

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: Standard Efficiency Three-Phase	Product code :	14786364	
		Catalog # :	.5018ES3E56CFL-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>2</sup>	: 21.4 lb	
Protection degree	: IP55	Moment of inertia (J)	: 0.0584 sq.ft.lb	
Output [HP]	0.5	0.5	0.5	
Poles	4	4	4	
Frequency [Hz]	60	50	50	
Rated voltage [V]	208-230/460	190/380	220/415	
Rated current [A]	1.91-1.72/0.862	1.90/0.950	1.80/0.952	
L. R. Amperes [A]	13.3-12.1/6.03	11.0/5.51	11.1/5.90	
LRC [A]	7.0x(Code L)	5.8x(Code J)	6.2x(Code K)	
No load current [A]	1.03-1.20/0.600	1.24/0.618	1.29/0.683	
Rated speed [RPM]	1760	1445	1455	
Slip [%]	2.22	3.67	3.00	
Rated torque [ft.lb]	1.49	1.82	1.80	
Locked rotor torque [%]	240	180	200	
Breakdown torque [%]	300	250	290	
Service factor		1.15	1.15	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	36s (cold) 20s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)	
Noise level <sup>2</sup>	52.0 dB(A)	49.0 dB(A)	49.0 dB(A)	
Efficiency (%)	25%	65.4	69.5	67.2
	50%	68.0	70.7	68.9
	75%	74.0	75.0	74.2
	100%	77.0	75.9	75.8
Power Factor	25%	0.28	0.32	0.29
	50%	0.48	0.56	0.52
	75%	0.61	0.69	0.65
	100%	0.70	0.78	0.74
Bearing type	: Drive end 6203 ZZ Non drive end 6202 ZZ	Foundation loads		
Sealing	: V'Ring Without Bearing Seal	Max. traction	: 40 lb	
		Max. compression	: 62 lb	
Lubrication interval	: - -			
Lubricant amount	: - -			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V SF 1.00				
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

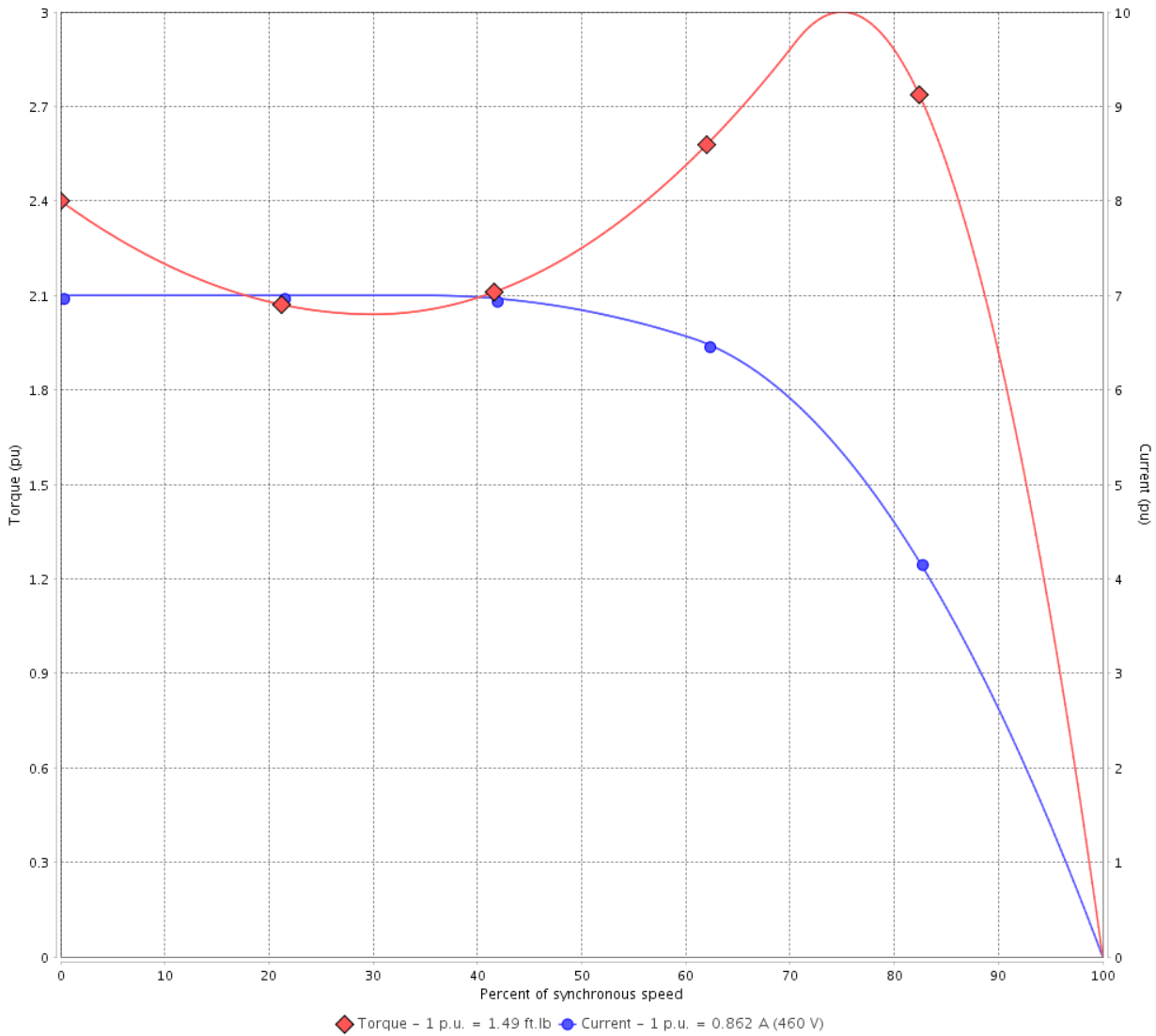
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 208-230/460 V 60 Hz 4P

Rated current	: 1.91-1.72/0.862 A	Moment of inertia (J)	: 0.0584 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 1.49 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	:
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1760 rpm		

Locked rotor time : 36s (cold) 20s (hot)

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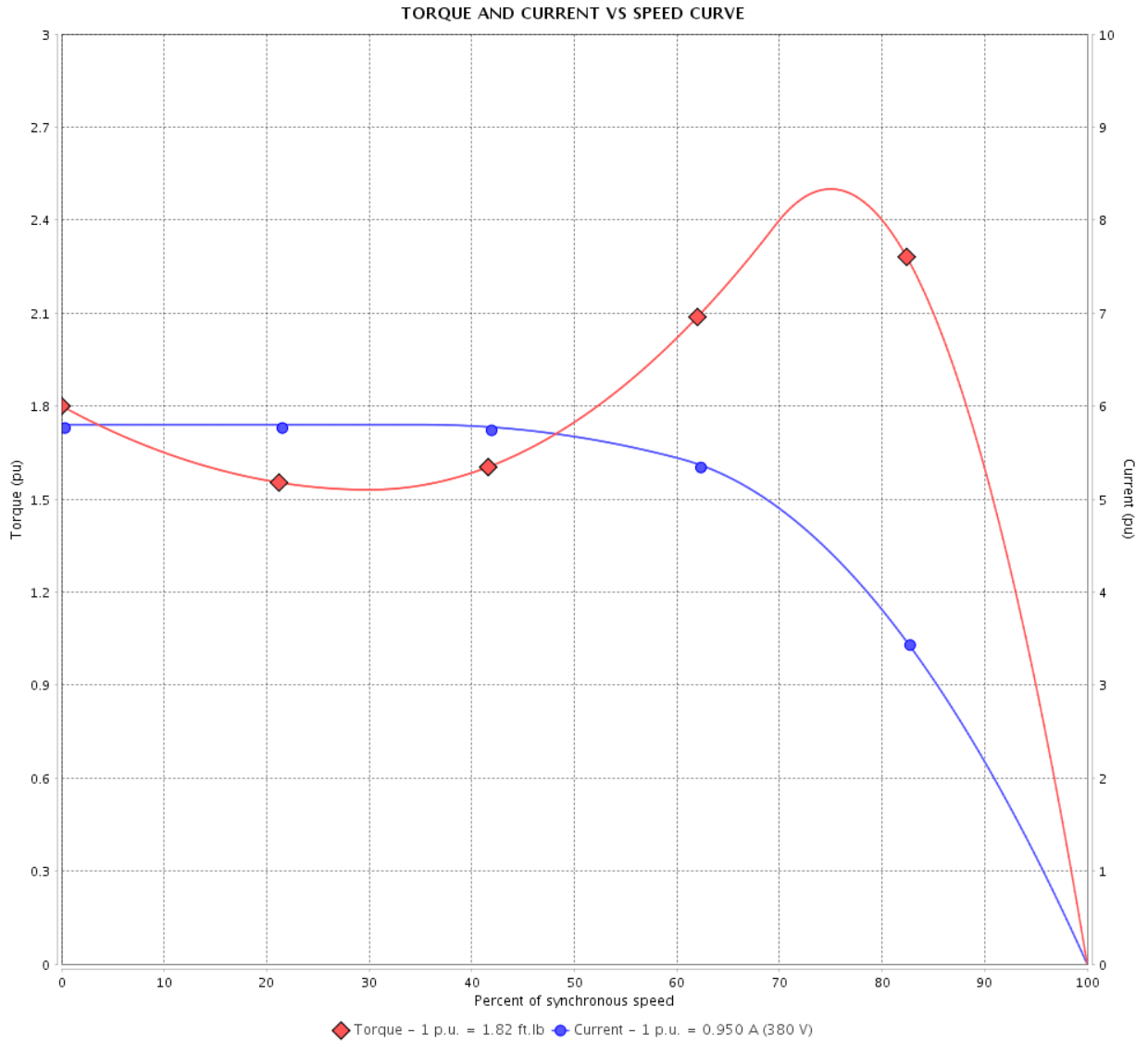
# TORQUE AND CURRENT VS SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S



Performance : 190/380 V 50 Hz 4P

Rated current : 1.90/0.950 A	Moment of inertia (J) : 0.0584 sq.ft.lb
LRC : 5.8	Duty cycle : Cont.(S1)
Rated torque : 1.82 ft.lb	Insulation class : F
Locked rotor torque : 180 %	Service factor : 1.15
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 1445 rpm	

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

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# TORQUE AND CURRENT VS SPEED CURVE

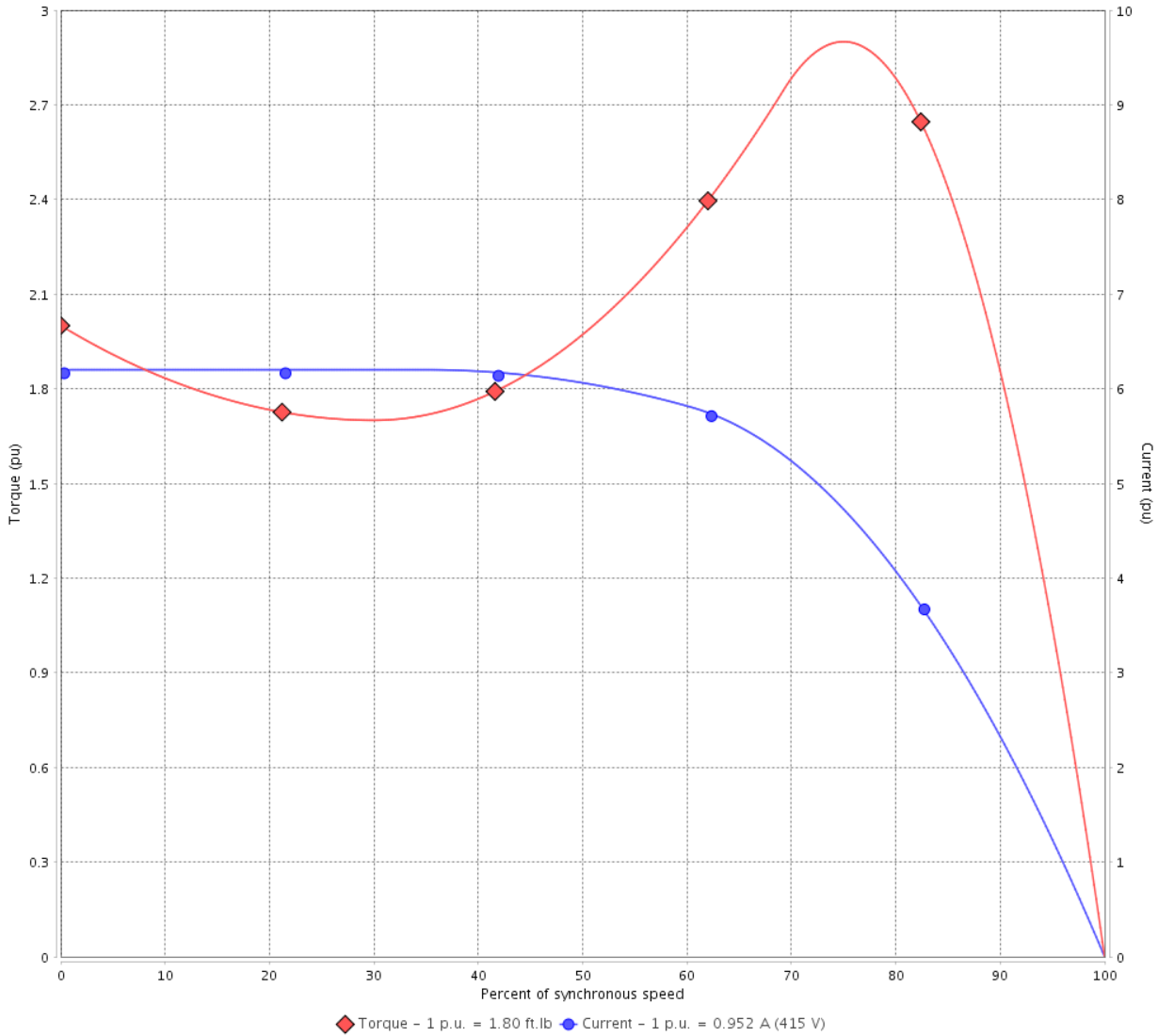
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current	: 1.80/0.952 A	Moment of inertia (J)	: 0.0584 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 1.80 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm		

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

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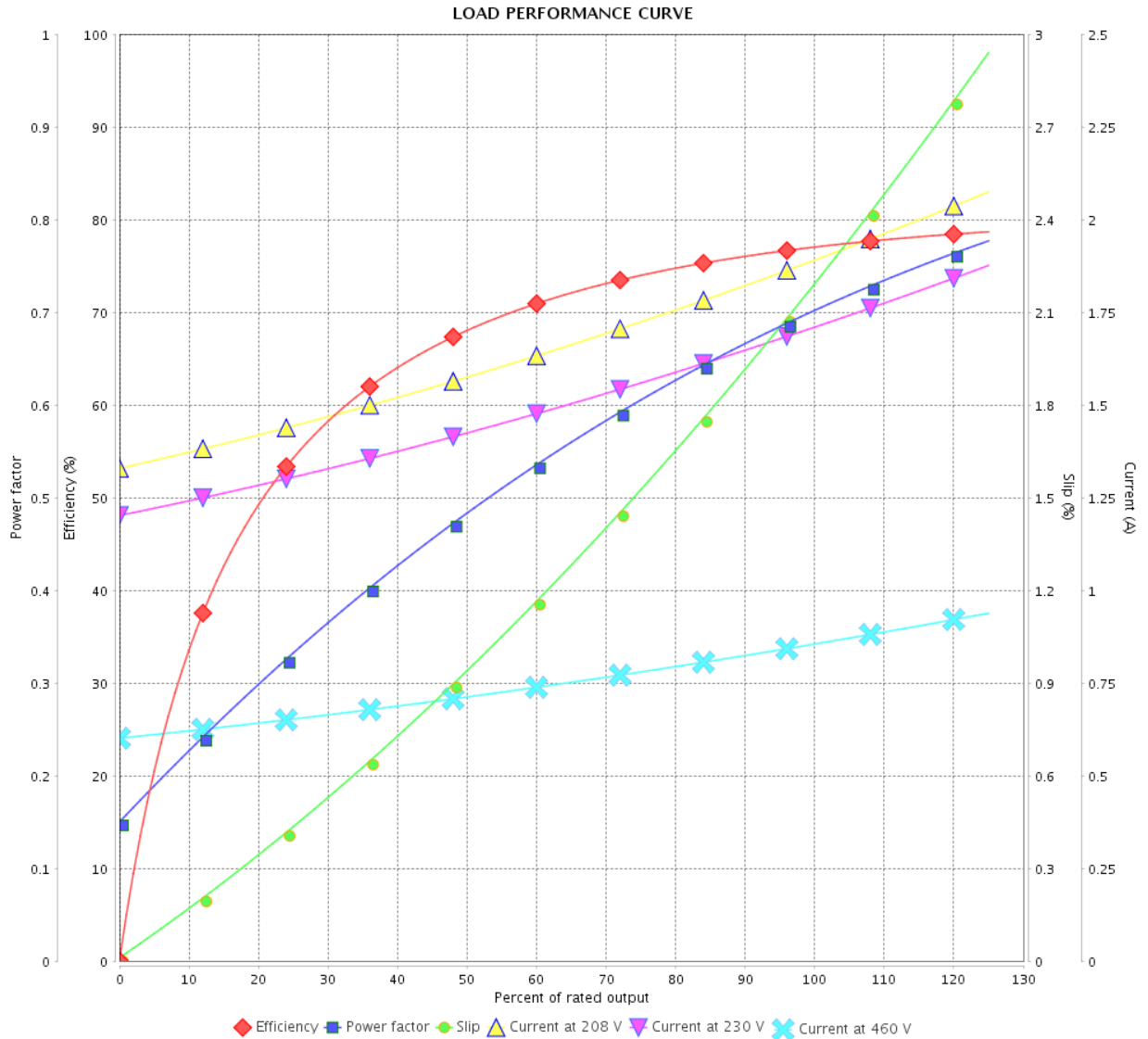
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S



Performance : 208-230/460 V 60 Hz 4P

Rated current : 1.91-1.72/0.862 A  
 LRC : 7.0  
 Rated torque : 1.49 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 300 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 0.0584 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

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# LOAD PERFORMANCE CURVE

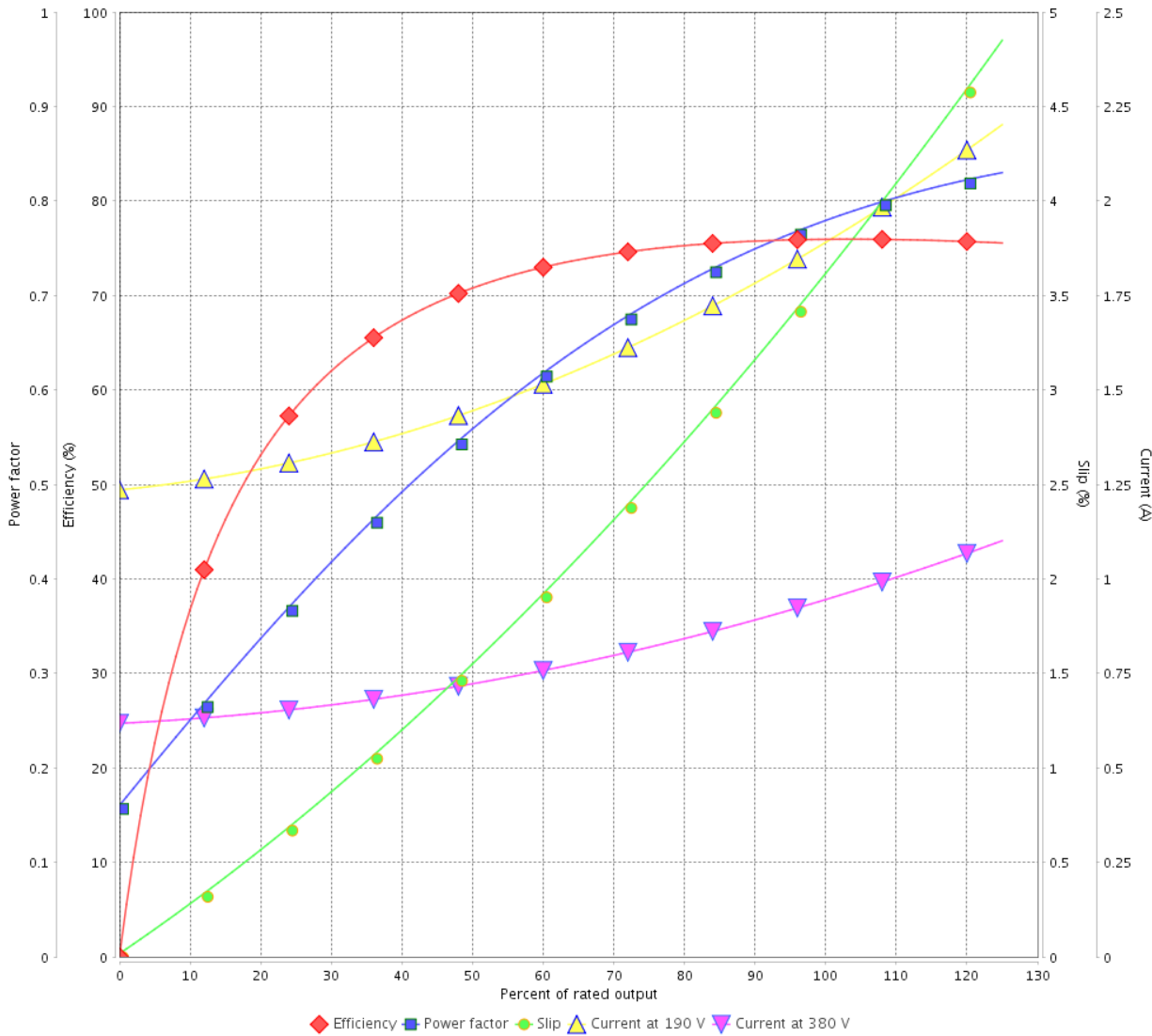
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

Rated current : 1.90/0.950 A  
 LRC : 5.8  
 Rated torque : 1.82 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 250 %  
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.0584 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

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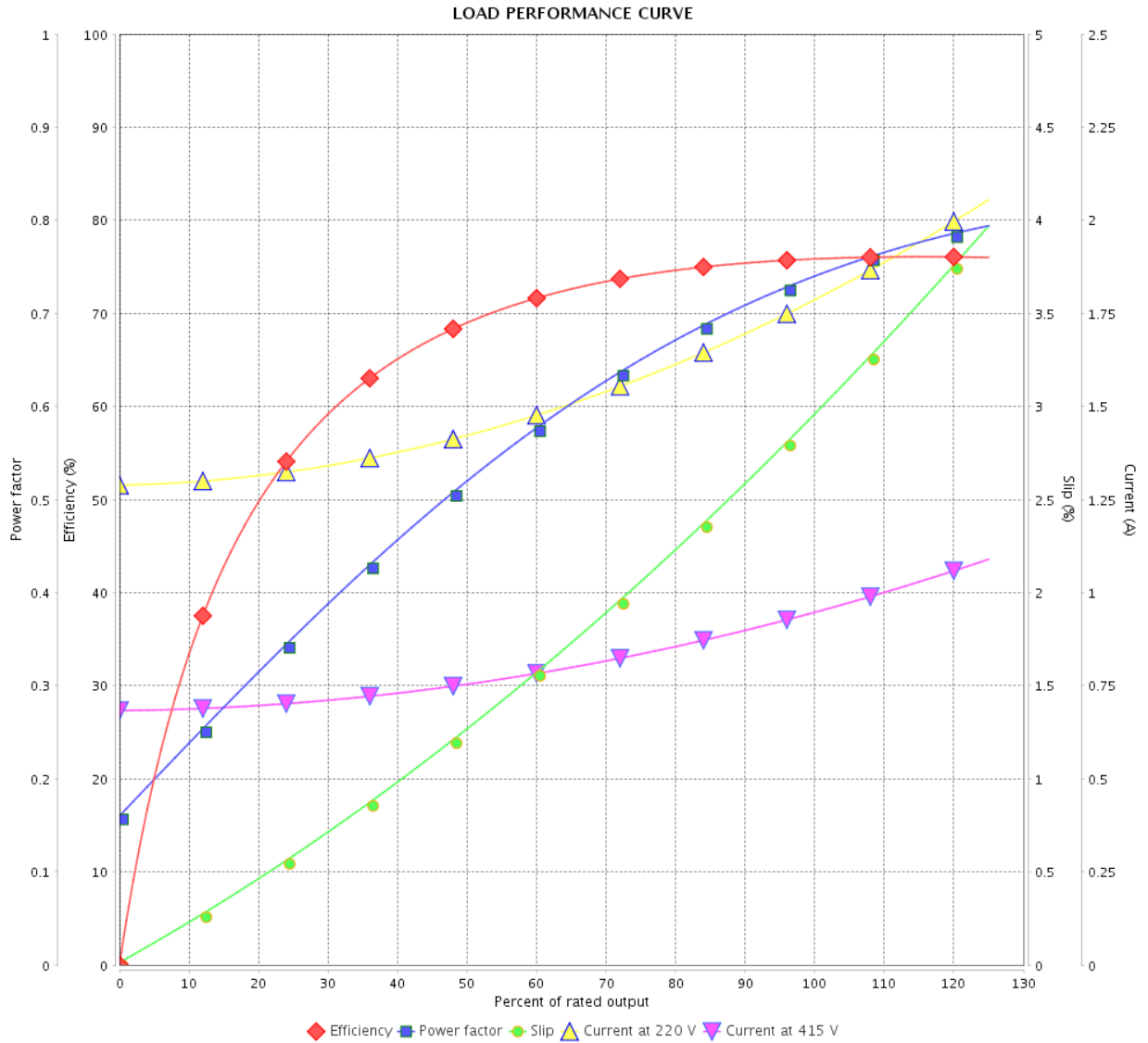
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## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S



Performance : 220/415 V 50 Hz 4P

Rated current : 1.80/0.952 A  
 LRC : 6.2  
 Rated torque : 1.80 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 290 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.0584 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

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# THERMAL LIMIT CURVE

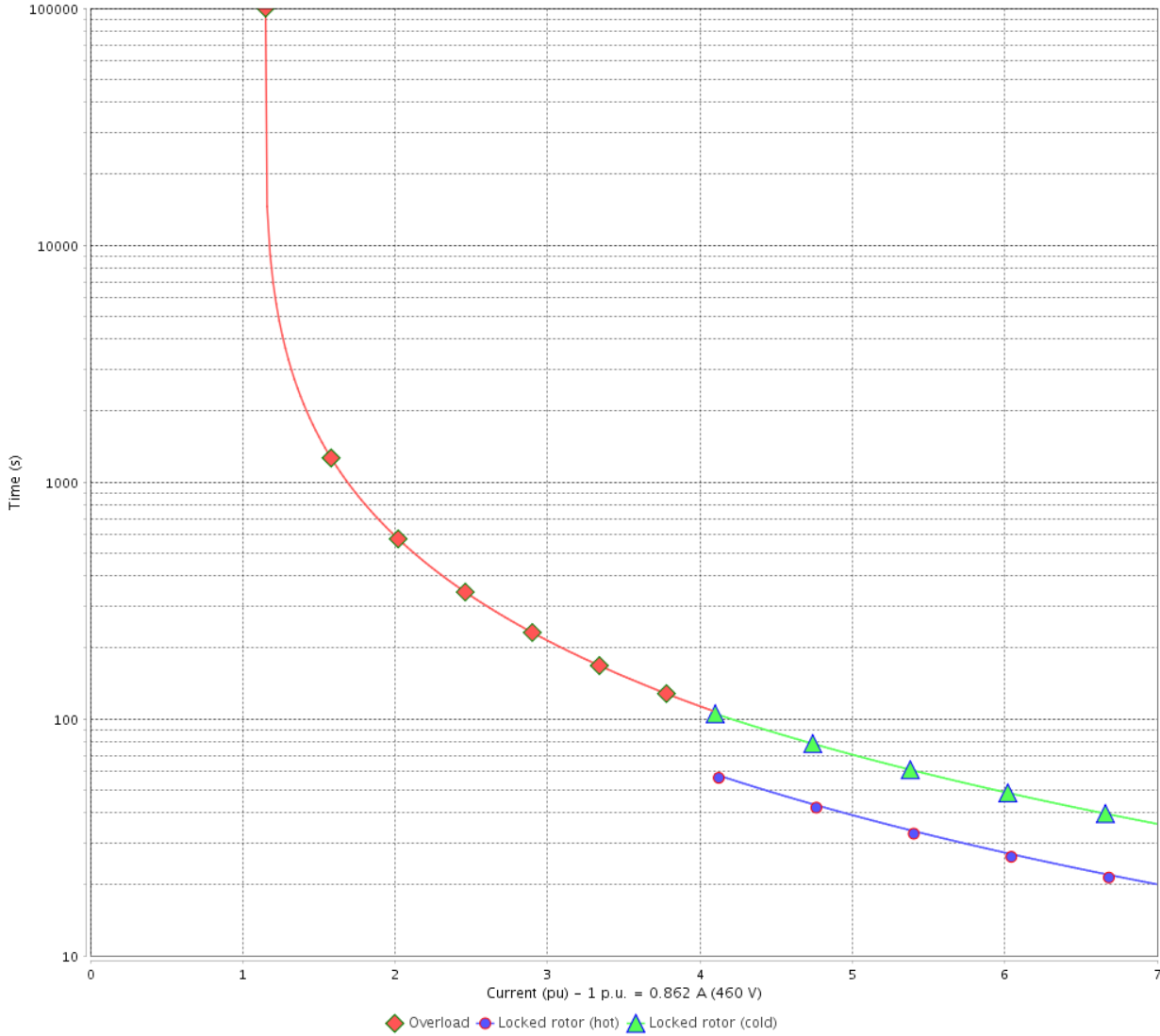
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14786364  
 Catalog # : .5018ES3E56CFL-S

THERMAL LIMIT CURVE



Performance : 208-230/460 V 60 Hz 4P

Rated current : 1.91-1.72/0.862 A	Moment of inertia (J) : 0.0584 sq.ft.lb
LRC : 7.0	Duty cycle : Cont.(S1)
Rated torque : 1.49 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor :
Breakdown torque : 300 %	Temperature rise : 80 K
Rated speed : 1760 rpm	

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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

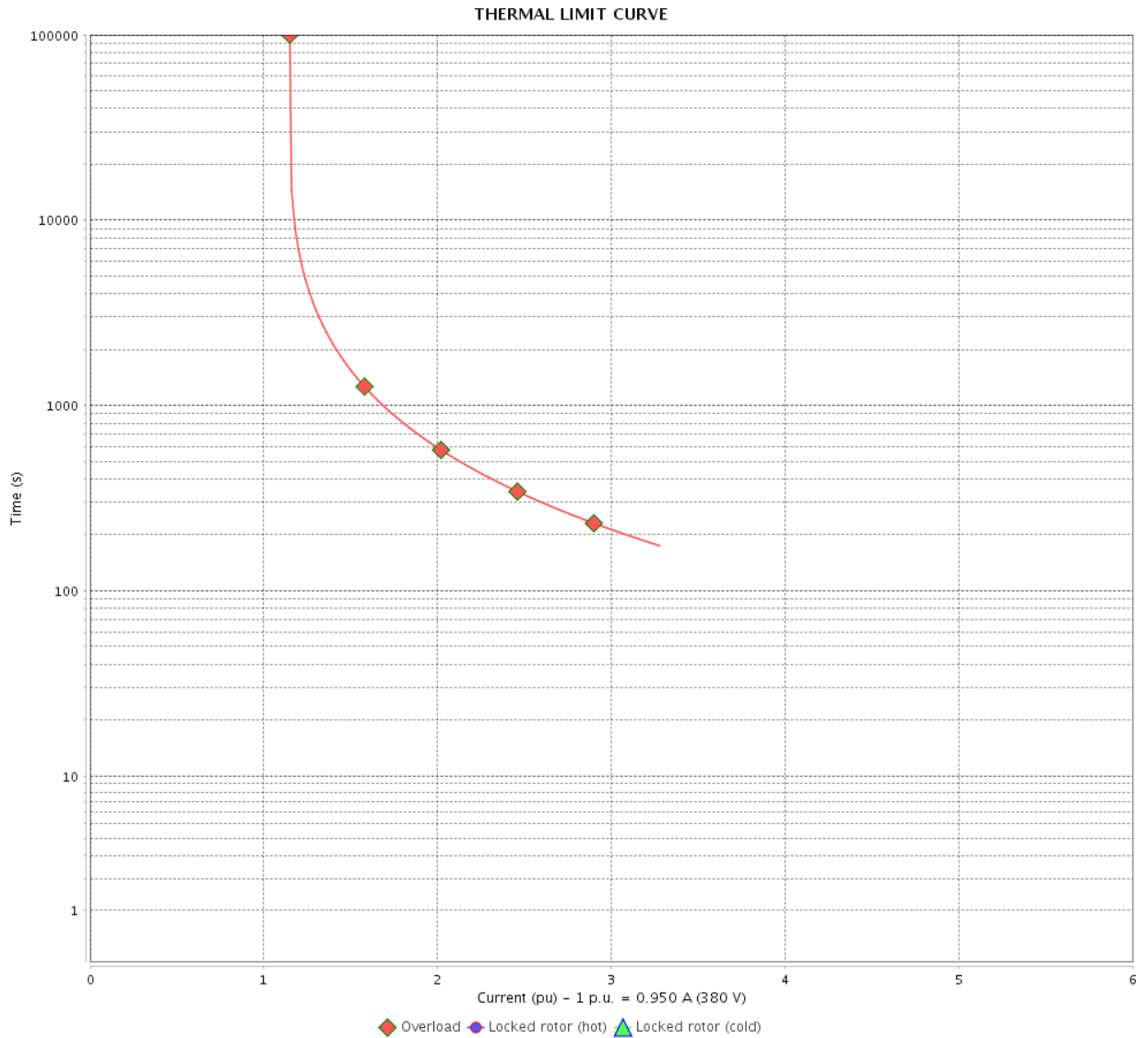
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Product code :

14786364

Catalog # :

.5018ES3E56CFL-S



Performance : 190/380 V 50 Hz 4P

Rated current : 1.90/0.950 A  
 LRC : 5.8  
 Rated torque : 1.82 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 250 %  
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.0584 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

Heating constant

Cooling constant

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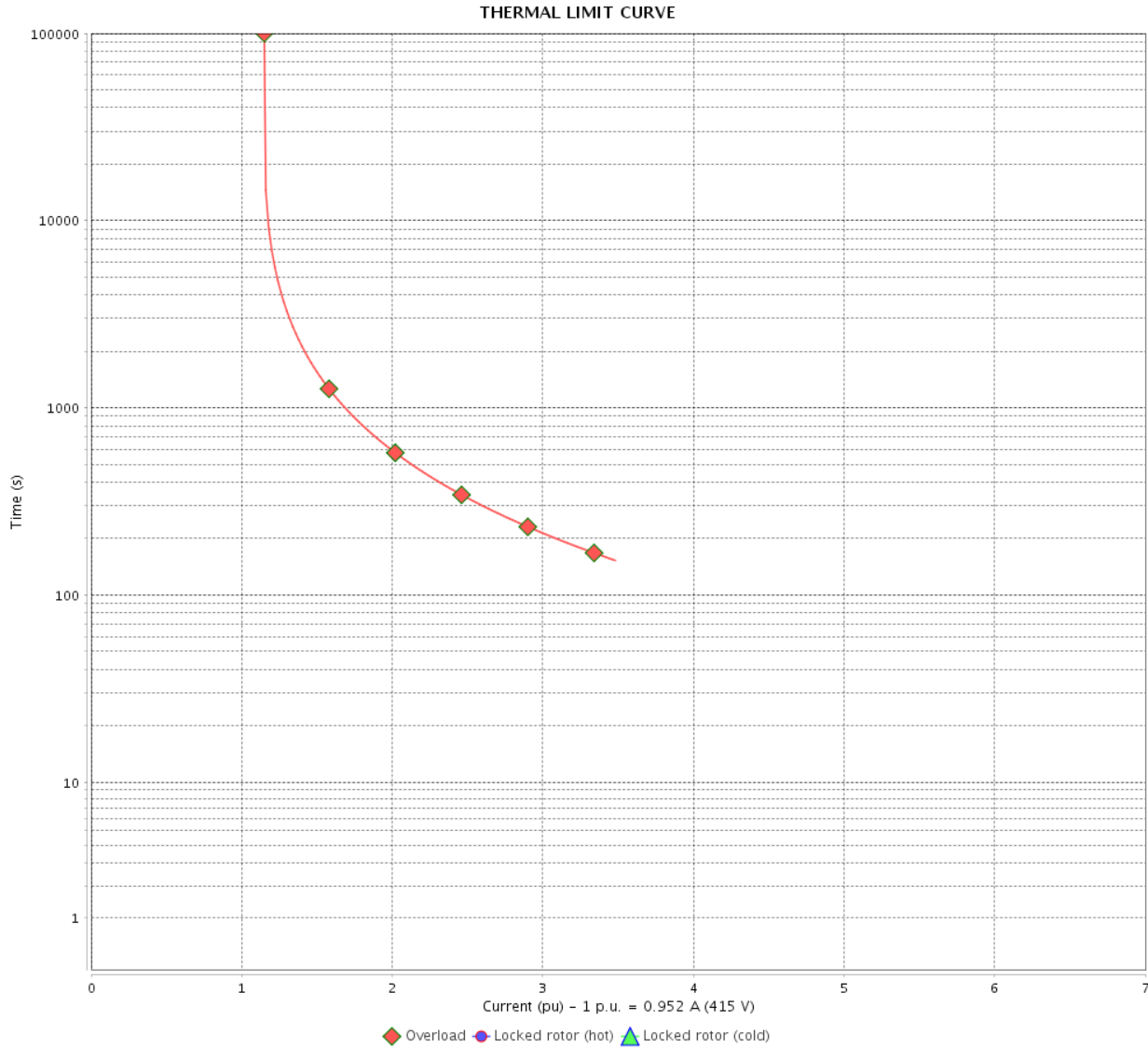
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Performance : 220/415 V 50 Hz 4P

Rated current	: 1.80/0.952 A	Moment of inertia (J)	: 0.0584 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 1.80 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm		

Heating constant

Cooling constant

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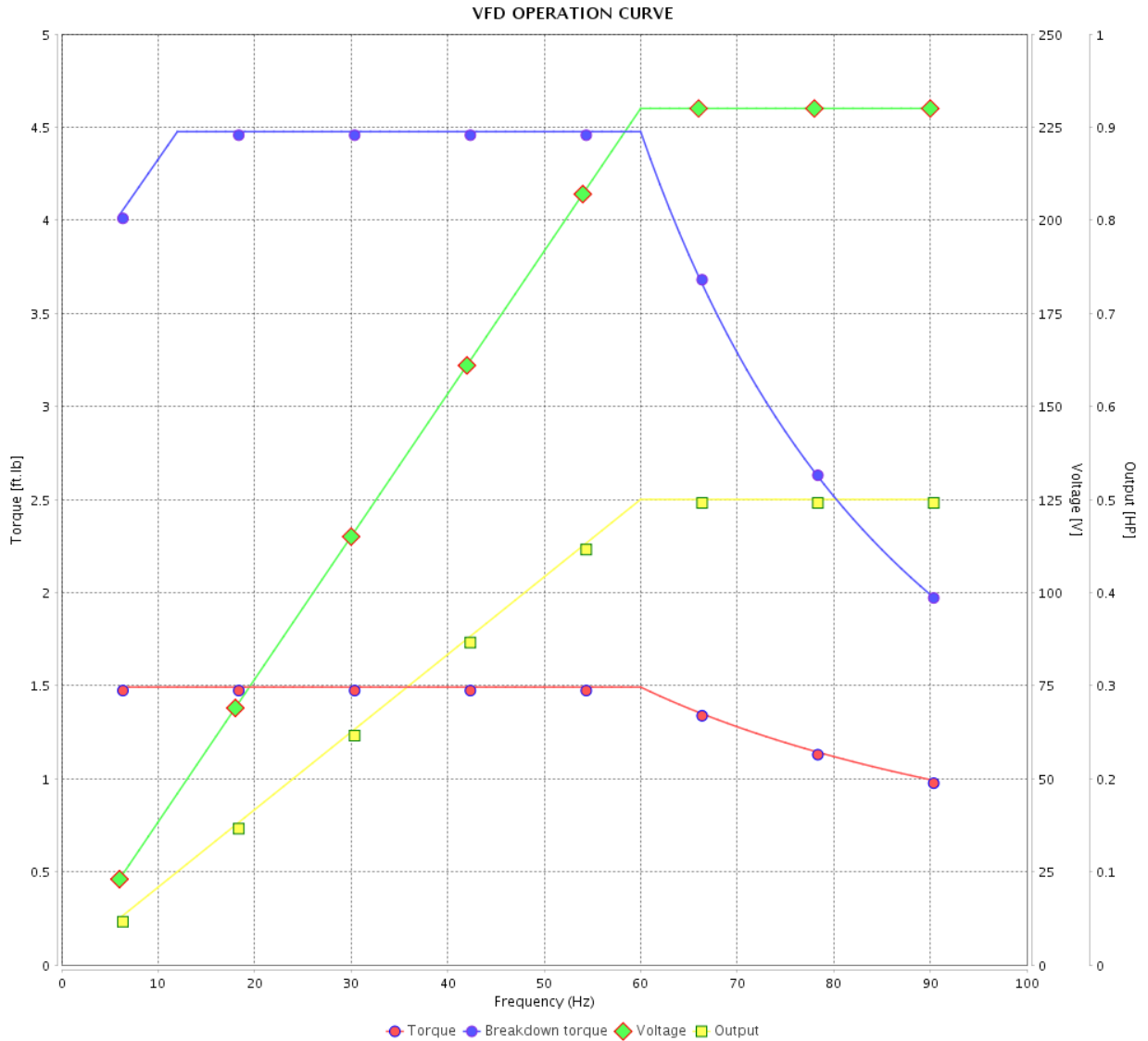
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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Product line : Standard Efficiency Three-Phase      Product code : 14786364  
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Performance : 208-230/460 V 60 Hz 4P

Rated current : 1.91-1.72/0.862 A  
 LRC : 7.0  
 Rated torque : 1.49 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 300 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 0.0584 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

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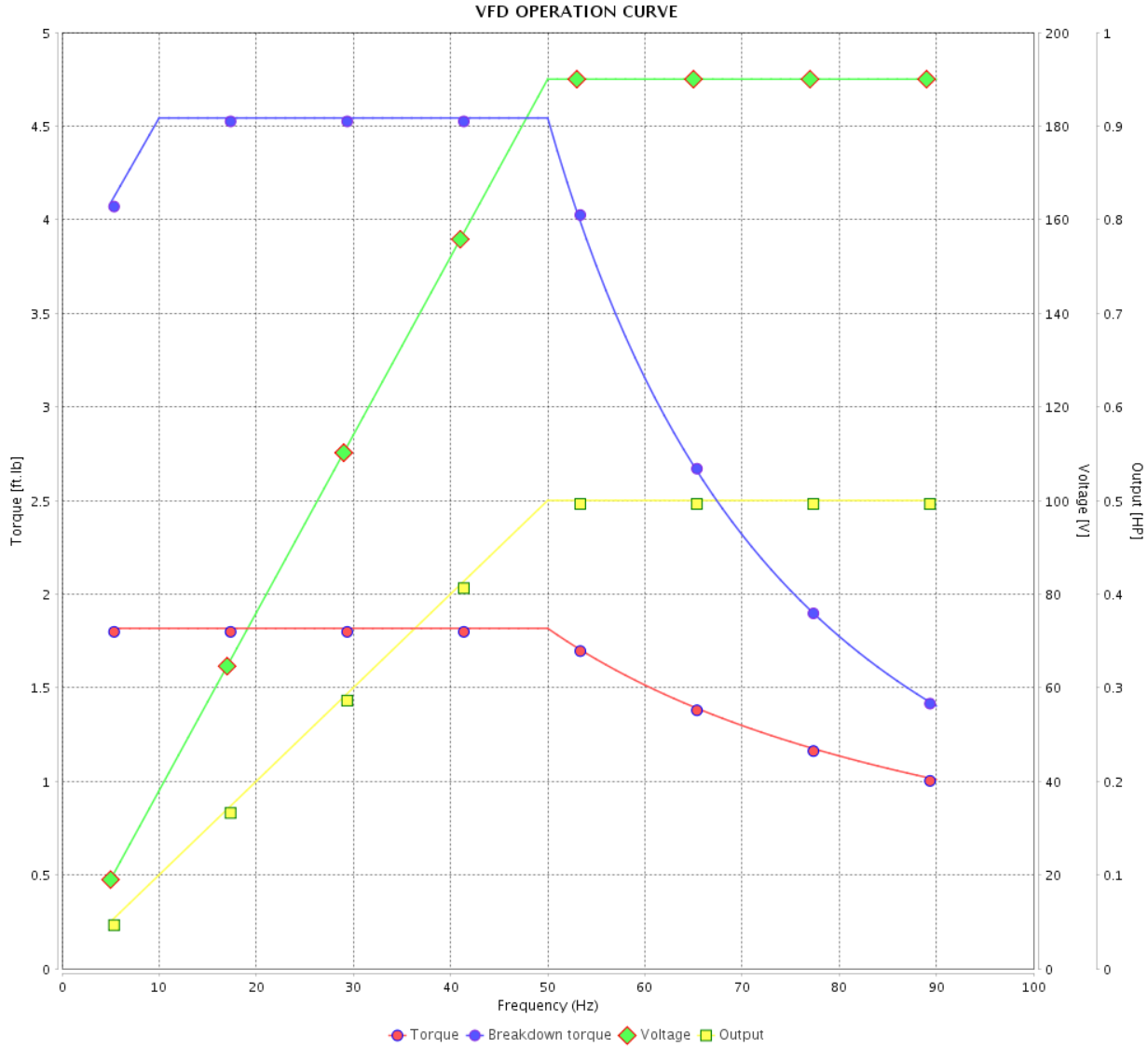
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Three Phase Induction Motor - Squirrel Cage



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Rated torque	: 1.82 ft.lb	Insulation class	: F
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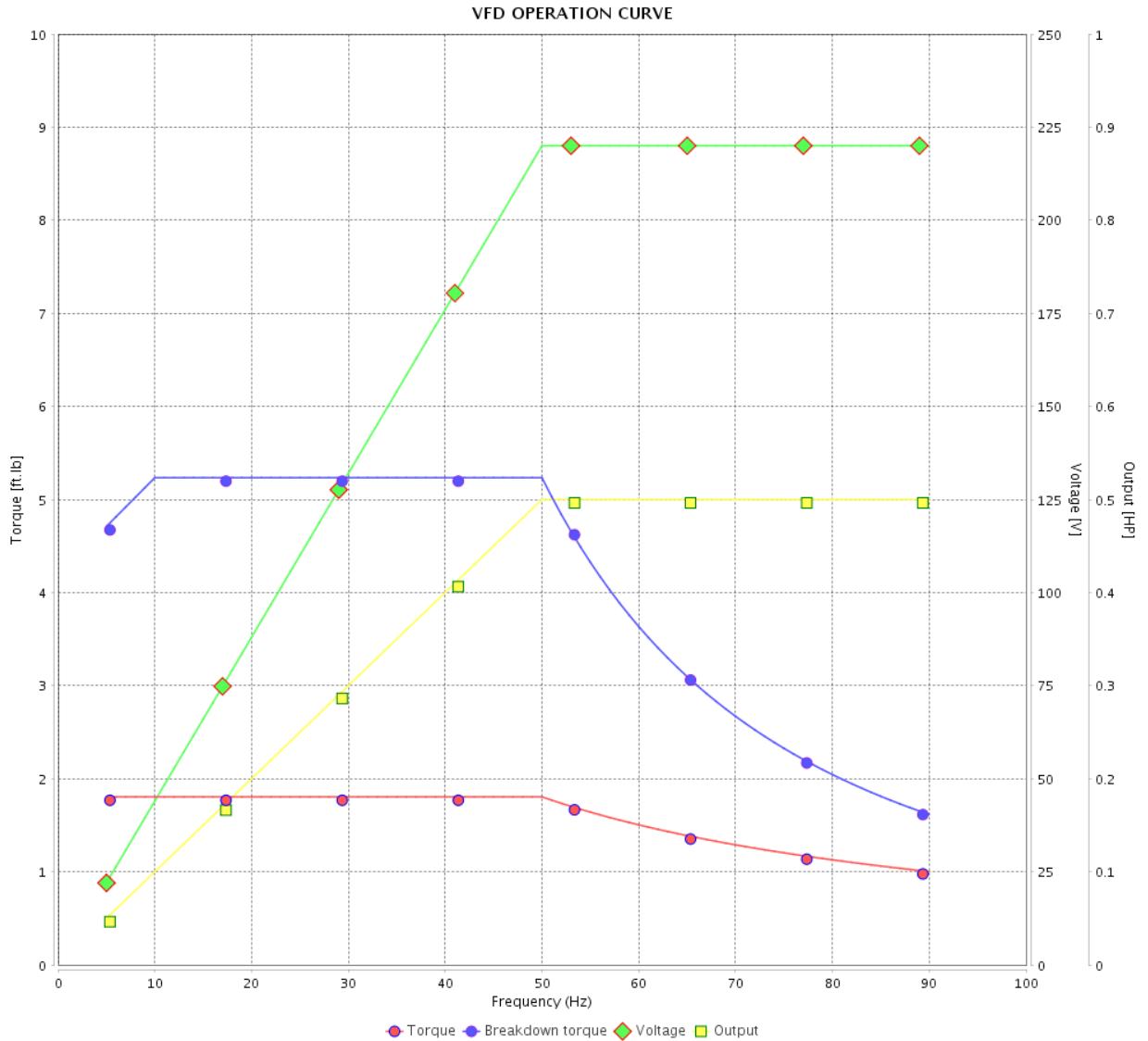
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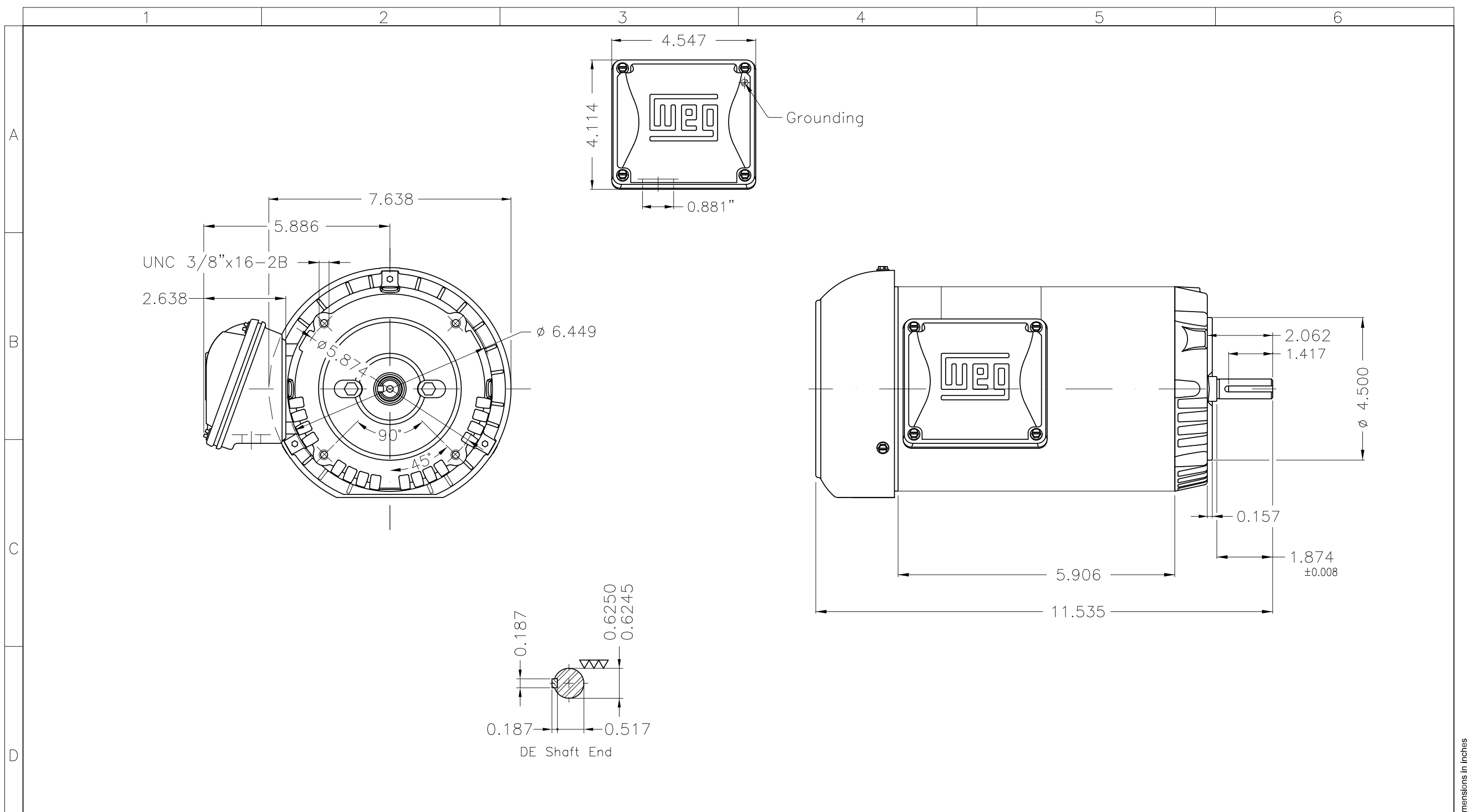


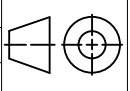
Performance : 220/415 V 50 Hz 4P

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 LRC : 6.2  
 Rated torque : 1.80 ft.lb  
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Moment of inertia (J) : 0.0584 sq.ft.lb  
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 Service factor : 1.15  
 Temperature rise : 80 K

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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	PIRWUSER	THREE PH. MOTOR ROLLED STEEL				<b>PREVIEW</b> WDD			
CHECKED		FRAME 56C IP55 TEFC							
RELEASED									
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1				

0.5 HP 04 Poles 60 Hz



MADE IN BRAZIL

**MAT: 14786364**

**W01.TE0IC0X0X**

**MODEL 5018ES3E56CFL-S**

**13APR2022 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**

PH 3	Hz 60	HP 0.50
FR 56C		KW 0.37
DUTY CONT.		V 208-230/460
ALT 1000 m.a.s.l.		A 1.91-1.72/0.862
INS CL F AT 80K	IP55	SFA 1.91-1.98/0.991
AMB 40°C	DES -	SF 1.15
ENCL TEFC	CODE L	PF 0.70
USABLE @ 208V SF1.00		RPM 1760
		NEMA NOM. EFF 77.0%

ALTERNATE RATING: 0.50HP 50Hz 190-220/380-415V SF1.15
1.90-1.81/0.950-0.962A 1445RPM EFF 75.4% (IE2) IEC 60034-1

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

DE 6203-ZZ	ODE 6202-ZZ	MOBIL POLYREX EM
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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.

