

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :		
Product line	: NEMA Premium Efficiency Three-Phase	
Product code :	12687686	
Catalog # :	02018OT3E256T-SG	
Frame	: 254/6T	
Insulation class	: F	
Duty cycle	: Cont.(S1)	
Ambient temperature	: -20°C to +40°C	
Altitude	: 1000 m.a.s.l.	
Design	: B	
Cooling method	: IC01 - ODP	
Mounting	: F-1	
Rotation ¹	: Both (CW and CCW)	
Starting method	: Direct On Line	
Approx. weight ²	: 214 lb	
Moment of inertia (J)	: 2.23 sq.ft.lb	
Output [HP]	20	
Poles	4	
Frequency [Hz]	60	
Rated voltage [V]	230/460	
Rated current [A]	50.0/25.0	
L. R. Amperes [A]	315/158	
LRC [A]	6.3x(Code G)	
No load current [A]	22.9/11.4	
Rated speed [RPM]	1770	
Slip [%]	1.67	
Rated torque [ft.lb]	59.3	
Locked rotor torque [%]	240	
Breakdown torque [%]	290	
Service factor	1.15	
Temperature rise	80 K	
Locked rotor time	27s (cold) 15s (hot)	
Noise level ²	64.0 dB(A)	
Efficiency (%)	25%	91.7
	50%	92.4
	75%	92.4
	100%	93.0
Power Factor	25%	0.38
	50%	0.63
	75%	0.74
	100%	0.81
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3	
Sealing	: Without Without	
	: Bearing Seal Bearing Seal	
Lubrication interval	: 20000 h 20000 h	
Lubricant amount	: 13 g 8 g	
Lubricant type	: Mobil Polyrex EM	
Foundation loads	Max. traction : 753 lb	
	Max. compression : 967 lb	
Notes USABLE @208V 55.3A SF 1.00 SFA 55.3A		
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



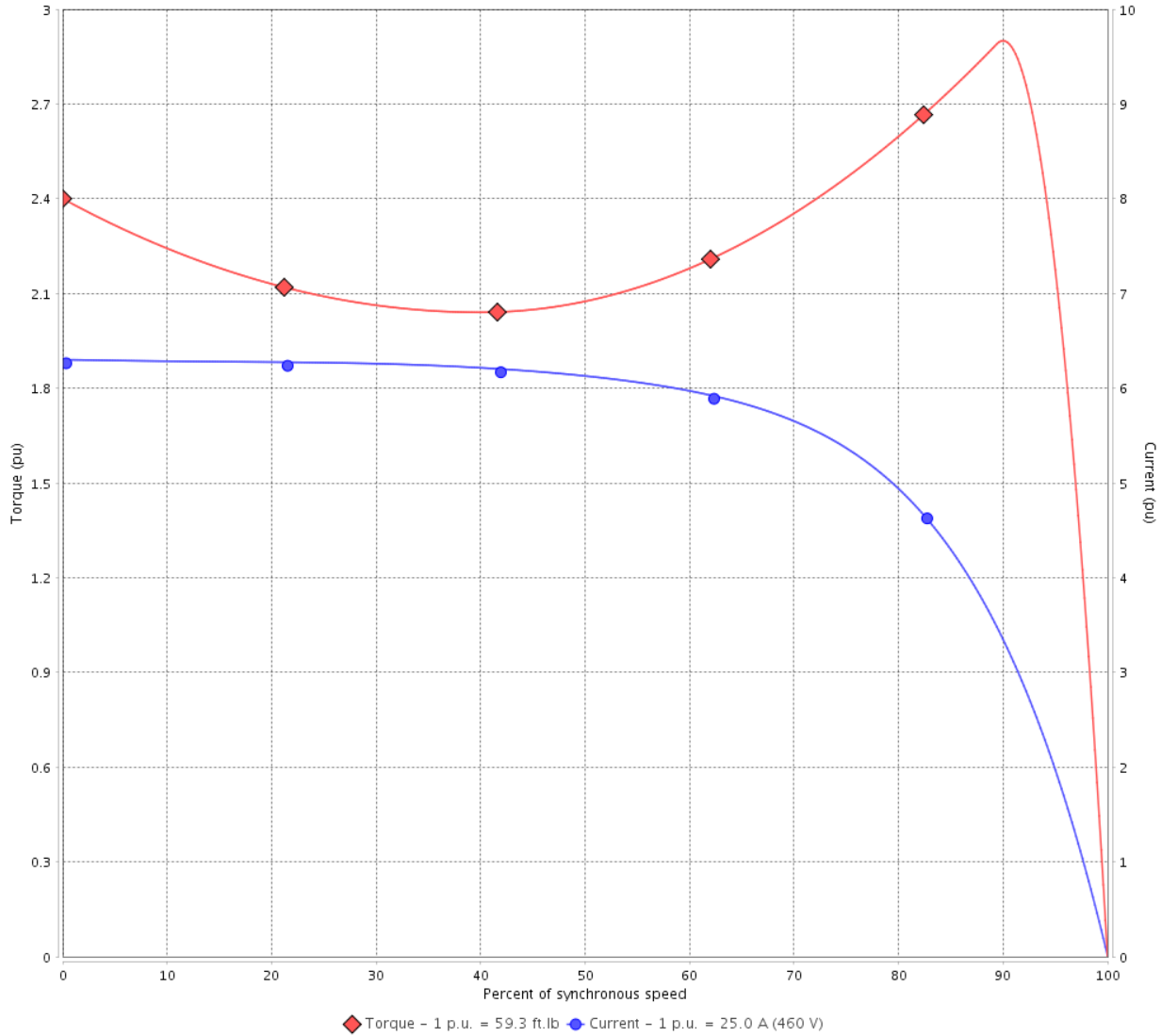
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12687686

Catalog # : 02018OT3E256T-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current	: 50.0/25.0 A	Moment of inertia (J)	: 2.23 sq.ft.lb
LRC	: 6.3	Duty cycle	: Cont.(S1)
Rated torque	: 59.3 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



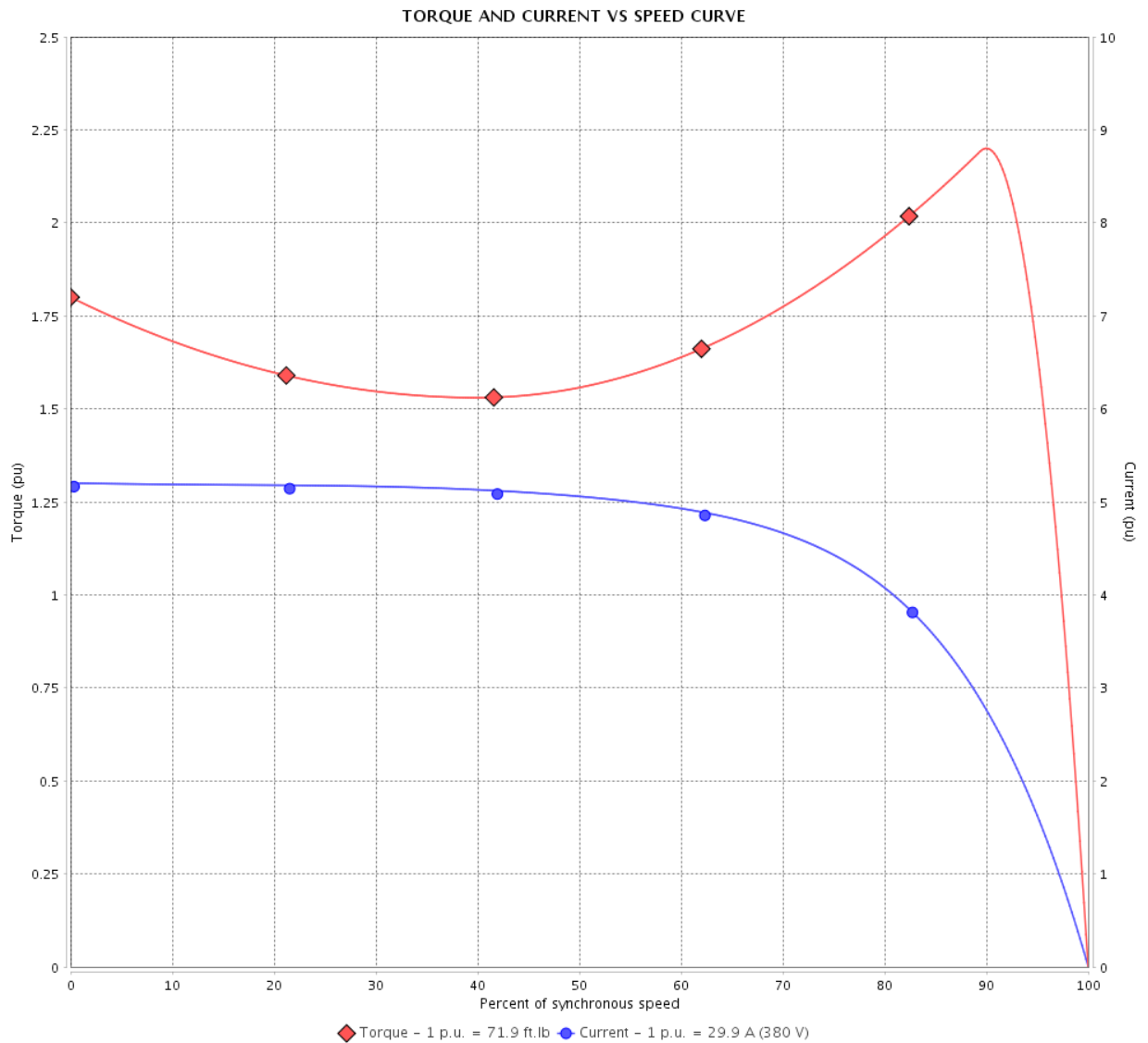
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12687686

Catalog # : 02018OT3E256T-SG



Performance : 190/380 V 50 Hz 4P

Rated current : 59.8/29.9 A
 LRC : 5.2
 Rated torque : 71.9 ft.lb
 Locked rotor torque : 180 %
 Breakdown torque : 220 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 2.23 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



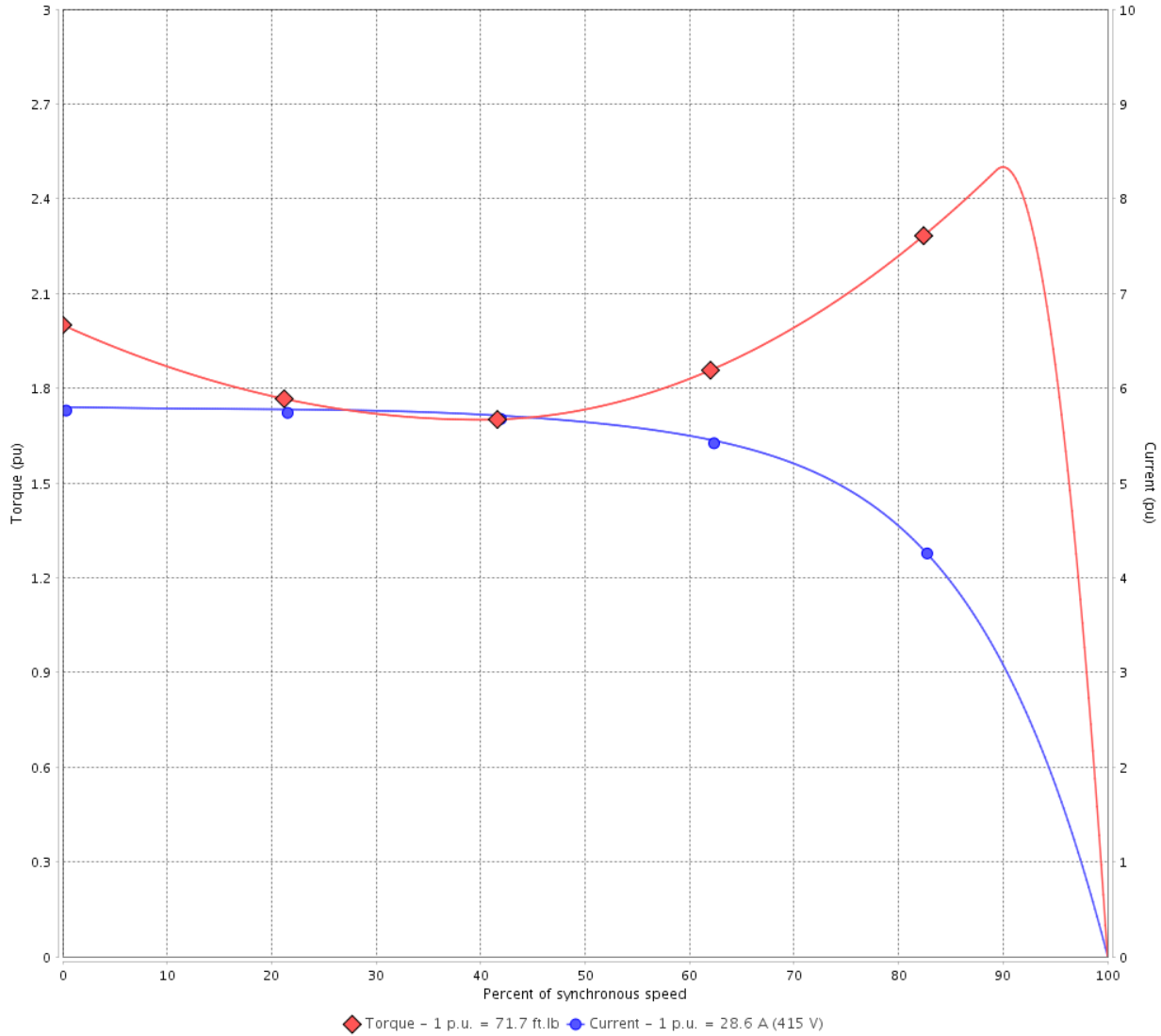
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current	: 54.0/28.6 A	Moment of inertia (J)	: 2.23 sq.ft.lb
LRC	: 5.8	Duty cycle	: Cont.(S1)
Rated torque	: 71.7 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: B

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

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LOAD PERFORMANCE CURVE

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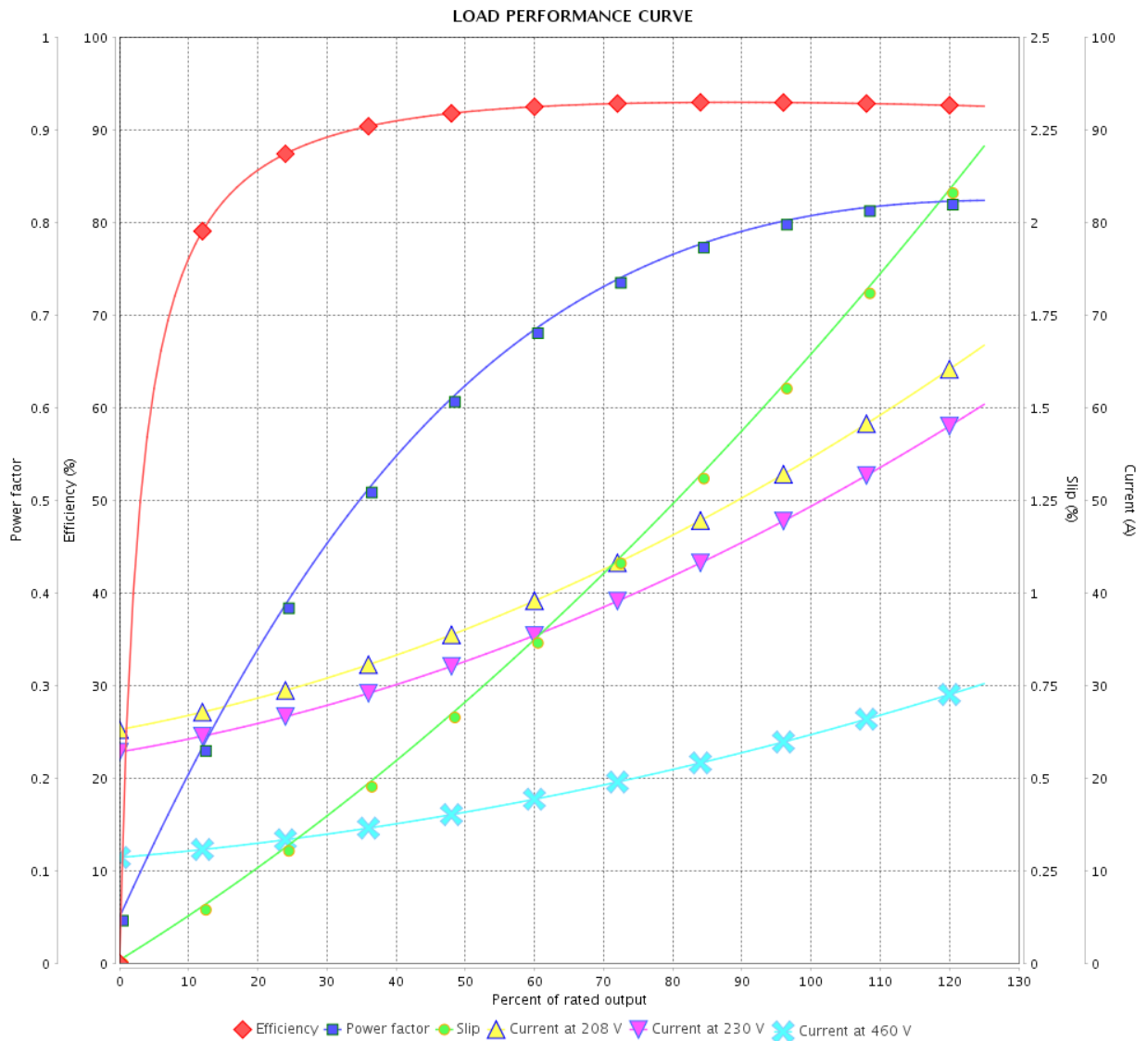


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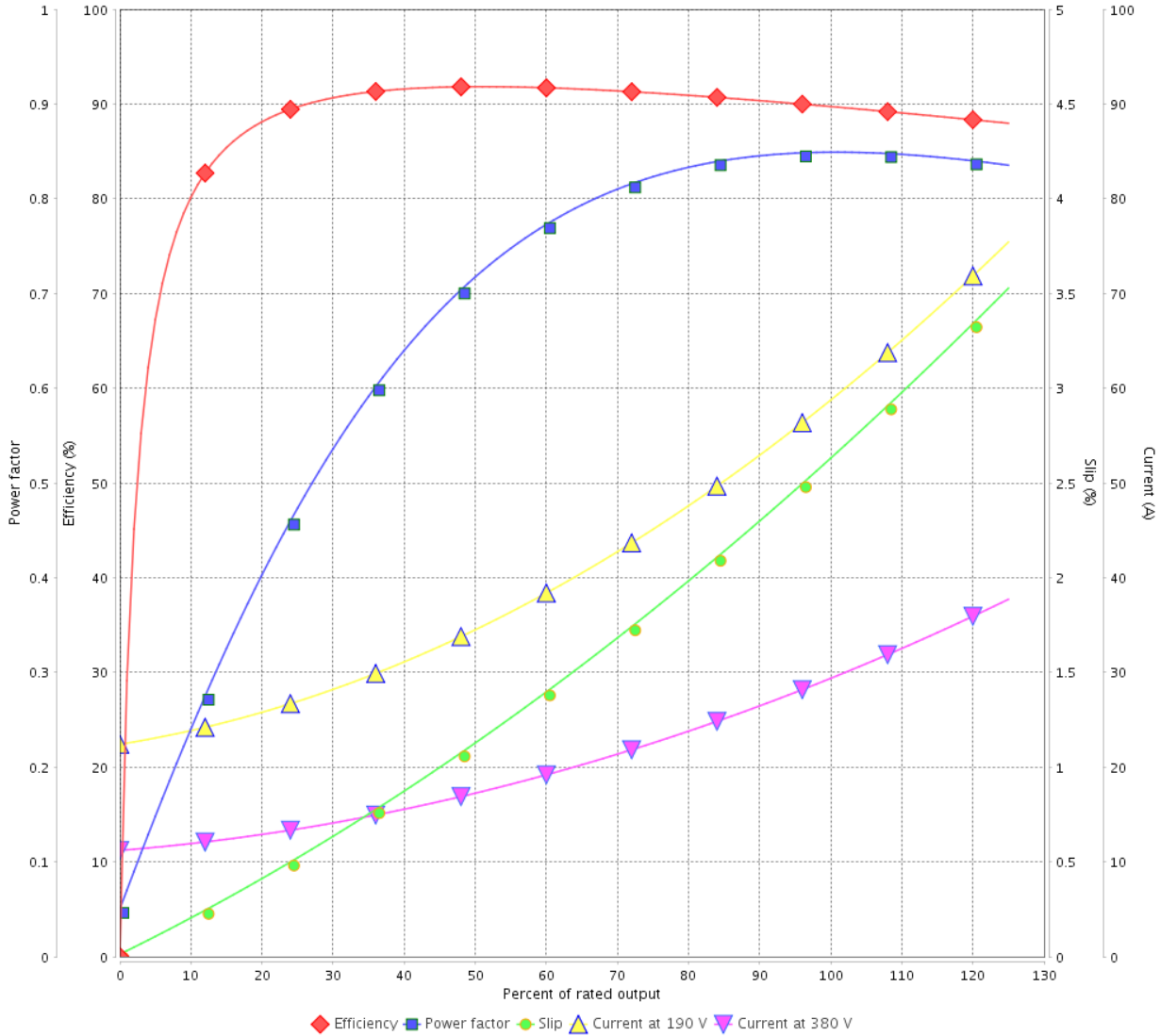
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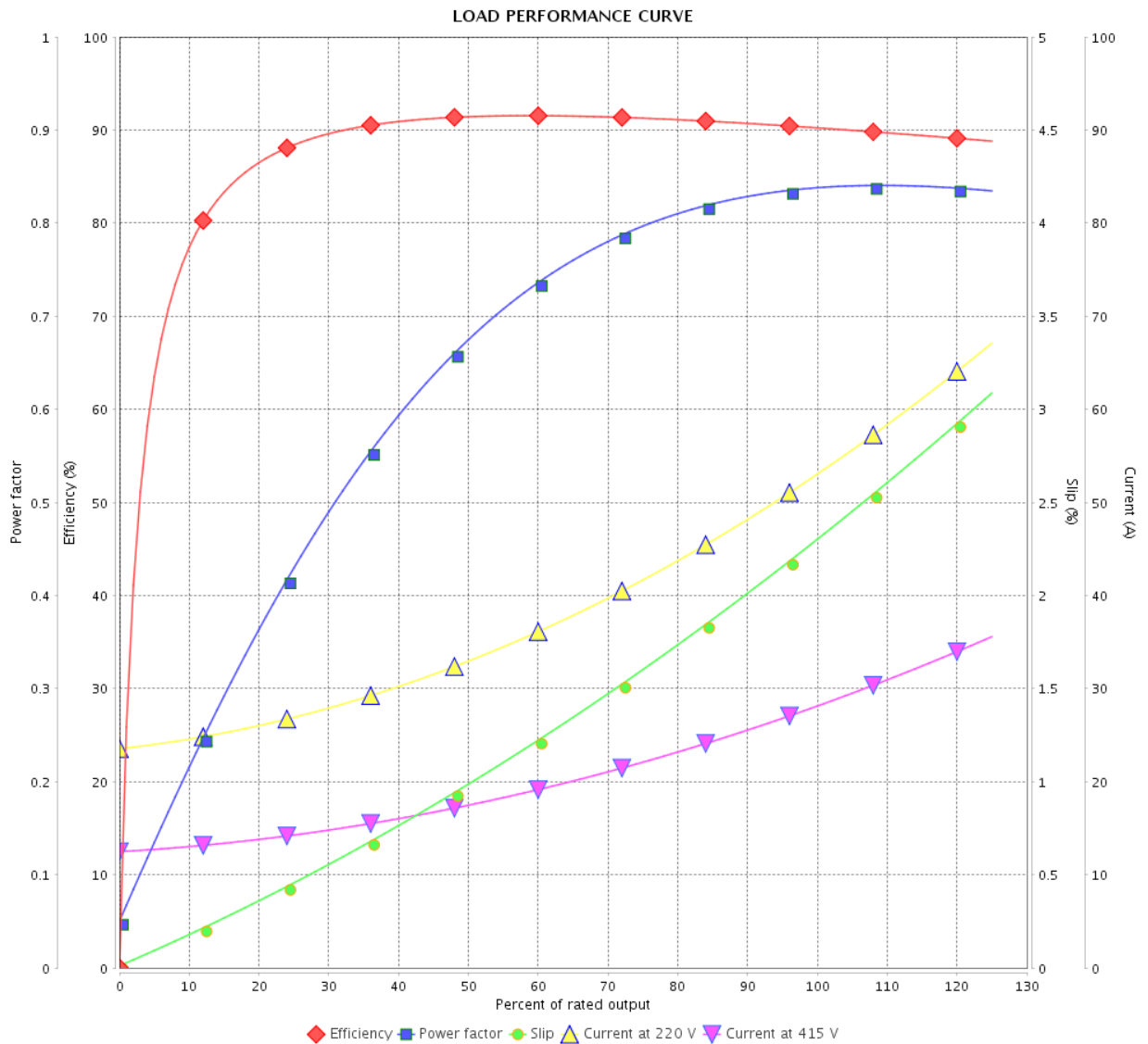


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THERMAL LIMIT CURVE



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Rated speed : 1770 rpm	Design : B

Heating constant

Cooling constant

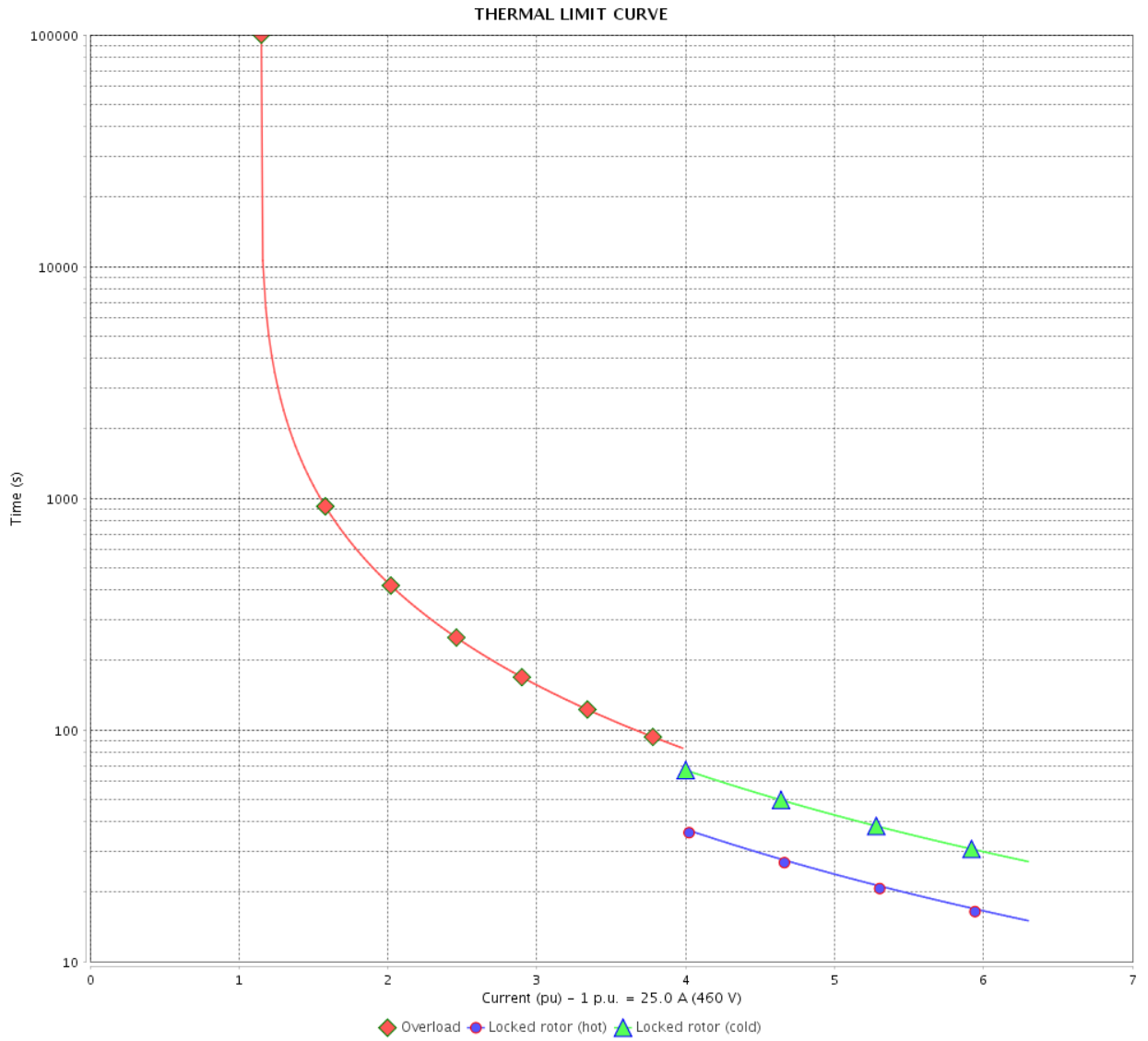
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Cooling constant

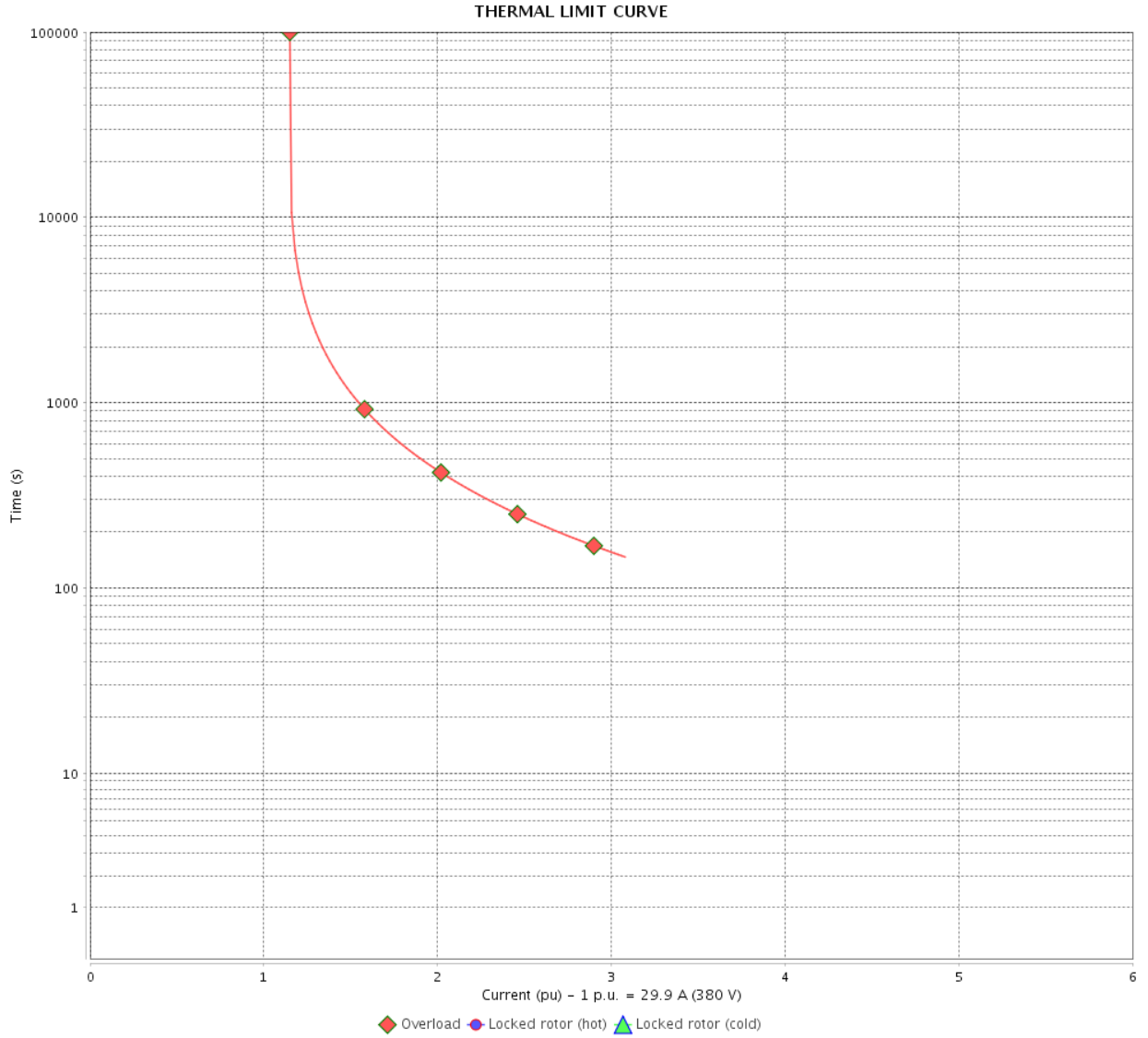
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Heating constant

Cooling constant

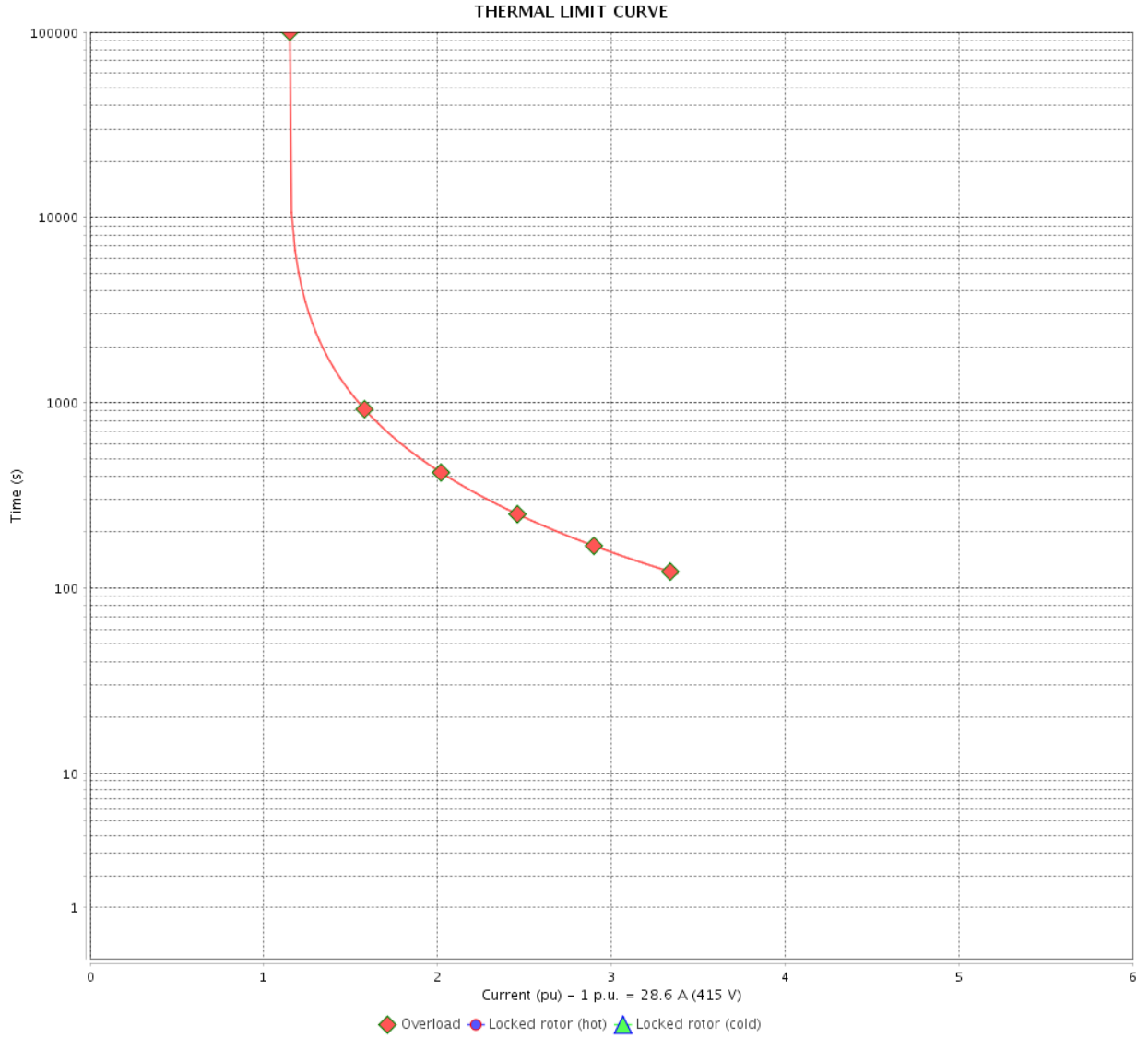
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

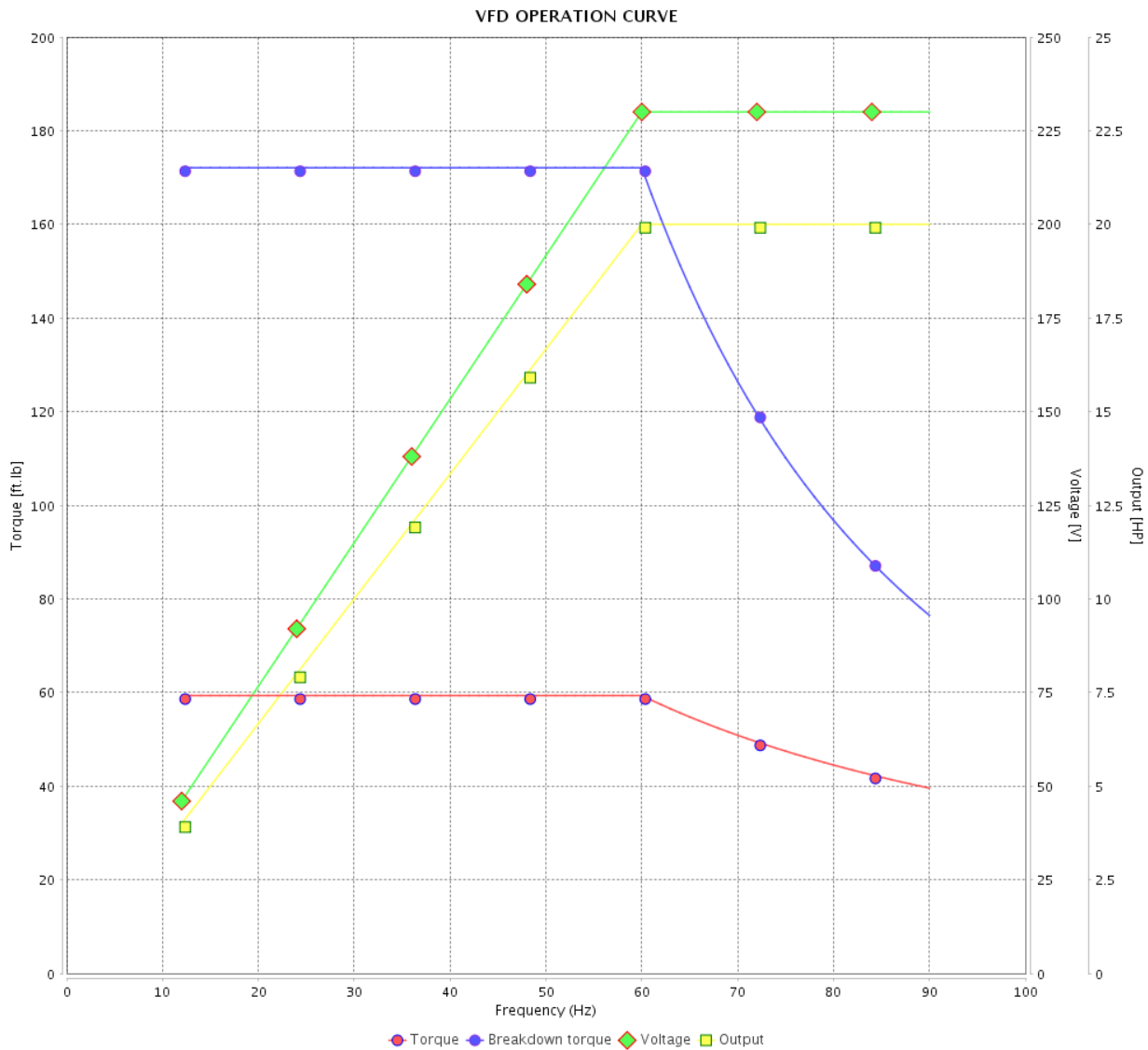


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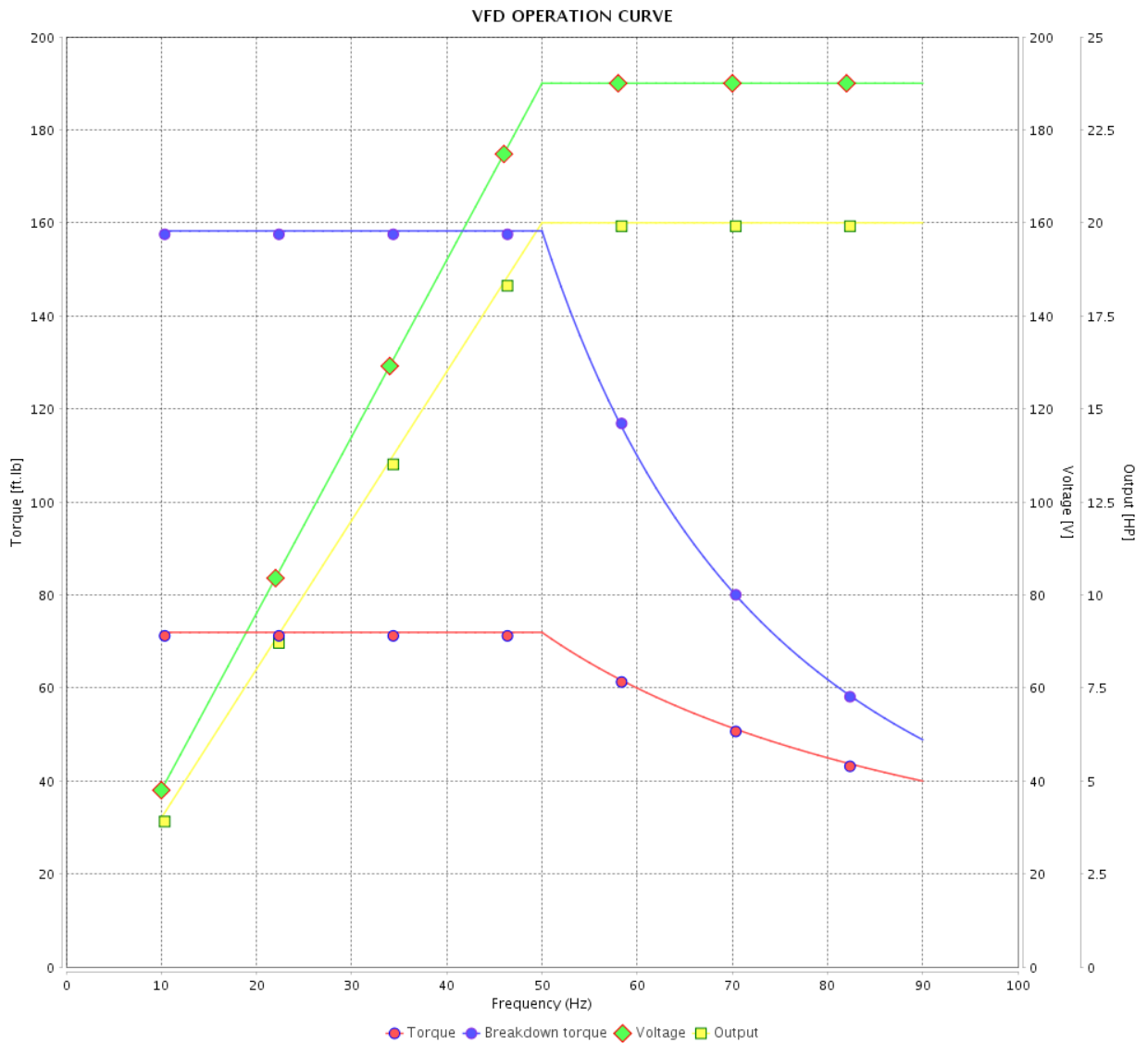


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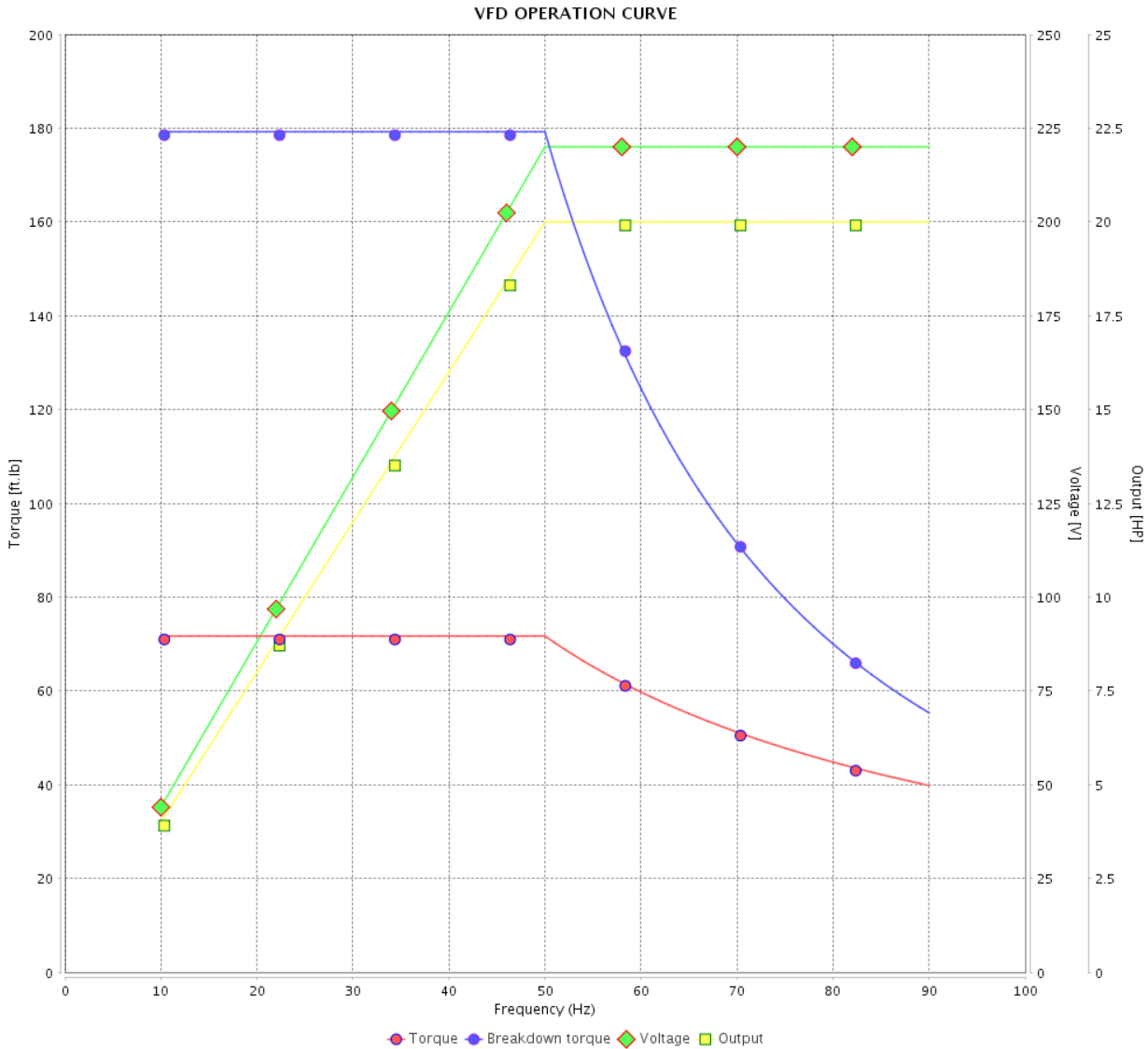


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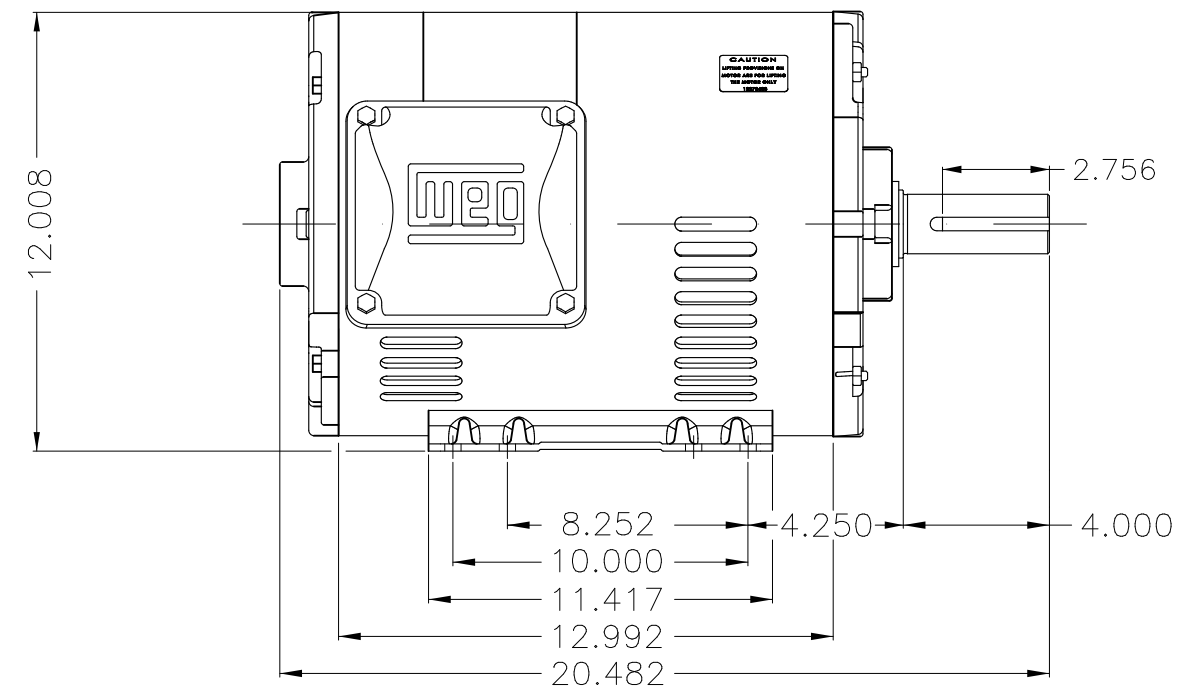
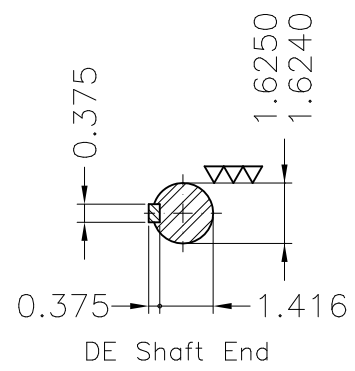
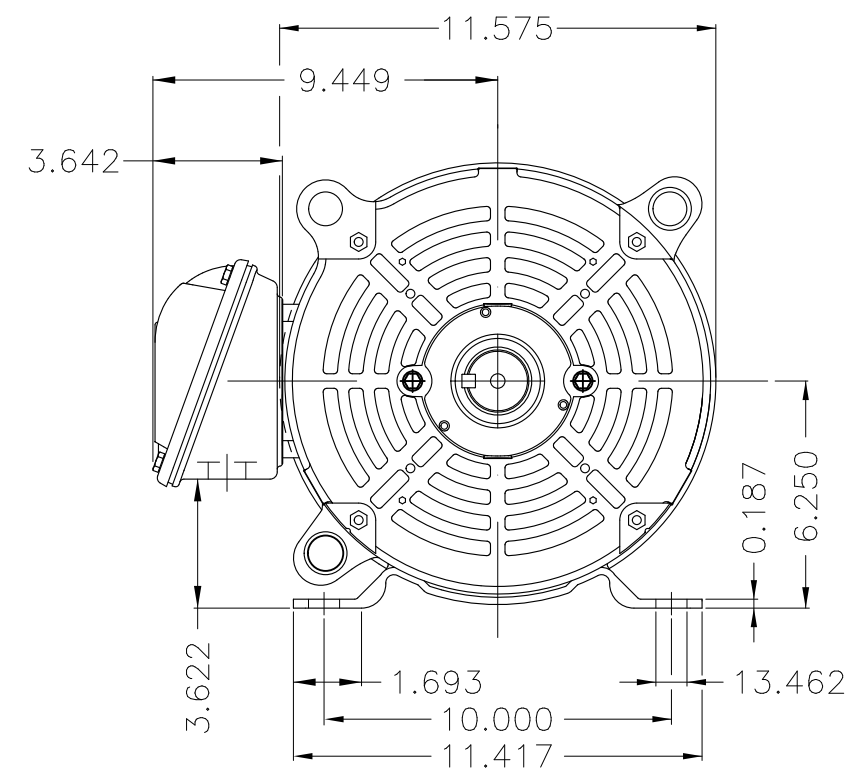
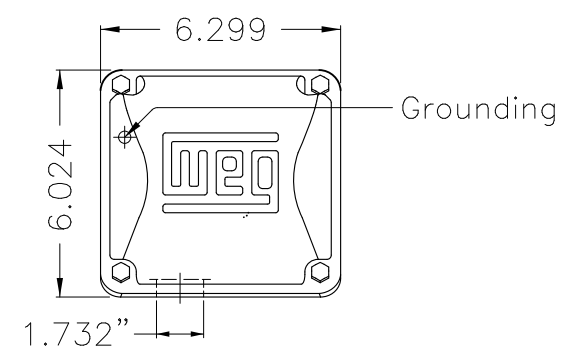
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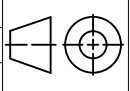
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1 2 3 4 5 6

A
B
C
D
E



- Bearing cap
- Internal AEGIS ground ring on the DE
- Color Munsell N 1 matte black
- Painting plan 207N
- Mounting F-1/B3R(D)

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	 THREE PH. MOTOR ROLLED STEEL PREM. EFF. FRAME 254/6T IP21 ODP					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET 1 / 1			

20 HP 04 Poles 60 Hz

A

PREVIEW

WDD



Dimensions in inches XME A3

**NEMA**
Premium

3PT9



Energy Verified

MADE IN MEXICO

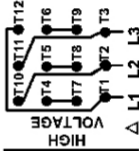
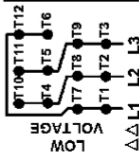
MAT: 12687686 CC029A**W01.T00IC0X0N****MODEL 020180T3E256T-SG****22APR2022 S/N:**

PH 3	Hz 60	HP 20
FR 254/6T		KW 15
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 50.0/25.0
INS CL F AT 80K		SFA 57.5/28.7
AMB 40°C	DES B	SF 1.15
ENCL ODP	CODE G	PF 0.81
USABLE @ 208V 55.3A		RPM 1770
SF1.00		NEMA NOM. EFF 93.0%

ALTERNATE RATING: 20HP 50Hz 190-220/380-415V SF1.15
59.8-53.0/29.9-28.1A 1460RPM EFF 89.7% (IE1) IEC 60034-1

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

DE 6309-Z-C3	ODE 6208-Z-C3	MOBIL POLYREX EM	20000h
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T1-BLU T2-WHT
T3-ORG T4-YEL
T5-BLK T6-GRY
T7-PNK T8-RED
T9-BRK RED
T10-CURRY
T11-GRN T12-VLT

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.

