

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer		:	
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	13041121
		Catalog # :	01536ET3ER254TC-S
Frame	: 254/6TC	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>	: 192 lb
Protection degree	: IP55	Moment of inertia (J)	: 0.8718 sq.ft.lb
Design	: B		
Output [HP]	15	12.5	12.5
Poles	2	2	2
Frequency [Hz]	60	50	50
Rated voltage [V]	230/460	190/380	220/415
Rated current [A]	34.8/17.4	35.4/17.7	32.3/17.1
L. R. Amperes [A]	237/118	244/122	245/130
LRC [A]	6.8x(Code G)	6.9x(Code H)	7.6x(Code J)
No load current [A]	13.0/6.50	13.6/6.80	13.9/7.39
Rated speed [RPM]	3525	2920	2930
Slip [%]	2.08	2.67	2.33
Rated torque [ft.lb]	22.3	22.5	22.4
Locked rotor torque [%]	200	190	210
Breakdown torque [%]	300	290	330
Service factor	1.15	1.00	1.00
Temperature rise	80 K	105 K	105 K
Locked rotor time	25s (cold) 14s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)
Noise level <sup>2</sup>	75.0 dB(A)	72.0 dB(A)	72.0 dB(A)
Efficiency (%)	25%	89.2	90.1
	50%	89.5	90.0
	75%	91.0	90.7
	100%	91.0	90.3
Power Factor	25%	0.47	0.43
	50%	0.73	0.70
	75%	0.83	0.81
	100%	0.87	0.86
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3	Foundation loads	
Sealing	: V'Ring Without Bearing Seal	Max. traction	: 258 lb
Lubrication interval	: 15797 h 20000 h	Max. compression	: 450 lb
Lubricant amount	: 13 g 8 g		
Lubricant type	: Mobil Polyrex EM		
Notes USABLE @208V 38.5A SF 1.00 SFA 38.5A			
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



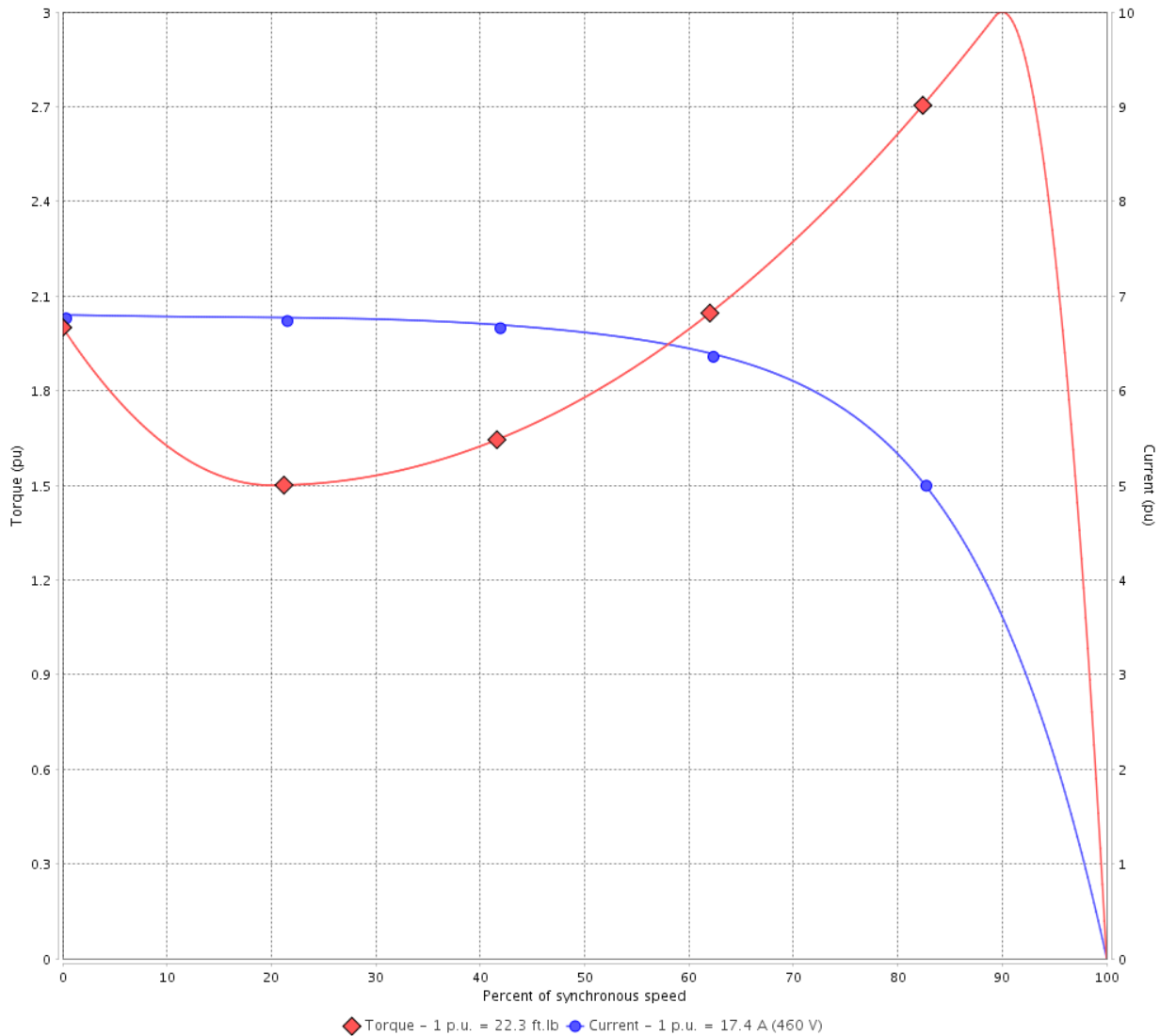
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13041121

Catalog # : 01536ET3ER254TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current	: 34.8/17.4 A	Moment of inertia (J)	: 0.8718 sq.ft.lb
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 22.3 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 3525 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



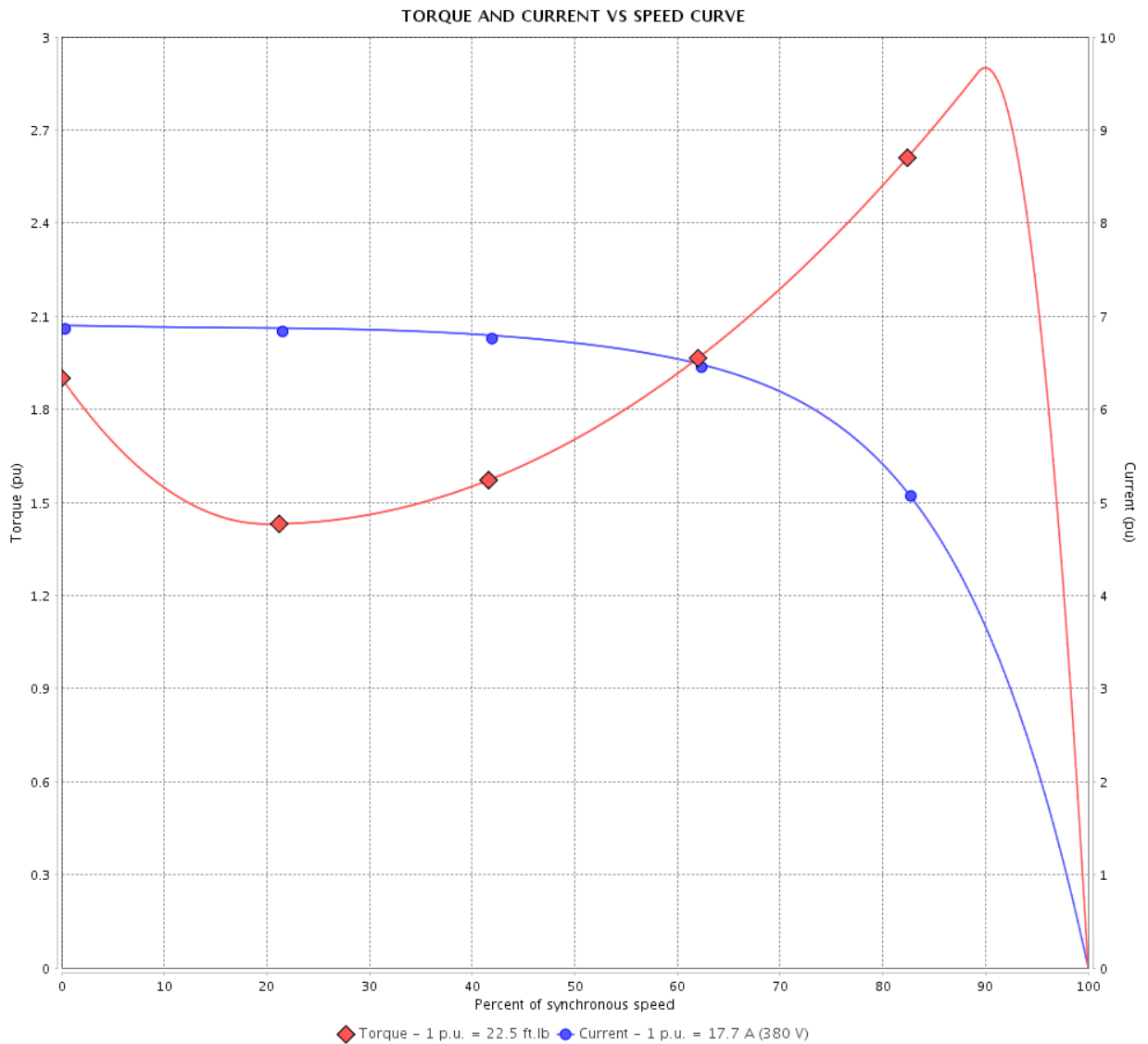
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13041121

Catalog # : 01536ET3ER254TC-S



Performance : 190/380 V 50 Hz 2P

Rated current : 35.4/17.7 A  
 LRC : 6.9  
 Rated torque : 22.5 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 290 %  
 Rated speed : 2920 rpm

Moment of inertia (J) : 0.8718 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



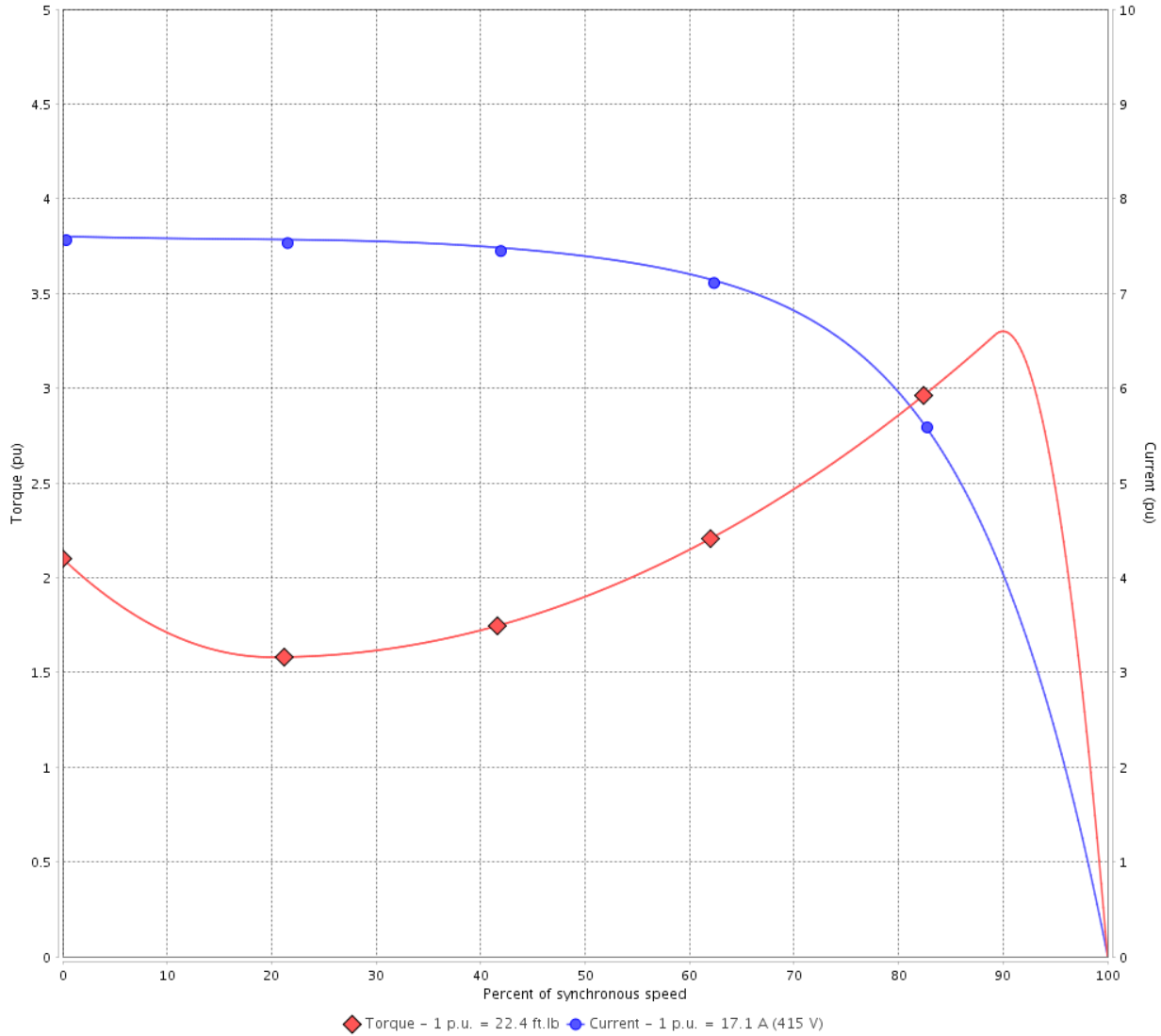
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13041121

Catalog # : 01536ET3ER254TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current	: 32.3/17.1 A	Moment of inertia (J)	: 0.8718 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 22.4 ft.lb	Insulation class	: F
Locked rotor torque	: 210 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 105 K
Rated speed	: 2930 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

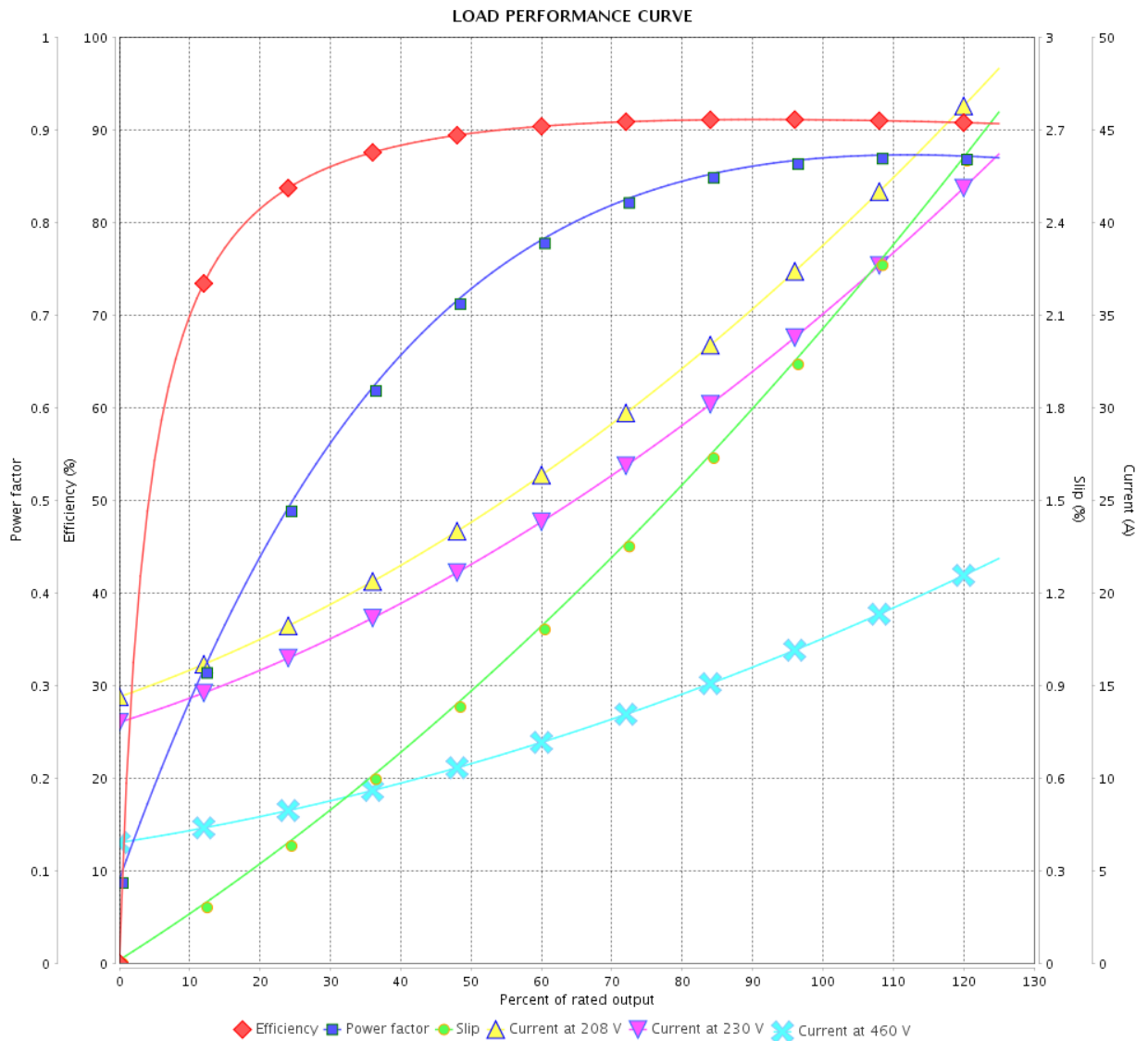


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13041121

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Performance : 230/460 V 60 Hz 2P

Rated current : 34.8/17.4 A  
 LRC : 6.8  
 Rated torque : 22.3 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 300 %  
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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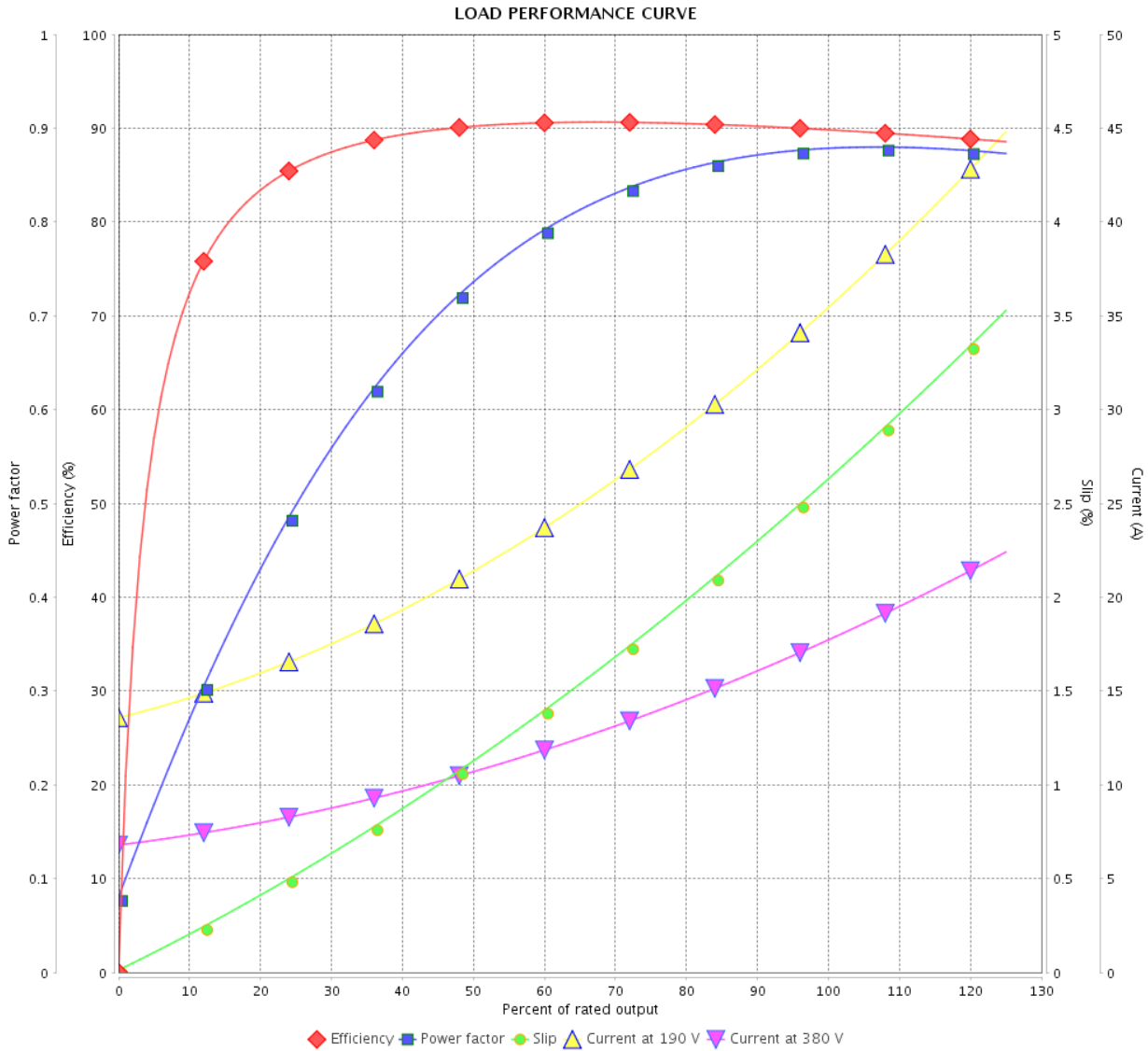


Customer :

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Catalog # : 01536ET3ER254TC-S



Performance : 190/380 V 50 Hz 2P

Rated current : 35.4/17.7 A  
 LRC : 6.9  
 Rated torque : 22.5 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 290 %  
 Rated speed : 2920 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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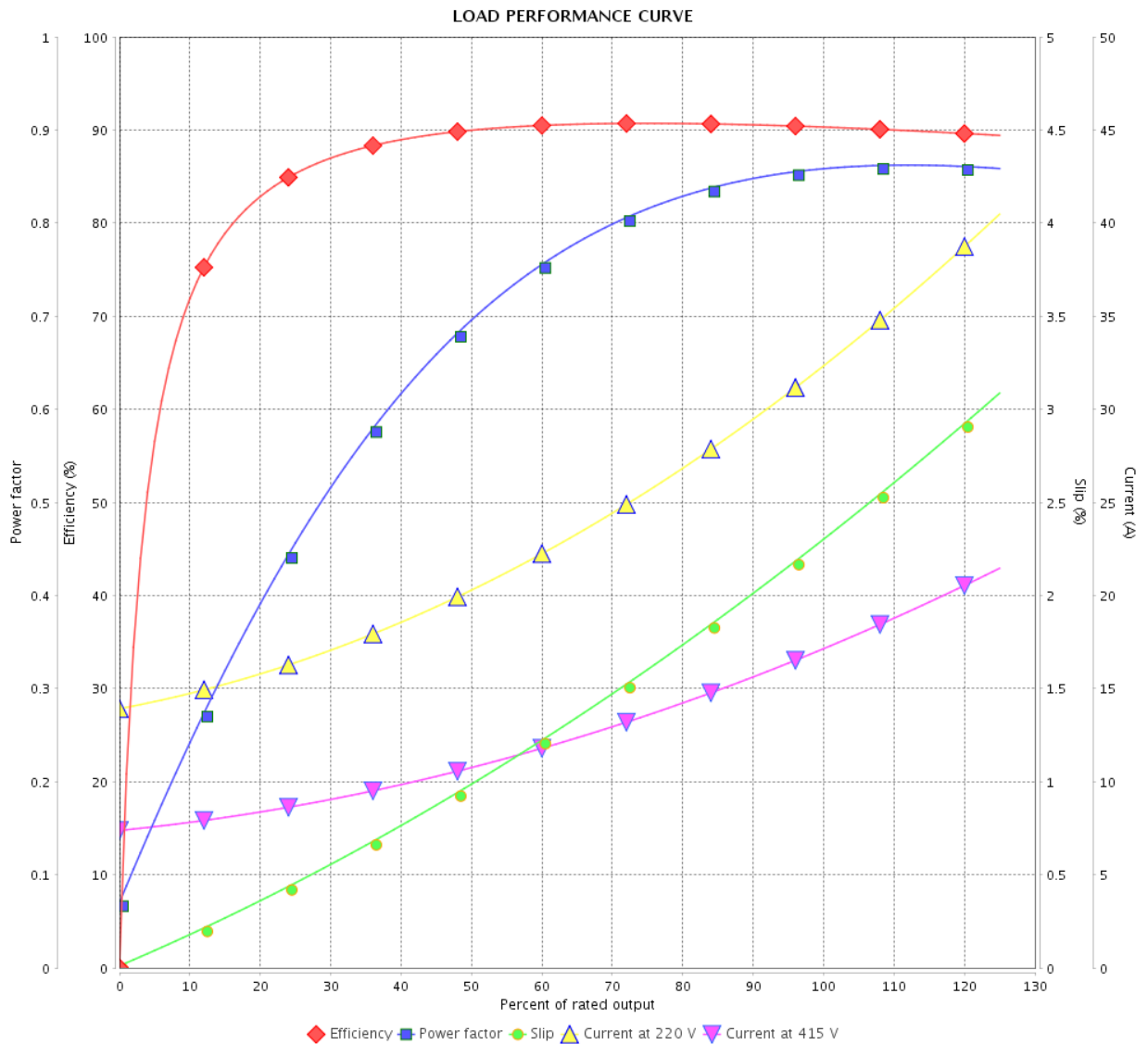


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# THERMAL LIMIT CURVE



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Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 3525 rpm	Design	: B

Heating constant

Cooling constant

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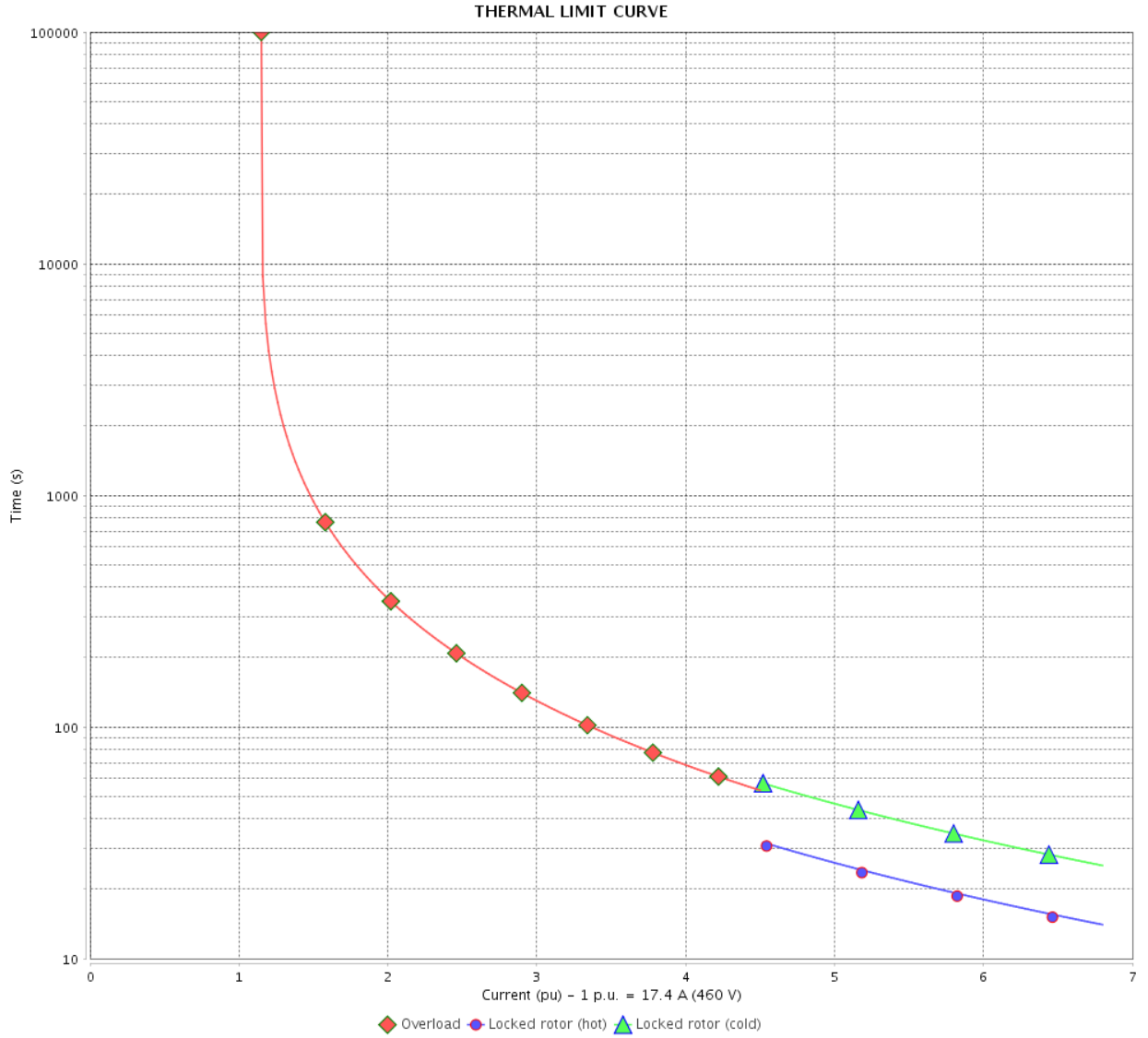


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Three Phase Induction Motor - Squirrel Cage



Customer : \_\_\_\_\_



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## Three Phase Induction Motor - Squirrel Cage



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Product code : 13041121  
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Performance : 190/380 V 50 Hz 2P

Rated current	: 35.4/17.7 A	Moment of inertia (J)	: 0.8718 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 22.5 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 105 K
Rated speed	: 2920 rpm	Design	: B

Heating constant

Cooling constant

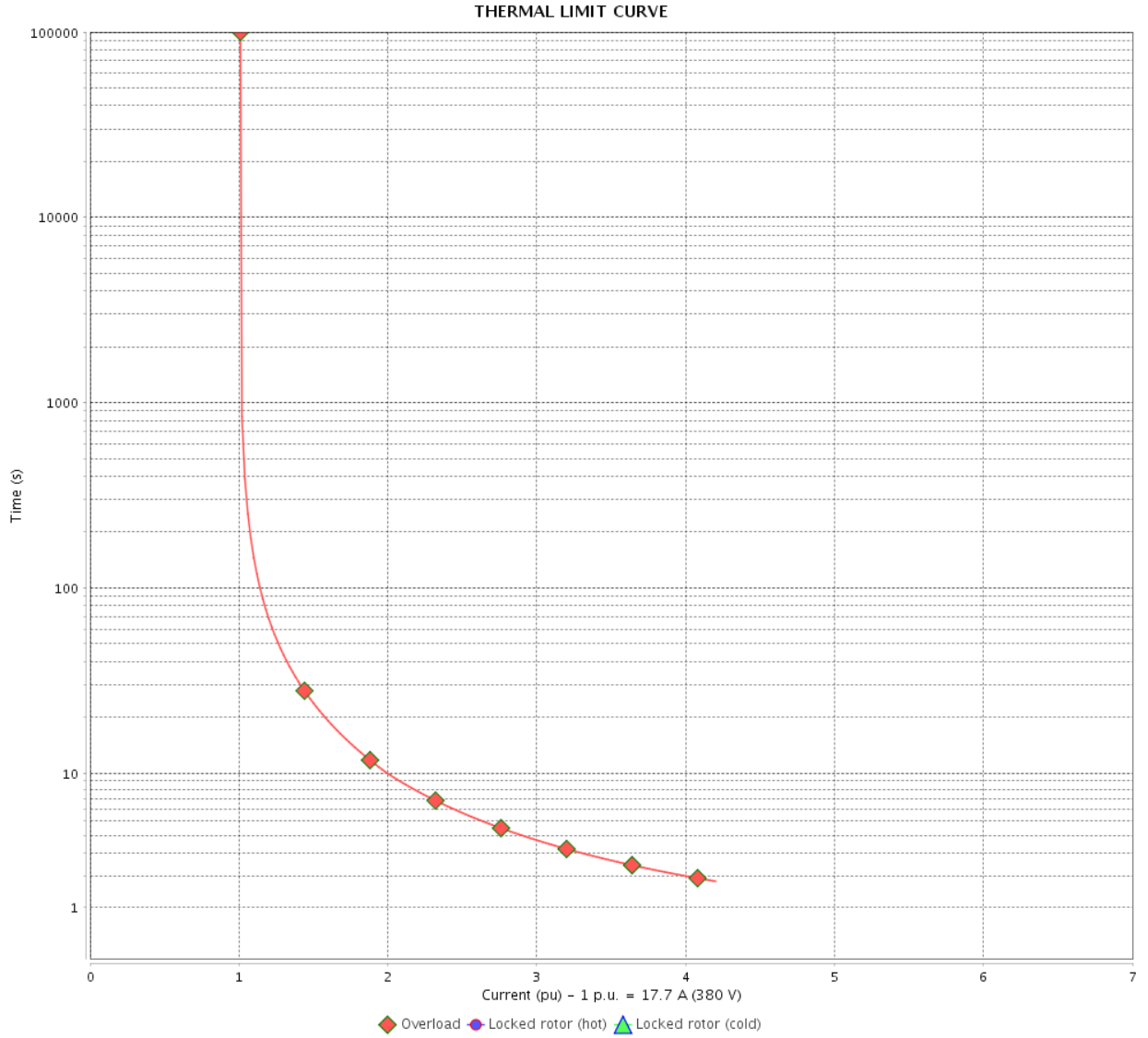
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Cooling constant

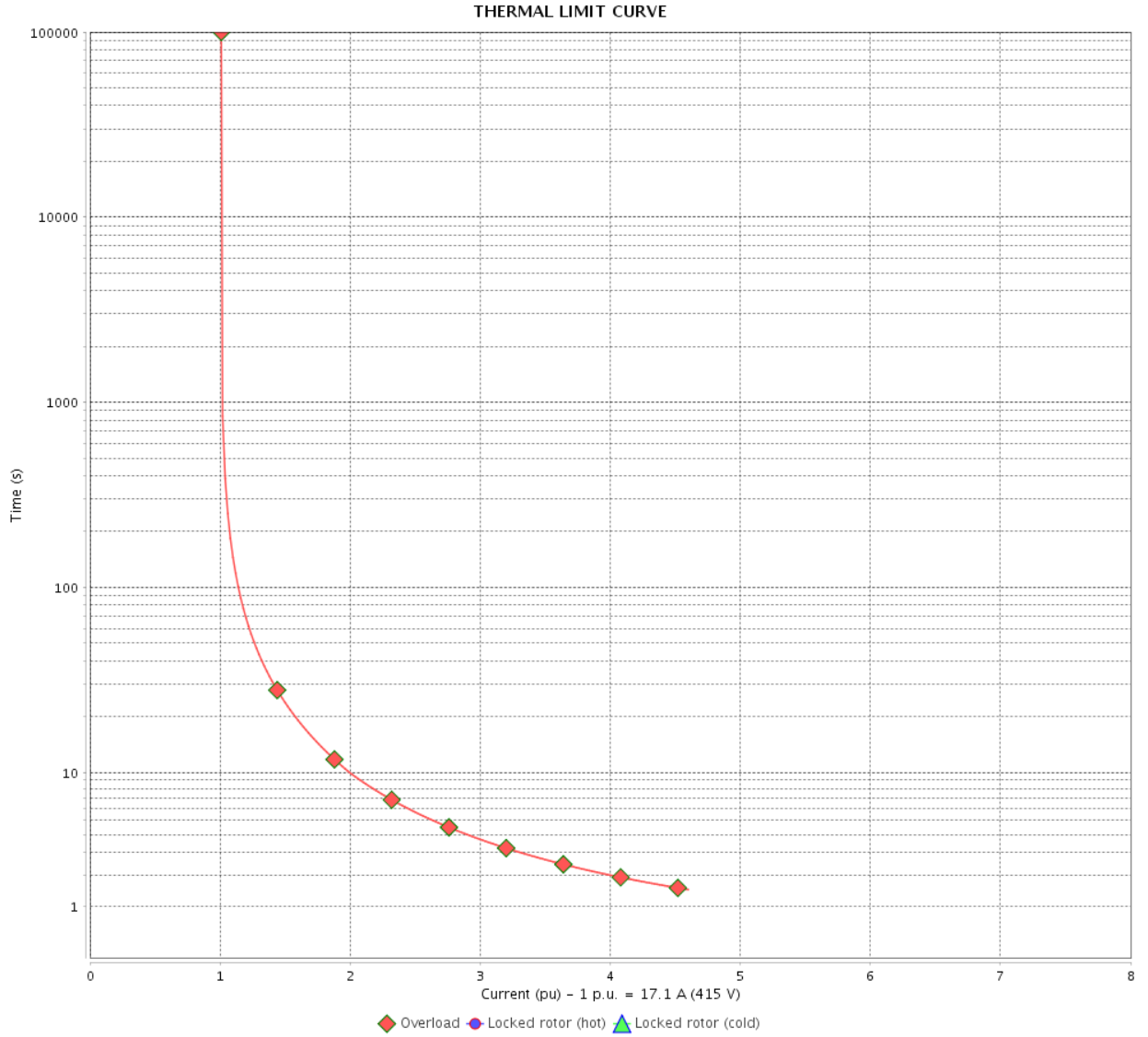
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# VFD OPERATION CURVE

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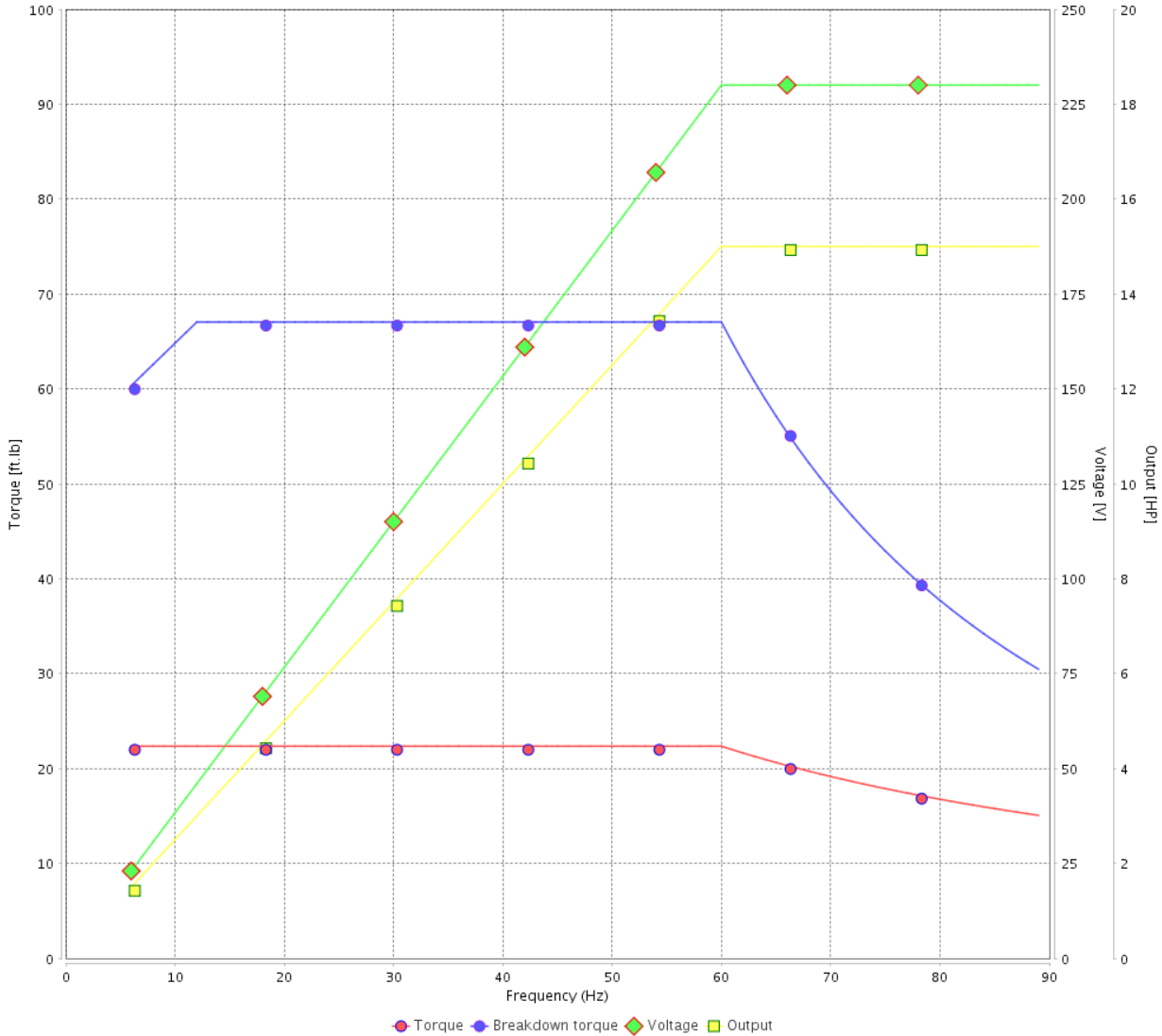
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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 2P

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 Rated torque : 22.3 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 300 %  
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.8718 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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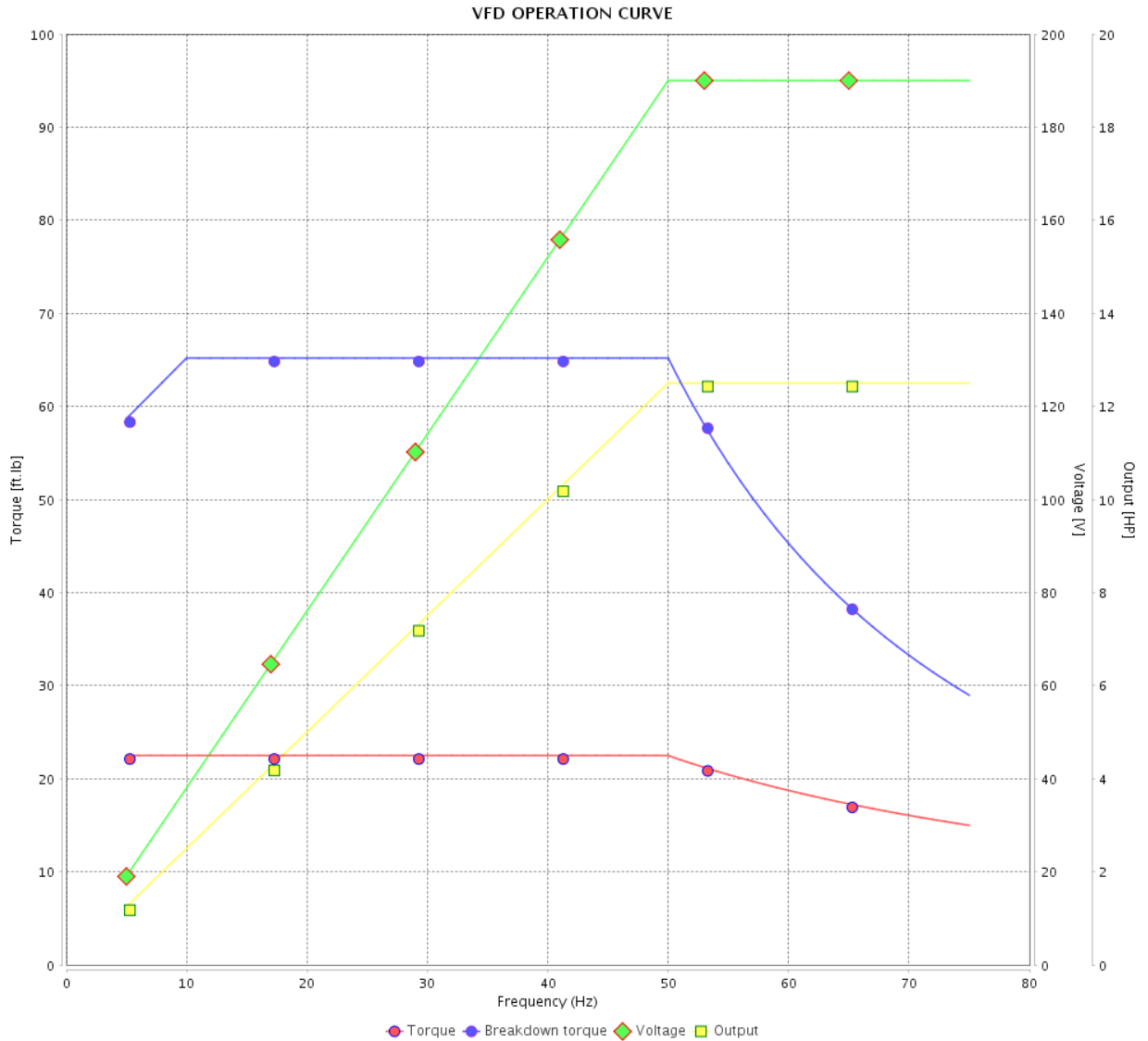
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 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

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Three Phase Induction Motor - Squirrel Cage



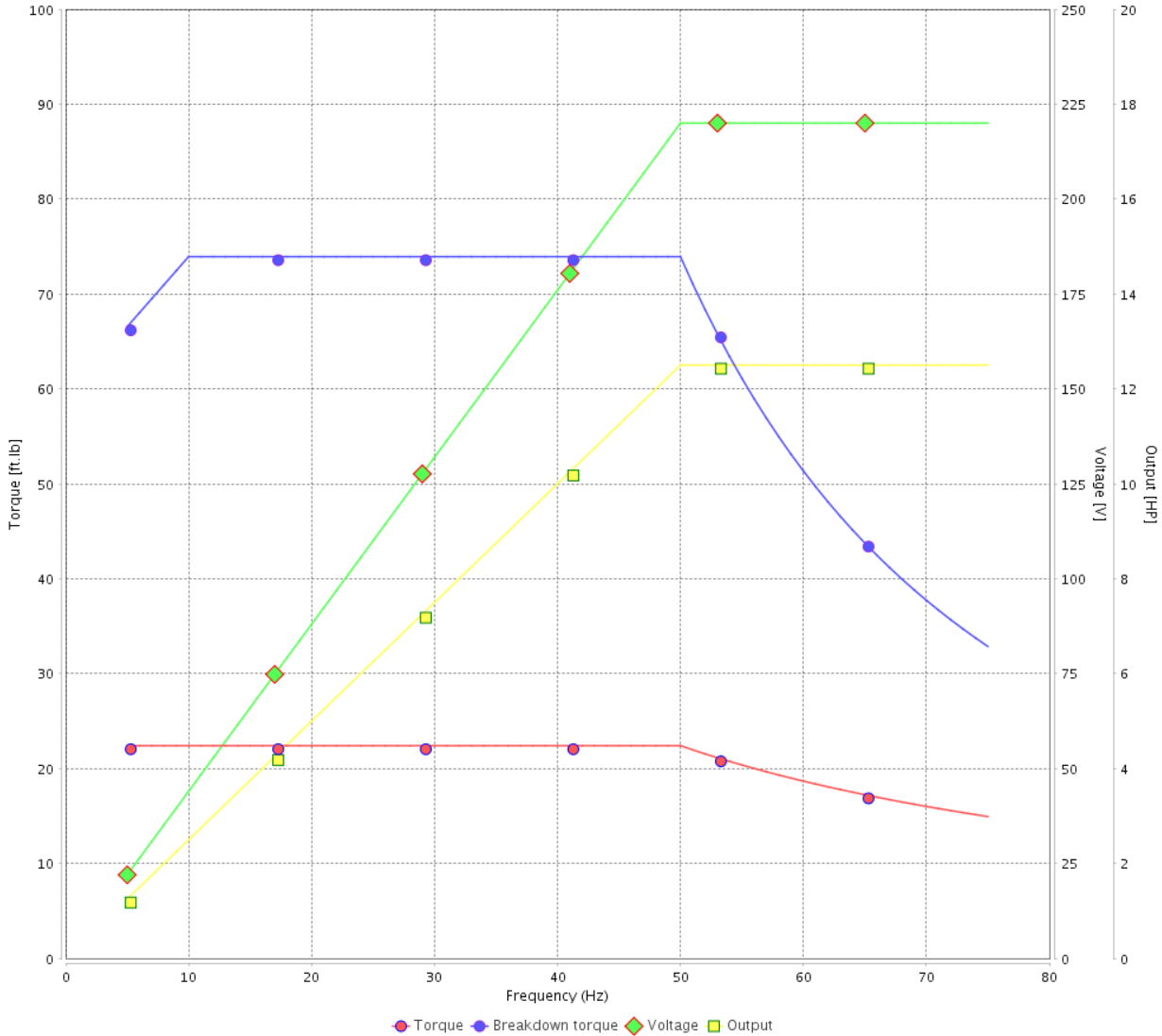
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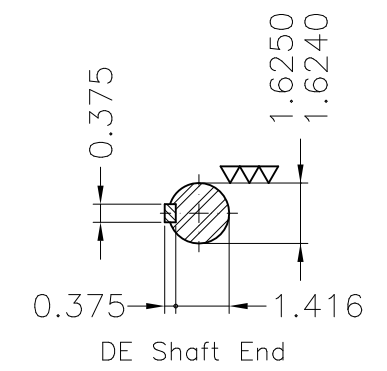
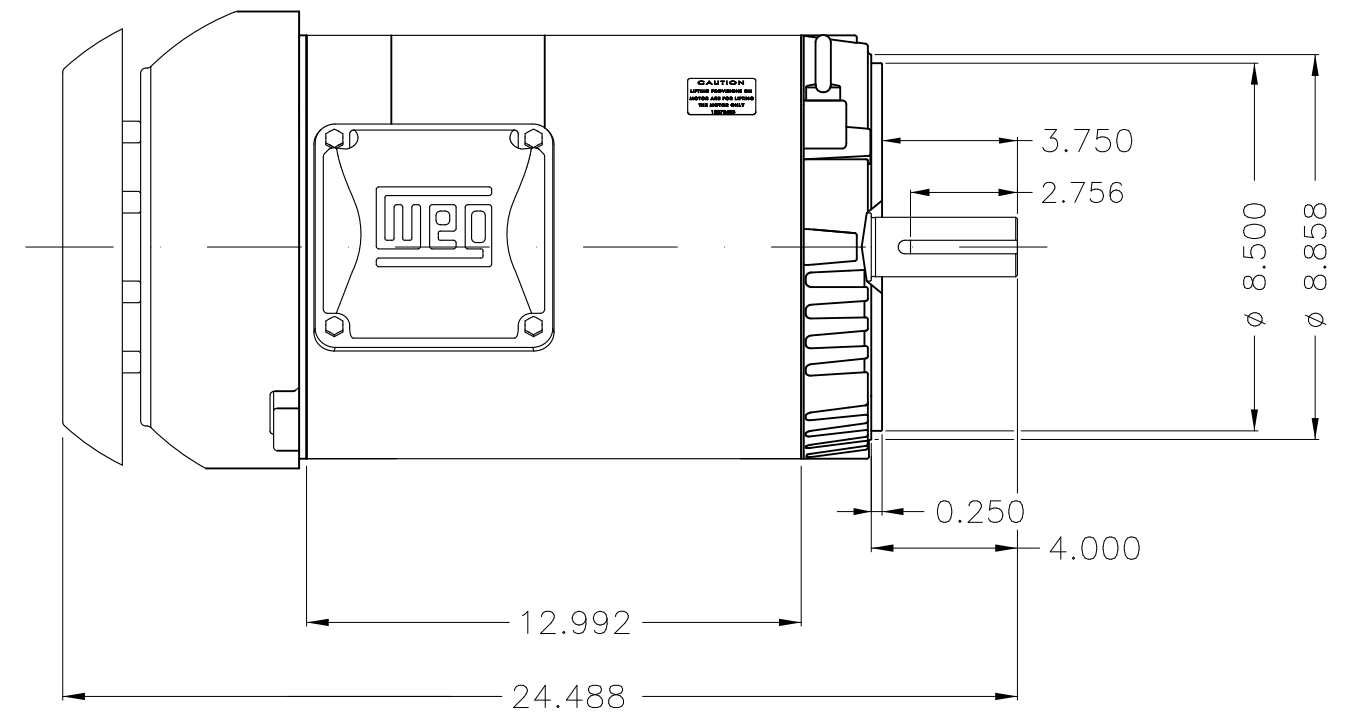
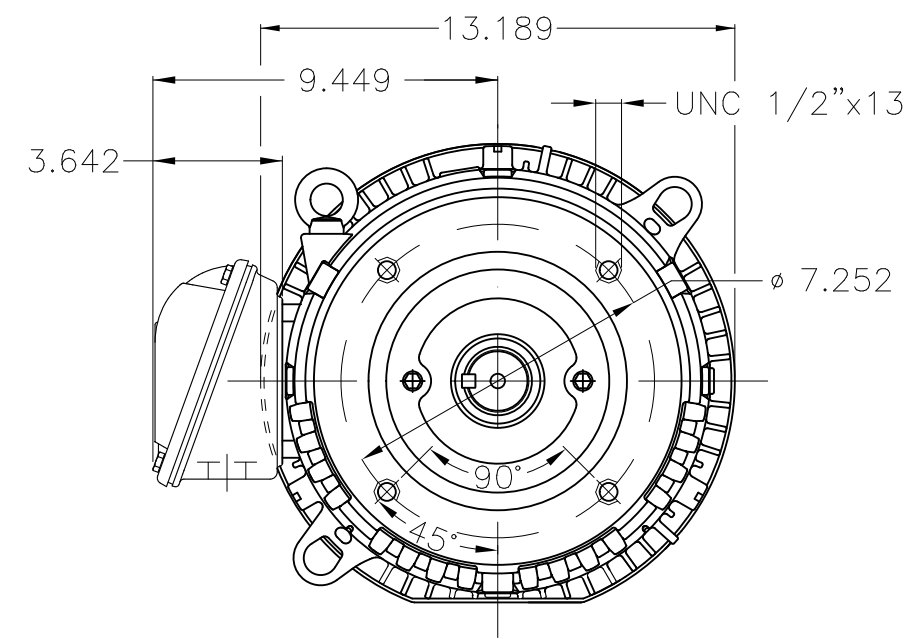
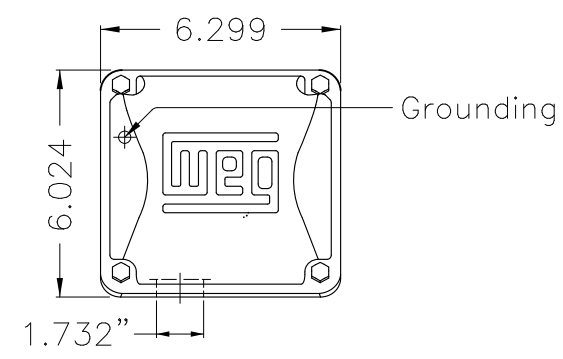
A

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	PIRWUSER	THREE PH. MOTOR ROLLED STEEL PREM. EFF.				PREVIEW	WDD	SHEET	1 / 1	
CHECKED		FRAME 254/6TC IP55 TEFC								
RELEASED										
REL DT.		WMO	Jaragua do Sul	Product Engineering						

15 HP 02 Poles 60 Hz

XME A3



**NEMA**  
**Premium**



MADE IN MEXICO

**MAT: 13041121 CC029A**

**W01.TE0IC0X0N**

**MODEL 01536ET3ER254TC-S**

**31JAN2022 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)**

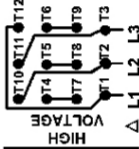
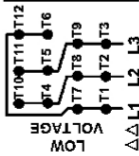
**CT 2:1/VT 1000:1**

PH 3	Hz 60	HP 15
FR 254/6TC		KW 11
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 34.8/17.4
INS CL F AT 80K	IP55	SFA 40.0/20.0
AMB 40°C	DES B	SF 1.15
ENCL TEFC	CODE G	PF 0.87
USABLE @ 208V 38.5A		RPM 3525
SF1.00		NEMA NOM. EFF 91.0%

ALTERNATE RATING: 12.5HP 50Hz 190-220/380-415V SF1.00
35.4-31.3/17.7-16.6A 2920RPM EFF 89.8% (IE2) IEC 60034-1

DE 6309-Z-C3	ODE 6208-Z-C3	MOBIL POLYREX EM	15797h
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For safe area-Inverter duty motor For 60Hz use on VPWM 1000:1 VT, 10:1 CT



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

△△ L1 L2 L3

△ L1 L2 L3

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.

