

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :		
Product line	: NEMA Premium Efficiency Three-Phase	
Product code :	12727235	
Catalog # :	007120T3E254TC-S	
Frame	: 254/6TC	
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 <sup>1</sup>	: Both (CW and CCW)	
Starting method	: Direct On Line	
Approx. weight <sup>2</sup>	: 202 lb	
Moment of inertia (J)	: 2.00 sq.ft.lb	
Output [HP]	7.5	
Poles	6	
Frequency [Hz]	60	
Rated voltage [V]	230/460	
Rated current [A]	20.4/10.2	
L. R. Amperes [A]	104/52.0	
LRC [A]	5.1x(Code F)	
No load current [A]	10.7/5.37	
Rated speed [RPM]	1175	
Slip [%]	2.08	
Rated torque [ft.lb]	33.5	
Locked rotor torque [%]	200	
Breakdown torque [%]	229	
Service factor	1.15	
Temperature rise	80 K	
Locked rotor time	66s (cold) 37s (hot)	
Noise level <sup>2</sup>	59.0 dB(A)	
Efficiency (%)	25%	88.2
	50%	88.5
	75%	90.2
	100%	90.2
Power Factor	25%	0.33
	50%	0.56
	75%	0.68
	100%	0.75
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 : 288 lb	
	Max. compression : 490 lb	
Notes		
USABLE @208V 22.6A SF 1.00 SFA 22.6A		
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



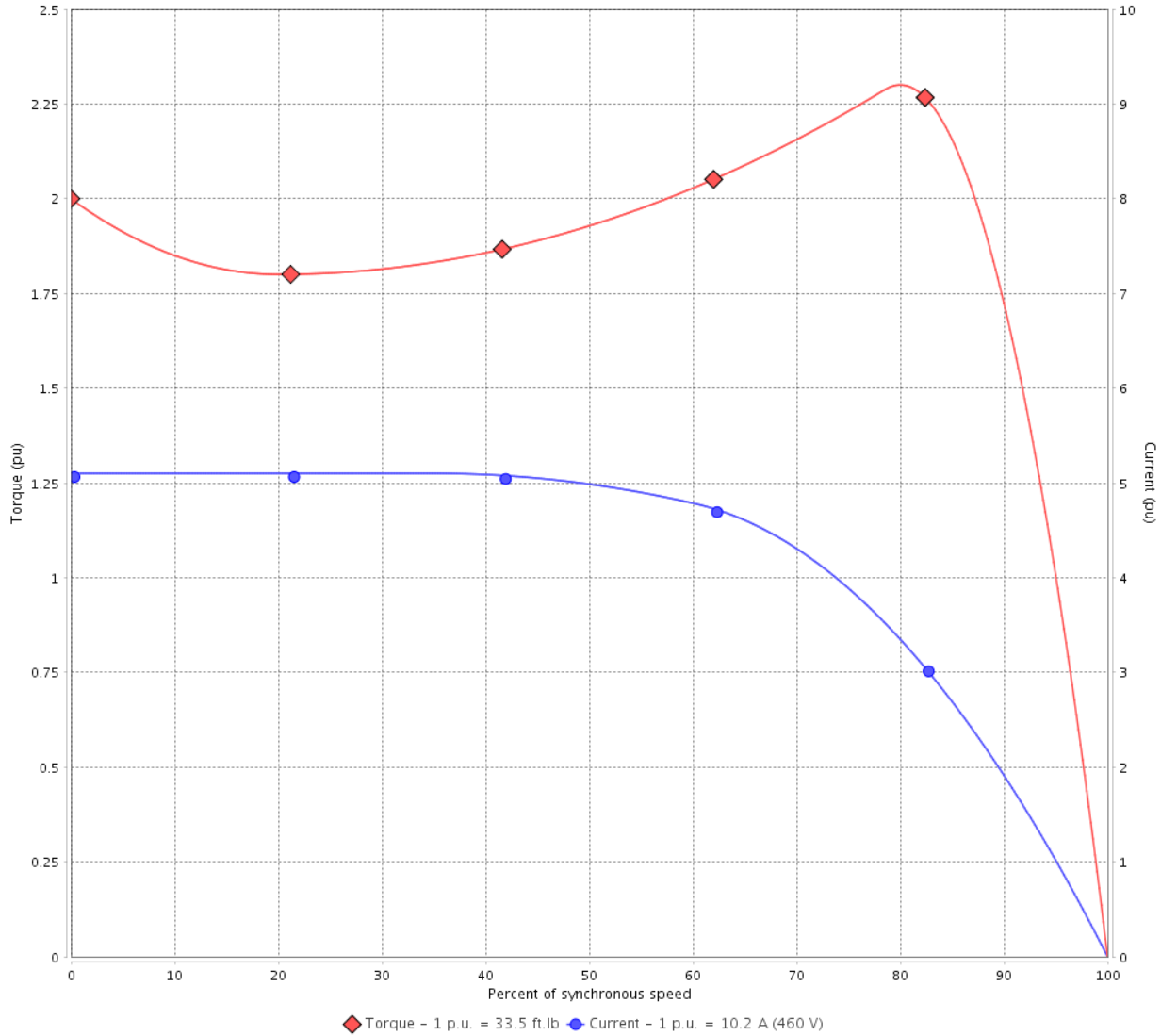
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 6P

Rated current	: 20.4/10.2 A	Moment of inertia (J)	: 2.00 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 33.5 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Locked rotor time : 66s (cold) 37s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



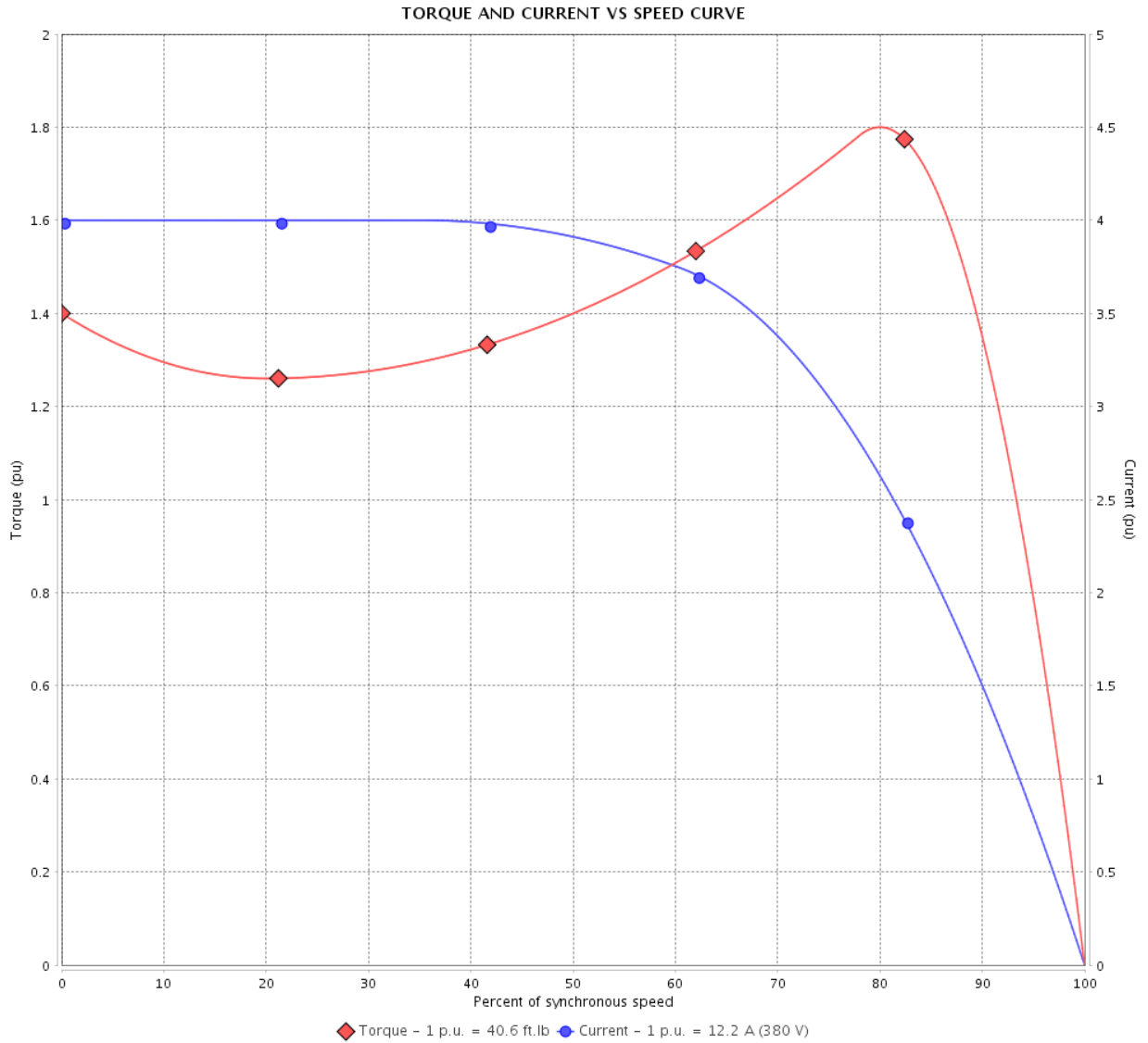
## Three Phase Induction Motor - Squirrel Cage

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

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S



Performance : 190/380 V 50 Hz 6P

Rated current : 24.4/12.2 A  
 LRC : 4.0  
 Rated torque : 40.6 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 180 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 2.00 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



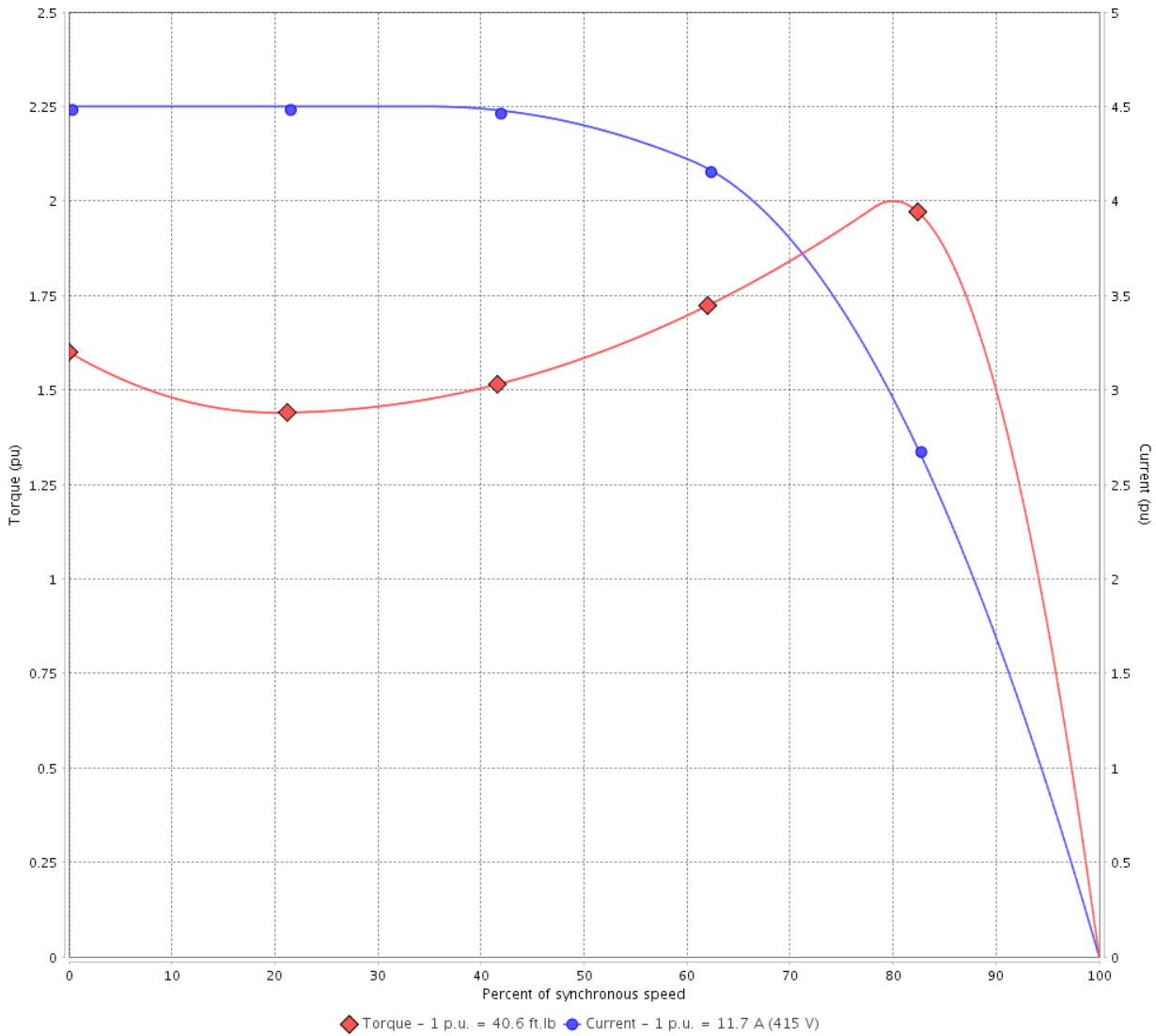
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 6P

Rated current	: 22.1/11.7 A	Moment of inertia (J)	: 2.00 sq.ft.lb
LRC	: 4.5	Duty cycle	: Cont.(S1)
Rated torque	: 40.6 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.15
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

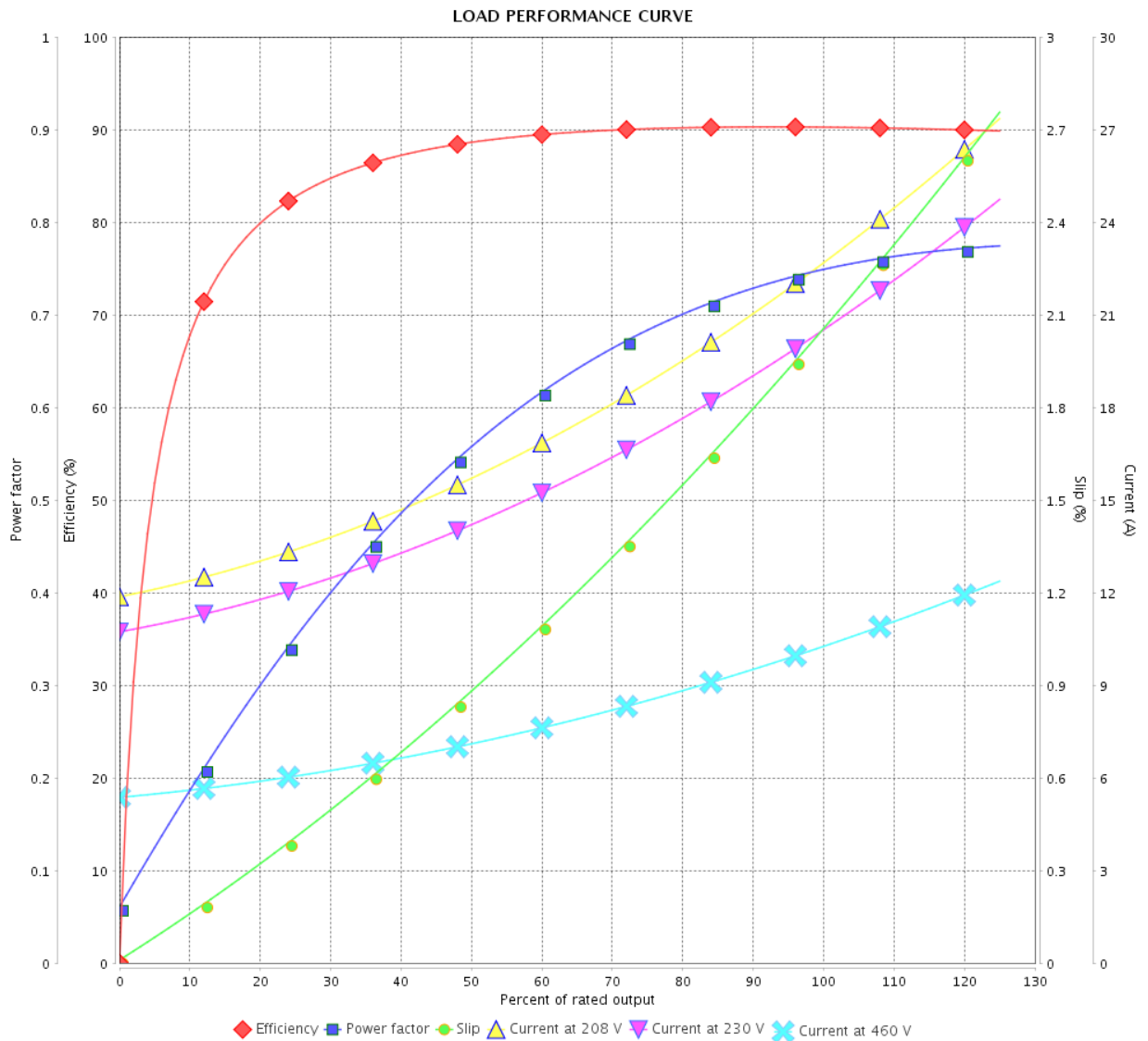


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S



Performance : 230/460 V 60 Hz 6P

Rated current : 20.4/10.2 A  
 LRC : 5.1  
 Rated torque : 33.5 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 2.00 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



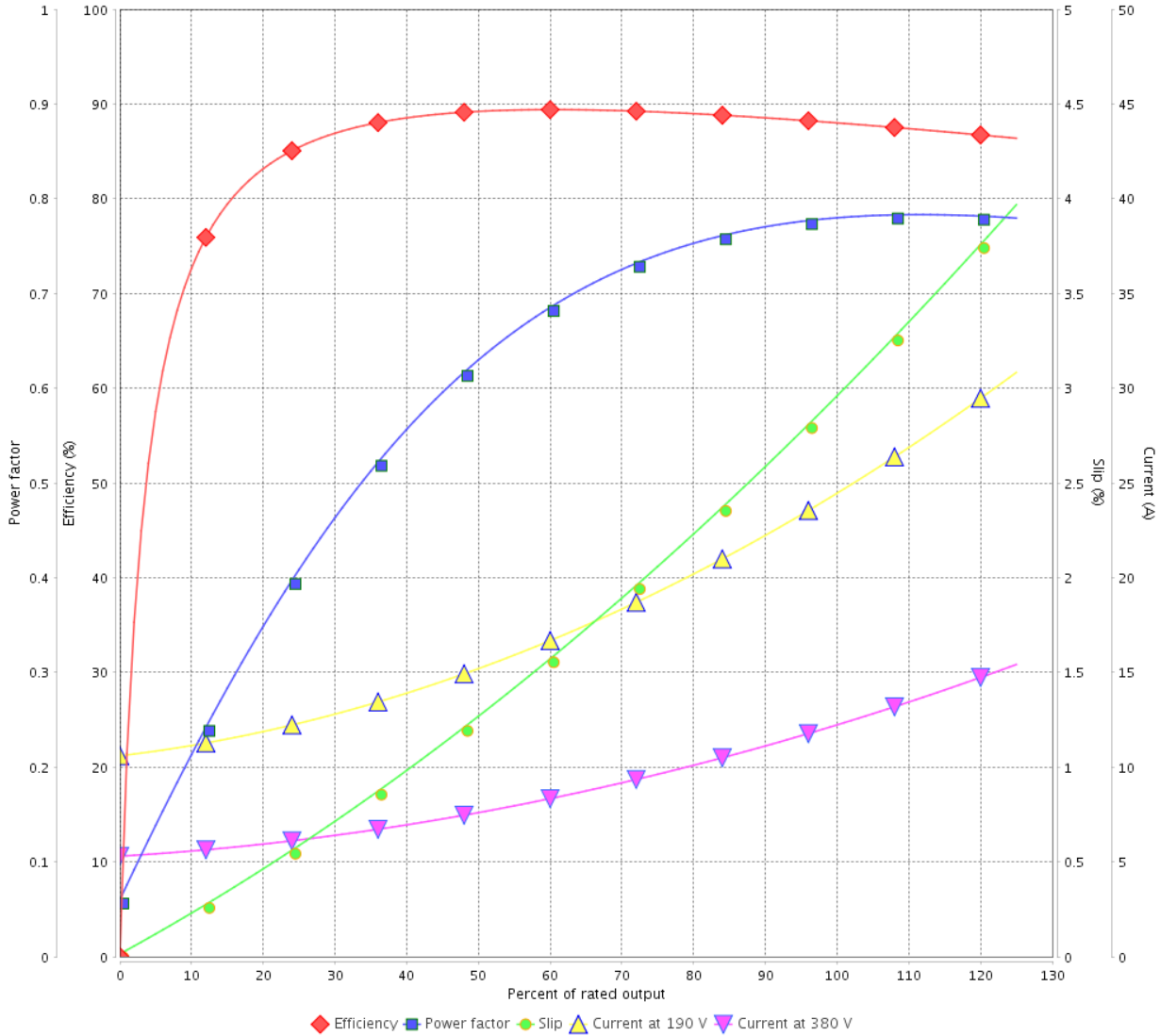
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 6P

Rated current : 24.4/12.2 A  
 LRC : 4.0  
 Rated torque : 40.6 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 180 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 2.00 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

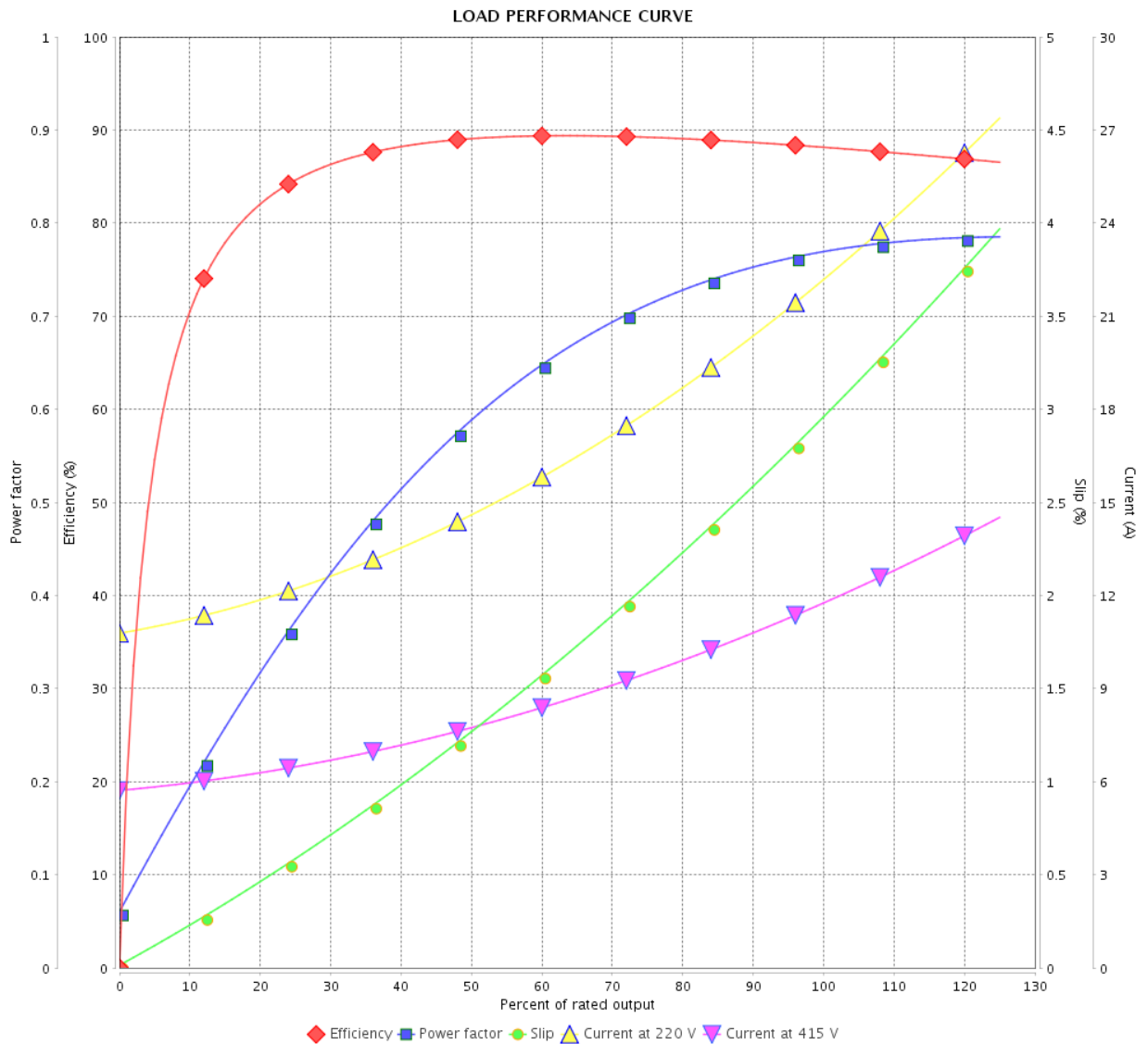


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S



Performance : 220/415 V 50 Hz 6P

Rated current : 22.1/11.7 A  
 LRC : 4.5  
 Rated torque : 40.6 ft.lb  
 Locked rotor torque : 160 %  
 Breakdown torque : 200 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 2.00 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12727235  
Catalog # : 007120T3E254TC-S

Performance : 230/460 V 60 Hz 6P

Rated current	: 20.4/10.2 A	Moment of inertia (J)	: 2.00 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 33.5 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.15
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

Heating constant

Cooling constant

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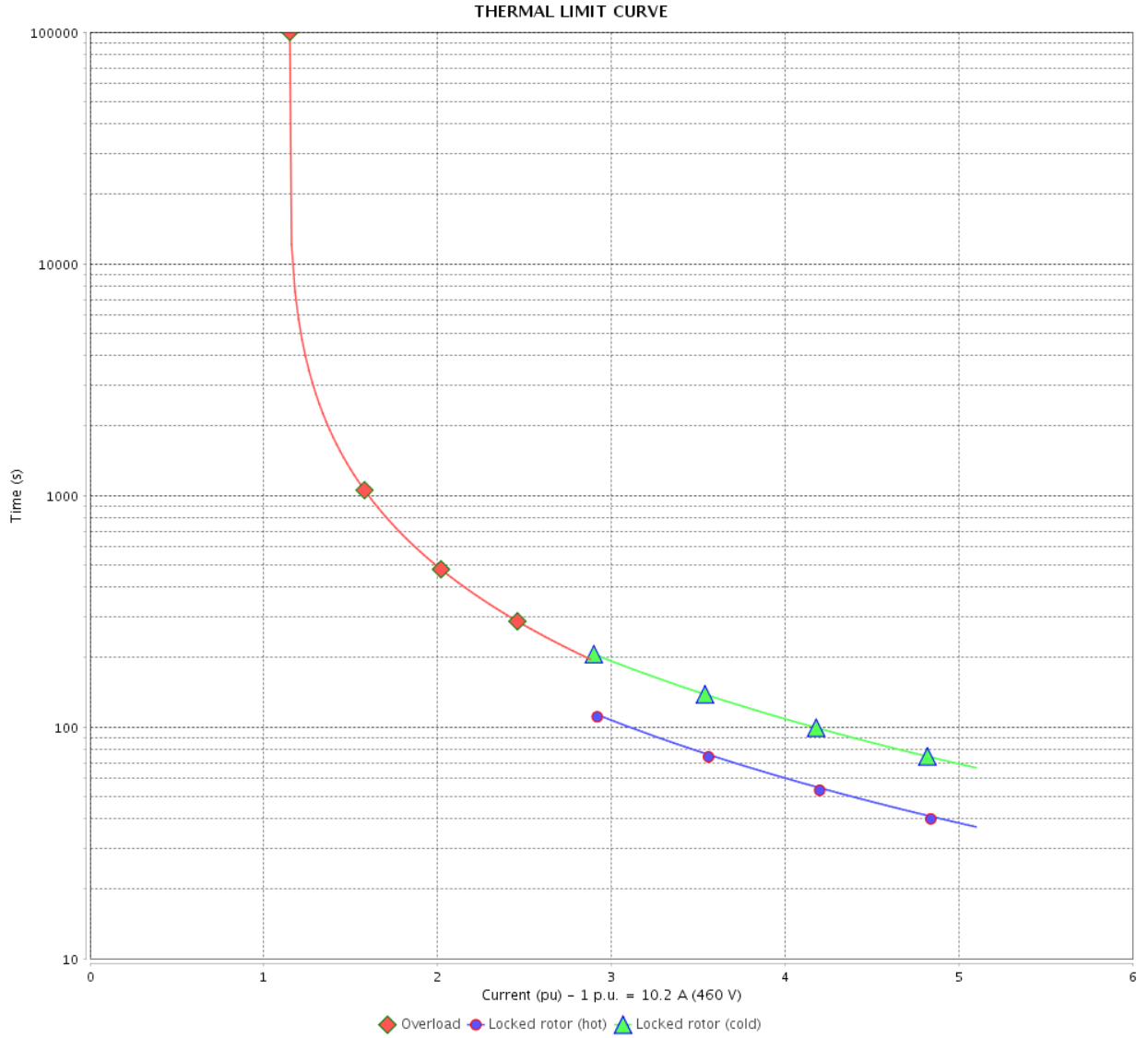


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12727235  
Catalog # : 007120T3E254TC-S

Performance : 190/380 V 50 Hz 6P

Rated current	: 24.4/12.2 A	Moment of inertia (J)	: 2.00 sq.ft.lb
LRC	: 4.0	Duty cycle	: Cont.(S1)
Rated torque	: 40.6 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.15
Breakdown torque	: 180 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Heating constant

Cooling constant

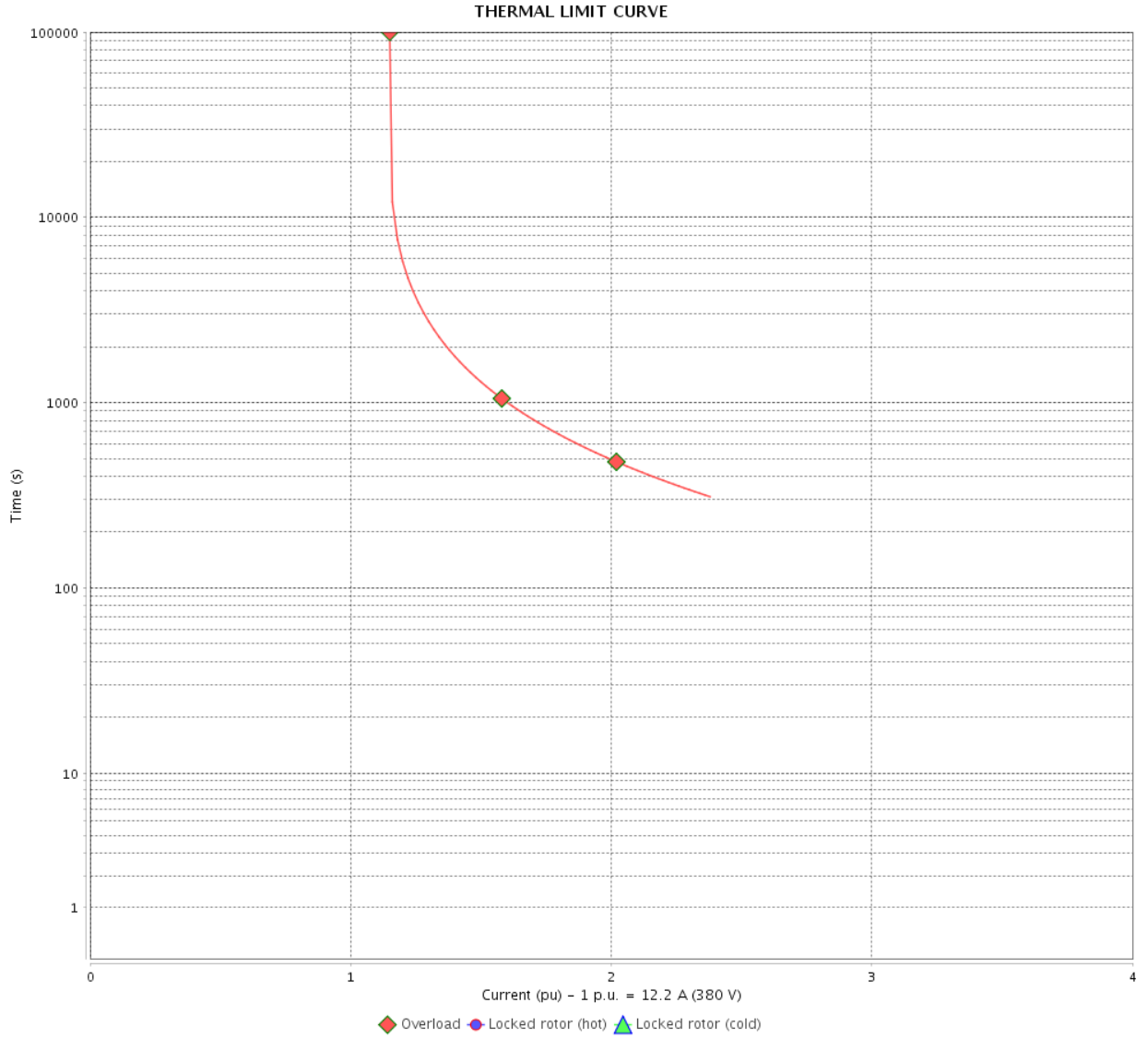
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 12727235  
Catalog # : 00712OT3E254TC-S

Performance : 220/415 V 50 Hz 6P

Rated current	: 22.1/11.7 A	Moment of inertia (J)	: 2.00 sq.ft.lb
LRC	: 4.5	Duty cycle	: Cont.(S1)
Rated torque	: 40.6 ft.lb	Insulation class	: F
Locked rotor torque	: 160 %	Service factor	: 1.15
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: B

Heating constant

Cooling constant

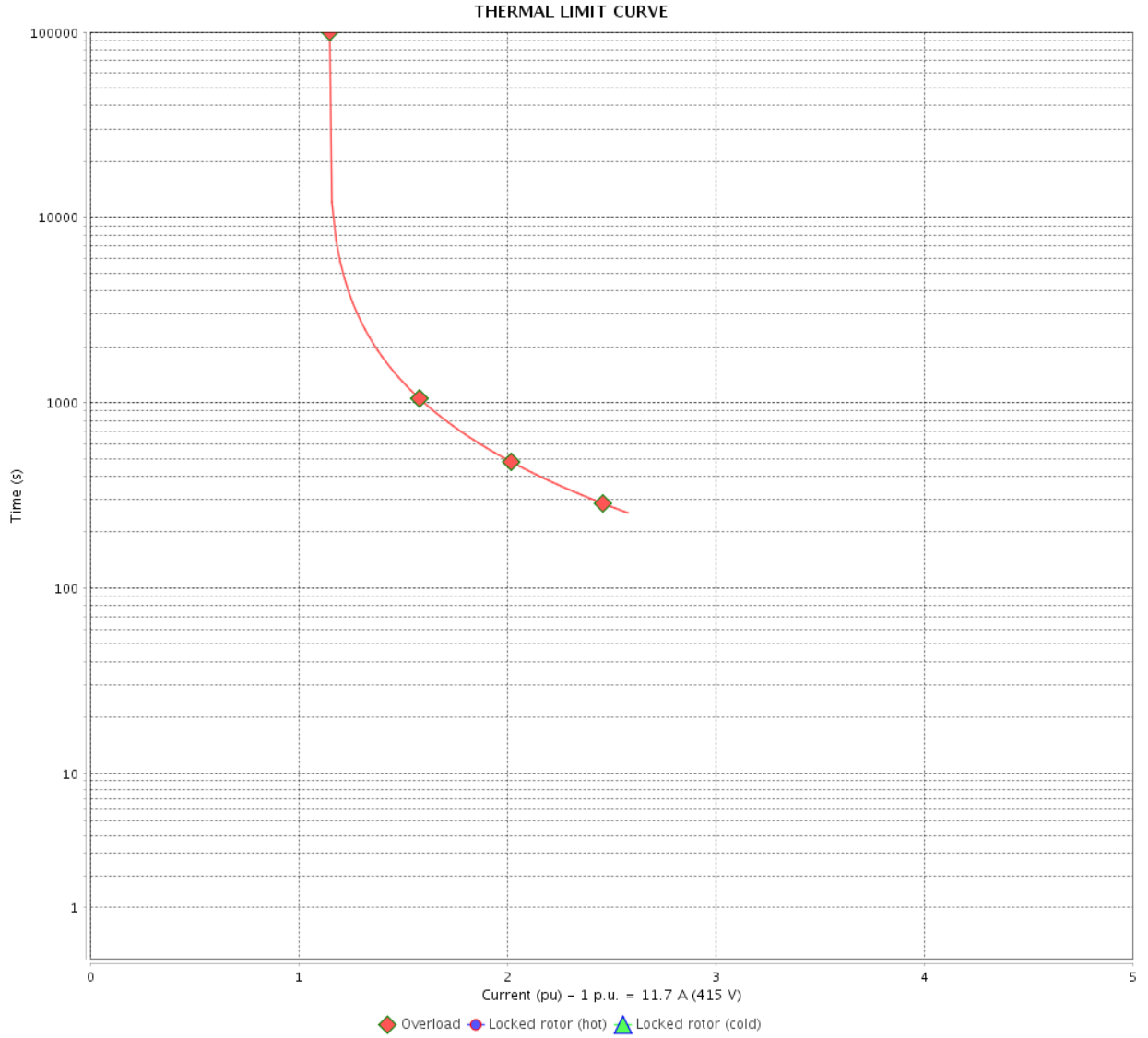
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



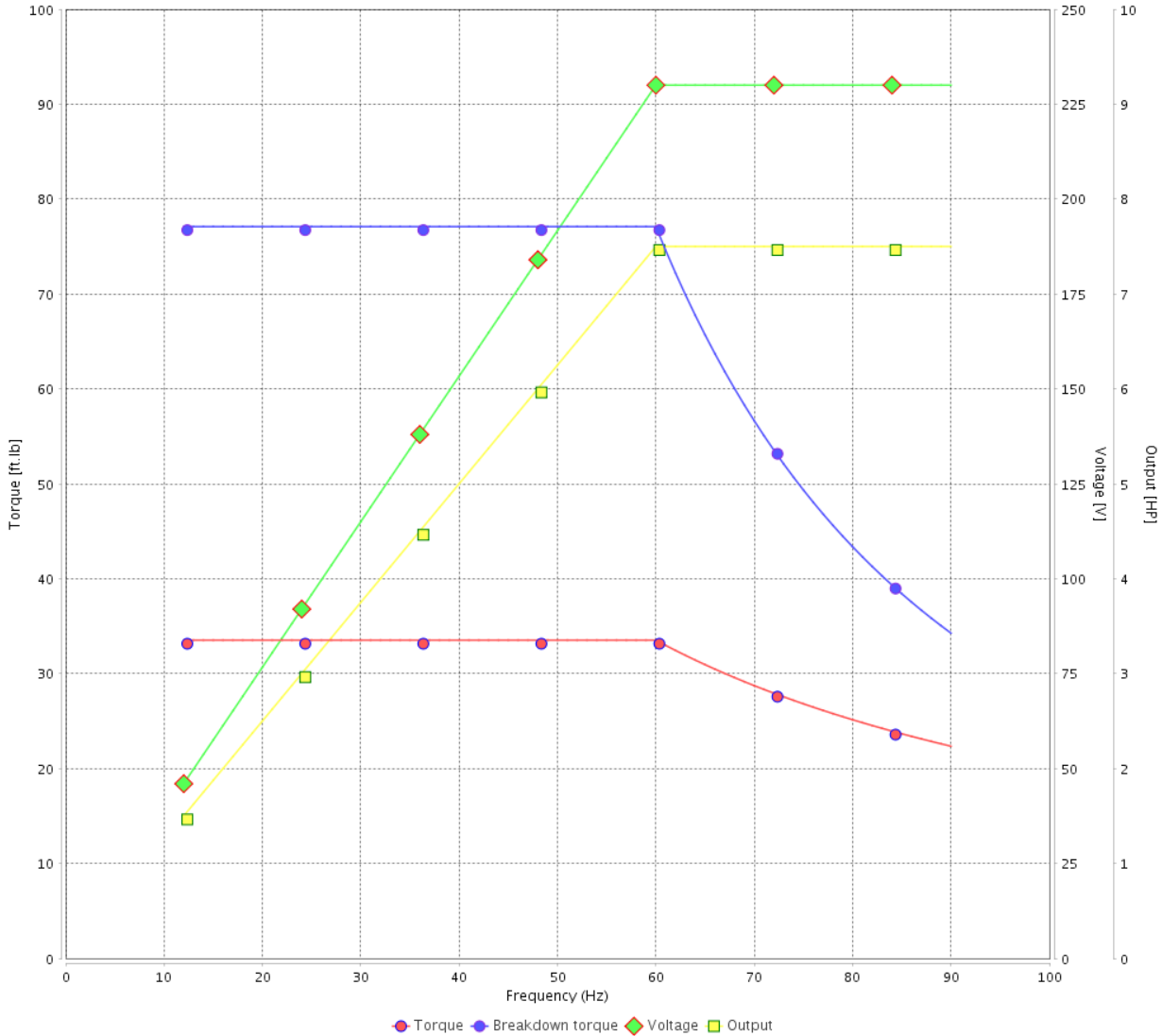
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S

VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 6P

Rated current : 20.4/10.2 A  
 LRC : 5.1  
 Rated torque : 33.5 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 2.00 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

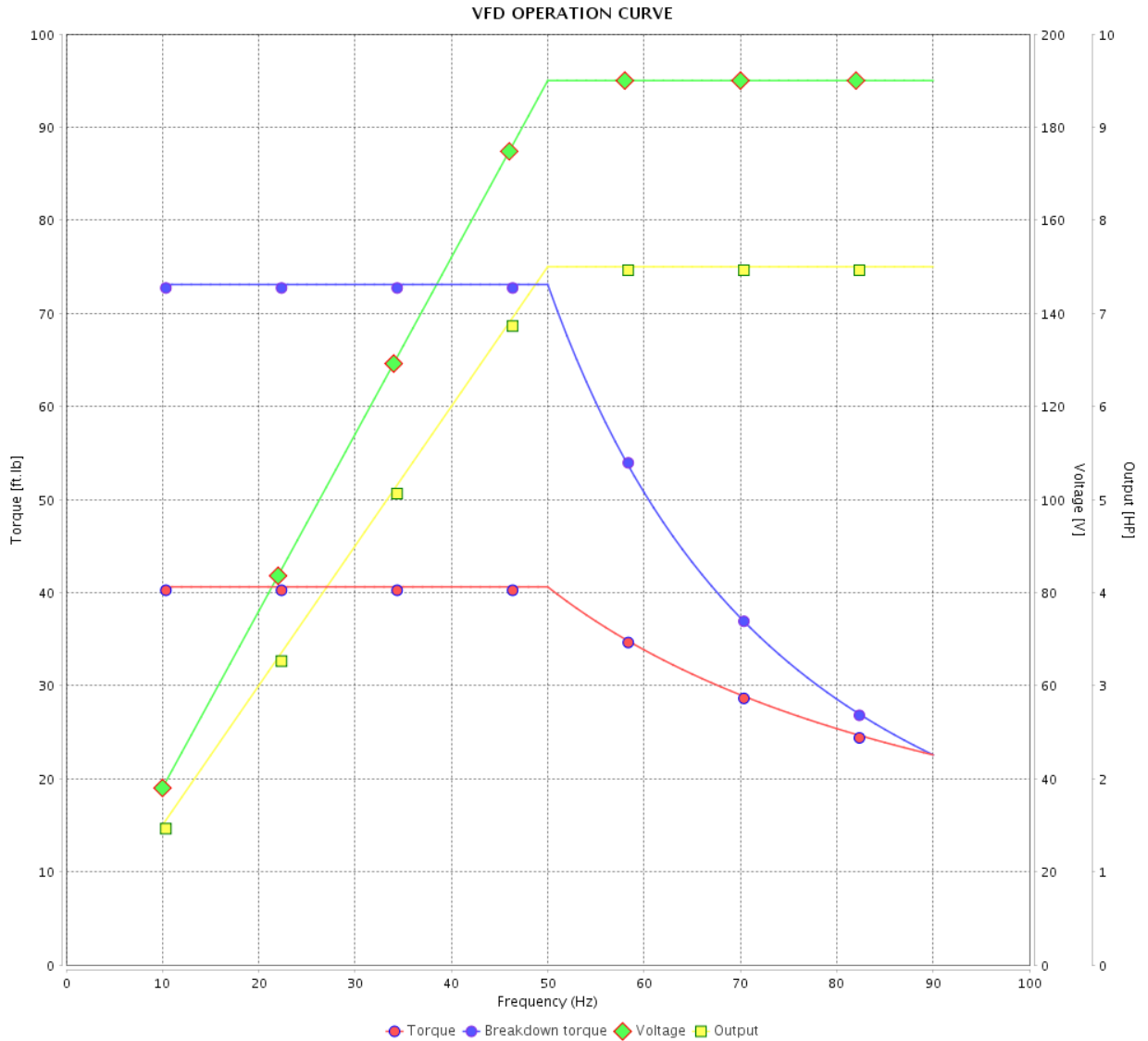


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12727235

Catalog # : 007120T3E254TC-S



Performance : 190/380 V 50 Hz 6P

Rated current : 24.4/12.2 A  
 LRC : 4.0  
 Rated torque : 40.6 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 180 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 2.00 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



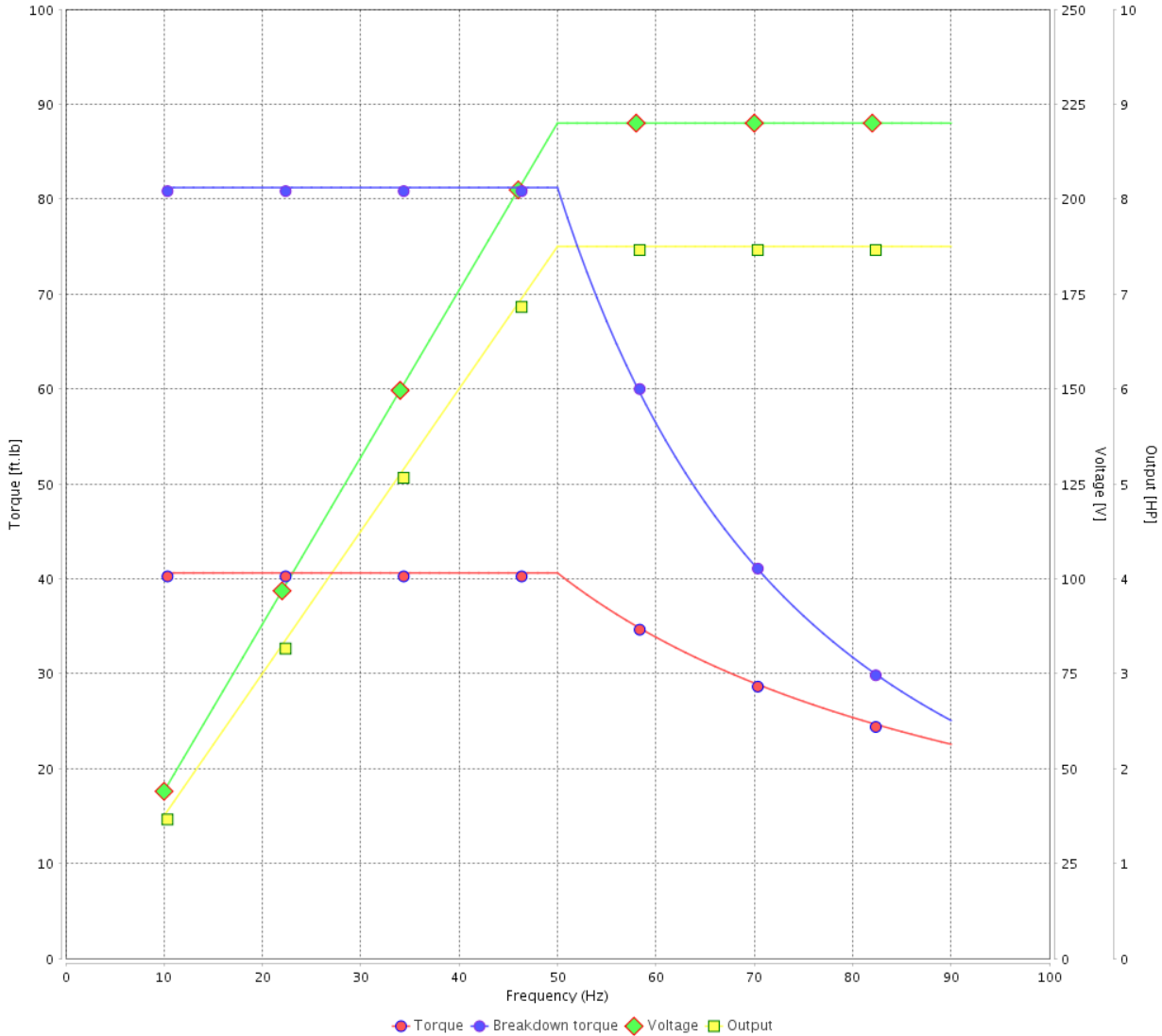
Customer :

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Product code : 12727235

Catalog # : 007120T3E254TC-S

VFD OPERATION CURVE



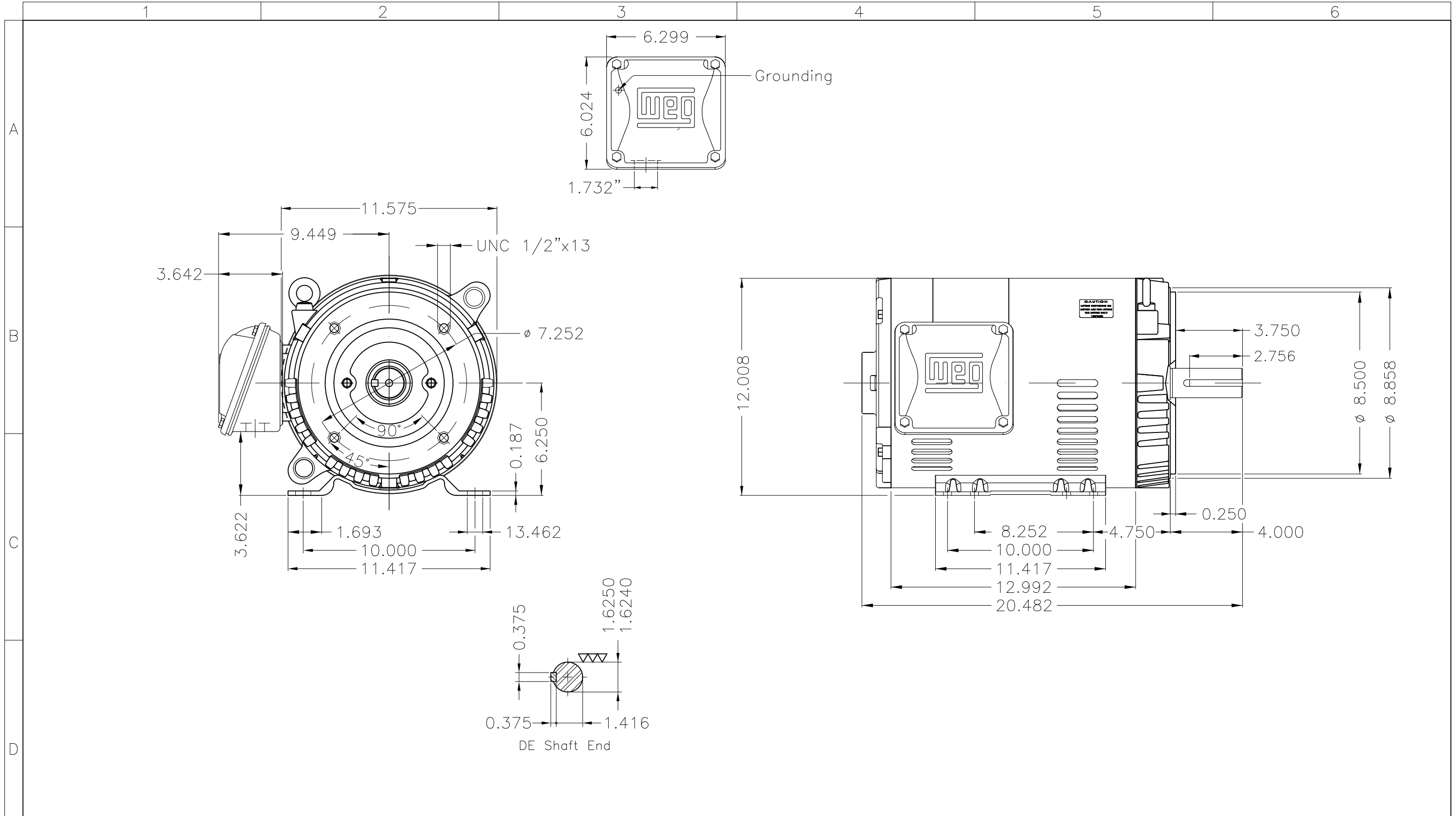
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 LRC : 4.5  
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Moment of inertia (J) : 2.00 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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Color Munsell N 1 matte black											
Painting plan 207N											
Mounting F-1/B34R(D)											
ECM	LOC	SUMMARY OF MODIFICATIONS					EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR ROLLED STEEL PREM. EFF.					PREVIEW	WDD	SHEET	1 / 1	
CHECKED		FRAME 254/6TC IP21 ODP									
RELEASED											
REL DT.		WMO	Jaragua do Sul	Product Engineering							

7.5 HP 06 Poles 60 Hz

Dimensions in inches XME A3

**NEMA**  
**Premium**

MADE IN MEXICO

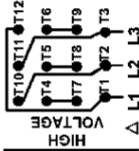
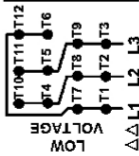
**MAT: 12727235 CC029A****W01.T00IC0X0N****MODEL 007120T3E254TC-S****18OCT2021 S/N:**

<b>PH 3</b>	<b>Hz 60</b>	<b>HP 7.5</b>
<b>FR 254/6TC</b>		<b>KW 5.5</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 20.4/10.2</b>
<b>INS CL F AT 80K</b>		<b>SFA 23.5/11.7</b>
<b>AMB 40°C</b>	<b>DES B</b>	<b>SF 1.15</b>
<b>ENCL ODP</b>	<b>CODE F</b>	<b>PF 0.75</b>
<b>USABLE @ 208V 22.5A</b>		<b>RPM 1175</b>
<b>SF1.00</b>		<b>NEMA NOM. EFF 90.2%</b>

**ALTERNATE RATING: 7.5HP 50Hz 190-220/380-415V SF1.15**  
**24.4-21.7/12.2-11.5A 970RPM EFF 88.0% (IE3) 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**



**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.

