

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: JP Pump NEMA Premium Efficiency Three-Phase	Product code :	12869998	
		Catalog # :	02036OT3E254JP-S	
Frame	: 254/6JP	Cooling method	: IC01 - ODP	
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>	: 181 lb	
Design	: B	Moment of inertia (J)	: 0.7848 sq.ft.lb	
Output [HP]	20	20	20	
Poles	2	2	2	
Frequency [Hz]	60	50	50	
Rated voltage [V]	230/460	190/380	220/415	
Rated current [A]	47.6/23.8	58.0/29.0	51.7/27.4	
L. R. Amperes [A]	286/143	261/131	264/140	
LRC [A]	6.0x(Code G)	4.5x(Code D)	5.1x(Code E)	
No load current [A]	17.0/8.50	16.2/8.09	17.1/9.04	
Rated speed [RPM]	3525	2895	2905	
Slip [%]	2.08	3.50	3.17	
Rated torque [ft.lb]	29.8	36.3	36.2	
Locked rotor torque [%]	180	130	140	
Breakdown torque [%]	240	190	210	
Service factor	1.15	1.00	1.00	
Temperature rise	80 K	105 K	80 K	
Locked rotor time	23s (cold) 13s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)	
Noise level <sup>2</sup>	70.0 dB(A)	68.0 dB(A)	68.0 dB(A)	
Efficiency (%)	25%	90.0	91.6	
	50%	90.2	90.6	
	75%	91.0	90.0	
	100%	91.0	88.7	
Power Factor	25%	0.49	0.51	
	50%	0.76	0.78	
	75%	0.83	0.86	
	100%	0.87	0.89	
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3	Foundation loads		
Sealing	: Without Without Bearing Seal Bearing Seal	Max. traction	: 274 lb	
Lubrication interval	: 20000 h 20000 h	Max. compression	: 454 lb	
Lubricant amount	: 13 g 8 g			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V 52.6A SF 1.00 SFA 52.6A				
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.		
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		1 /	

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



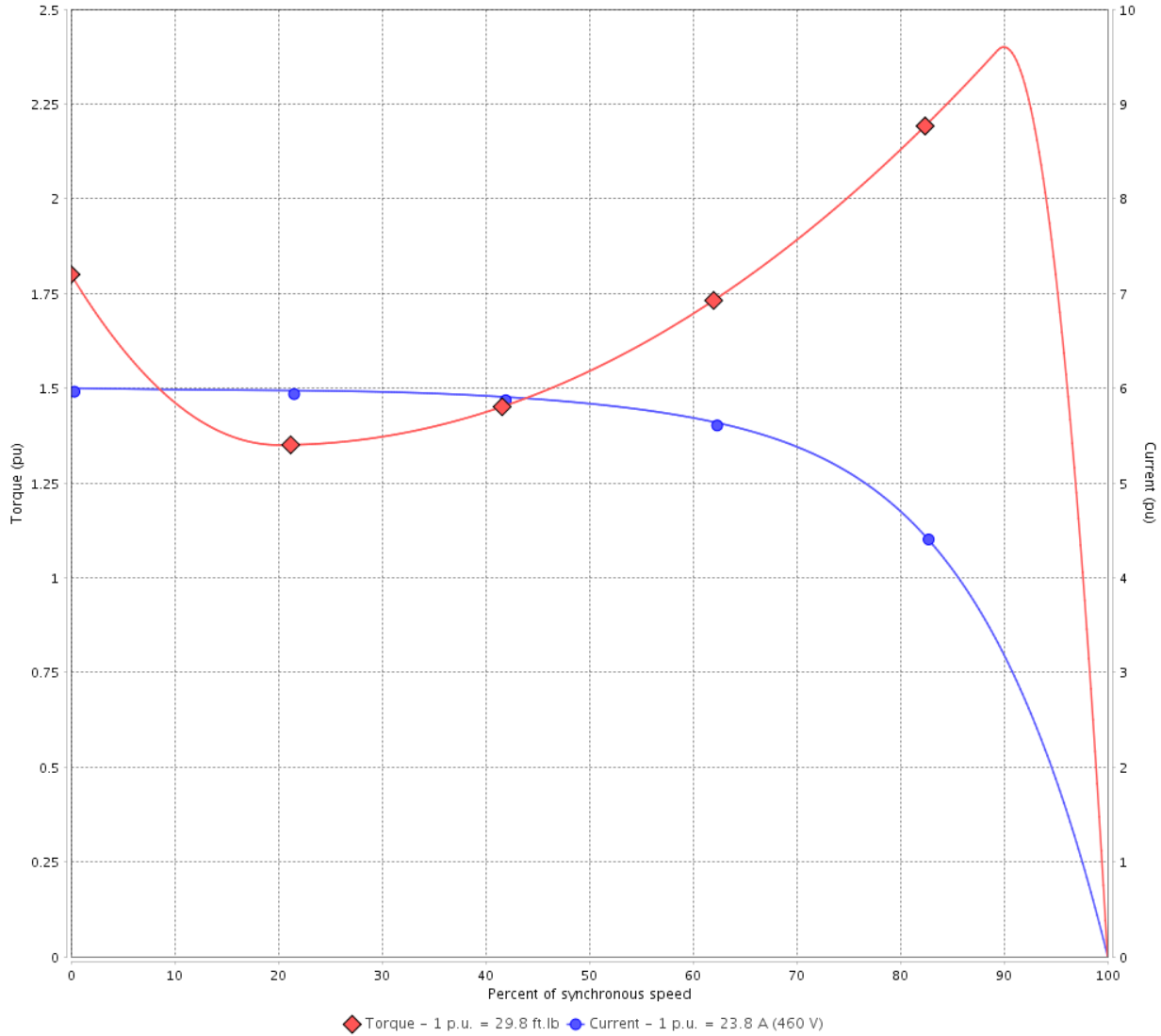
Customer :

Product line : JP Pump NEMA Premium Efficiency Three-Phase

Product code : 12869998

Catalog # : 02036OT3E254JP-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 47.6/23.8 A  
 LRC : 6.0  
 Rated torque : 29.8 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Locked rotor time : 23s (cold) 13s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 /	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



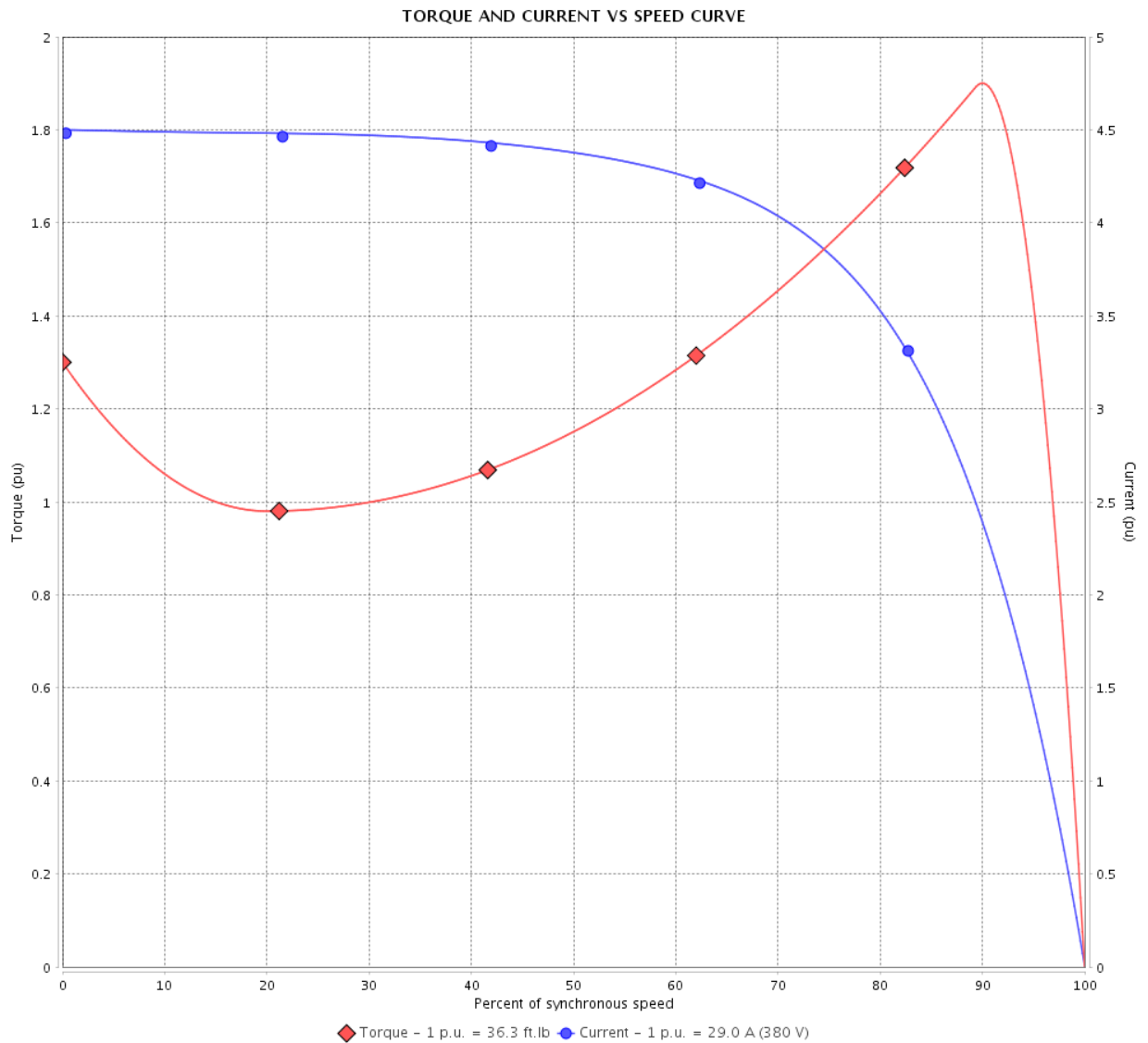
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JP Pump NEMA Premium Efficiency Three-Phase

Product code : 12869998

Catalog # : 02036OT3E254JP-S



Performance : 190/380 V 50 Hz 2P

Rated current : 58.0/29.0 A  
 LRC : 4.5  
 Rated torque : 36.3 ft.lb  
 Locked rotor torque : 130 %  
 Breakdown torque : 190 %  
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.7848 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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 3 /	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



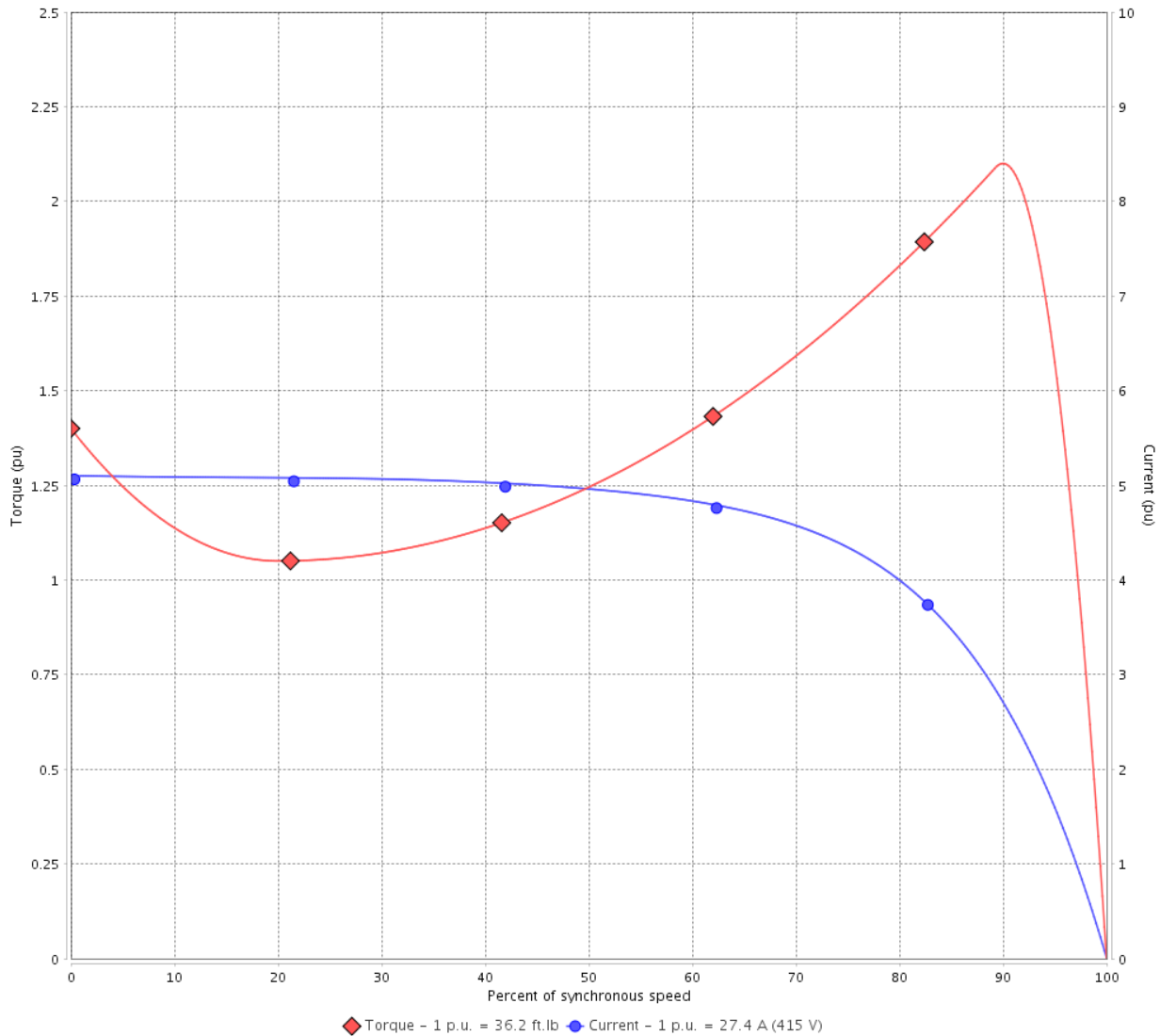
Customer :

Product line : JP Pump NEMA Premium  
Efficiency Three-Phase

Product code : 12869998

Catalog # : 02036OT3E254JP-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current	: 51.7/27.4 A	Moment of inertia (J)	: 0.7848 sq.ft.lb
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 36.2 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 2905 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 /	Revision
Checked by				
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

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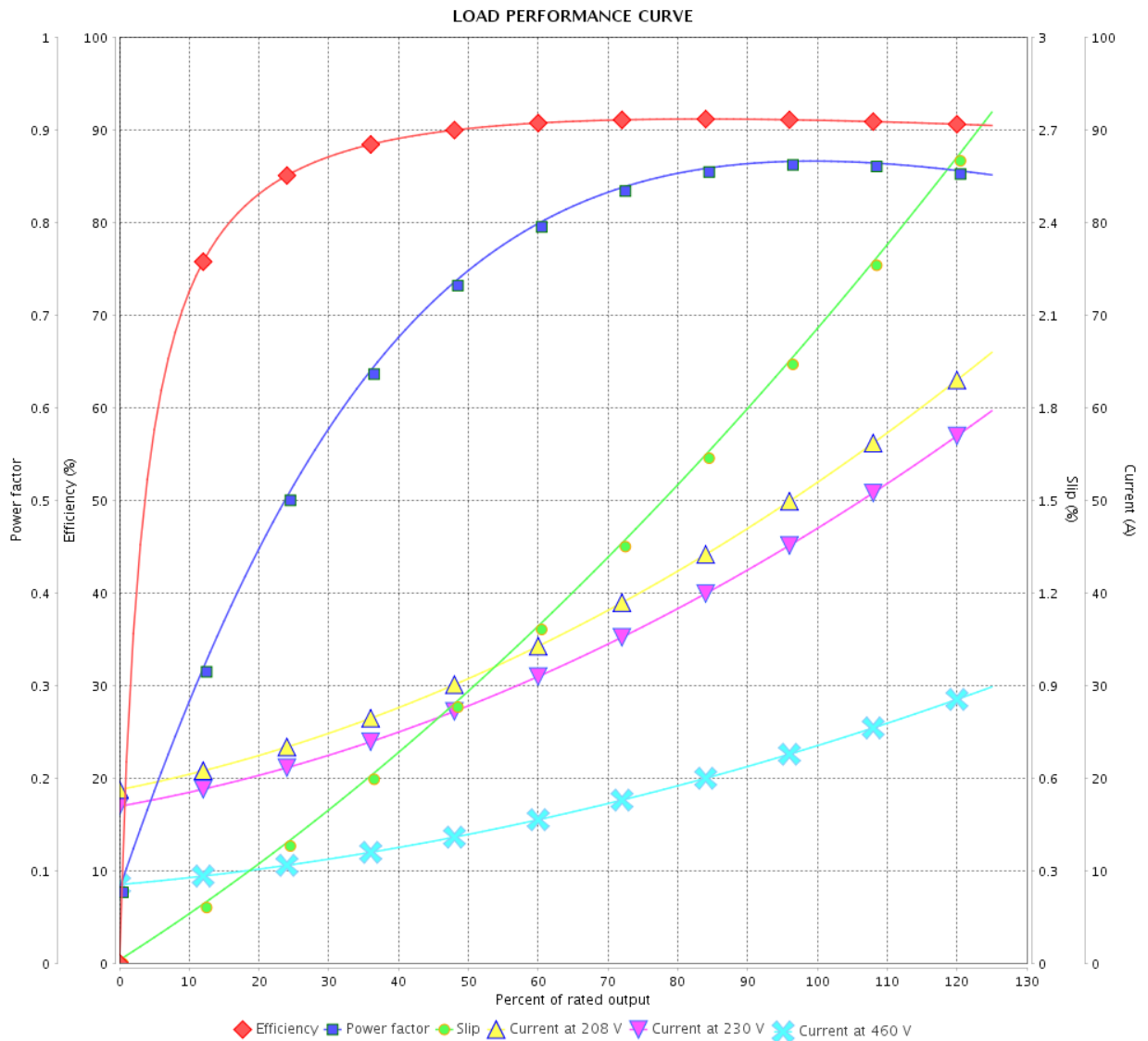


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Performance : 230/460 V 60 Hz 2P

Rated current : 47.6/23.8 A  
 LRC : 6.0  
 Rated torque : 29.8 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
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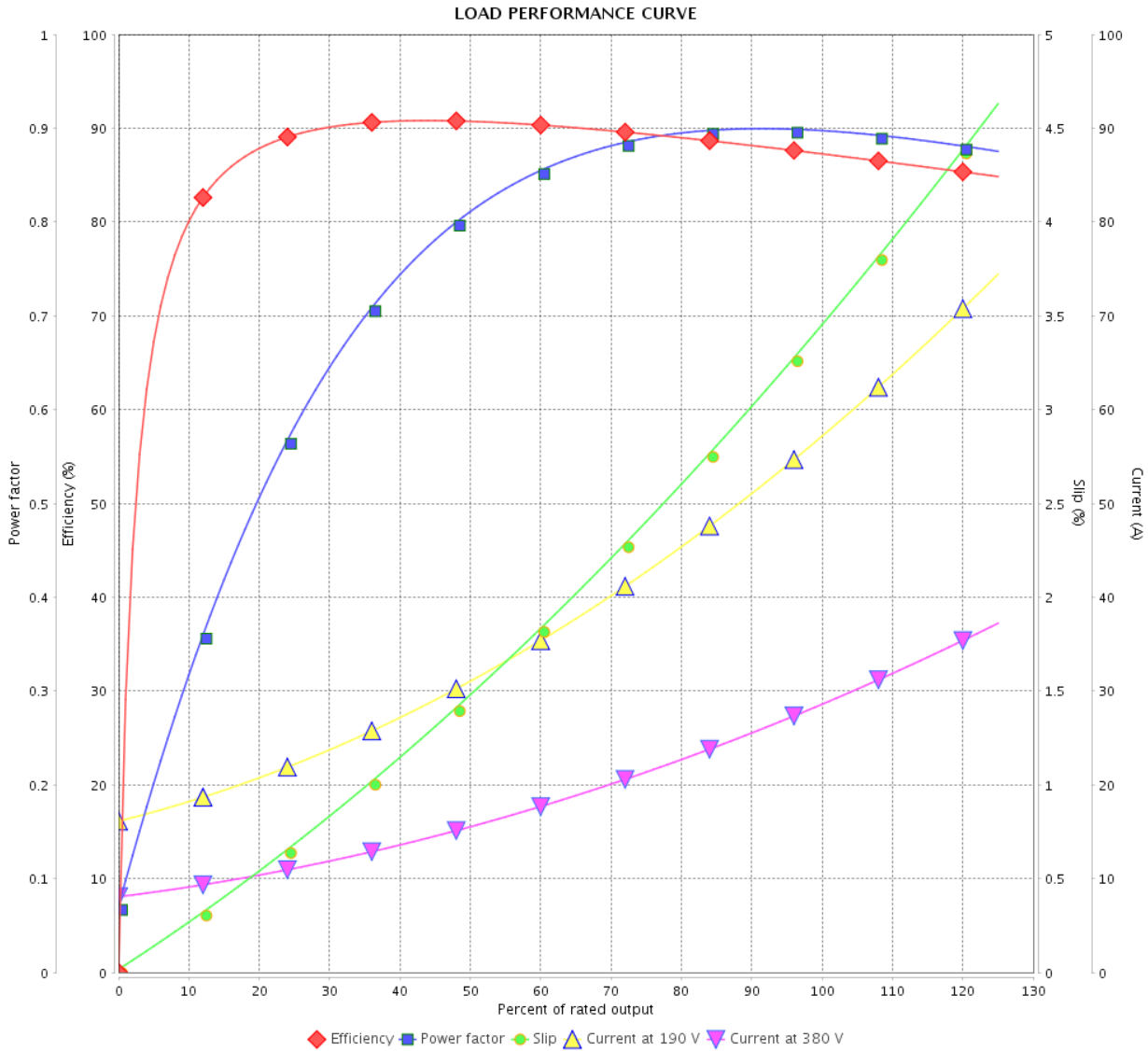


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 Rated speed : 2895 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 105 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 /	Revision
Checked by				
Date	14/04/2022			

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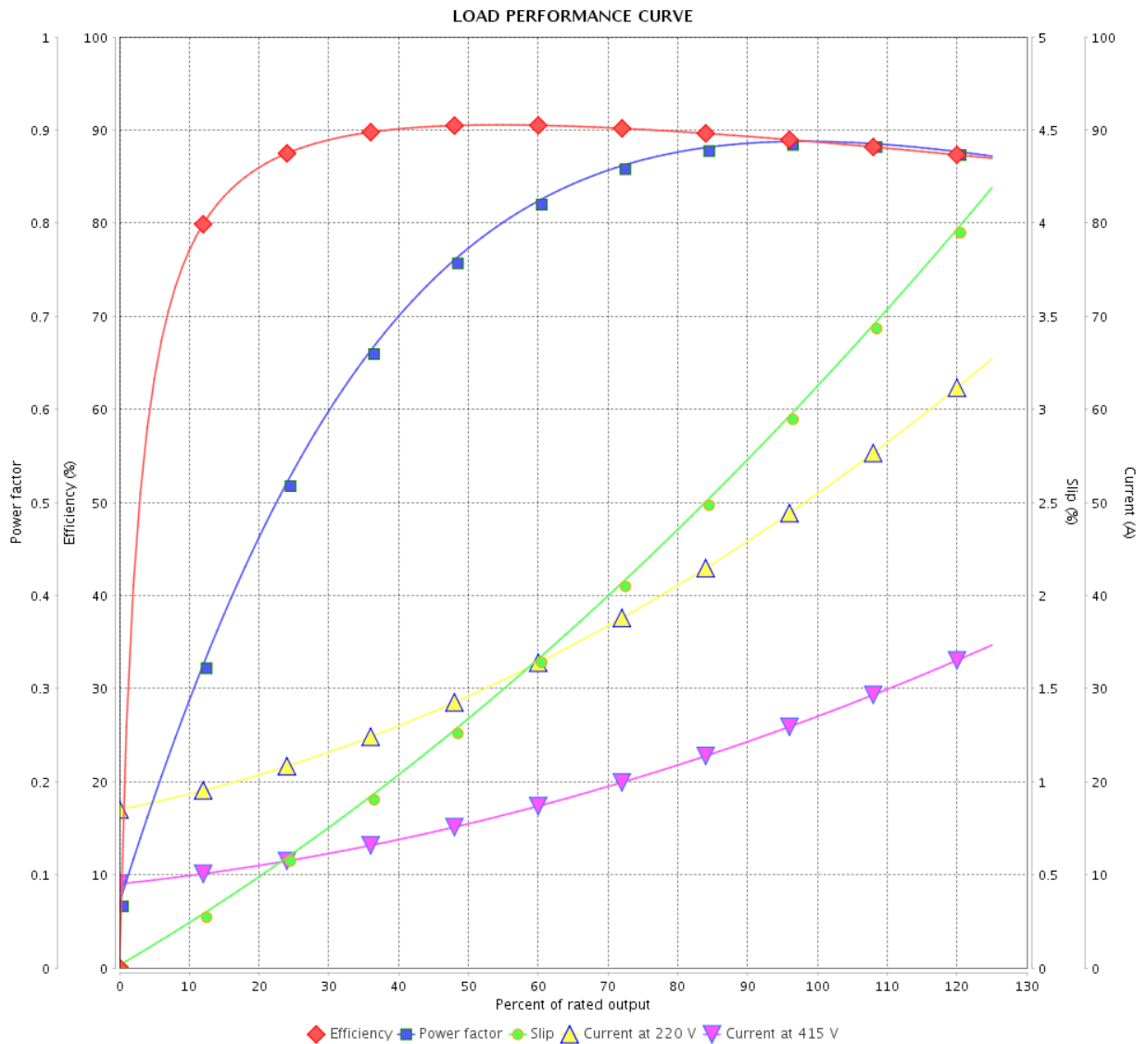


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Performance : 220/415 V 50 Hz 2P

Rated current : 51.7/27.4 A  
 LRC : 5.1  
 Rated torque : 36.2 ft.lb  
 Locked rotor torque : 140 %  
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 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		7 /		
Date		14/04/2022		

# THERMAL LIMIT CURVE



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Performance : 230/460 V 60 Hz 2P

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Breakdown torque : 240 %  
Rated speed : 3525 rpm

Moment of inertia (J) : 0.7848 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		8 /	

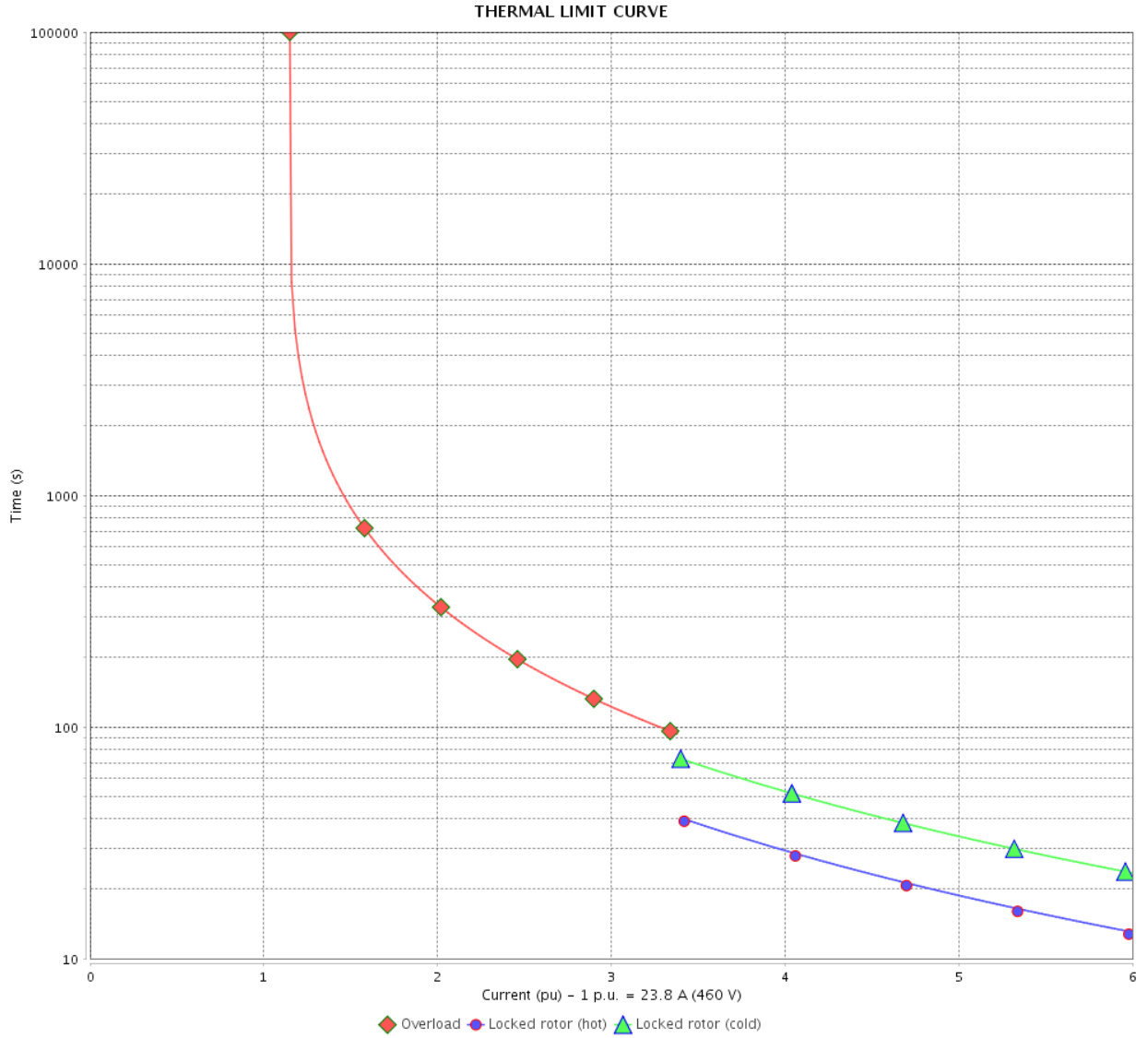


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Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		9 /		
Date		14/04/2022		

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Insulation class : F  
Service factor : 1.00  
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Heating constant

Cooling constant

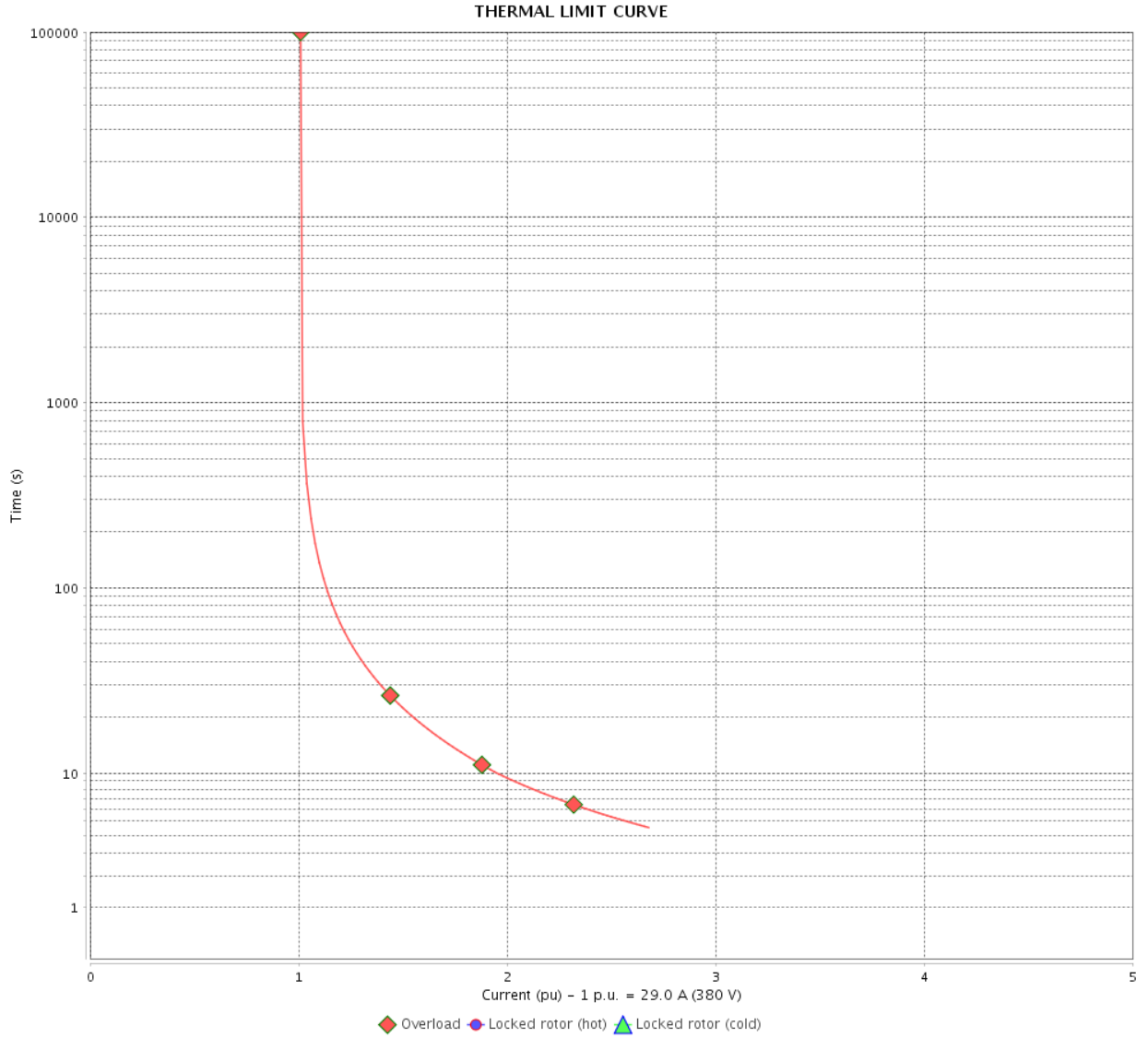
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		10 /	

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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 /		
Date		14/04/2022		

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Service factor : 1.00  
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Design : B

Heating constant

Cooling constant

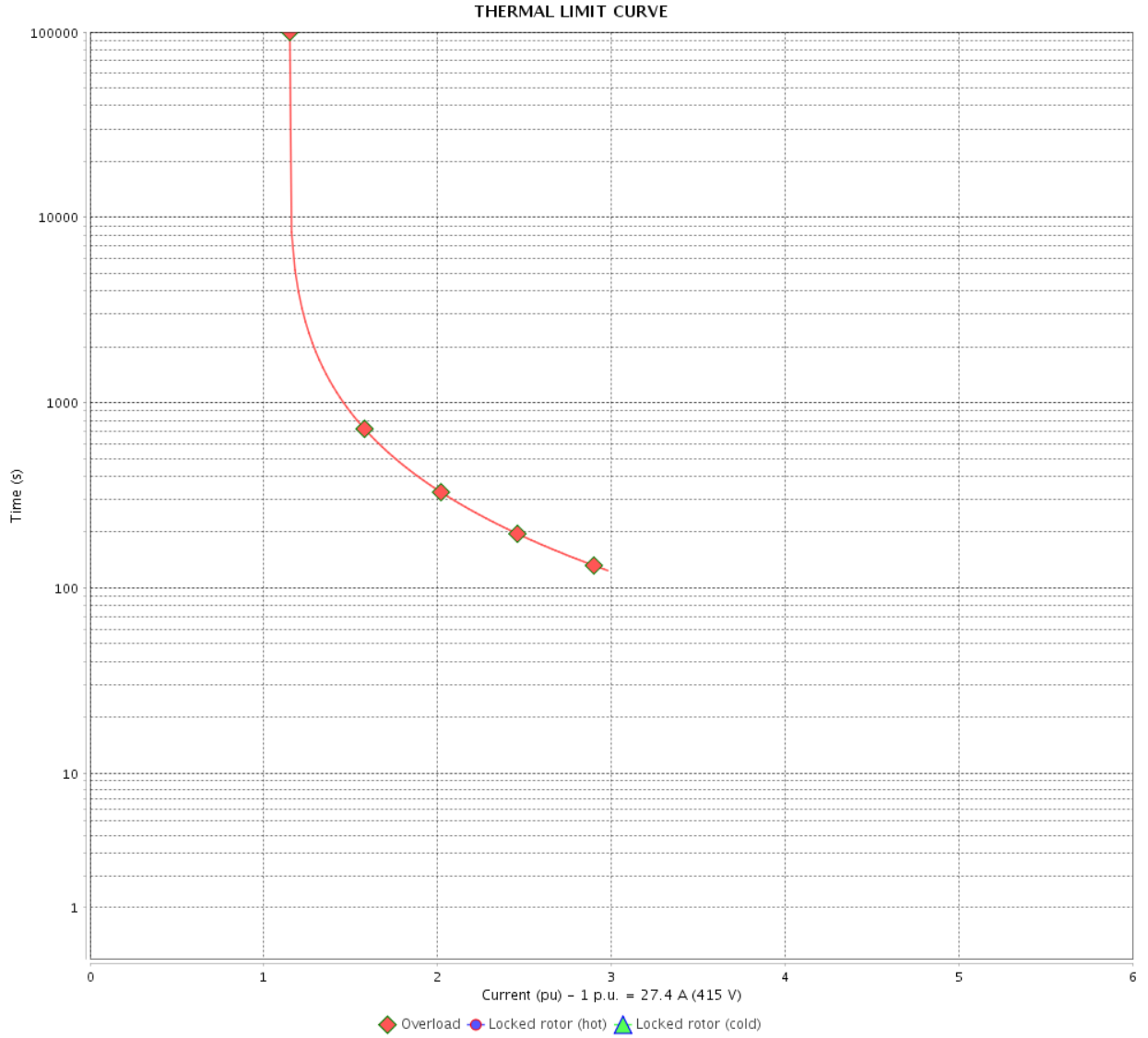
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		12 /	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 /		
Date		14/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



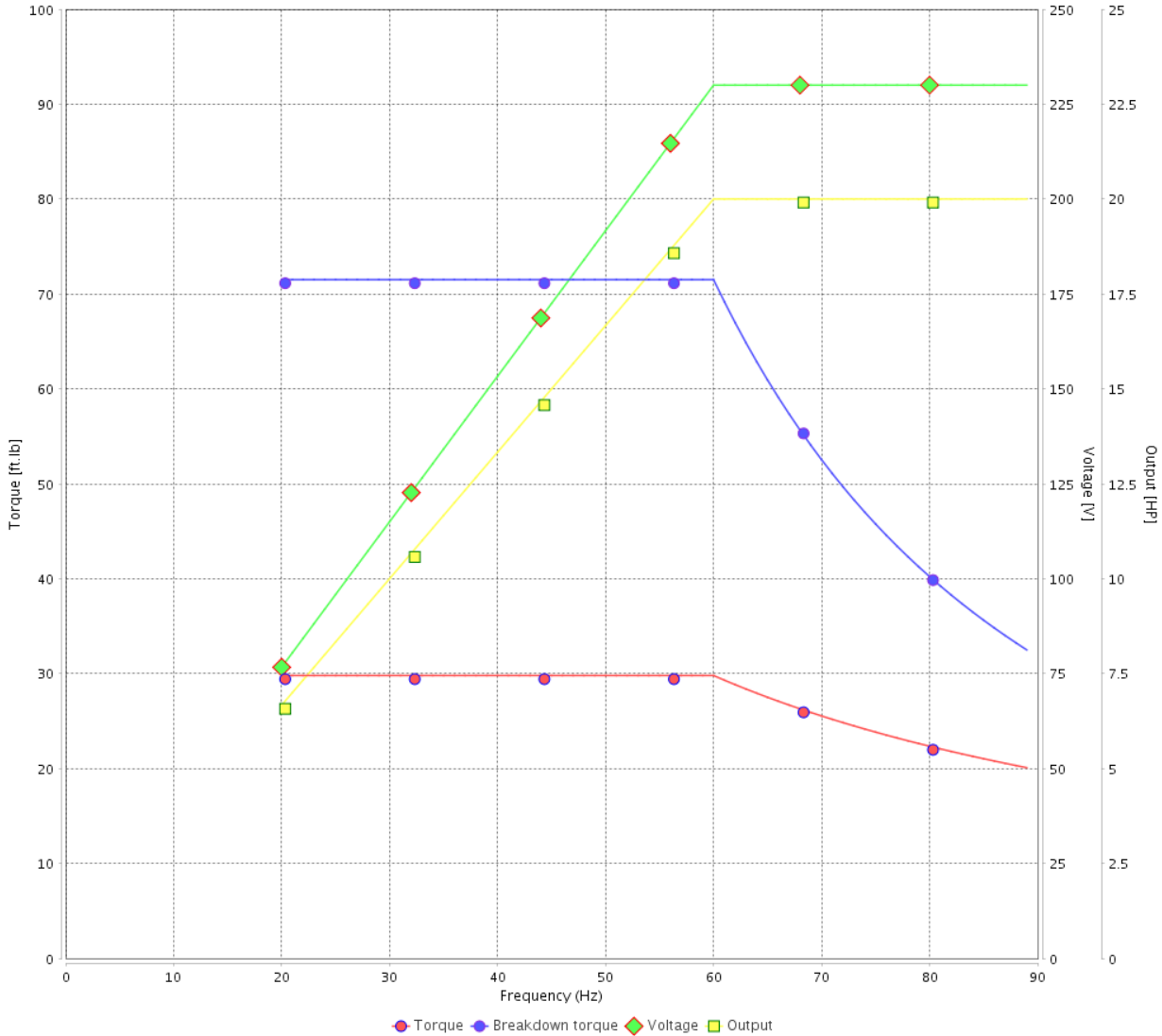
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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 2P

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 Rated torque : 29.8 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 240 %  
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Moment of inertia (J) : 0.7848 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
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Date	14/04/2022			

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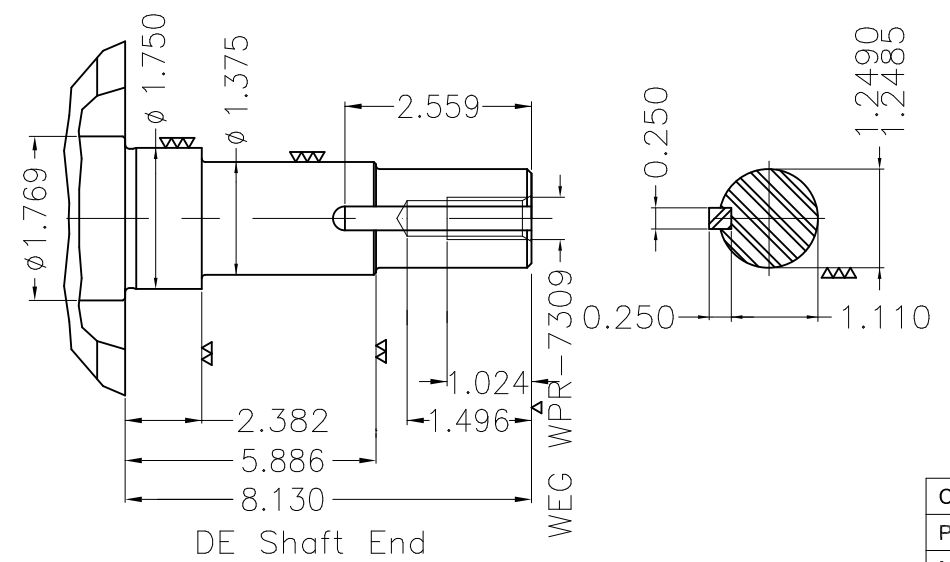
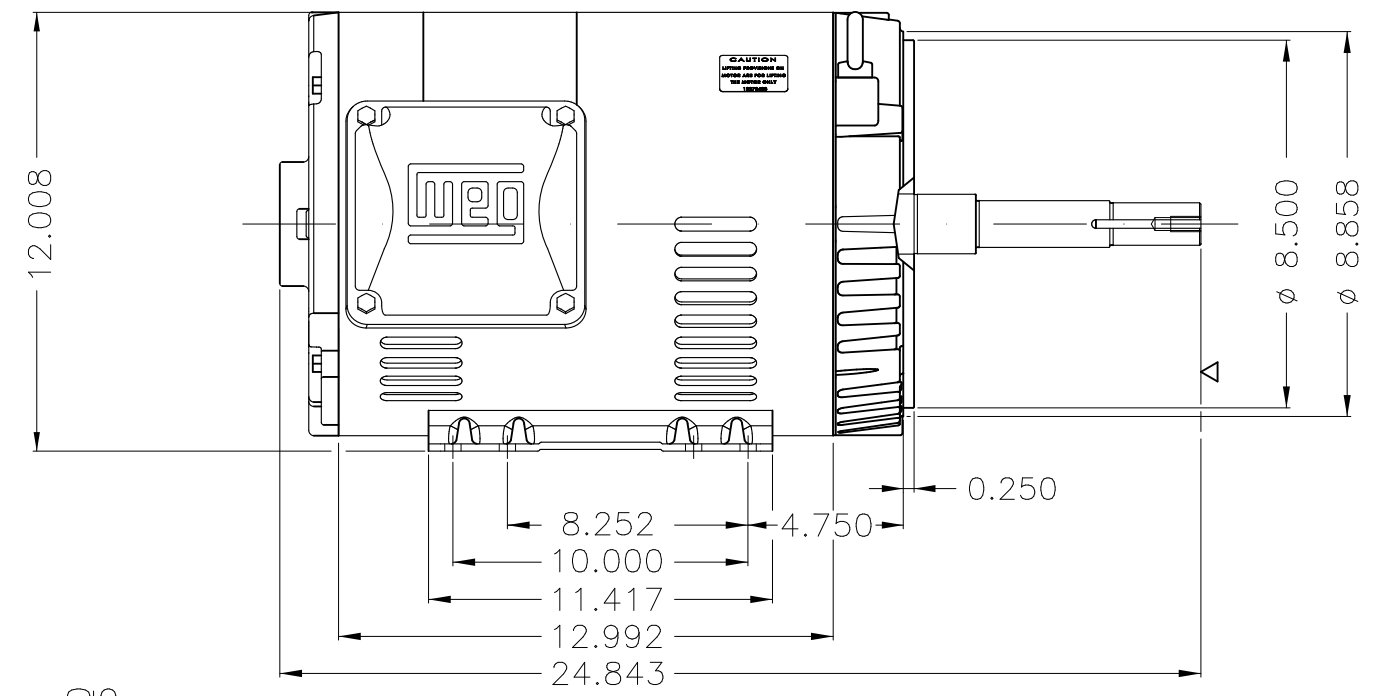
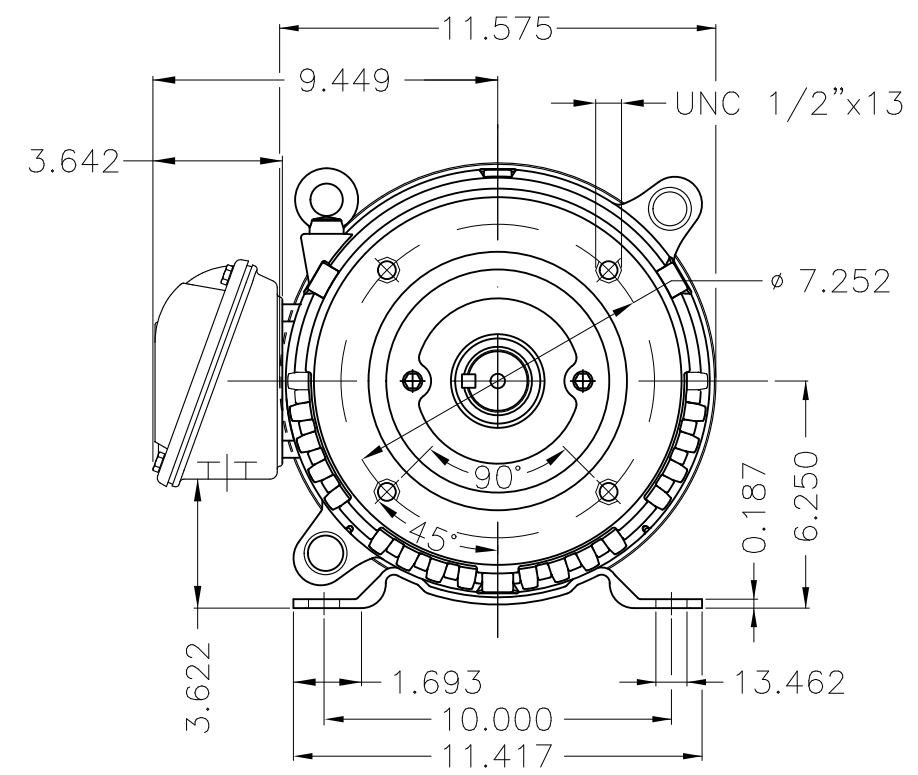
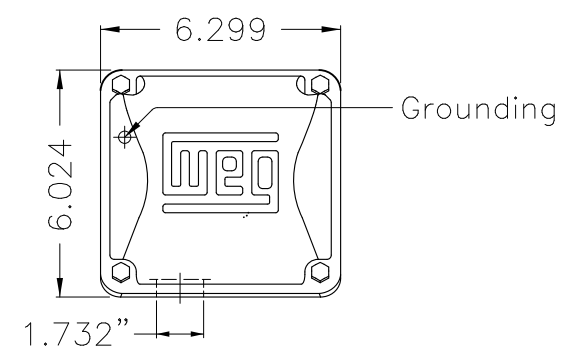
A

B

C

D

E



EUNC 1/2"-13 WEG WPR-7309

DE Shaft End

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	PIRBUSER	THREE PH. MOTOR ROLLED STEEL CLOSE COUPLED PUMP JP 3/4" DE PREMETS							
CHECKED		FRAME 254/6JP IP21 ODP							
RELEASED									
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1				

20 HP 02 Poles 60 Hz



**NEMA  
Premium**

MADE IN MEXICO

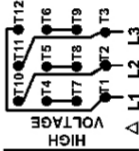
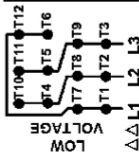
**MAT: 12869998 CC029A****W01.T00IC0X0N****MODEL 020360T3E254JP-S****01NOV2021 S/N:**

<b>PH 3</b>	<b>Hz 60</b>	<b>HP 20</b>
<b>FR 254/6.JP</b>		<b>KW 15</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 47.6/23.8</b>
<b>INS CL F AT 80K</b>		<b>SFA 54.7/27.4</b>
<b>AMB 40°C</b>	<b>DES B</b>	<b>SF 1.15</b>
<b>ENCL ODP</b>	<b>CODE G</b>	<b>PF 0.87</b>
<b>USABLE @ 208V 52.8A</b>		<b>RPM 3525</b>
<b>SF1.00</b>		<b>NEMA NOM. EFF 91.0%</b>

**ALTERNATE RATING: 20HP 50Hz 190-220/380-415V SF1.00**  
**58.0-50.4/29.0-26.7A 2895RPM EFF 87.2% IEC 60034-1**

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 3:1 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.

