

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: Premium Efficiency Three-Phase	Product code :	12809667	
		Catalog # :	00158OT3E56-S	
Frame	: 56H	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>3</sup>	: 37.6 lb	
Design	: A	Moment of inertia (J)	: 0.1296 sq.ft.lb	
Output [HP]	1.5	1.5	1.5	
Poles	4	4	4	
Frequency [Hz]	60	50	50	
Rated voltage [V]	230/460	190/380	220/415	
Rated current [A]	4.20/2.10	4.94/2.47	4.56/2.42	
L. R. Amperes [A]	37.0/18.5	33.6/16.8	33.8/17.9	
LRC [A]	8.8x(Code L)	6.8x(Code J)	7.4x(Code K)	
No load current [A]	2.60/1.30	2.61/1.30	2.71/1.44	
Rated speed [RPM]	1760	1445	1450	
Slip [%]	2.22	3.67	3.33	
Rated torque [ft.lb]	4.48	5.45	5.43	
Locked rotor torque [%]	290	220	250	
Breakdown torque [%]	350	280	310	
Service factor		1.15	1.15	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	27s (cold) 15s (hot)	25s (cold) 14s (hot)	
Noise level <sup>2</sup>	52.0 dB(A)	49.0 dB(A)	49.0 dB(A)	
Efficiency (%)	25%	82.9	84.3	82.7
	50%	84.0	83.7	82.7
	75%	85.5	84.7	84.5
	100%	86.5	83.6	84.1
Power Factor	25%	0.30	0.36	0.32
	50%	0.53	0.61	0.56
	75%	0.66	0.74	0.70
	100%	0.76	0.81	0.78
Bearing type	: Drive end 6204 ZZ Non drive end 6202 ZZ	Foundation loads		
Sealing	: Without Without Bearing Seal Bearing Seal	Max. traction	: 146 lb	
		Max. compression	: 184 lb	
Lubrication interval	: - -			
Lubricant amount	: - -			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V 4.64A SF 1.00 SFA 4.64A				
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	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		1 / 13	

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : Premium Efficiency Three-Phase

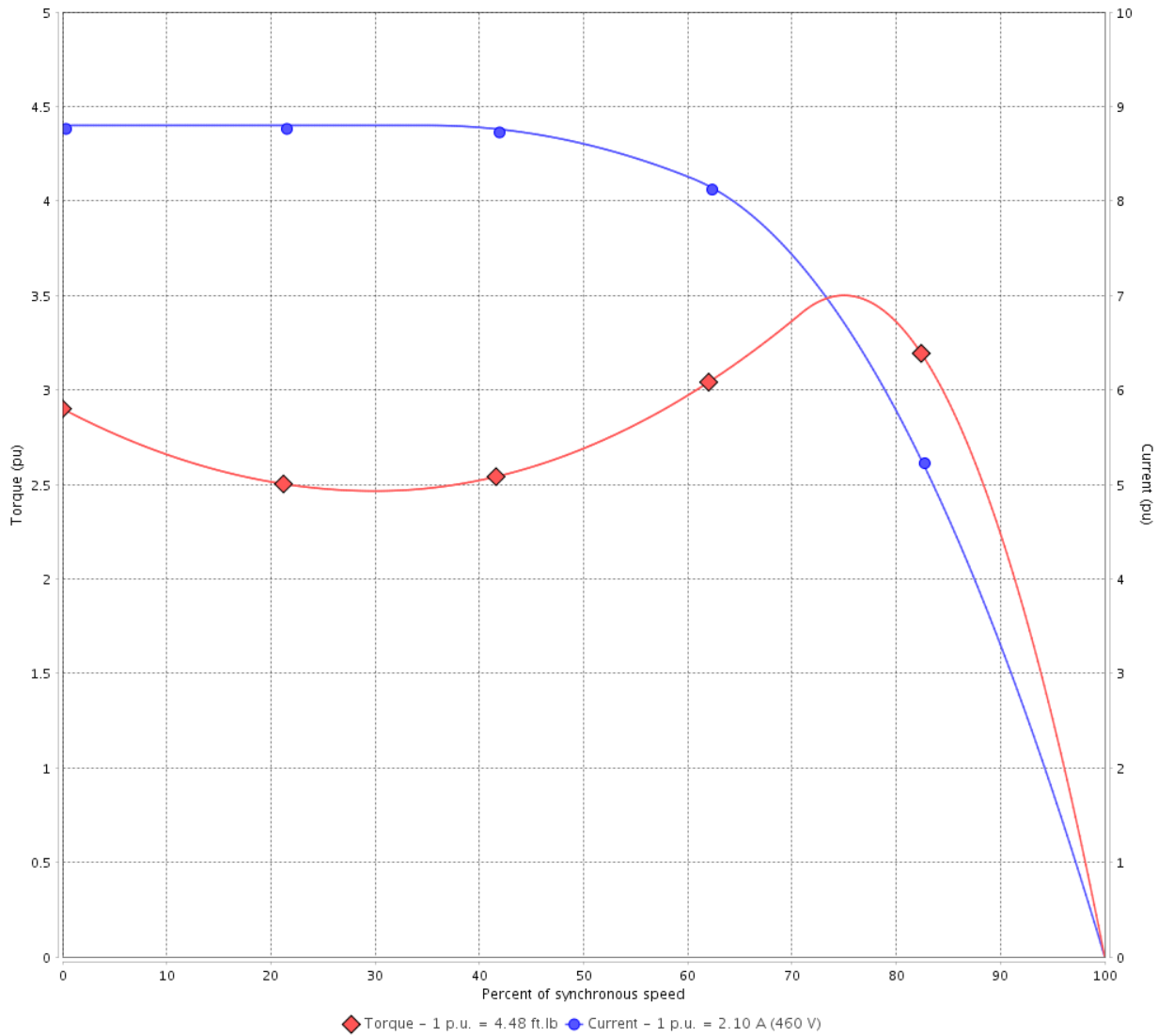
Product code :

12809667

Catalog # :

00158OT3E56-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 4.20/2.10 A  
 LRC : 8.8  
 Rated torque : 4.48 ft.lb  
 Locked rotor torque : 290 %  
 Breakdown torque : 350 %  
 Rated speed : 1760 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : A

Locked rotor time : 25s (cold) 14s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 13	Revision
Checked by				
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# TORQUE AND CURRENT VS SPEED CURVE



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Customer :

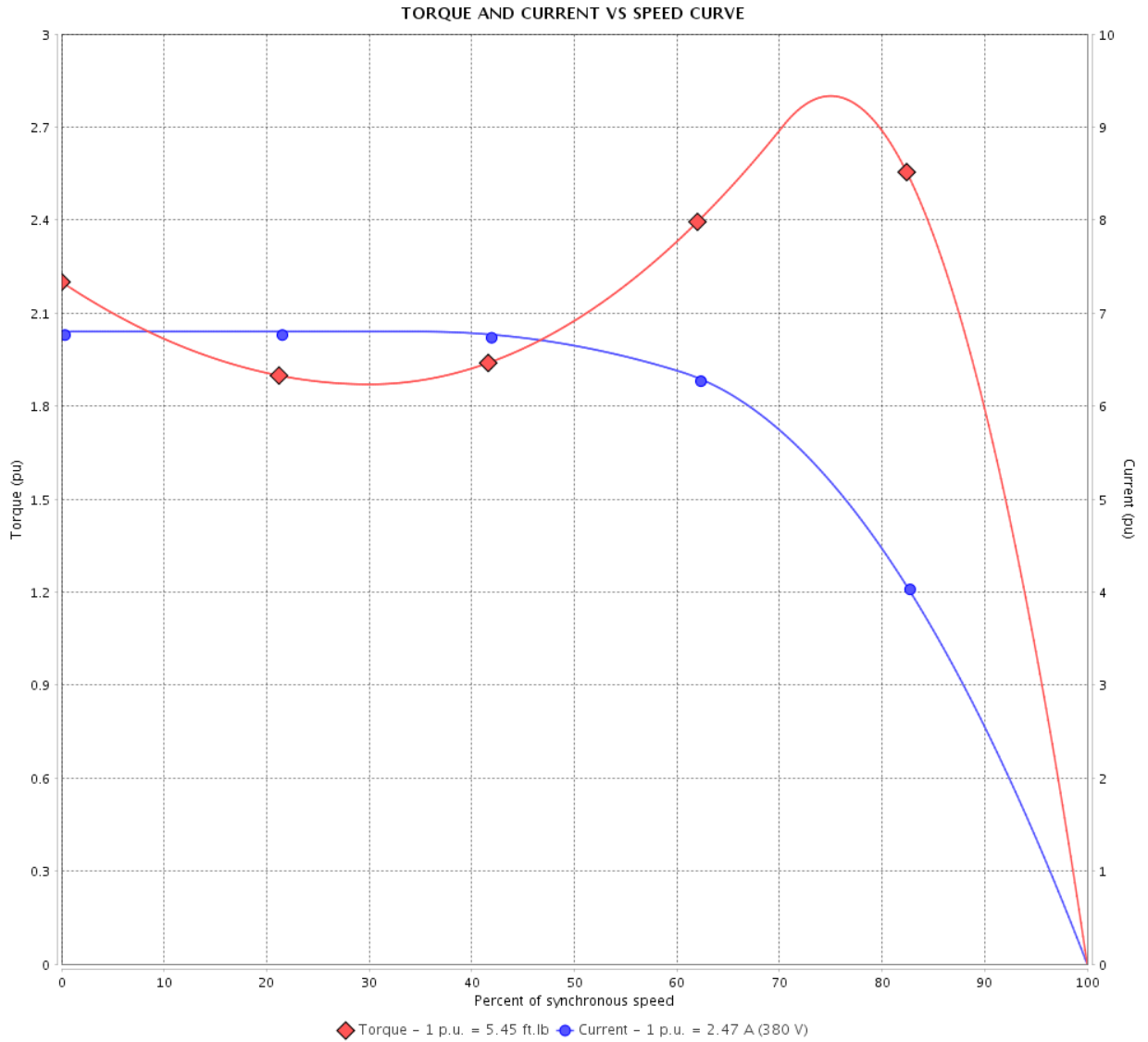
Product line : Premium Efficiency Three-Phase

Product code :

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Catalog # :

00158OT3E56-S



Performance : 190/380 V 50 Hz 4P

Rated current : 4.94/2.47 A  
 LRC : 6.8  
 Rated torque : 5.45 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 280 %  
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Locked rotor time : 27s (cold) 15s (hot)

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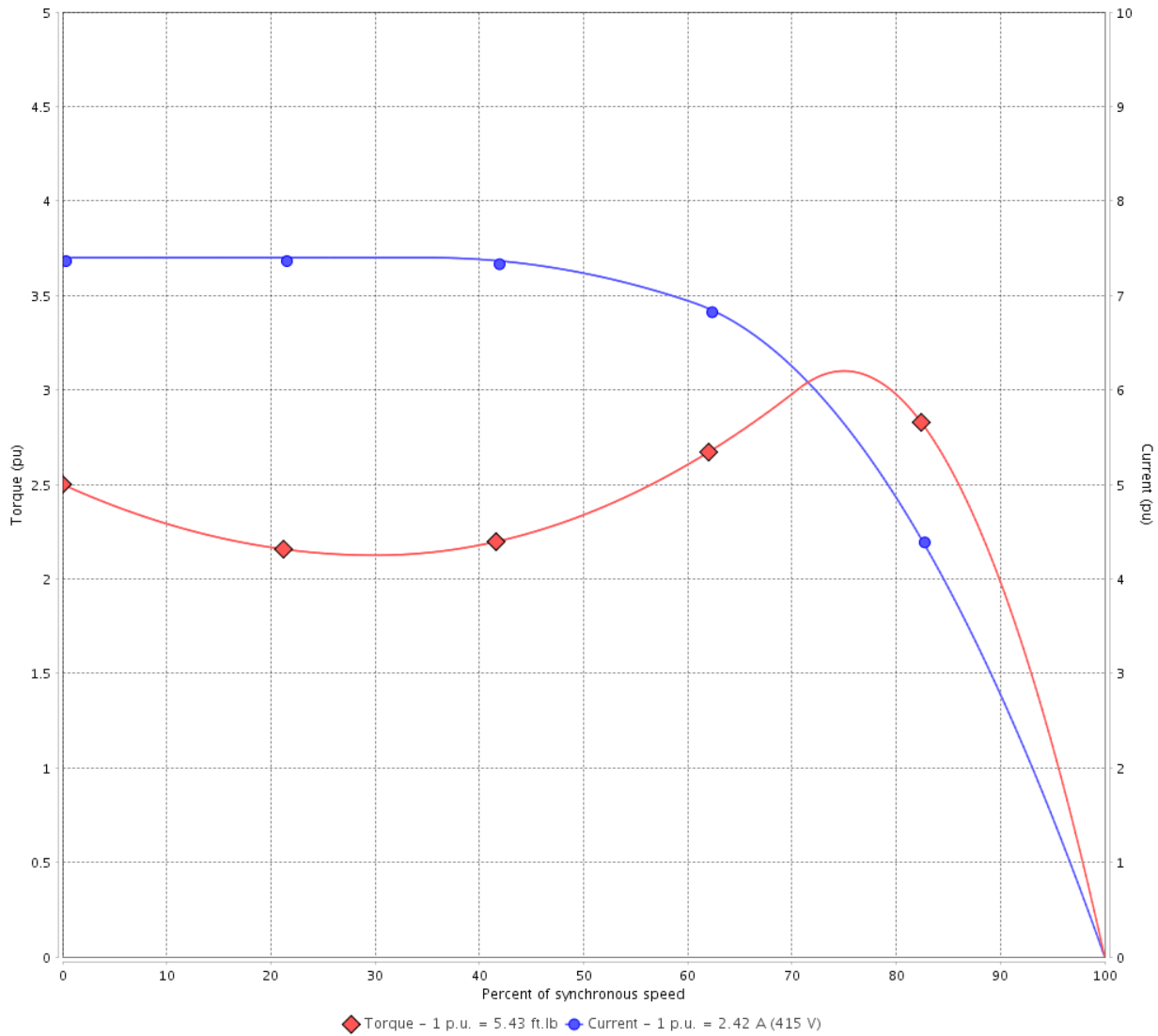
Product code :

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TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current : 4.56/2.42 A  
 LRC : 7.4  
 Rated torque : 5.43 ft.lb  
 Locked rotor torque : 250 %  
 Breakdown torque : 310 %  
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 13	Revision
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# LOAD PERFORMANCE CURVE

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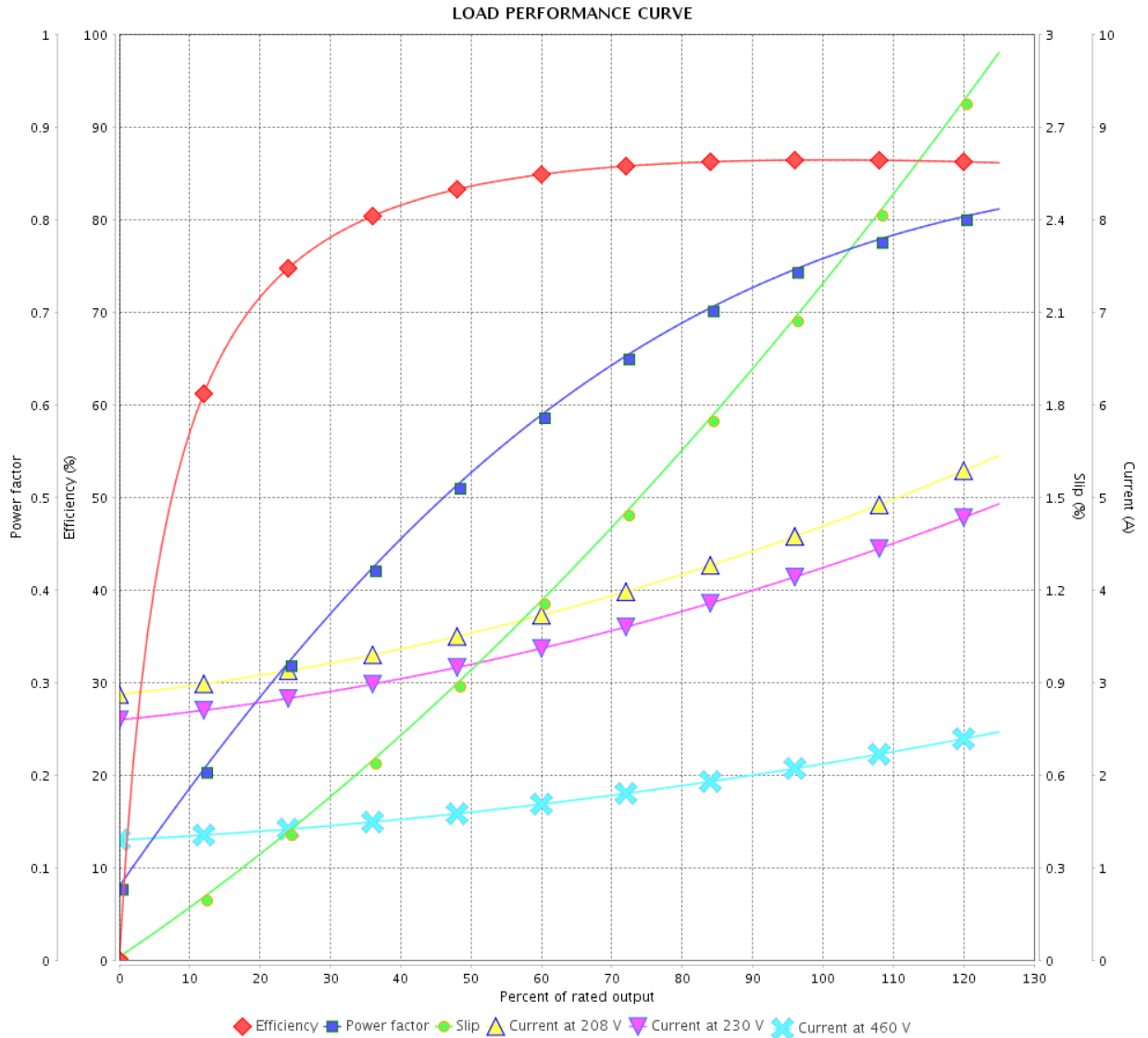
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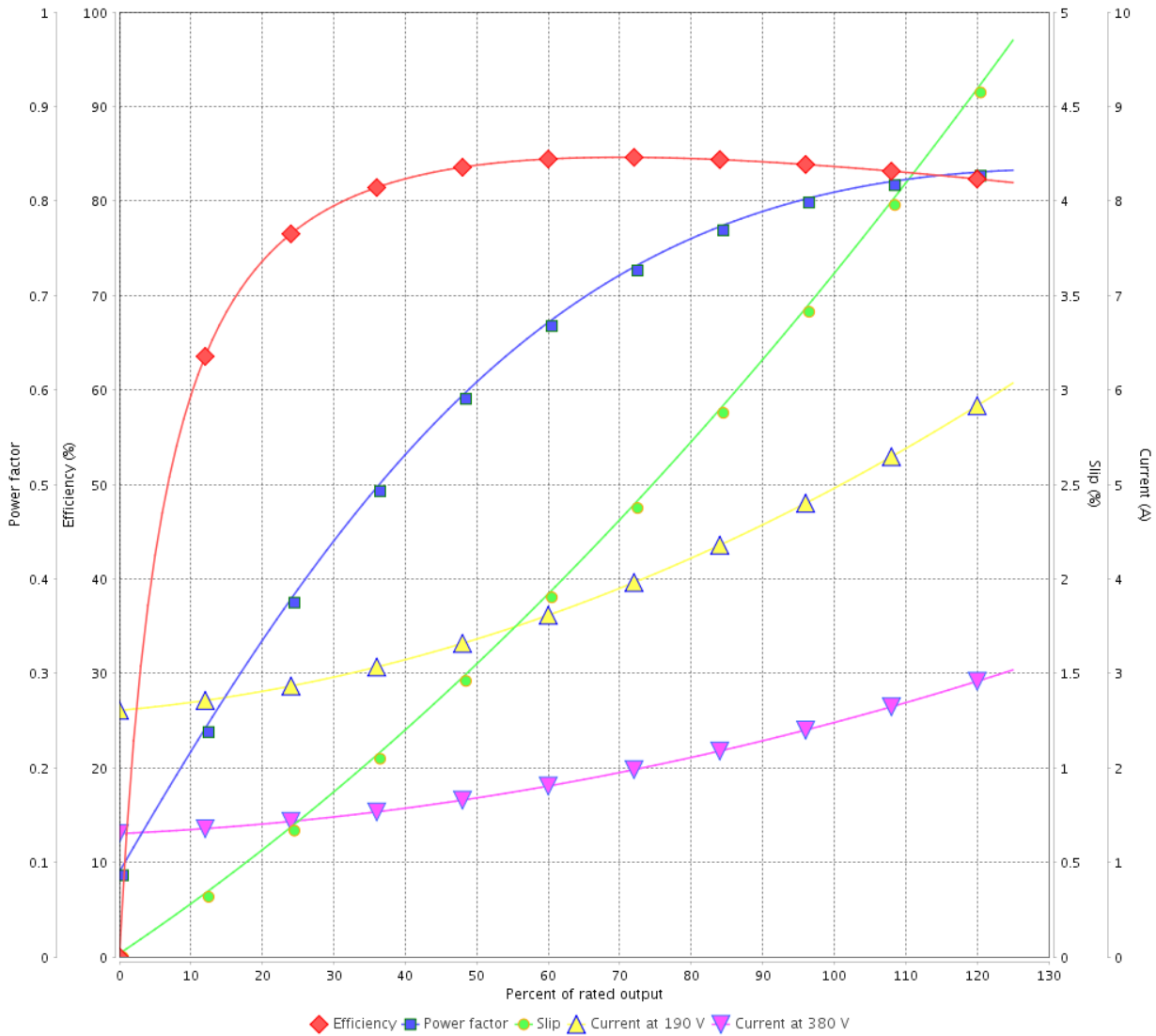
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LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

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 Locked rotor torque : 220 %  
 Breakdown torque : 280 %  
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Moment of inertia (J) : 0.1296 sq.ft.lb  
 Duty cycle : Cont.(S1)  
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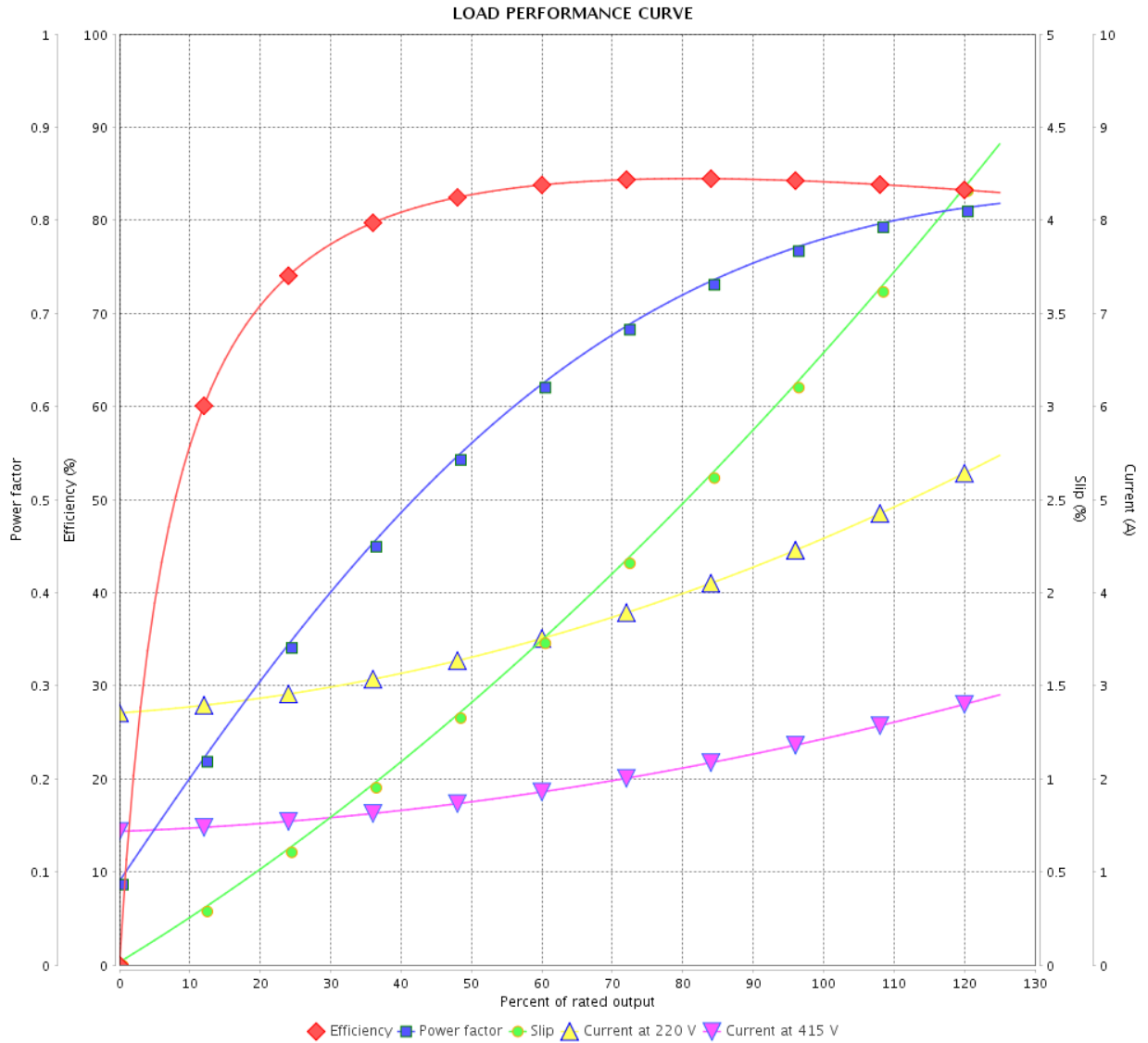
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Performed by		Page		Revision
Checked by		7 / 13		
Date		14/04/2022		

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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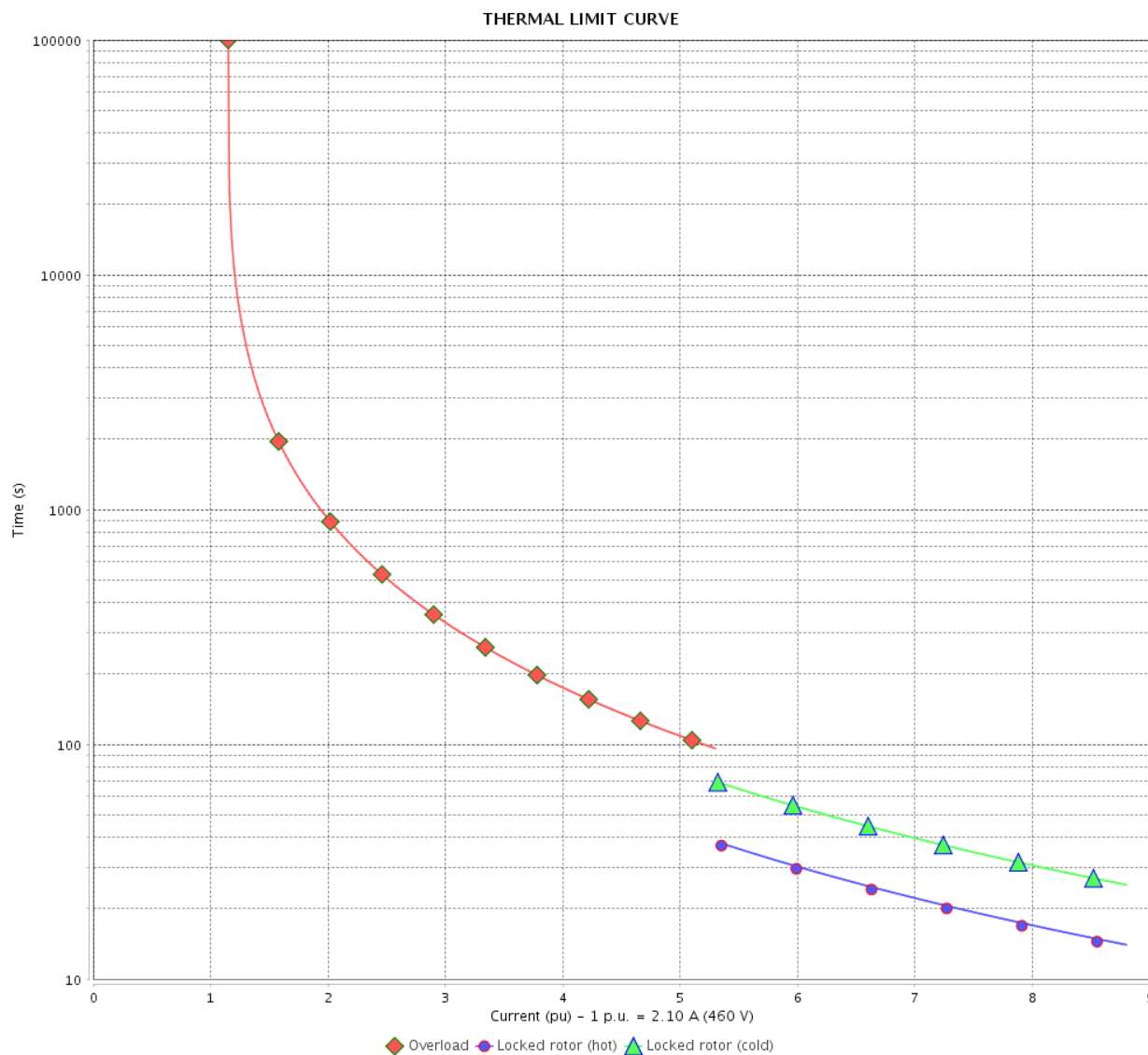
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 Service factor :  
 Temperature rise : 80 K  
 Design : A

Heating constant

Cooling constant

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Performed by		Page		Revision
Checked by		8 / 13		
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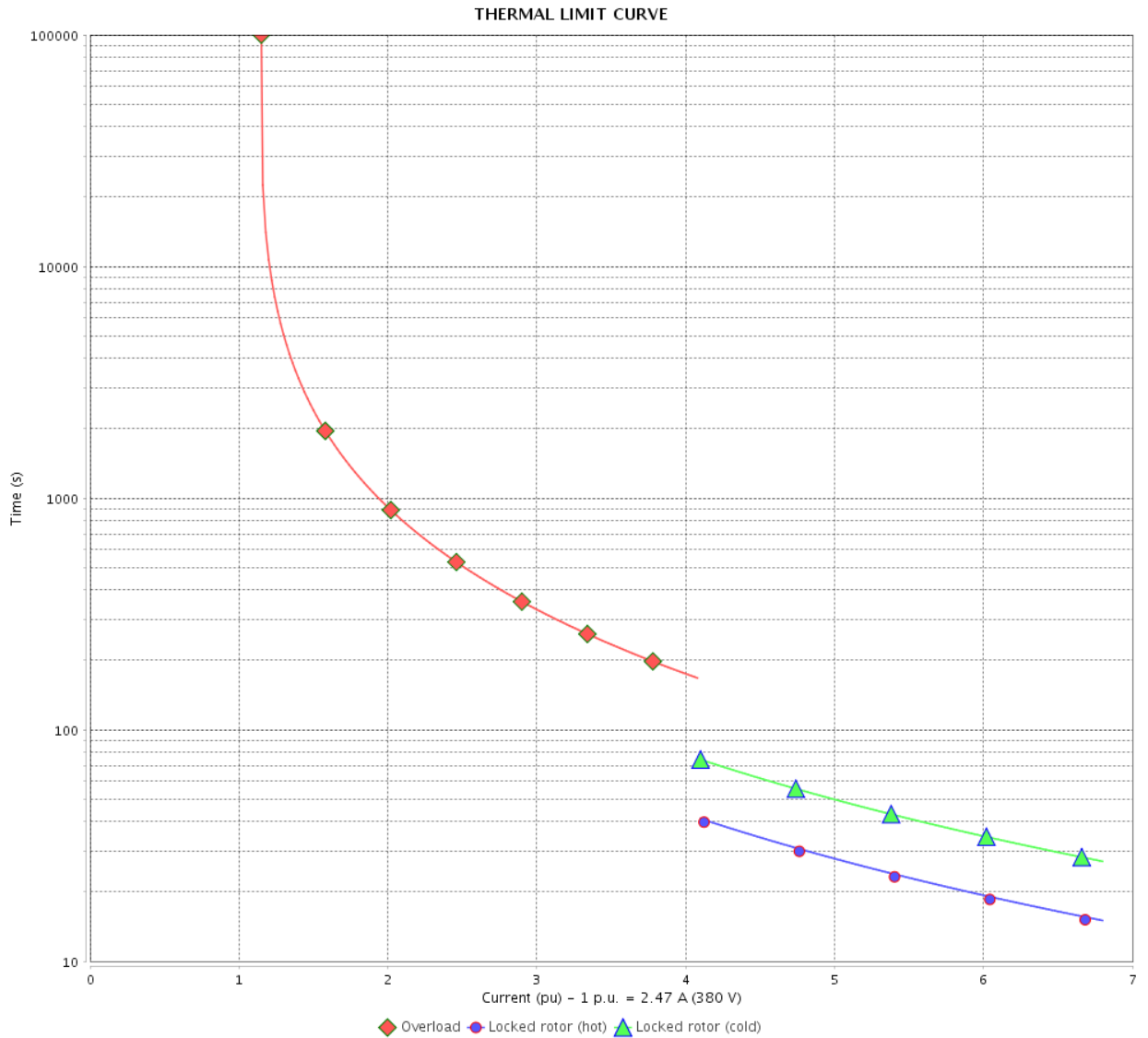
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Performed by				
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		Page	Revision	
		9 / 13		

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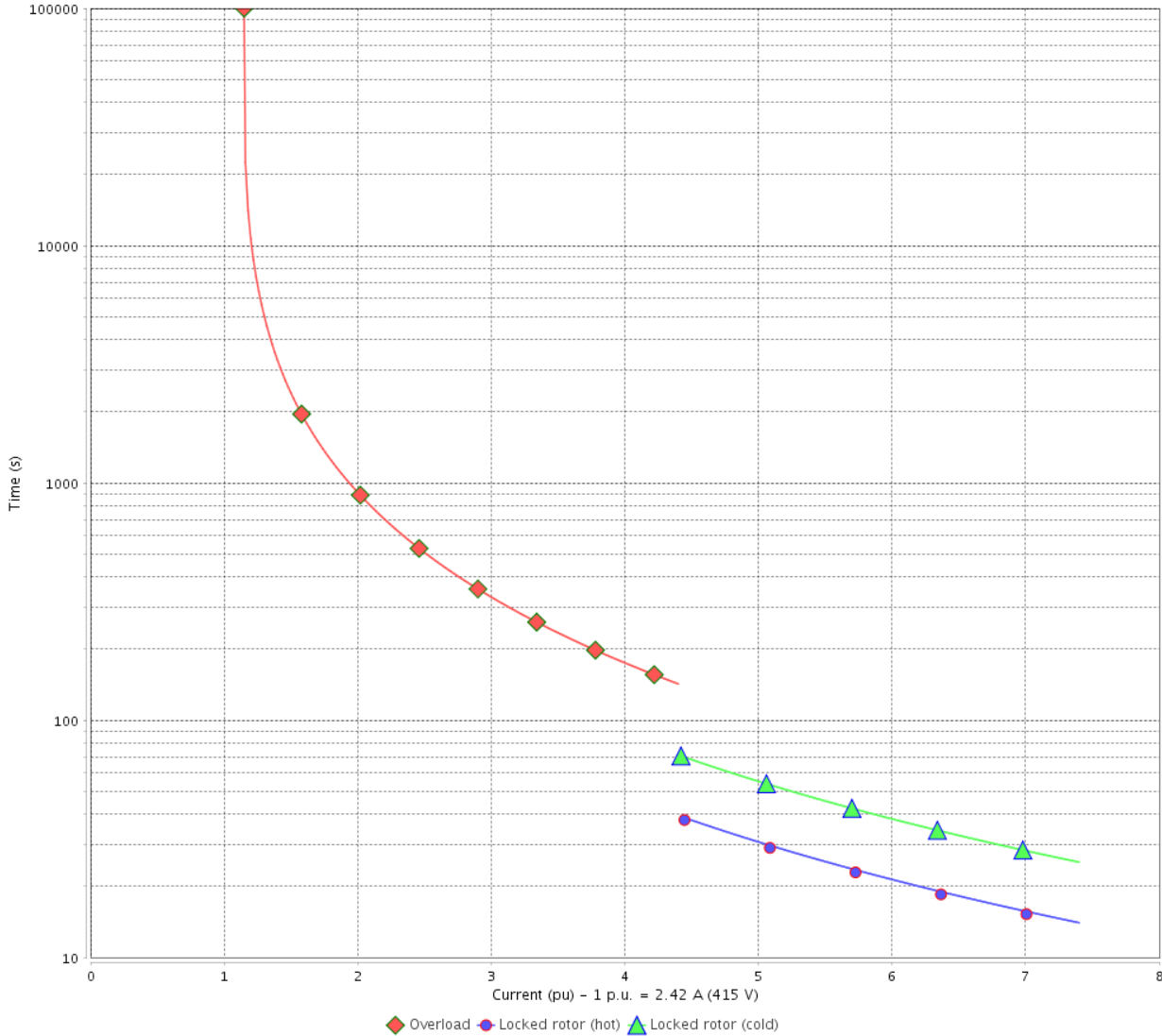
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 Insulation class : F  
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 Design : A

Heating constant

Cooling constant

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Performed by			Page 10 / 13	Revision
Checked by				
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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

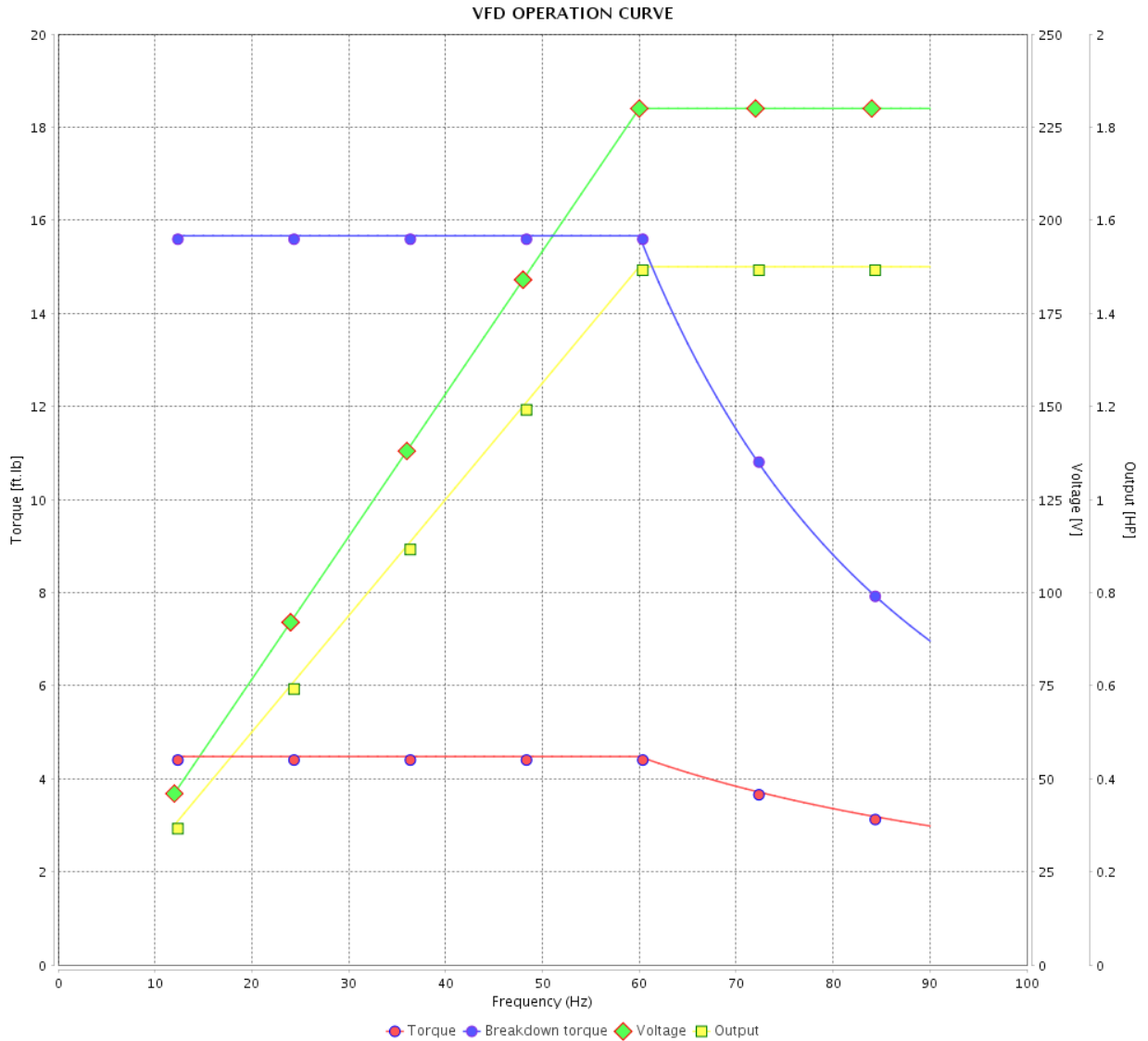
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 Service factor :  
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 Design : A

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Performed by				Page 11 / 13
Checked by				
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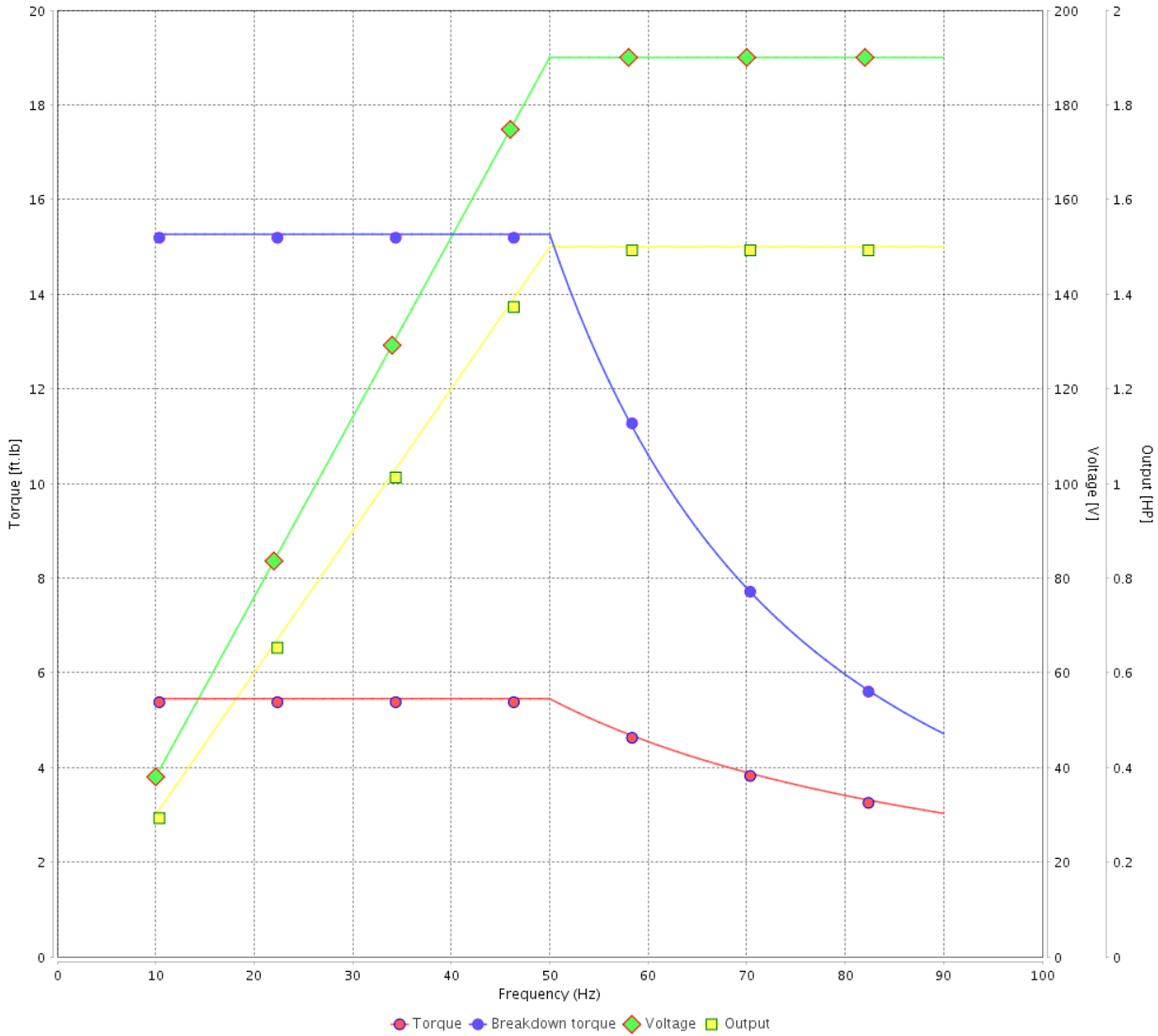
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 Service factor : 1.15  
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Performed by			Page 12 / 13	Revision
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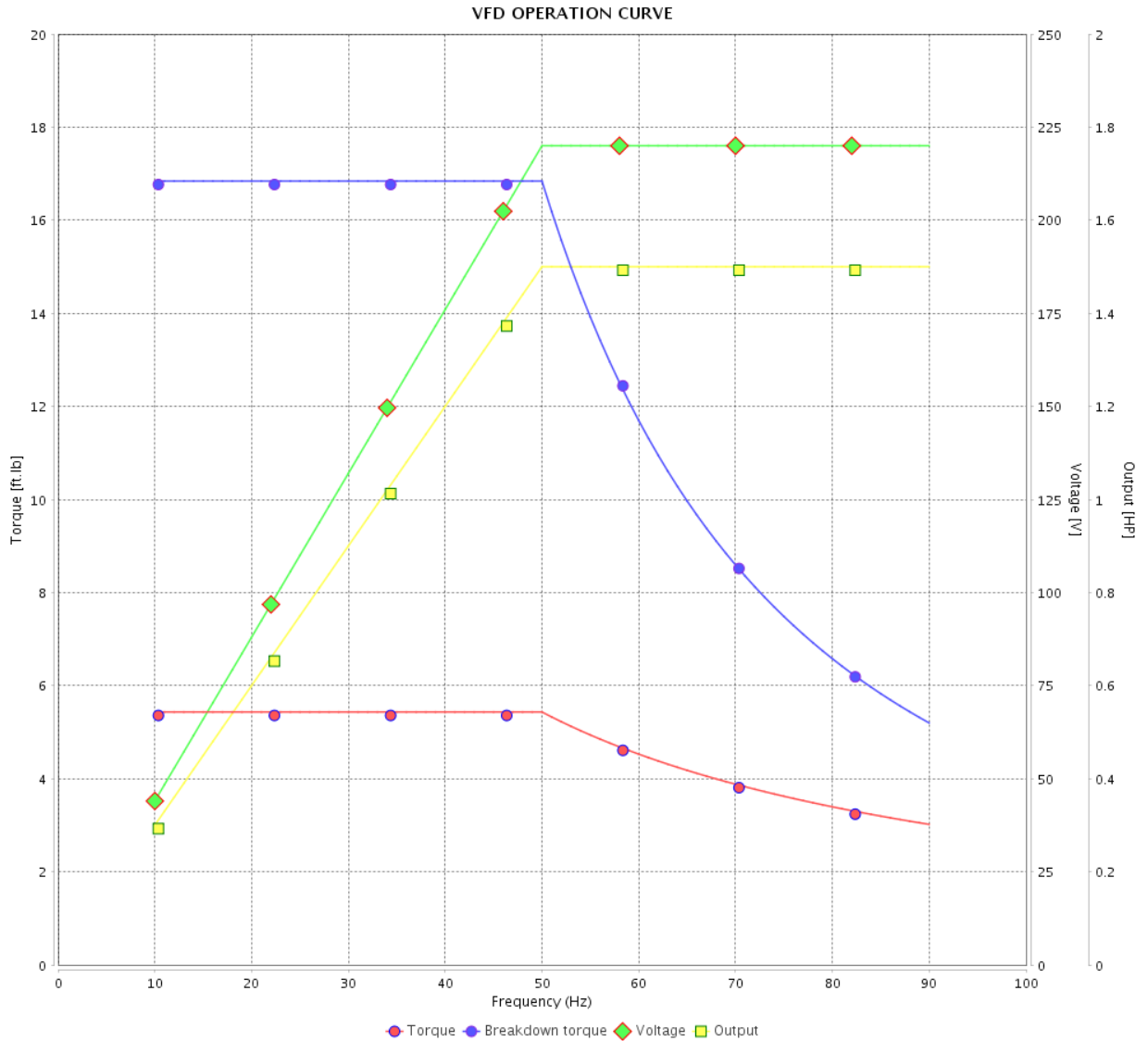
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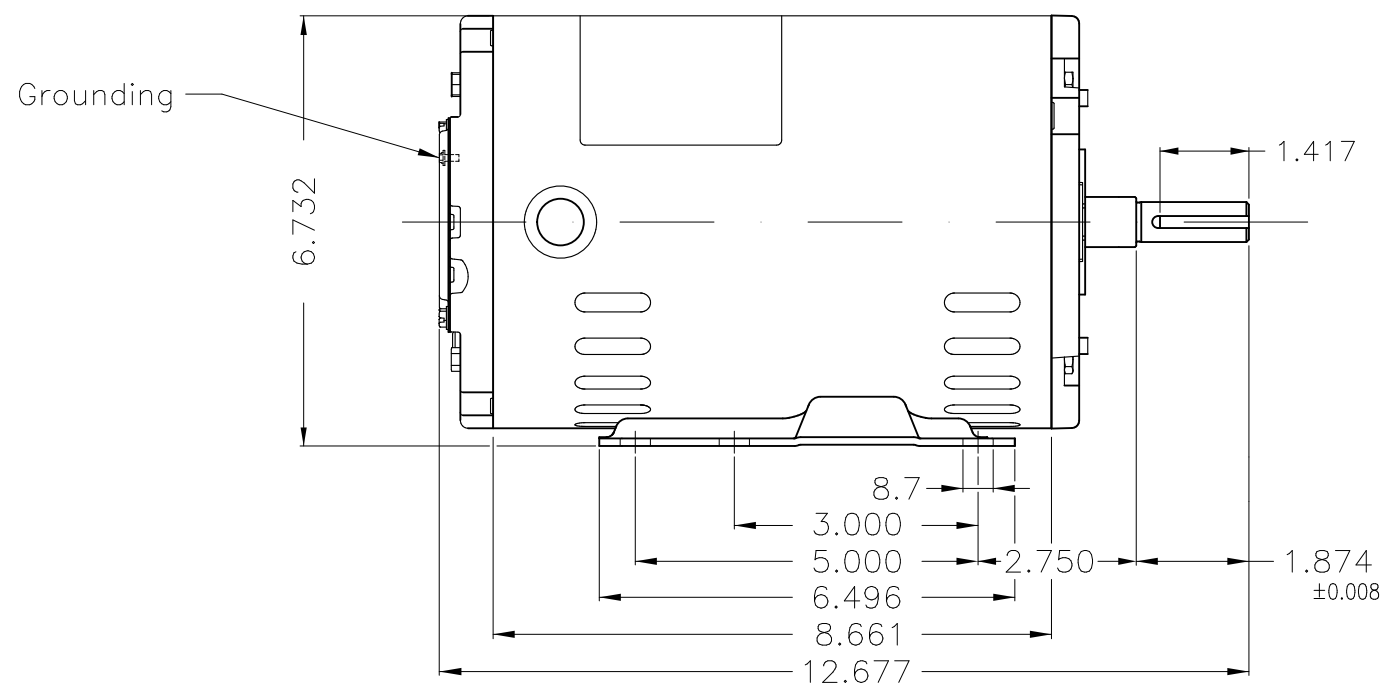
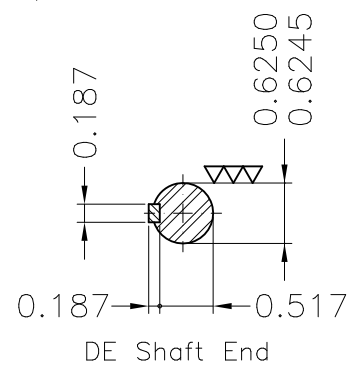
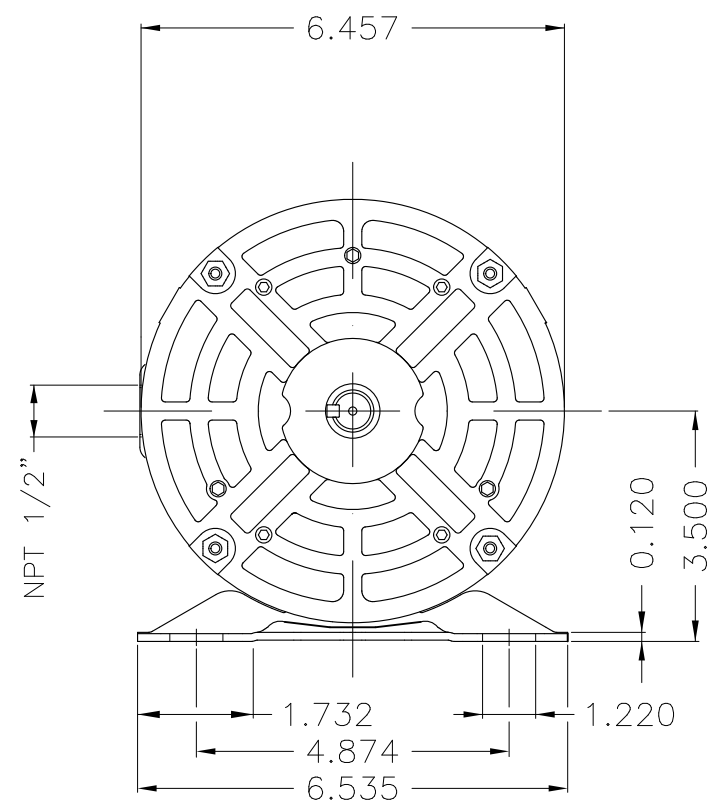
A

B

C

D

E



Dimensions in inches

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 56H IP21 ODP								
RELEASED										
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1				

1.5 HP 04 Poles 60 Hz

A

XME A3

**NEMA**  
**Premium**

MADE IN BRAZIL

**MAT: 12809667****W01.T00IC0X0X****MODEL 001580T3E56-S****15MAR2022 B/N:**

<b>PH 3</b>	<b>Hz 60</b>	<b>HP 1.5</b>
<b>FR 56H</b>		<b>KW 1.1</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 4.20/2.10</b>
<b>INS CL F AT 80K</b>		<b>SFA 4.83/2.42</b>
<b>AMB 40°C</b>	<b>DES A</b>	<b>SF 1.15</b>
<b>ENCL ODP</b>	<b>CODE L</b>	<b>PF 0.76</b>
<b>USABLE @ 208V 4.84A</b>		<b>RPM 1760</b>
<b>SF1.00</b>		<b>NEMA NOM. EFF 86.5%</b>

**ALTERNATE RATING: 1.5HP 50Hz 190-220/380-415V SF1.15**  
**4.94-4.51/2.47-2.39A 1445RPM EFF 83.6% (IE2) IEC 60034-1**

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

<b>DE 6204-ZZ</b>	<b>ODE 6202-ZZ</b>	<b>MOBIL POLYREX EM</b>
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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.

