

DATA SHEET



Three Phase Induction Motor - Squirrel Cage

Customer :		
Product line	: NEMA Premium Efficiency Three-Phase	
Product code :	12802183	
Catalog # :	02036ET3ER256TC-S	
Frame	: 254/6TC	
Insulation class	: F	
Duty cycle	: Cont.(S1)	
Ambient temperature	: -20°C to +40°C	
Altitude	: 1000 m.a.s.l.	
Protection degree	: IP55	
Design	: B	
Cooling method	: IC411 - TEFC	
Mounting	: F-1	
Rotation ¹	: Both (CW and CCW)	
Starting method	: Direct On Line	
Approx. weight ²	: 233 lb	
Moment of inertia (J)	: 1.22 sq.ft.lb	
Output [HP]	20	
Poles	2	
Frequency [Hz]	60	
Rated voltage [V]	230/460	
Rated current [A]	45.4/22.7	
L. R. Amperes [A]	300/150	
LRC [A]	6.6x(Code G)	
No load current [A]	13.8/6.88	
Rated speed [RPM]	3515	
Slip [%]	2.36	
Rated torque [ft.lb]	29.9	
Locked rotor torque [%]	200	
Breakdown torque [%]	290	
Service factor	1.15	
Temperature rise	80 K	
Locked rotor time	21s (cold) 12s (hot)	
Noise level ²	75.0 dB(A)	
Efficiency (%)	25%	89.7
	50%	90.0
	75%	91.0
	100%	91.0
Power Factor	25%	0.55
	50%	0.81
	75%	0.88
	100%	0.91
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3	
Sealing	: V'Ring Without Bearing Seal	
Lubrication interval	: 15797 h 20000 h	
Lubricant amount	: 13 g 8 g	
Lubricant type	: Mobil Polyrex EM	
Foundation loads	Max. traction : 321 lb	
	Max. compression : 554 lb	
Notes USABLE @208V 50.2A SF 1.00 SFA 50.2A		
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



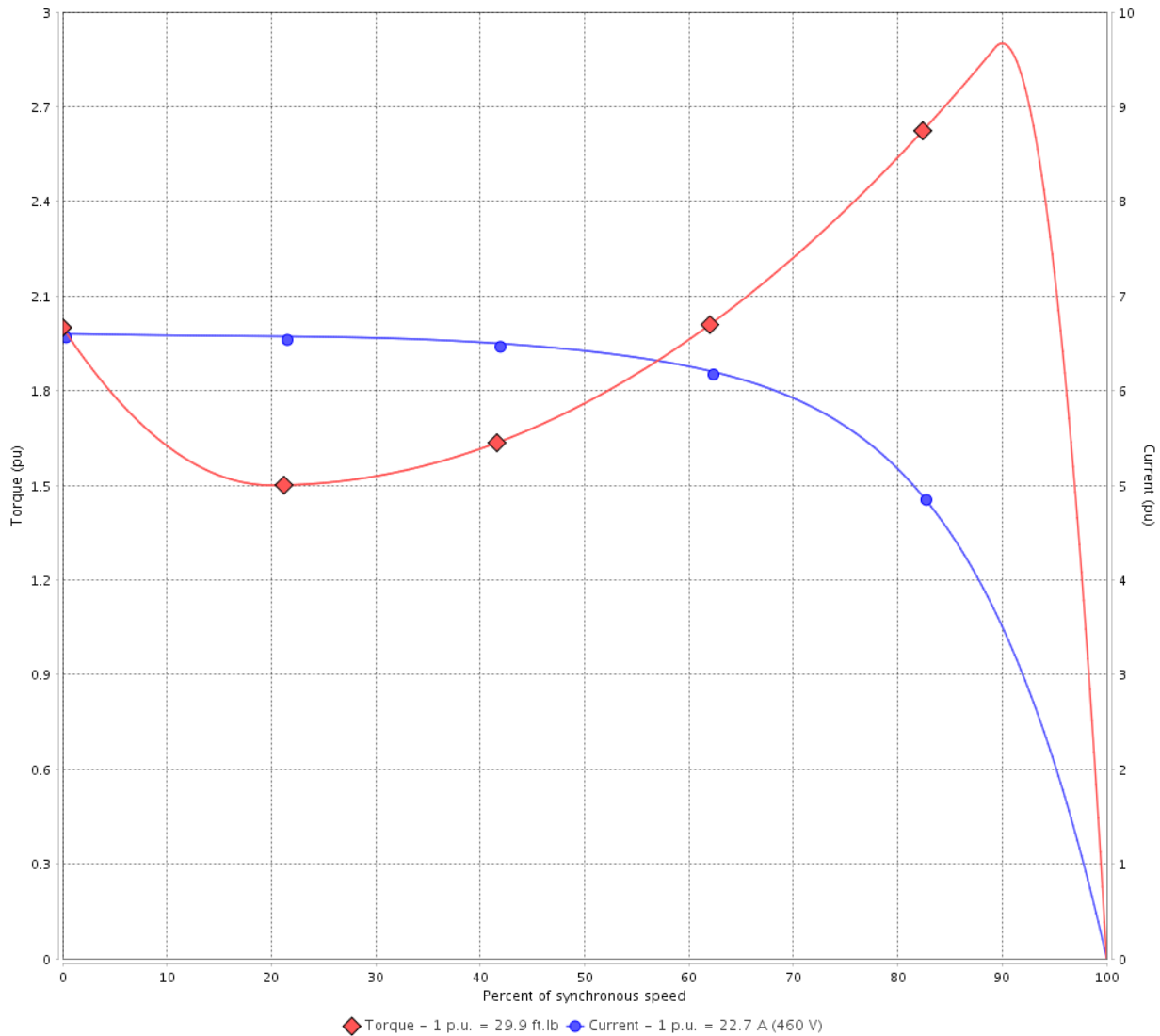
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12802183

Catalog # : 02036ET3ER256TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current	: 45.4/22.7 A	Moment of inertia (J)	: 1.22 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 29.9 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 3515 rpm	Design	: B

Locked rotor time : 21s (cold) 12s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



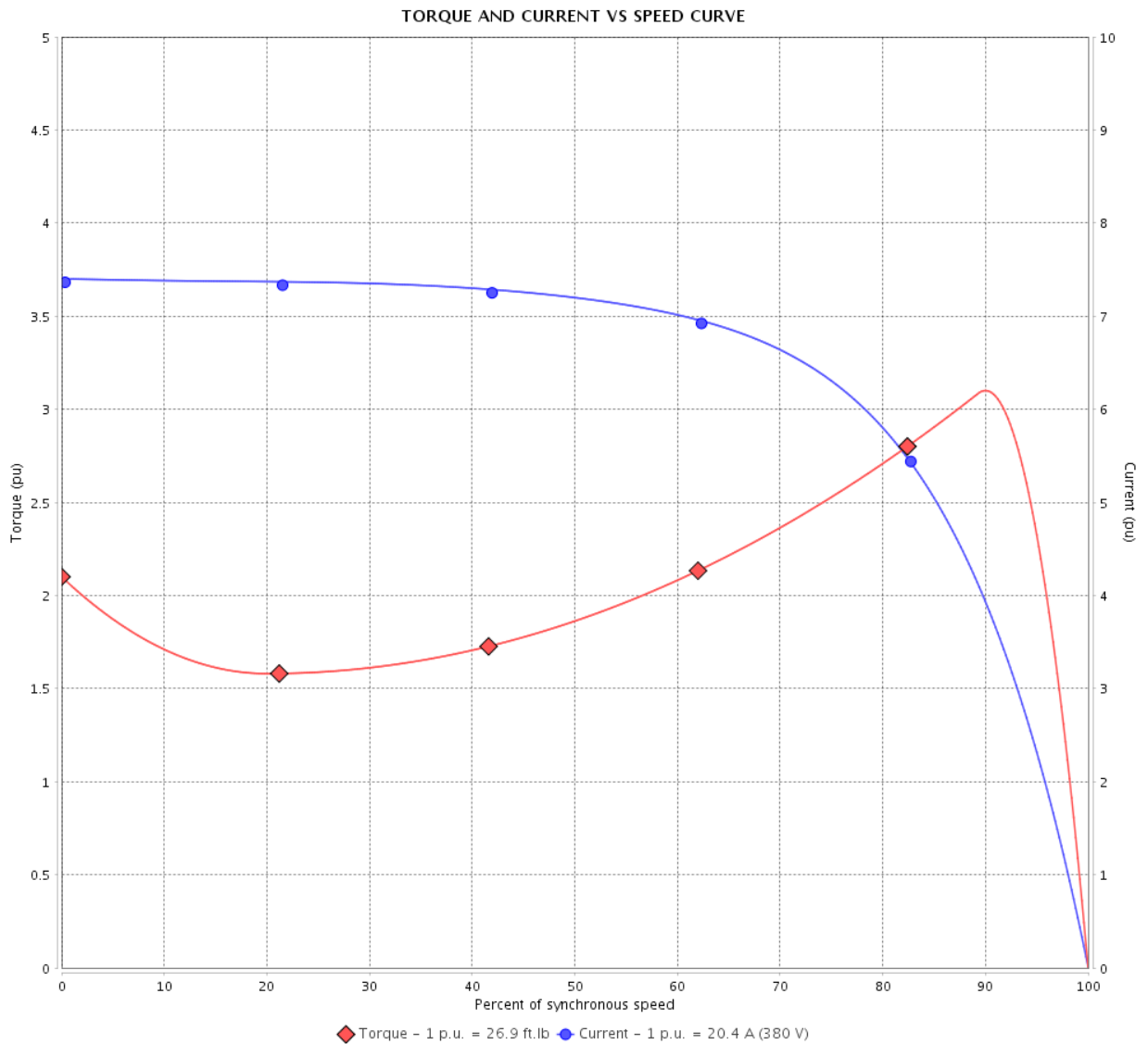
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12802183

Catalog # : 02036ET3ER256TC-S



Performance : 190/380 V 50 Hz 2P

Rated current : 40.8/20.4 A
 LRC : 7.4
 Rated torque : 26.9 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 310 %
 Rated speed : 2925 rpm

Moment of inertia (J) : 1.22 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 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



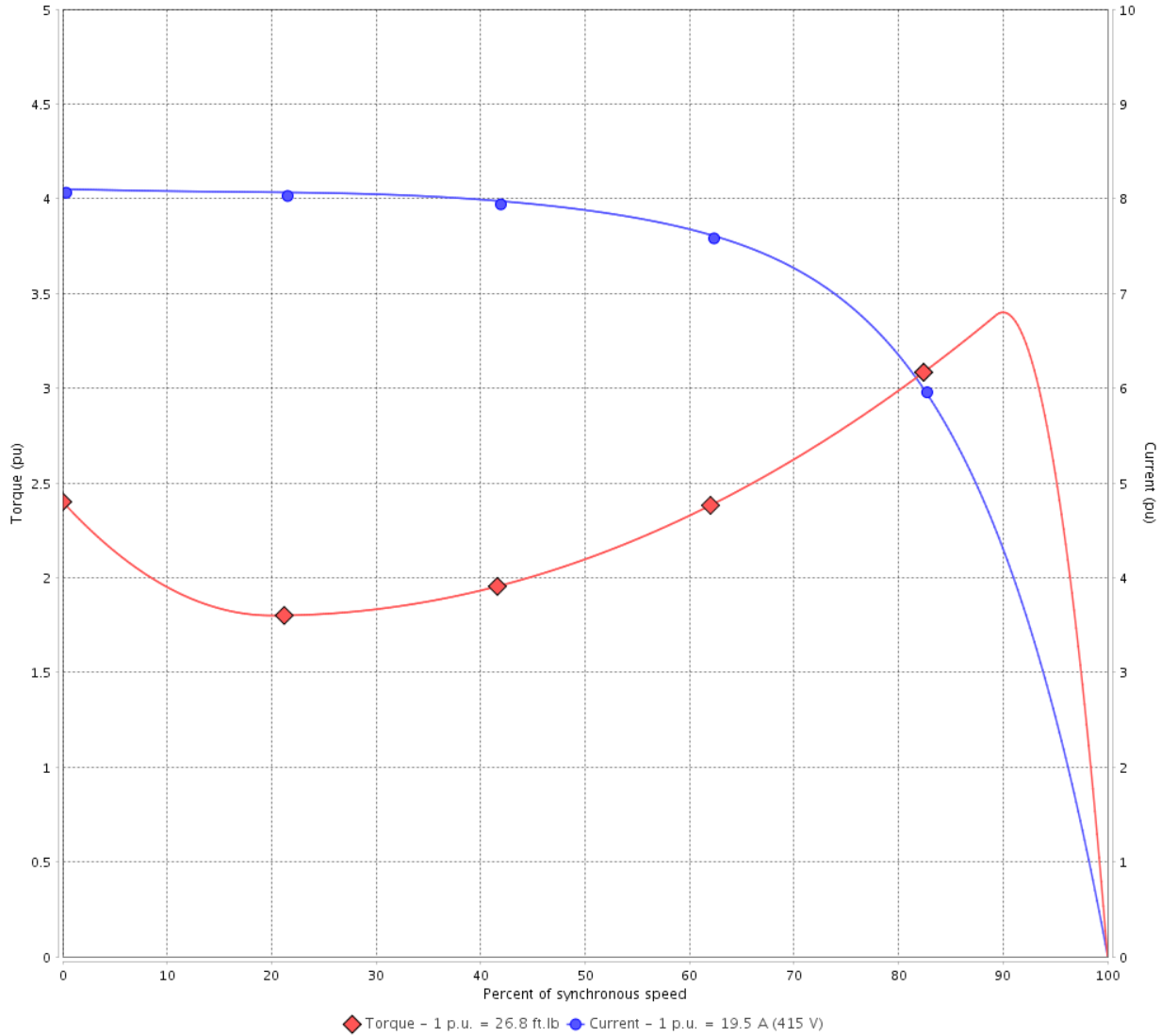
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Product code : 12802183

Catalog # : 02036ET3ER256TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current	: 36.8/19.5 A	Moment of inertia (J)	: 1.22 sq.ft.lb
LRC	: 8.1	Duty cycle	: Cont.(S1)
Rated torque	: 26.8 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 2935 rpm	Design	: B

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

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LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

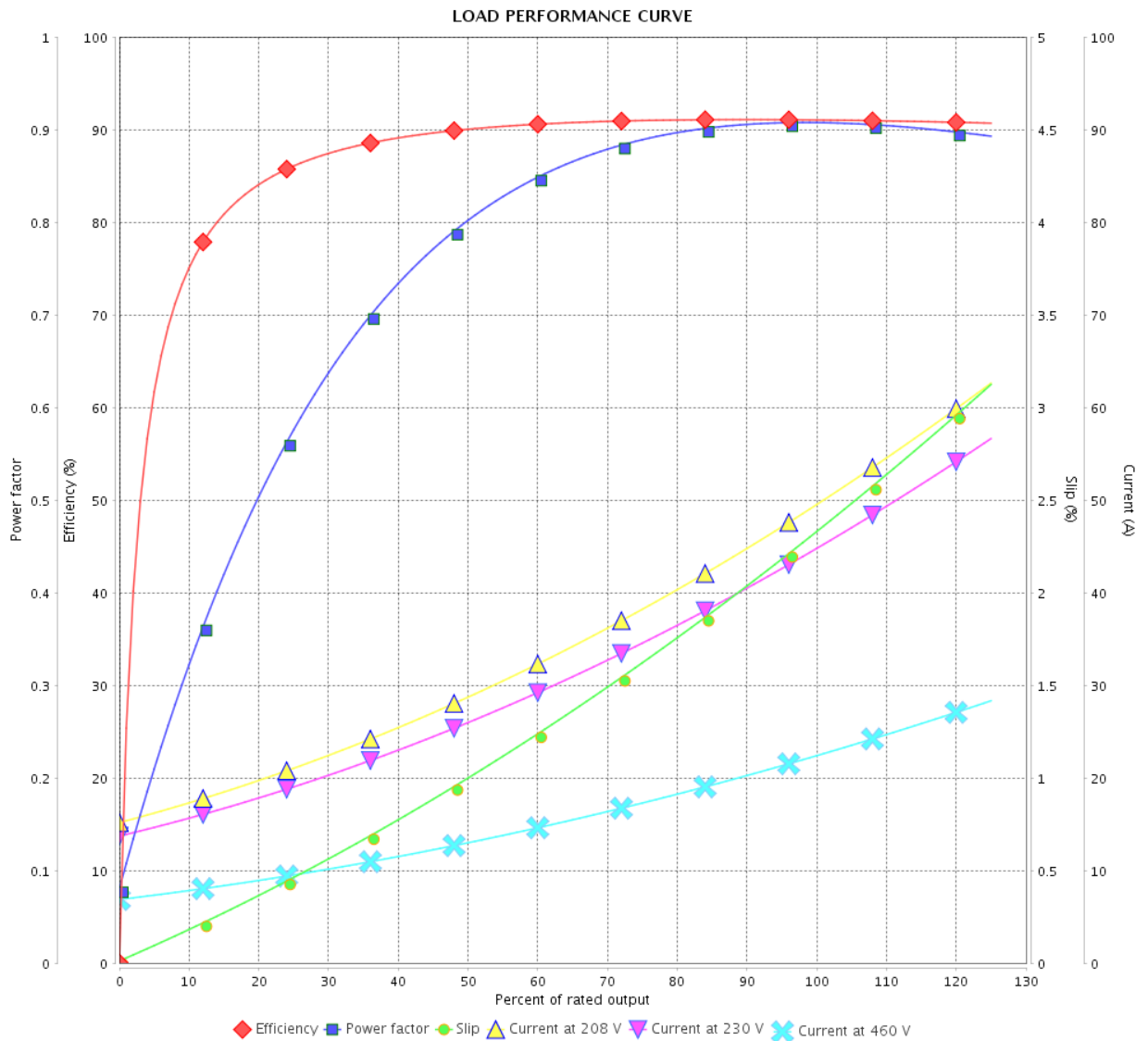


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 Breakdown torque : 290 %
 Rated speed : 3515 rpm

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

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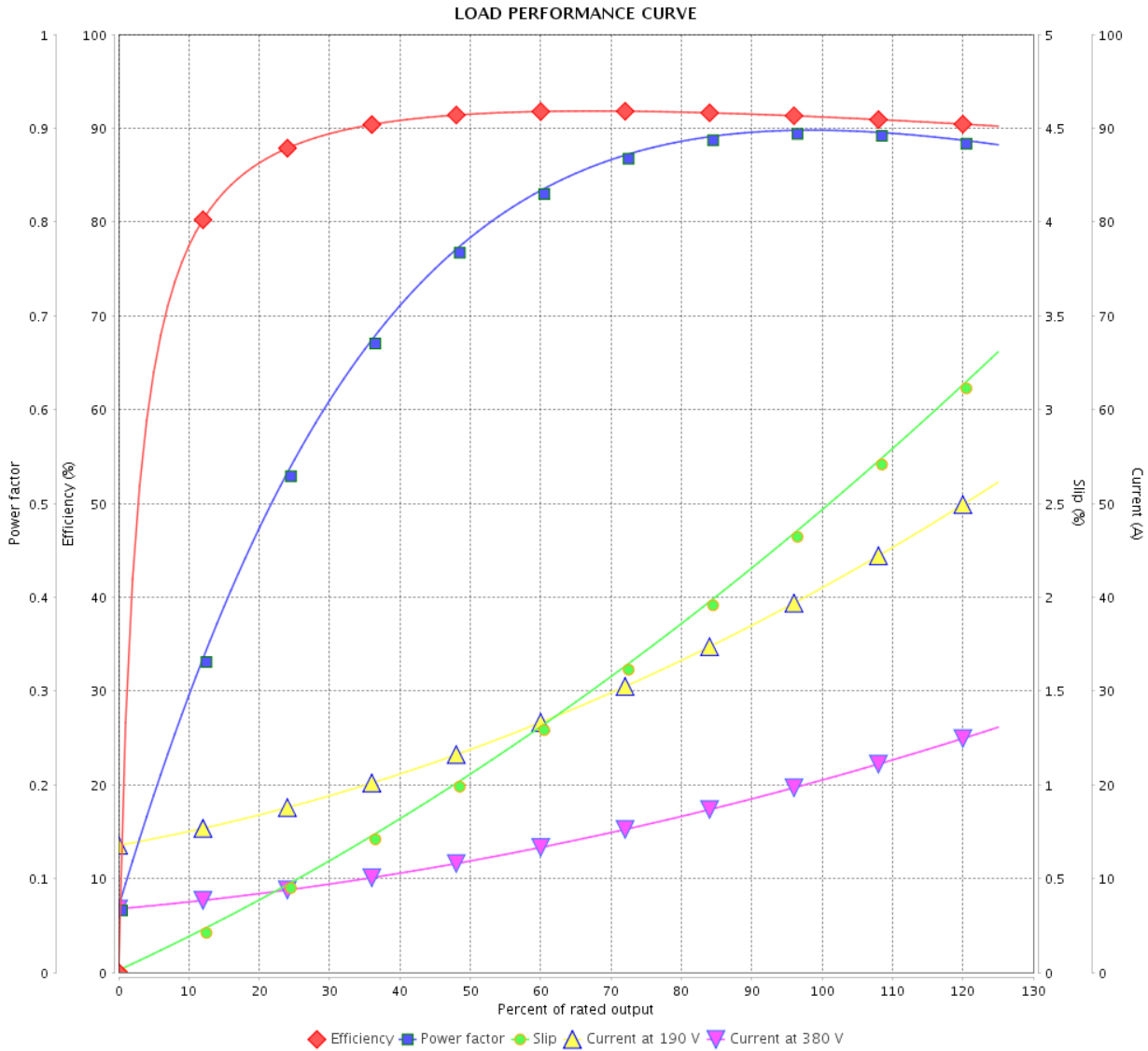


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Rated current : 40.8/20.4 A
 LRC : 7.4
 Rated torque : 26.9 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 310 %
 Rated speed : 2925 rpm

Moment of inertia (J) : 1.22 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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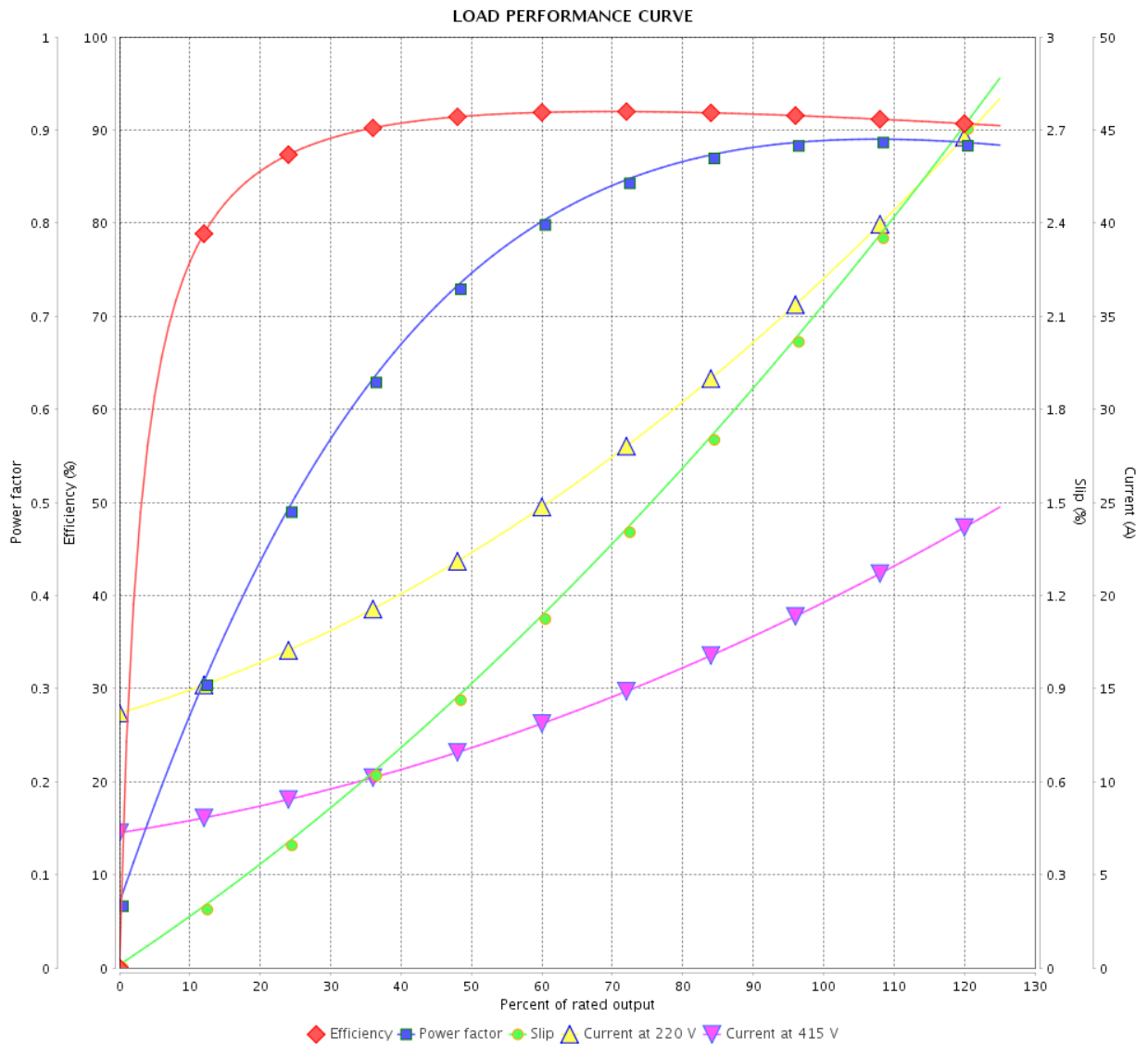


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Rated current : 36.8/19.5 A
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 Locked rotor torque : 240 %
 Breakdown torque : 340 %
 Rated speed : 2935 rpm

Moment of inertia (J) : 1.22 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

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THERMAL LIMIT CURVE



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Rated speed	: 3515 rpm	Design	: B

Heating constant

Cooling constant

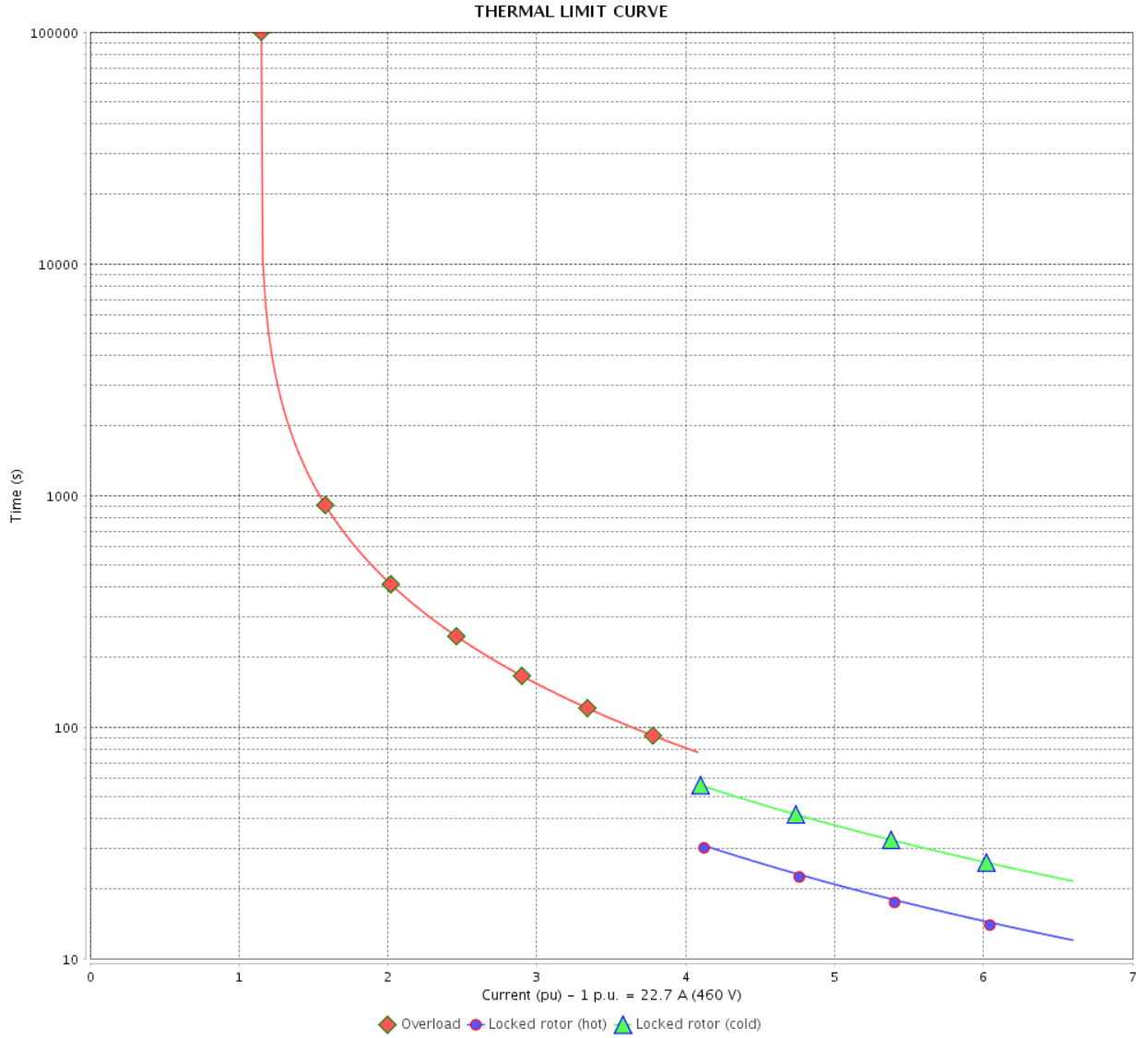
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Rated torque	: 26.9 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 105 K
Rated speed	: 2925 rpm	Design	: B

Heating constant

Cooling constant

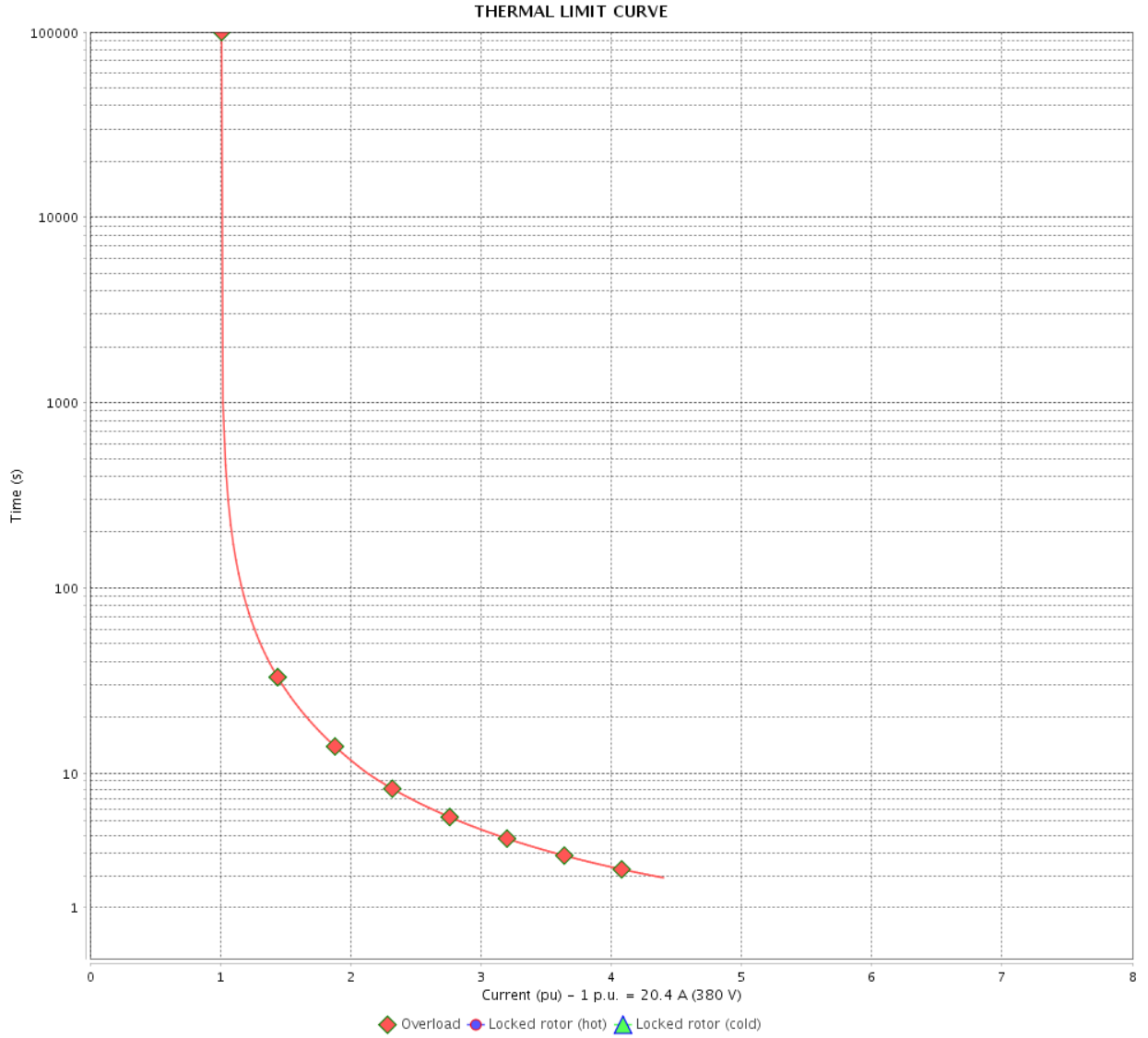
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Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 2935 rpm	Design	: B

Heating constant

Cooling constant

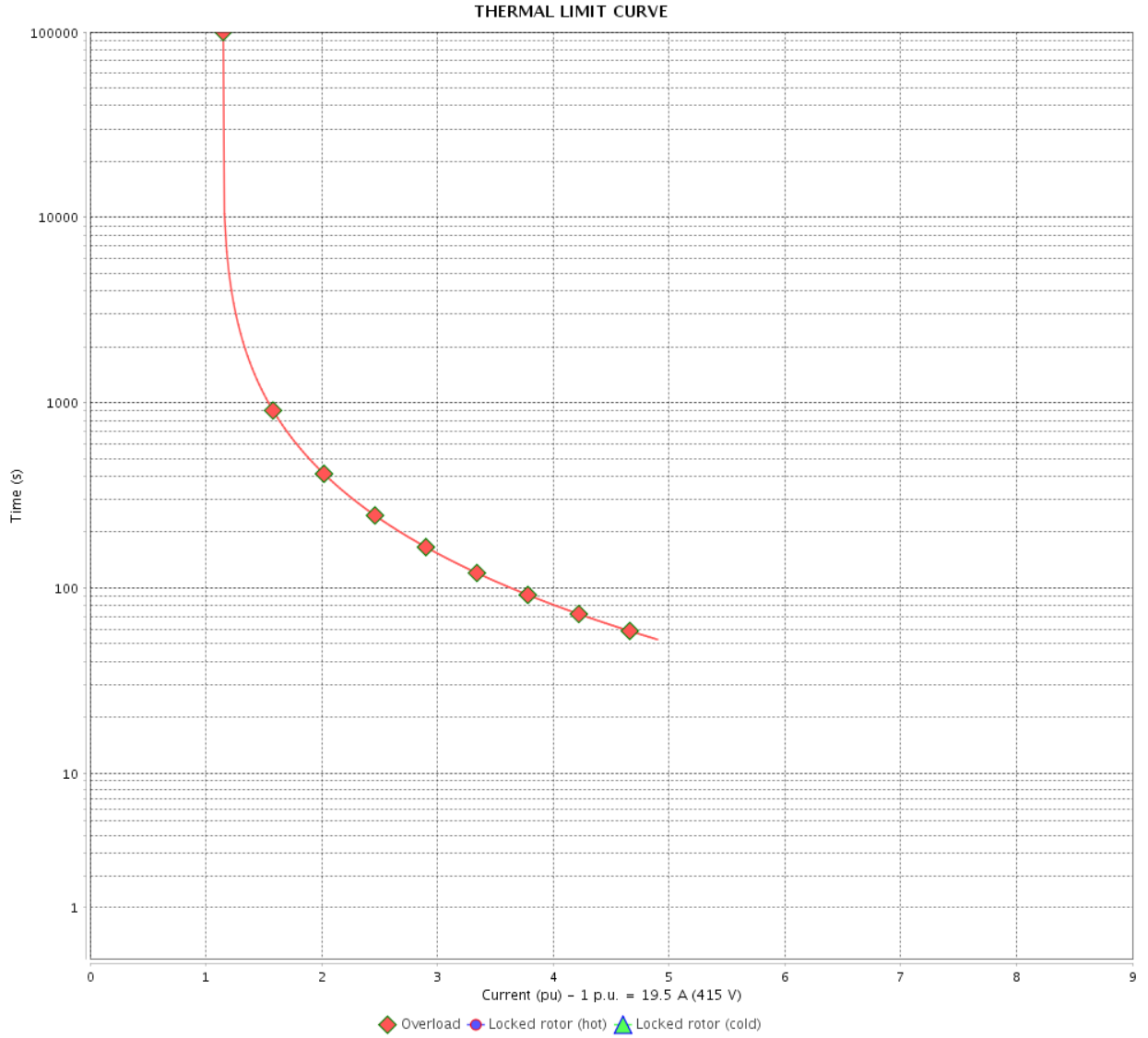
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

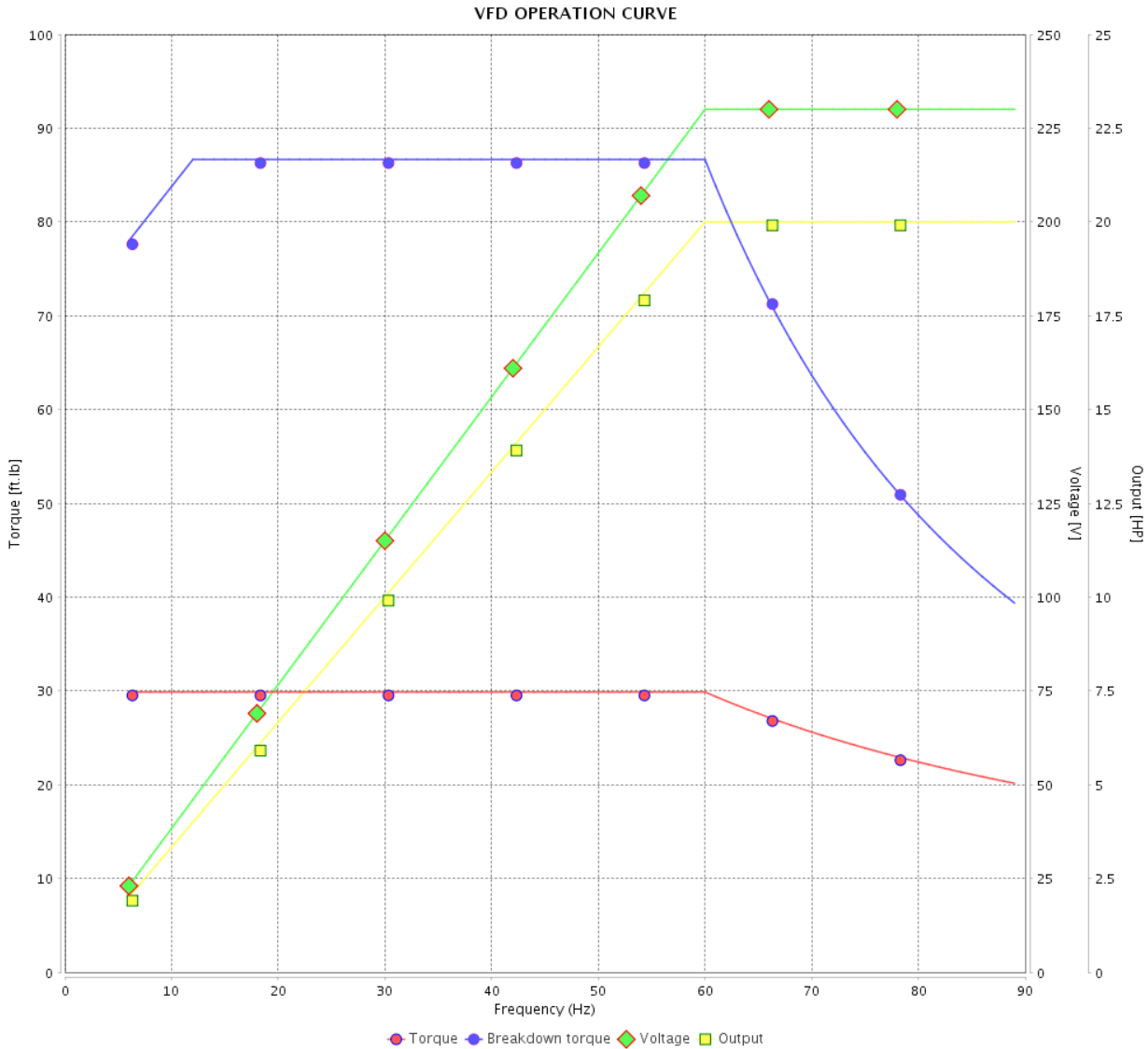


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 Breakdown torque : 290 %
 Rated speed : 3515 rpm

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

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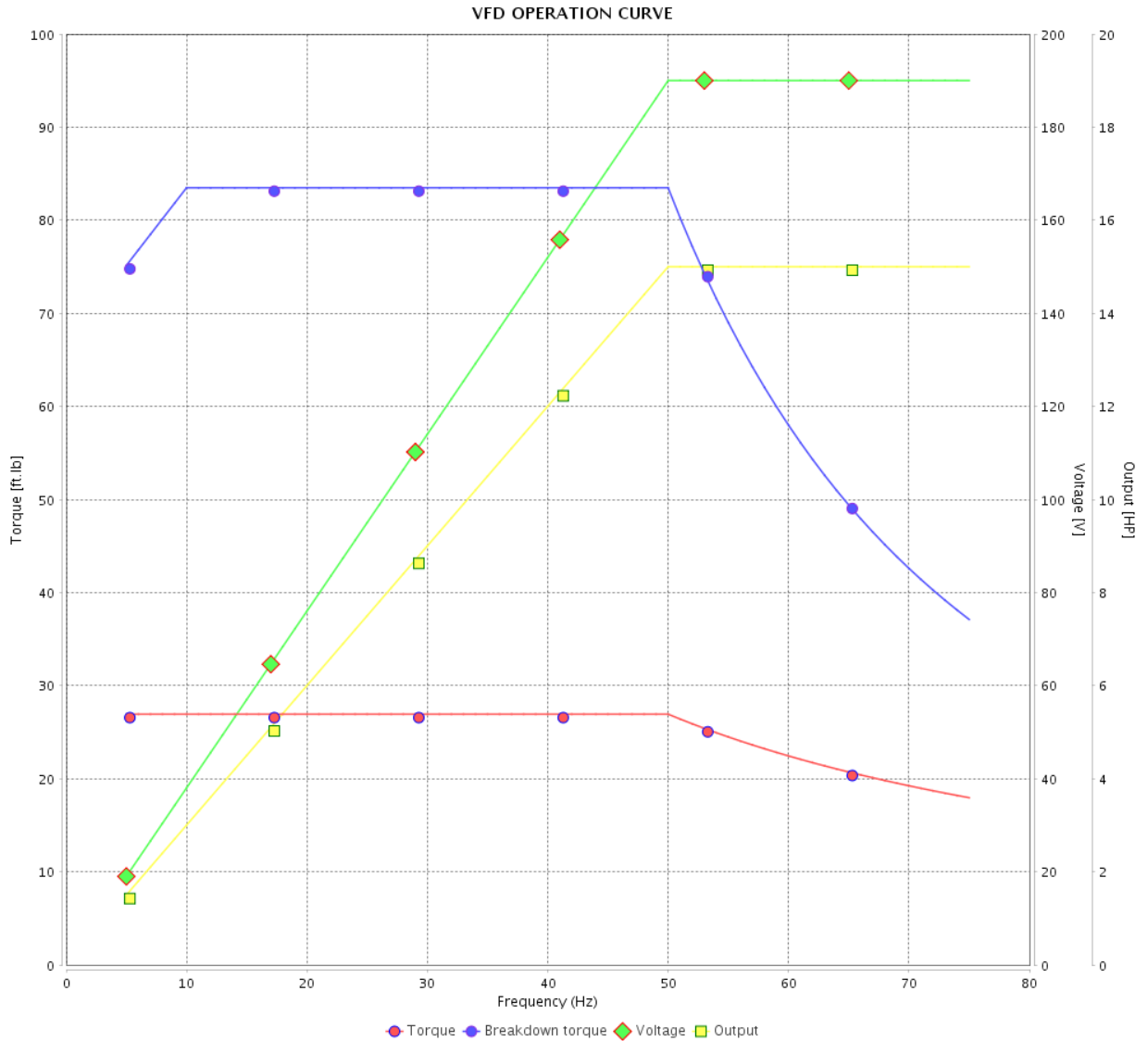
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 Rated torque : 26.9 ft.lb
 Locked rotor torque : 210 %
 Breakdown torque : 310 %
 Rated speed : 2925 rpm

Moment of inertia (J) : 1.22 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 105 K
 Design : B

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VFD OPERATION CURVE

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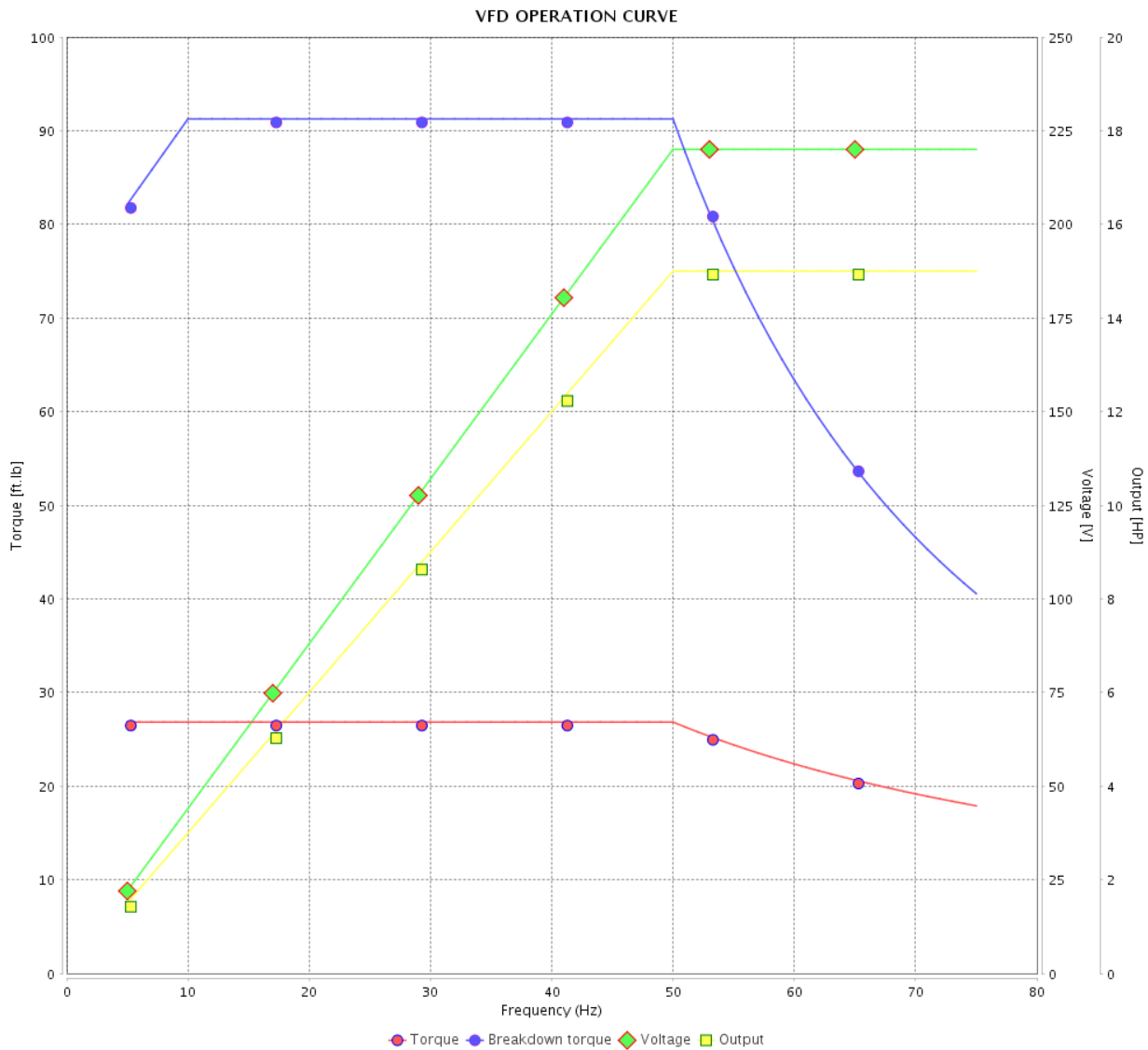


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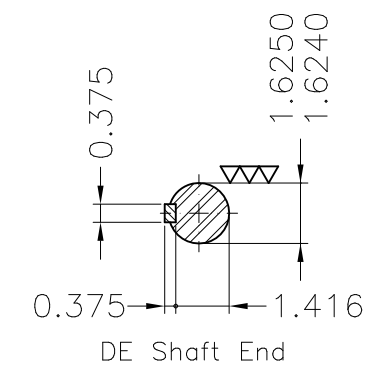
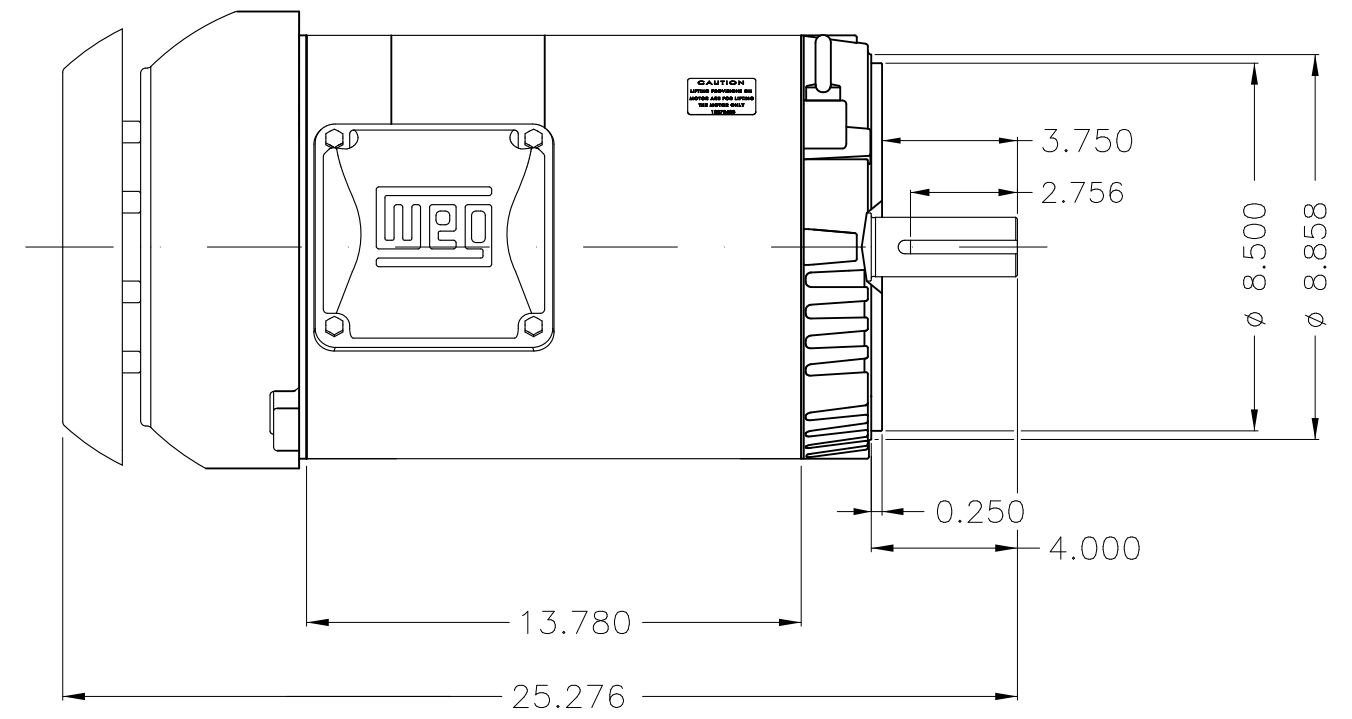
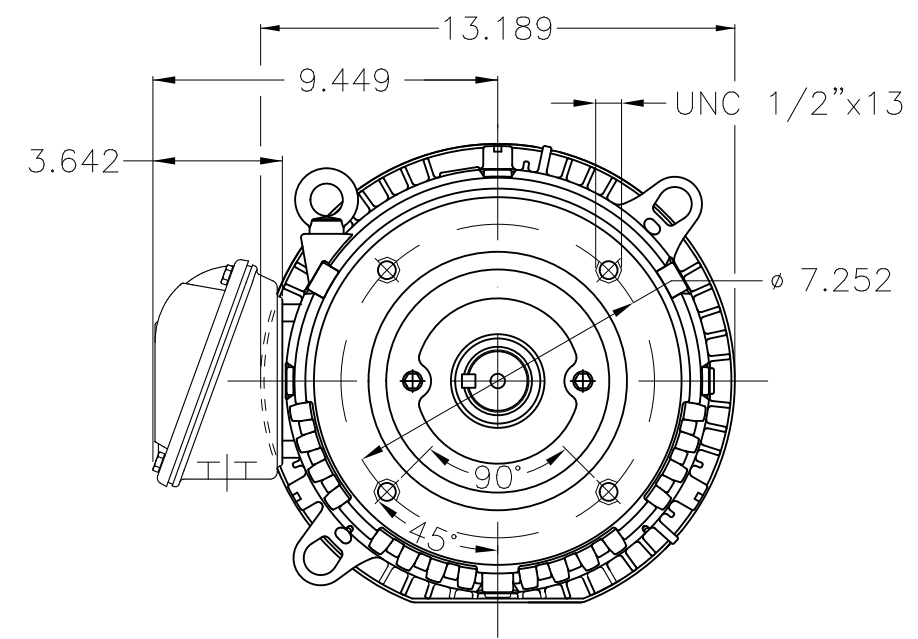
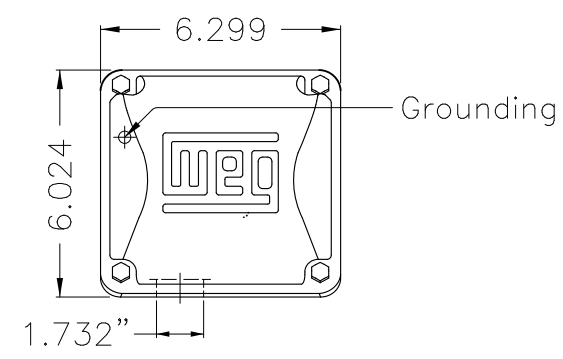
A

B


C

D

E



Dimensions in inches

Color Munsell N 1 matte black											
Painting plan 207N											
Mounting F-1/B14R(D)											
ECM	LOC	SUMMARY OF MODIFICATIONS					EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR ROLLED STEEL PREM. EFF.						PREVIEW WDD			
CHECKED		FRAME 254/6TC IP55 TEFC									
RELEASED											
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1					

20 HP 02 Poles 60 Hz



NEMA
Premium



MADE IN MEXICO

MAT: 12802183 CC029A

W01.TE0IC0X0N

MODEL 02036ET3ER256TC-S

28FEB2022 S/N:

**For 60Hz: Class I, Zone 2, IIC
Class I, Div.2, Gr. A,B,C,D - T3
Div 2 Inverter Duty (SF1.00)**

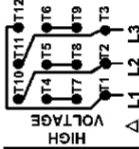
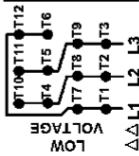
CT 2:1/VT 1000:1

PH 3	Hz 60	HP 20
FR 254/6TC		KW 15
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 45.4/22.7
INS CL F AT 80K	IP55	SFA 52.2/26.1
AMB 40°C	DES B	SF 1.15
ENCL TEFC	CODE G	PF 0.91
USABLE @ 208V 50.2A		RPM 3515
SF1.00		NEMA NOM. EFF 91.0%

ALTERNATE RATING: 15HP 50Hz 190-220/380-415V SF1.00
40.8-35.8/20.4-19.0A 2925RPM EFF 91.2% (IE3) IEC 60034-1

For safe area-Inverter duty motor For 60Hz use on VPWM 1000:1 VT, 10:1 CT

DE 6309-Z-C3	ODE 6208-Z-C3	MOBIL POLYREX EM	15797h
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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.

