

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :				
Product line	: Premium Efficiency Three-Phase	Product code :	12809202	
		Catalog # :	.50120T3E56C-S	
Frame	: 56C	Cooling method	: IC01 - ODP	
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>	: 22.0 lb	
		Moment of inertia (J)	: 0.0888 sq.ft.lb	
Output [HP]	0.5	0.5	0.5	
Poles	6	6	6	
Frequency [Hz]	60	50	50	
Rated voltage [V]	208-230/460	190/380	220/415	
Rated current [A]	2.06-1.87/0.934	2.08/1.04	1.94/1.03	
L. R. Amperes [A]	10.5-9.53/4.76	8.32/4.16	8.35/4.43	
LRC [A]	5.1x(Code J)	4.0x(Code F)	4.3x(Code G)	
No load current [A]	1.29-1.50/0.750	1.45/0.727	1.49/0.789	
Rated speed [RPM]	1155	935	945	
Slip [%]	3.75	6.50	5.50	
Rated torque [ft.lb]	2.27	2.81	2.78	
Locked rotor torque [%]	200	150	170	
Breakdown torque [%]	260	200	220	
Service factor		1.15	1.15	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	50s (cold) 28s (hot)	52s (cold) 29s (hot)	46s (cold) 26s (hot)	
Noise level <sup>2</sup>	50.0 dB(A)	48.0 dB(A)	48.0 dB(A)	
Efficiency (%)	25%	66.4	68.9	65.7
	50%	68.0	68.8	66.7
	75%	74.0	72.1	71.3
	100%	75.3	71.3	71.8
Power Factor	25%	0.23	0.29	0.26
	50%	0.43	0.52	0.48
	75%	0.56	0.66	0.62
	100%	0.66	0.76	0.72
Bearing type	: Drive end 6203 ZZ Non drive end 6202 ZZ	Foundation loads		
Sealing	: Without Without Bearing Seal Bearing Seal	Max. traction	: 49 lb	
		Max. compression	: 71 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

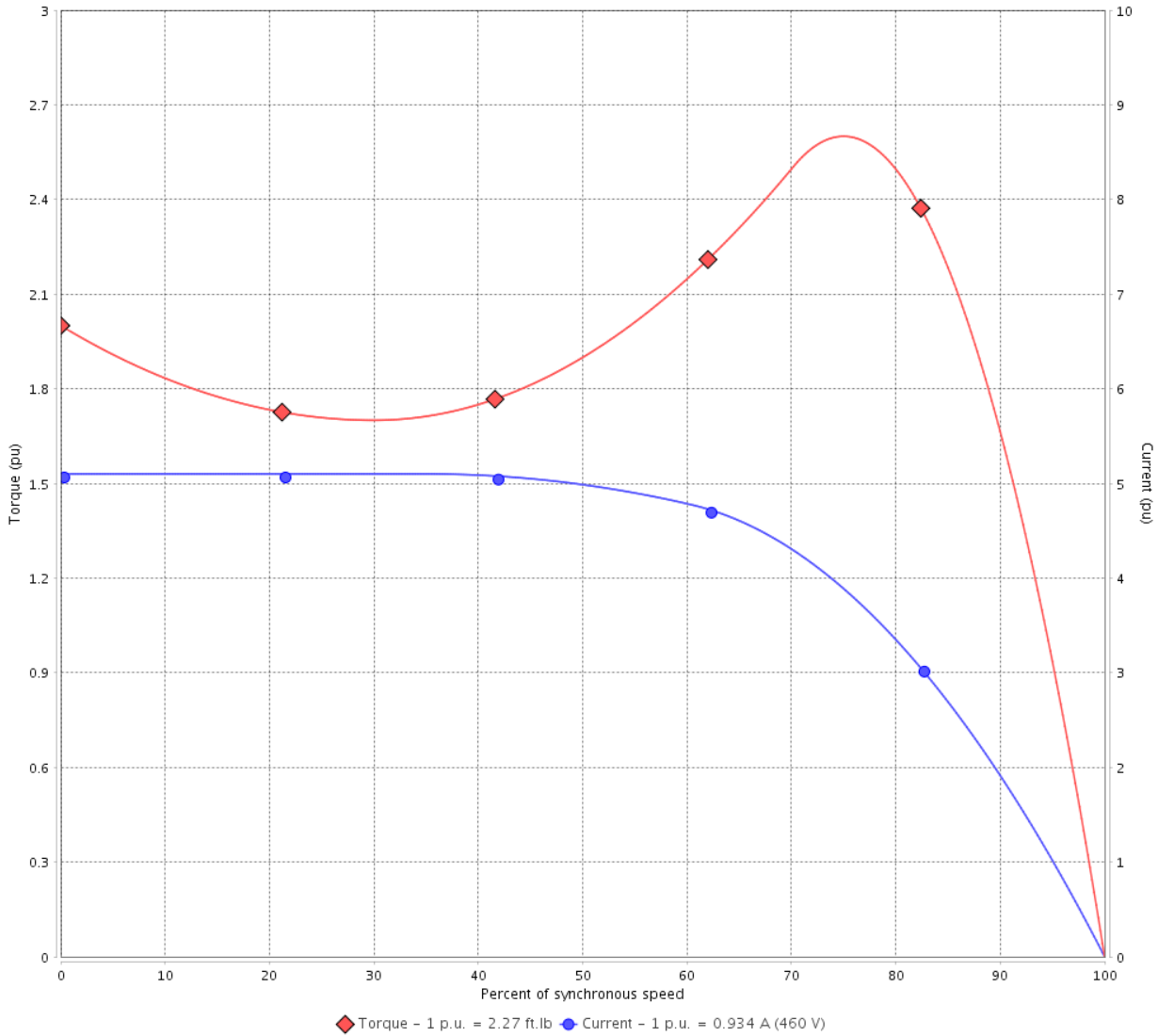
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 12809202  
 Catalog # : .5012OT3E56C-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 208-230/460 V 60 Hz 6P

Rated current	: 2.06-1.87/0.934 A	Moment of inertia (J)	: 0.0888 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 2.27 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	:
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1155 rpm		

Locked rotor time : 50s (cold) 28s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

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

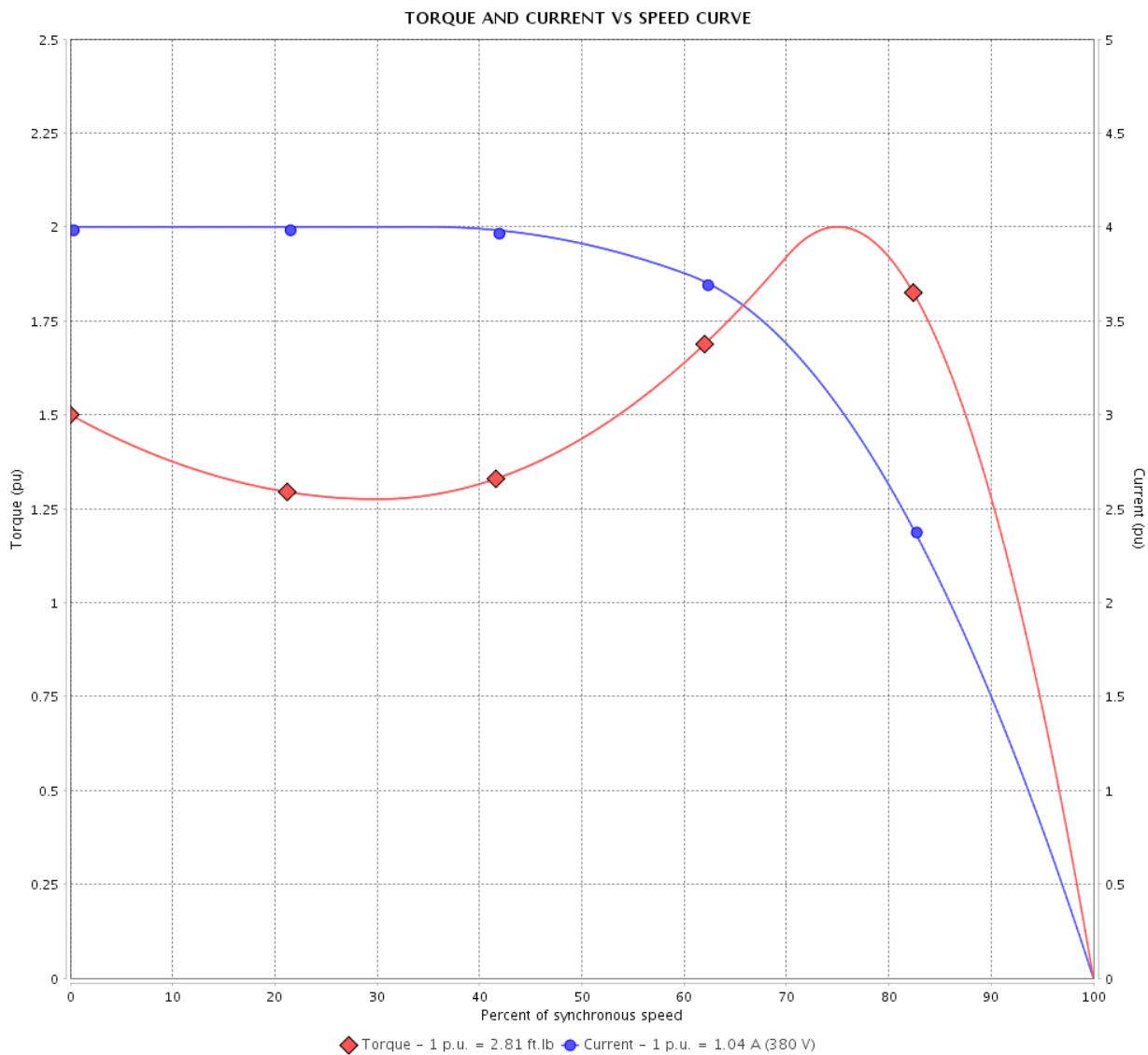
Product line : Premium Efficiency Three-Phase

Product code :

12809202

Catalog # :

.50120T3E56C-S



Performance : 190/380 V 50 Hz 6P

Rated current : 2.08/1.04 A  
 LRC : 4.0  
 Rated torque : 2.81 ft.lb  
 Locked rotor torque : 150 %  
 Breakdown torque : 200 %  
 Rated speed : 935 rpm

Moment of inertia (J) : 0.0888 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

Locked rotor time : 52s (cold) 29s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

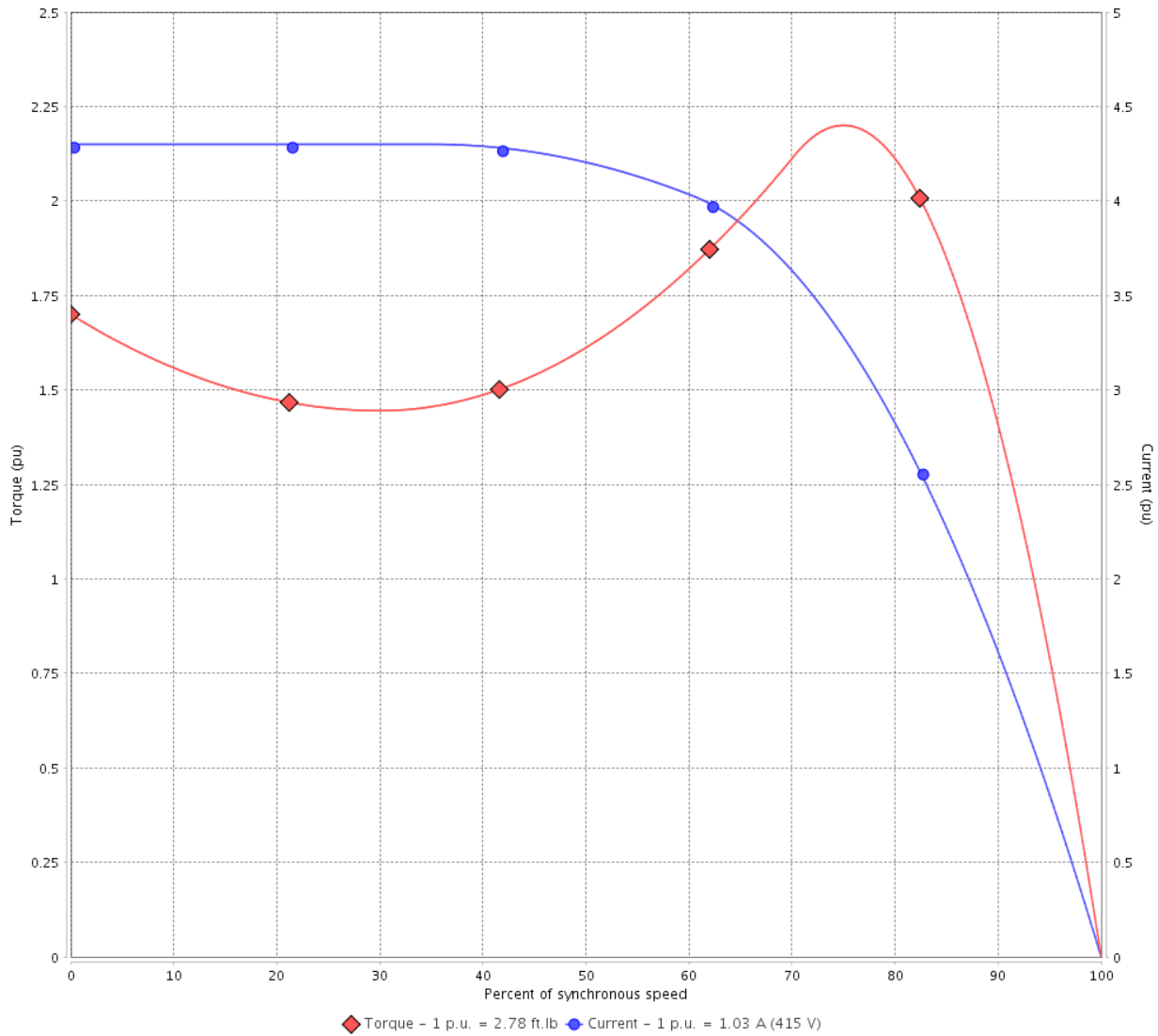
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 12809202  
 Catalog # : .5012OT3E56C-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 6P

Rated current	: 1.94/1.03 A	Moment of inertia (J)	: 0.0888 sq.ft.lb
LRC	: 4.3	Duty cycle	: Cont.(S1)
Rated torque	: 2.78 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.15
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 945 rpm		

Locked rotor time : 46s (cold) 26s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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

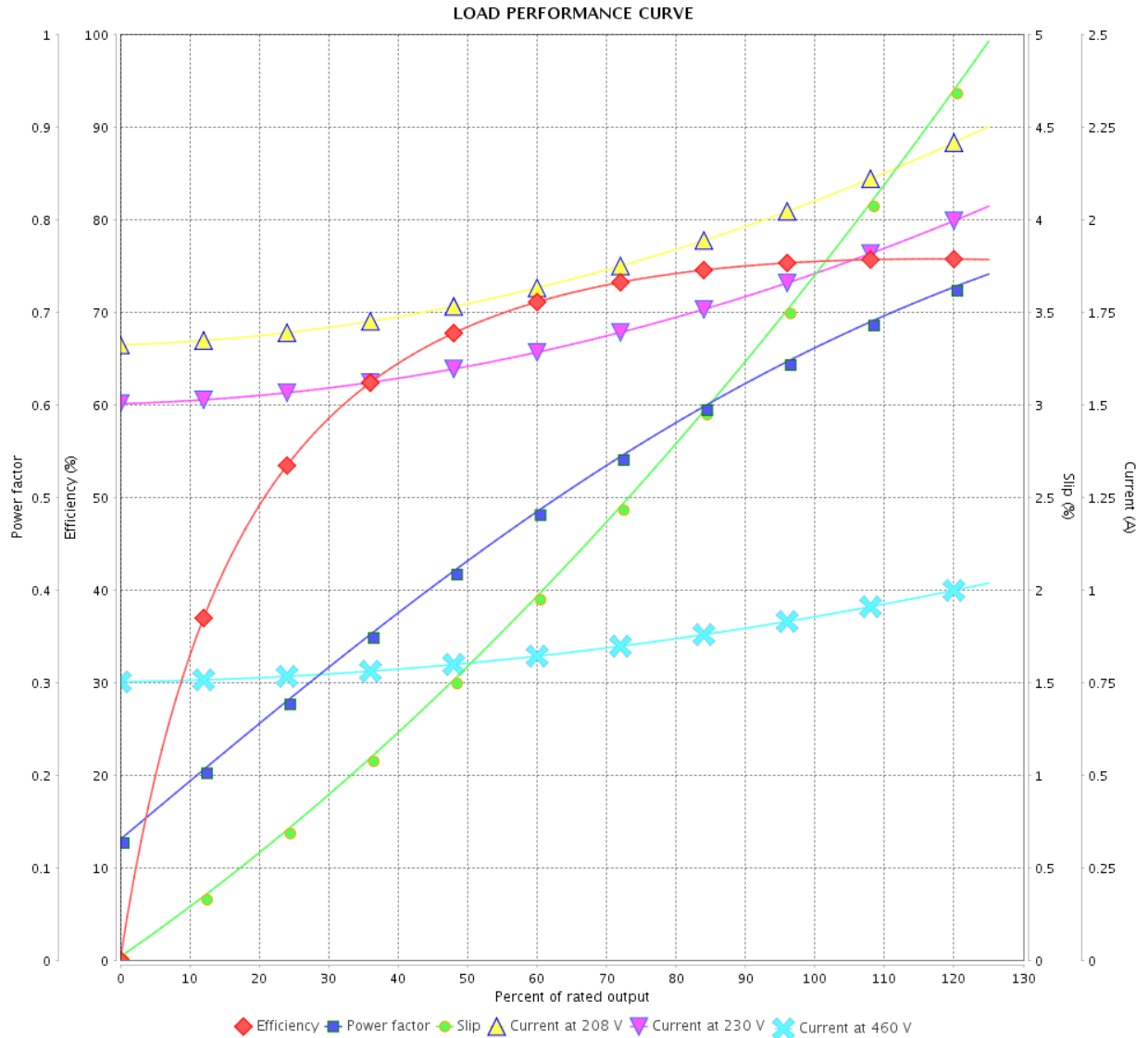
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Product code :

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Catalog # :

.50120T3E56C-S



Performance : 208-230/460 V 60 Hz 6P

Rated current : 2.06-1.87/0.934 A  
 LRC : 5.1  
 Rated torque : 2.27 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 260 %  
 Rated speed : 1155 rpm

Moment of inertia (J) : 0.0888 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

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# LOAD PERFORMANCE CURVE

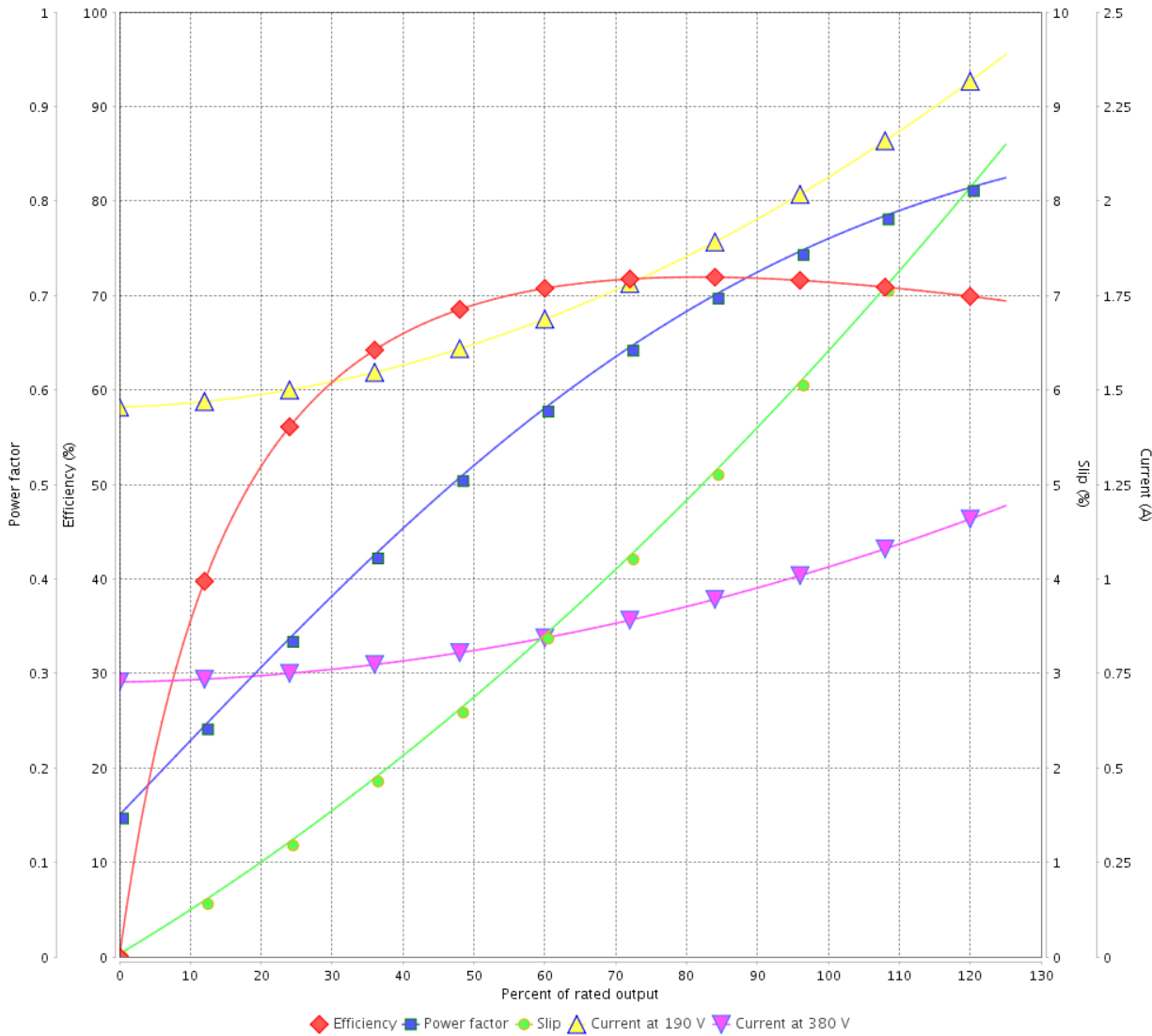
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Customer :

Product line : Premium Efficiency Three-Phase      Product code : 12809202  
 Catalog # : .5012OT3E56C-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 6P

Rated current	: 2.08/1.04 A	Moment of inertia (J)	: 0.0888 sq.ft.lb
LRC	: 4.0	Duty cycle	: Cont.(S1)
Rated torque	: 2.81 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.15
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 935 rpm		

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

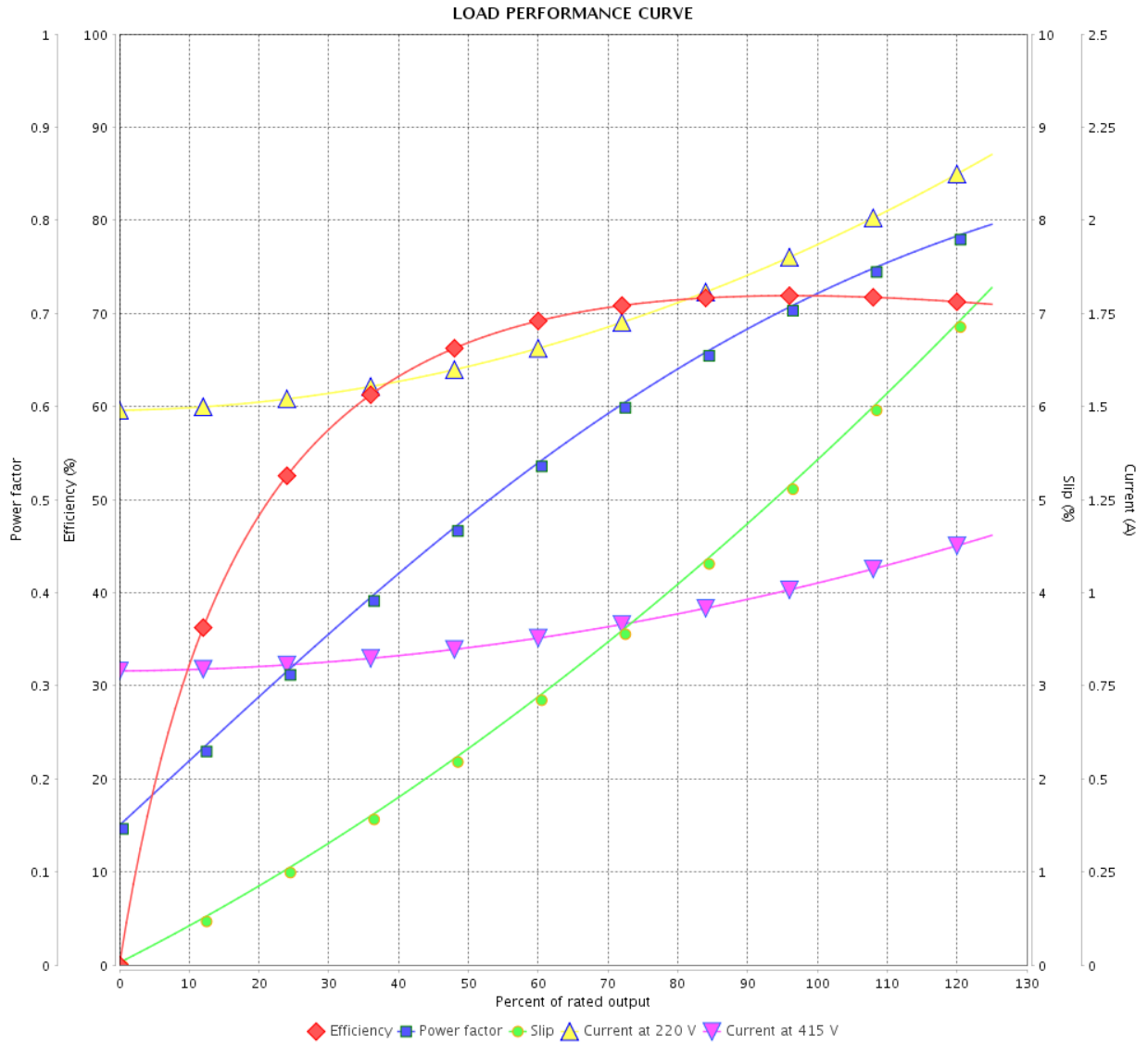
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Product code :

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Performance : 220/415 V 50 Hz 6P

Rated current : 1.94/1.03 A  
 LRC : 4.3  
 Rated torque : 2.78 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 220 %  
 Rated speed : 945 rpm

Moment of inertia (J) : 0.0888 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 :

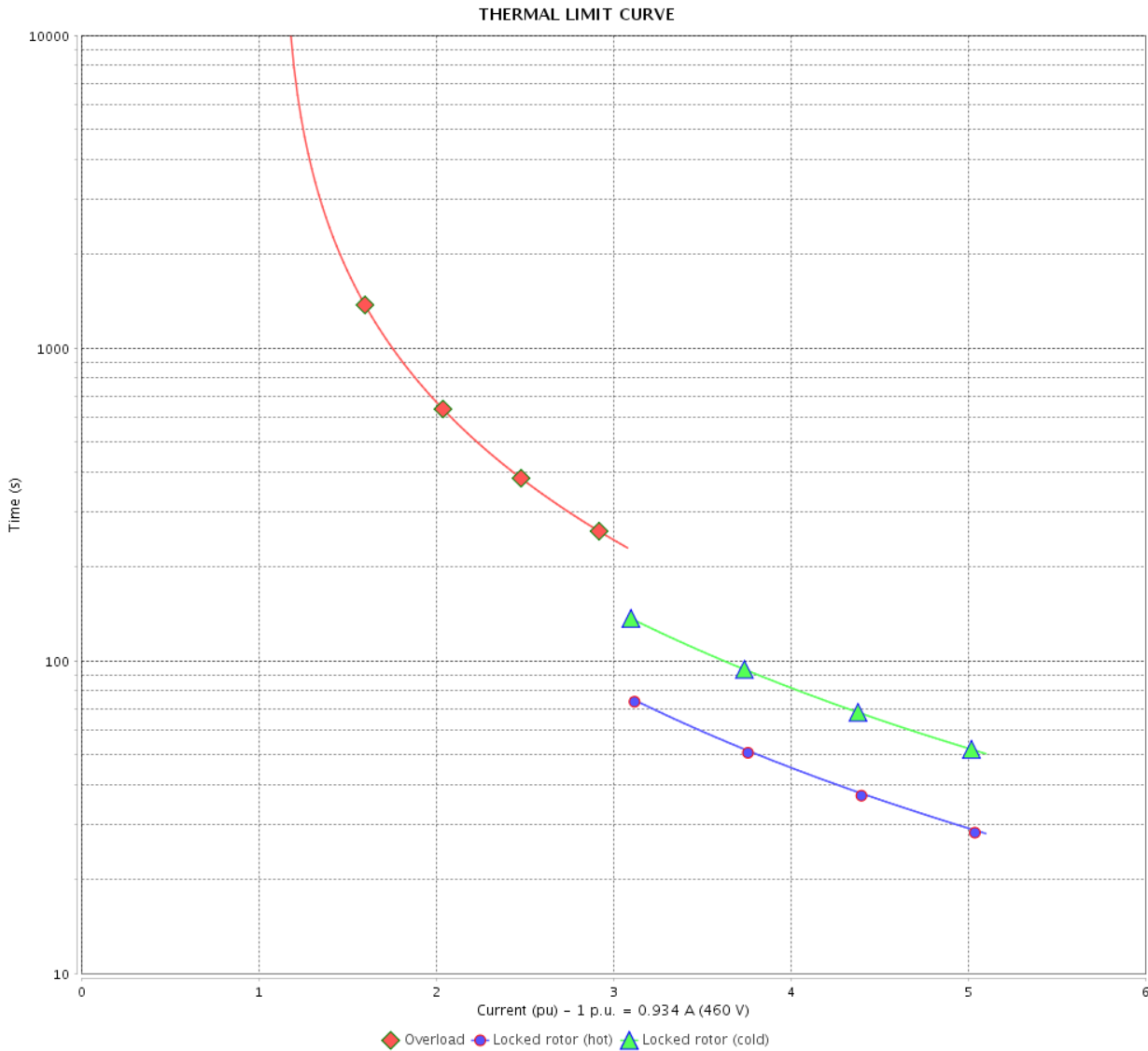
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Performance : 208-230/460 V 60 Hz 6P

Rated current : 2.06-1.87/0.934 A  
 LRC : 5.1  
 Rated torque : 2.27 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 260 %  
 Rated speed : 1155 rpm

Moment of inertia (J) : 0.0888 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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

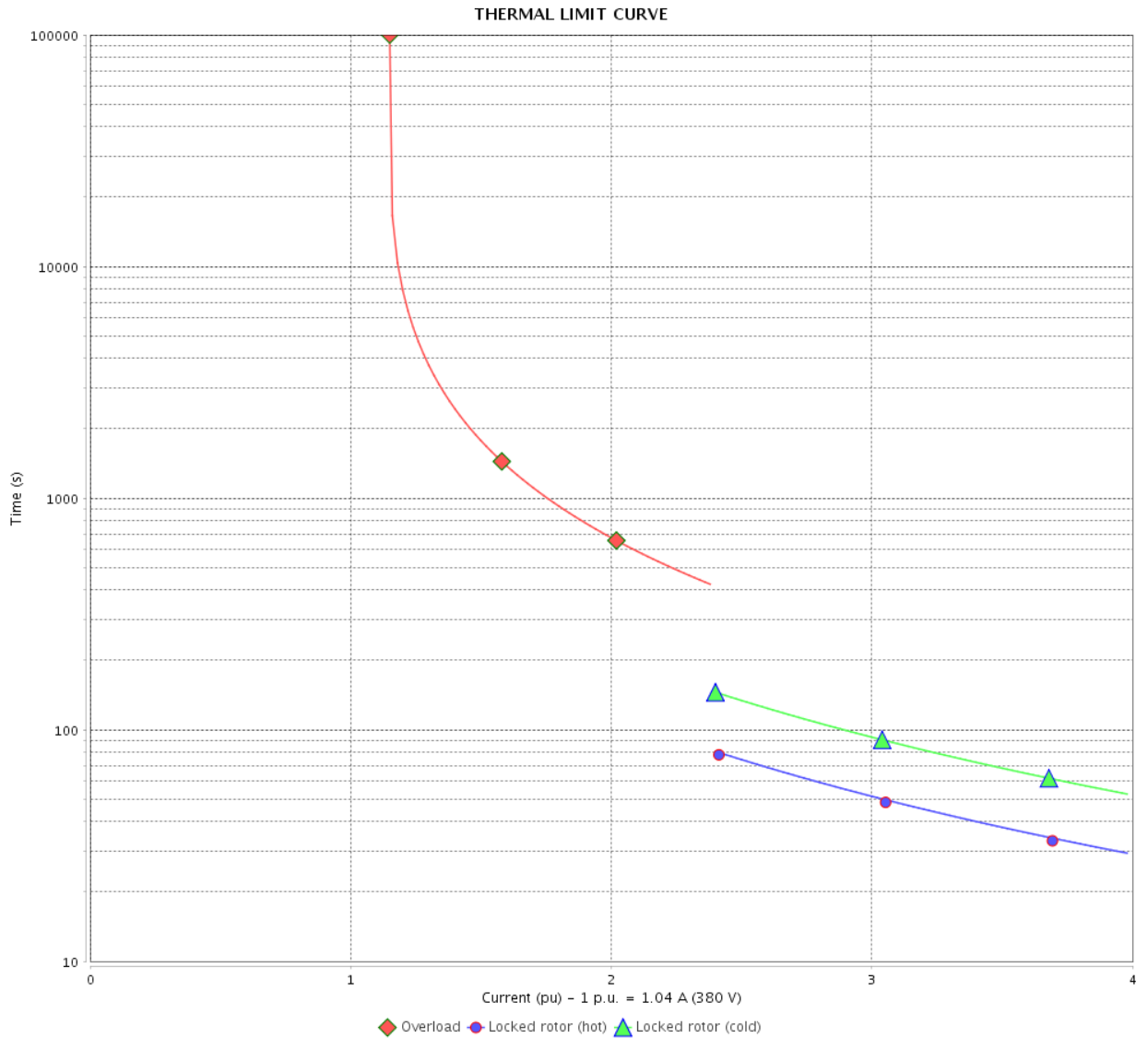
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 Rated speed : 935 rpm

Moment of inertia (J) : 0.0888 sq.ft.lb  
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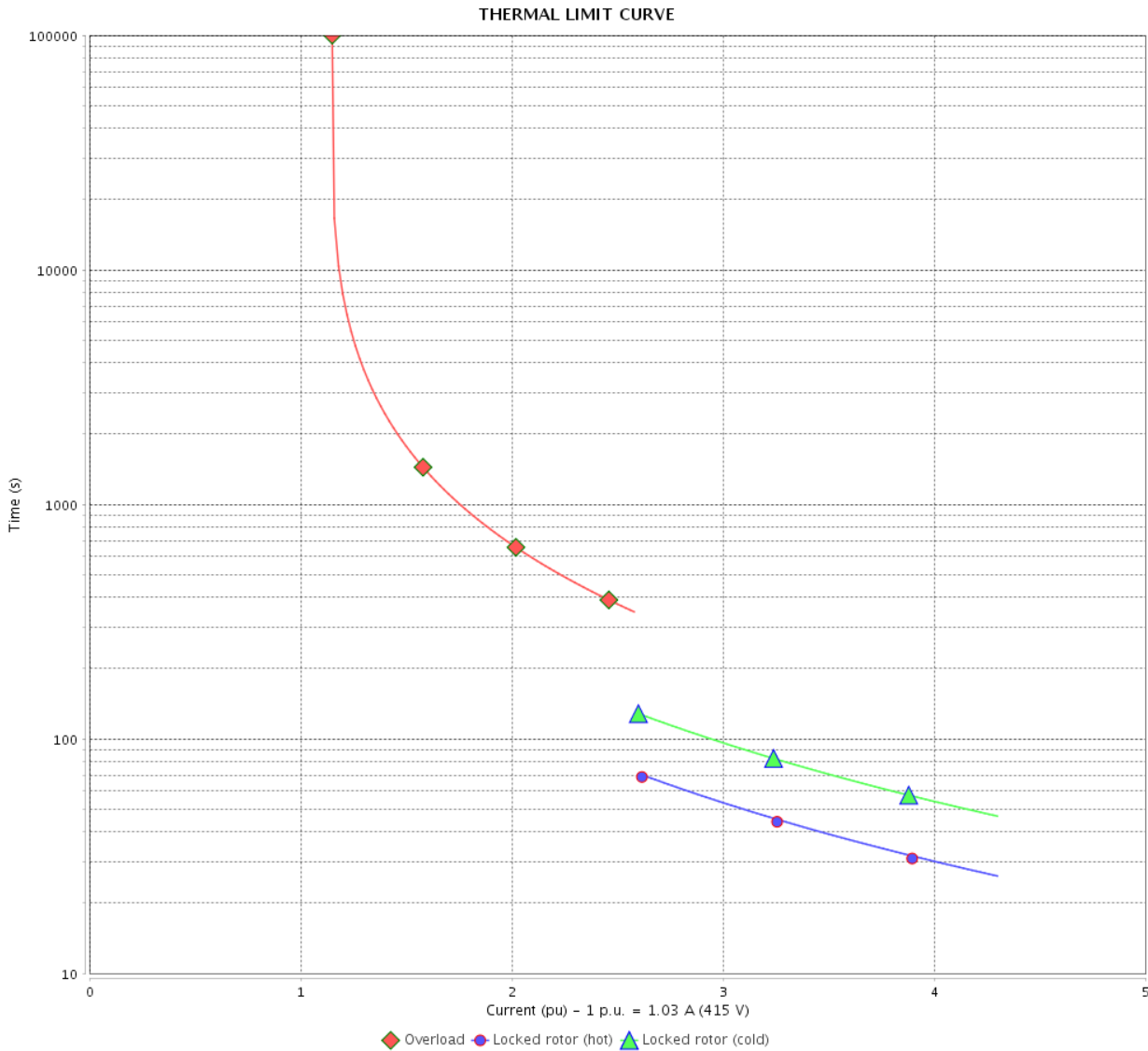
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Performance : 220/415 V 50 Hz 6P

Rated current : 1.94/1.03 A  
 LRC : 4.3  
 Rated torque : 2.78 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 220 %  
 Rated speed : 945 rpm

Moment of inertia (J) : 0.0888 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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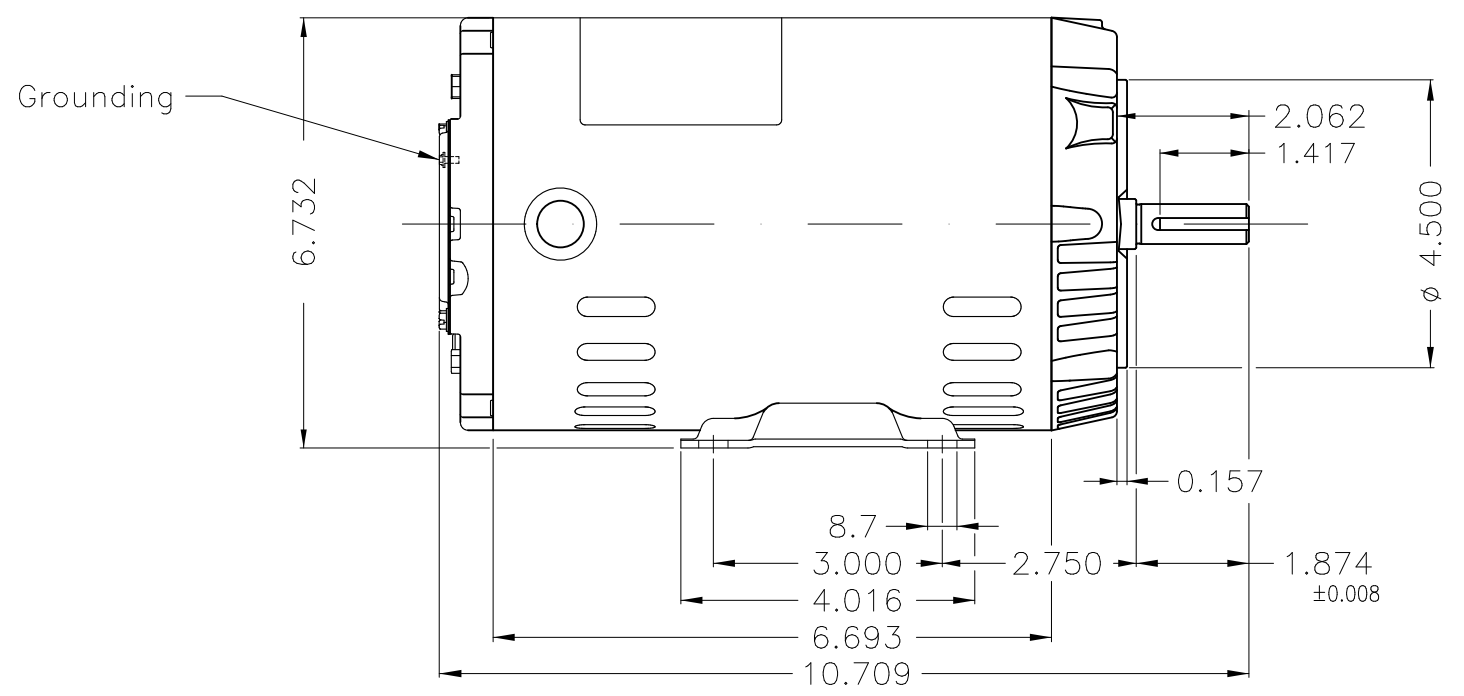
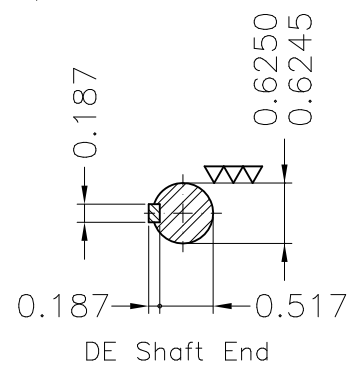
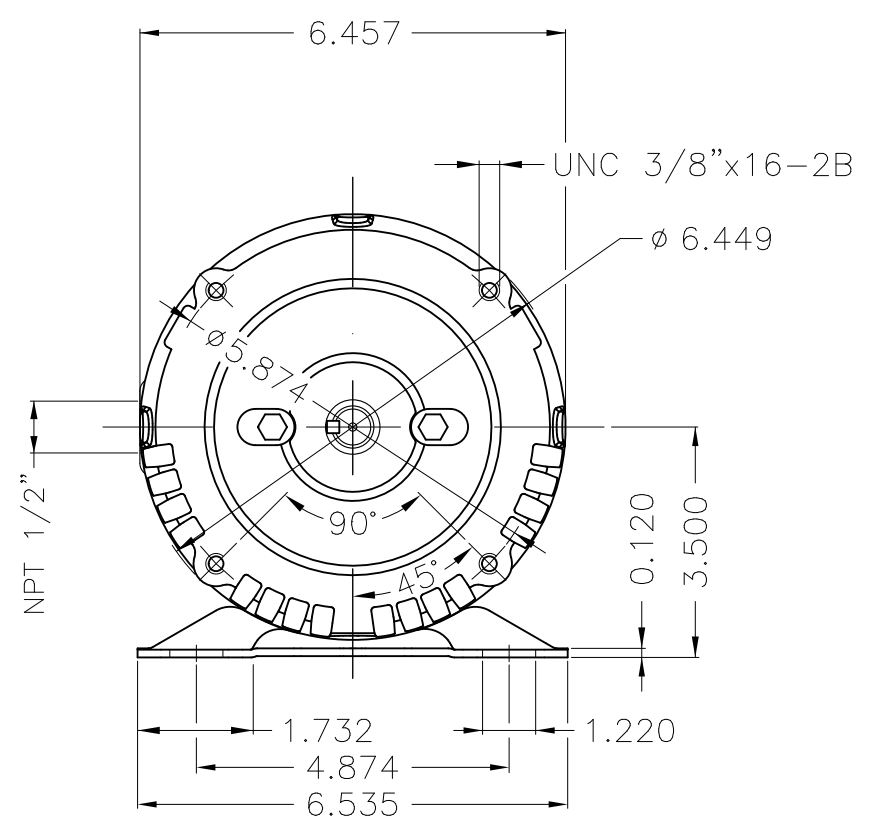
A

B

C

D

E



Dimensions in inches

Without coating										
Mounting F-1/B34R(D)										
ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR ROLLED STEEL PREM. EFF.					<b>PREVIEW</b> WDD			
CHECKED		FRAME 56C IP21 ODP								
RELEASED										
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1				

0.5 HP 06 Poles 60 Hz

A

XME A3



**NEMA**  
**Premium**



MADE IN MEXICO

**MAT: 1280920X**

**W01.T00IC0X0X**

**MODEL 50120T3E56C-S**

**01APR2022 B/N:**



<b>PH 3</b>	<b>Hz 60</b>	<b>HP 0.50</b>
<b>FR 56C</b>		<b>KW 0.37</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 1.87/0.934</b>
<b>INS CL F AT 80K</b>		<b>SFA 2.34/1.17</b>
<b>AMB 40°C</b>	<b>DES -</b>	<b>SF 1.25</b>
<b>ENCL ODP</b>	<b>CODE J</b>	<b>PF 0.66</b>
<b>USABLE @ 208V 2.06A</b>		<b>RPM 1155</b>
<b>SF1.00</b>		<b>AVG.F.L. 75.3%</b>

**ALTERNATE RATING: 0.50HP 50Hz 190-220/380-415V SF1.15**  
**2.08-1.96/1.04-1.04A 935RPM EFF 71.3% (IE2) IEC 60034-1**

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 5:1 CT

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



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.

