

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :		
Product line	: JM Pump NEMA Premium Efficiency Three-Phase	
Product code :	13173712	
Catalog # :	00218OT3E145JM-SG	
Frame	: 143/5JM	
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>	: 41.6 lb	
Moment of inertia (J)	: 0.1168 sq.ft.lb	
Output [HP]	2	
Poles	4	
Frequency [Hz]	60	
Rated voltage [V]	230/460	
Rated current [A]	5.38/2.69	
L. R. Amperes [A]	41.4/20.7	
LRC [A]	7.7x(Code K)	
No load current [A]	2.75/1.38	
Rated speed [RPM]	1740	
Slip [%]	3.33	
Rated torque [ft.lb]	6.04	
Locked rotor torque [%]	260	
Breakdown torque [%]	320	
Service factor	1.00	
Temperature rise	80 K	
Locked rotor time	30s (cold) 17s (hot)	
Noise level <sup>2</sup>	52.0 dB(A)	
Efficiency (%)	25%	85.2
	50%	85.5
	75%	86.5
	100%	86.5
Power Factor	25%	0.36
	50%	0.61
	75%	0.74
	100%	0.81
Bearing type	: <u>Drive end</u> 6206 ZZ <u>Non drive end</u> 6203 ZZ	
Sealing	: Without Without	
	: Bearing Seal Bearing Seal	
Lubrication interval	: - -	
Lubricant amount	: - -	
Lubricant type	: Mobil Polyrex EM	
Foundation loads	Max. traction : 147 lb	
	Max. compression : 188 lb	
Notes USABLE @208V 5.95A SF 1.00 SFA 5.95A		
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 by	Performed	
Checked by	Checked	
Date	Date	
14/04/2022		
Page	Revision	
1 / 16		

# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



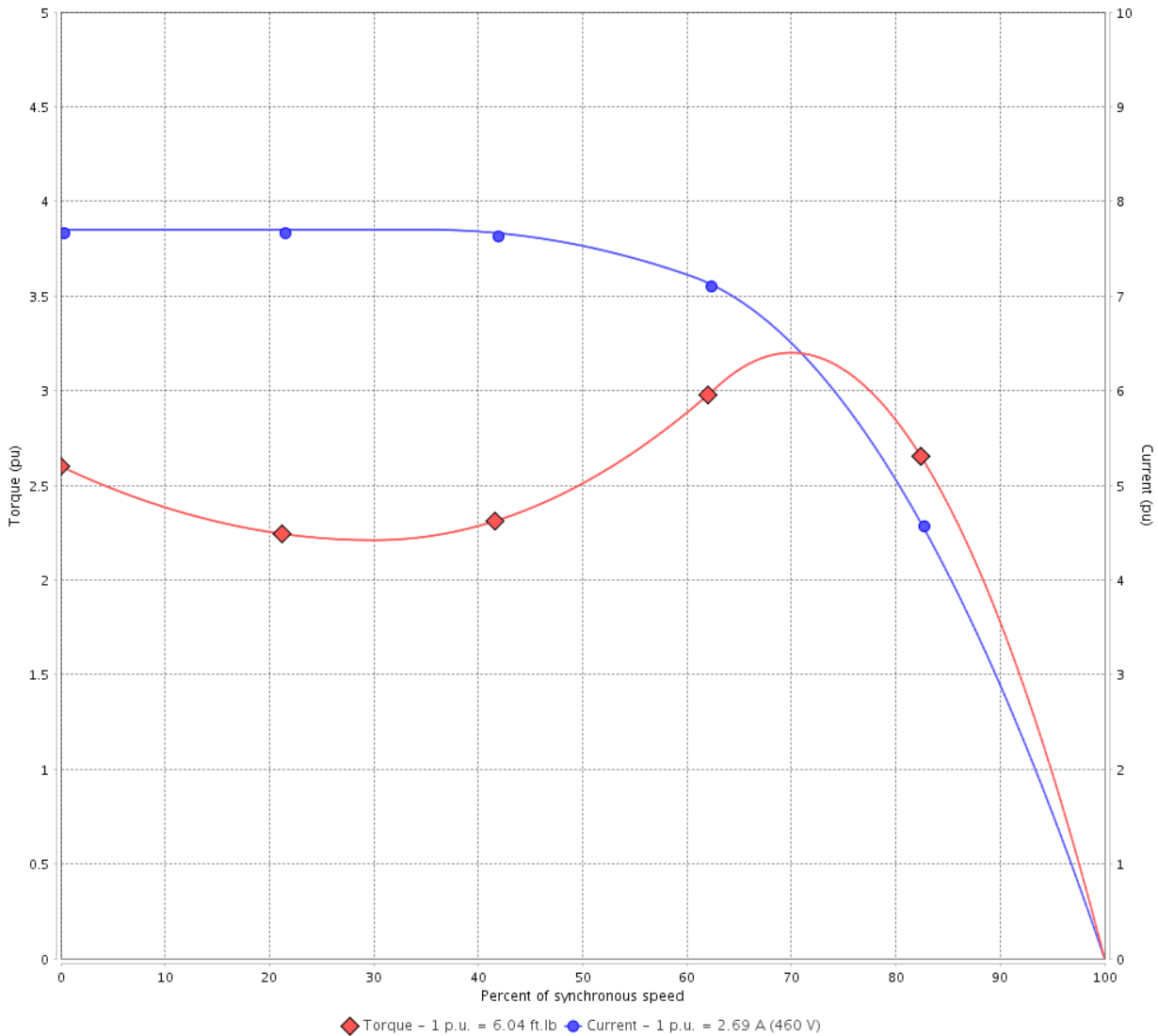
Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A  
LRC : 7.7  
Rated torque : 6.04 ft.lb  
Locked rotor torque : 260 %  
Breakdown torque : 320 %  
Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor :  
Temperature rise : 80 K  
Design : B

Locked rotor time : 30s (cold) 17s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 16	Revision
Checked by				
Date	14/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



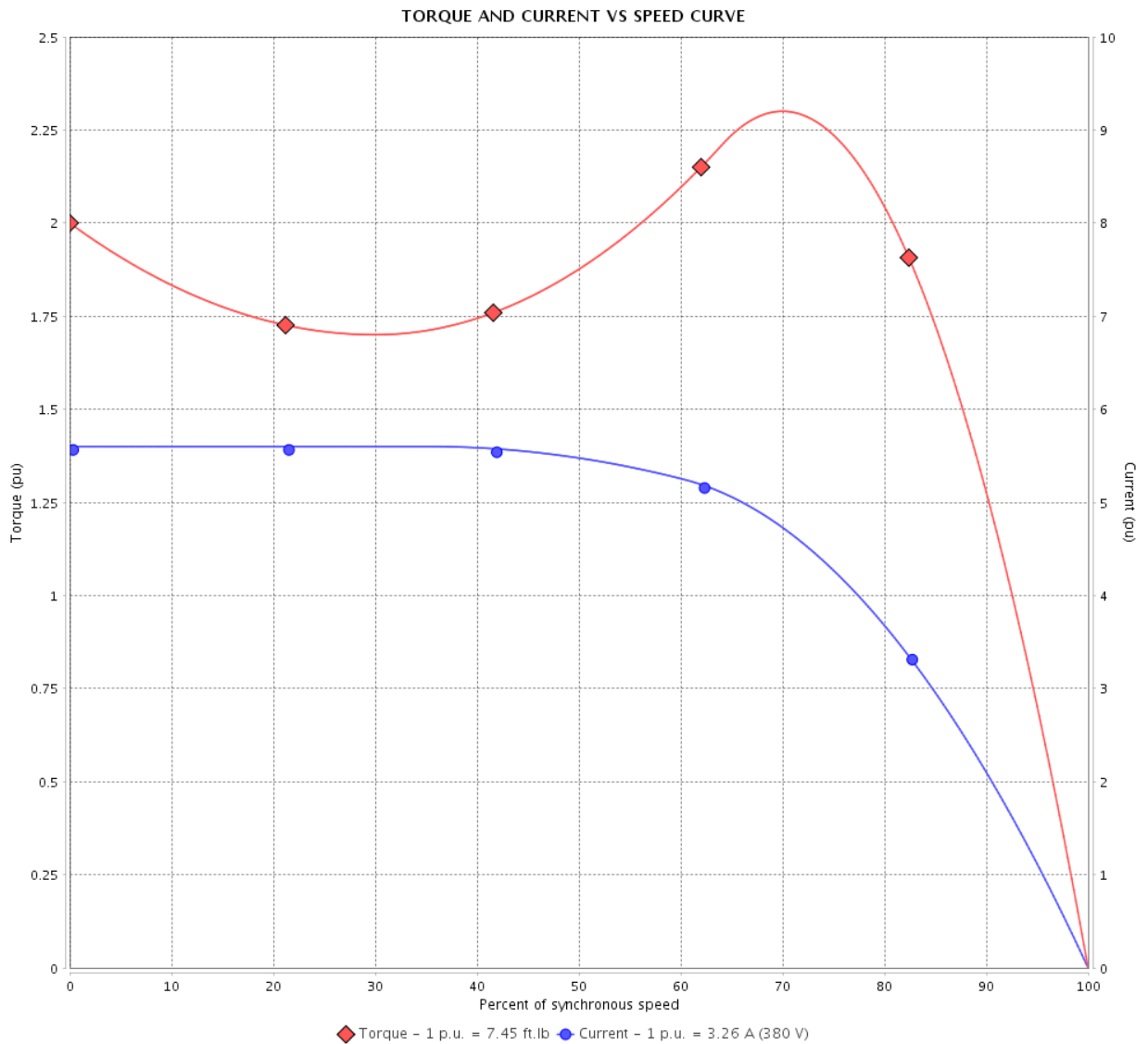
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13173712

Catalog # : 002180T3E145JM-SG



Performance : 190/380 V 50 Hz 4P

Rated current : 6.52/3.26 A  
 LRC : 5.6  
 Rated torque : 7.45 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 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		Revision
Checked by		3 / 16		
Date		14/04/2022		

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



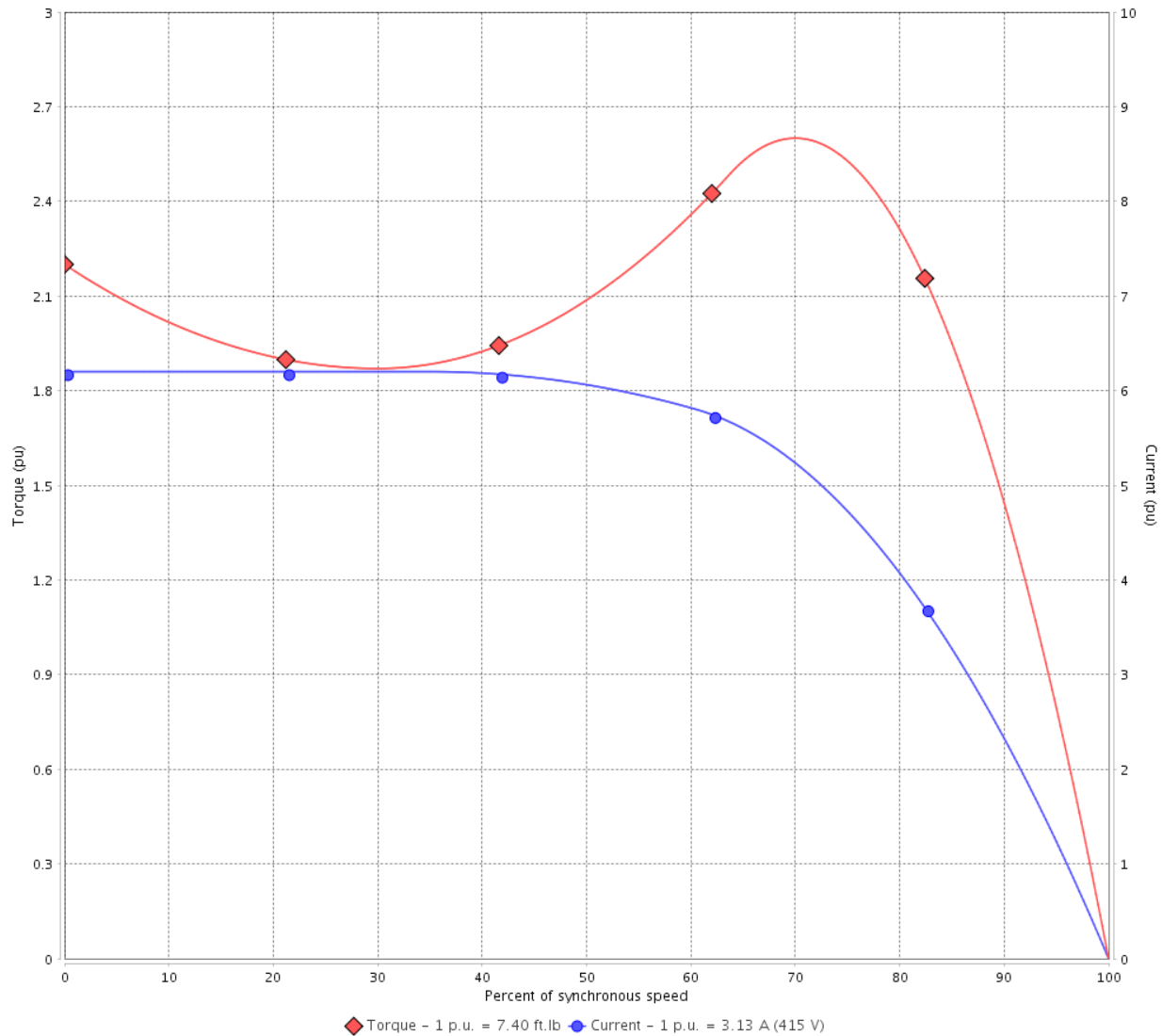
Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 4P

Rated current	: 5.90/3.13 A	Moment of inertia (J)	: 0.1168 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 7.40 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1420 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 16	Revision
Checked by				
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

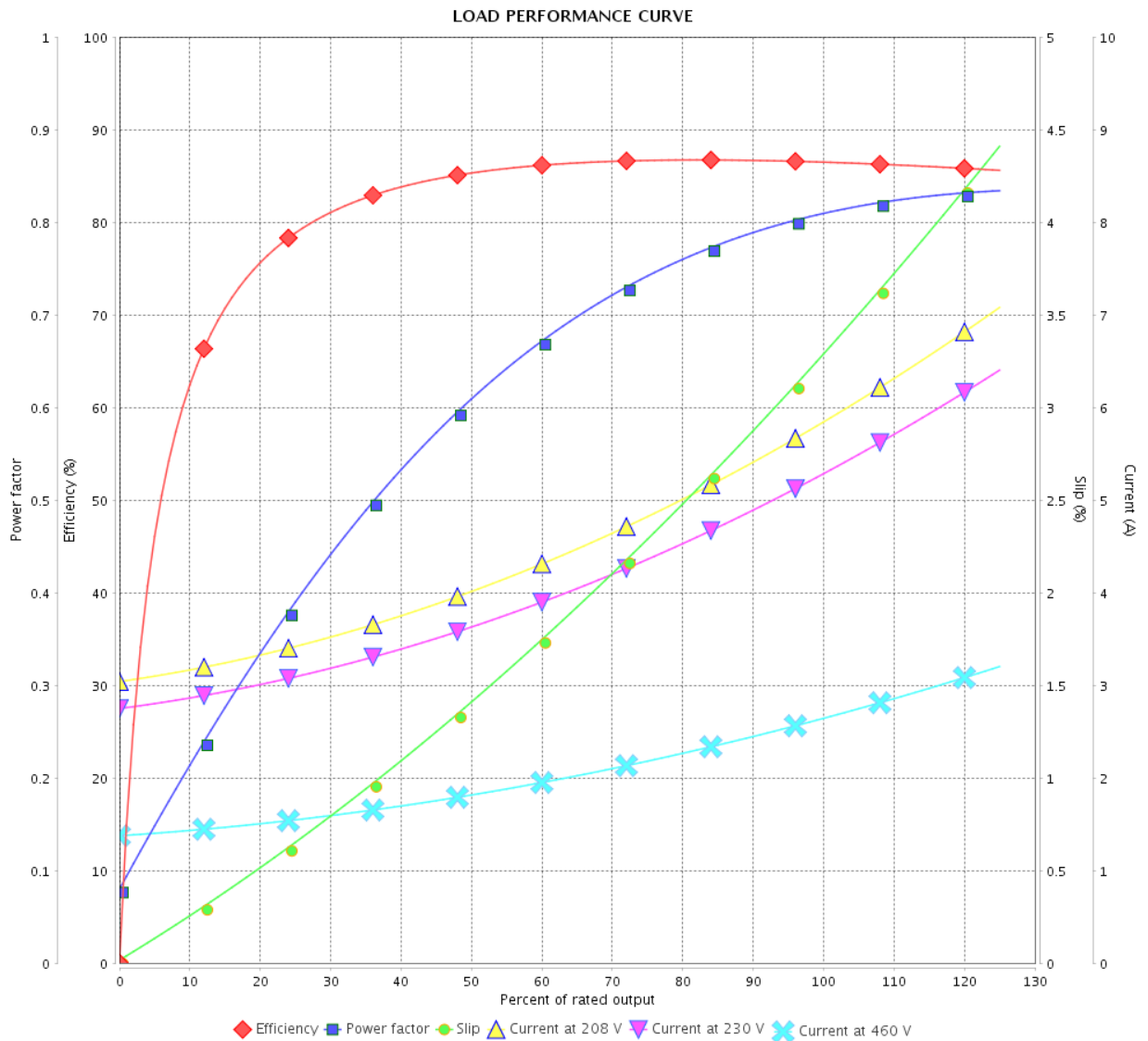


Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG



Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A  
LRC : 7.7  
Rated torque : 6.04 ft.lb  
Locked rotor torque : 260 %  
Breakdown torque : 320 %  
Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor :  
Temperature rise : 80 K  
Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			5 / 16	
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



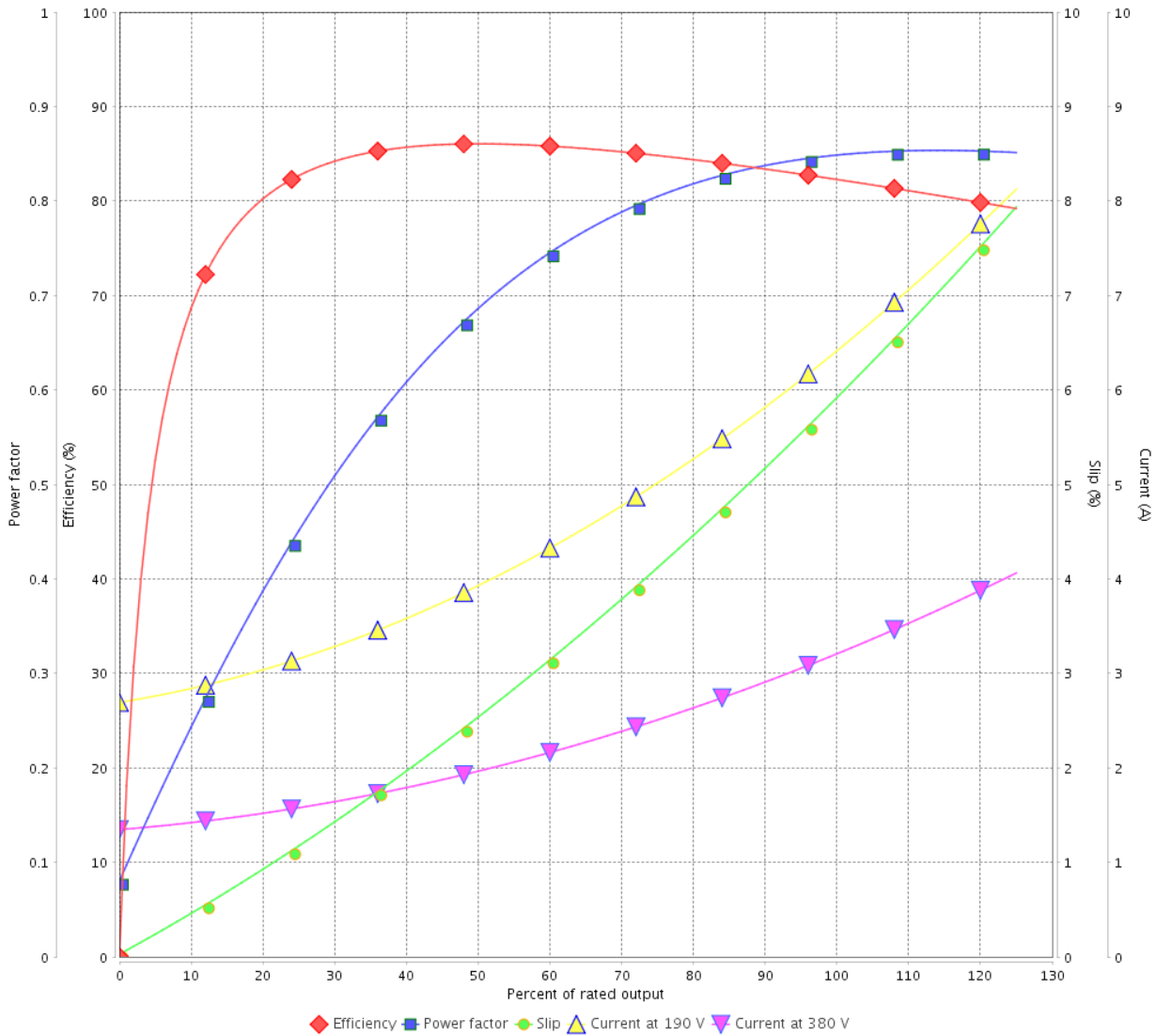
Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13173712

Catalog # : 002180T3E145JM-SG

LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 4P

Rated current : 6.52/3.26 A  
LRC : 5.6  
Rated torque : 7.45 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 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	Revision
Checked by			6 / 16	
Date	14/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

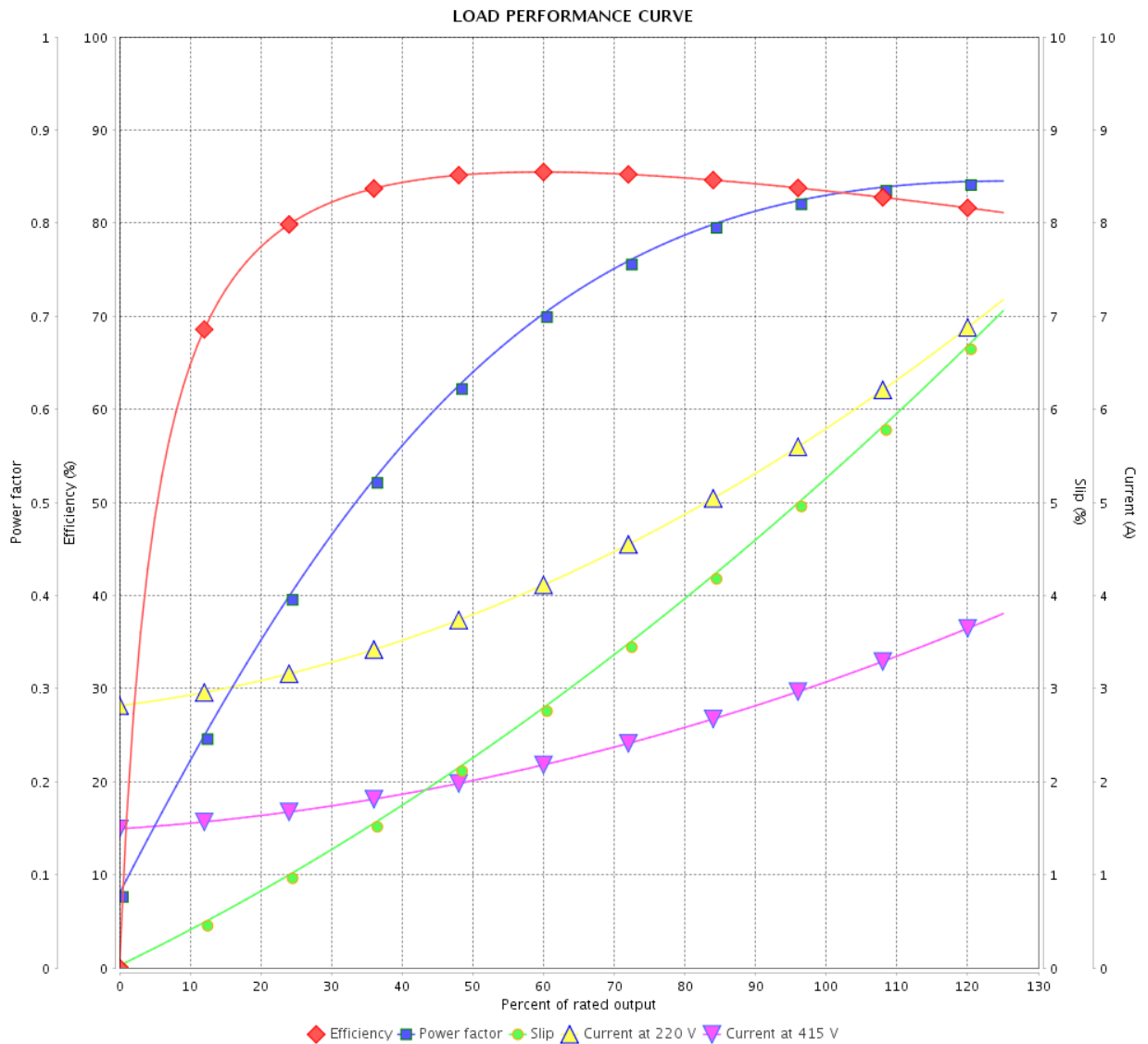


Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG



Performance : 220/415 V 50 Hz 4P

Rated current : 5.90/3.13 A  
 LRC : 6.2  
 Rated torque : 7.40 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 1420 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		7 / 16		
Date	14/04/2022			

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG

Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A  
LRC : 7.7  
Rated torque : 6.04 ft.lb  
Locked rotor torque : 260 %  
Breakdown torque : 320 %  
Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor :  
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 / 16	

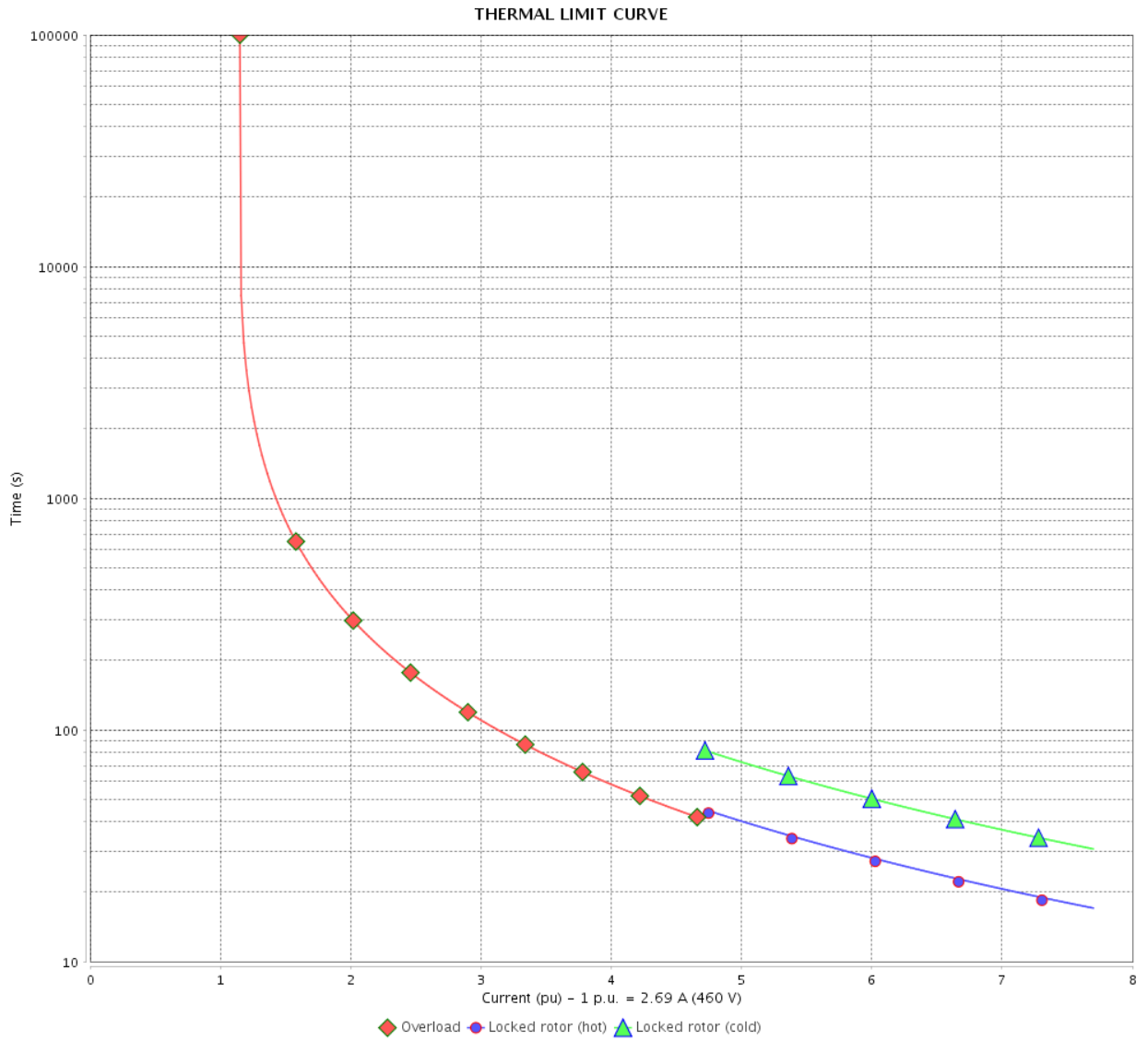


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 9 / 16		Revision
Checked by				
Date				

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG

Performance : 190/380 V 50 Hz 4P

Rated current : 6.52/3.26 A  
LRC : 5.6  
Rated torque : 7.45 ft.lb  
Locked rotor torque : 200 %  
Breakdown torque : 229 %  
Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 105 K  
Design : B

Heating constant

Cooling constant

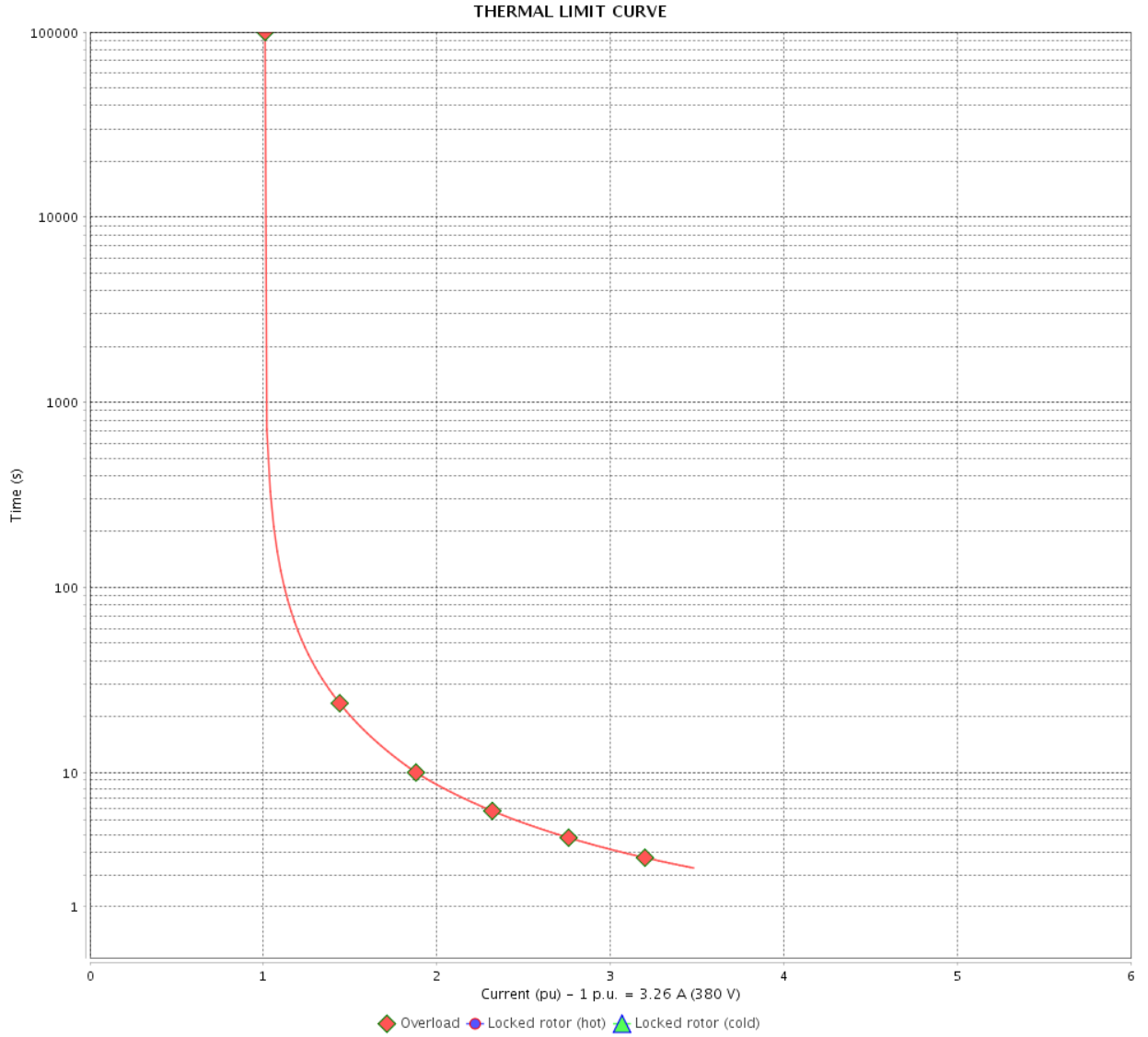
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		10 / 16	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 / 16		
Date		14/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG

Performance : 220/415 V 50 Hz 4P

Rated current : 5.90/3.13 A  
LRC : 6.2  
Rated torque : 7.40 ft.lb  
Locked rotor torque : 220 %  
Breakdown torque : 260 %  
Rated speed : 1420 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor : 1.00  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

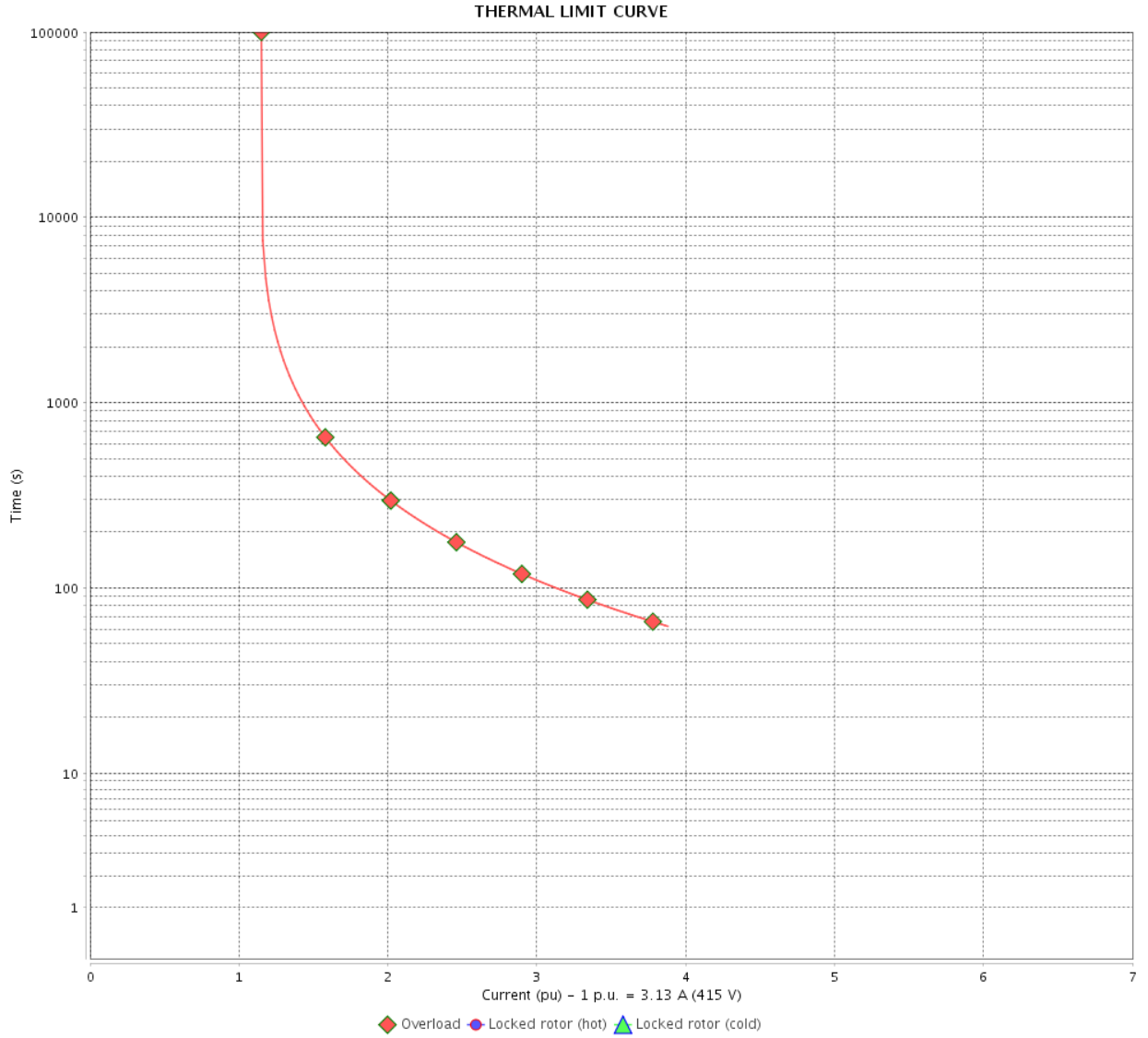
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	14/04/2022		12 / 16	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 16		
Date		14/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

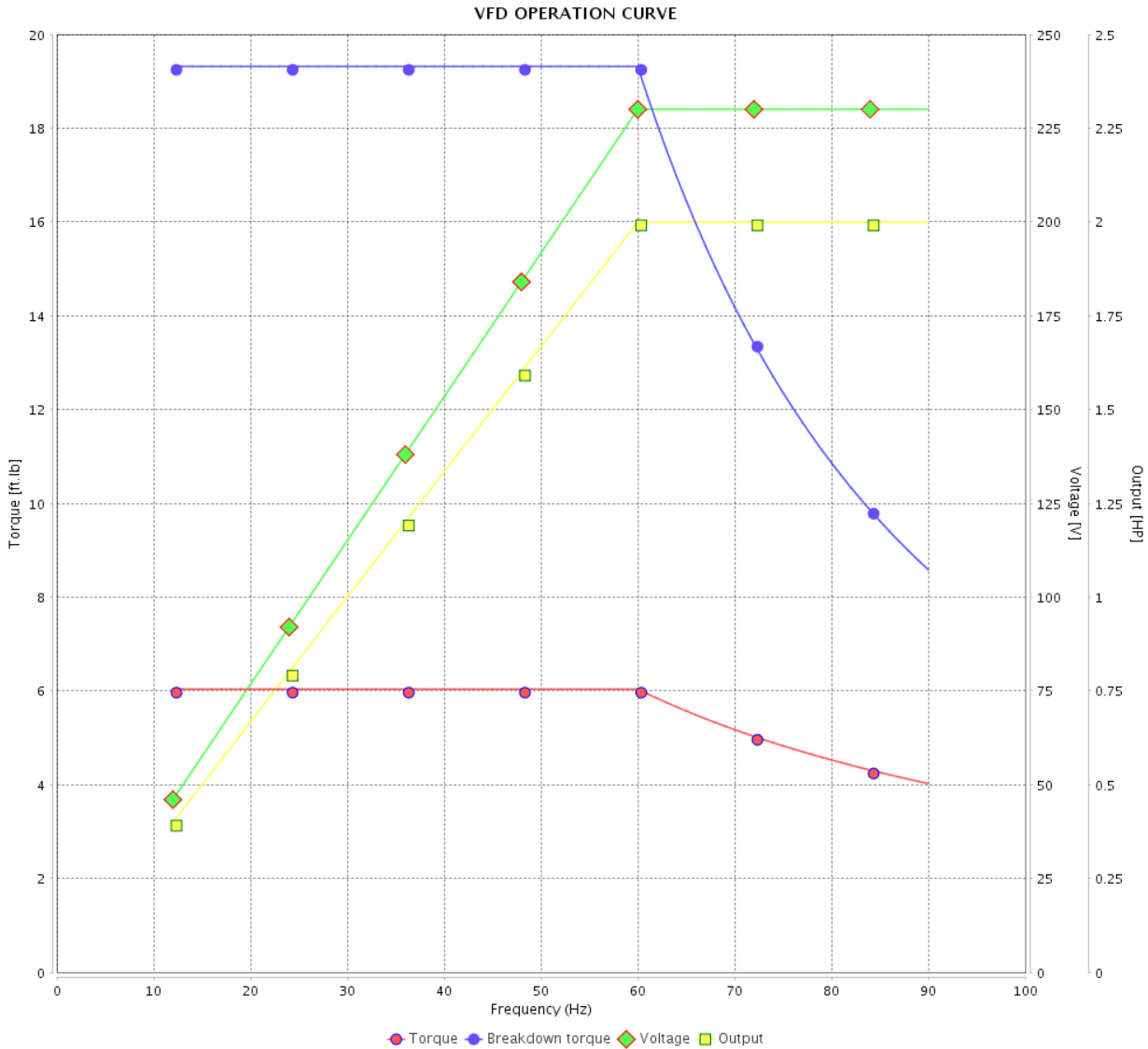


Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG



Performance : 230/460 V 60 Hz 4P

Rated current : 5.38/2.69 A  
 LRC : 7.7  
 Rated torque : 6.04 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 320 %  
 Rated speed : 1740 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

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

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

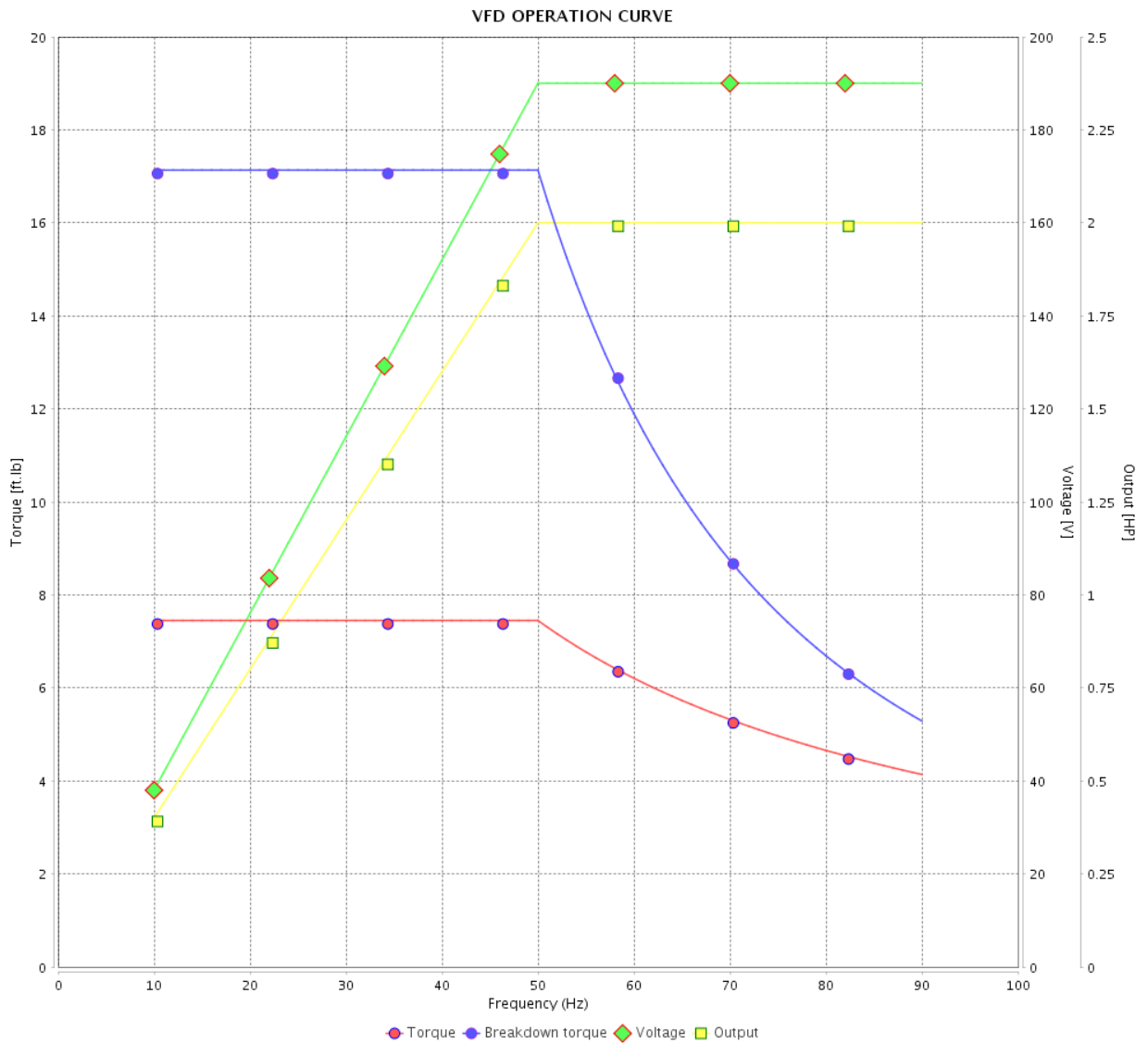


Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG



Performance : 190/380 V 50 Hz 4P

Rated current : 6.52/3.26 A  
 LRC : 5.6  
 Rated torque : 7.45 ft.lb  
 Locked rotor torque : 200 %  
 Breakdown torque : 229 %  
 Rated speed : 1410 rpm

Moment of inertia (J) : 0.1168 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		Revision
Checked by		15 / 16		
Date	14/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



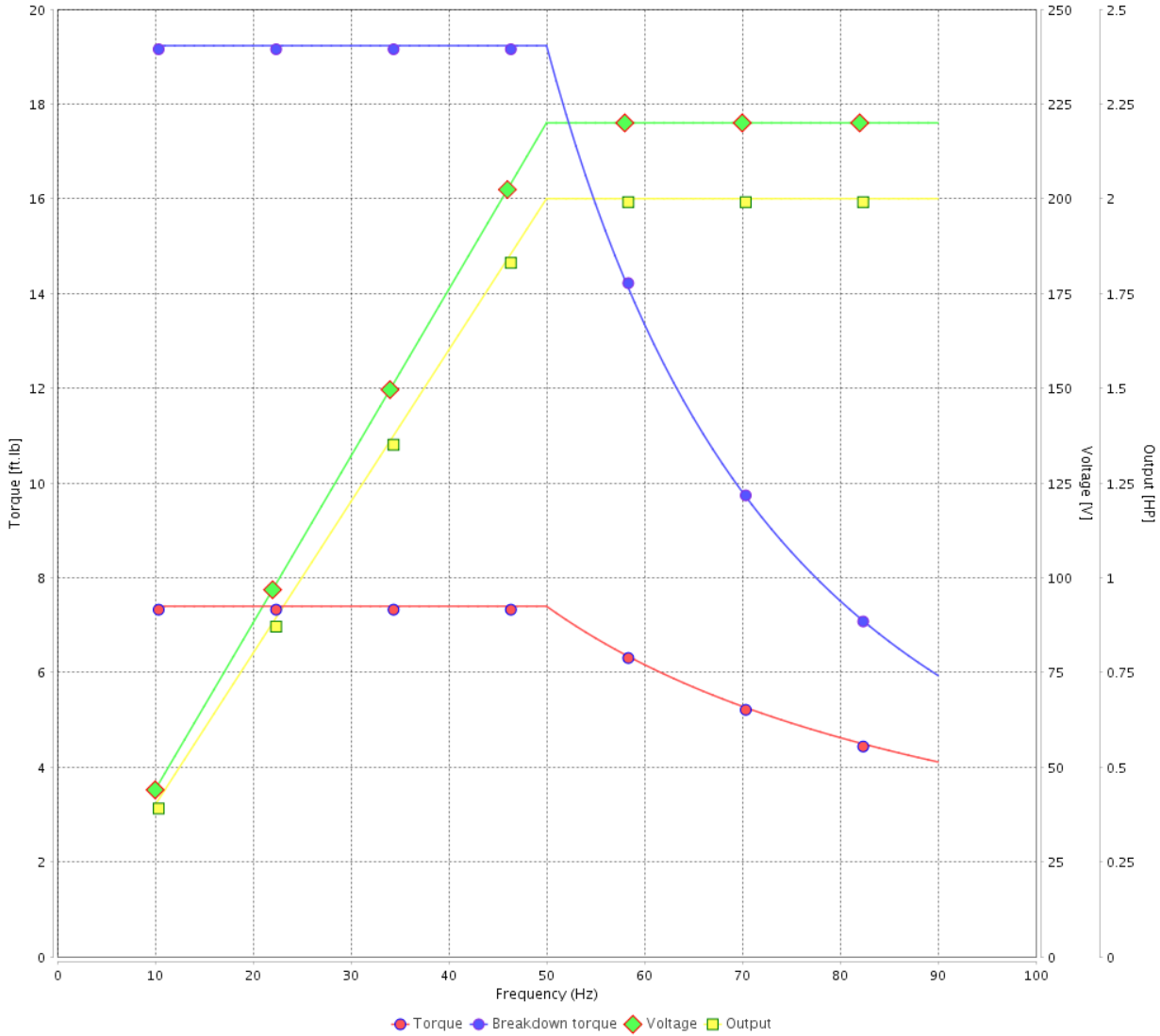
Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 13173712

Catalog # : 00218OT3E145JM-SG

VFD OPERATION CURVE



Performance : 220/415 V 50 Hz 4P

Rated current : 5.90/3.13 A  
 LRC : 6.2  
 Rated torque : 7.40 ft.lb  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 1420 rpm

Moment of inertia (J) : 0.1168 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 16 / 16	Revision
Checked by				
Date	14/04/2022			



1 2 3 4 5 6

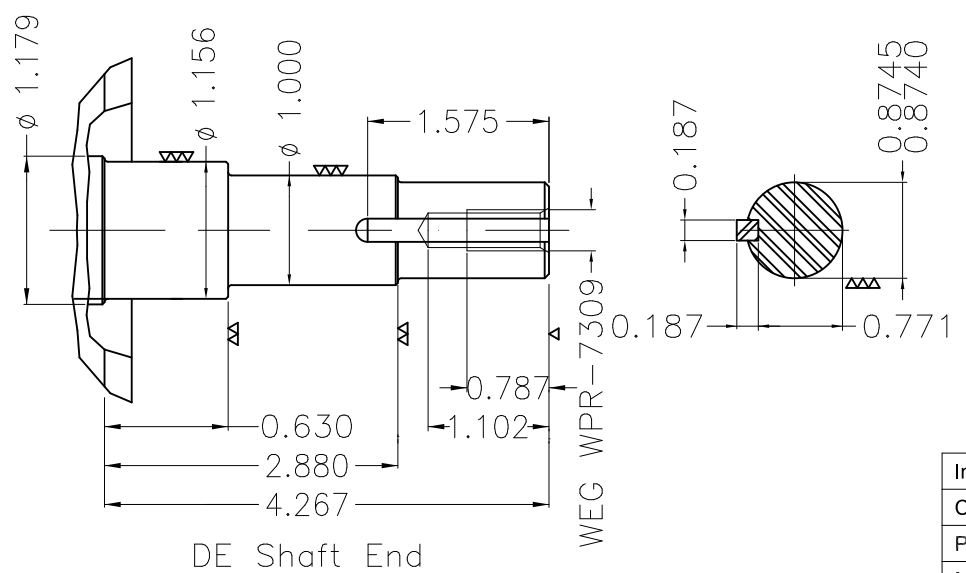
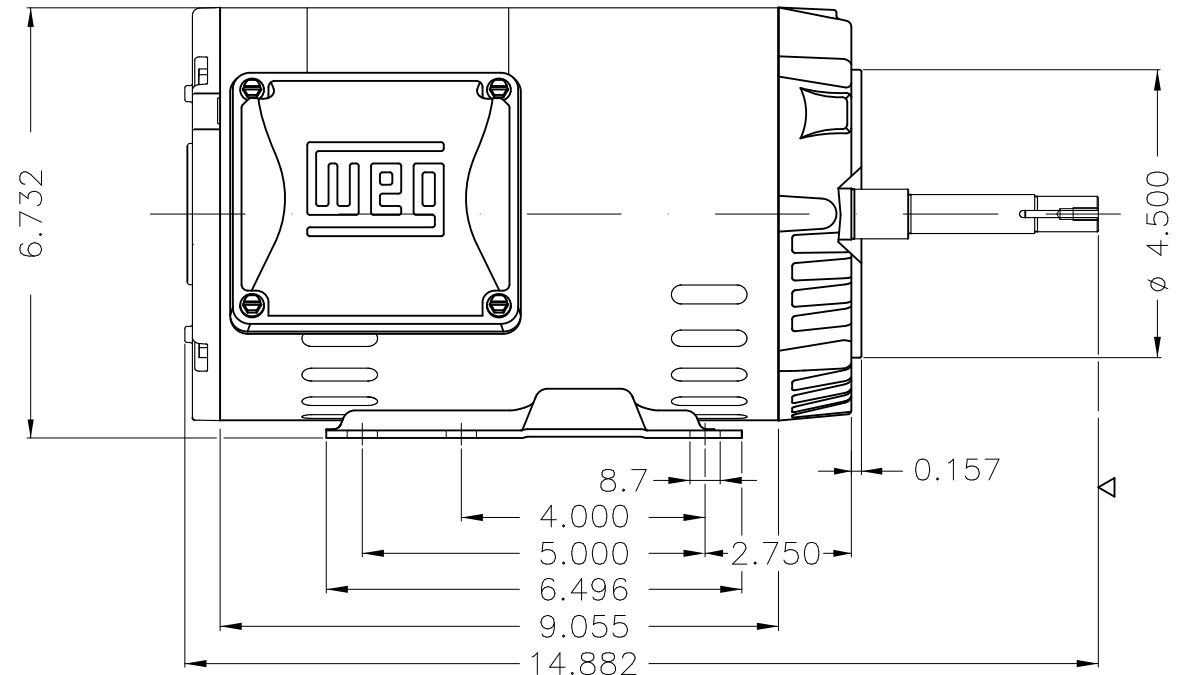
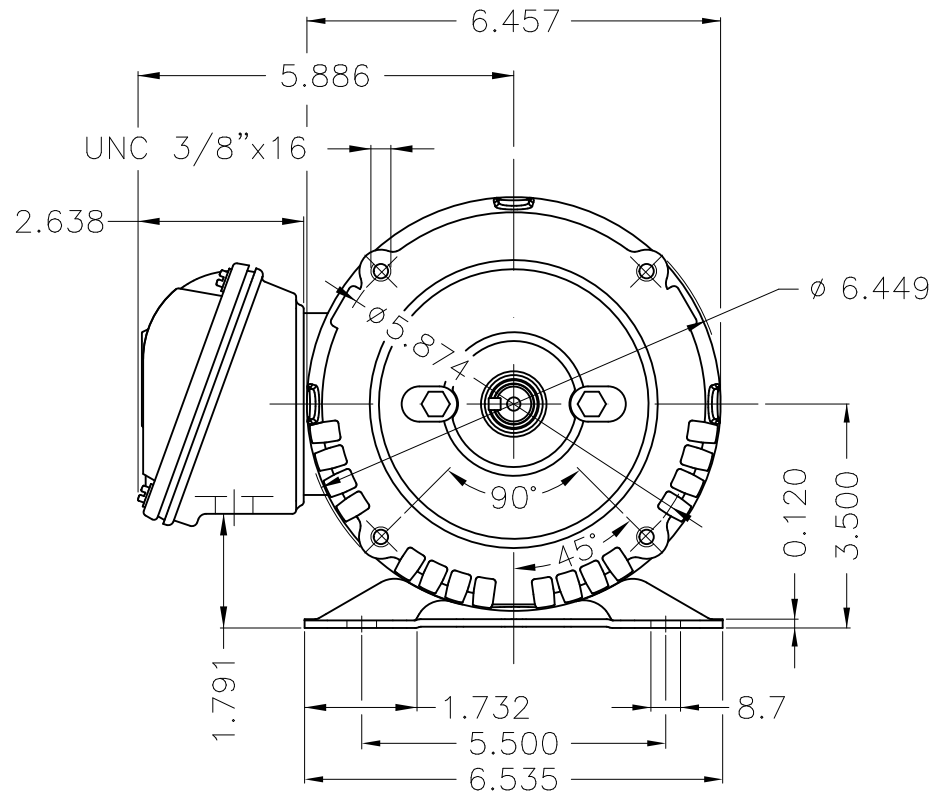
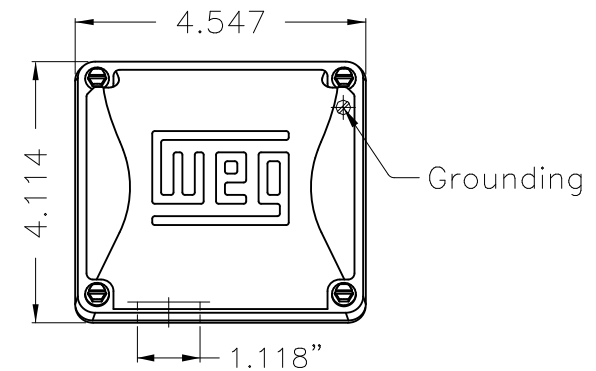
A

B

C

D

E



EUNC 3/8"-16 WEG WPR-7309

DE Shaft End

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	PIRWBUSER	THREE PH. MOTOR ROLLED STEEL CLOSE COUPLED PUMP JN TYPE PSE 1/2 HP					
CHECKED		FRAME 143/5JM IP21 ODP					
RELEASED							
REL DT.		WMO Jaragua do Sul	Product Engineering	WDD	SHEET	1 / 1	

2 HP 04 Poles 60 Hz



**NEMA**  
**Premium**

MADE IN MEXICO

MAT: 13173712 CC029A

W01.T00IC0X0N

MODEL 002180T3E145JM-SG

24MAR2022 B/N:

PH 3	Hz 60	HP 2.0
FR 143/5JM		KW 1.5
DUTY CONT.		V 230/460
ALT 1000 m.a.s.l.		A 5.38/2.69
INS CL F AT 80K		SFA 6.19/3.09
AMB 40°C	DES B	SF 1.15
ENCL ODP	CODE K	PF 0.81
USABLE @ 208V 5.95A		RPM 1740
SF1.00		NEMA NOM. EFF 86.5%

ALTERNATE RATING: 2.0HP 50Hz 190-220/380-415V SF1.00  
 6.52-5.79/3.26-3.07A 1410RPM EFF 82.2% (IE1) IEC 60034-1

Inverter duty motor For 80Hz use on VPWM 1000:1 VT, 5:1 CT

DE 6206-ZZ	ODE 6203-ZZ	MOBIL POLYREX EM
------------	-------------	------------------



T1-BLU T2-WHT  
 T3-ORG T4-YEL  
 T5-BLK T6-GRY  
 T7-PNK T8-RED  
 T9-BRK RED

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.

