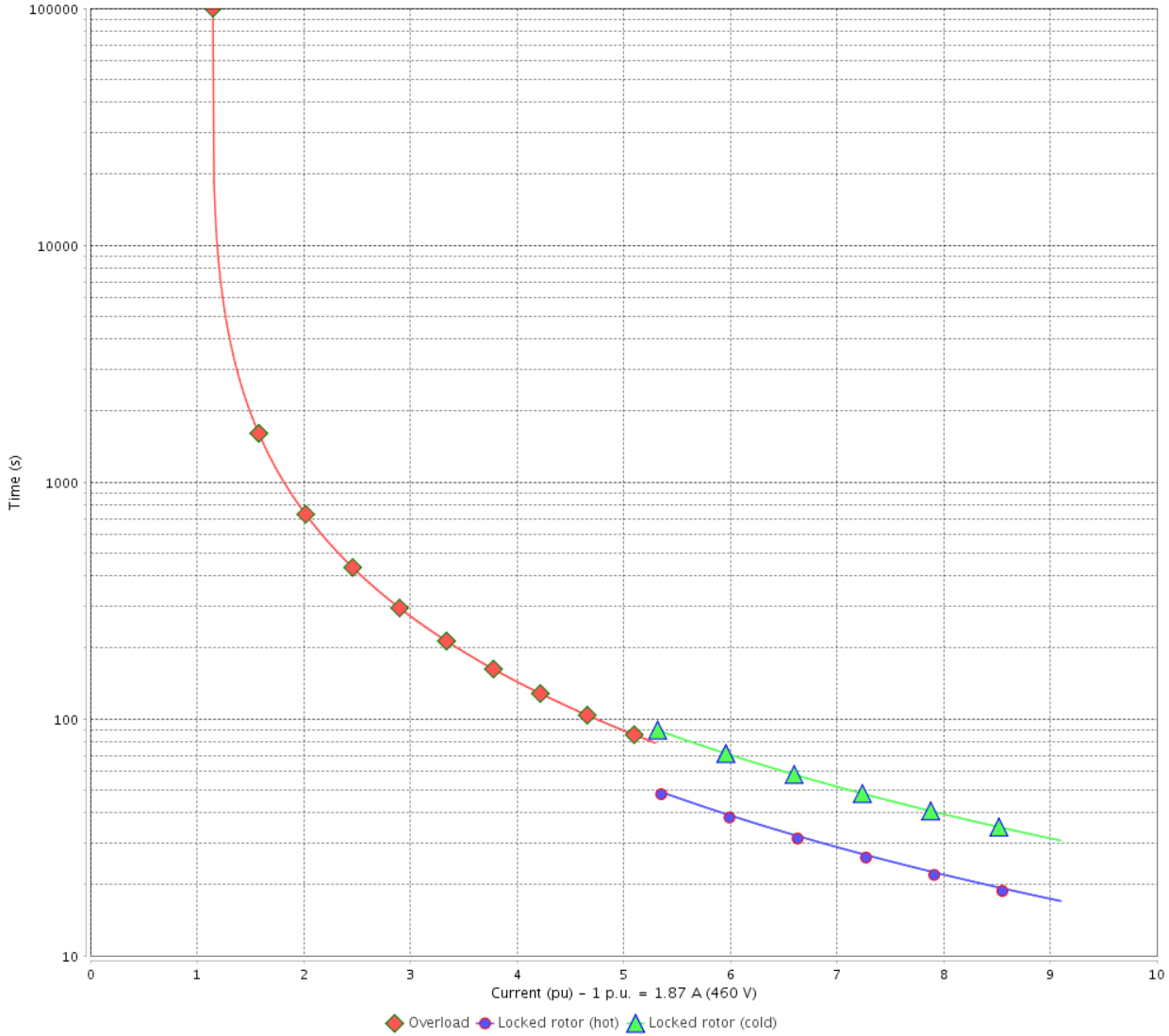
## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-S

THERMAL LIMIT CURVE



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

Heating constant

Cooling constant

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Date				



# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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

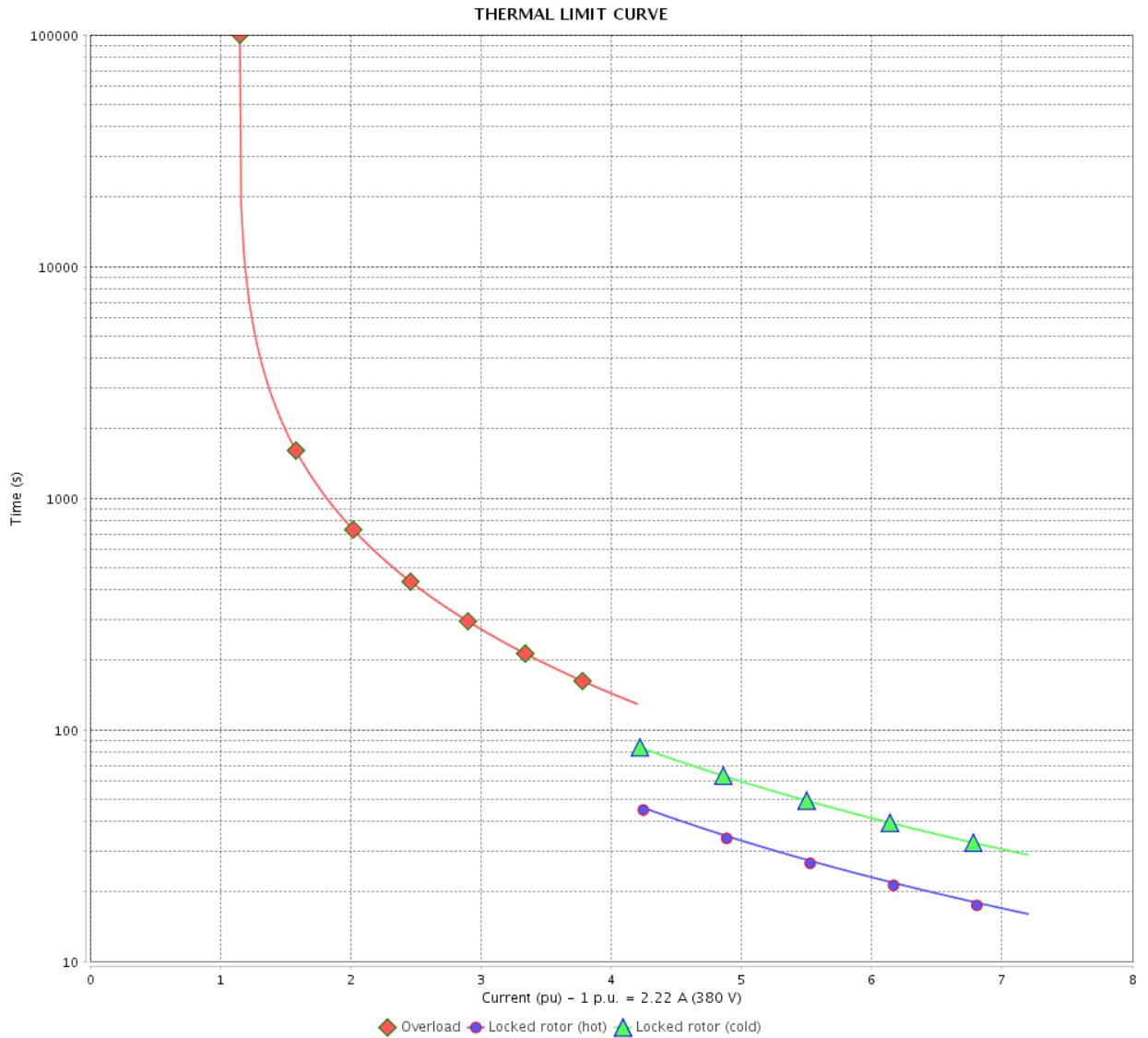
Product line : Premium Efficiency Three-Phase

Product code :

14786563

Catalog # :

00156ET3E56CFL-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

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

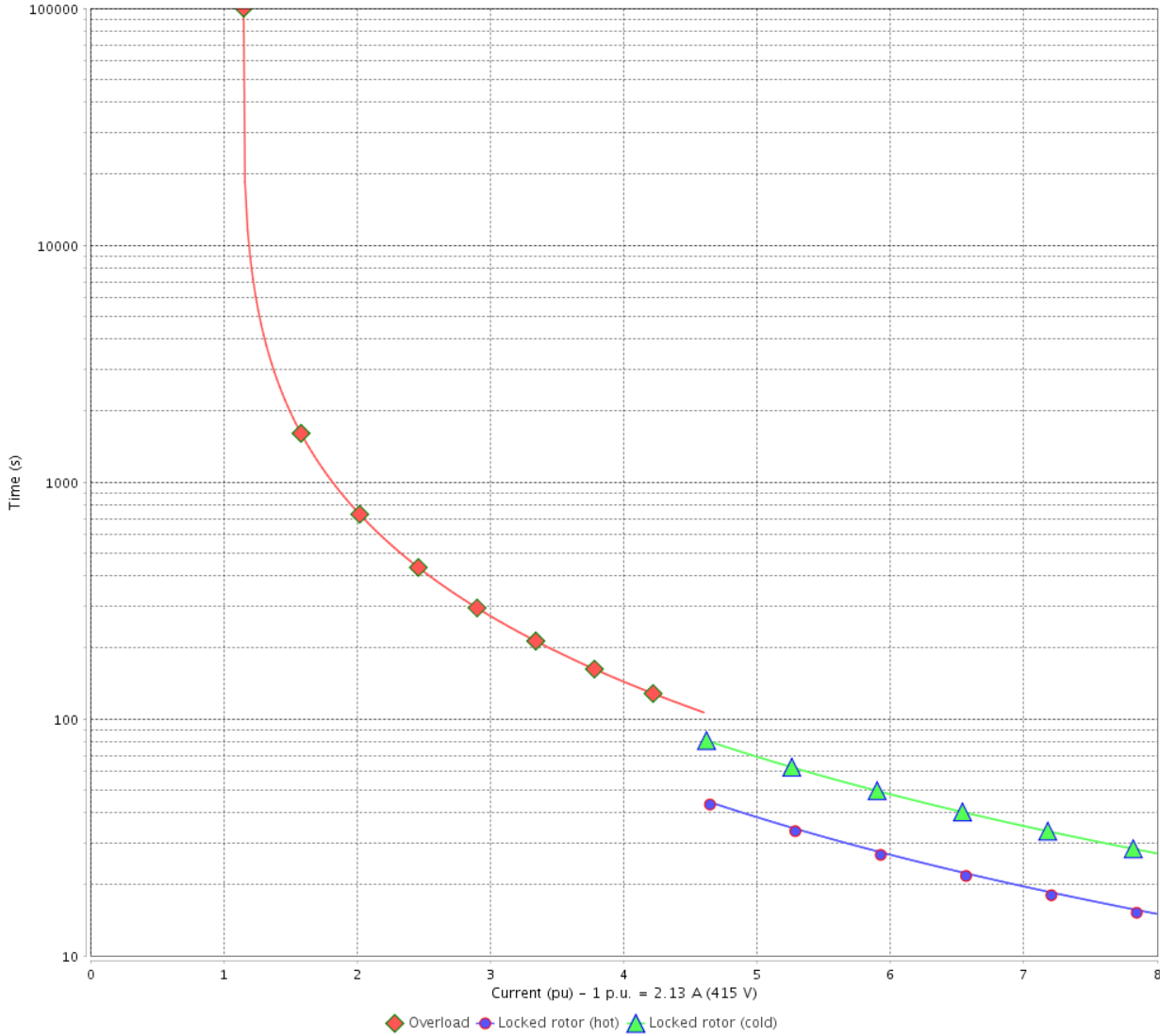
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Performance : 220/415 V 50 Hz 2P

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

Heating constant

Cooling constant

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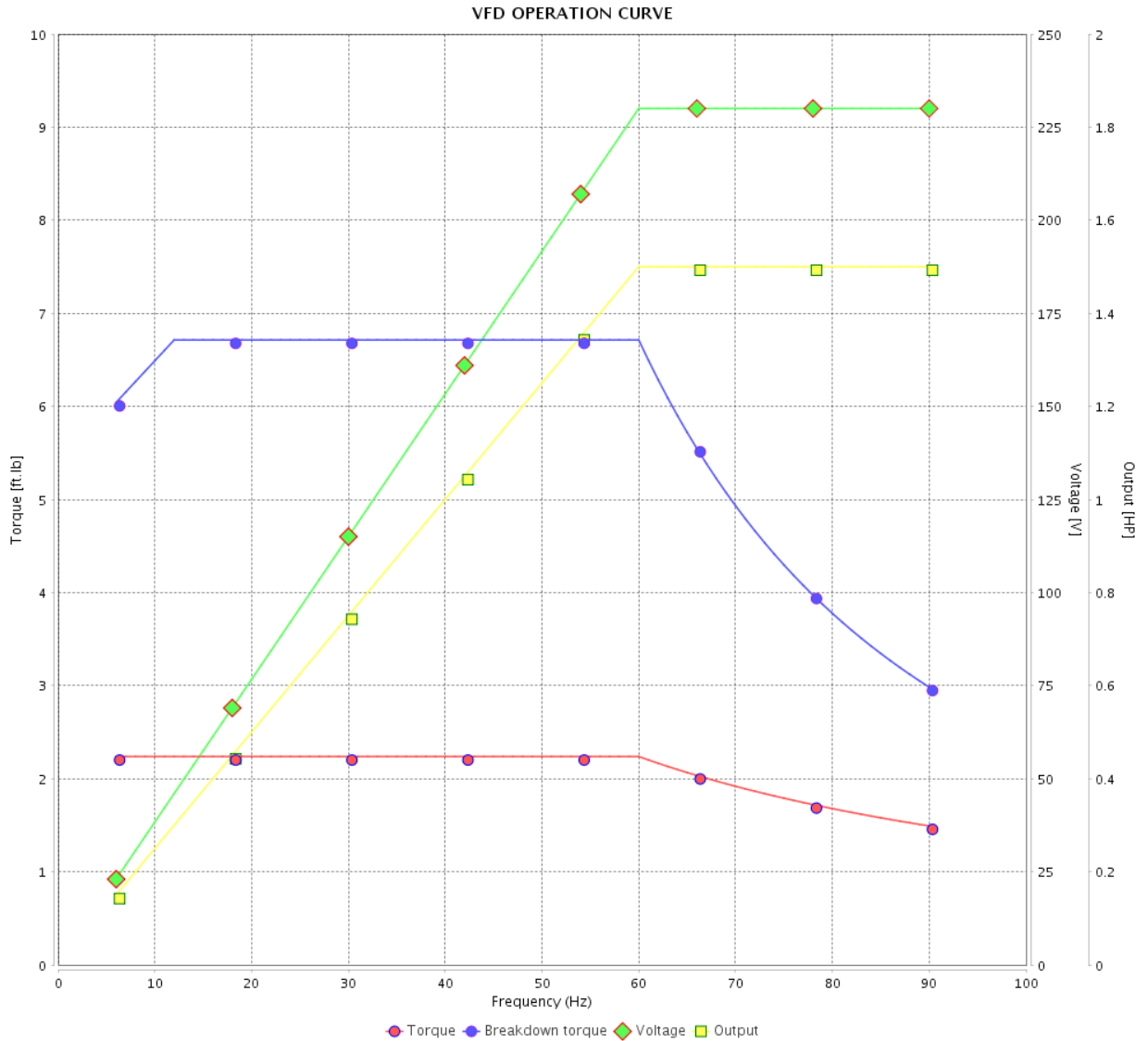
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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

Product line : Premium Efficiency Three-Phase      Product code : 14786563  
 Catalog # : 00156ET3E56CFL-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

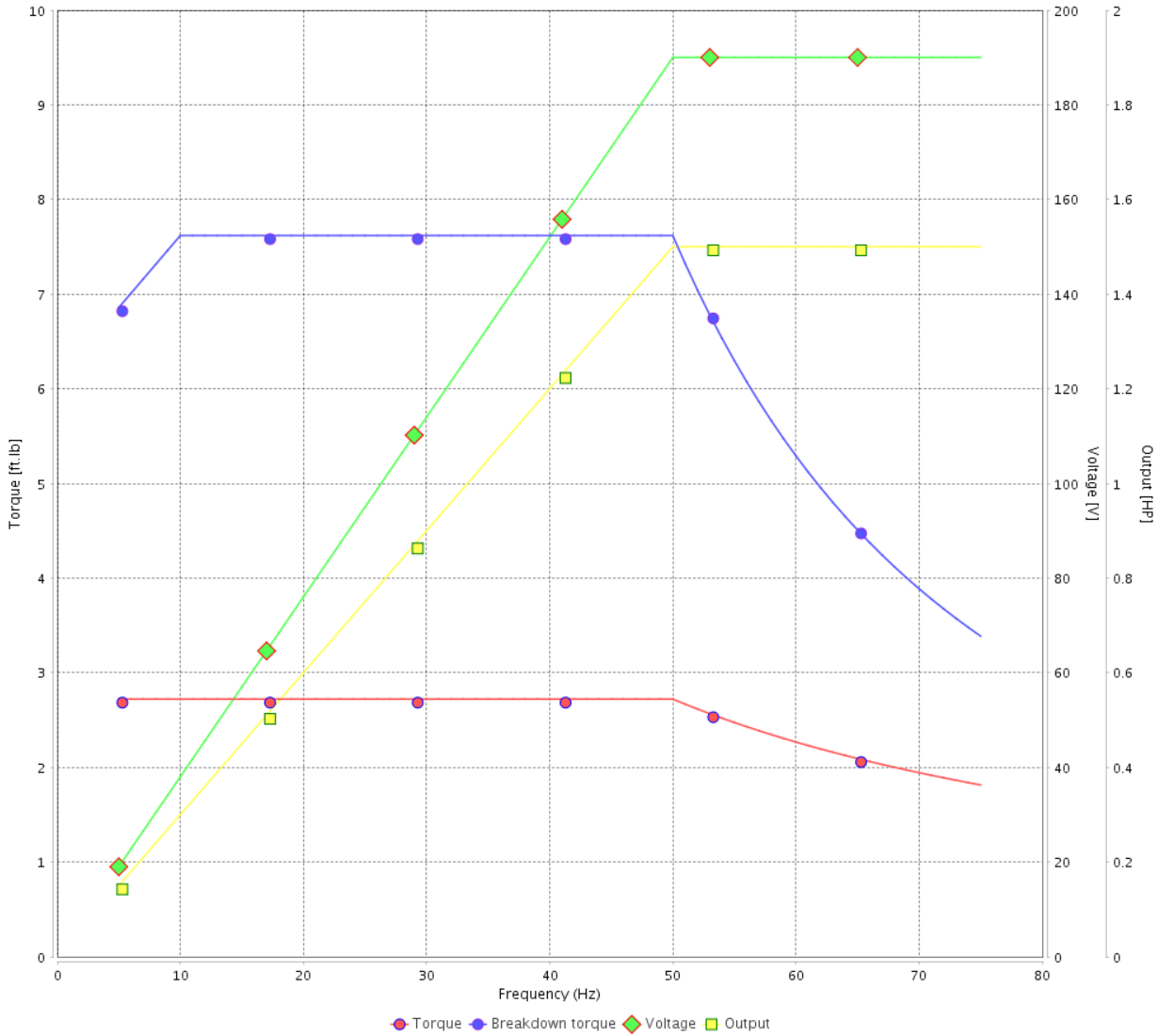
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VFD OPERATION CURVE



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

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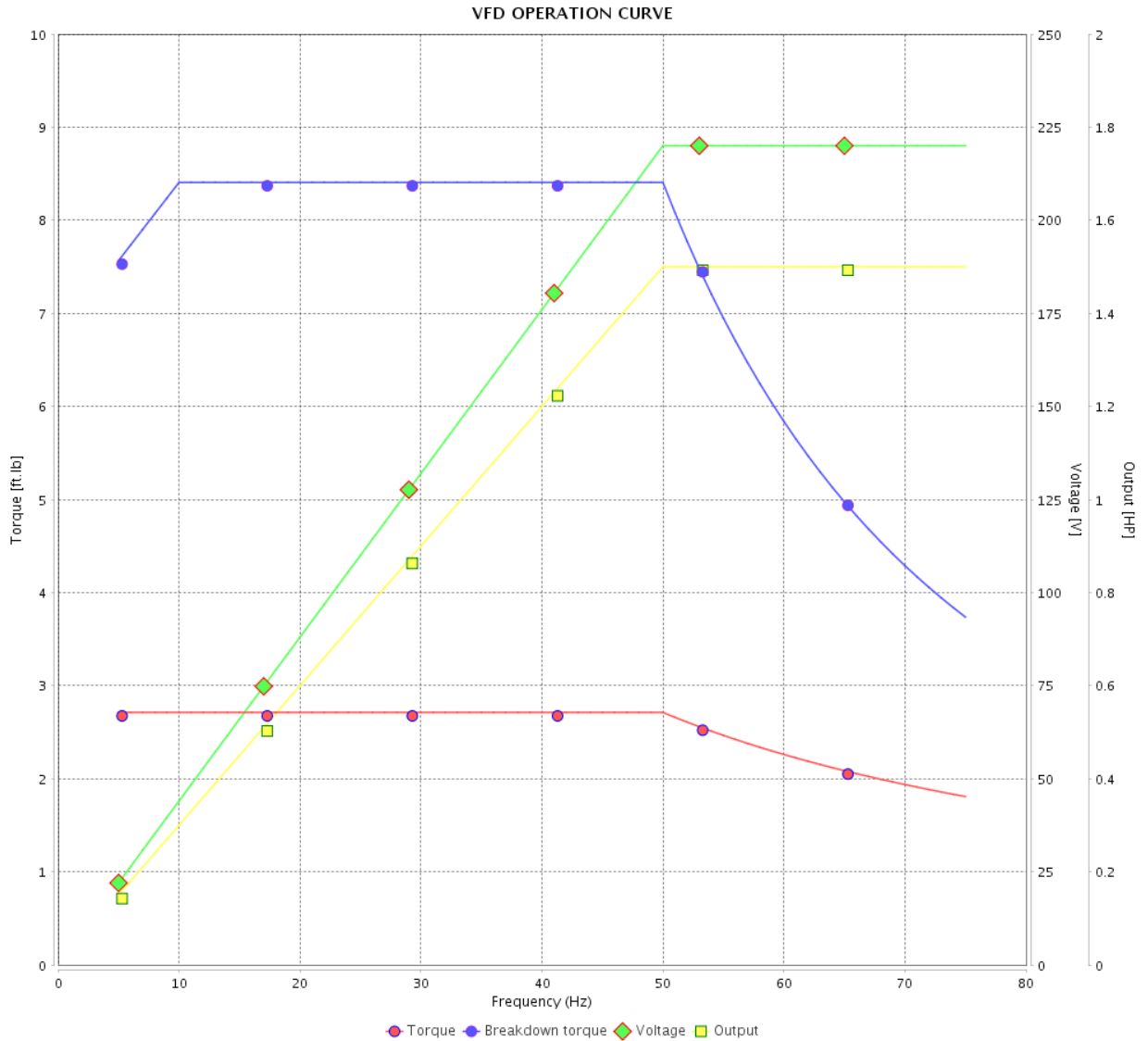
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## Three Phase Induction Motor - Squirrel Cage



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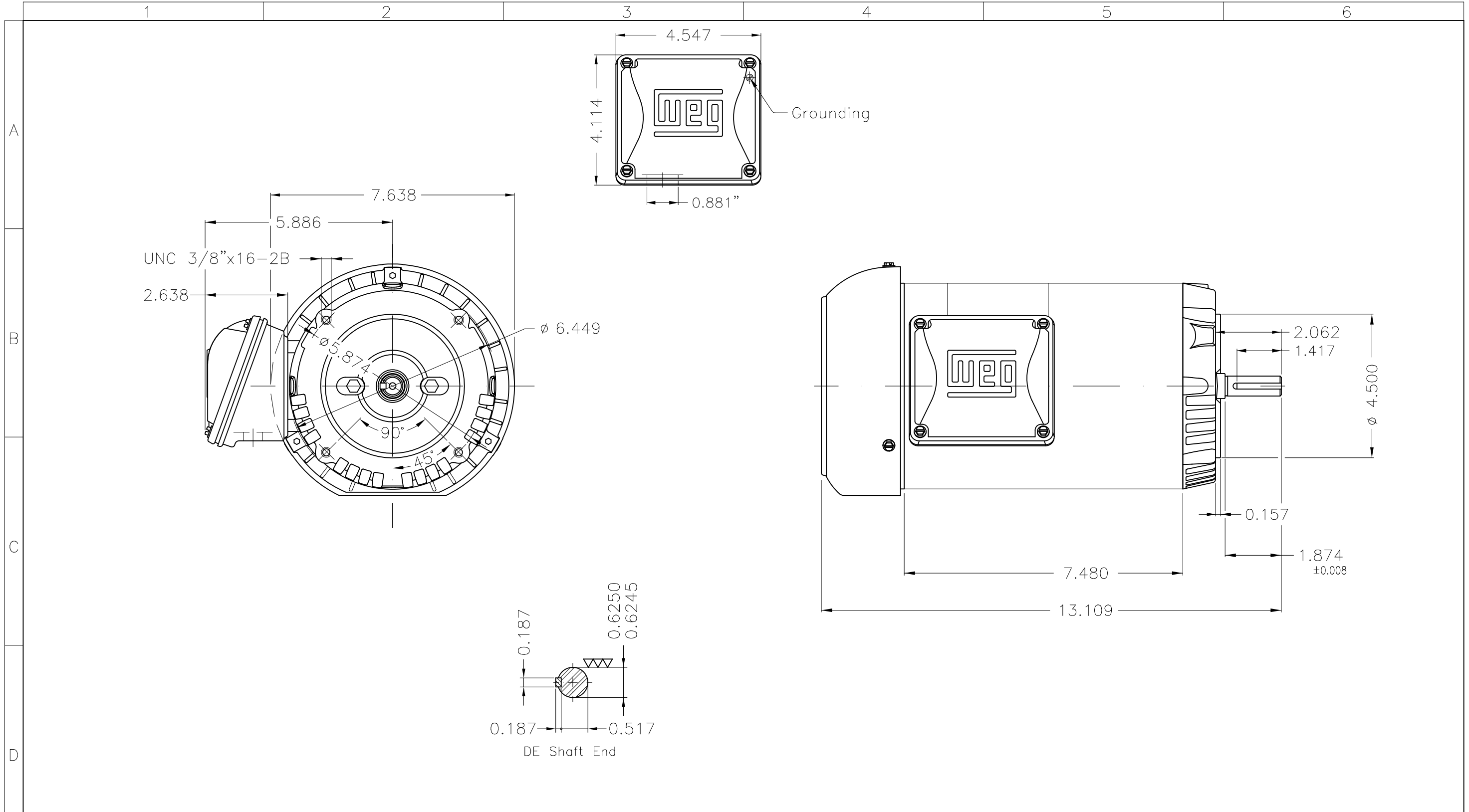


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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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Fan cover - steel plate									
Color Munsell N 1 matte black									
Painting plan 207N									
Mounting F-1/B14R(D)									
ECM	LOC	SUMMARY OF MODIFICATIONS			EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR ROLLED STEEL PREM. EFF.							
CHECKED		FRAME 56C IP55 TEFC							
RELEASED									
REL DT.		WMO	Jaragua do Sul	Product Engineering	PREVIEW				
					WDD				
					SHEET		1 / 1		

1.5 HP 02 Poles 60 Hz



**NEMA**  
**Premium**



3PT9



Energy Verified

MADE IN BRAZIL

**MAT: 14786563 CC029A**

**W01.TE0IC0X0X**

**MODEL 00156ET3E56CFL-S**

**11APR2022 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 56C</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</b>
		<b>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, 5:1 CT

<b>DE 6204-ZZ</b>	<b>ODE 6202-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.

