

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: Standard Efficiency Three-Phase	Product code :	14796941	
		Catalog # :	.3318ES3E56-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>	: 20.2 lb	
Protection degree	: IP55	Moment of inertia (J)	: 0.0517 sq.ft.lb	
Output [HP]	0.33	0.33	0.33	
Poles	4	4	4	
Frequency [Hz]	60	50	50	
Rated voltage [V]	208-230/460	190/380	220/415	
Rated current [A]	1.38-1.25/0.624	1.36/0.678	1.29/0.682	
L. R. Amperes [A]	9.80-8.86/4.43	7.59/3.80	7.59/4.02	
LRC [A]	7.1x(Code M)	5.6x(Code J)	5.9x(Code K)	
No load current [A]	0.810-0.940/0.470	0.924/0.462	0.941/0.499	
Rated speed [RPM]	1765	1455	1460	
Slip [%]	1.94	3.00	2.67	
Rated torque [ft.lb]	0.982	1.19	1.19	
Locked rotor torque [%]	229	170	190	
Breakdown torque [%]	300	260	290	
Service factor		1.00	1.00	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	55s (cold) 31s (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%	62.0	64.9	62.8
	50%	64.0	66.7	65.0
	75%	72.0	72.0	71.1
	100%	74.0	73.7	73.5
Power Factor	25%	0.26	0.31	0.28
	50%	0.47	0.55	0.51
	75%	0.58	0.67	0.63
	100%	0.68	0.76	0.72
Bearing type	: Drive end 6203 ZZ Non drive end 6202 ZZ	Foundation loads		
Sealing	: V'Ring Without Bearing Seal	Max. traction	: 23 lb	
		Max. compression	: 44 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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Checked by			Page	Revision
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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Standard Efficiency Three-Phase

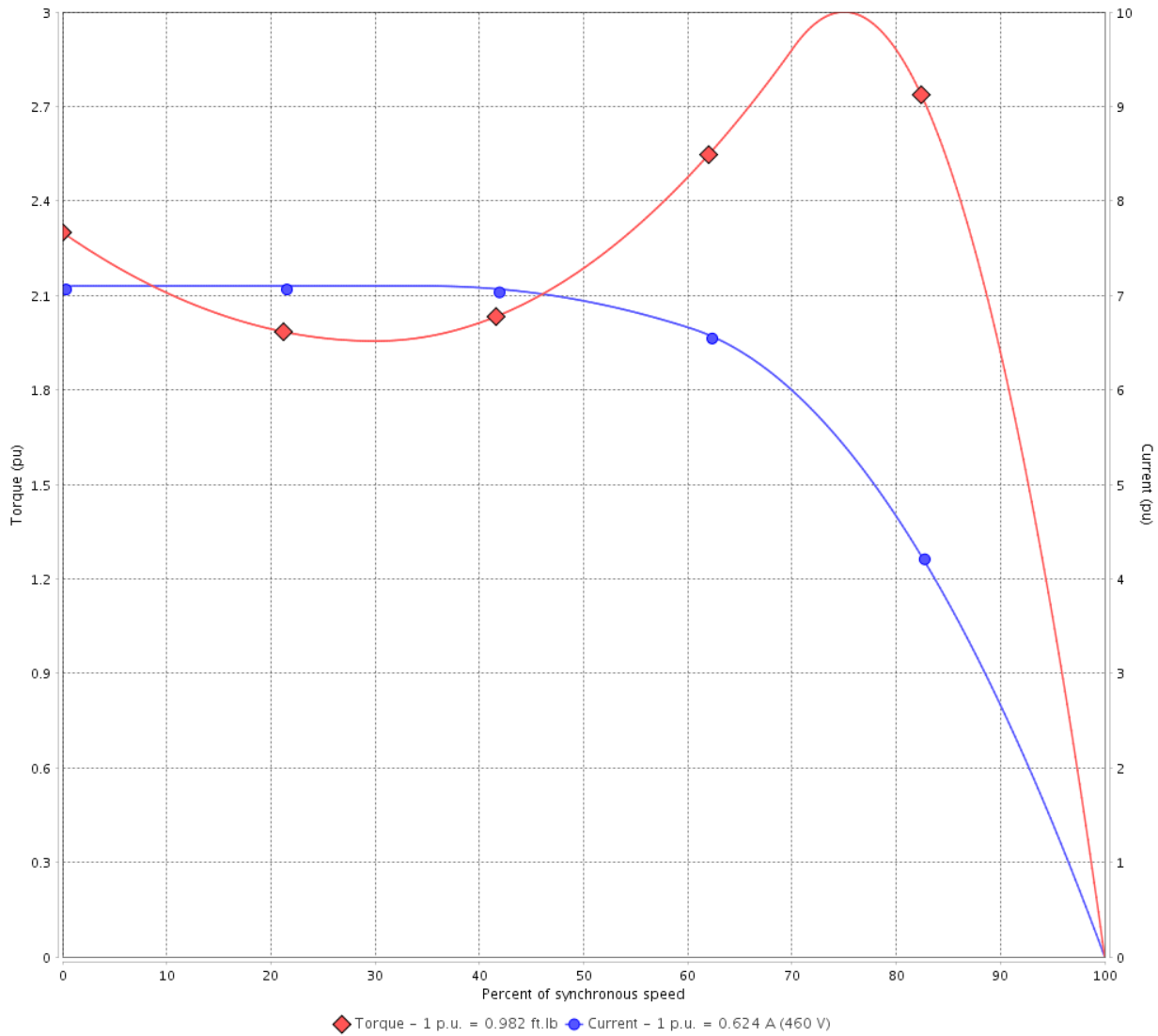
Product code :

14796941

Catalog # :

.3318ES3E56-S

TORQUE AND CURRENT VS SPEED CURVE



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

Rated current : 1.38-1.25/0.624 A  
 LRC : 7.1  
 Rated torque : 0.982 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 300 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 0.0517 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

Locked rotor time : 55s (cold) 31s (hot)

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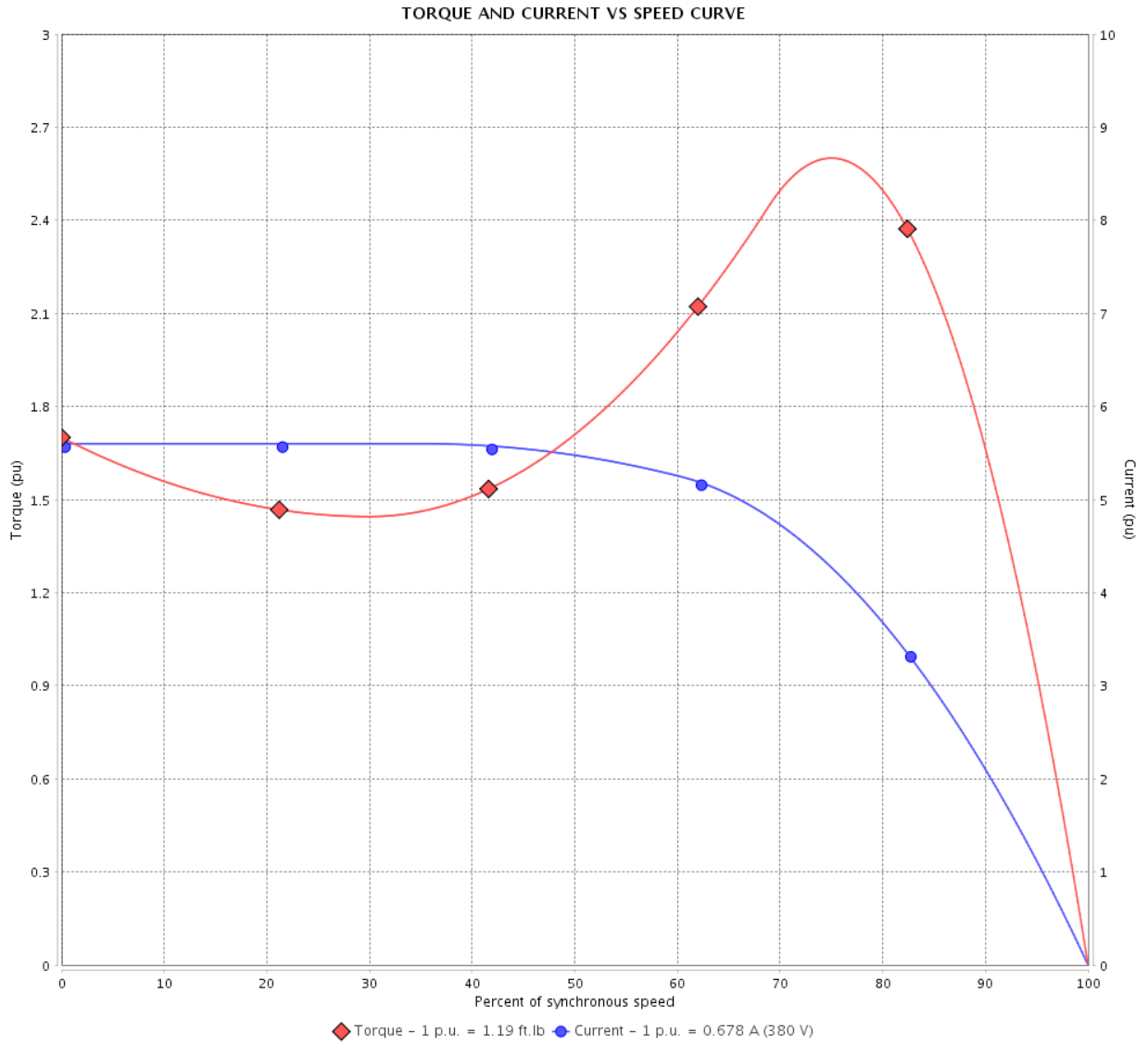
# TORQUE AND CURRENT VS SPEED CURVE



Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : Standard Efficiency Three-Phase      Product code : 14796941  
 Catalog # : .3318ES3E56-S



Performance : 190/380 V 50 Hz 4P

Rated current : 1.36/0.678 A	Moment of inertia (J) : 0.0517 sq.ft.lb
LRC : 5.6	Duty cycle : Cont.(S1)
Rated torque : 1.19 ft.lb	Insulation class : F
Locked rotor torque : 170 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1455 rpm	

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

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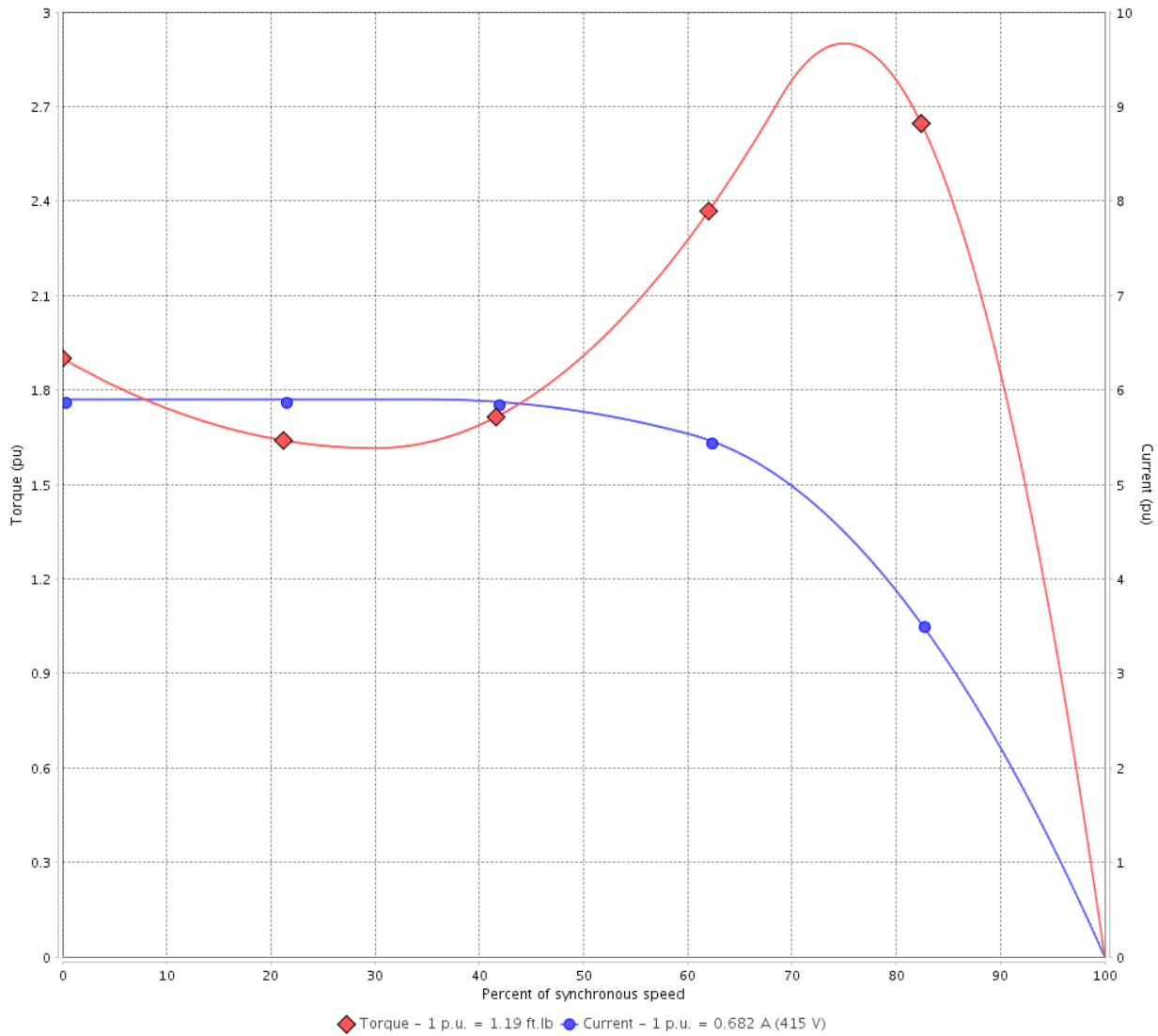
Product code :

14796941

Catalog # :

.3318ES3E56-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current : 1.29/0.682 A  
 LRC : 5.9  
 Rated torque : 1.19 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 290 %  
 Rated speed : 1460 rpm

Moment of inertia (J) : 0.0517 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



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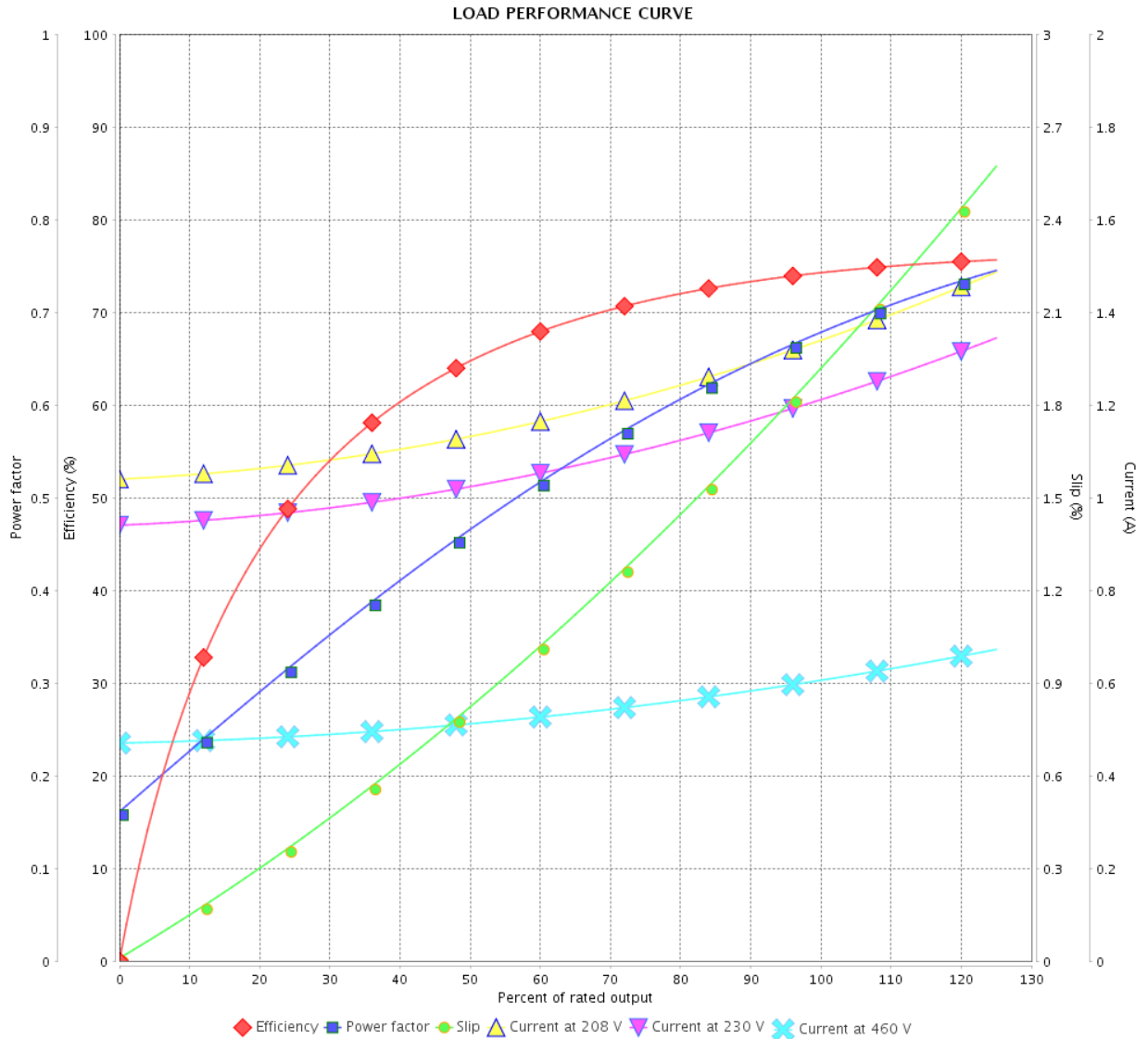
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Product code :

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Catalog # :

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

Rated current : 1.38-1.25/0.624 A  
 LRC : 7.1  
 Rated torque : 0.982 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 300 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 0.0517 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

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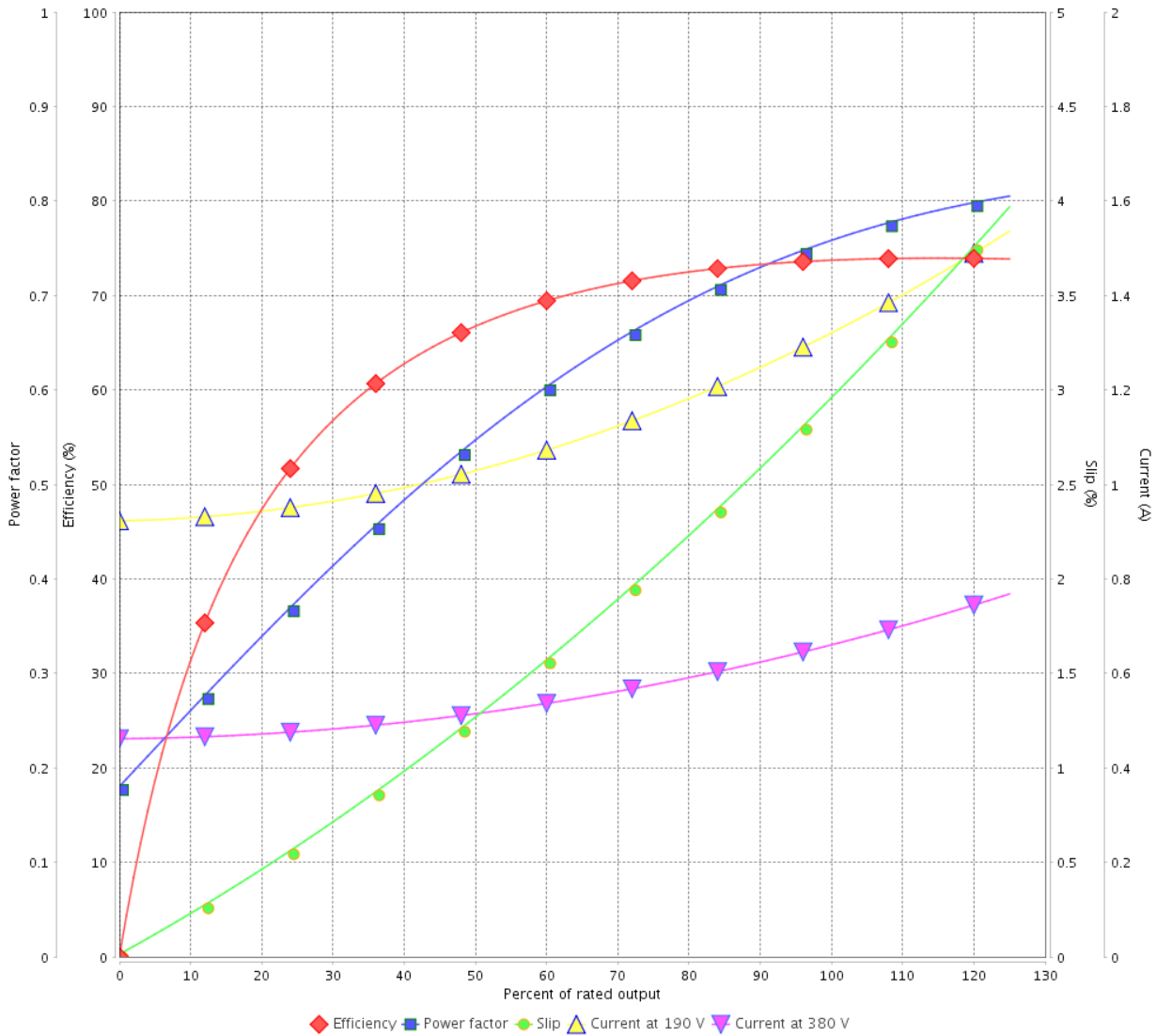
Product code :

14796941

Catalog # :

.3318ES3E56-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

Rated current : 1.36/0.678 A  
 LRC : 5.6  
 Rated torque : 1.19 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 260 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.0517 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K

Rev.	Changes Summary	Performed	Checked	Date
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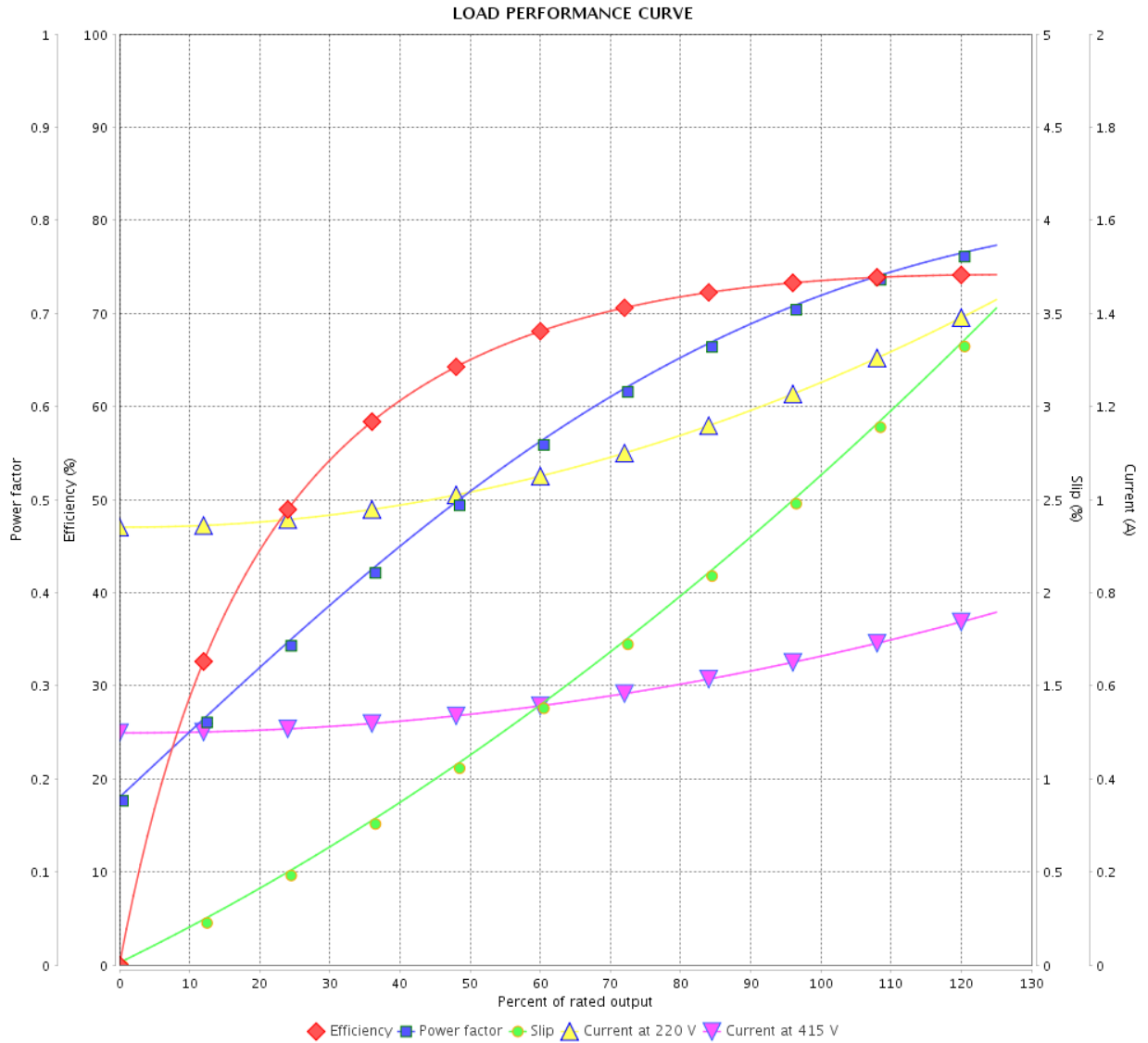
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Three Phase Induction Motor - Squirrel Cage



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 Catalog # : .3318ES3E56-S



Performance : 220/415 V 50 Hz 4P

Rated current : 1.29/0.682 A  
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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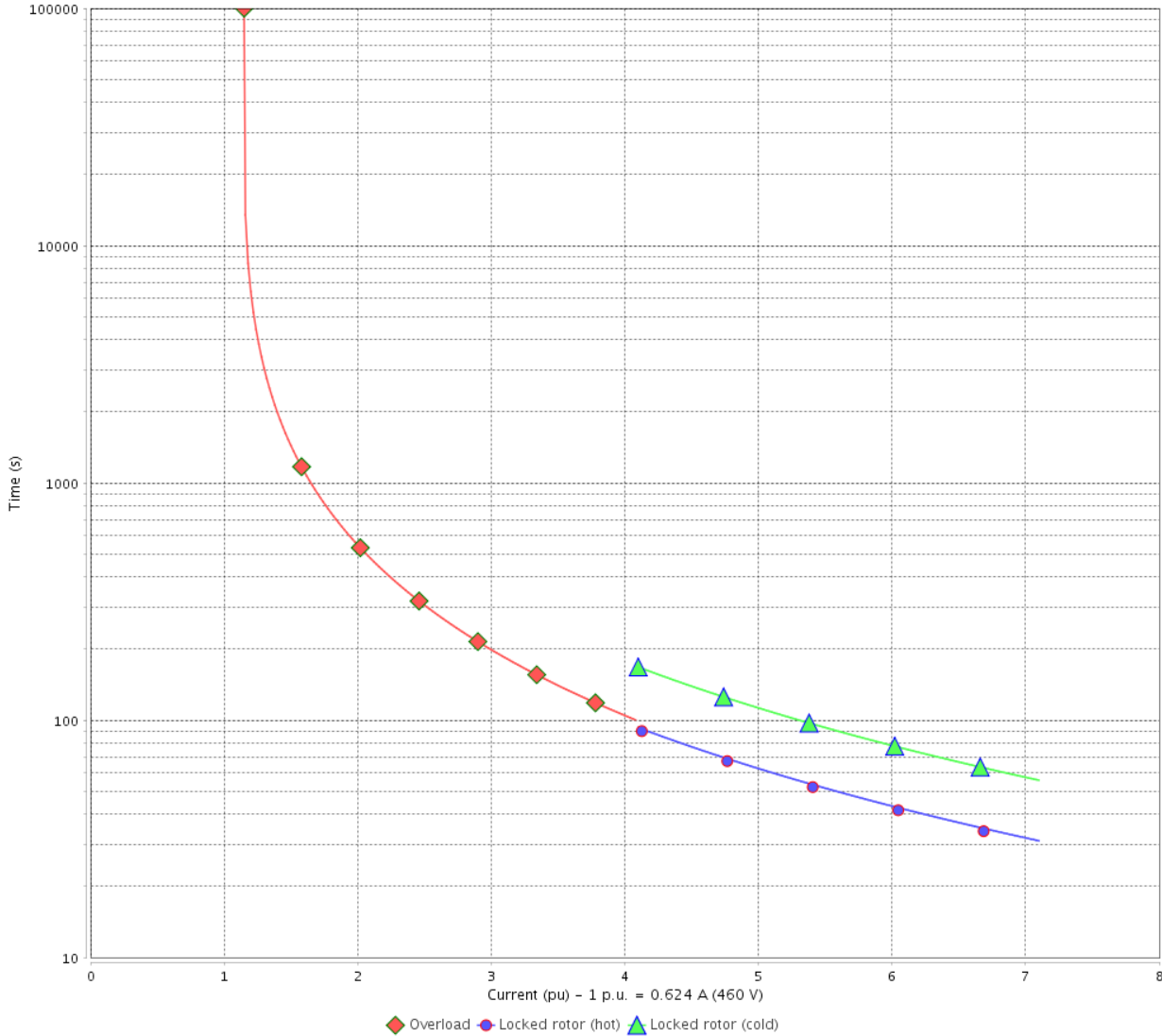
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.3318ES3E56-S

THERMAL LIMIT CURVE



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

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 LRC : 7.1  
 Rated torque : 0.982 ft.lb  
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 Breakdown torque : 300 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 0.0517 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 : \_\_\_\_\_

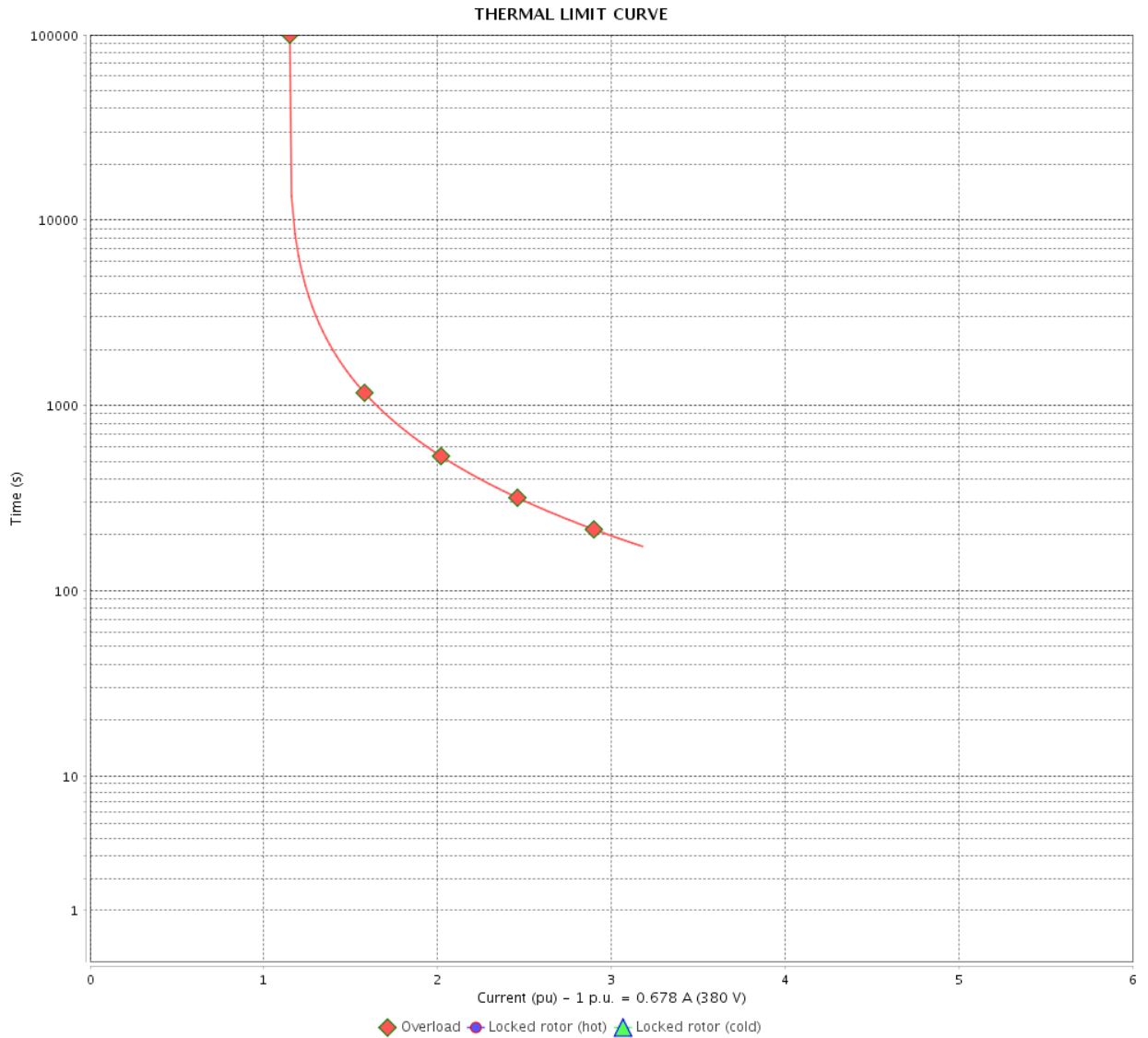
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Performance : 190/380 V 50 Hz 4P

Rated current : 1.36/0.678 A  
 LRC : 5.6  
 Rated torque : 1.19 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 260 %  
 Rated speed : 1455 rpm

Moment of inertia (J) : 0.0517 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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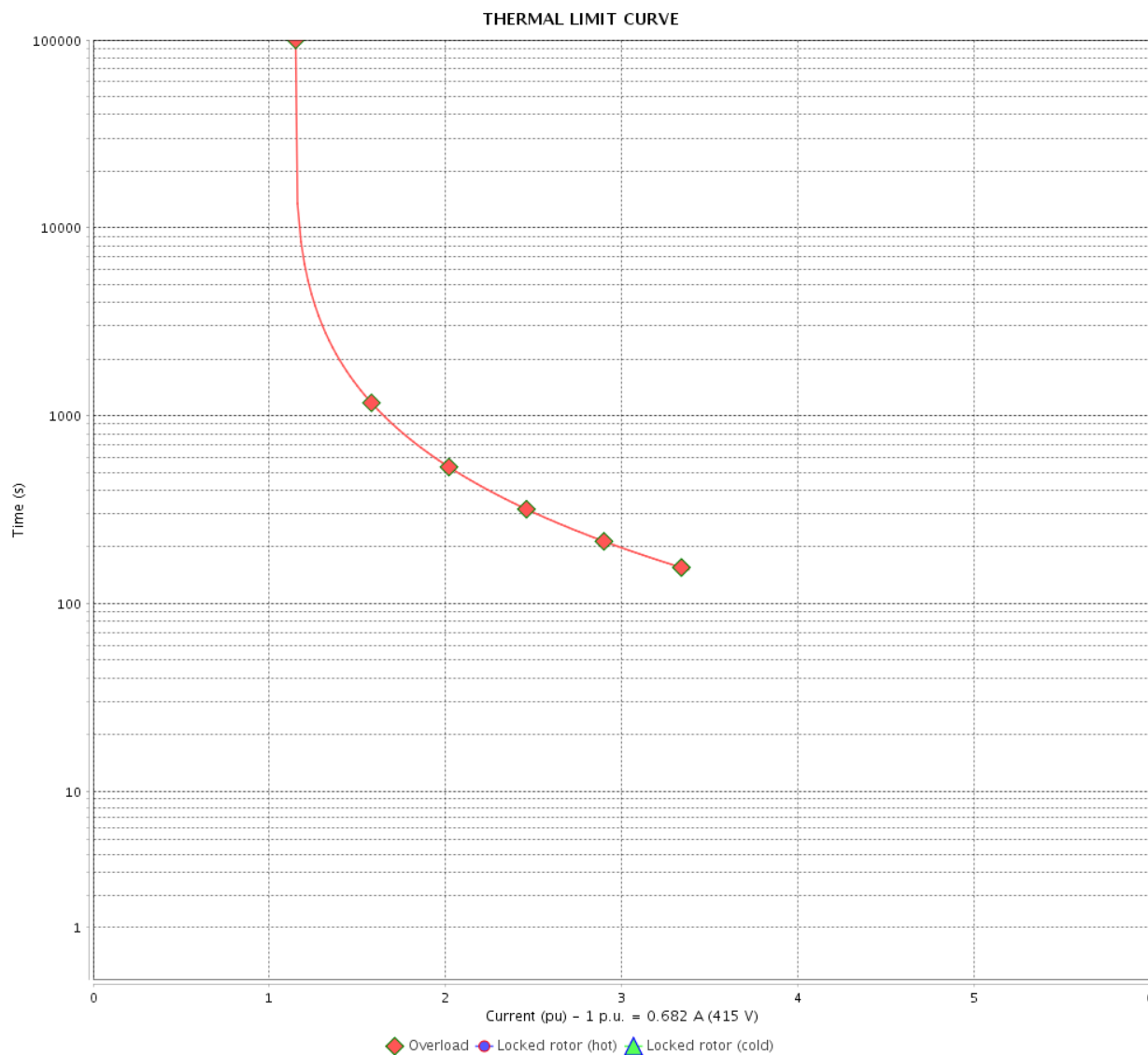
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 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K

Heating constant  
 Cooling constant

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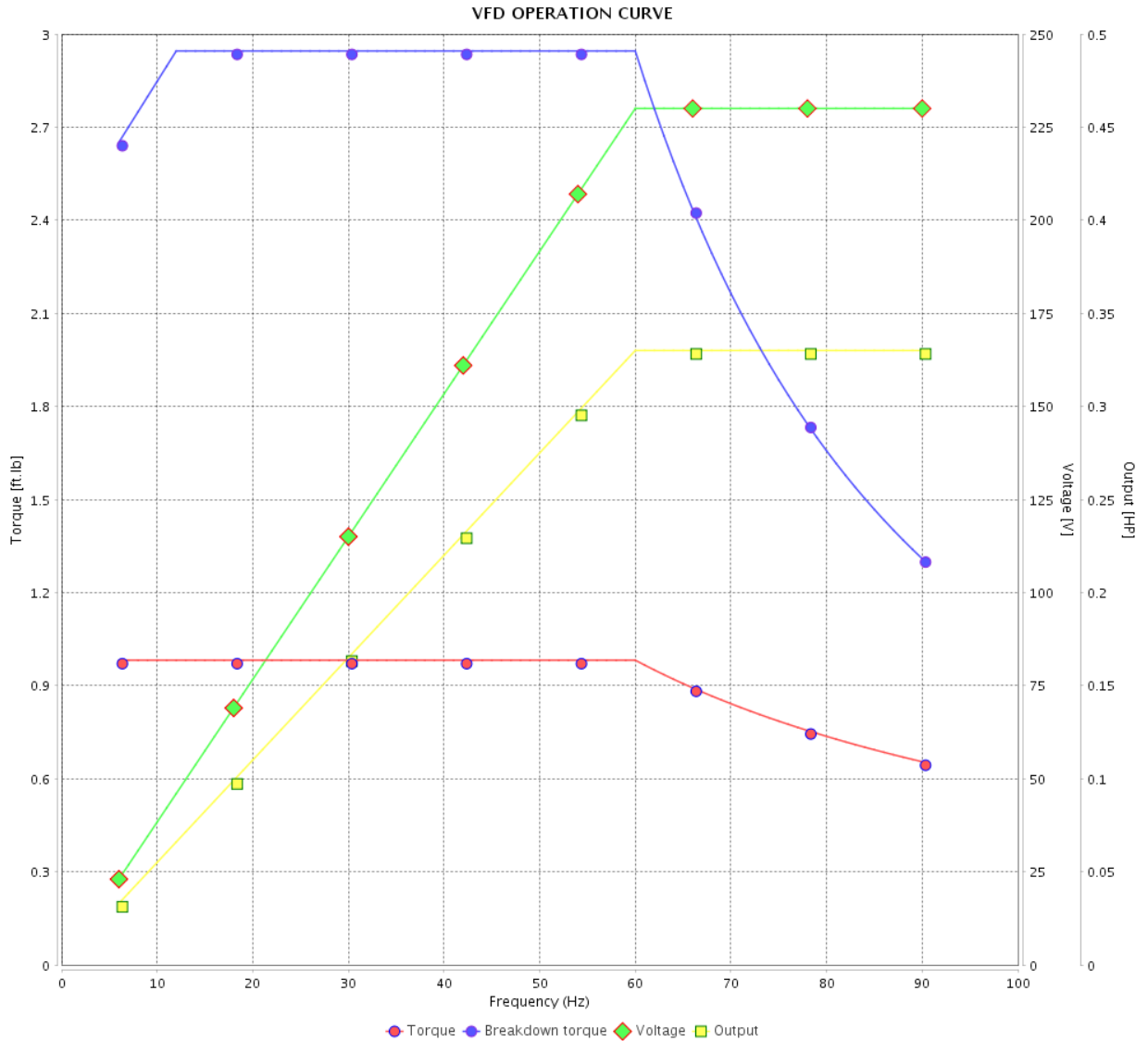
# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



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 Breakdown torque : 300 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 0.0517 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K

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Three Phase Induction Motor - Squirrel Cage



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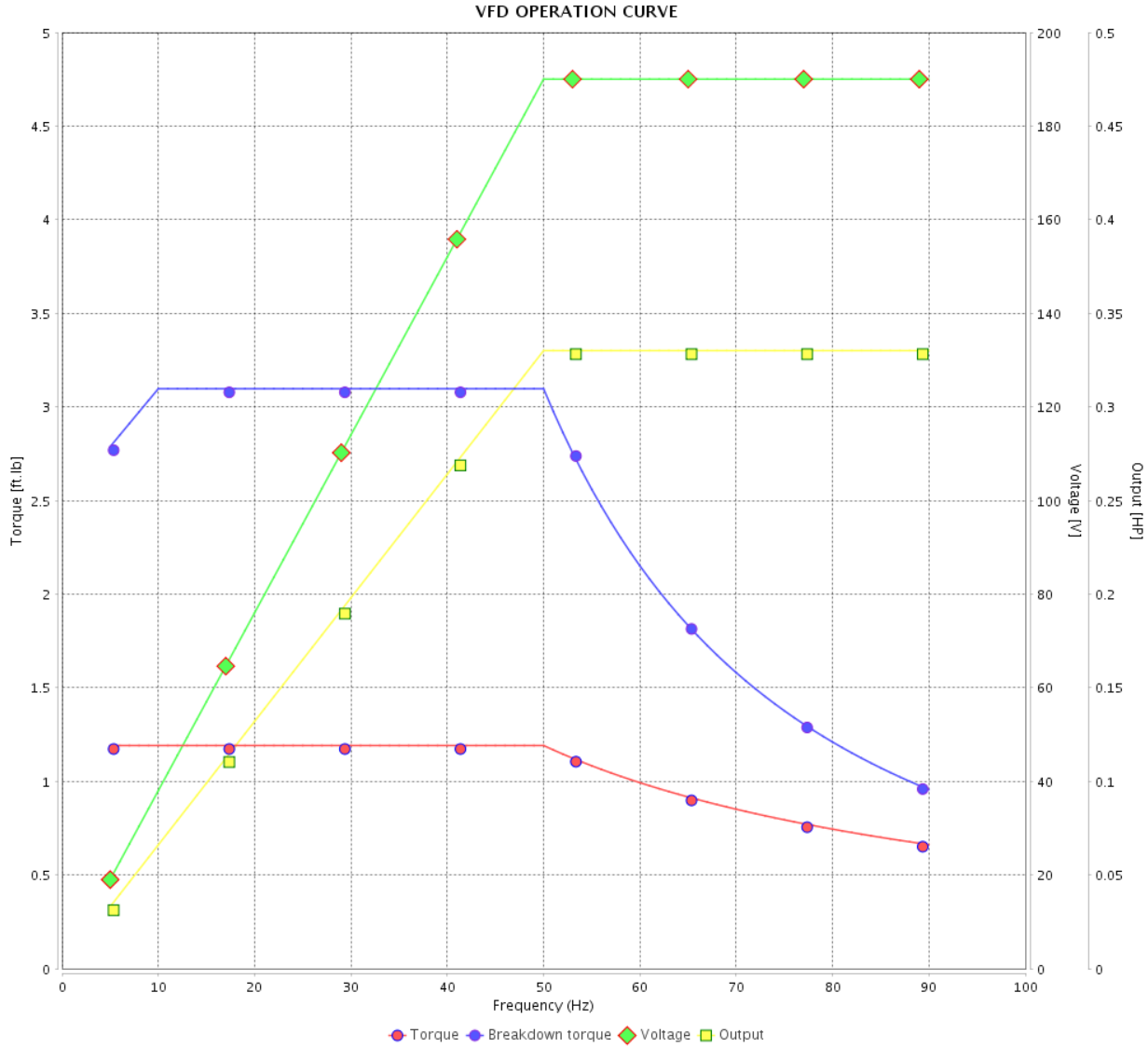
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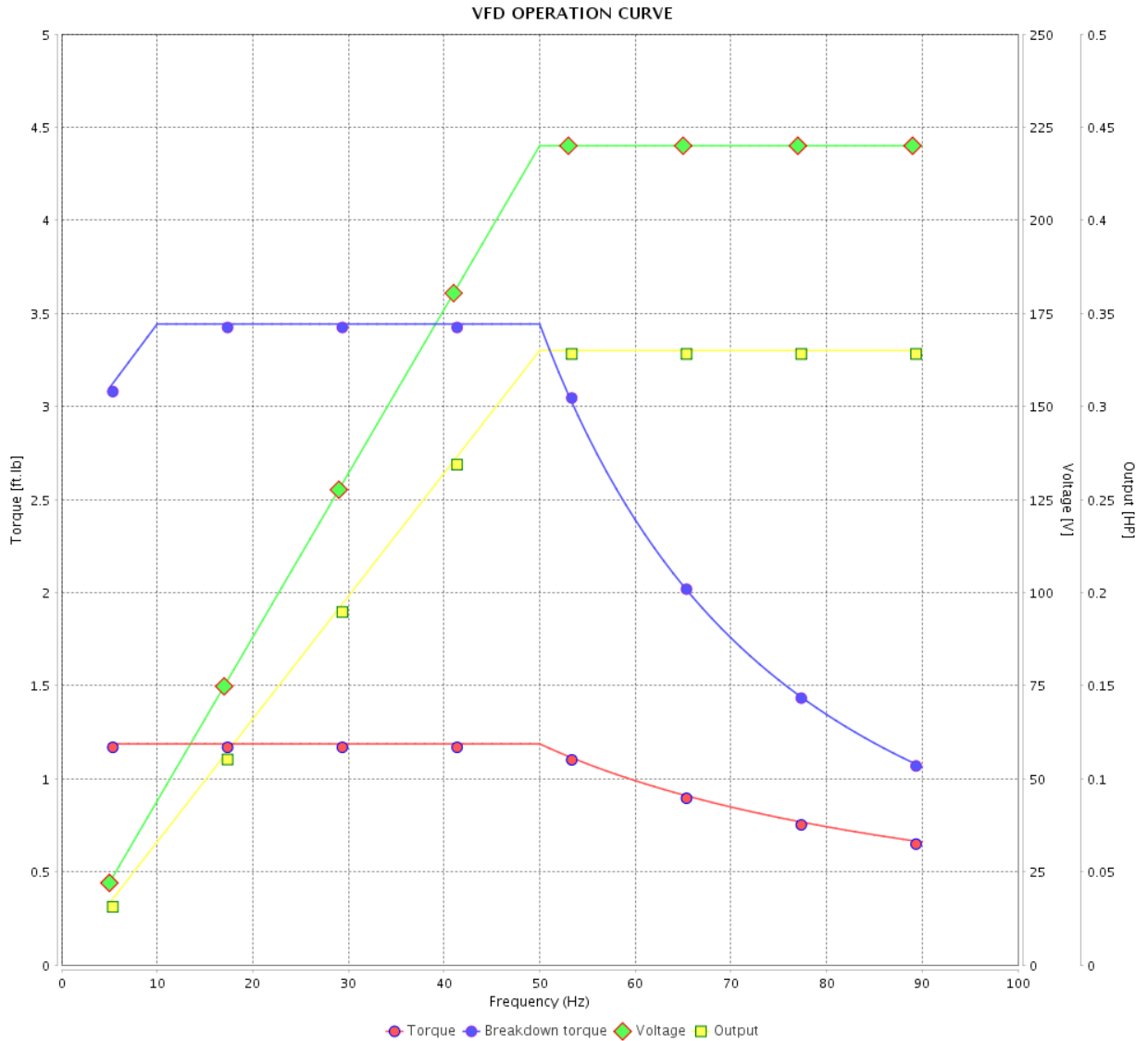
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 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K

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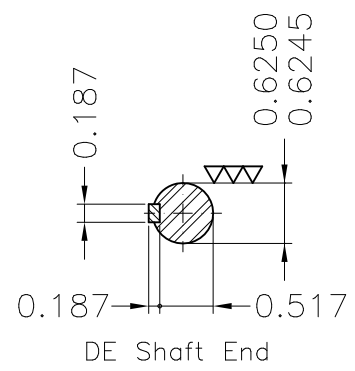
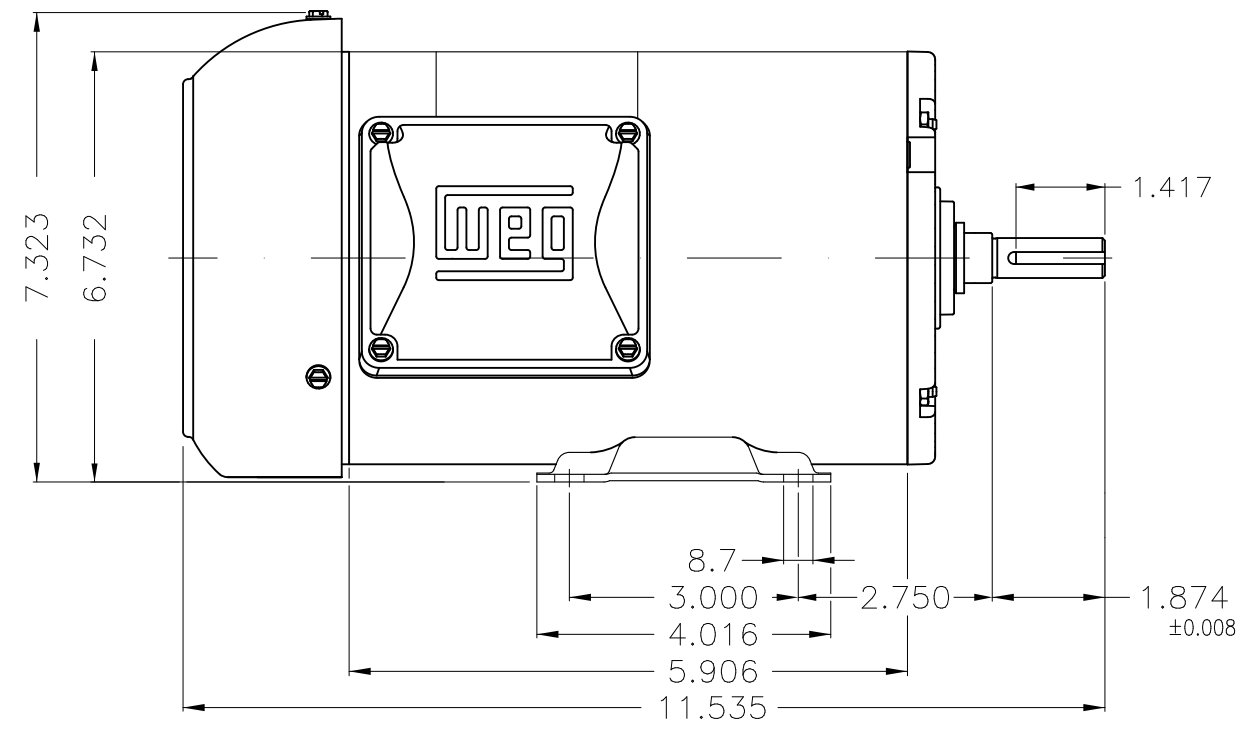
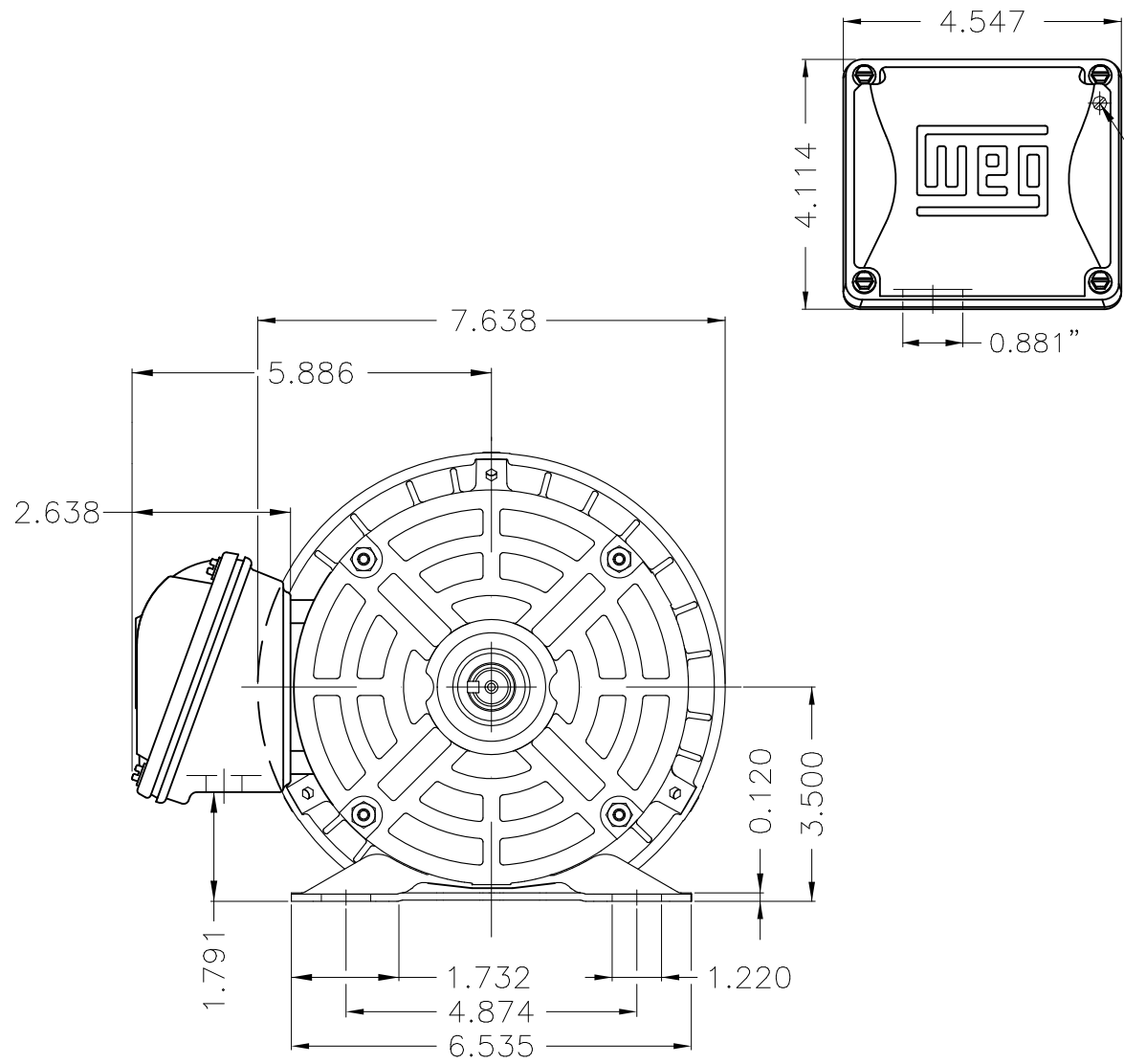
A

B


C

D

E



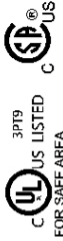
Dimensions in inches

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	SHEET	1 / 1	
CHECKED		FRAME 56 IP55 TEFC									
RELEASED											
REL DT.		WMO	Jaragua do Sul	Product Engineering							

0.33 HP 04 Poles 60 Hz

A

XME A3



MADE IN BRAZIL

**MAT: 14796941**

**W01.TE0IC0X0X**

**MODEL 3318ES3E56-S**

**29NOV2021 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 0.33
FR 56		KW 0.25
DUTY CONT.		V 208-230/460
ALT 1000 m.a.s.l.		A 1.38-1.25/0.624
INS CL F AT 80K	IP55	SFA 1.38-1.44/0.718
AMB 40°C	DES -	SF 1.15
ENCL TEFC	CODE M	PF 0.68
USABLE @ 208V SF1.00		RPM 1765
		NEMA NOM. EFF 74.0%

ALTERNATE RATING: 0.33HP 50Hz 190-220/380-415V SF1.00
1.38-1.30/0.678-0.690A 1455RPM EFF 73.1% (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.

