

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: JM Pump NEMA Premium Efficiency Three-Phase	Product code :	13373887	
		Catalog # :	02036ET3E256JM-S	
Frame	: 254/6JM	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>	: 235 lb	
Protection degree	: IP55	Moment of inertia (J)	: 1.22 sq.ft.lb	
Design	: B			
Output [HP]	20	15	15	
Poles	2	2	2	
Frequency [Hz]	60	50	50	
Rated voltage [V]	230/460	190/380	220/415	
Rated current [A]	45.4/22.7	40.8/20.4	36.8/19.5	
L. R. Amperes [A]	300/150	302/151	298/158	
LRC [A]	6.6x(Code G)	7.4x(Code H)	8.1x(Code J)	
No load current [A]	13.8/6.88	13.6/6.79	13.7/7.26	
Rated speed [RPM]	3515	2925	2935	
Slip [%]	2.36	2.50	2.17	
Rated torque [ft.lb]	29.9	26.9	26.8	
Locked rotor torque [%]	200	210	240	
Breakdown torque [%]	290	310	340	
Service factor	1.15	1.00	1.00	
Temperature rise	80 K	105 K	80 K	
Locked rotor time	21s (cold) 12s (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%	89.7	91.8	
	50%	90.0	91.5	
	75%	91.0	92.0	
	100%	91.0	91.4	
Power Factor	25%	0.55	0.48	
	50%	0.81	0.75	
	75%	0.88	0.85	
	100%	0.91	0.89	
Bearing type	: <u>Drive end</u> 6309 Z C3 <u>Non drive end</u> 6208 Z C3	Foundation loads		
Sealing	: V'Ring V'Ring	Max. traction	: 320 lb	
Lubrication interval	: 15797 h 20000 h	Max. compression	: 555 lb	
Lubricant amount	: 13 g 8 g			
Lubricant type	: Mobil Polyrex EM			
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



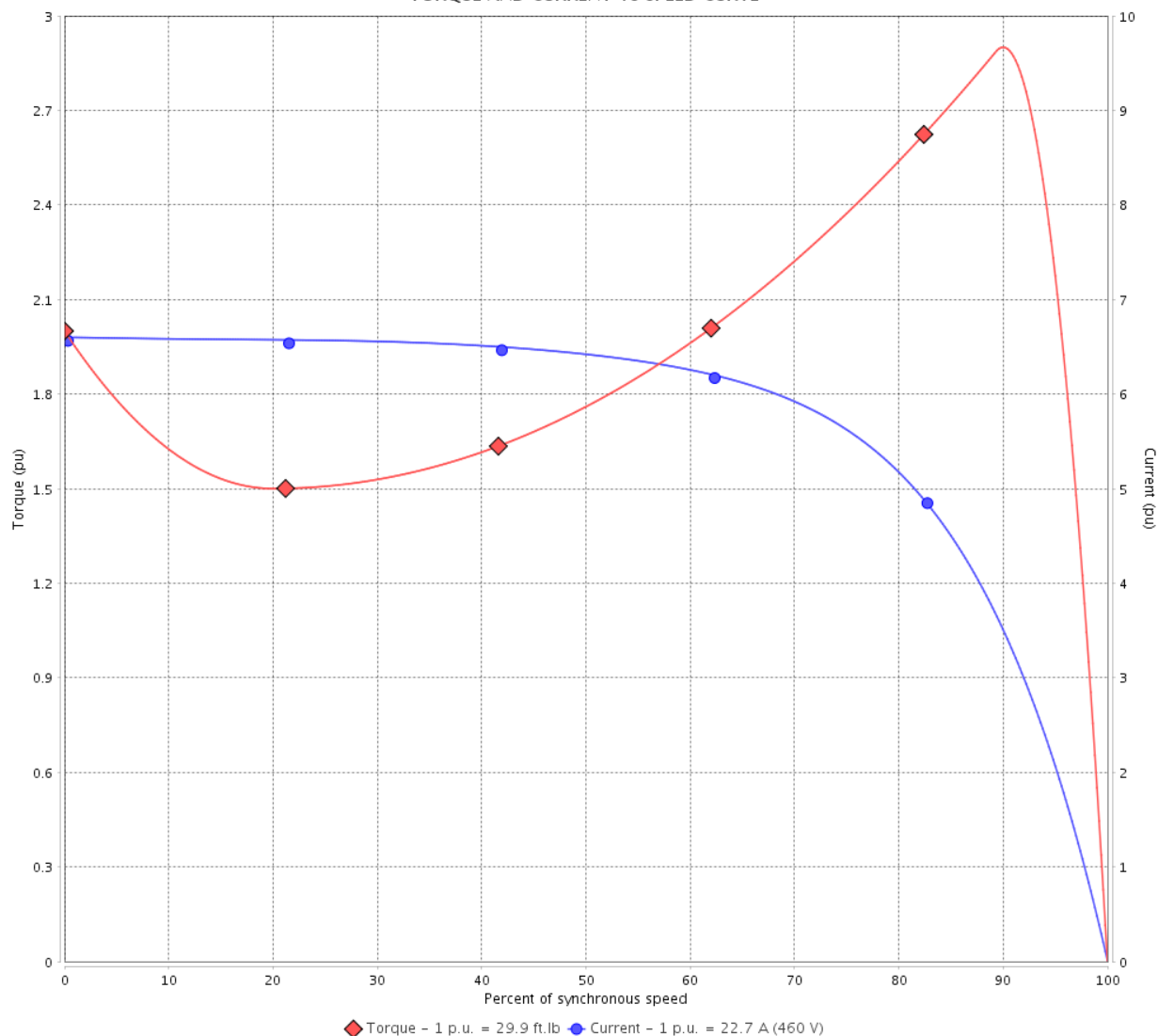
Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13373887

Catalog # : 02036ET3E256JM-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



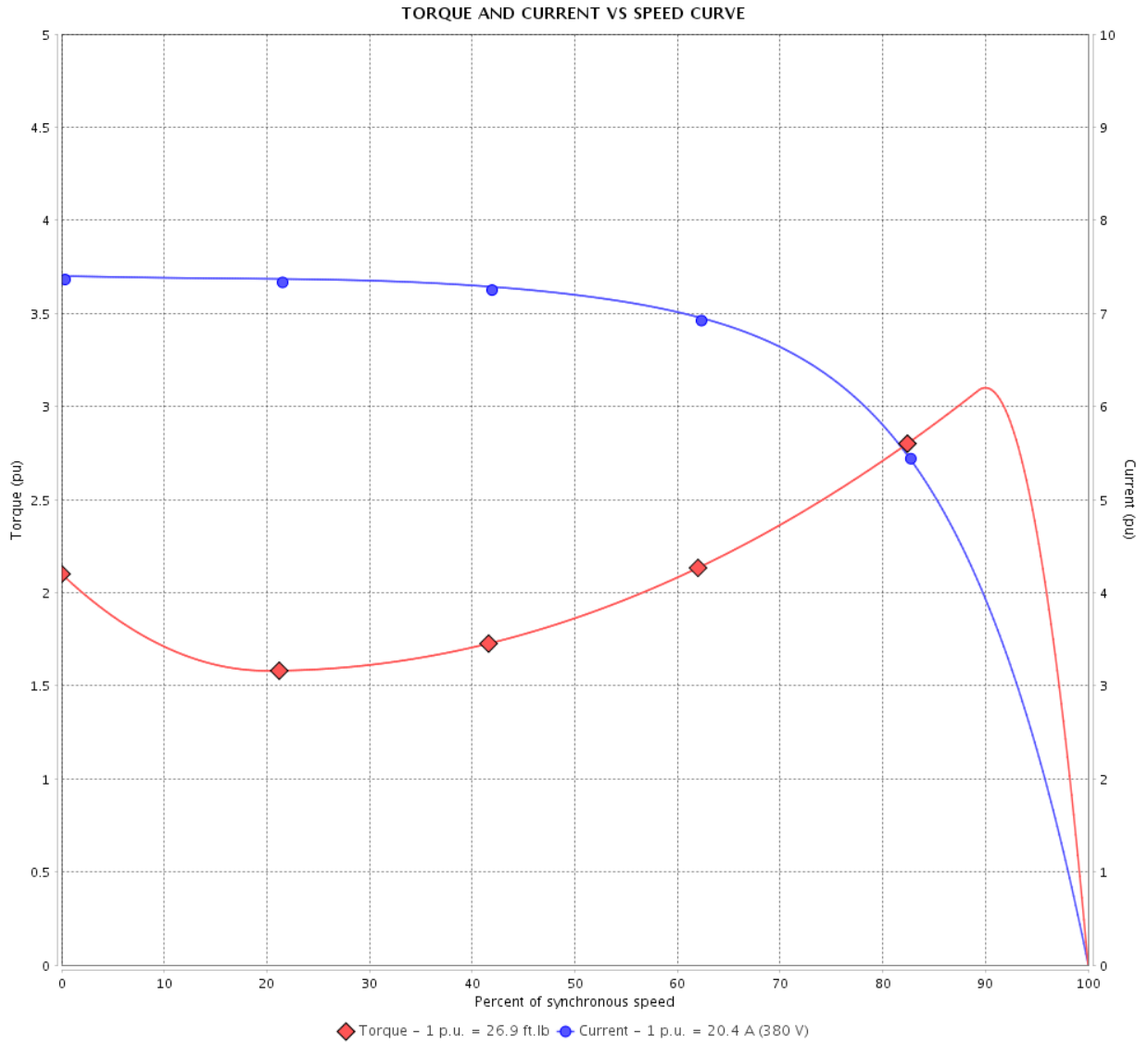
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13373887

Catalog # : 02036ET3E256JM-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



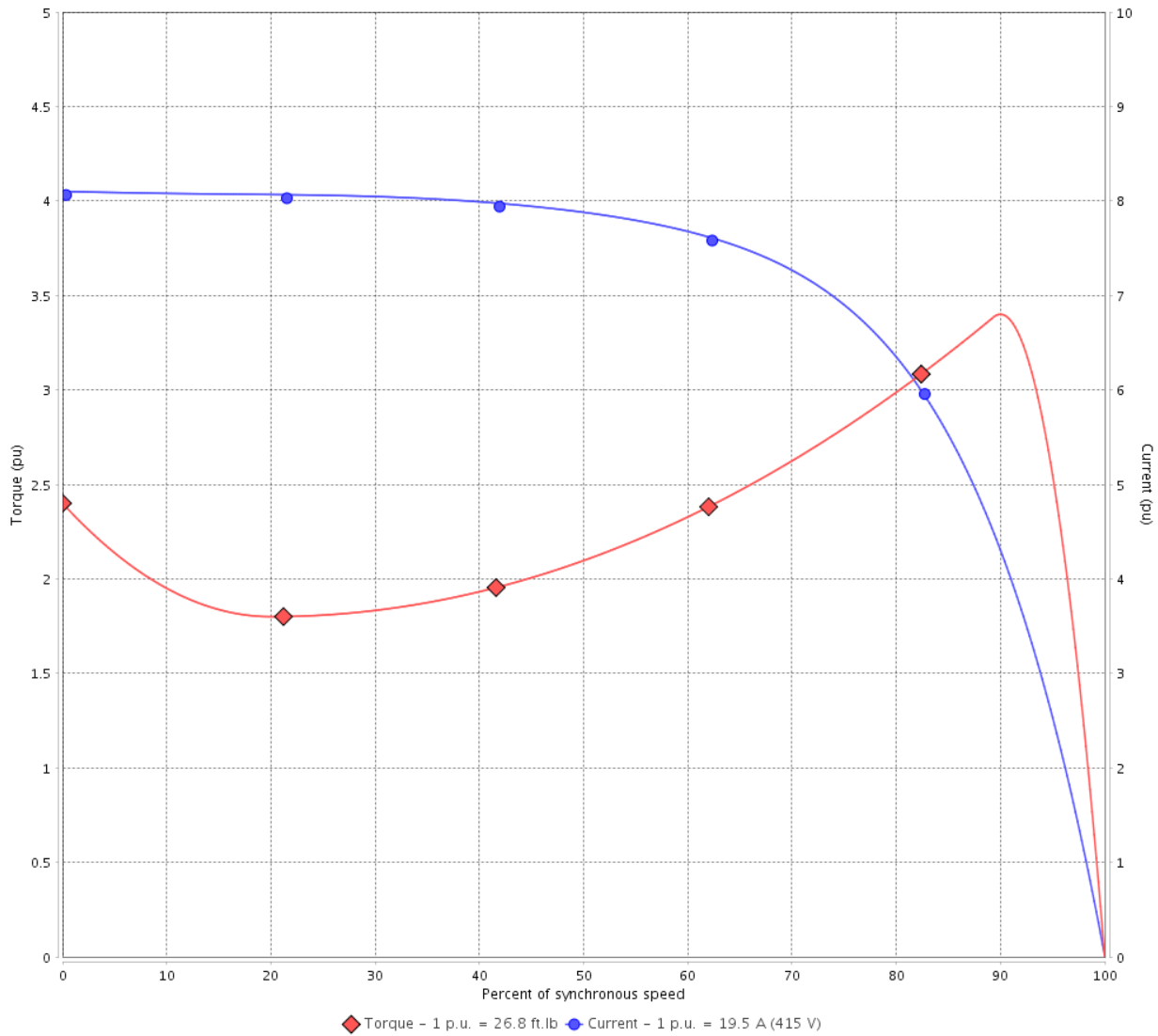
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Efficiency Three-Phase

Product code : 13373887

Catalog # : 02036ET3E256JM-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

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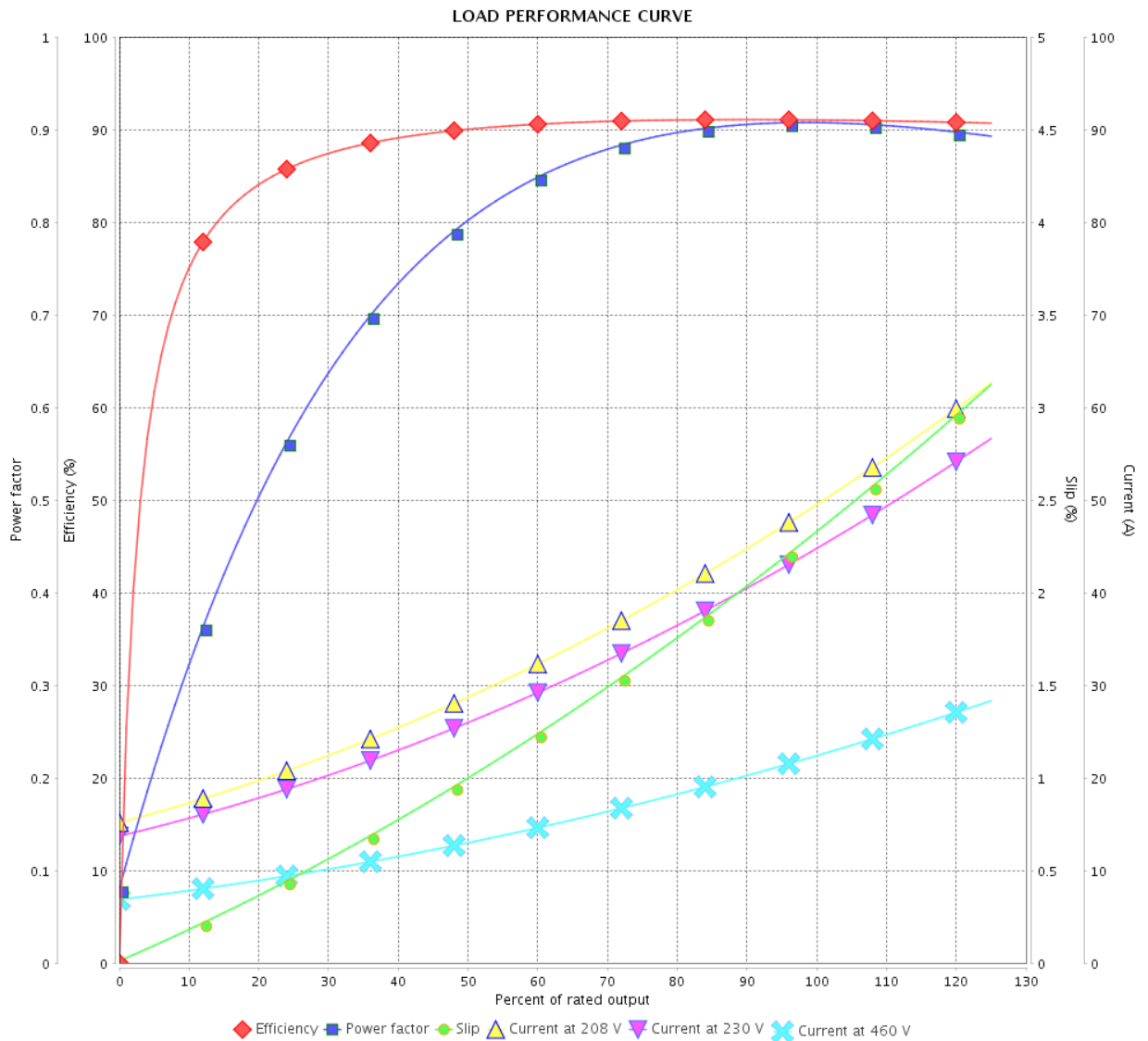


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Product code : 13373887

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Performance : 230/460 V 60 Hz 2P

Rated current : 45.4/22.7 A  
 LRC : 6.6  
 Rated torque : 29.9 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 290 %  
 Rated speed : 3515 rpm

Moment of inertia (J) : 1.22 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

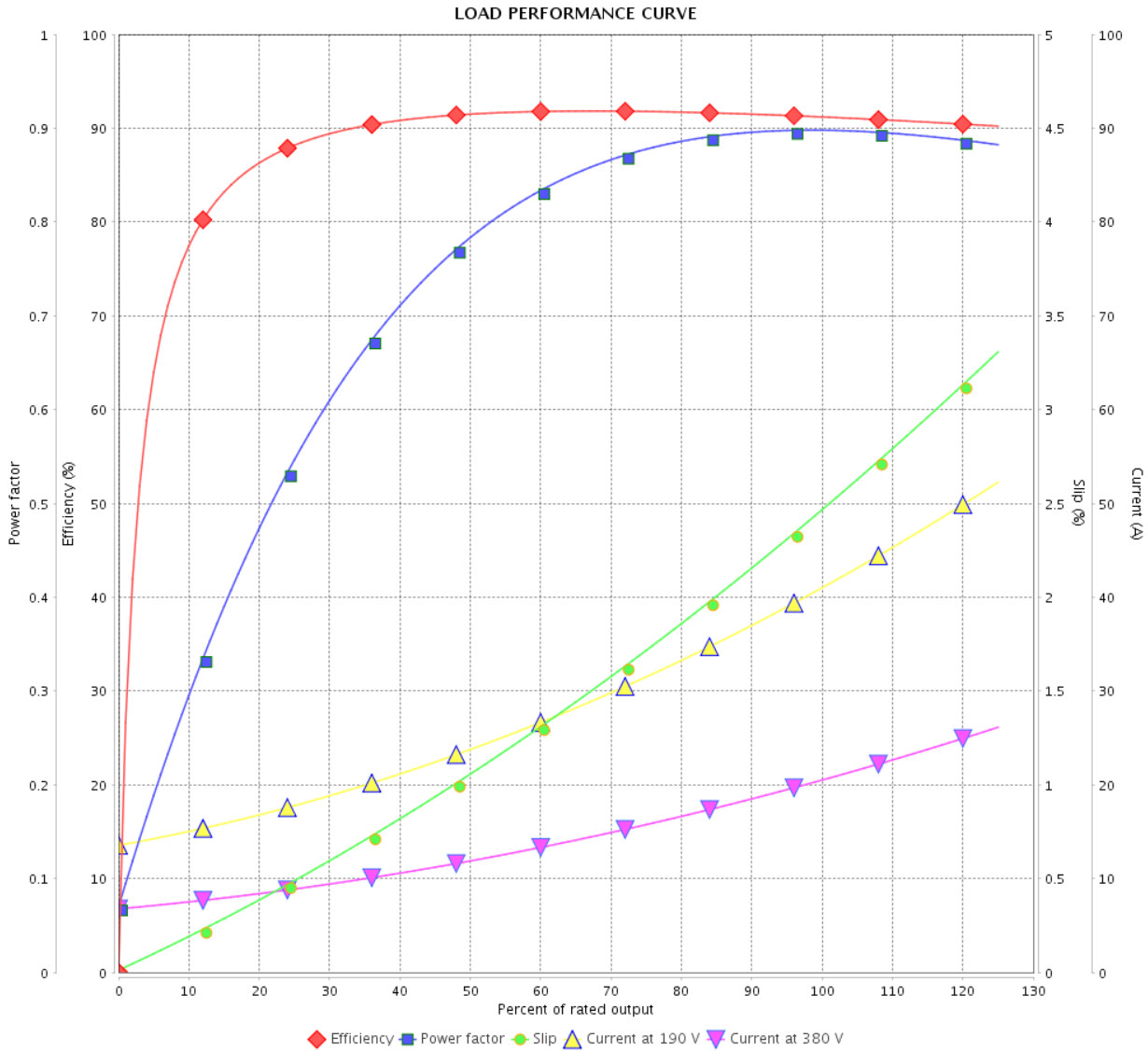


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Performance : 190/380 V 50 Hz 2P

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 Locked rotor torque : 210 %  
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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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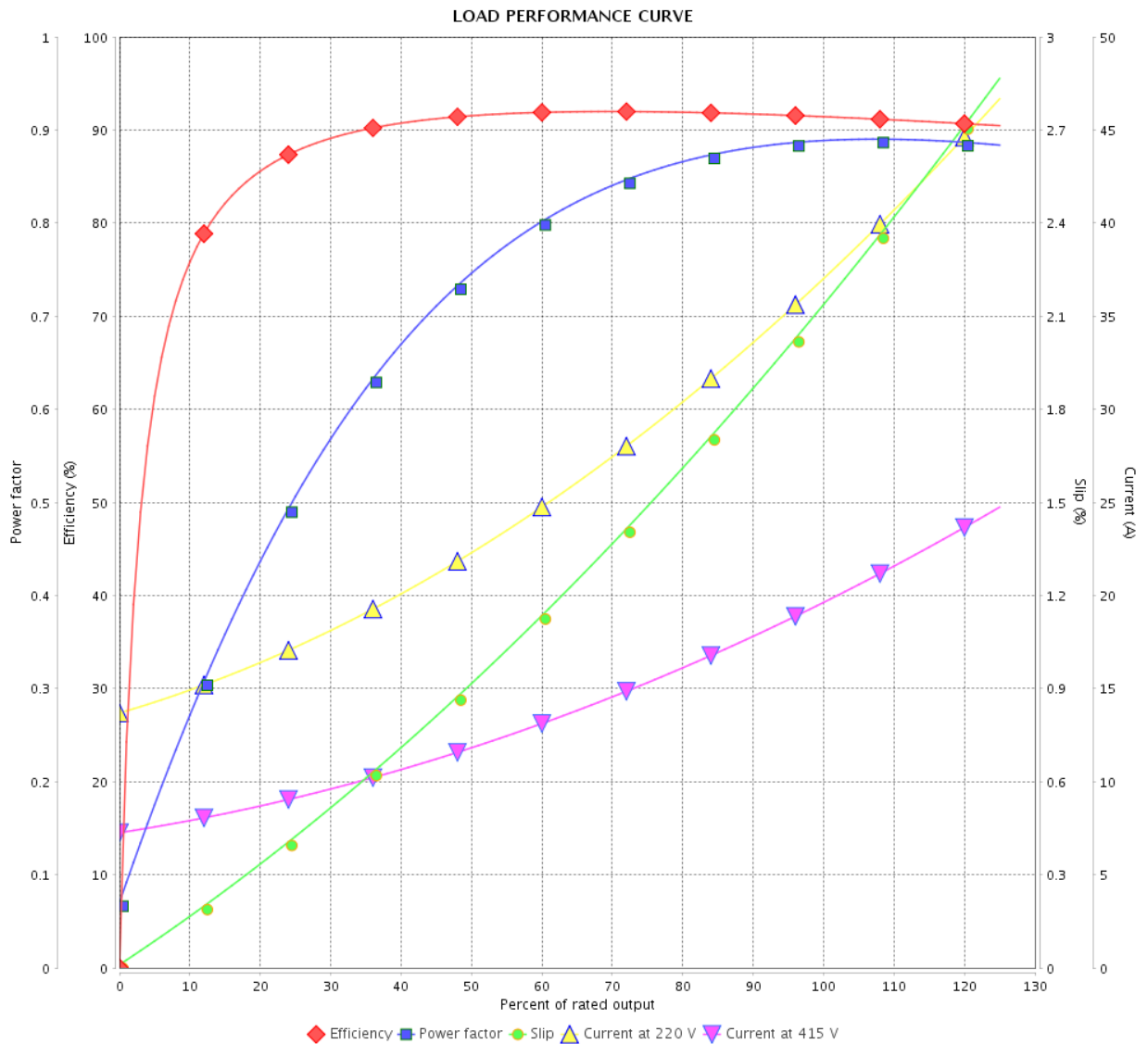


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Performance : 220/415 V 50 Hz 2P

Rated current : 36.8/19.5 A  
 LRC : 8.1  
 Rated torque : 26.8 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 340 %  
 Rated speed : 2935 rpm

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

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# THERMAL LIMIT CURVE



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Locked rotor torque : 200 %  
Breakdown torque : 290 %  
Rated speed : 3515 rpm

Moment of inertia (J) : 1.22 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.15  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

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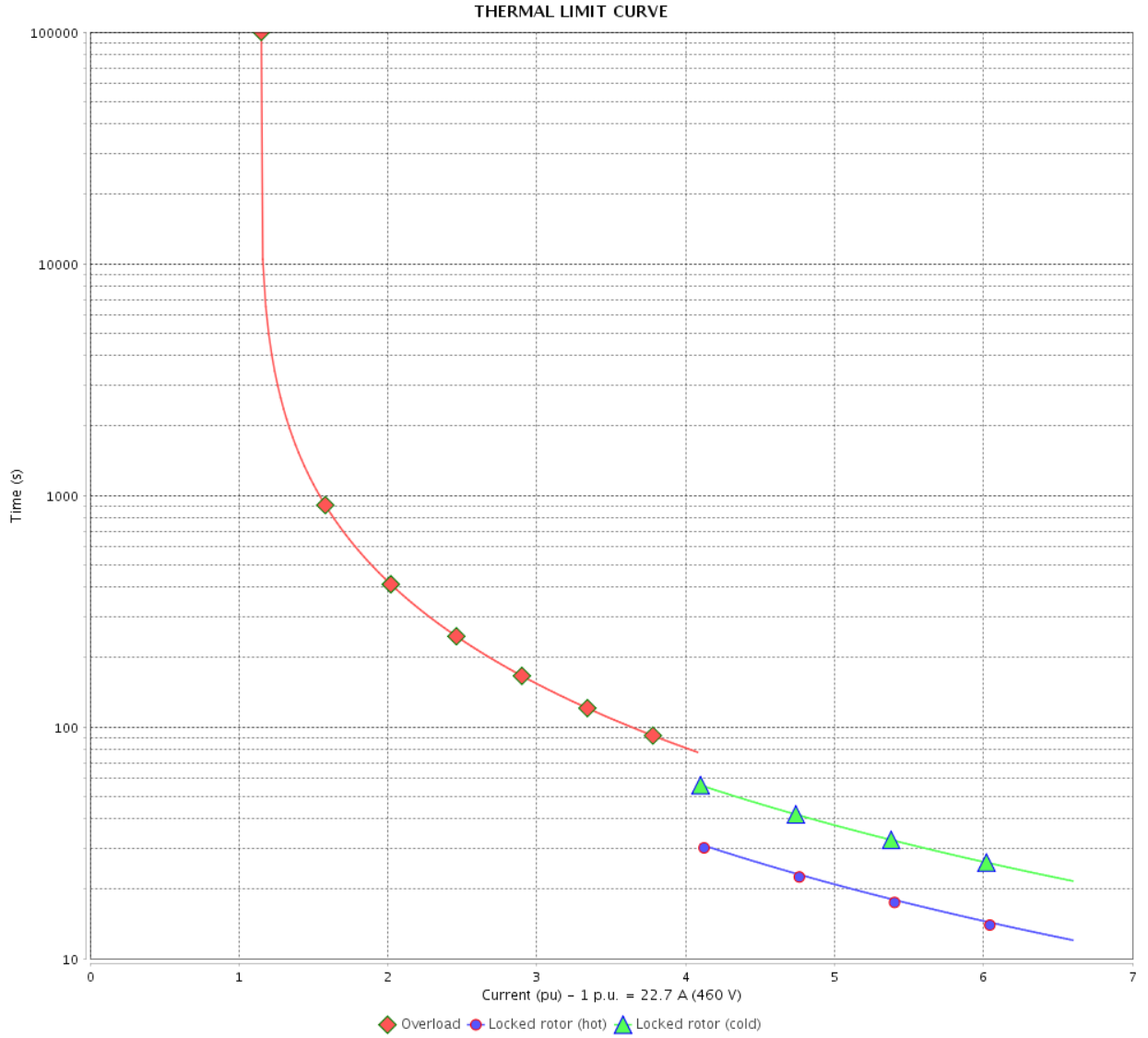


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Three Phase Induction Motor - Squirrel Cage



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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

Heating constant

Cooling constant

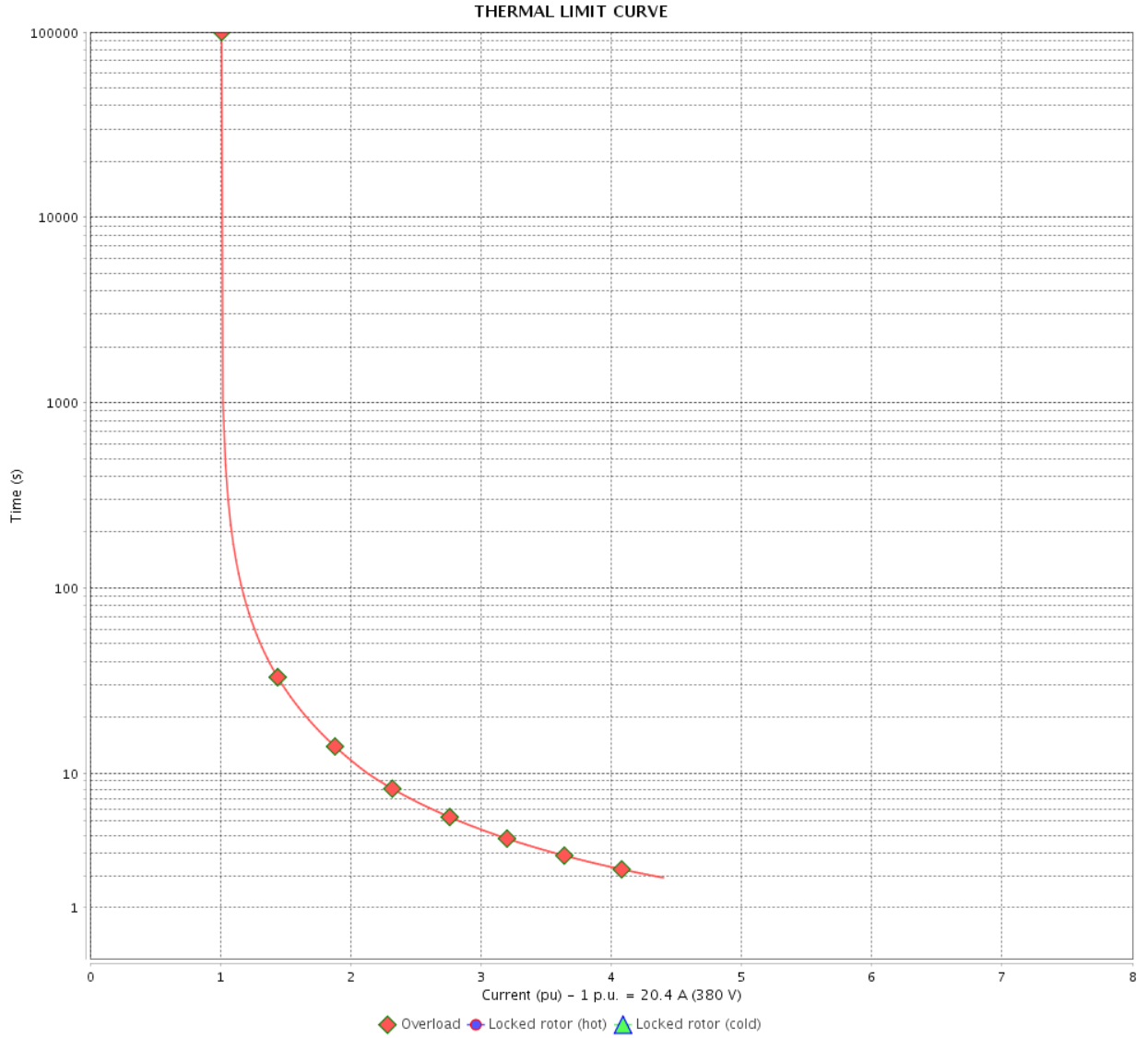
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Cooling constant

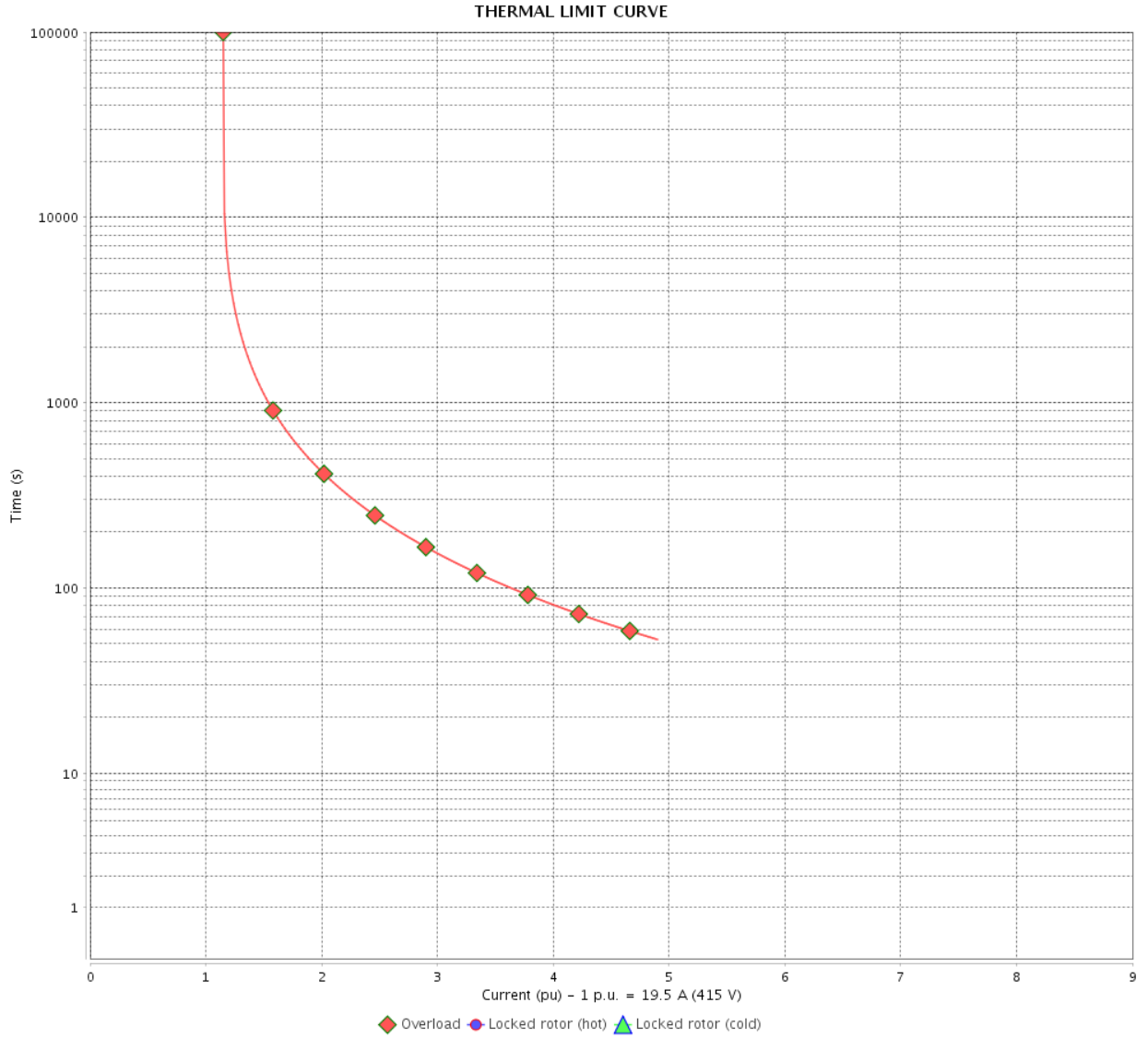
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



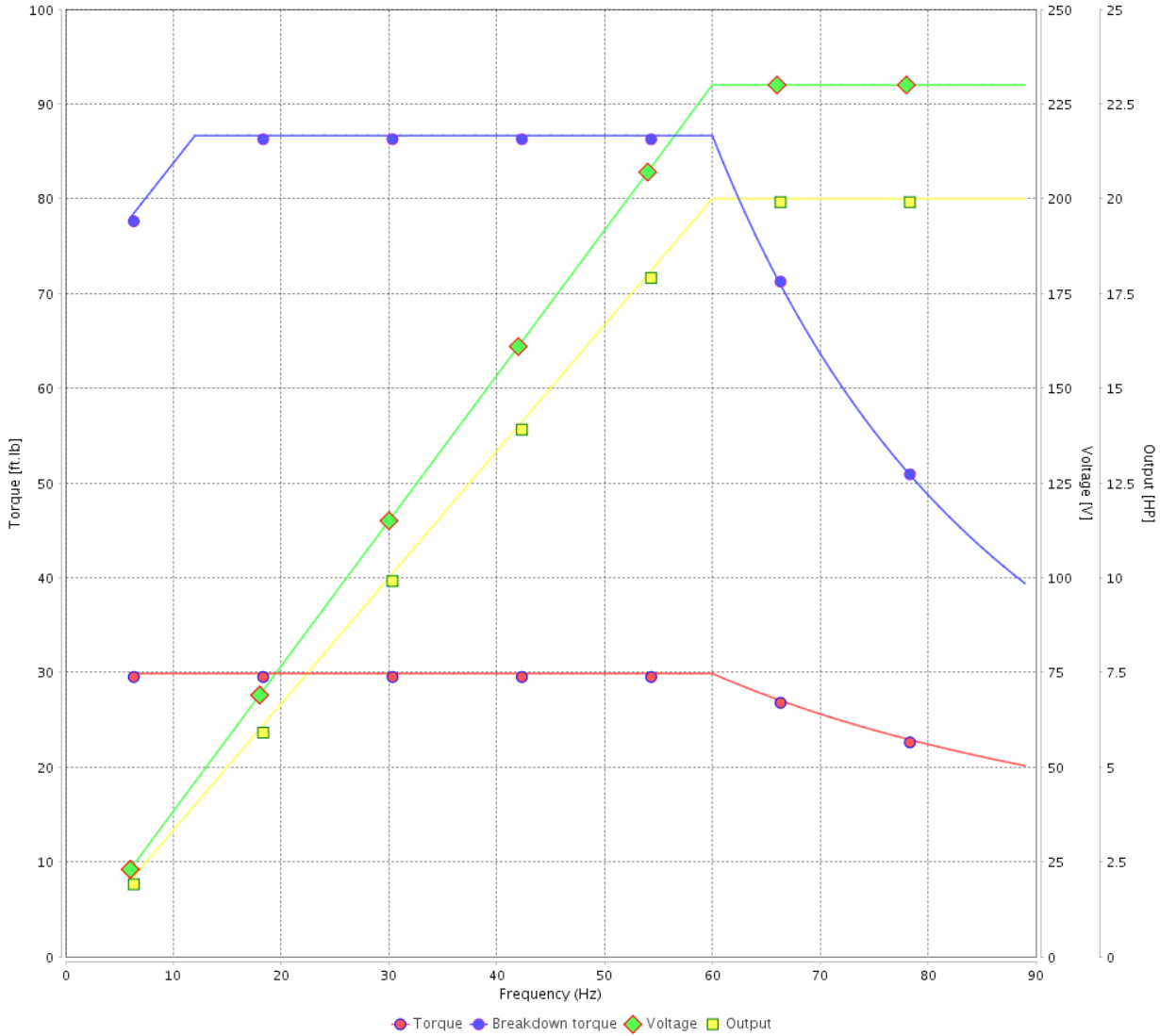
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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 45.4/22.7 A  
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 Breakdown torque : 290 %  
 Rated speed : 3515 rpm

Moment of inertia (J) : 1.22 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

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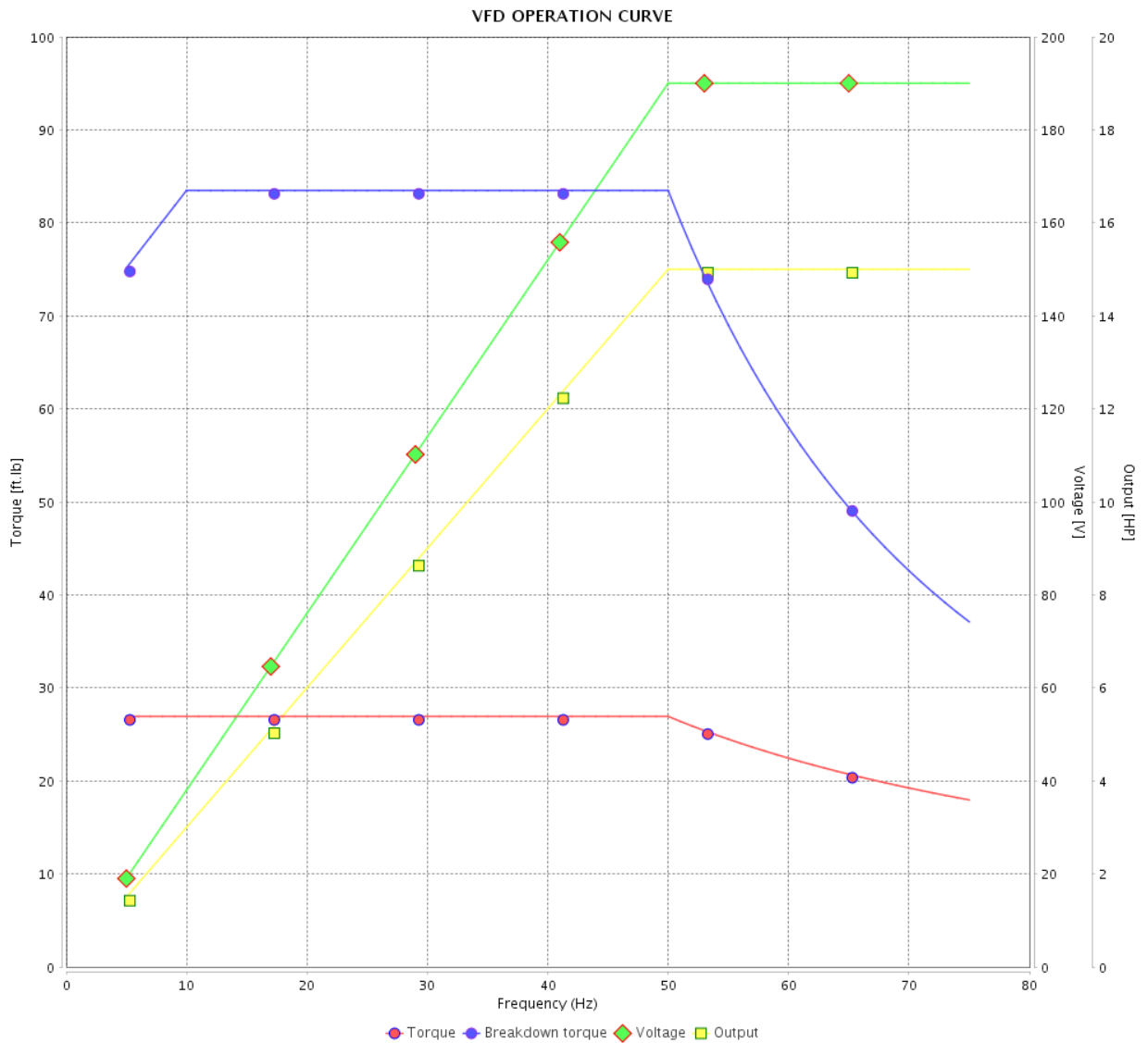


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 Rated speed : 2925 rpm

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

Three Phase Induction Motor - Squirrel Cage



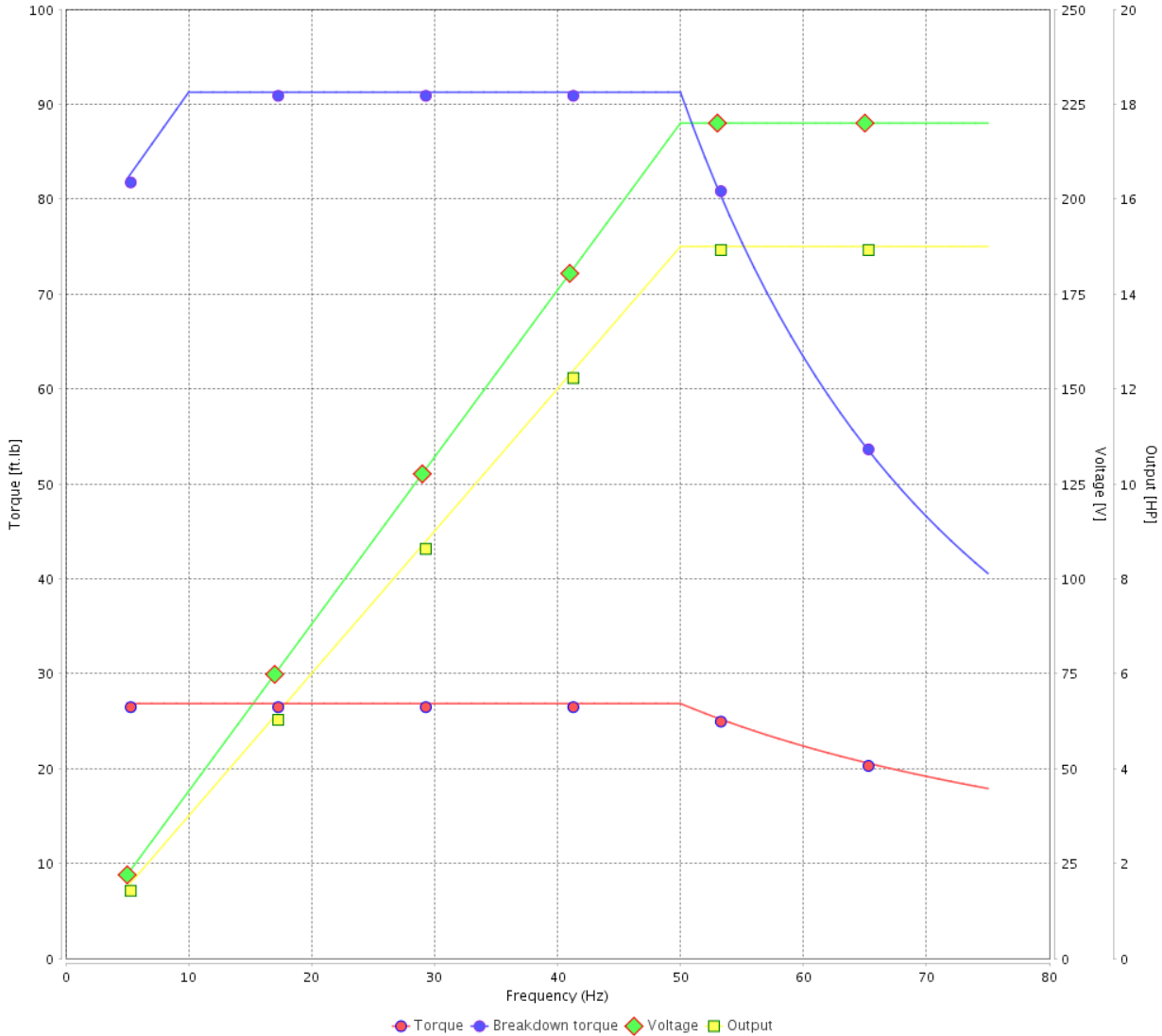
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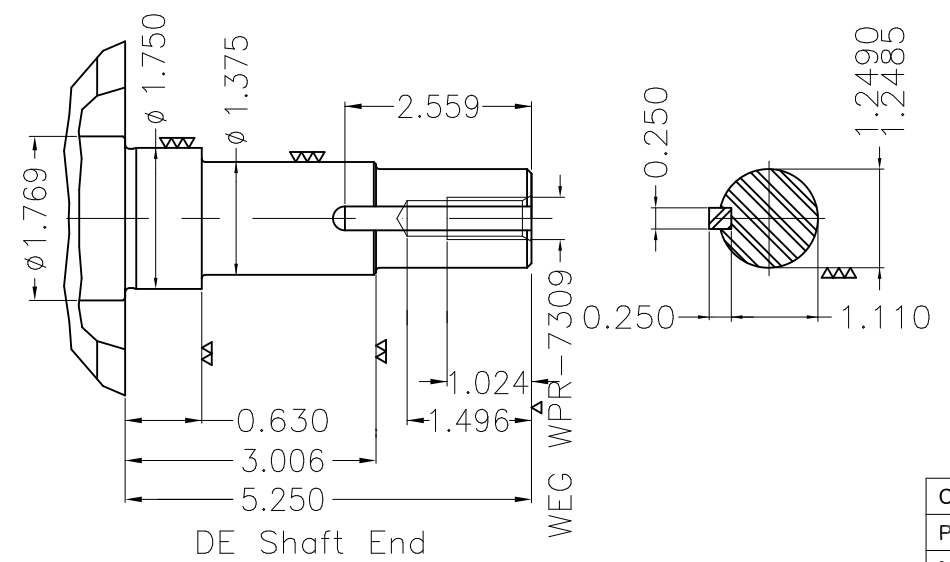
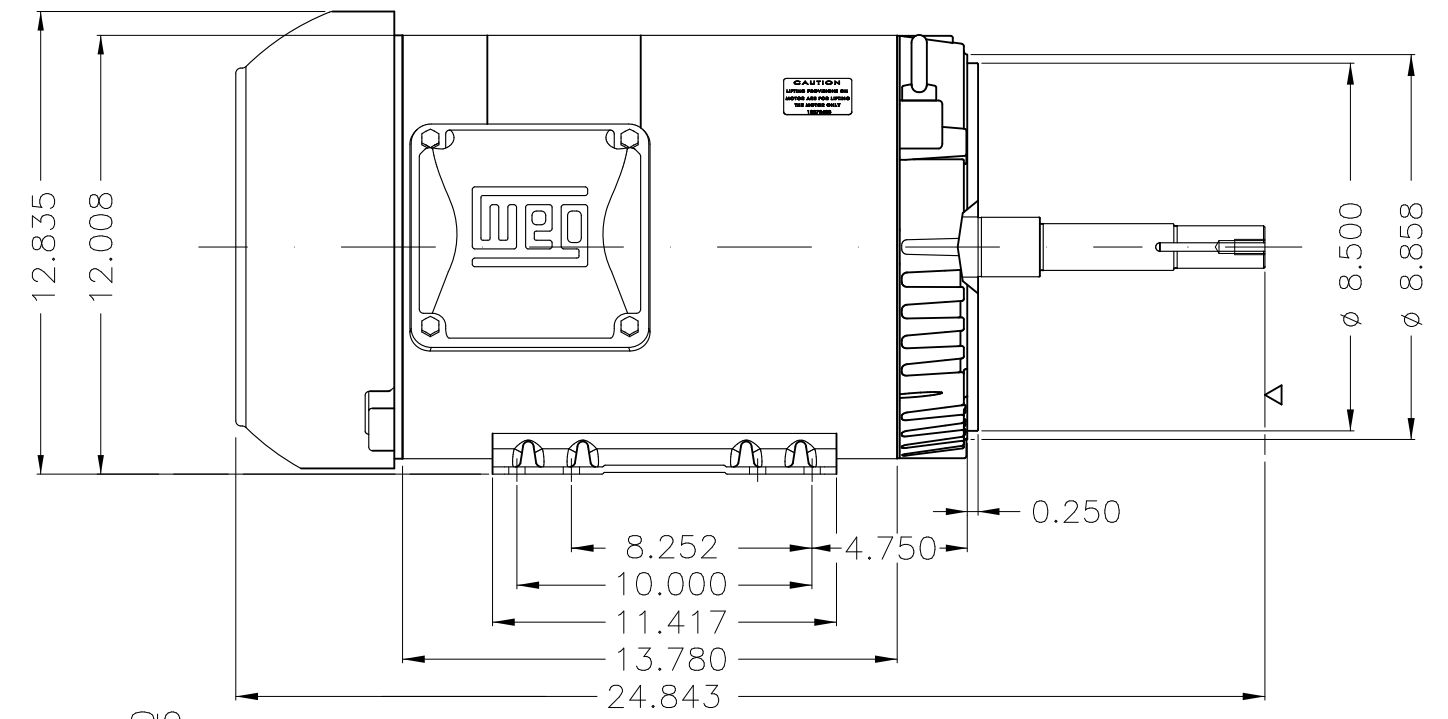
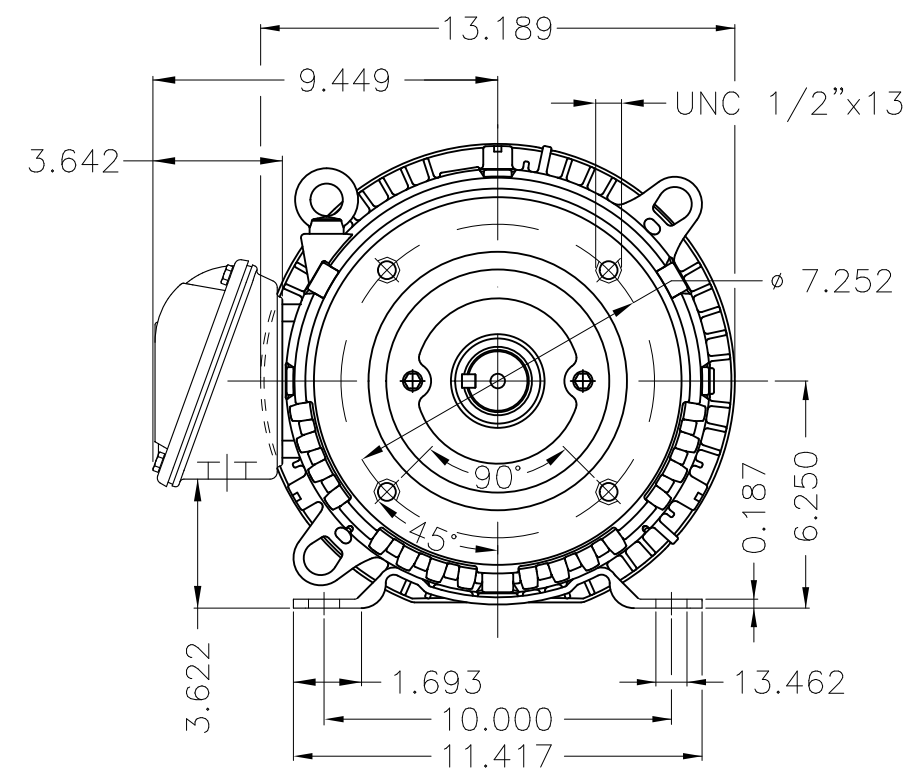
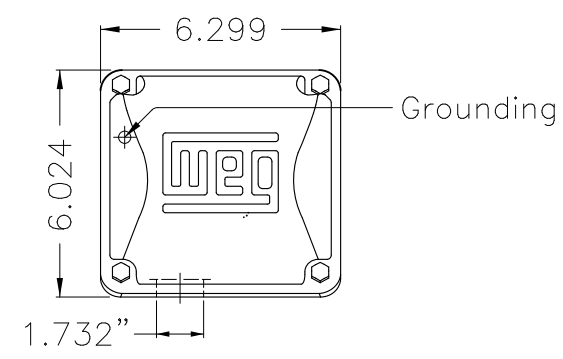
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1 2 3 4 5 6

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	PIRWBUSER	THREE PH. MOTOR ROLLED STEEL CLOSE COUPLED PUMP JM TYPE PSE 1/2"							
CHECKED		FRAME 254/6JM IP55 TEFC							
RELEASED									
REL DT.		WMO	Jaragua do Sul	Product Engineering					

20 HP 02 Poles 60 Hz

PREVIEW  
WDD  
SHEET 1 / 1





**NEMA**  
**Premium**



MADE IN MEXICO

**MAT: 13373887 CC029A**

**W01.TE0IC0X0N**

**MODEL 02036ET3E256JM-S**

**14MAR2022 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)**

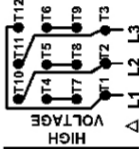
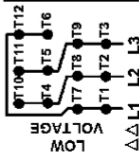
**CT 2:1/VT 1000:1**

PH 3	Hz 60	HP 20
FR 254/6JM		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

△△ 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.

