

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :		
Product line	: Premium Efficiency Three-Phase	
Product code :	12809250	
Catalog # :	.5036OT3E56-S	
Frame	: 56	
Insulation class	: F	
Duty cycle	: Cont.(S1)	
Ambient temperature	: -20°C to +40°C	
Altitude	: 1000 m.a.s.l.	
Cooling method	: IC01 - ODP	
Mounting	: F-1	
Rotation <sup>1</sup>	: Both (CW and CCW)	
Starting method	: Direct On Line	
Approx. weight <sup>2</sup>	: 16.4 lb	
Moment of inertia (J)	: 0.0389 sq.ft.lb	
Output [HP]	0.5	
Poles	2	
Frequency [Hz]	60	
Rated voltage [V]	208-230/460	
Rated current [A]	1.79-1.62/0.811	
L. R. Amperes [A]	11.1-10.1/5.03	
LRC [A]	6.2x(Code K)	
No load current [A]	0.776-0.900/0.450	
Rated speed [RPM]	3490	
Slip [%]	3.06	
Rated torque [ft.lb]	0.752	
Locked rotor torque [%]	229	
Breakdown torque [%]	280	
Service factor	1.25	
Temperature rise	80 K	
Locked rotor time	70s (cold) 39s (hot)	
Noise level <sup>2</sup>	62.0 dB(A)	
Efficiency (%)	25%	61.1
	50%	64.0
	75%	70.0
	100%	73.4
Power Factor	25%	0.35
	50%	0.57
	75%	0.69
	100%	0.78
Bearing type	: Drive end 6203 ZZ Non drive end 6202 ZZ	
Sealing	: Without Without Bearing Seal Bearing Seal	
Lubrication interval	: - -	
Lubricant amount	: - -	
Lubricant type	: Mobil Polyrex EM	
Foundation loads	Max. traction : 13 lb	
	Max. compression : 29 lb	
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.		
Rev.	Changes Summary	
Performed by	Performed	
Checked by	Checked	
Date	Date	
11/04/2022		
Page	Revision	
1 / 13		

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase

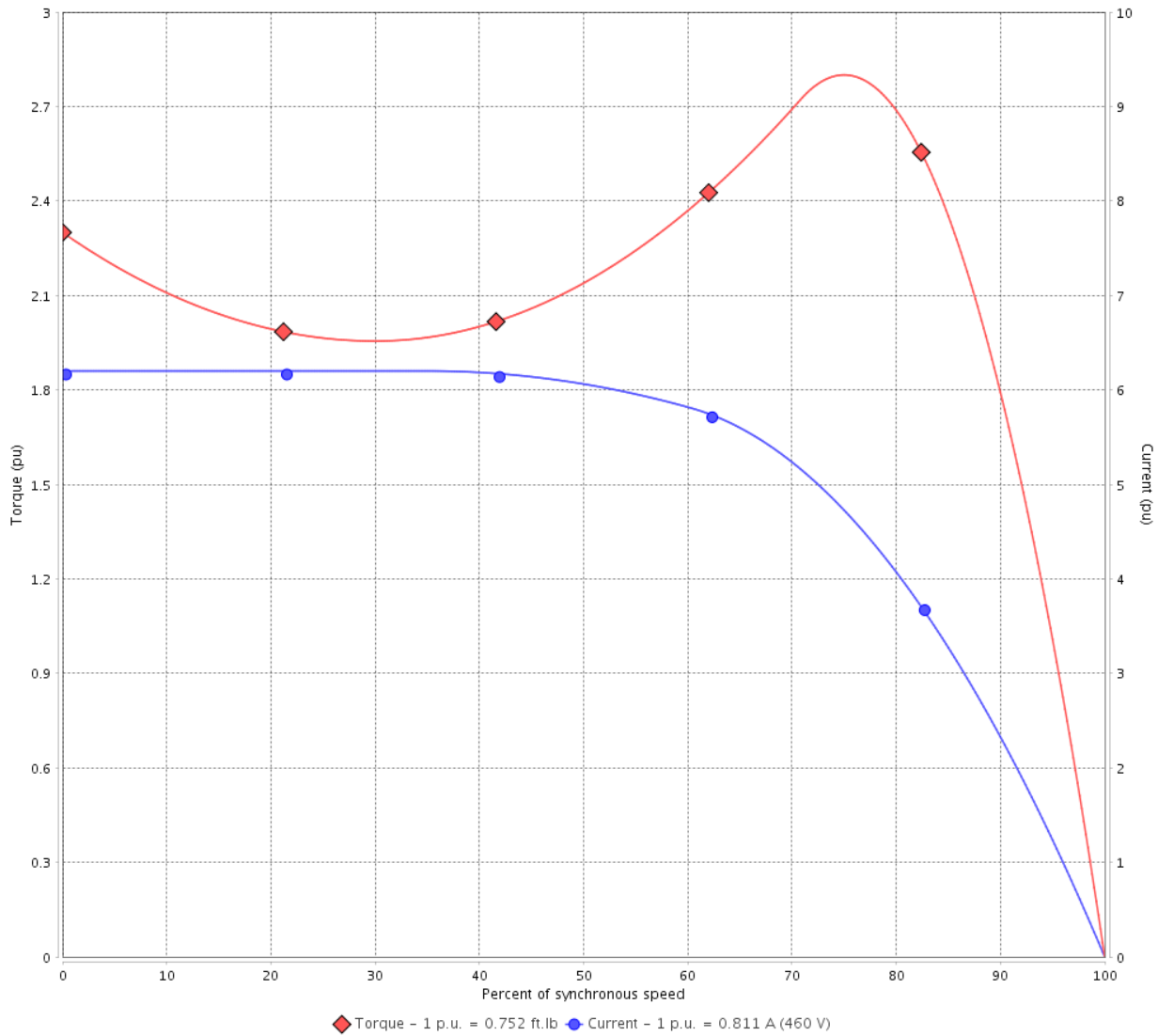
Product code :

12809250

Catalog # :

.5036OT3E56-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 208-230/460 V 60 Hz 2P

Rated current	: 1.79-1.62/0.811 A	Moment of inertia (J)	: 0.0389 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 0.752 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	:
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 3490 rpm		

Locked rotor time : 70s (cold) 39s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 13	Revision
Checked by				
Date	11/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

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

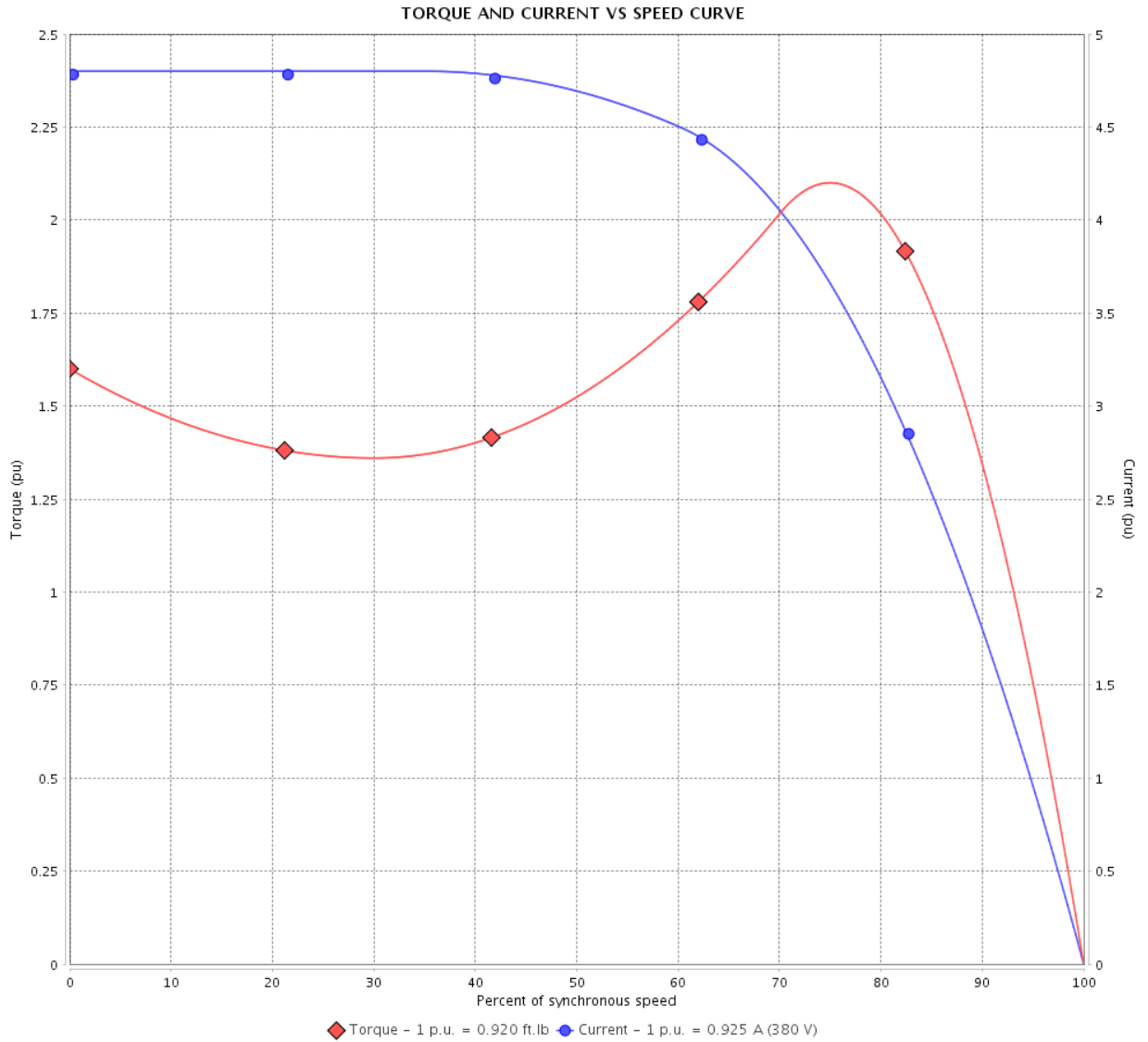
Product line : Premium Efficiency Three-Phase

Product code :

12809250

Catalog # :

.5036OT3E56-S



Performance : 190/380 V 50 Hz 2P

Rated current : 1.85/0.925 A  
 LRC : 4.8  
 Rated torque : 0.920 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 210 %  
 Rated speed : 2855 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Locked rotor time : 81s (cold) 45s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		3 / 13		

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase

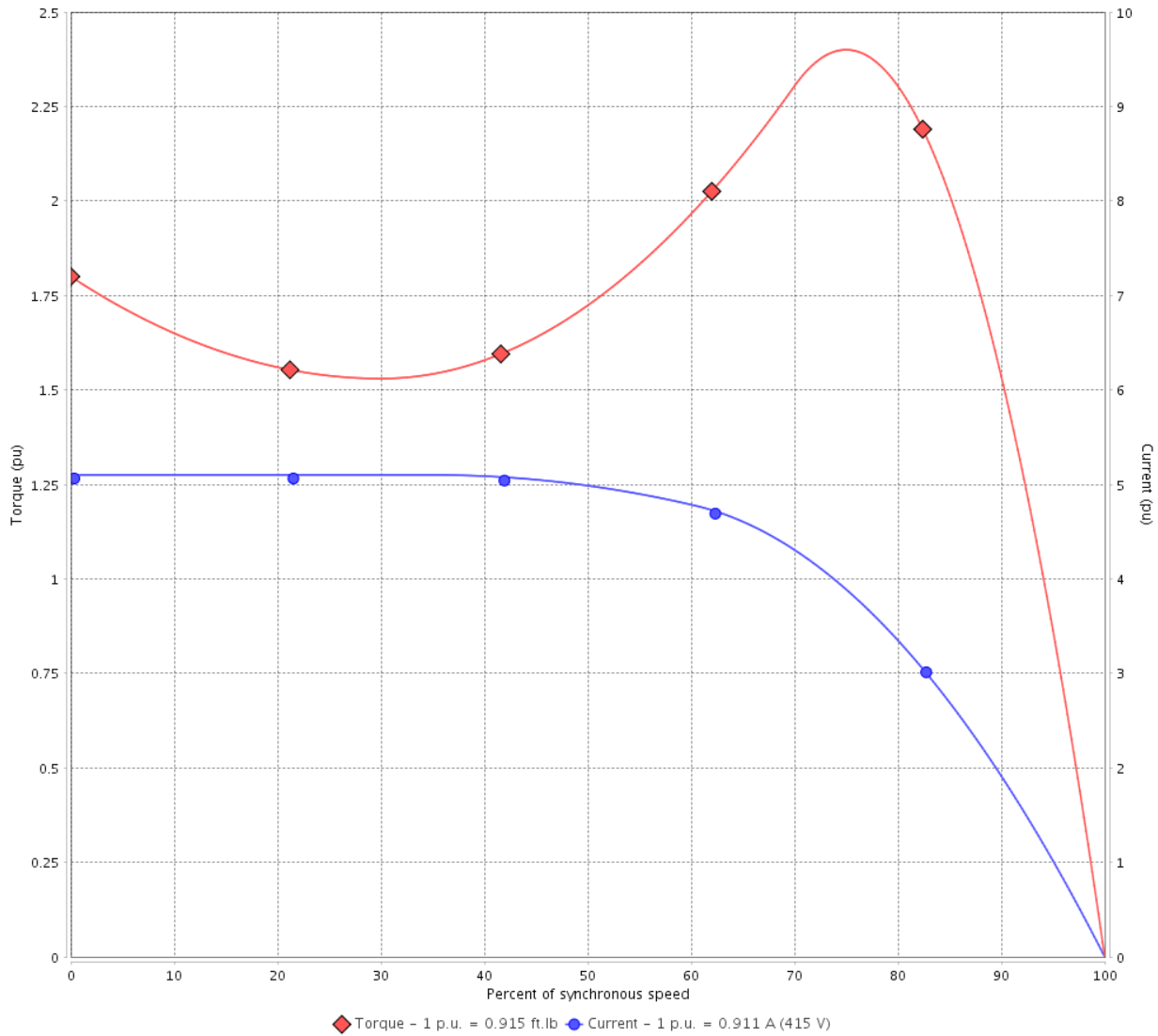
Product code :

12809250

Catalog # :

.5036OT3E56-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current : 1.72/0.911 A  
 LRC : 5.1  
 Rated torque : 0.915 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 2870 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Locked rotor time : 73s (cold) 41s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 13	Revision
Checked by				
Date	11/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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

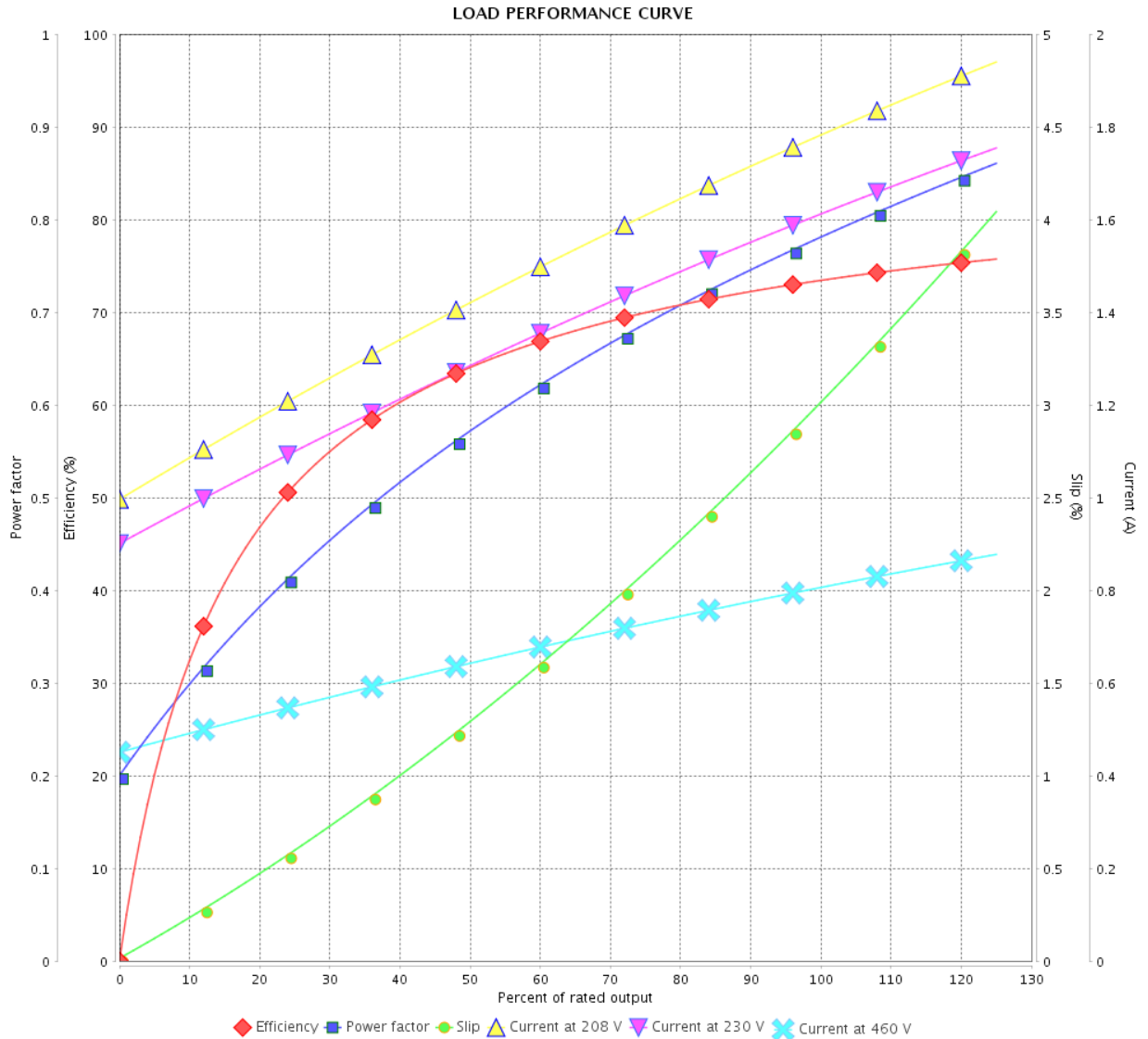
Product line : Premium Efficiency Three-Phase

Product code :

12809250

Catalog # :

.5036OT3E56-S



Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.79-1.62/0.811 A  
 LRC : 6.2  
 Rated torque : 0.752 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 280 %  
 Rated speed : 3490 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



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

Product line : Premium Efficiency Three-Phase

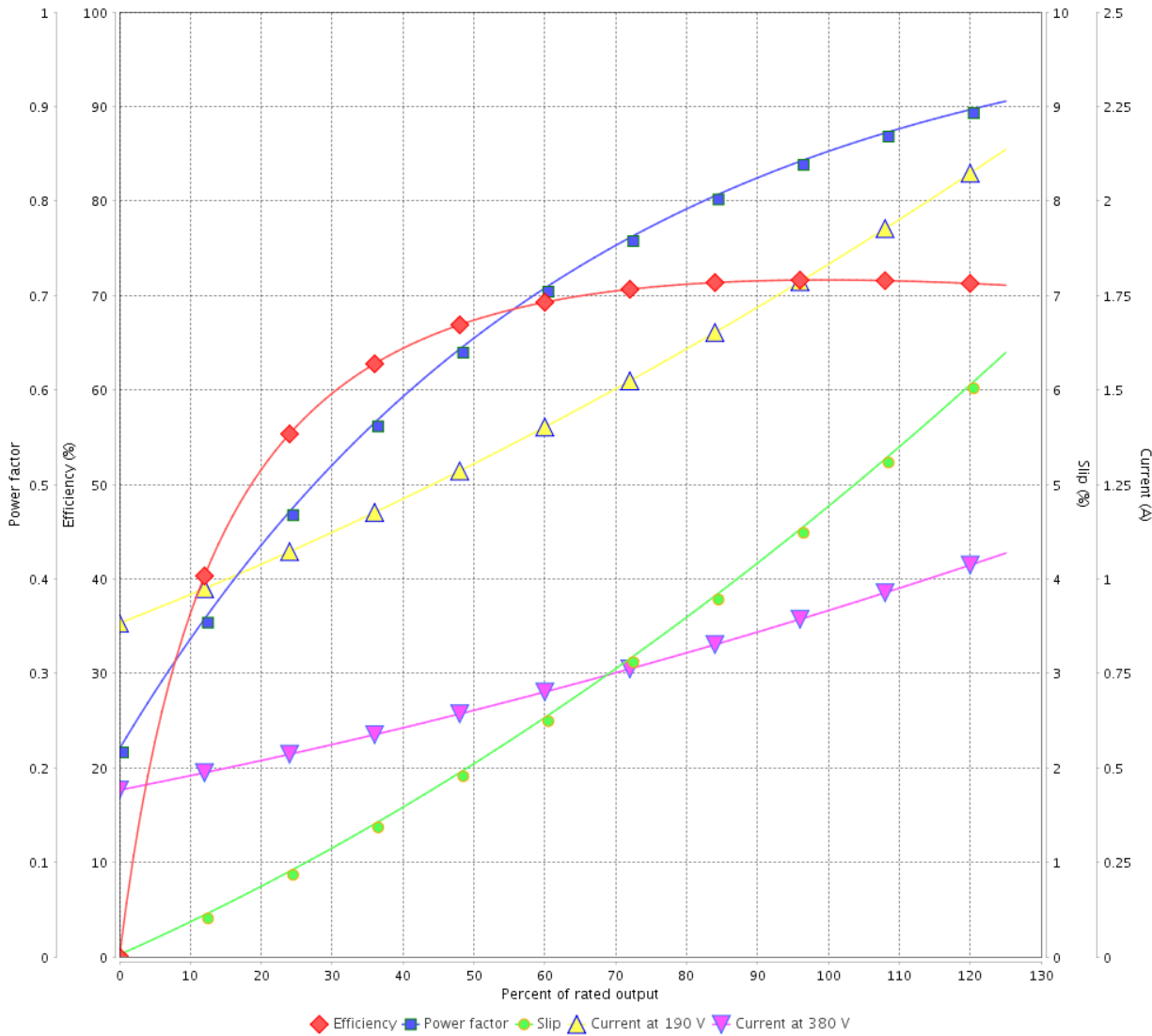
Product code :

12809250

Catalog # :

.5036OT3E56-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 2P

Rated current : 1.85/0.925 A  
 LRC : 4.8  
 Rated torque : 0.920 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 210 %  
 Rated speed : 2855 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 13	Revision
Checked by				
Date	11/04/2022			

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



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

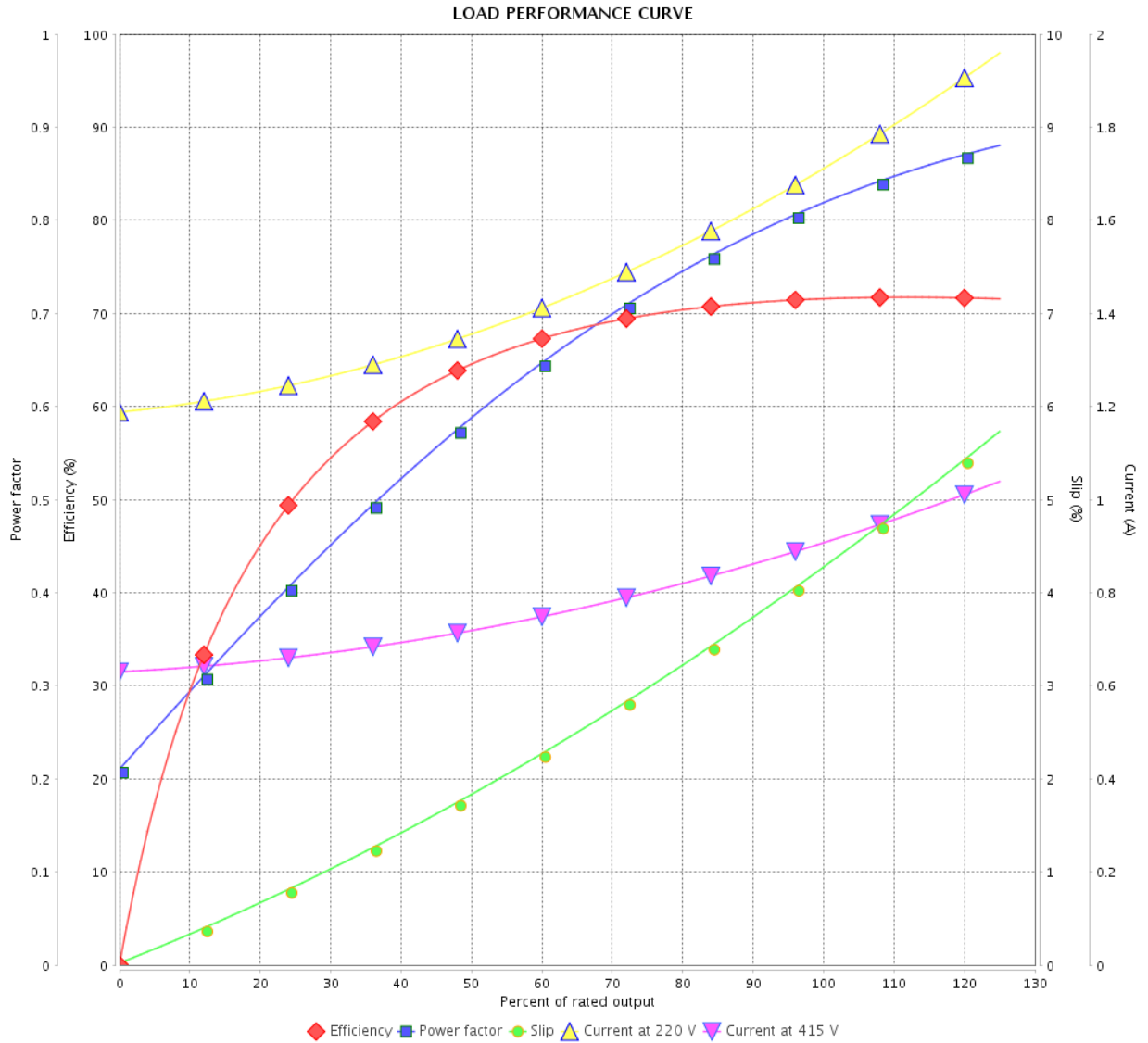
Product line : Premium Efficiency Three-Phase

Product code :

12809250

Catalog # :

.5036OT3E56-S



Performance : 220/415 V 50 Hz 2P

Rated current : 1.72/0.911 A  
 LRC : 5.1  
 Rated torque : 0.915 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 2870 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase

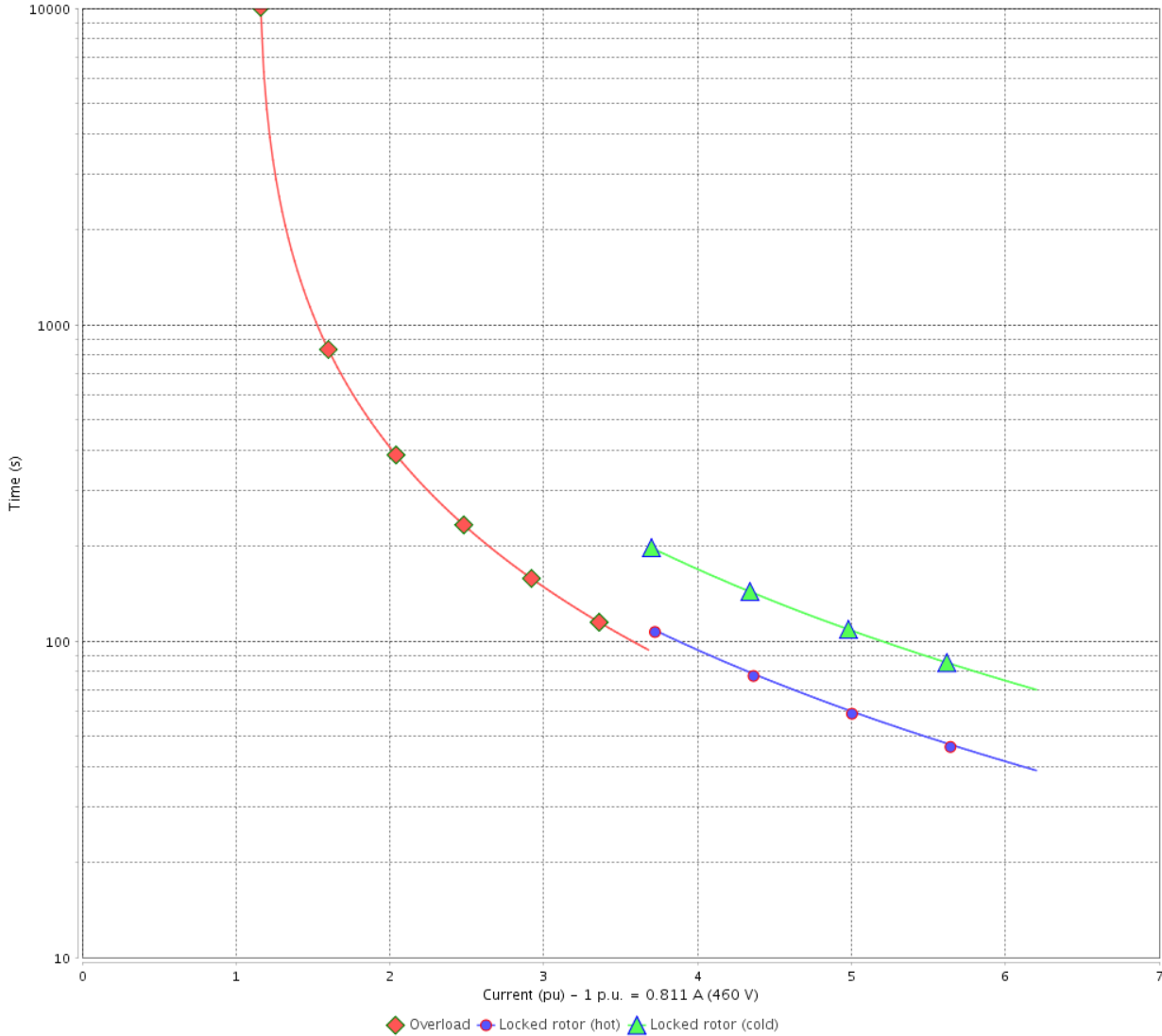
Product code :

12809250

Catalog # :

.5036OT3E56-S

THERMAL LIMIT CURVE



Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.79-1.62/0.811 A  
 LRC : 6.2  
 Rated torque : 0.752 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 280 %  
 Rated speed : 3490 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			8 / 13	
Date	11/04/2022			



# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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

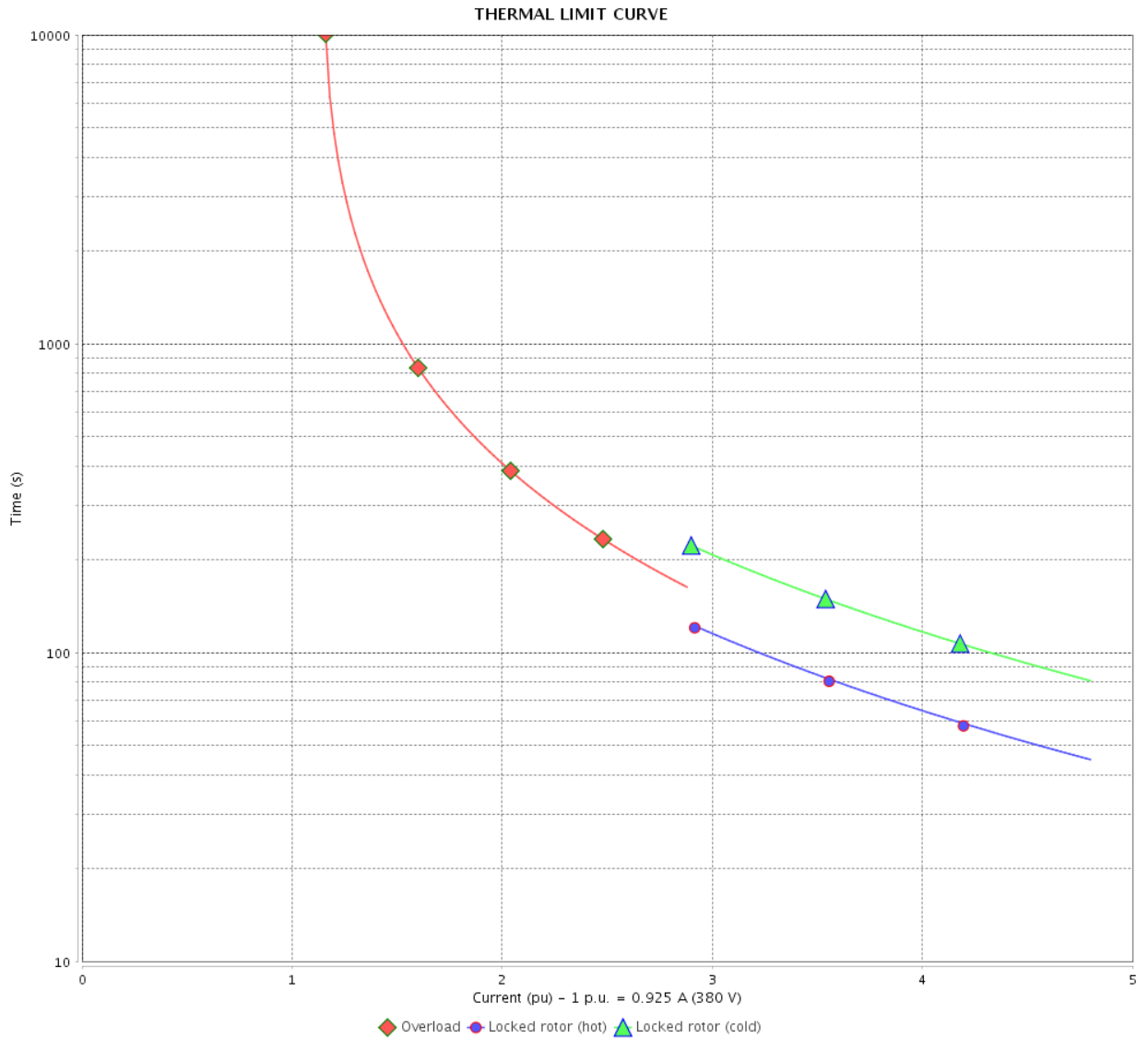
Product line : Premium Efficiency Three-Phase

Product code :

12809250

Catalog # :

.5036OT3E56-S



Performance : 190/380 V 50 Hz 2P

Rated current : 1.85/0.925 A  
 LRC : 4.8  
 Rated torque : 0.920 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 210 %  
 Rated speed : 2855 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		9 / 13		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

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

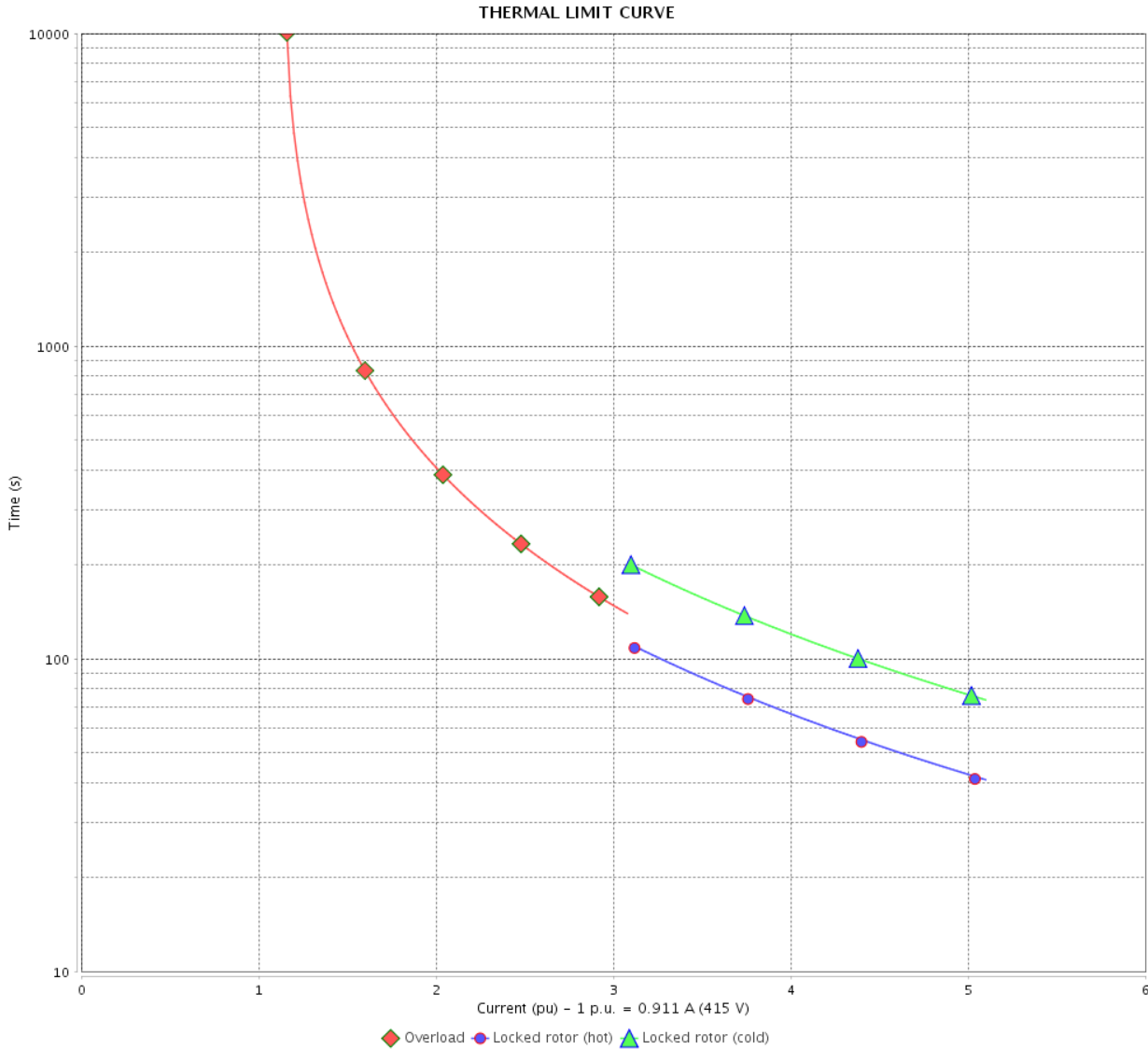
Product line : Premium Efficiency Three-Phase

Product code :

12809250

Catalog # :

.5036OT3E56-S



Performance : 220/415 V 50 Hz 2P

Rated current : 1.72/0.911 A  
 LRC : 5.1  
 Rated torque : 0.915 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 2870 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by	11/04/2022	Page		Revision
Checked by		10 / 13		
Date				

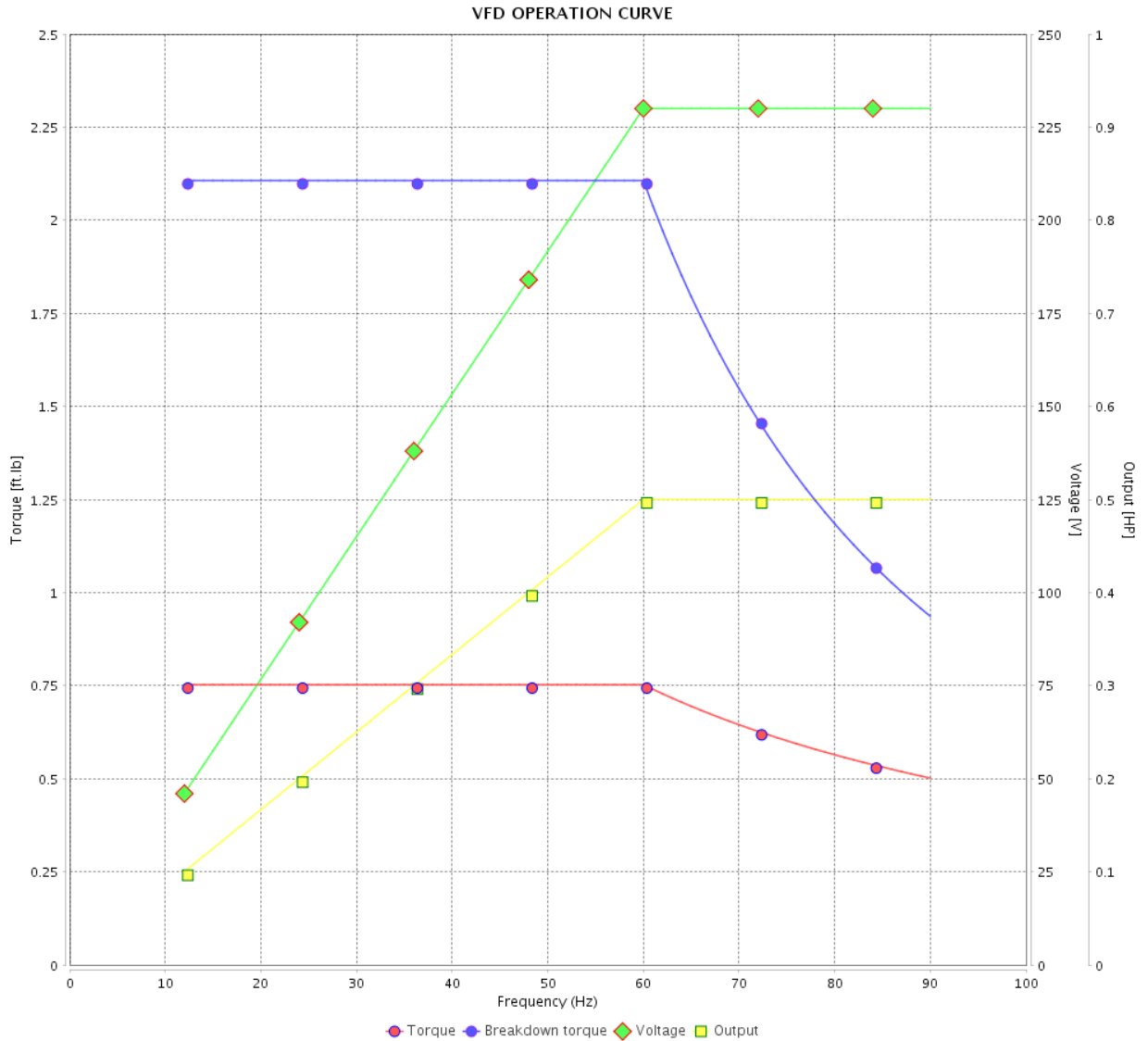
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase      Product code : 12809250  
 Catalog # : .5036OT3E56-S



Performance : 208-230/460 V 60 Hz 2P

Rated current : 1.79-1.62/0.811 A  
 LRC : 6.2  
 Rated torque : 0.752 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 280 %  
 Rated speed : 3490 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 11 / 13	Revision
Checked by				
Date	11/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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

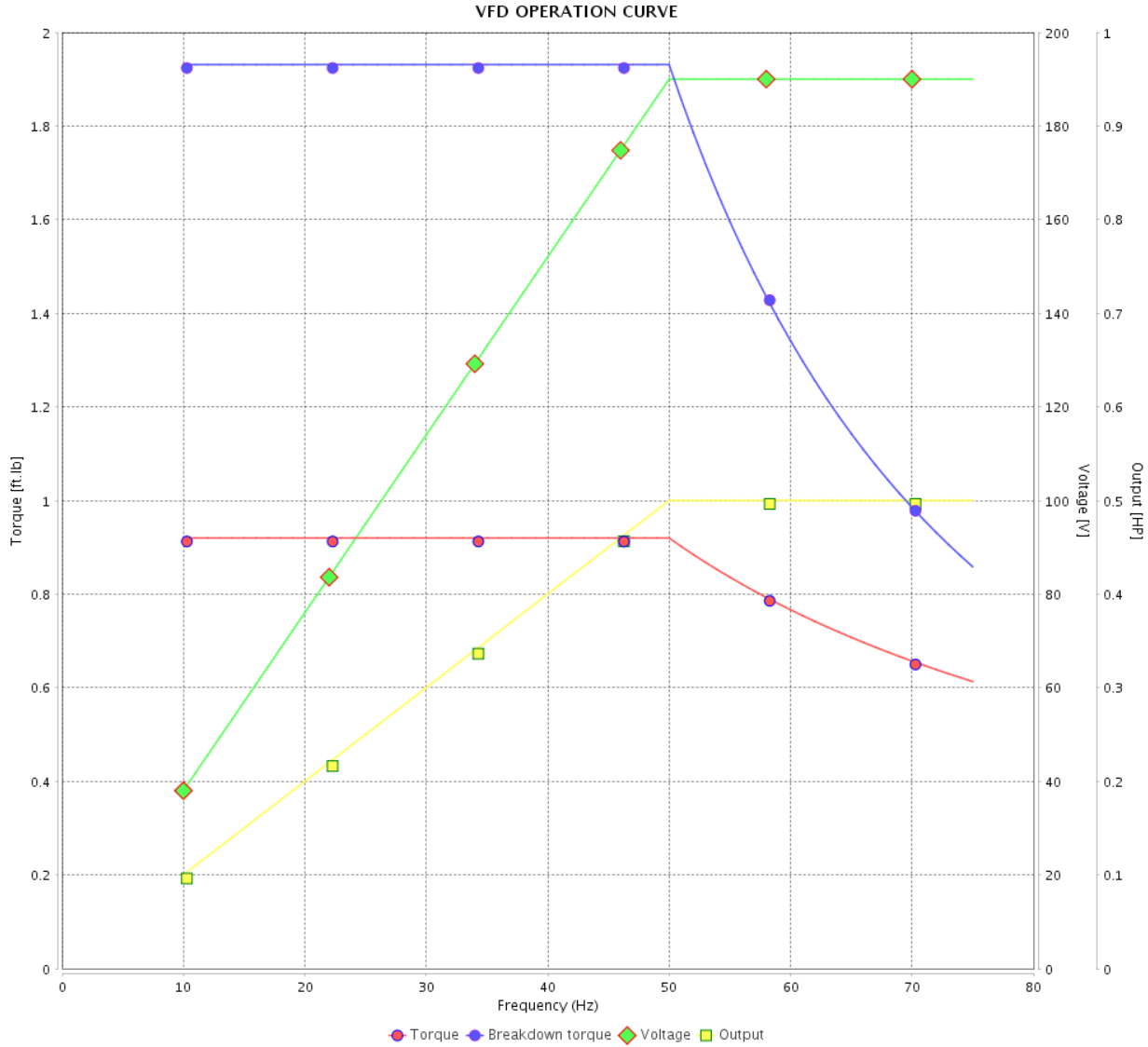
Product line : Premium Efficiency Three-Phase

Product code :

12809250

Catalog # :

.5036OT3E56-S



Performance : 190/380 V 50 Hz 2P

Rated current : 1.85/0.925 A  
 LRC : 4.8  
 Rated torque : 0.920 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 210 %  
 Rated speed : 2855 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 12 / 13	Revision
Checked by				
Date	11/04/2022			

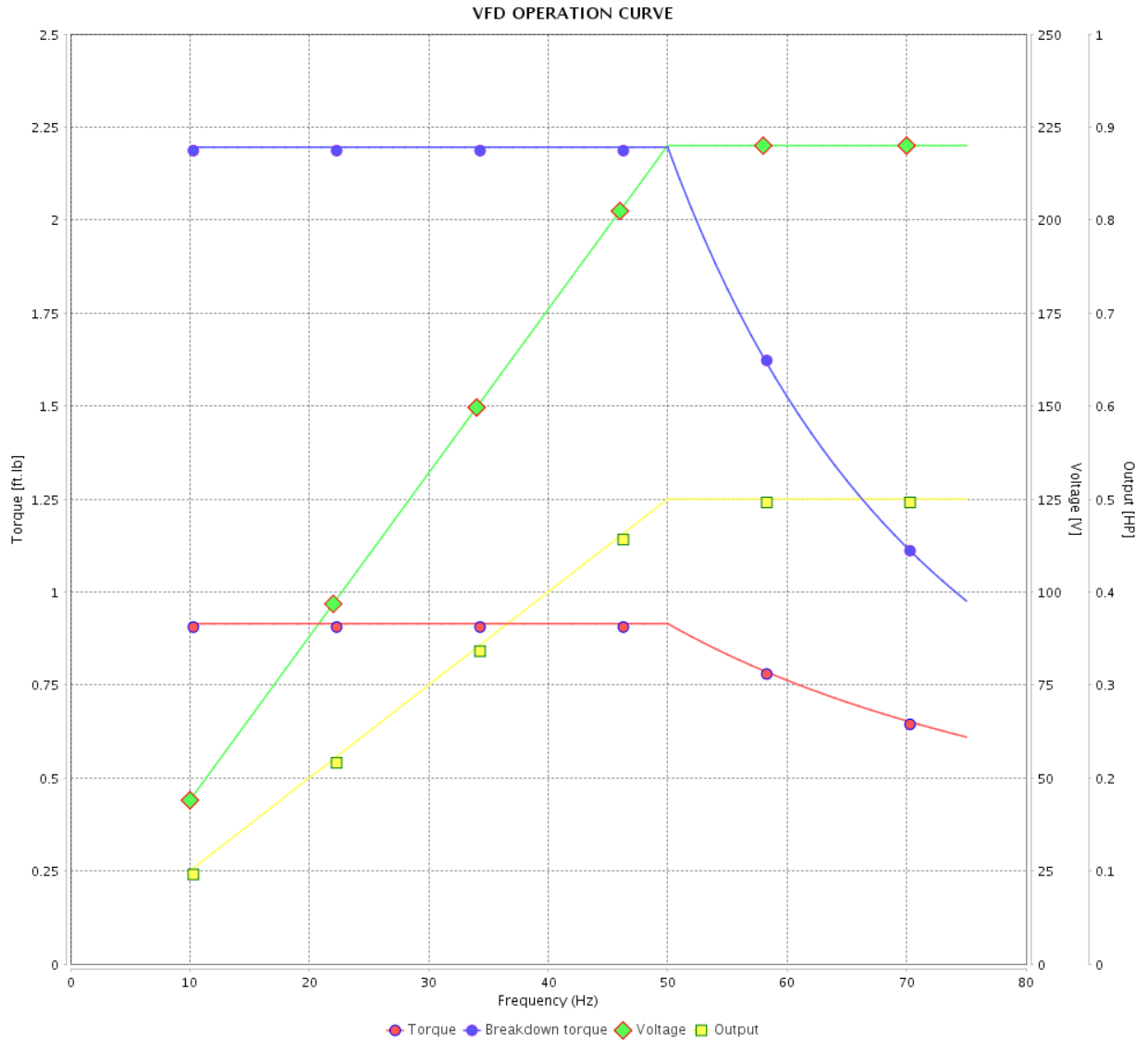
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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

Product line : Premium Efficiency Three-Phase      Product code : 12809250  
 Catalog # : .5036OT3E56-S



Performance : 220/415 V 50 Hz 2P

Rated current : 1.72/0.911 A  
 LRC : 5.1  
 Rated torque : 0.915 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 2870 rpm

Moment of inertia (J) : 0.0389 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 13		
Date		11/04/2022		

1 2 3 4 5 6

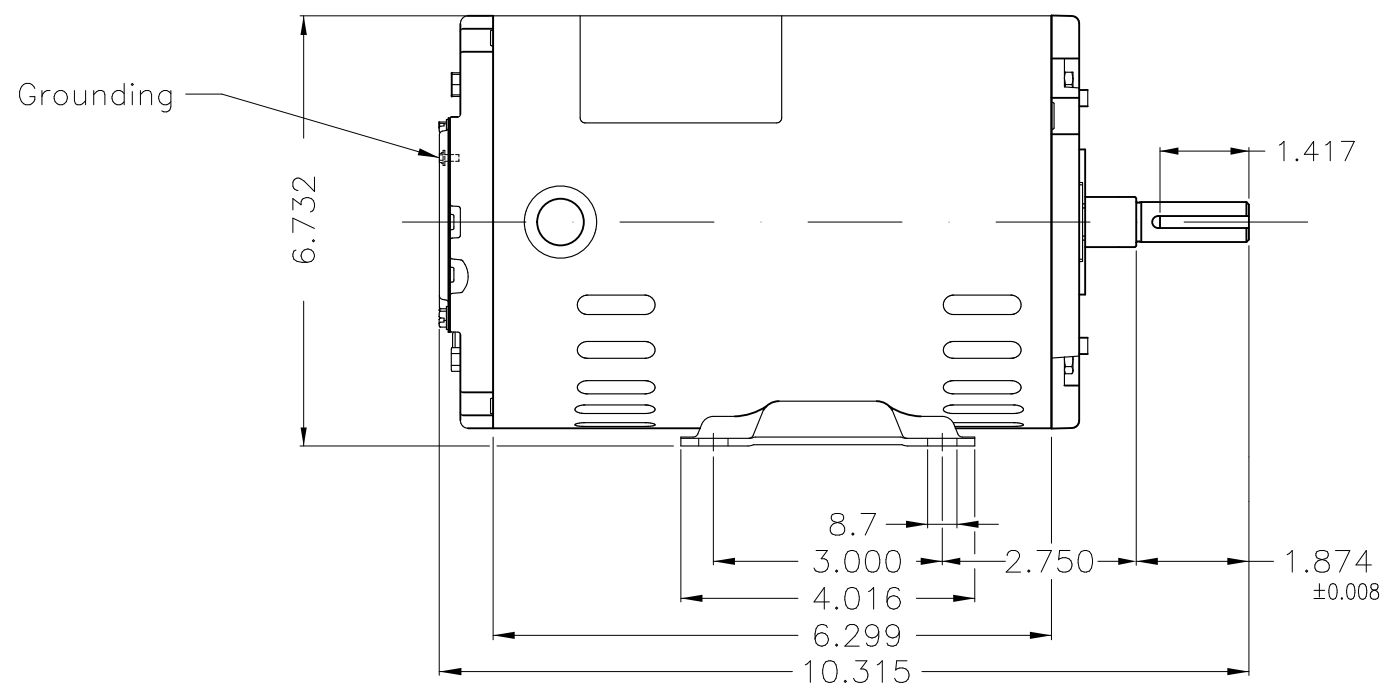
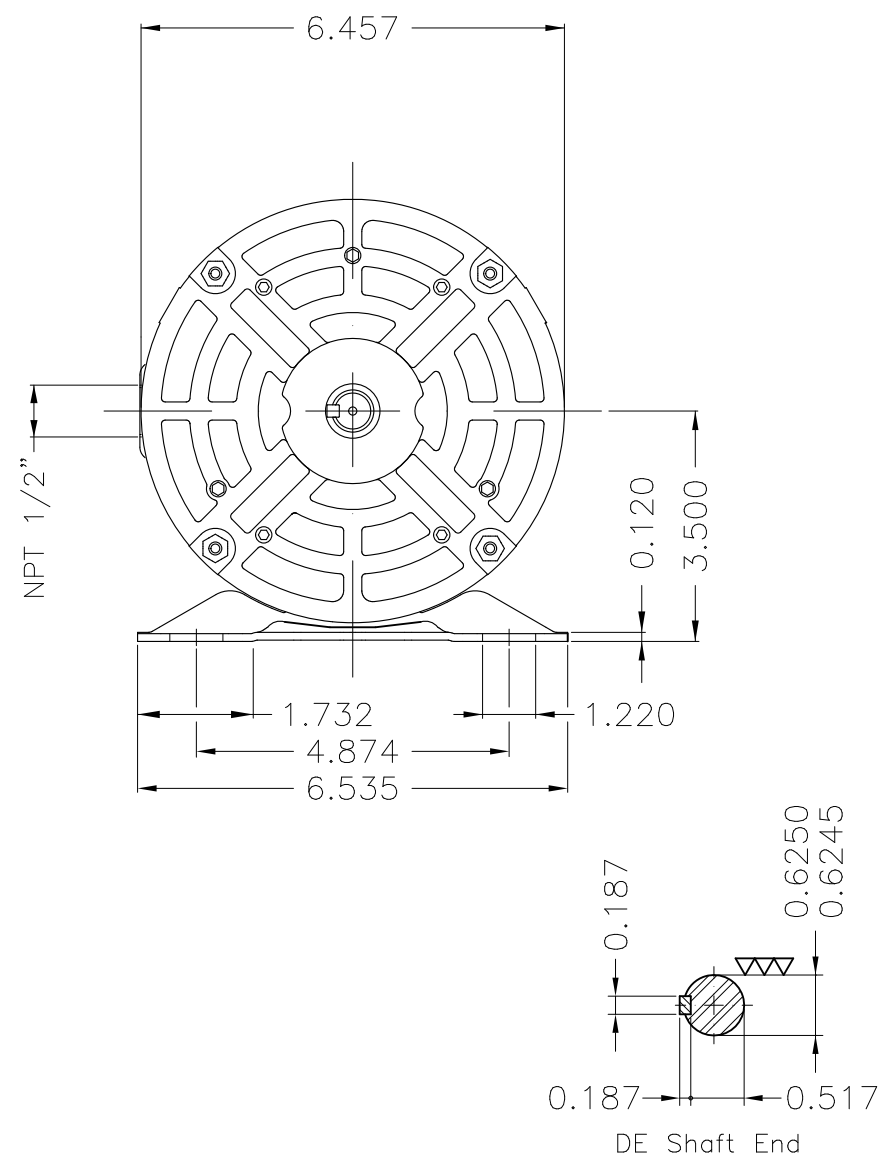
A


B

C

D

E



Without coating									
Mounting F-1/B3R(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 56 IP21 ODP							
RELEASED									
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1			

0.5 HP 02 Poles 60 Hz

A



**NEMA**  
**Premium**



3PT9



Energy Verified

MADE IN MEXICO

**MAT: 12809250**

**W01.T00IC0X0X**

**MODEL 50360T3E56-S**

**28FEB2022 B/N:**



<b>PH 3</b>	<b>Hz 60</b>	<b>HP 0.50</b>
<b>FR 56</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 1.62/0.811</b>
<b>INS CL F AT 80K</b>		<b>SFA 2.03/1.01</b>
<b>AMB 40°C</b>	<b>DES -</b>	<b>SF 1.25</b>
<b>ENCL ODP</b>	<b>CODE K</b>	<b>PF 0.78</b>
<b>USABLE @ 208V 1.79A</b>		<b>RPM 3490</b>
<b>SF1.00</b>		<b>AVG.F.L. 73.4%</b>

**ALTERNATE RATING: 0.50HP 50Hz 190-220/380-415V SF1.25**  
**1.85-1.78/0.925-0.932A 2855RPM EFF 70.8% (IE2) IEC 60034-1**

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

<b>DE 6203-ZZ</b>	<b>ODE 6202-ZZ</b>	<b>MOBIL POLYREX EM</b>
-------------------	--------------------	-------------------------



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.

