

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :				
Product line	: Standard Efficiency Three-Phase	Product code :	14797641	
		Catalog # :	.5036ES3E56-S	
Frame	: 56	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>	: 19.5 lb	
Protection degree	: IP55	Moment of inertia (J)	: 0.0453 sq.ft.lb	
Output [HP]	0.5	0.5	0.5	
Poles	2	2	2	
Frequency [Hz]	60	50	50	
Rated voltage [V]	208-230/460	190/380	220/415	
Rated current [A]	1.86-1.69/0.843	1.78/0.890	1.65/0.875	
L. R. Amperes [A]	13.0-11.8/5.90	10.7/5.34	10.6/5.60	
LRC [A]	7.0x(Code L)	6.0x(Code H)	6.4x(Code J)	
No load current [A]	0.776-0.900/0.450	0.874/0.437	0.951/0.504	
Rated speed [RPM]	3500	2865	2885	
Slip [%]	2.78	4.50	3.83	
Rated torque [ft.lb]	0.750	0.916	0.910	
Locked rotor torque [%]	260	200	229	
Breakdown torque [%]	300	260	290	
Service factor		1.15	1.15	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	63s (cold) 35s (hot)	77s (cold) 43s (hot)	72s (cold) 40s (hot)	
Noise level <sup>2</sup>	68.0 dB(A)	65.0 dB(A)	65.0 dB(A)	
Efficiency (%)	25%	50.9	63.0	61.1
	50%	55.0	64.8	63.3
	75%	62.0	70.1	69.5
	100%	68.0	71.8	71.8
Power Factor	25%	0.43	0.45	0.40
	50%	0.67	0.73	0.67
	75%	0.75	0.83	0.78
	100%	0.81	0.88	0.85
Bearing type	: Drive end 6203 ZZ Non drive end 6202 ZZ	Foundation loads		
Sealing	: V'Ring Without Bearing Seal	Max. traction	: 16 lb	
		Max. compression	: 35 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

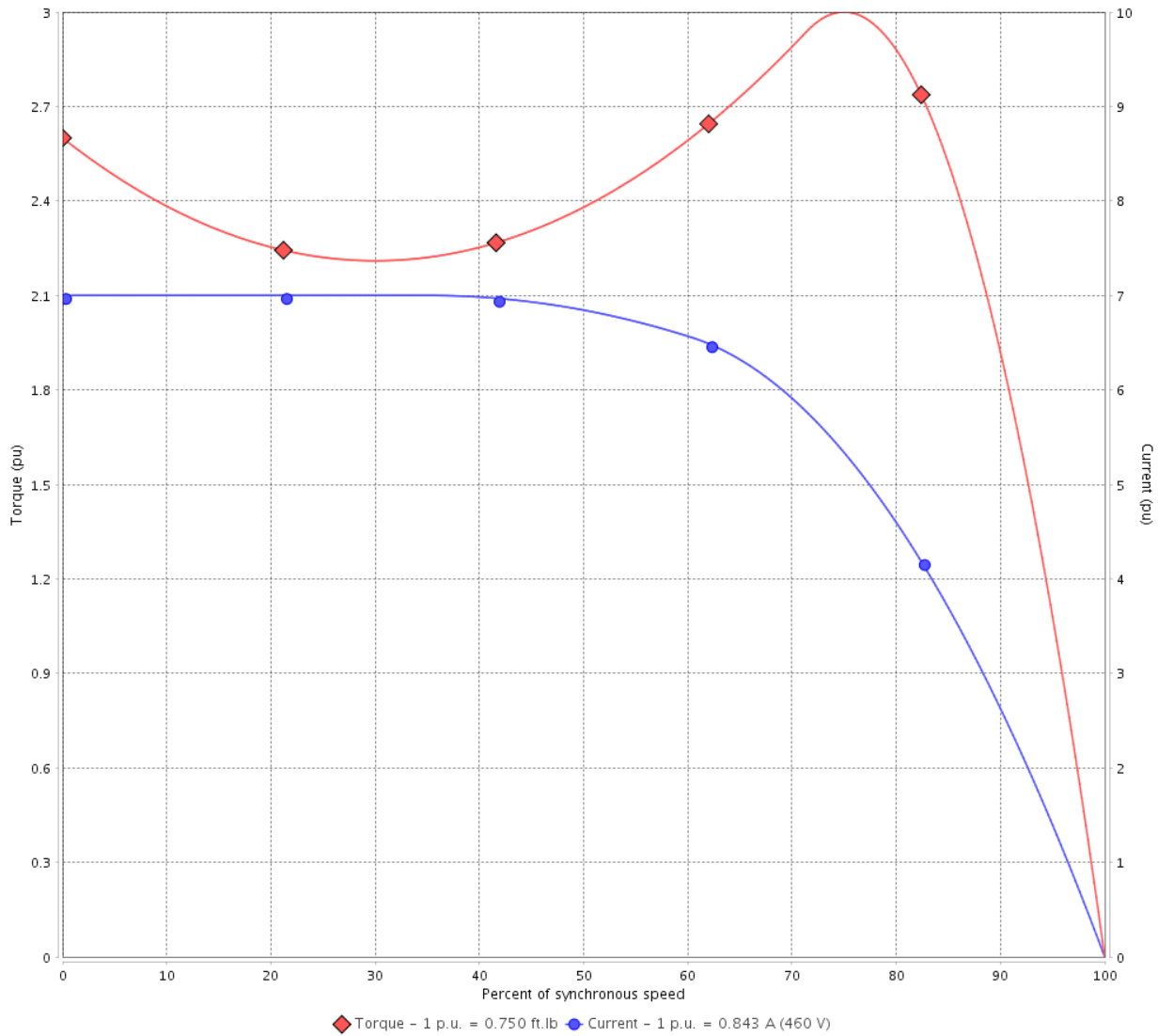
Product code :

14797641

Catalog # :

.5036ES3E56-S

TORQUE AND CURRENT VS SPEED CURVE



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

Rated current	: 1.86-1.69/0.843 A	Moment of inertia (J)	: 0.0453 sq.ft.lb
LRC	: 7.0	Duty cycle	: Cont.(S1)
Rated torque	: 0.750 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	:
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 3500 rpm		

Locked rotor time : 63s (cold) 35s (hot)

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Date	11/04/2022			

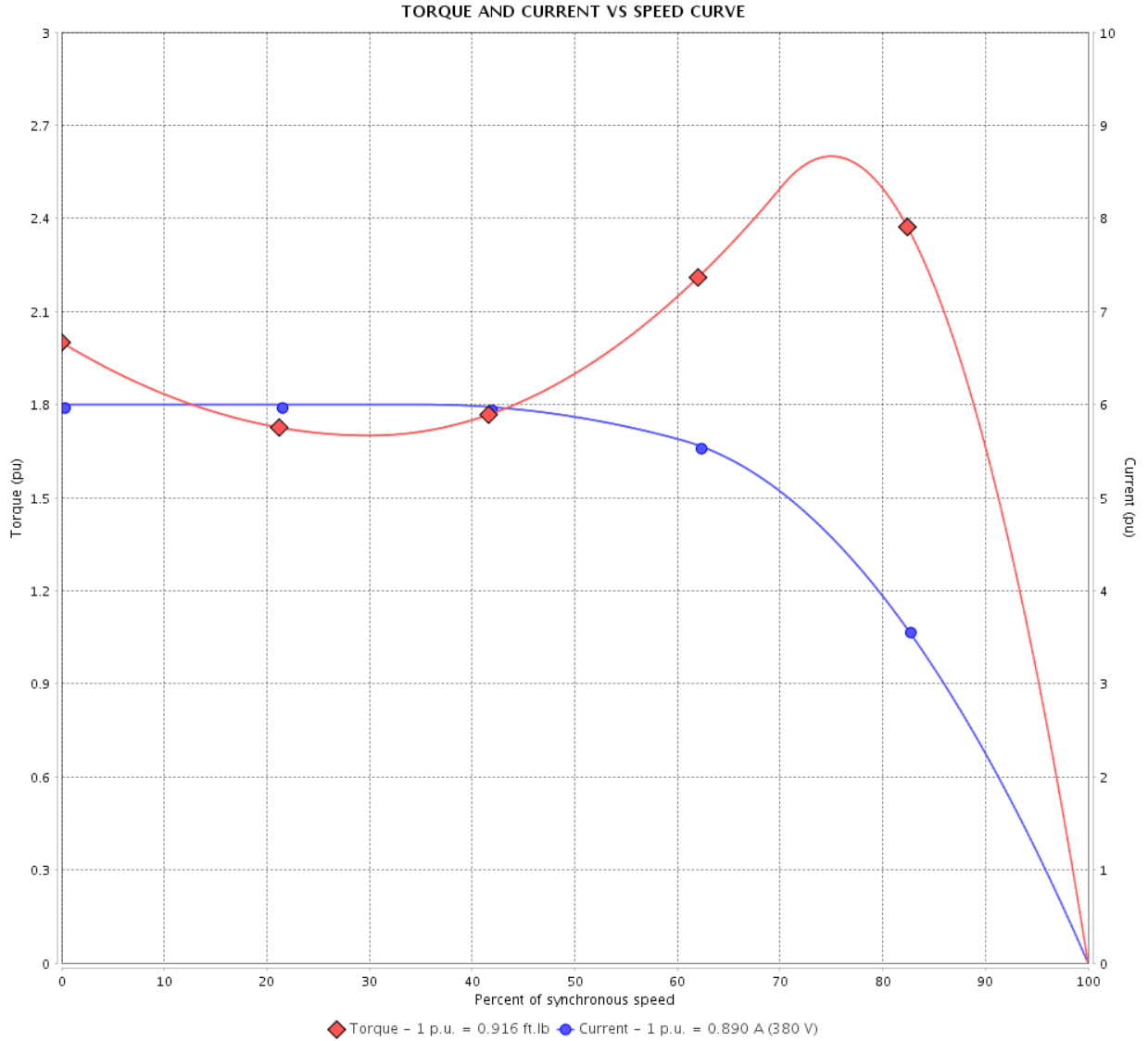
# TORQUE AND CURRENT VS SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14797641  
 Catalog # : .5036ES3E56-S



Performance : 190/380 V 50 Hz 2P

Rated current	: 1.78/0.890 A	Moment of inertia (J)	: 0.0453 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 0.916 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 2865 rpm		

Locked rotor time : 77s (cold) 43s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase

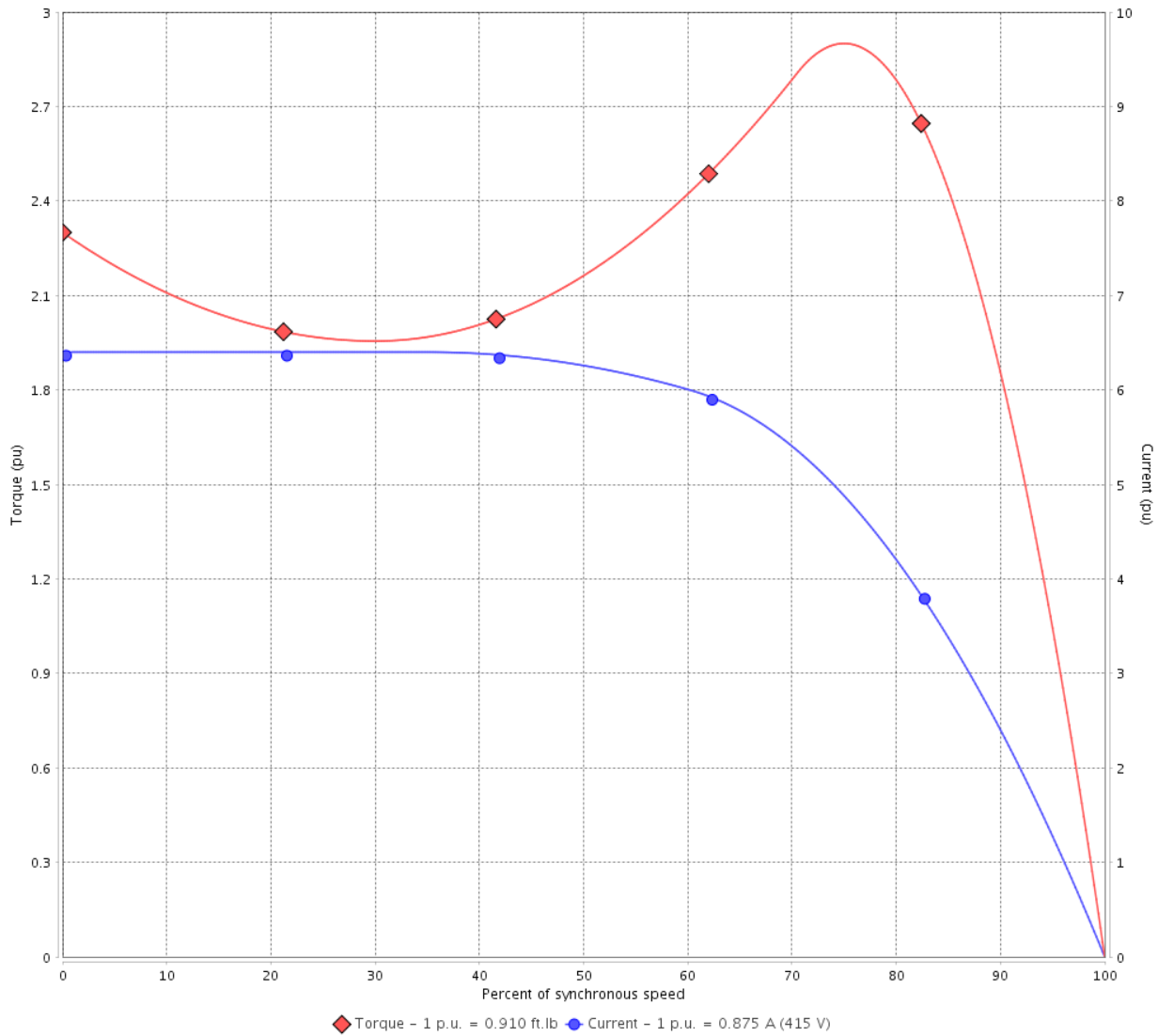
Product code :

14797641

Catalog # :

.5036ES3E56-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current : 1.65/0.875 A  
 LRC : 6.4  
 Rated torque : 0.910 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 290 %  
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

Locked rotor time : 72s (cold) 40s (hot)

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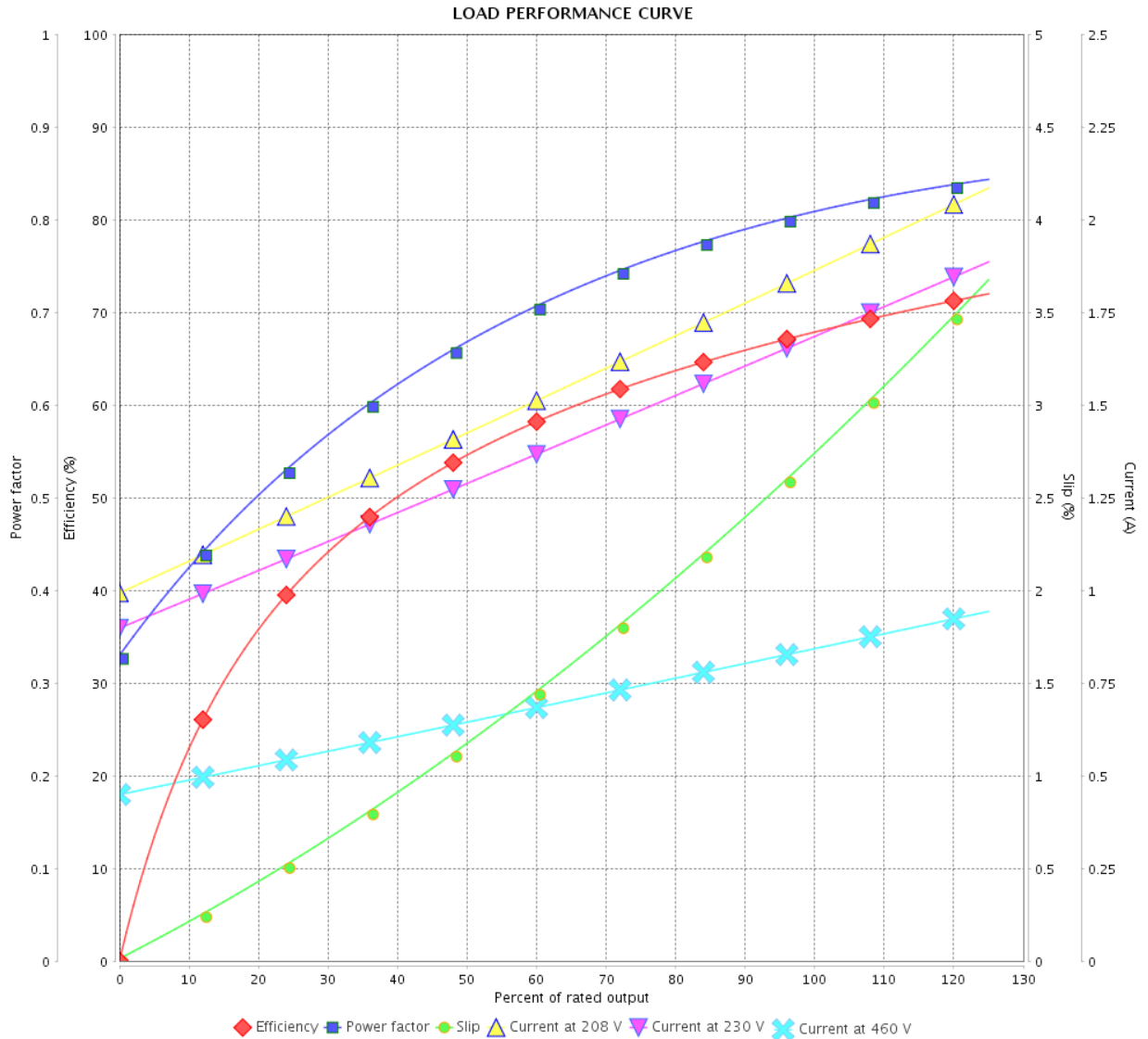
# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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

Product line : Standard Efficiency Three-Phase      Product code : 14797641  
 Catalog # : .5036ES3E56-S



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

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 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 : Standard Efficiency Three-Phase

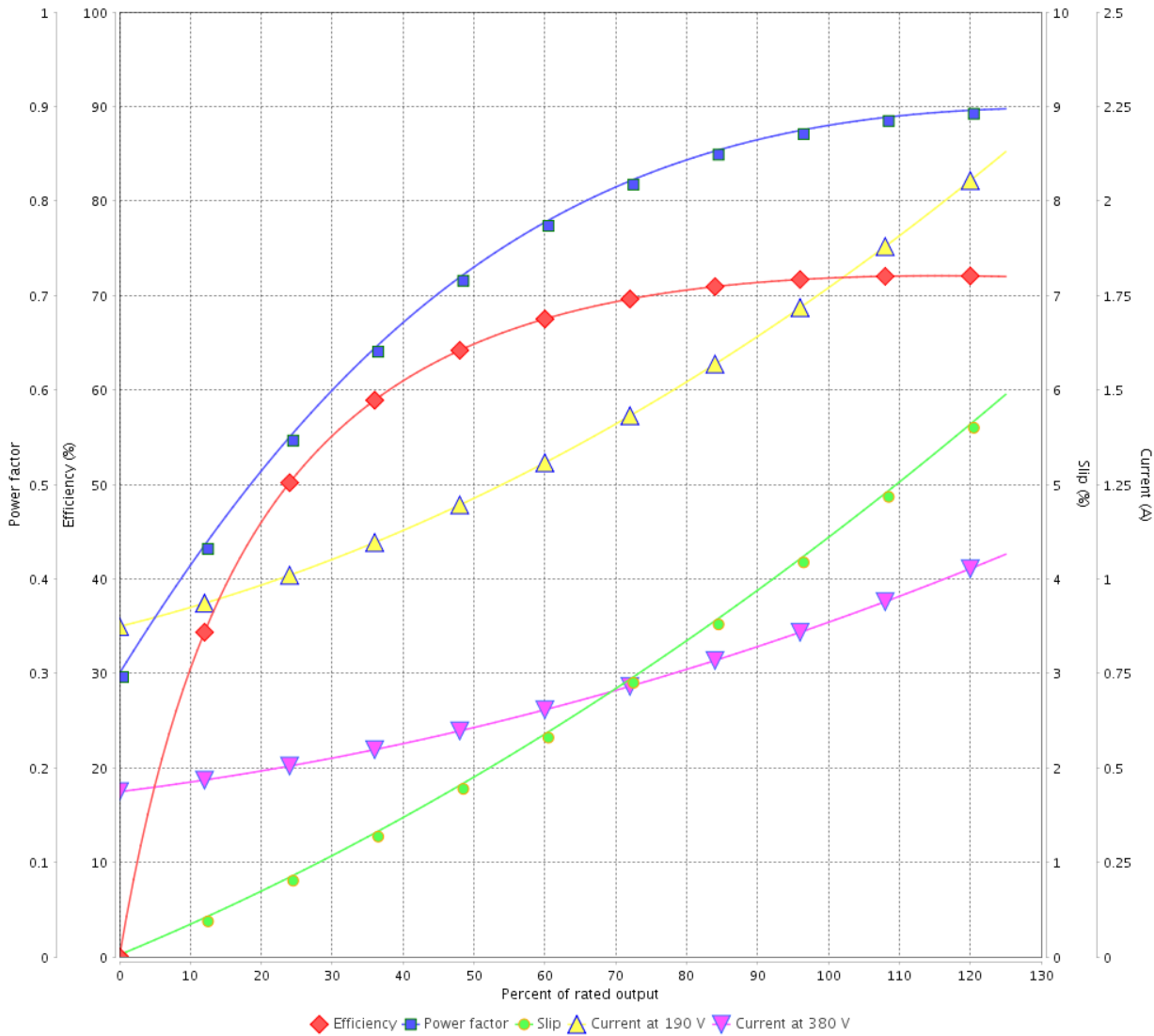
Product code :

14797641

Catalog # :

.5036ES3E56-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 2P

Rated current : 1.78/0.890 A  
 LRC : 6.0  
 Rated torque : 0.916 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 260 %  
 Rated speed : 2865 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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

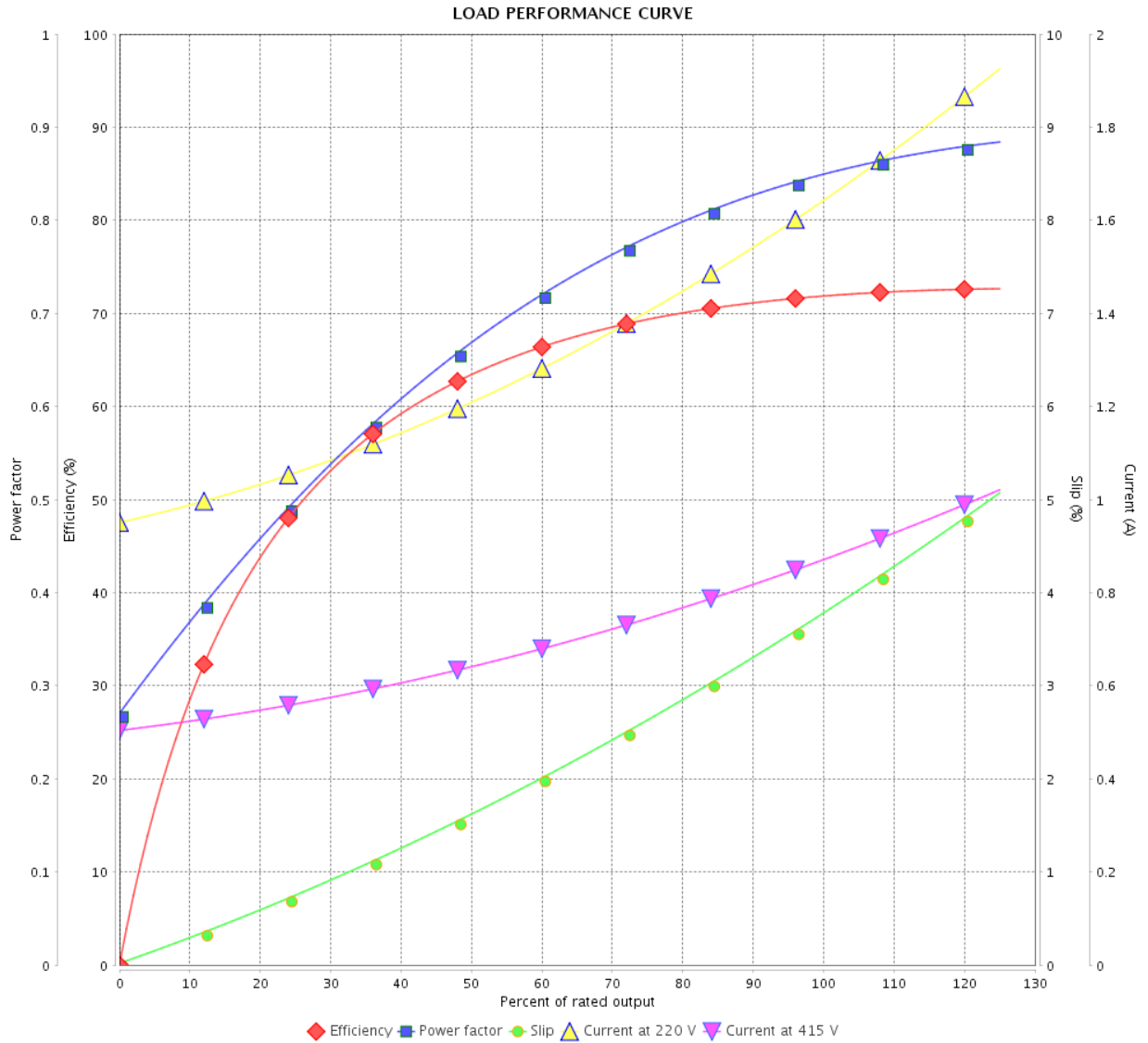
Product line : Standard Efficiency Three-Phase

Product code :

14797641

Catalog # :

.5036ES3E56-S



Performance : 220/415 V 50 Hz 2P

Rated current : 1.65/0.875 A  
 LRC : 6.4  
 Rated torque : 0.910 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 290 %  
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0453 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 :

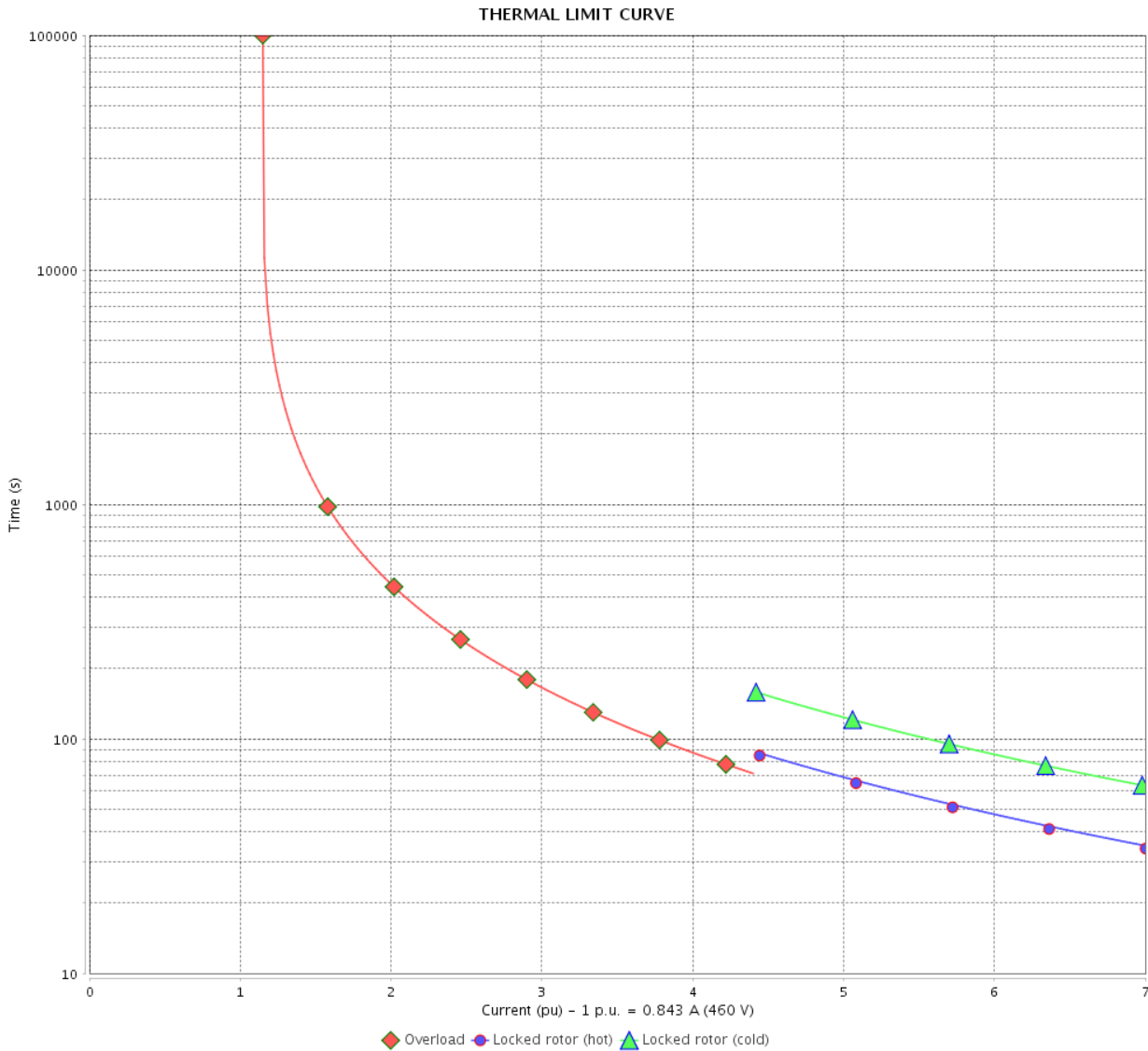
Product line : Standard Efficiency Three-Phase

Product code :

14797641

Catalog # :

.5036ES3E56-S



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

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Heating constant

Cooling constant

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Date				



# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

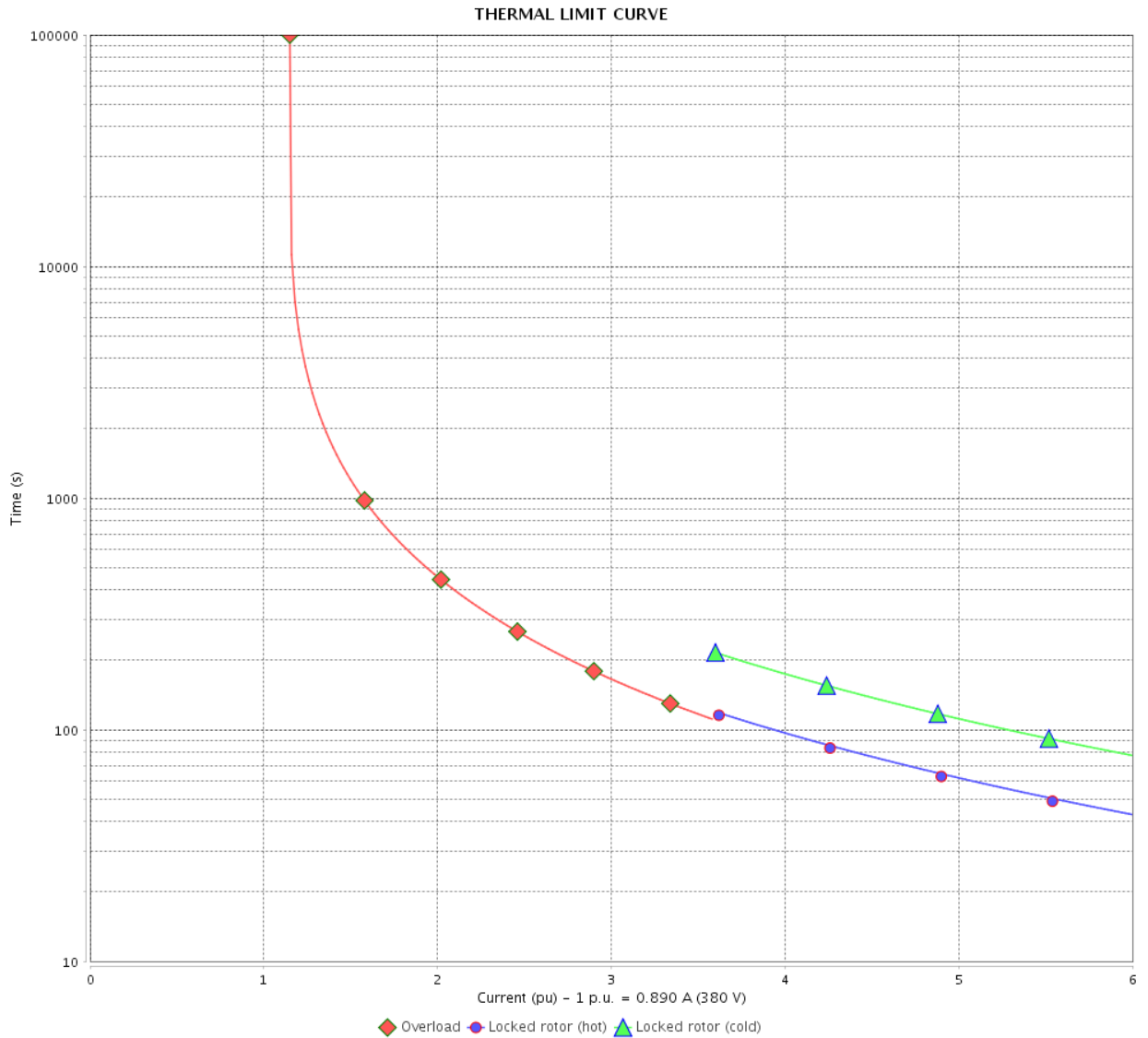
Product line : Standard Efficiency Three-Phase

Product code :

14797641

Catalog # :

.5036ES3E56-S



Performance : 190/380 V 50 Hz 2P

Rated current : 1.78/0.890 A  
 LRC : 6.0  
 Rated torque : 0.916 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 260 %  
 Rated speed : 2865 rpm

Moment of inertia (J) : 0.0453 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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Date				
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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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

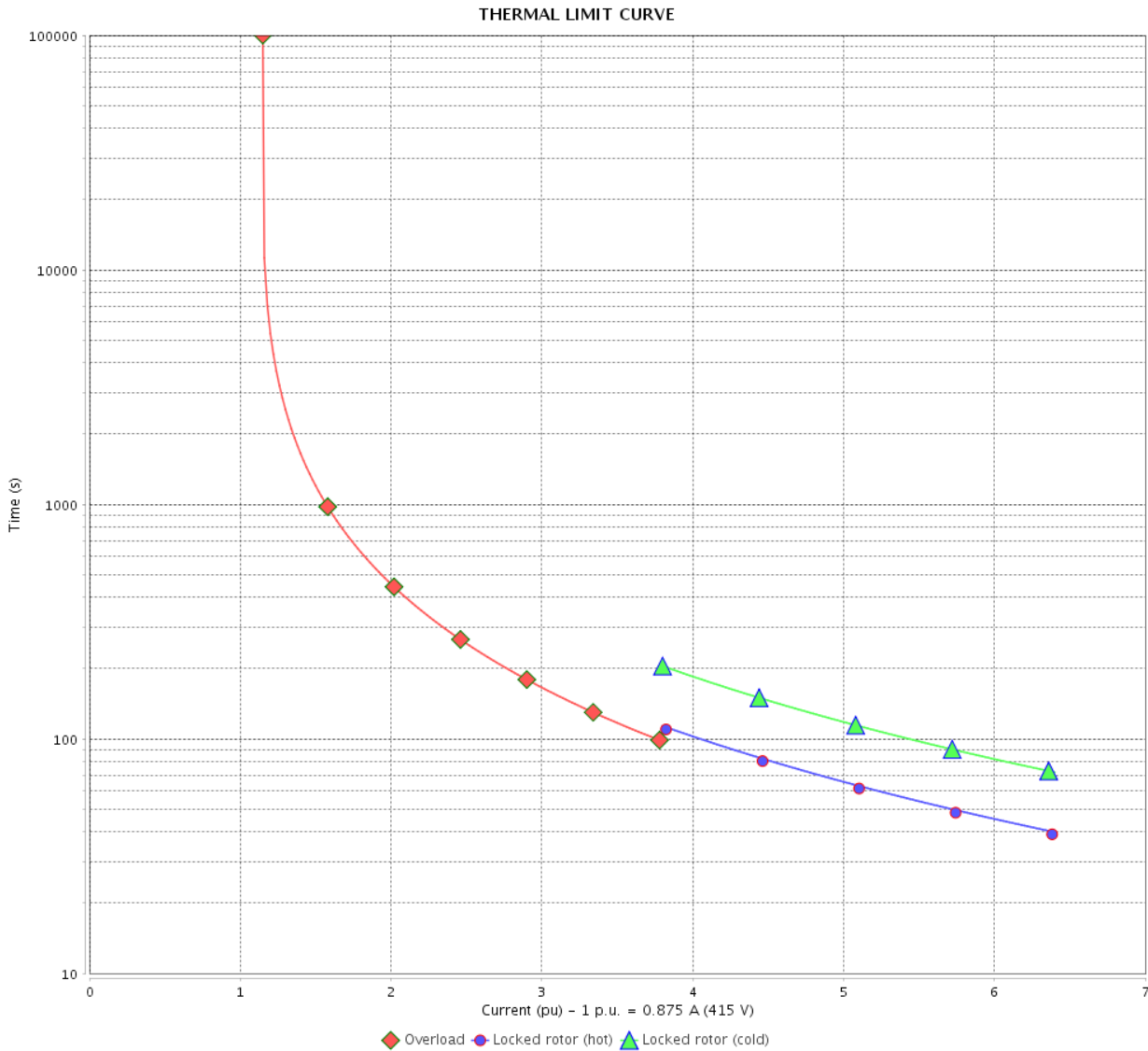
Product line : Standard Efficiency Three-Phase

Product code :

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Performance : 220/415 V 50 Hz 2P

Rated current : 1.65/0.875 A  
 LRC : 6.4  
 Rated torque : 0.910 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 290 %  
 Rated speed : 2885 rpm

Moment of inertia (J) : 0.0453 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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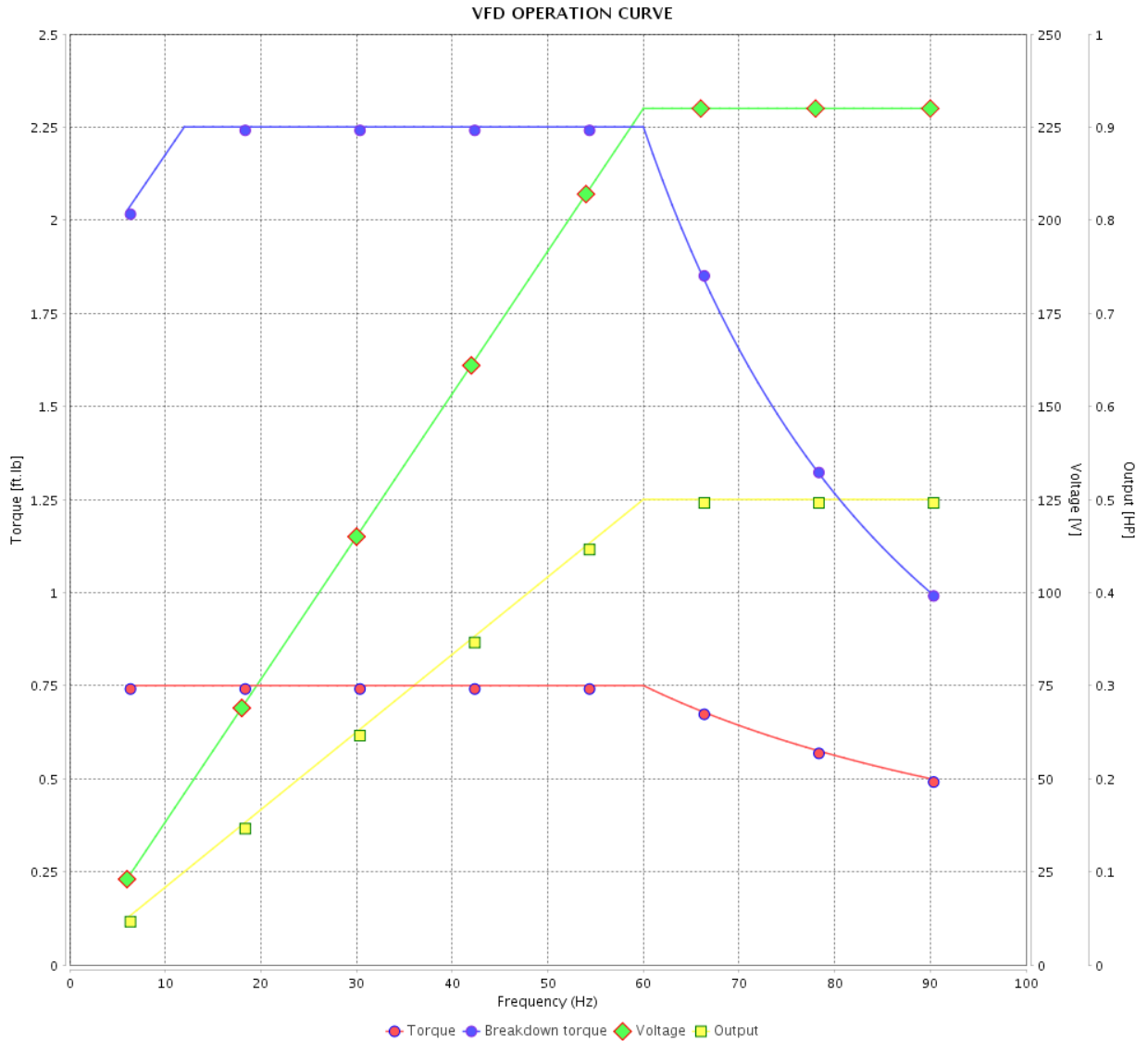
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14797641  
 Catalog # : .5036ES3E56-S



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

Rated current : 1.86-1.69/0.843 A  
 LRC : 7.0  
 Rated torque : 0.750 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 300 %  
 Rated speed : 3500 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

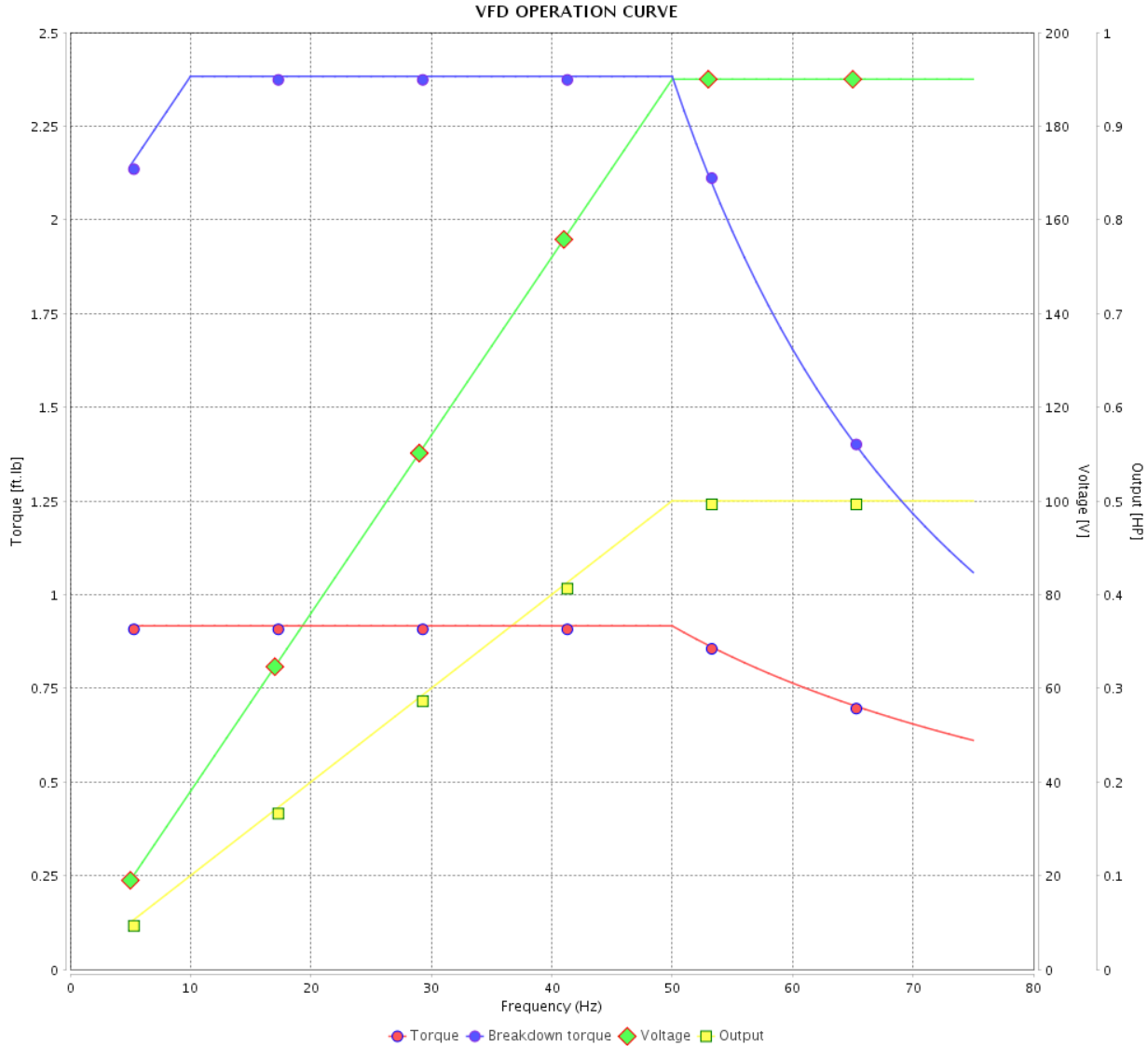
Product line : Standard Efficiency Three-Phase

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Performance : 190/380 V 50 Hz 2P

Rated current : 1.78/0.890 A  
 LRC : 6.0  
 Rated torque : 0.916 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 260 %  
 Rated speed : 2865 rpm

Moment of inertia (J) : 0.0453 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

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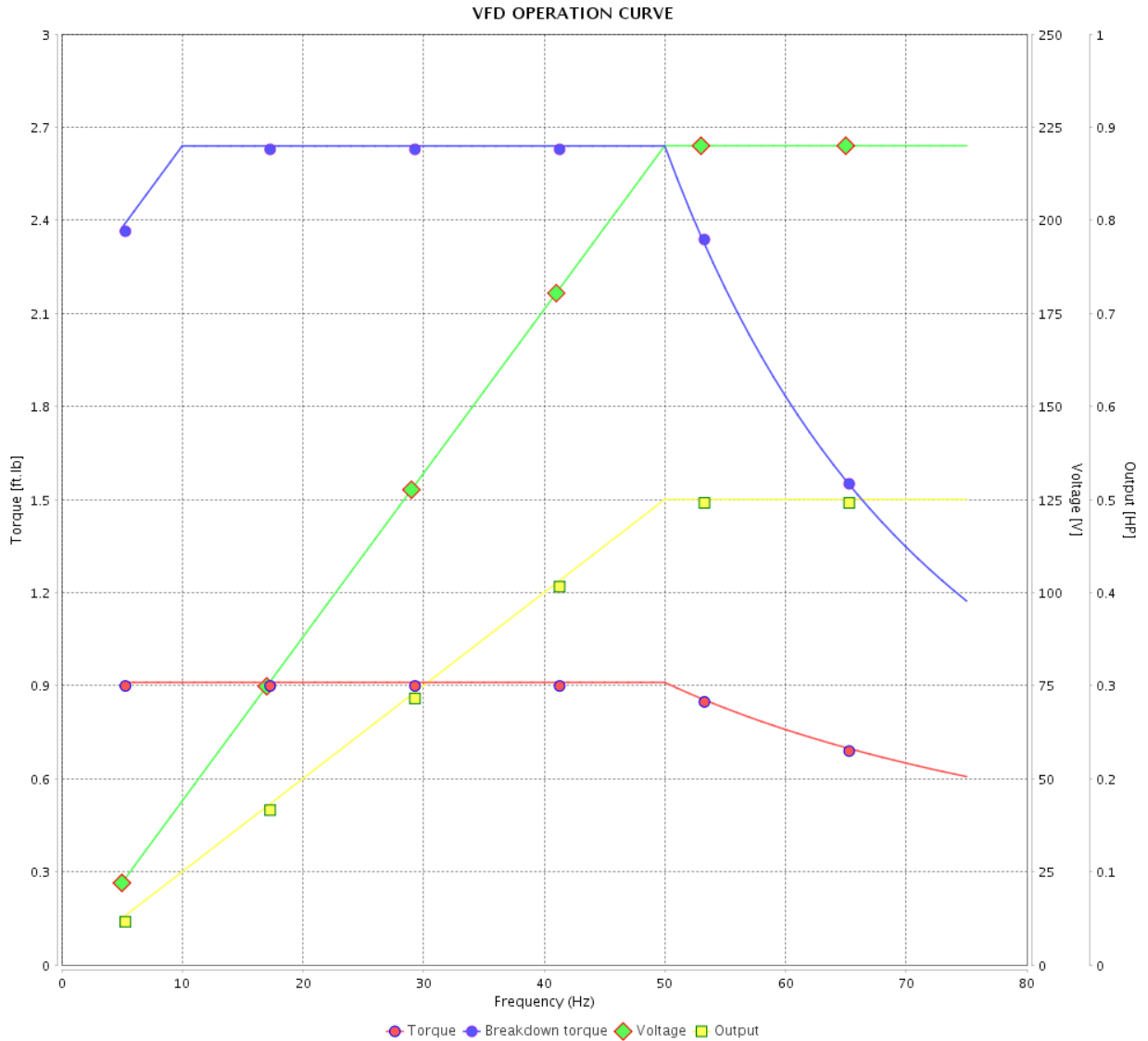
# VFD OPERATION CURVE

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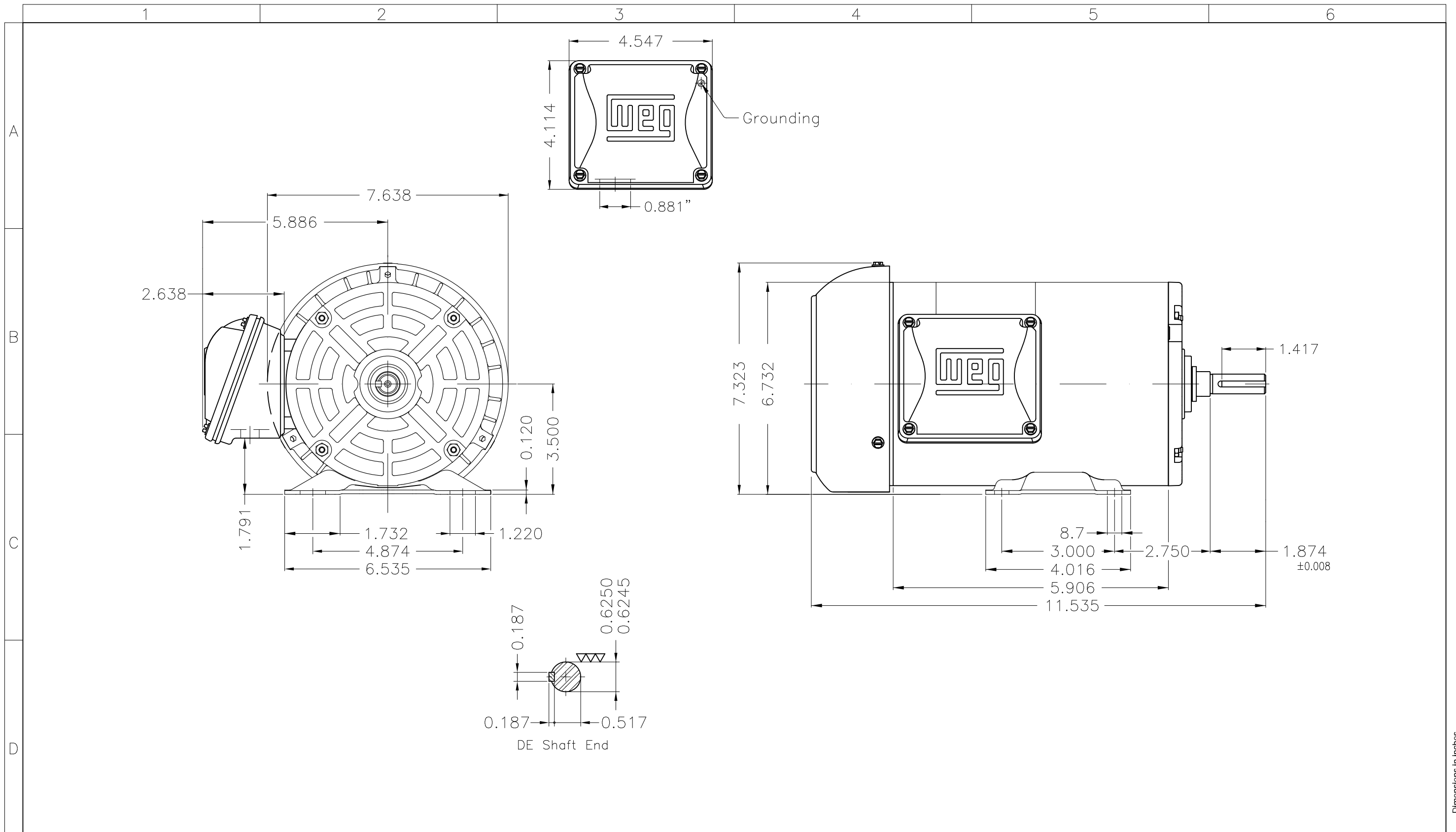


Performance : 220/415 V 50 Hz 2P

Rated current : 1.65/0.875 A  
 LRC : 6.4  
 Rated torque : 0.910 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 290 %  
 Rated speed : 2885 rpm

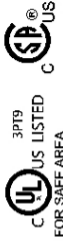
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K

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Fan cover - steel plate										
Without coating										
Mounting F-1/B3R(D)										
ECM	LOC	SUMMARY OF MODIFICATIONS				EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR ROLLED STEEL				PREVIEW		WDD		
CHECKED		FRAME 56 IP55 TEFC				WDD		SHEET 1 / 1		
RELEASED						WEG				
REL DT.	WMO	Jaragua do Sul				Product Engineering				

0.5 HP 02 Poles 60 Hz



MADE IN MEXICO

**MAT: 14797641**

**W01.TE0IC0X0X**

**MODEL 5036ES3E56-S**

**28MAR2022 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 56		KW 0.37
DUTY CONT.		V 208-230/460
ALT 1000 m.a.s.l.		A 1.86-1.69/0.843
INS CL F AT 80K	IP55	SFA 1.86-1.94/0.969
AMB 40°C	DES -	SF 1.15
ENCL TEFC	CODE L	PF 0.81
USABLE @ 208V SF1.00		RPM 3500
		NEMA NOM. EFF 68.0%

ALTERNATE RATING: 0.50HP 50Hz 190-220/380-415V SF1.15
1.78-1.68/0.890-0.878A 2865RPM EFF 71.5% (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.

