

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: JM Pump NEMA Premium Efficiency Three-Phase	Product code :	13221592	
		Catalog # :	02018ET3E256JM-SG	
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>	: 257 lb	
Protection degree	: IP55	Moment of inertia (J)	: 2.64 sq.ft.lb	
Design	: B			
Output [HP]	20	15	15	
Poles	4	4	4	
Frequency [Hz]	60	50	50	
Rated voltage [V]	230/460	190/380	220/415	
Rated current [A]	49.4/24.7	44.4/22.2	41.3/21.9	
L. R. Amperes [A]	331/165	329/164	330/175	
LRC [A]	6.7x(Code H)	7.4x(Code J)	8.0x(Code K)	
No load current [A]	22.2/11.1	21.9/10.9	22.5/11.9	
Rated speed [RPM]	1765	1470	1475	
Slip [%]	1.94	2.00	1.67	
Rated torque [ft.lb]	59.5	53.6	53.4	
Locked rotor torque [%]	270	270	310	
Breakdown torque [%]	300	320	360	
Service factor	1.15	1.15	1.15	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	28s (cold) 16s (hot)	0s (cold) 0s (hot)	0s (cold) 0s (hot)	
Noise level <sup>2</sup>	68.0 dB(A)	65.0 dB(A)	65.0 dB(A)	
Efficiency (%)	25%	91.0	91.1	
	50%	91.7	91.1	
	75%	92.4	92.1	
	100%	93.0	91.9	
Power Factor	25%	0.40	0.34	
	50%	0.66	0.58	
	75%	0.77	0.71	
	100%	0.82	0.79	
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	: 793 lb	
Lubrication interval	: 20000 h 20000 h	Max. compression	: 1051 lb	
Lubricant amount	: 13 g 8 g			
Lubricant type	: Mobil Polyrex EM			
Notes USABLE @208V 54.6A SF 1.00 SFA 54.6A				
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

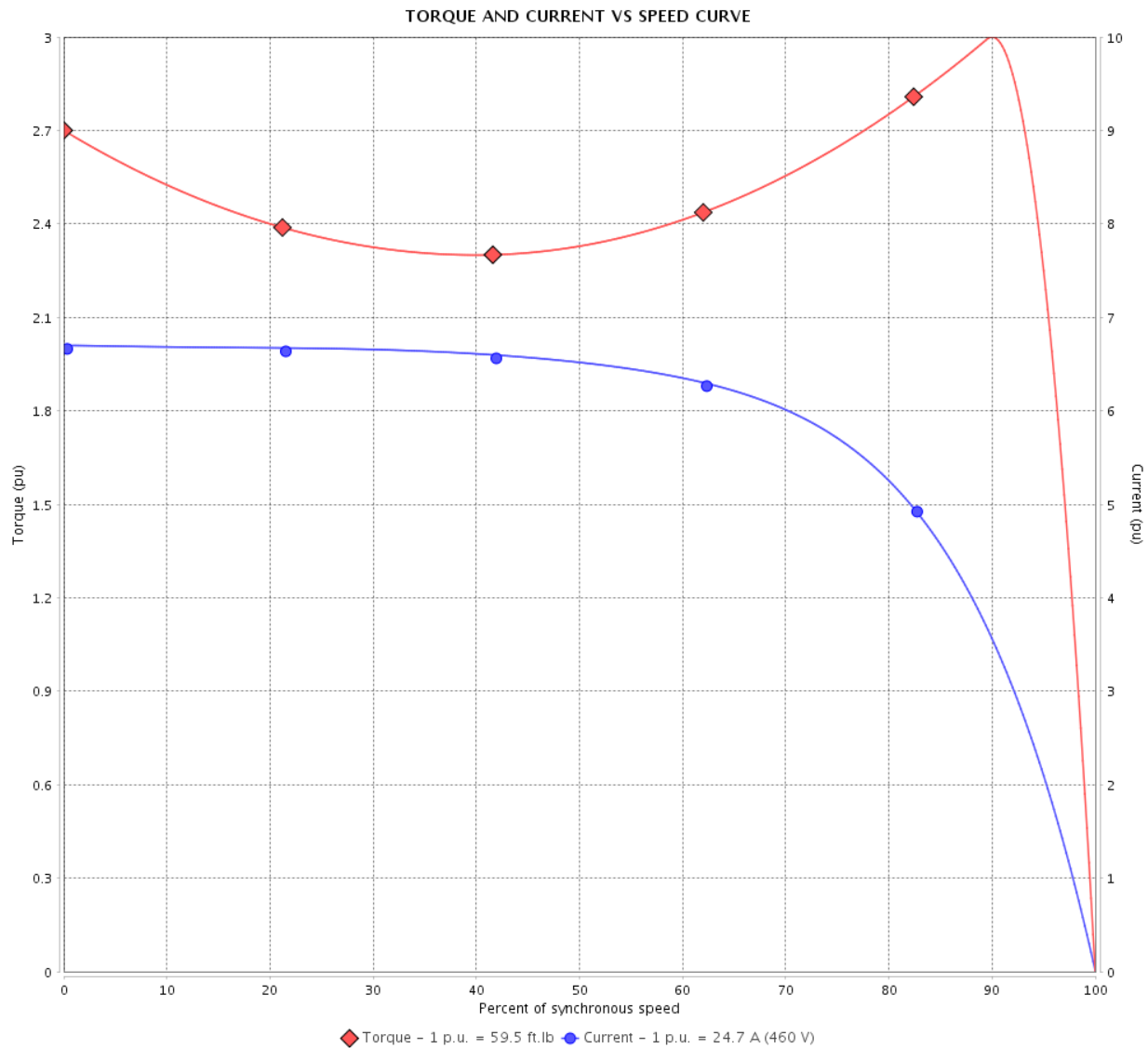


Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13221592

Catalog # : 02018ET3E256JM-SG



Performance : 230/460 V 60 Hz 4P

Rated current	: 49.4/24.7 A	Moment of inertia (J)	: 2.64 sq.ft.lb
LRC	: 6.7	Duty cycle	: Cont.(S1)
Rated torque	: 59.5 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.15
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1765 rpm	Design	: B

Locked rotor time : 28s (cold) 16s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



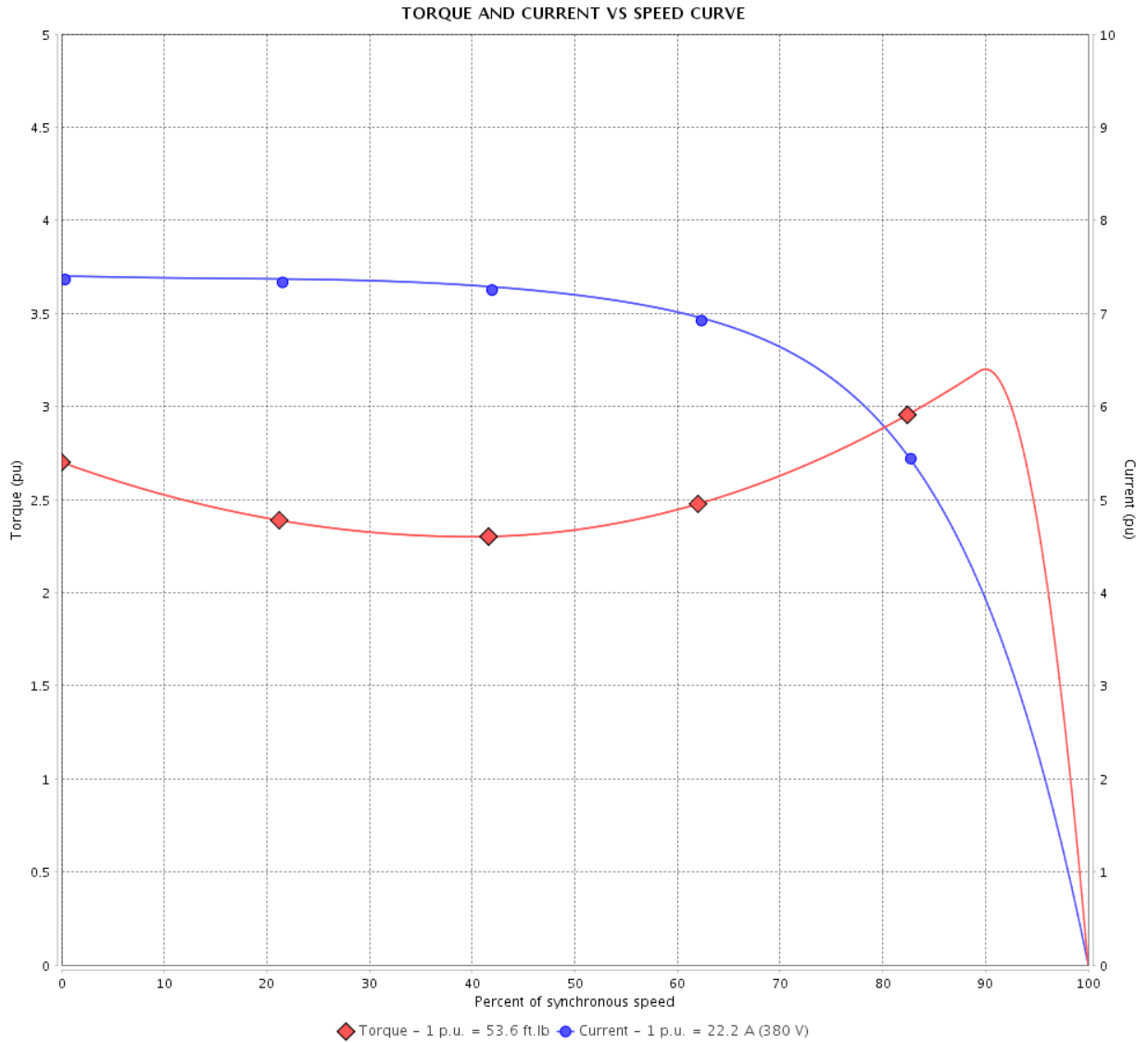
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13221592

Catalog # : 02018ET3E256JM-SG



Performance : 190/380 V 50 Hz 4P

Rated current : 44.4/22.2 A  
 LRC : 7.4  
 Rated torque : 53.6 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 320 %  
 Rated speed : 1470 rpm

Moment of inertia (J) : 2.64 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



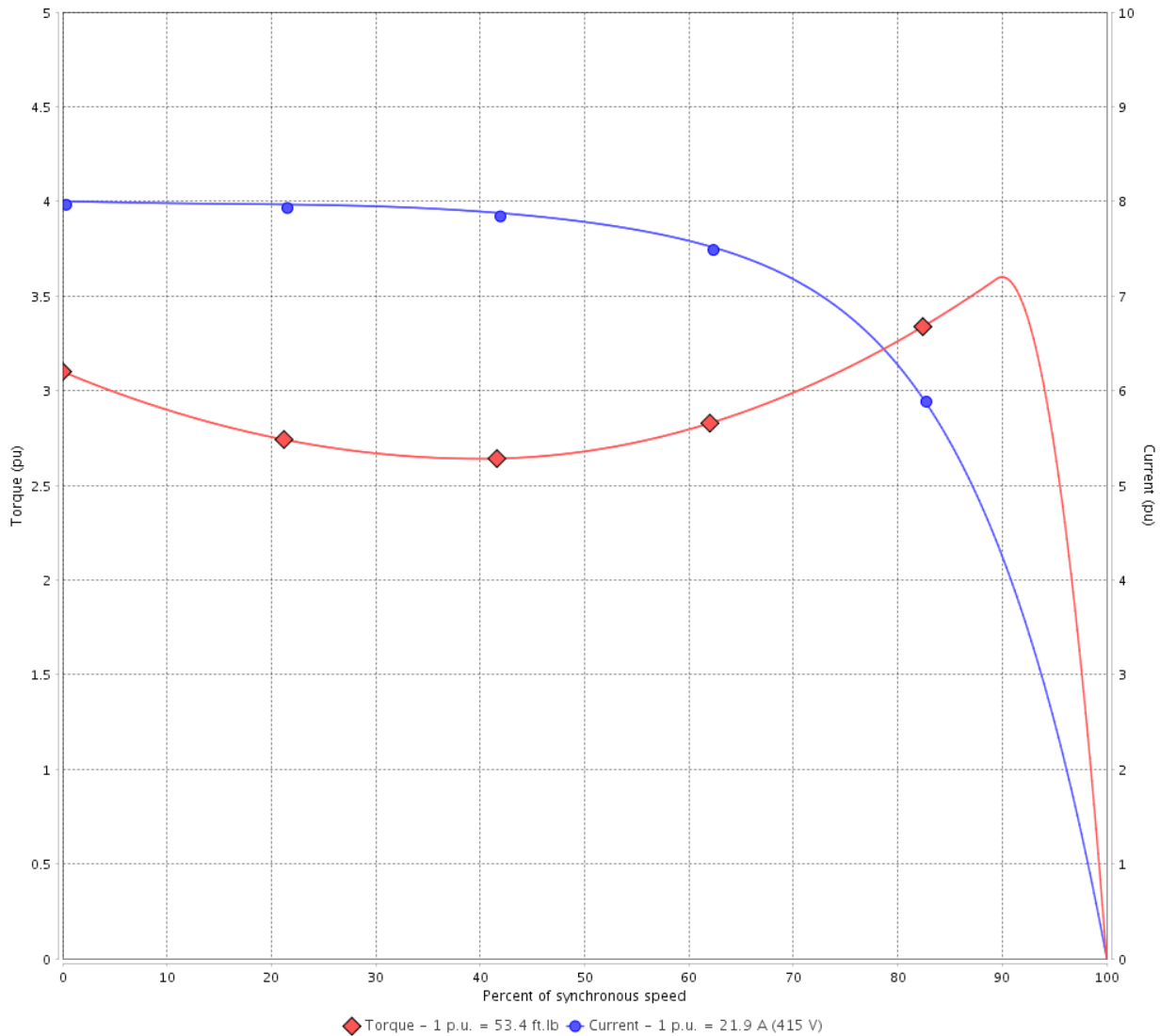
Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13221592

Catalog # : 02018ET3E256JM-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current	: 41.3/21.9 A	Moment of inertia (J)	: 2.64 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 53.4 ft.lb	Insulation class	: F
Locked rotor torque	: 310 %	Service factor	: 1.15
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

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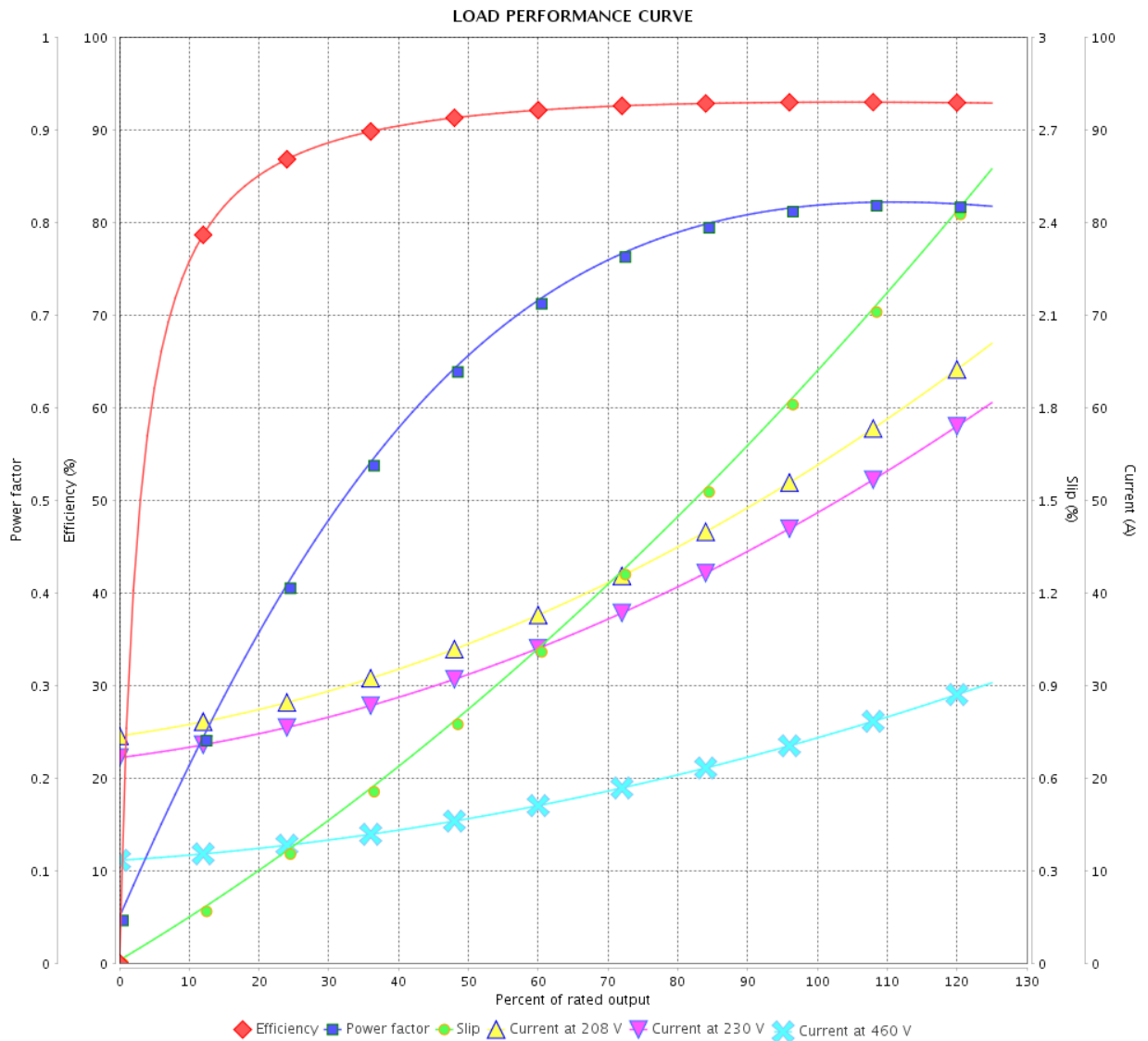


Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13221592

Catalog # : 02018ET3E256JM-SG



Performance : 230/460 V 60 Hz 4P

Rated current : 49.4/24.7 A  
 LRC : 6.7  
 Rated torque : 59.5 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 300 %  
 Rated speed : 1765 rpm

Moment of inertia (J) : 2.64 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



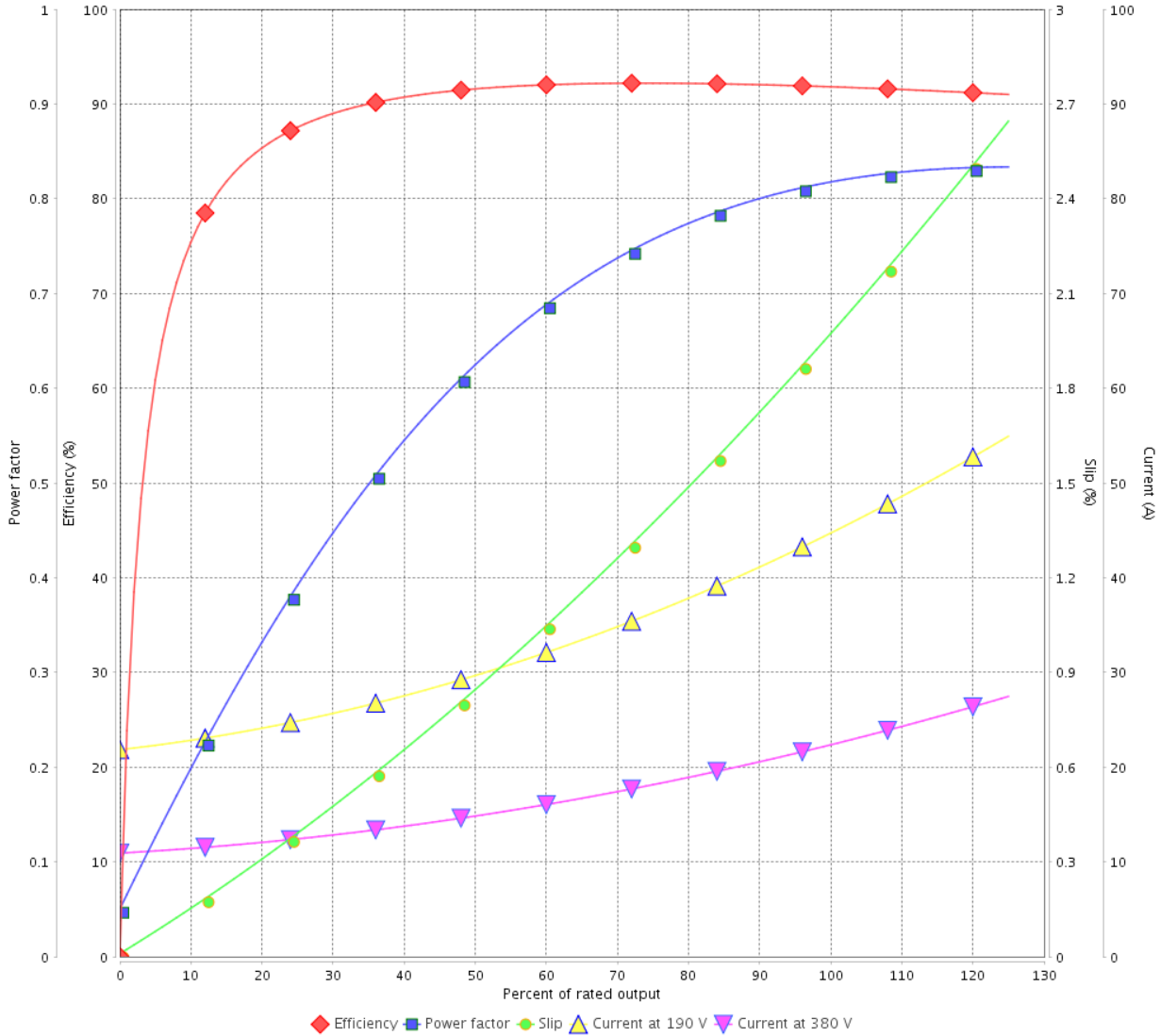
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Product code : 13221592

Catalog # : 02018ET3E256JM-SG

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

Rated current : 44.4/22.2 A  
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 Locked rotor torque : 270 %  
 Breakdown torque : 320 %  
 Rated speed : 1470 rpm

Moment of inertia (J) : 2.64 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
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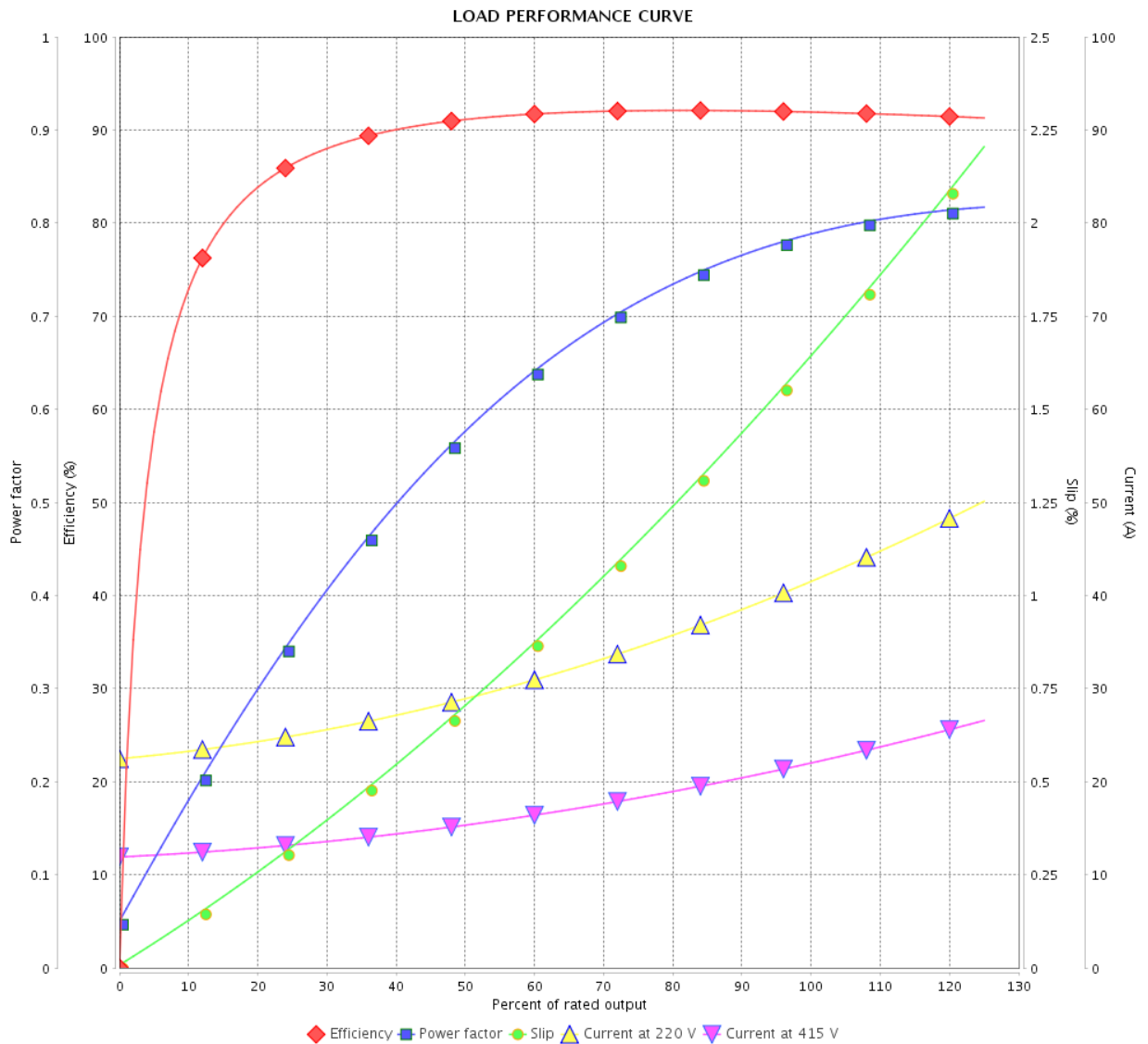


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Product code : 13221592

Catalog # : 02018ET3E256JM-SG



Performance : 220/415 V 50 Hz 4P

Rated current : 41.3/21.9 A  
 LRC : 8.0  
 Rated torque : 53.4 ft.lb  
 Locked rotor torque : 310 %  
 Breakdown torque : 360 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 2.64 sq.ft.lb  
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# THERMAL LIMIT CURVE



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Performance : 230/460 V 60 Hz 4P

Rated current : 49.4/24.7 A  
LRC : 6.7  
Rated torque : 59.5 ft.lb  
Locked rotor torque : 270 %  
Breakdown torque : 300 %  
Rated speed : 1765 rpm

Moment of inertia (J) : 2.64 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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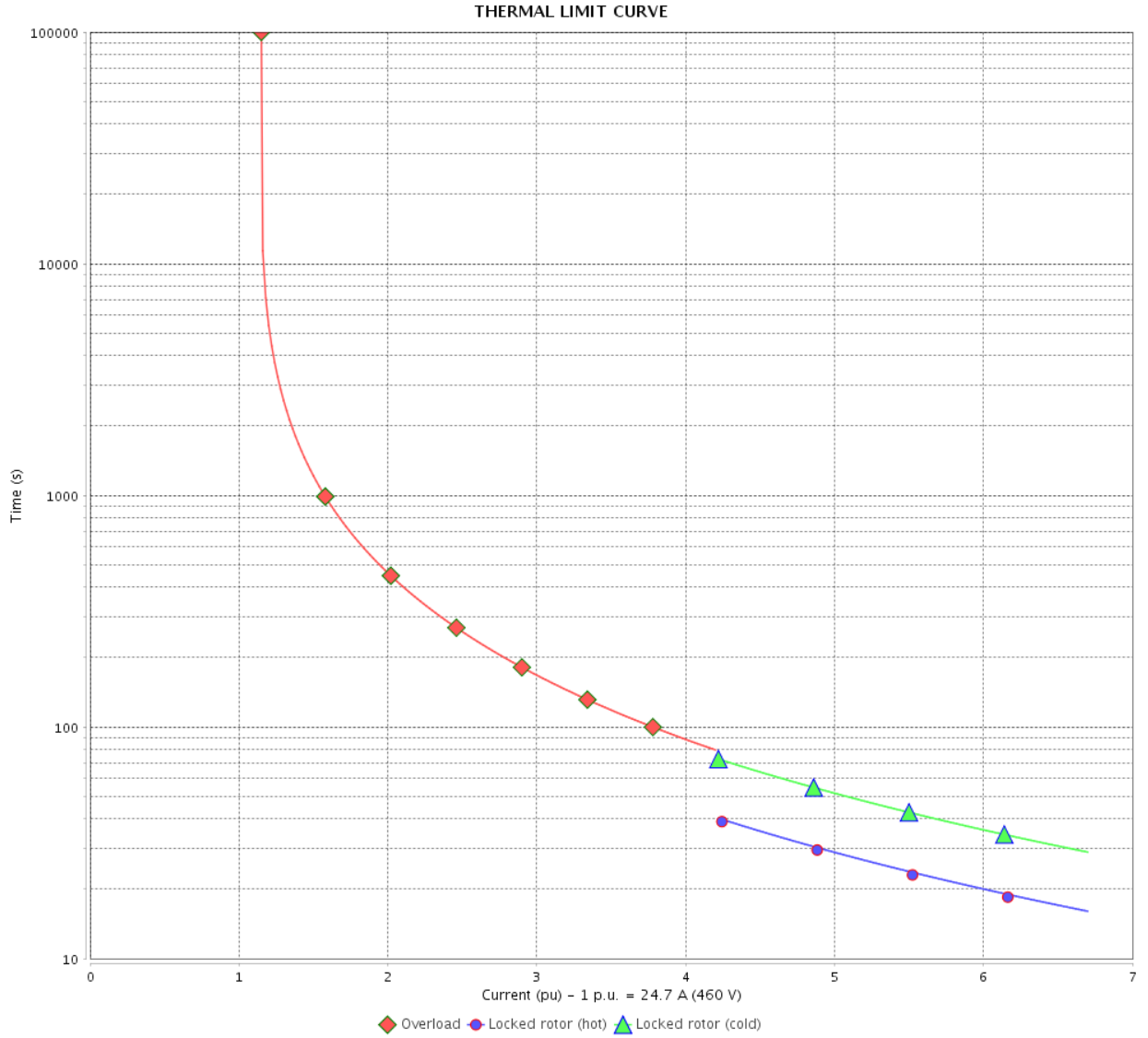


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Three Phase Induction Motor - Squirrel Cage



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



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Breakdown torque : 320 %  
Rated speed : 1470 rpm

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Cooling constant

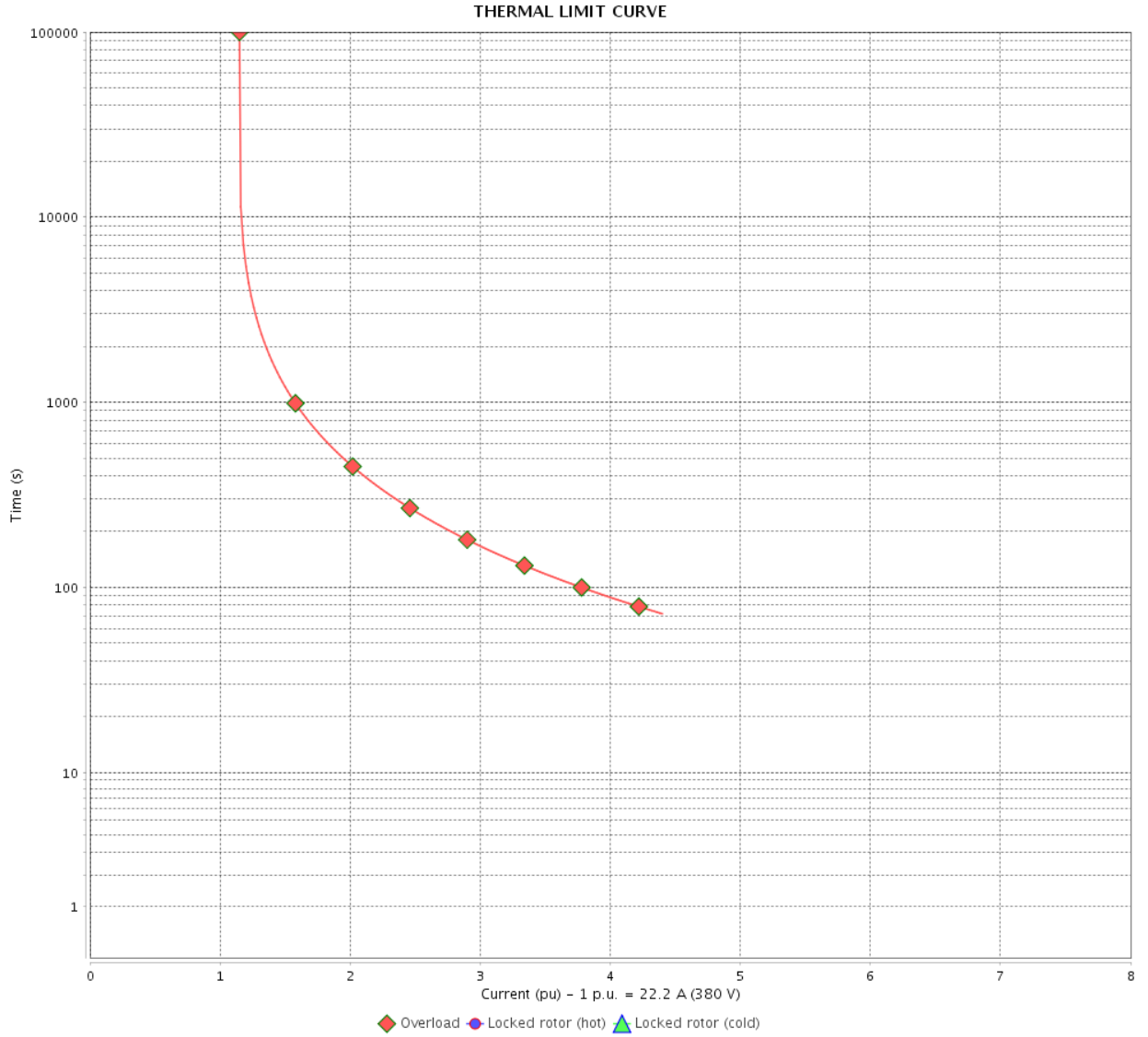
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Breakdown torque : 360 %  
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Heating constant

Cooling constant

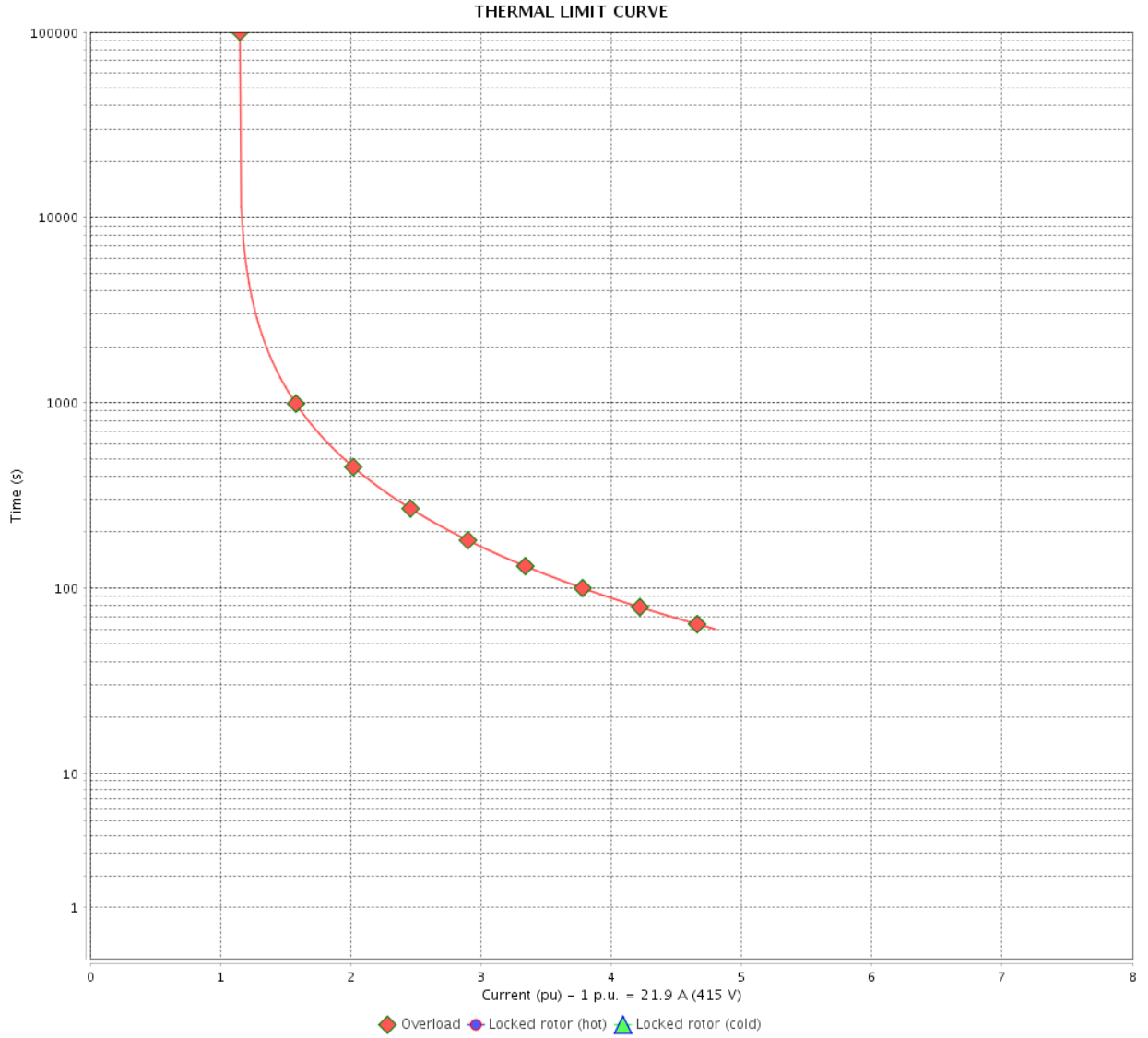
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# VFD OPERATION CURVE

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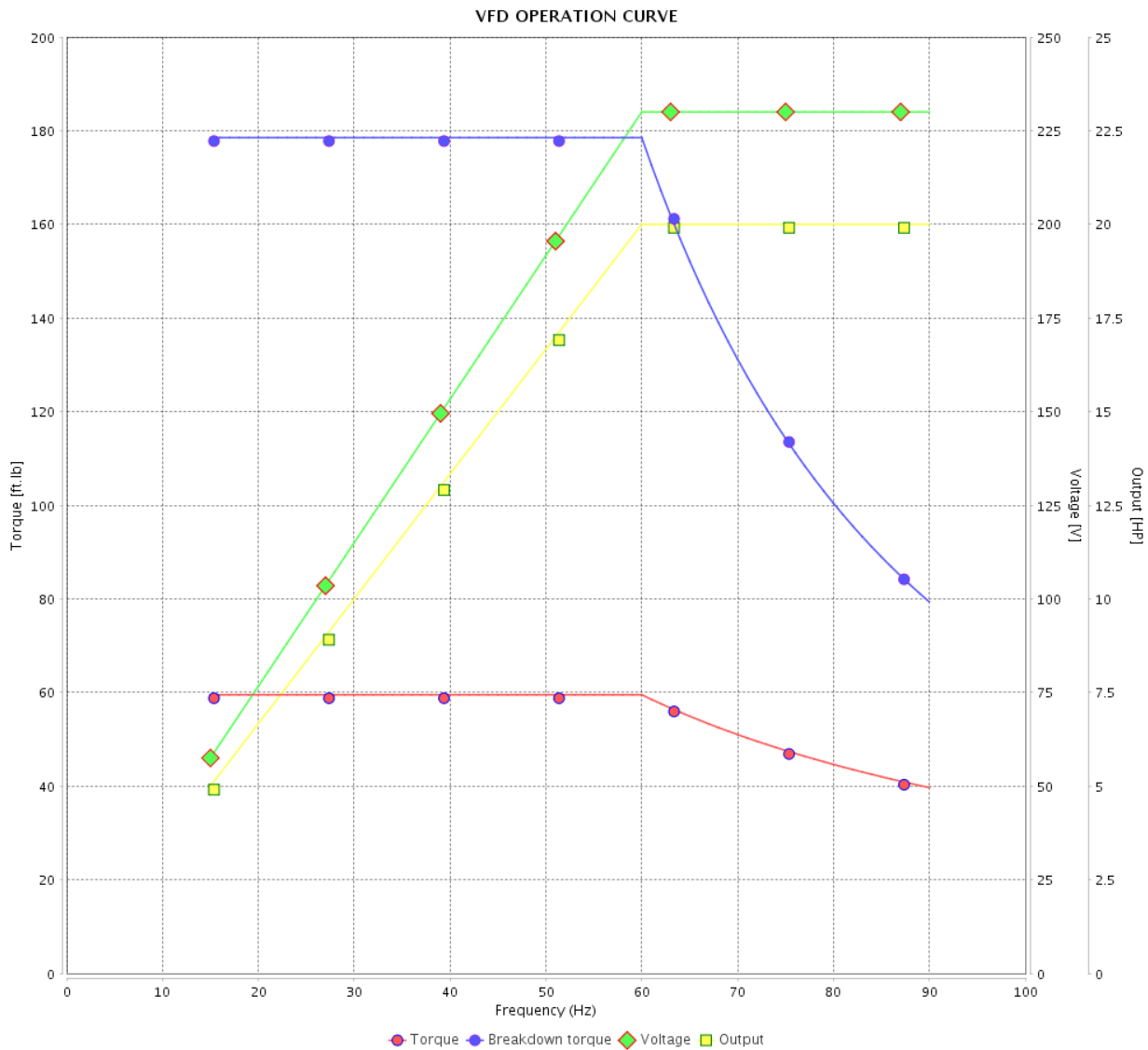


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Performance : 230/460 V 60 Hz 4P

Rated current : 49.4/24.7 A  
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 Duty cycle : Cont.(S1)  
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 Service factor : 1.15  
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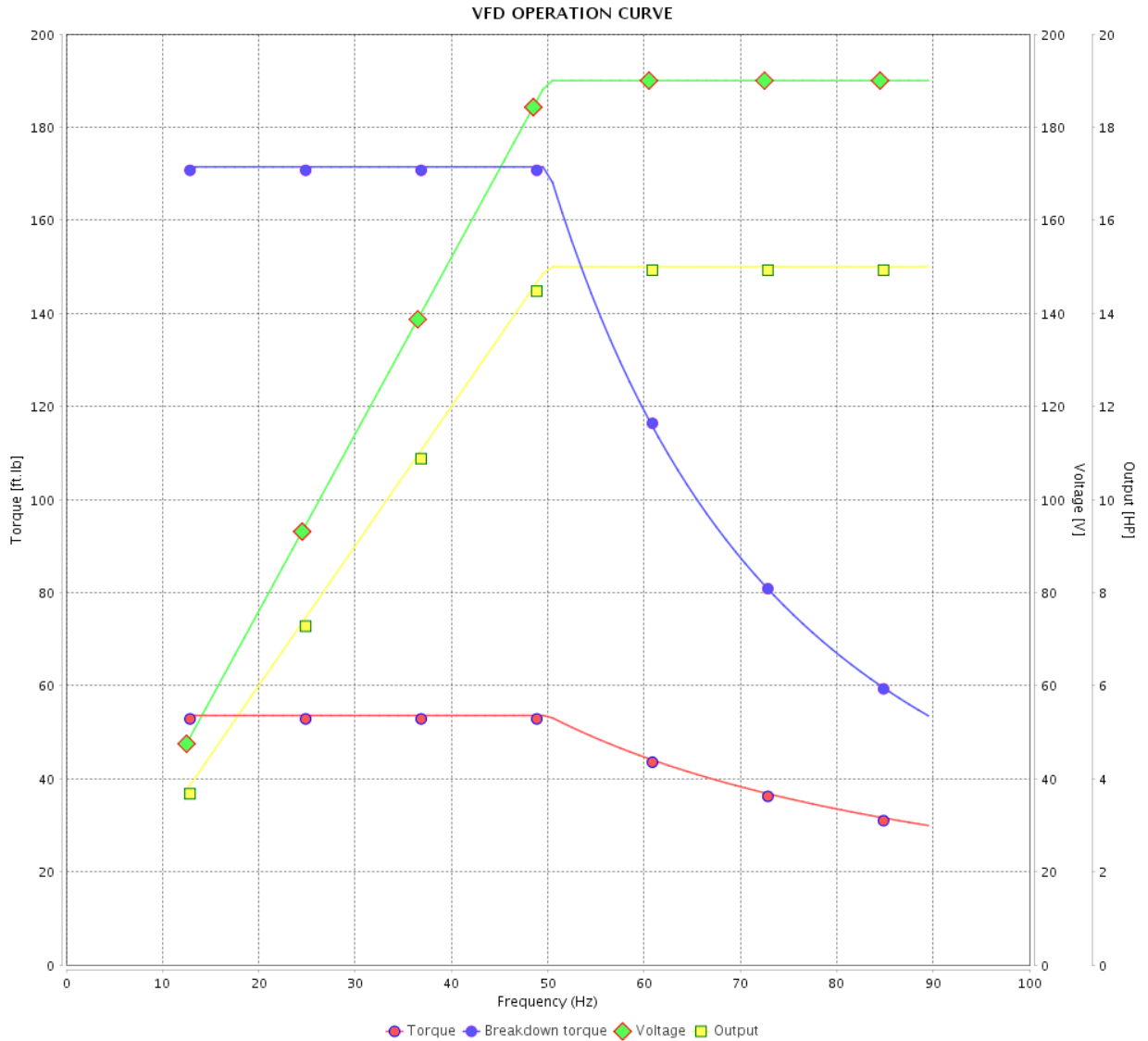


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Three Phase Induction Motor - Squirrel Cage



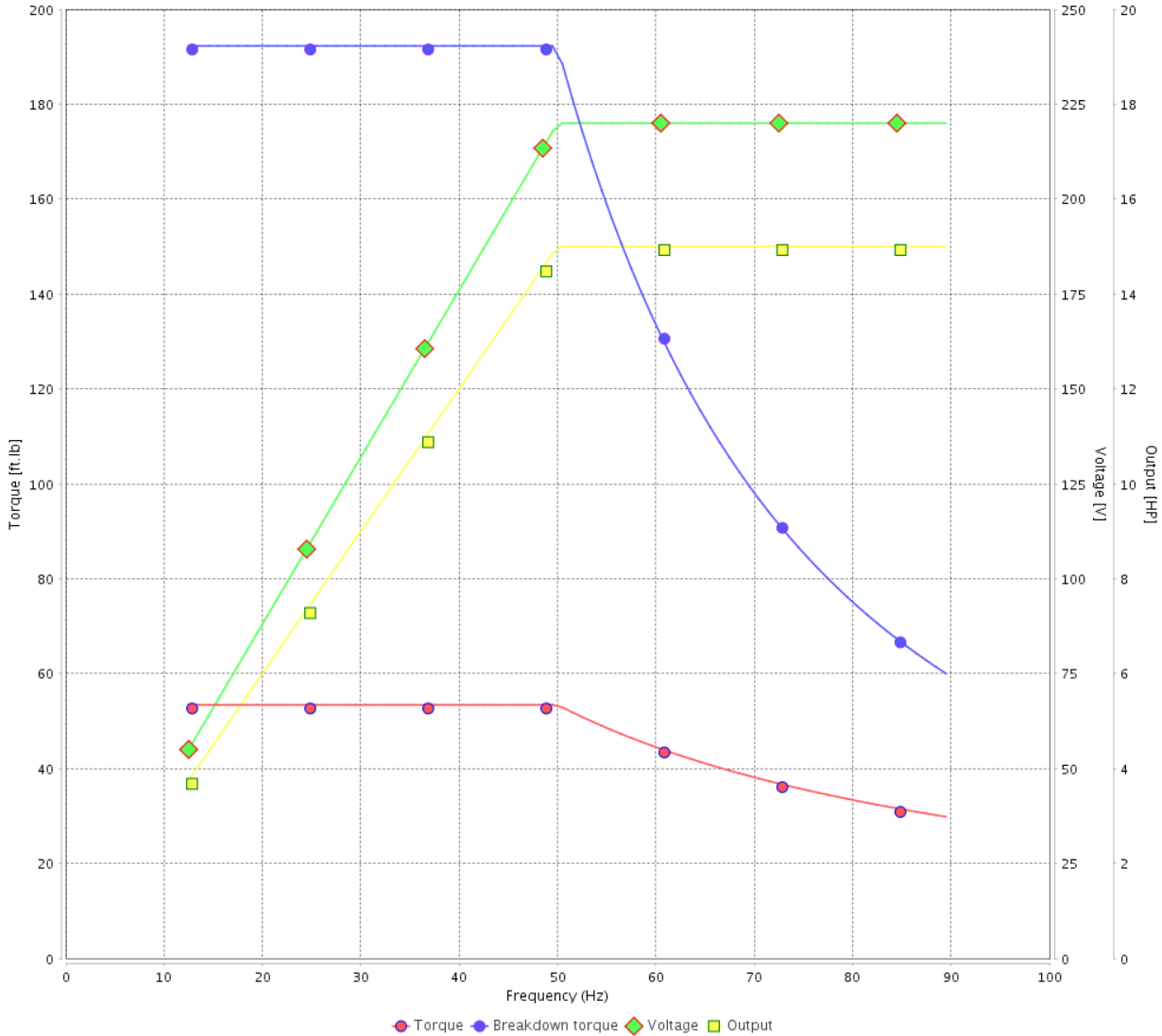
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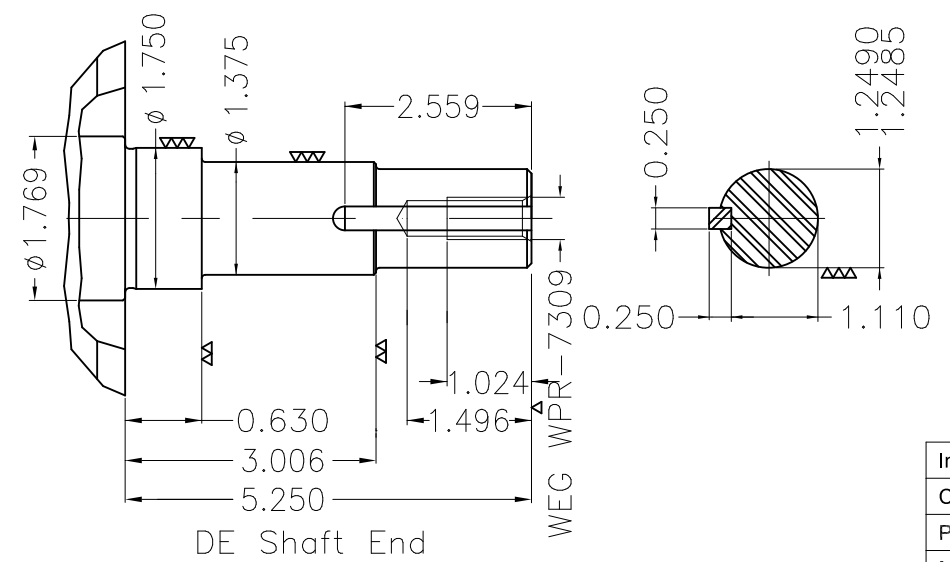
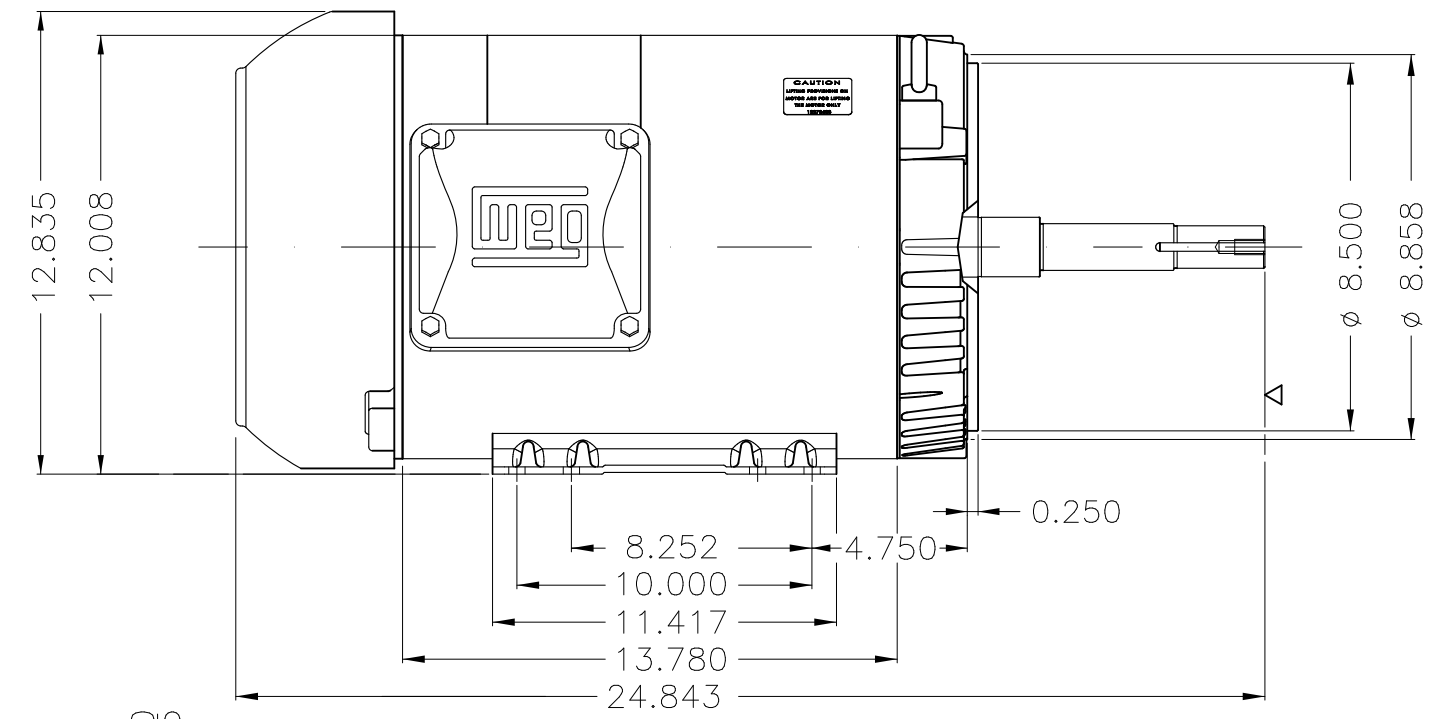
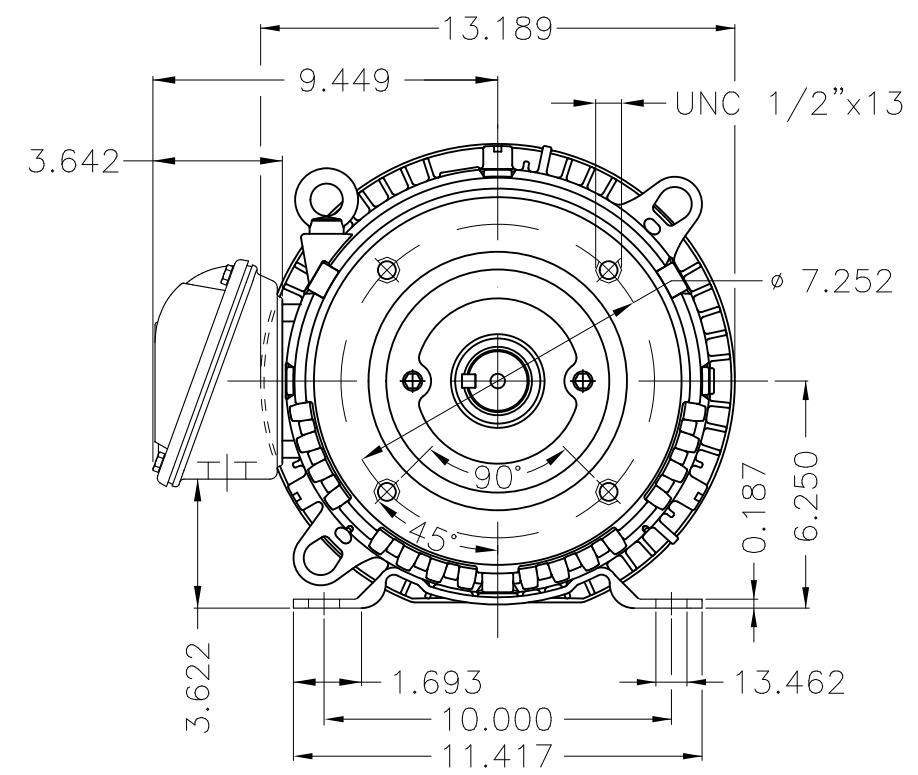
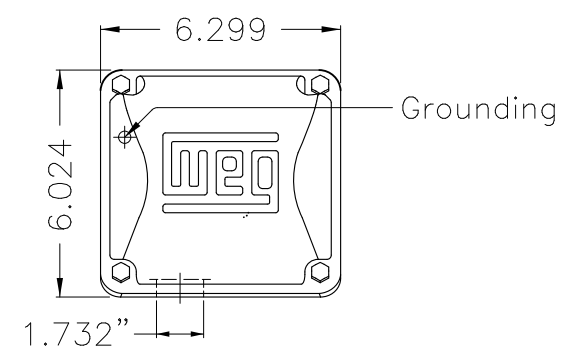
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1 2 3 4 5 6

A  
B  
C  
D  
E



EUNC 1/2"-13 WEG WPR-7309

Internal AEGIS ground ring on the DE  
 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 JN TYPE PSE 1/2"					
CHECKED		FRAME 254/6JM IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	WDD			

20 HP 04 Poles 60 Hz

A SHEET 1 / 1



Dimensions in inches XME A3



**NEMA**  
**Premium**



3PT9



Energy Verified

MADE IN MEXICO

**MAT: 13221592 CC029A**

**W01.TE0IC0X0N**

**MODEL 02018ET3E256JM-SG**

**08OCT2021 S/N:**

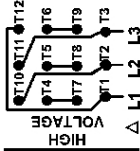
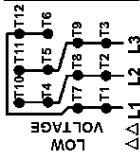


PH 3	Hz 60	HP 20
FR 254/6JM		KW 15
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 49.4/24.7
INS CL F AT 80K	IP55	SFA 56.8/28.4
AMB 40°C	DES B	SF 1.15
ENCL TEFC	CODE H	PF 0.82
USABLE @ 208V 54.8A		RPM 1765
SF1.00		NEMA NOM. EFF 93.0%

**ALTERNATE RATING: 15HP 50Hz 190-220/380-415V SF1.15**  
**44.4-40.7/22.2-21.6A 1470RPM EFF 91.8% (IE3) IEC 60034-1**

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 4:1 CT

DE 6309-Z-C3	ODE 6208-Z-C3	MOBIL POLYREX EM	20000h
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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.

