

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :				
Product line	: Premium Efficiency Three-Phase	Product code :	12759194	
		Catalog # :	002180T3E56-S	
Frame	: 56H	Cooling method	: IC01 - ODP	
Insulation class	: F	Mounting	: F-1	
Duty cycle	: Cont.(S1)	Rotation ¹	: Both (CW and CCW)	
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line	
Altitude	: 1000 m.a.s.l.	Approx. weight ²	: 37.8 lb	
Design	: A	Moment of inertia (J)	: 0.1168 sq.ft.lb	
Output [HP]	2	2	2	
Poles	4	4	4	
Frequency [Hz]	60	50	50	
Rated voltage [V]	230/460	190/380	220/415	
Rated current [A]	5.38/2.69	6.52/3.26	5.90/3.13	
L. R. Amperes [A]	41.4/20.7	36.5/18.3	36.6/19.4	
LRC [A]	7.7x(Code K)	5.6x(Code G)	6.2x(Code H)	
No load current [A]	2.75/1.38	2.70/1.35	2.82/1.49	
Rated speed [RPM]	1740	1410	1420	
Slip [%]	3.33	6.00	5.33	
Rated torque [ft.lb]	6.04	7.45	7.40	
Locked rotor torque [%]	260	200	220	
Breakdown torque [%]	320	229	260	
Service factor		1.00	1.00	
Temperature rise	80 K	105 K	80 K	
Locked rotor time	30s (cold) 17s (hot)	28s (cold) 16s (hot)	27s (cold) 15s (hot)	
Noise level ²	52.0 dB(A)	49.0 dB(A)	49.0 dB(A)	
Efficiency (%)	25%	85.2	88.2	86.4
	50%	85.5	85.9	85.2
	75%	86.5	85.0	85.2
	100%	86.5	82.2	83.4
Power Factor	25%	0.36	0.42	0.38
	50%	0.61	0.69	0.64
	75%	0.74	0.80	0.77
	100%	0.81	0.85	0.83
Bearing type	: Drive end 6204 ZZ Non drive end 6202 ZZ	Foundation loads		
Sealing	: Without Without Bearing Seal Bearing Seal	Max. traction	: 170 lb	
		Max. compression	: 208 lb	
Lubrication interval	: - -			
Lubricant amount	: - -			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V 5.95A SF 1.00 SFA 5.95A				
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

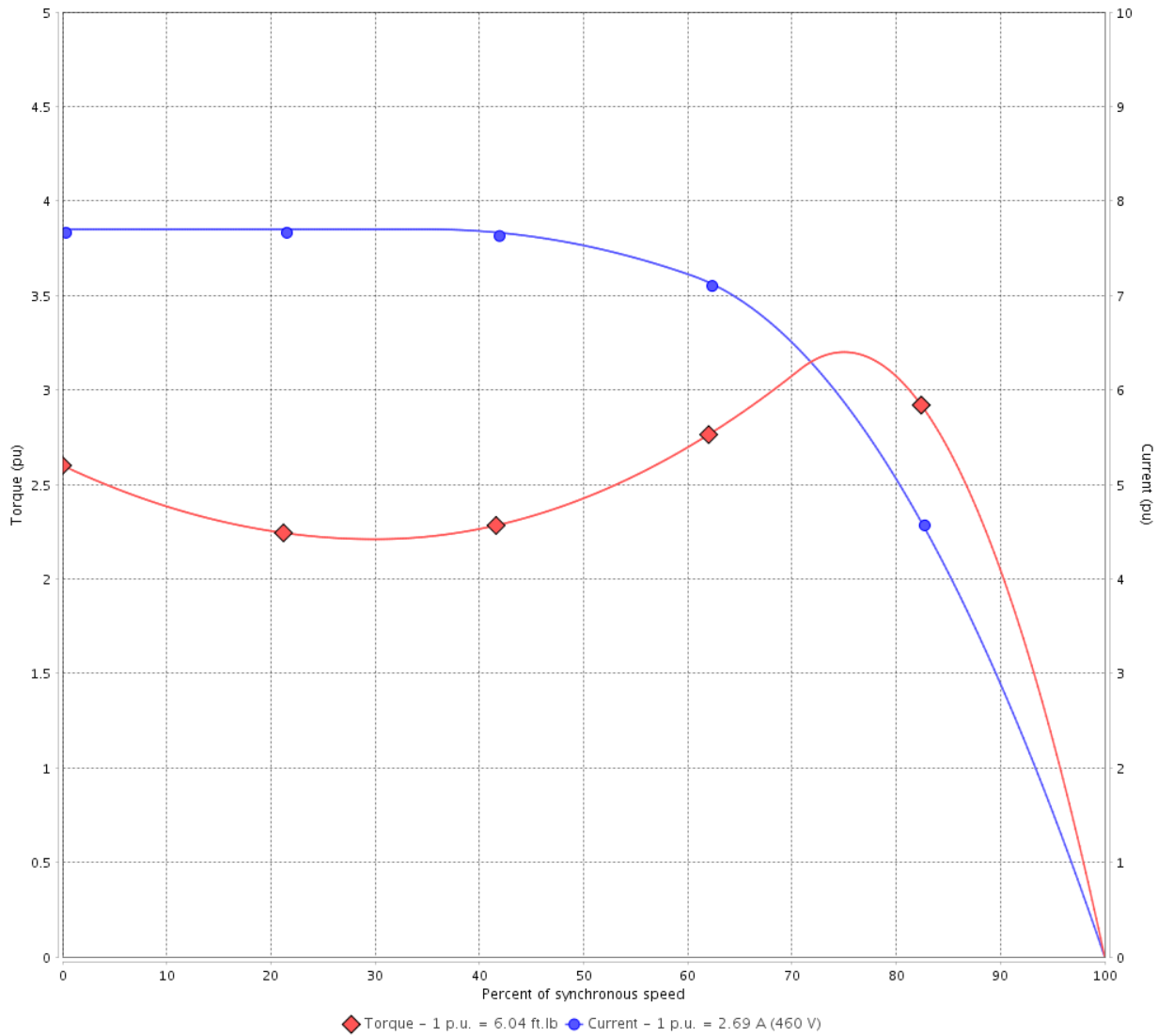
Product code :

12759194

Catalog # :

002180T3E56-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A
 LRC : 7.7
 Rated torque : 6.04 ft.lb
 Locked rotor torque : 260 %
 Breakdown torque : 320 %
 Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor :
 Temperature rise : 80 K
 Design : A

Locked rotor time : 30s (cold) 17s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



Three Phase Induction Motor - Squirrel Cage

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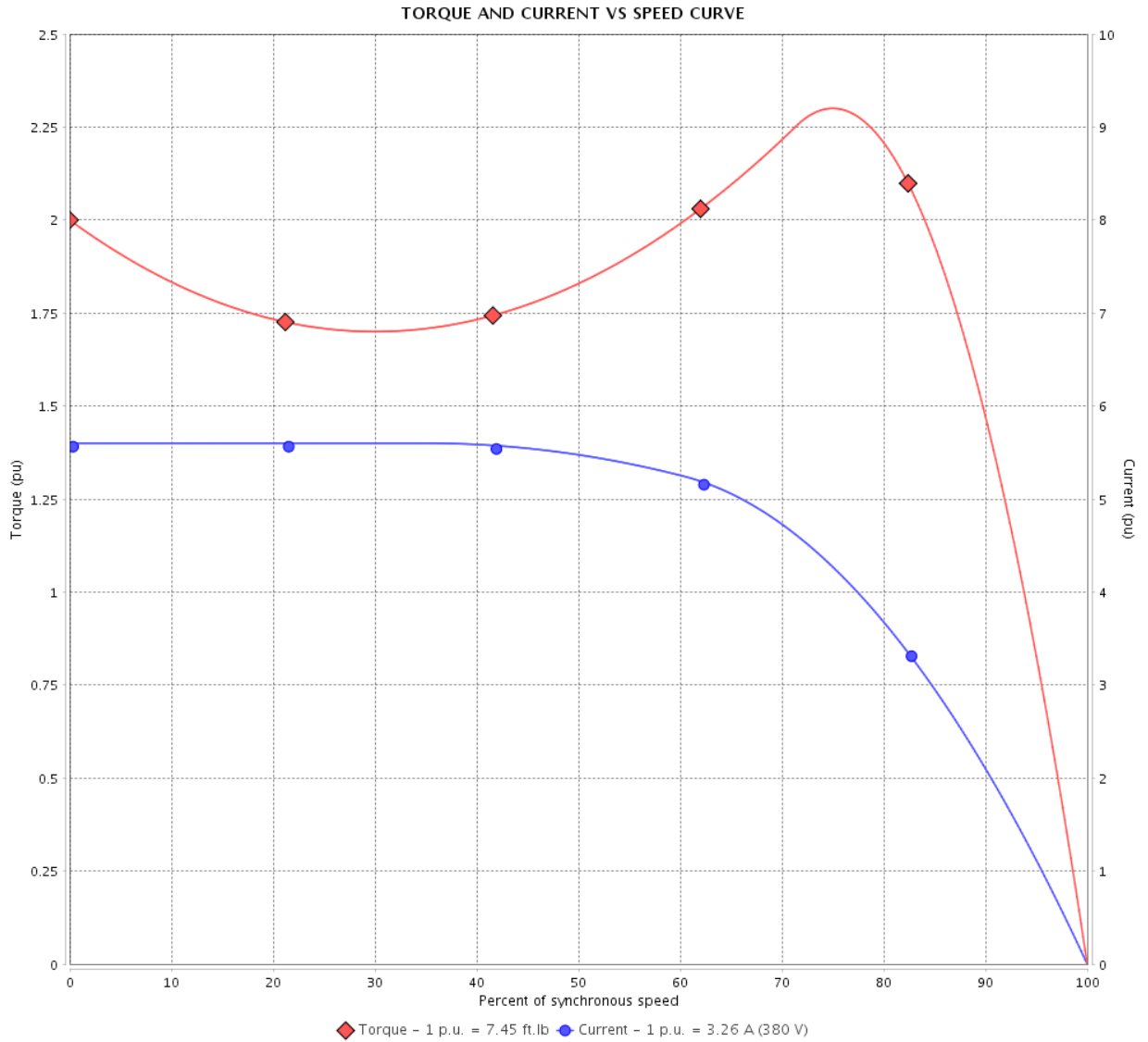
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Performance : 190/380 V 50 Hz 4P

Rated current : 6.52/3.26 A
 LRC : 5.6
 Rated torque : 7.45 ft.lb
 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : A

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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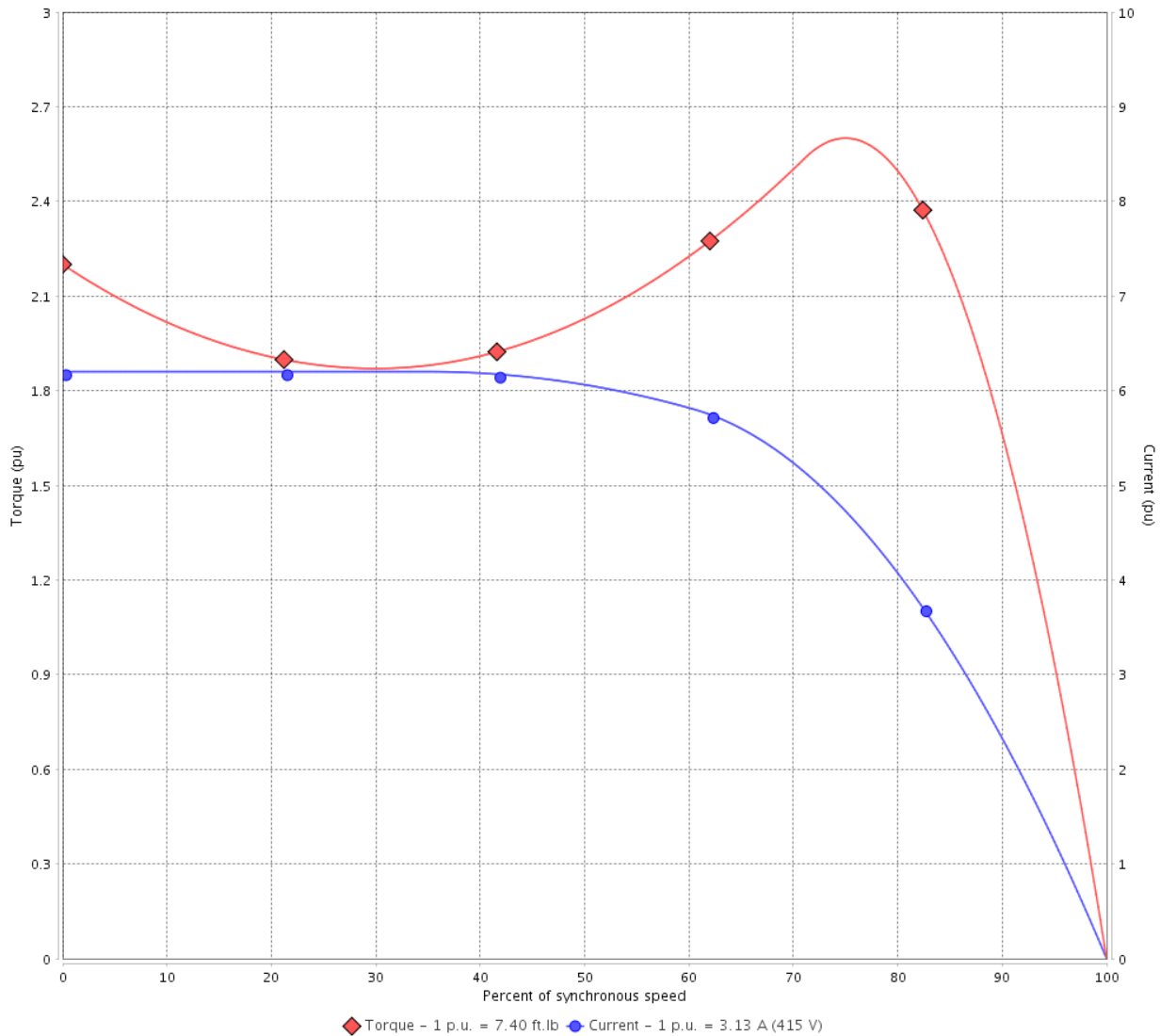
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current : 5.90/3.13 A
 LRC : 6.2
 Rated torque : 7.40 ft.lb
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 1420 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

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

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



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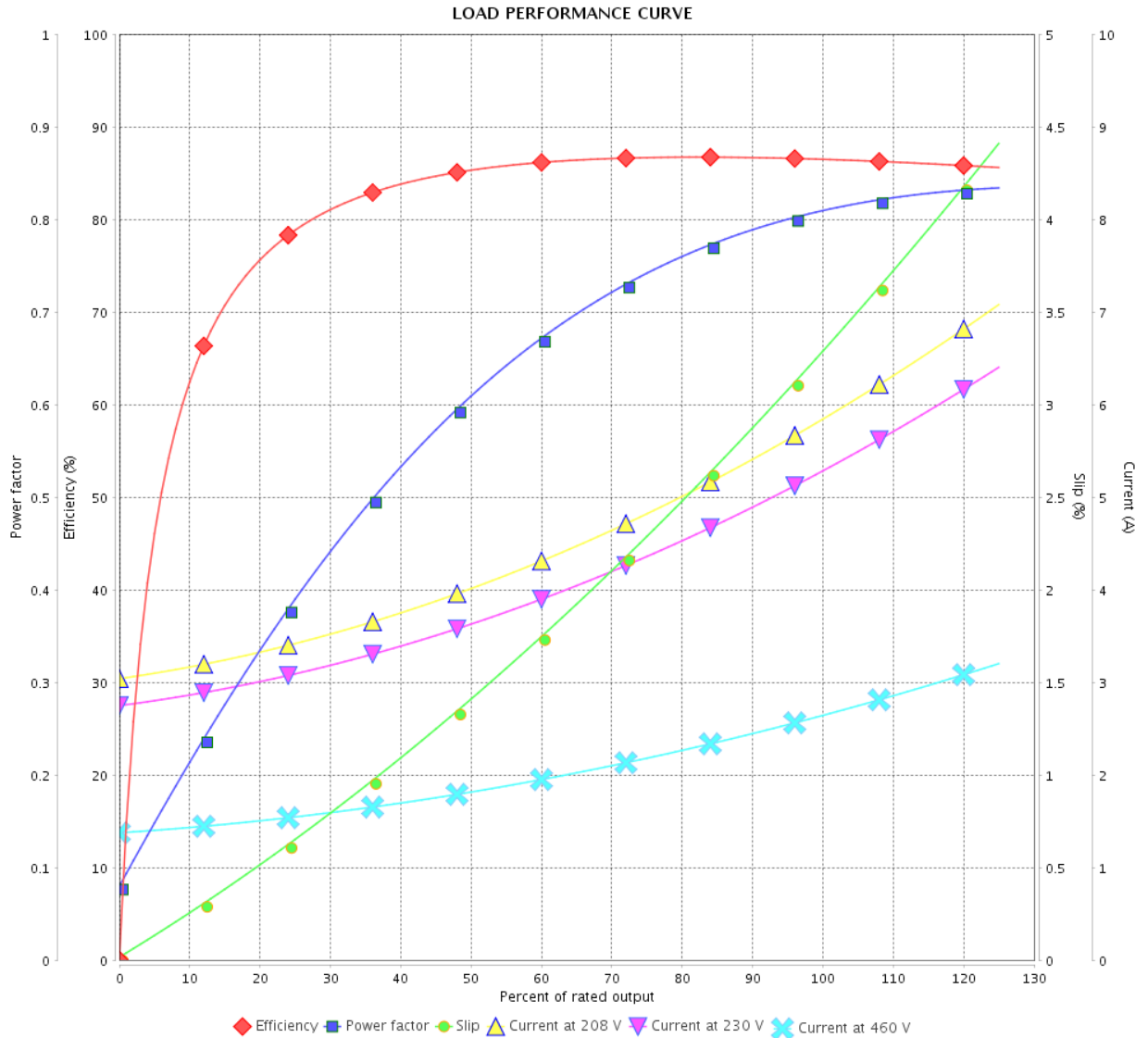
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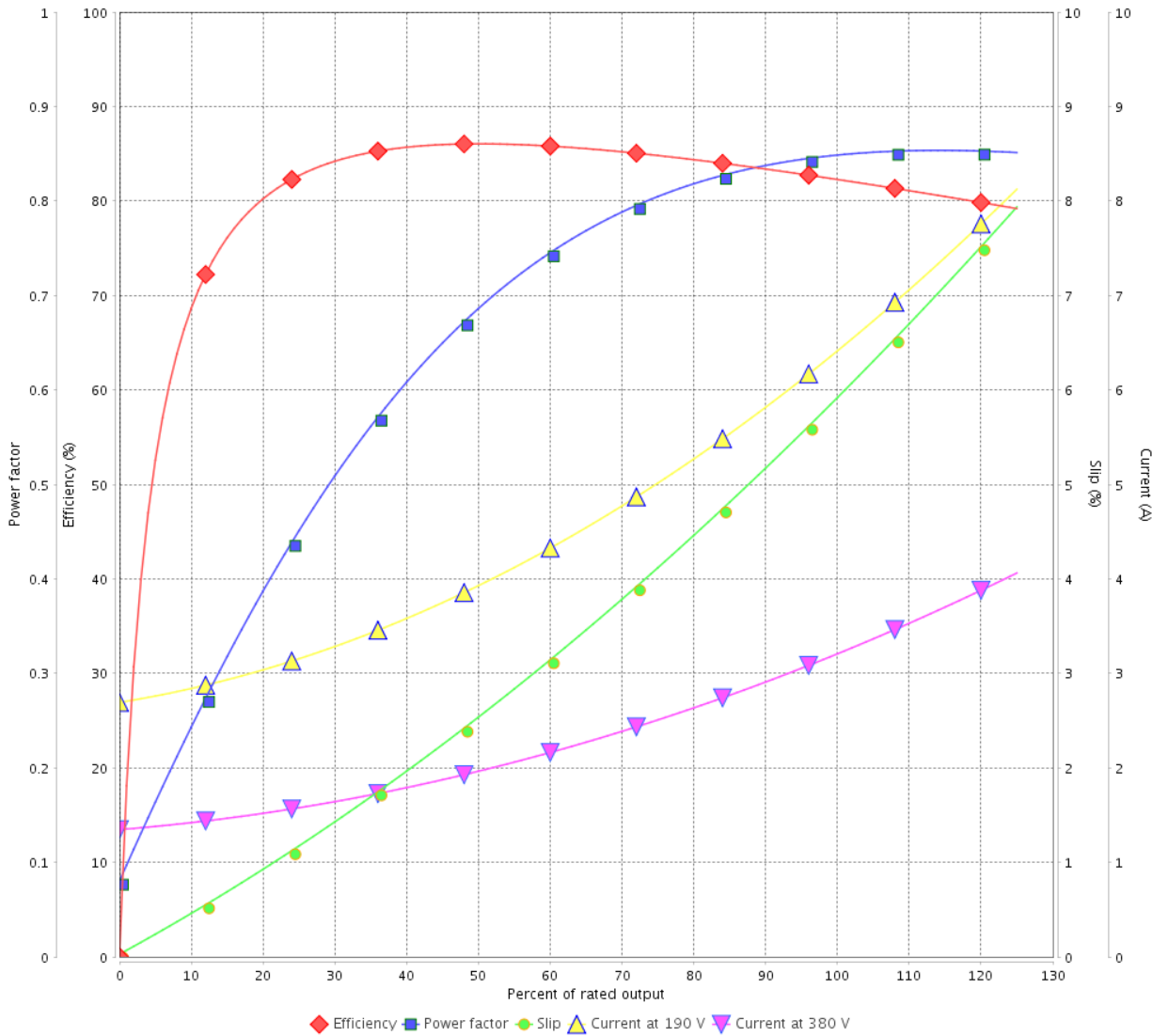
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 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : A

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Three Phase Induction Motor - Squirrel Cage



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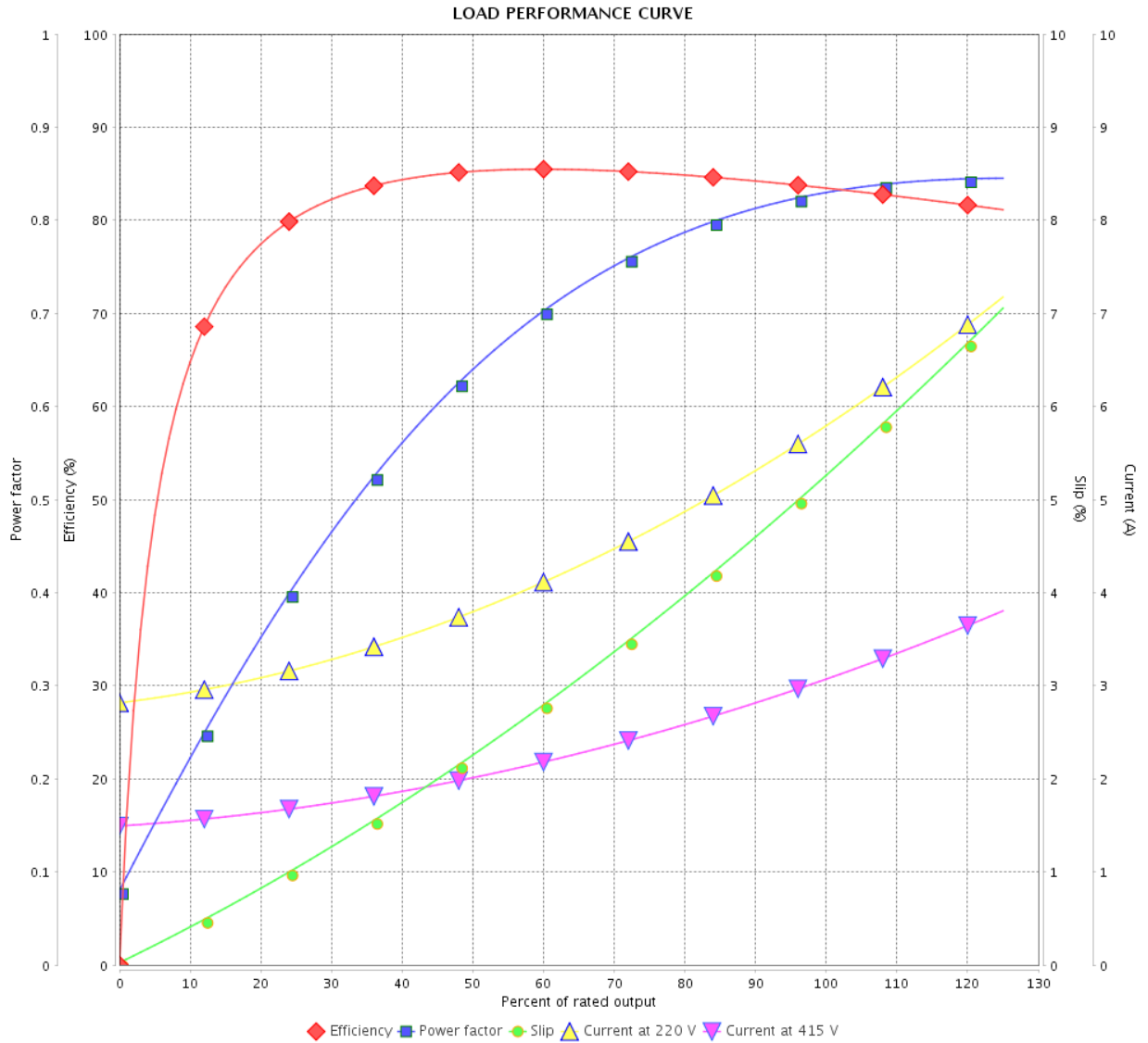
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THERMAL LIMIT CURVE

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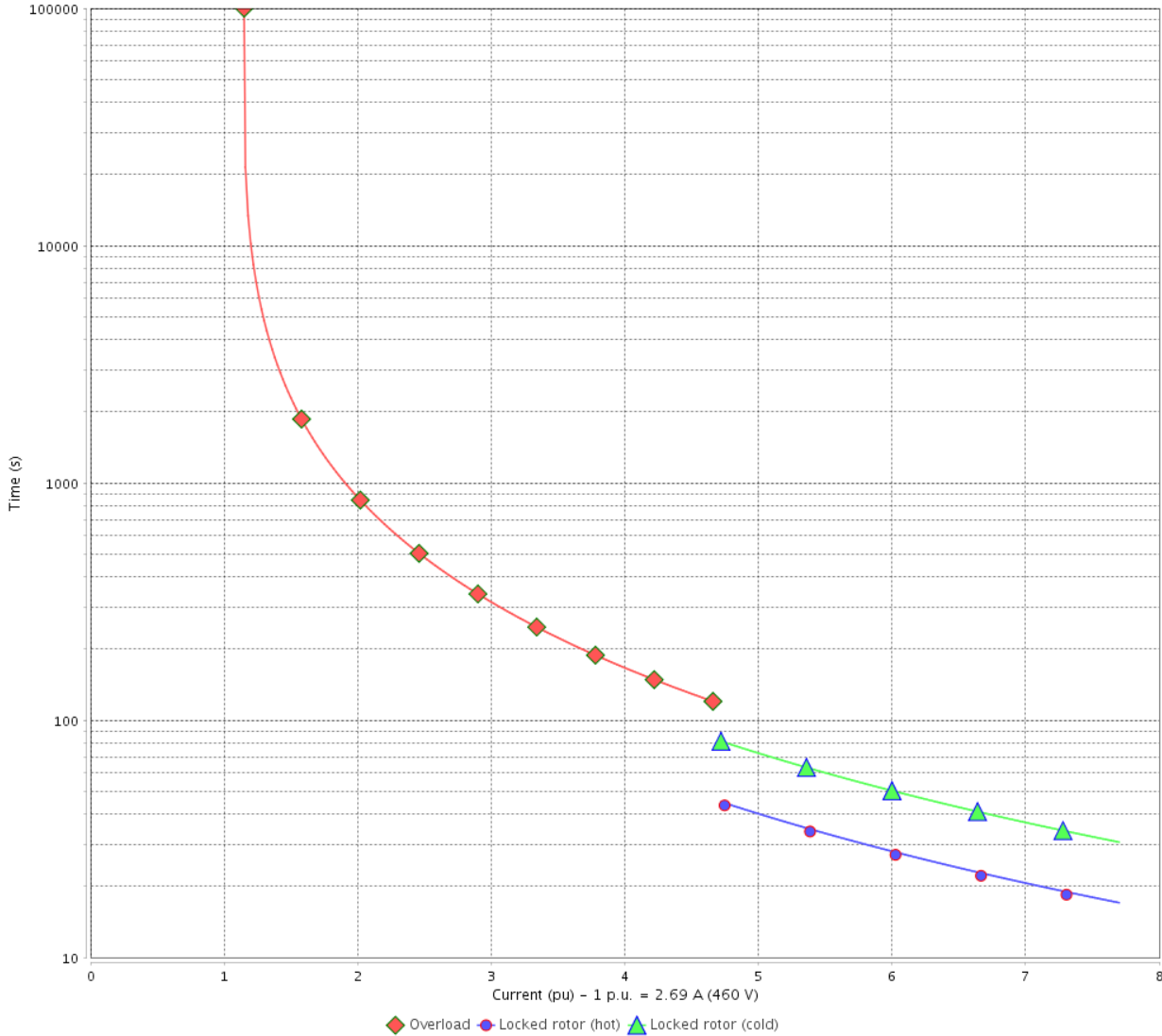
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 Service factor :
 Temperature rise : 80 K
 Design : A

Heating constant

Cooling constant

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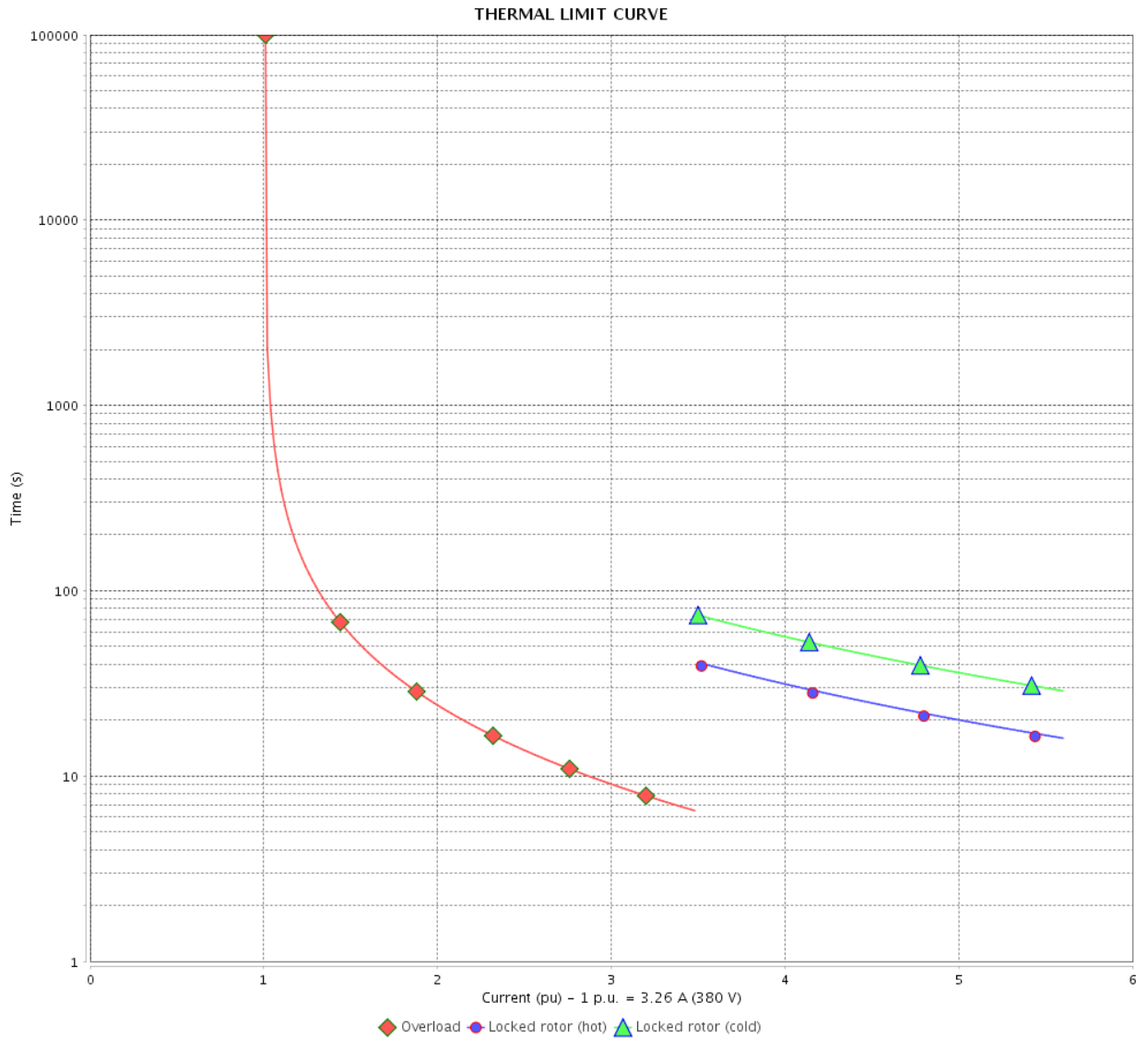
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 Temperature rise : 105 K
 Design : A

Heating constant

Cooling constant

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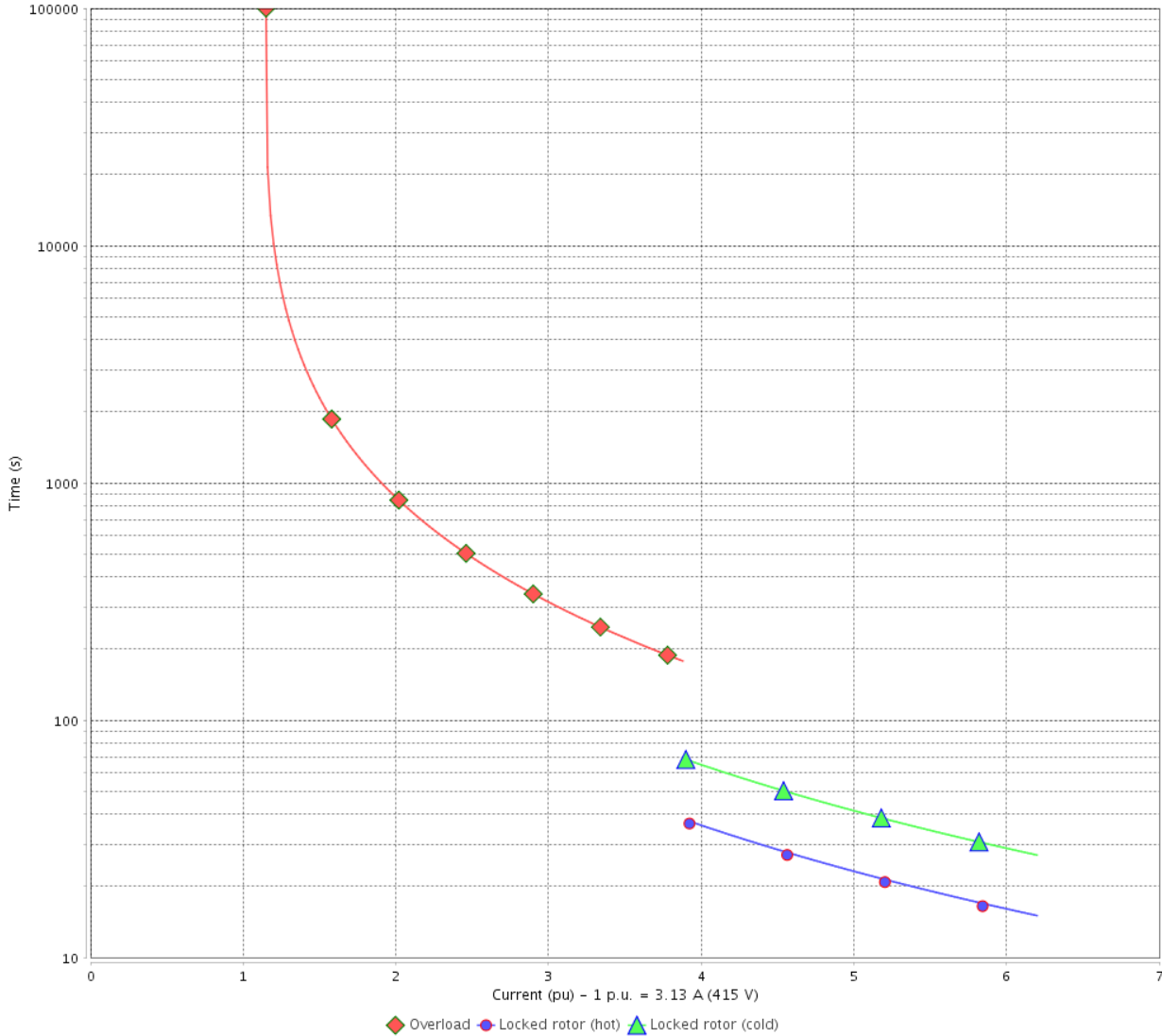
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 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : A

Heating constant
 Cooling constant

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

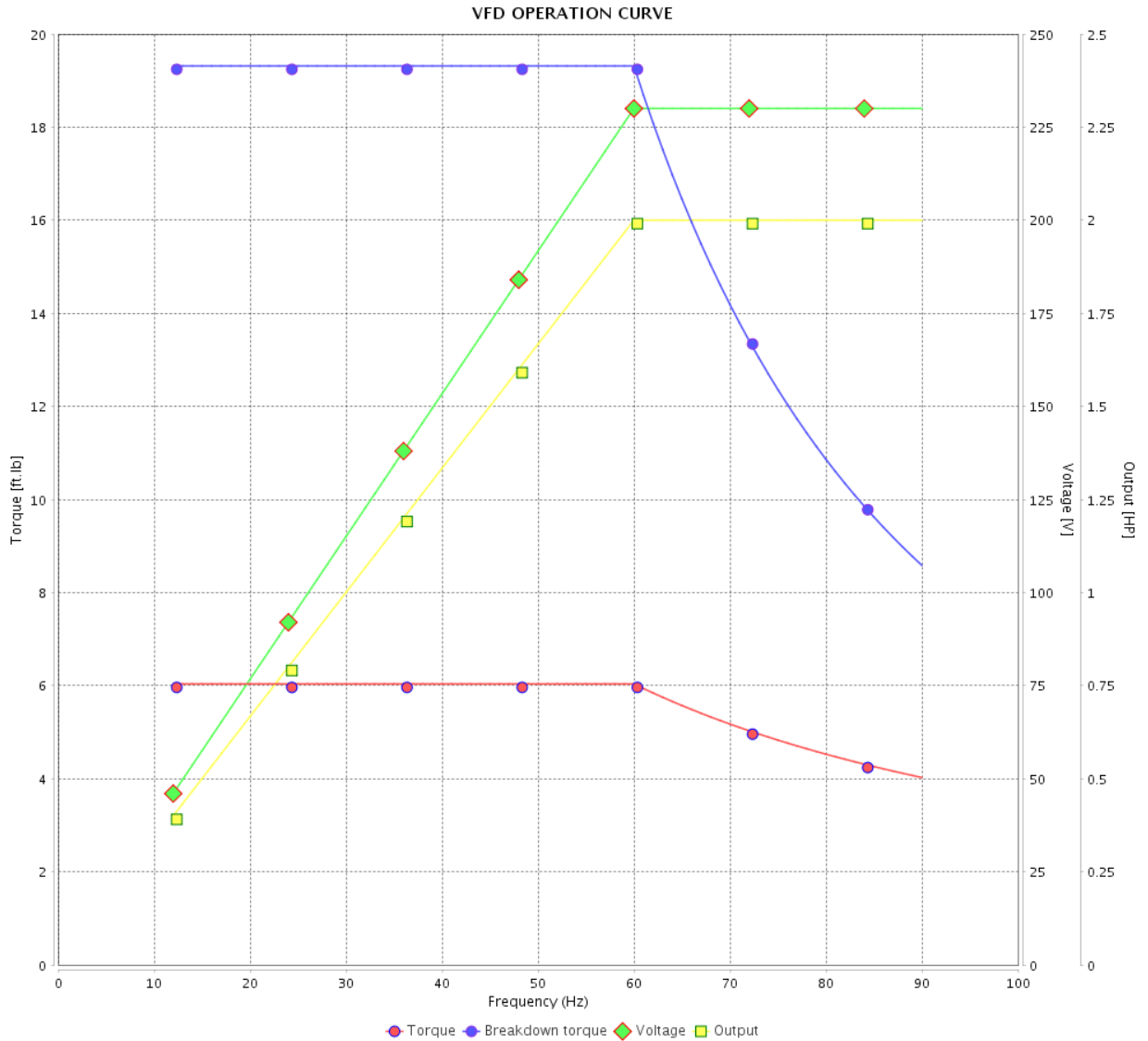


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Moment of inertia (J) : 0.1168 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor :
 Temperature rise : 80 K
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



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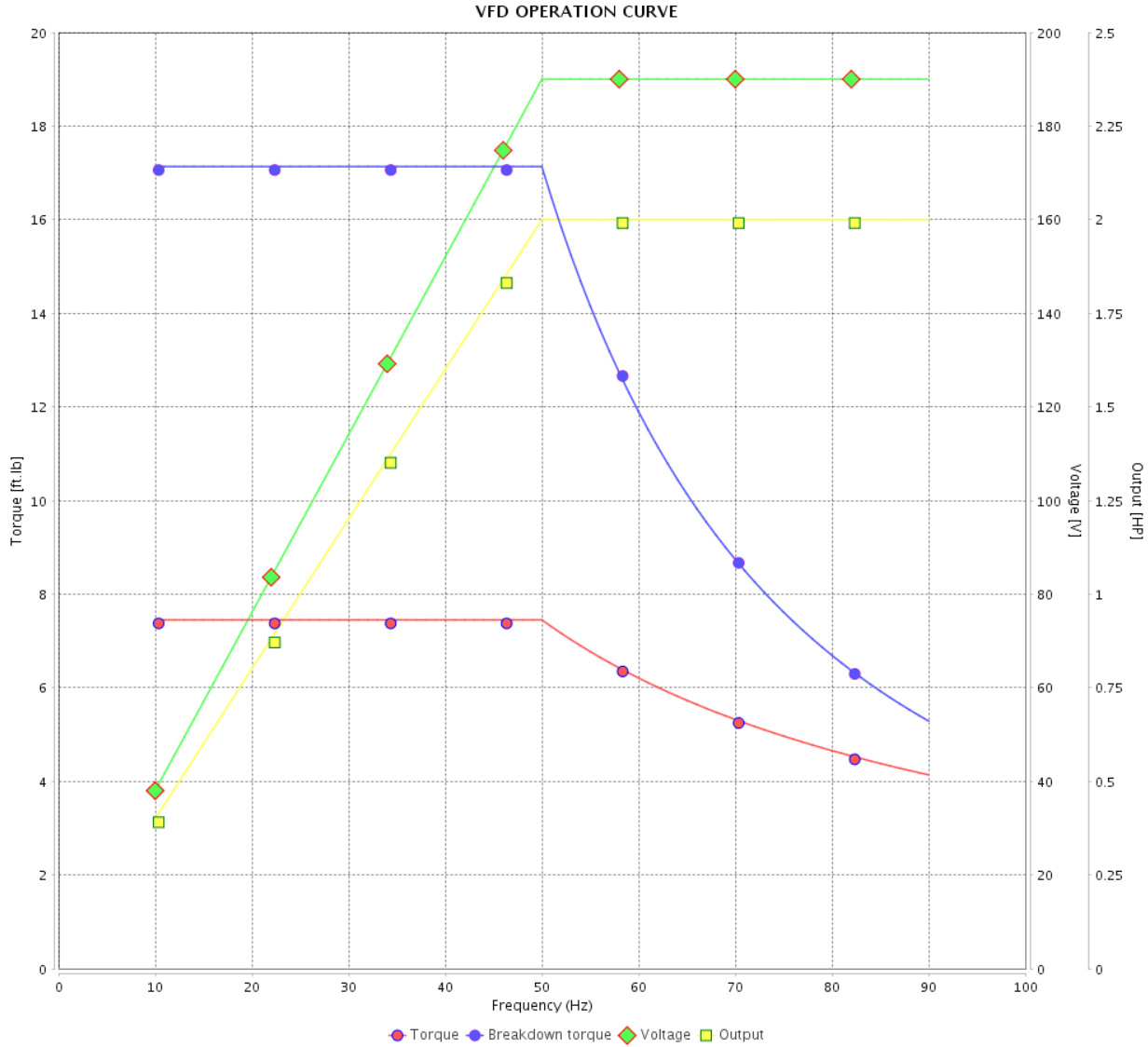
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : A

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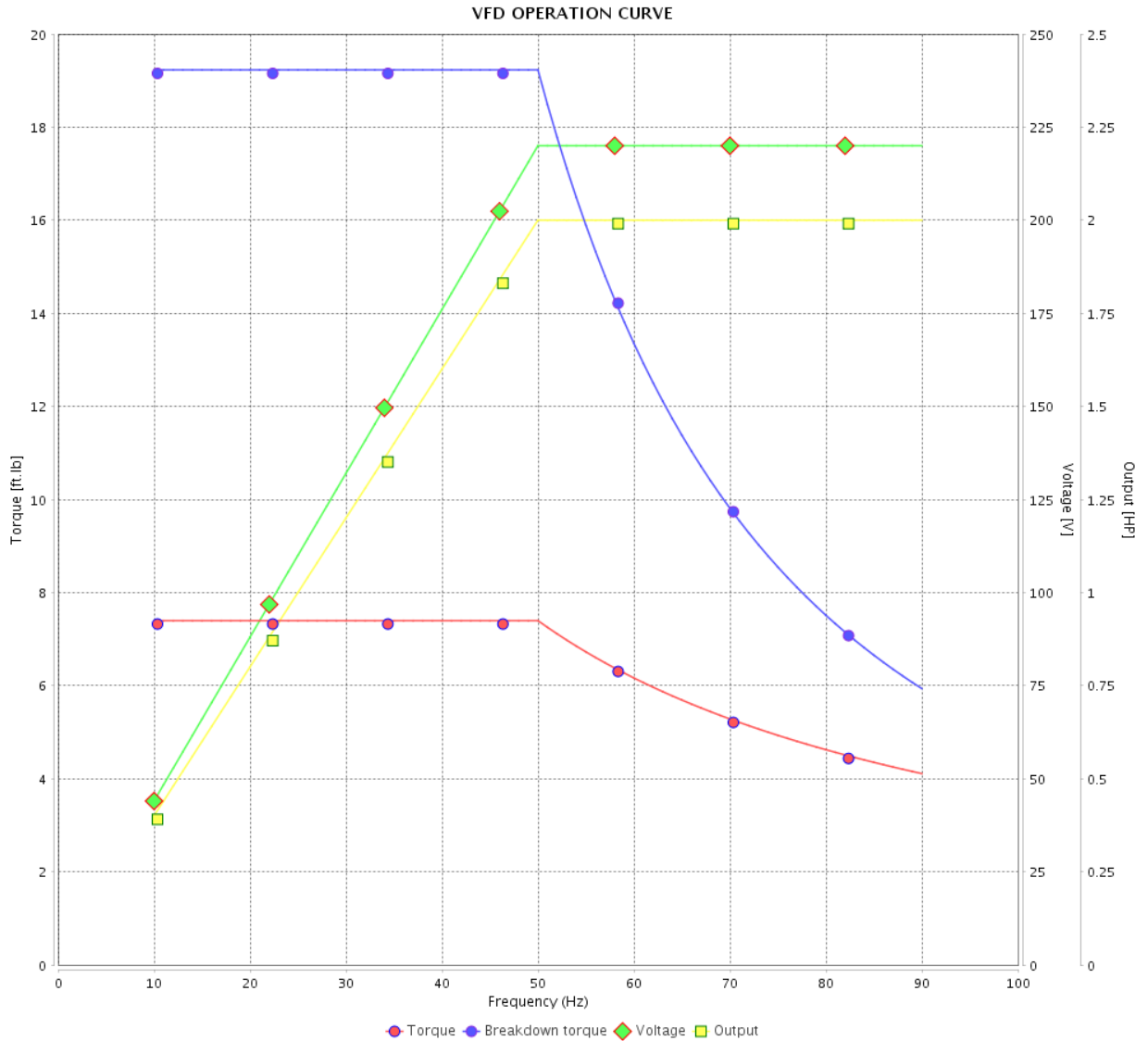
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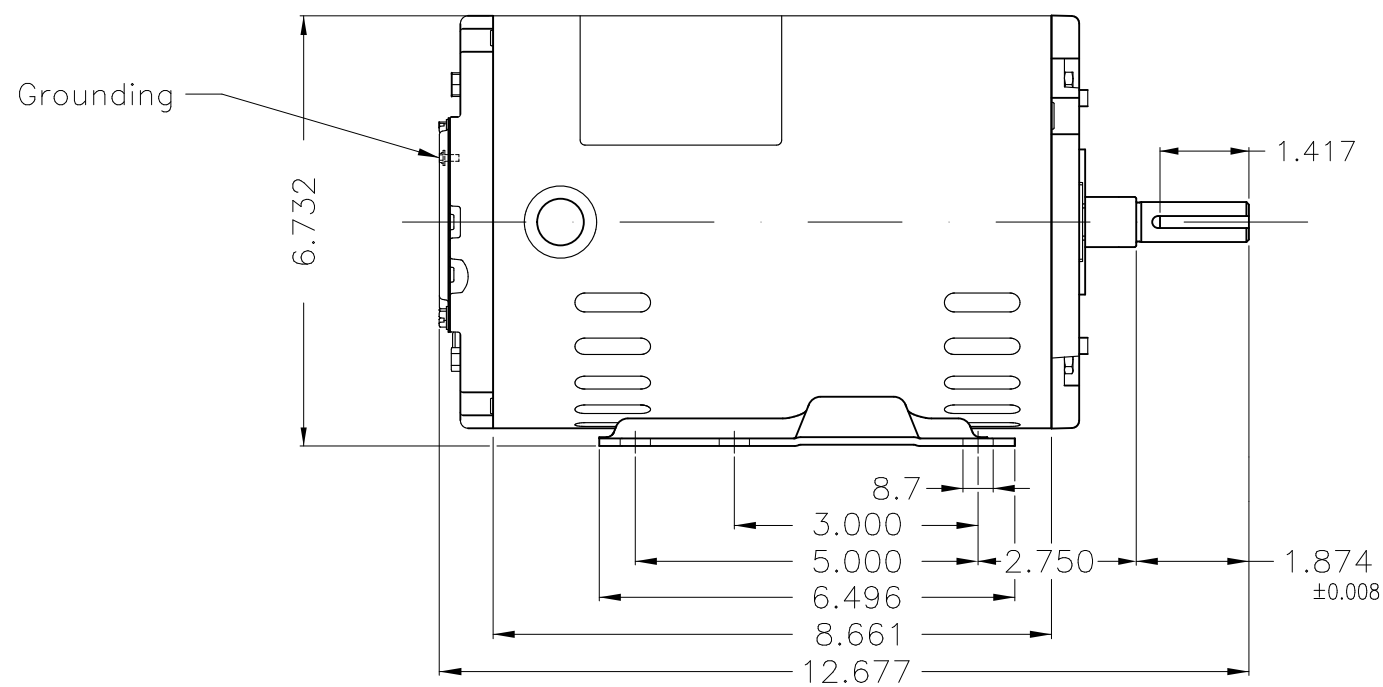
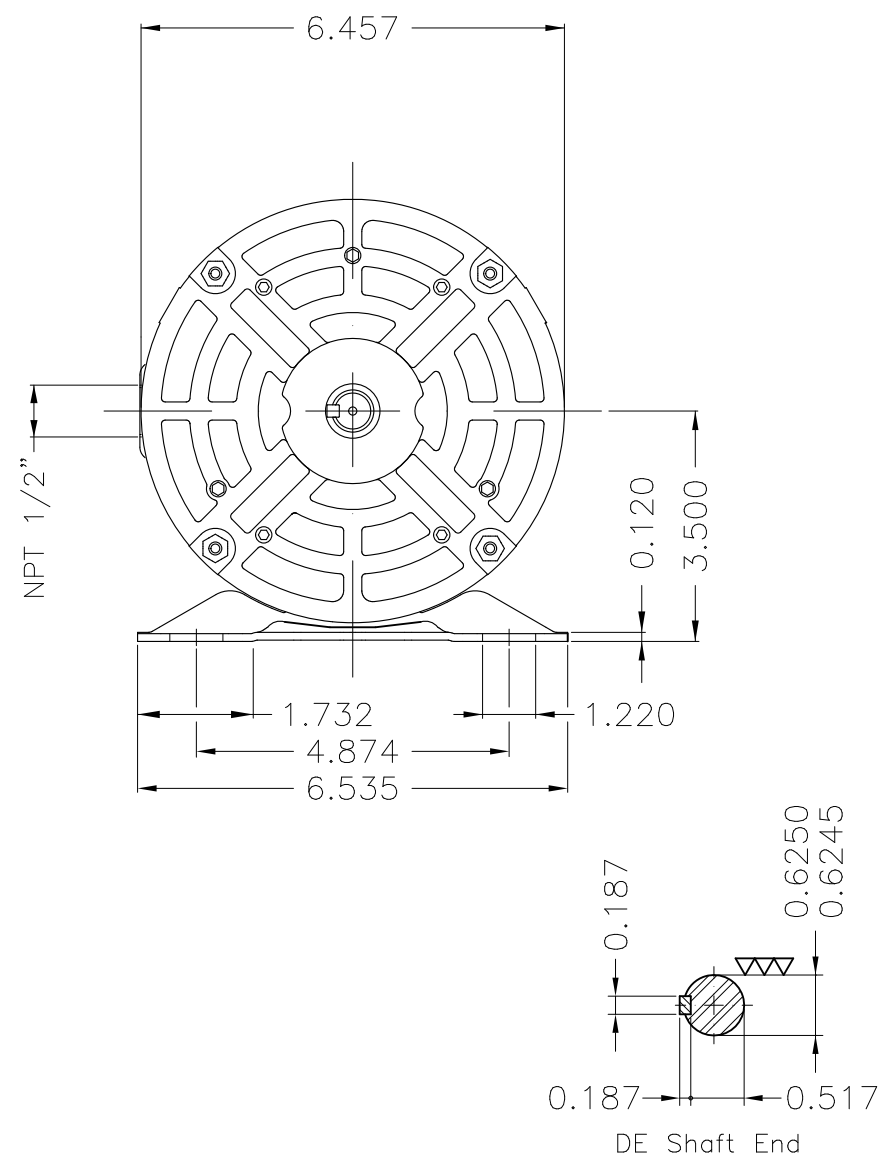
A

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

2 HP 04 Poles 60 Hz

A

**NEMA**
Premium

MADE IN MEXICO

MAT: 12759194

W01.T00IC0X0X

MODEL 002180T3E56-S

03MAR2022 B/N:

PH 3	Hz 60	HP 2.0
FR 56H		KW 1.5
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 5.38/2.69
INS CL F AT 80K		SFA 6.19/3.09
AMB 40°C	DES A	SF 1.15
ENCL ODP	CODE K	PF 0.81
USABLE @ 208V 5.95A		RPM 1740
SF1.00		NEMA NOM. EFF 86.5%

ALTERNATE RATING: 2.0HP 50Hz 190-220/380-415V SF1.00
 6.52-5.79/3.26-3.07A 1410RPM EFF 82.2% (IE1) IEC 60034-1

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

DE 6204-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.

