

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :		
Product line	: JM Pump NEMA Premium Efficiency Three-Phase	
Product code :	14807501	
Catalog # :	00156ET3E143JM-S	
Frame	: 143/5JM	
Insulation class	: F	
Duty cycle	: Cont.(S1)	
Ambient temperature	: -20°C to +40°C	
Altitude	: 1000 m.a.s.l.	
Protection degree	: IP55	
Design	: B	
Cooling method	: IC411 - TEFC	
Mounting	: F-1	
Rotation <sup>1</sup>	: Both (CW and CCW)	
Starting method	: Direct On Line	
Approx. weight <sup>2</sup>	: 36.9 lb	
Moment of inertia (J)	: 0.1023 sq.ft.lb	
Output [HP]	1.5	
Poles	2	
Frequency [Hz]	60	
Rated voltage [V]	230/460	
Rated current [A]	3.74/1.87	
L. R. Amperes [A]	34.0/17.0	
LRC [A]	9.1x(Code L)	
No load current [A]	1.72/0.859	
Rated speed [RPM]	3520	
Slip [%]	2.22	
Rated torque [ft.lb]	2.24	
Locked rotor torque [%]	229	
Breakdown torque [%]	300	
Service factor	1.15	
Temperature rise	80 K	
Locked rotor time	30s (cold) 17s (hot)	
Noise level <sup>2</sup>	68.0 dB(A)	
Efficiency (%)	25%	78.4
	50%	80.0
	75%	82.5
	100%	84.0
Power Factor	25%	0.44
	50%	0.71
	75%	0.82
	100%	0.88
Bearing type	: <u>Drive end</u> 6206 ZZ <u>Non drive end</u> 6203 ZZ	
Sealing	: V'Ring Without Bearing Seal	
Lubrication interval	: - -	
Lubricant amount	: - -	
Lubricant type	: Mobil Polyrex EM	
Foundation loads	Max. traction : 54 lb	
	Max. compression : 91 lb	
Notes USABLE @208V 4.13A SF 1.00 SFA 4.13A		
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

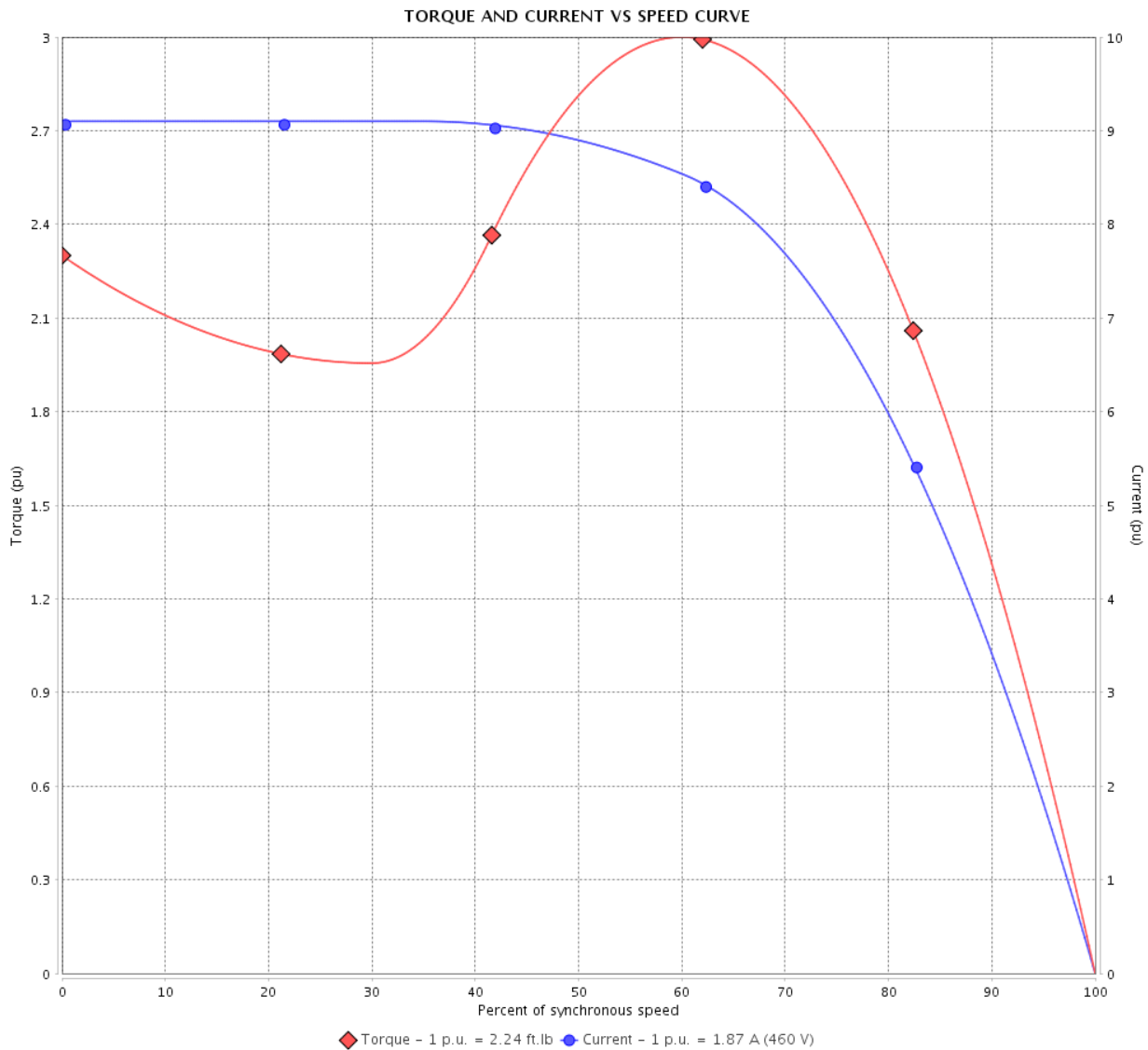


Customer :

Product line : JM Pump NEMA Premium  
Efficiency Three-Phase

Product code : 14807501

Catalog # : 00156ET3E143JM-S



Performance : 230/460 V 60 Hz 2P

Rated current	: 3.74/1.87 A	Moment of inertia (J)	: 0.1023 sq.ft.lb
LRC	: 9.1	Duty cycle	: Cont.(S1)
Rated torque	: 2.24 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	:
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 3520 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



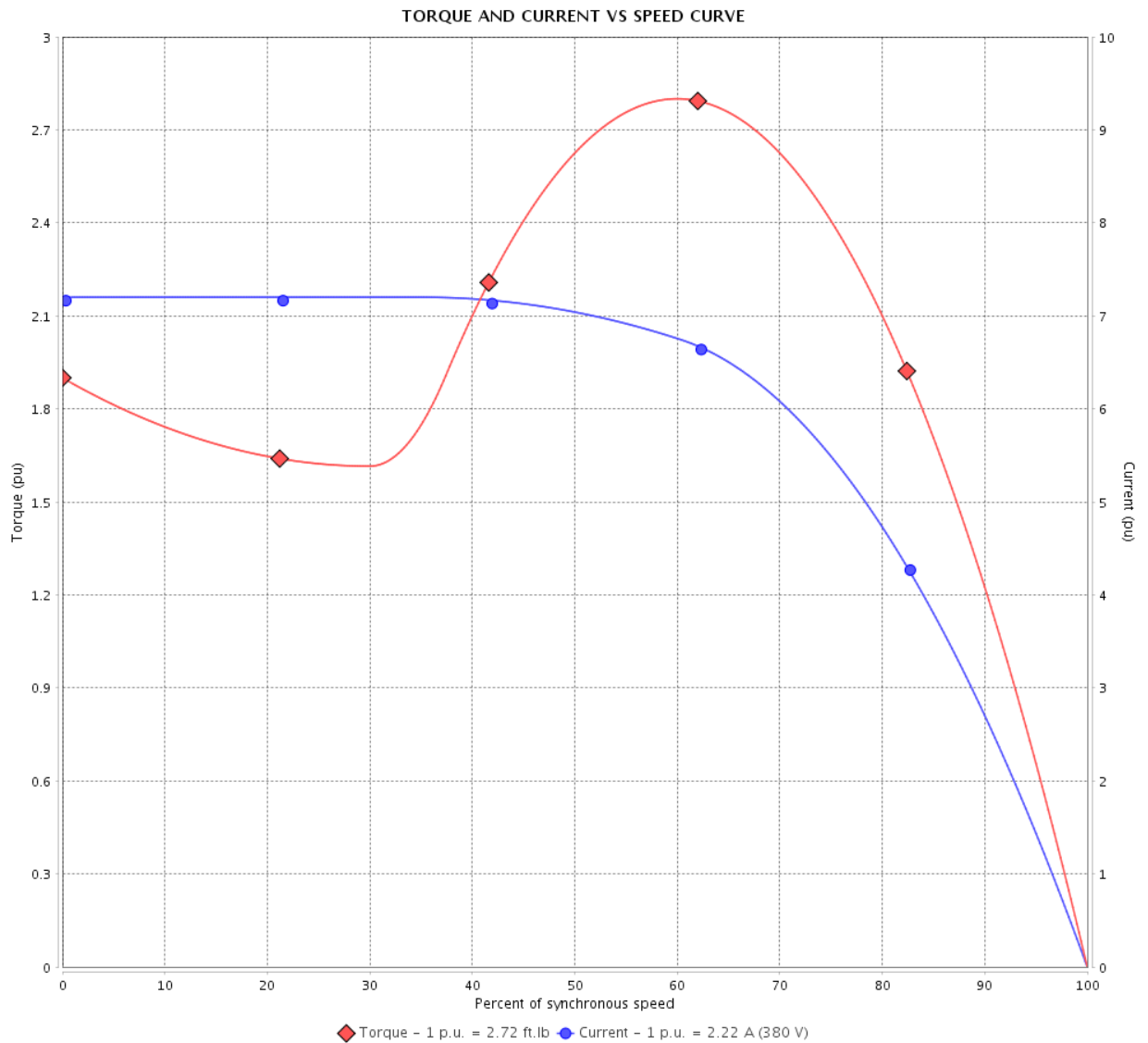
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14807501

Catalog # : 00156ET3E143JM-S



Performance : 190/380 V 50 Hz 2P

Rated current : 4.44/2.22 A  
 LRC : 7.2  
 Rated torque : 2.72 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 280 %  
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.1023 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



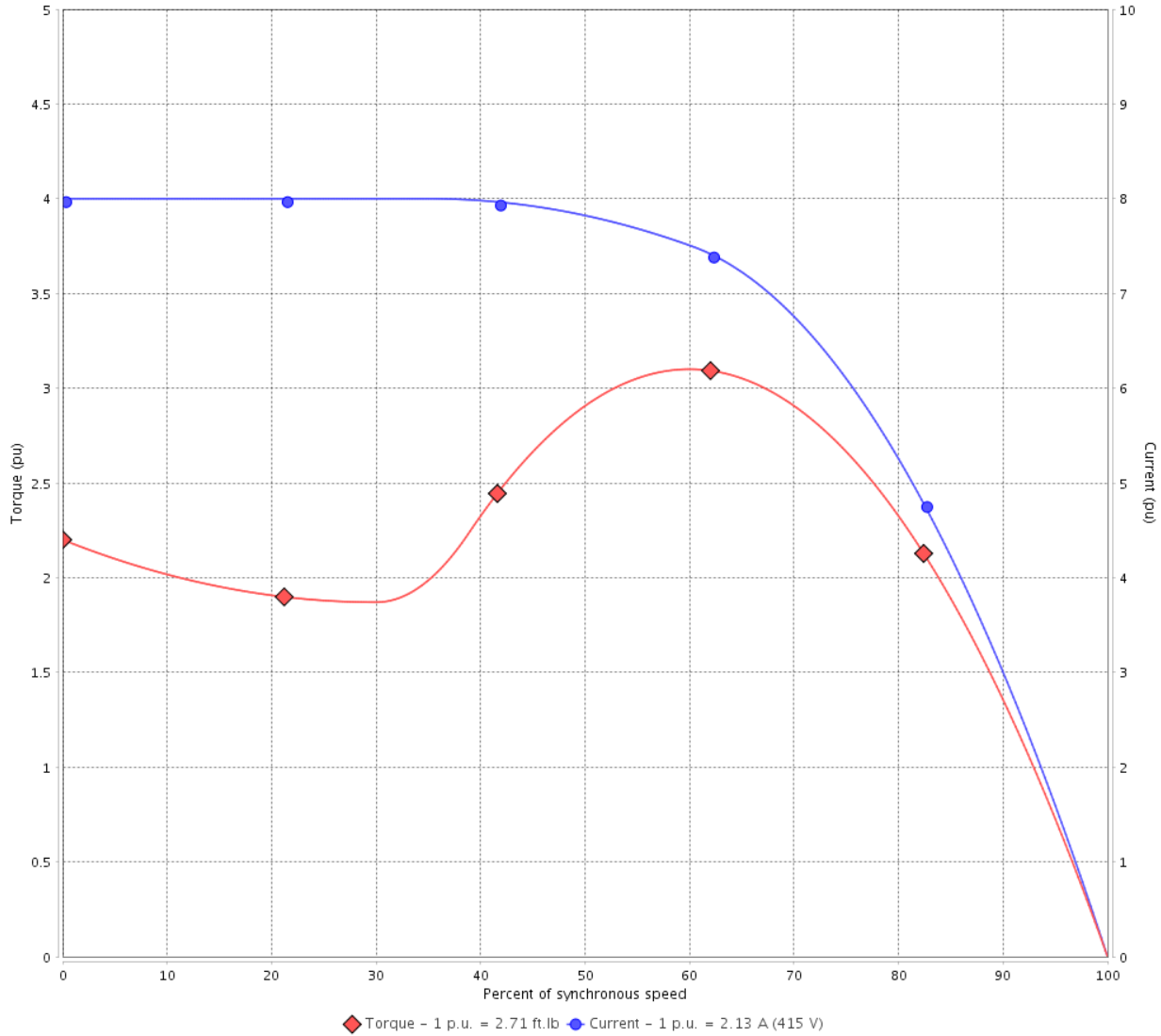
Customer :

Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14807501

Catalog # : 00156ET3E143JM-S

TORQUE AND CURRENT VS SPEED CURVE



Performance : 220/415 V 50 Hz 2P

Rated current	: 4.02/2.13 A	Moment of inertia (J)	: 0.1023 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 2.71 ft.lb	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.15
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2905 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

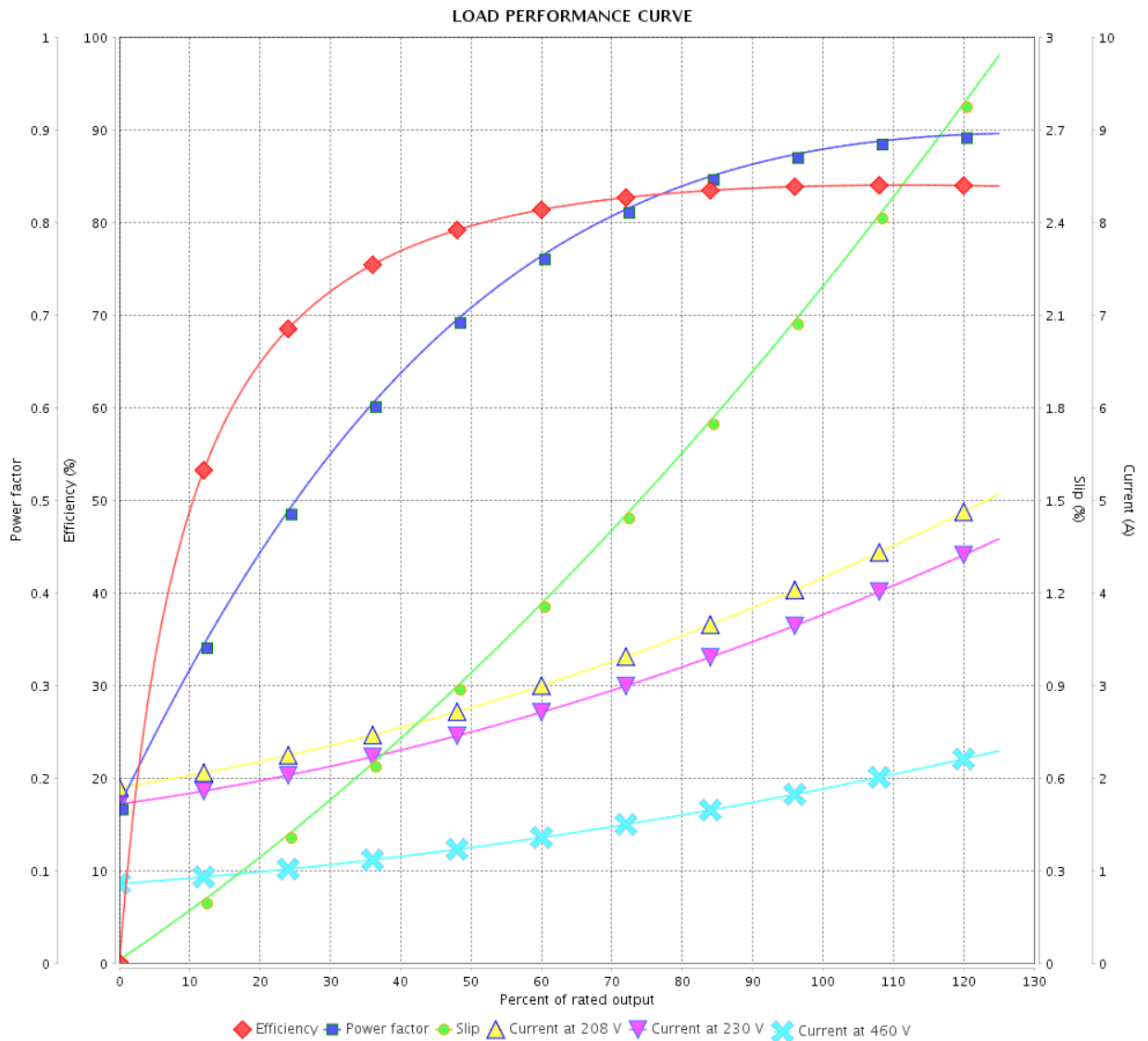


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Product line : JM Pump NEMA Premium Efficiency Three-Phase

Product code : 14807501

Catalog # : 00156ET3E143JM-S



Performance : 230/460 V 60 Hz 2P

Rated current : 3.74/1.87 A  
 LRC : 9.1  
 Rated torque : 2.24 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 300 %  
 Rated speed : 3520 rpm

Moment of inertia (J) : 0.1023 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



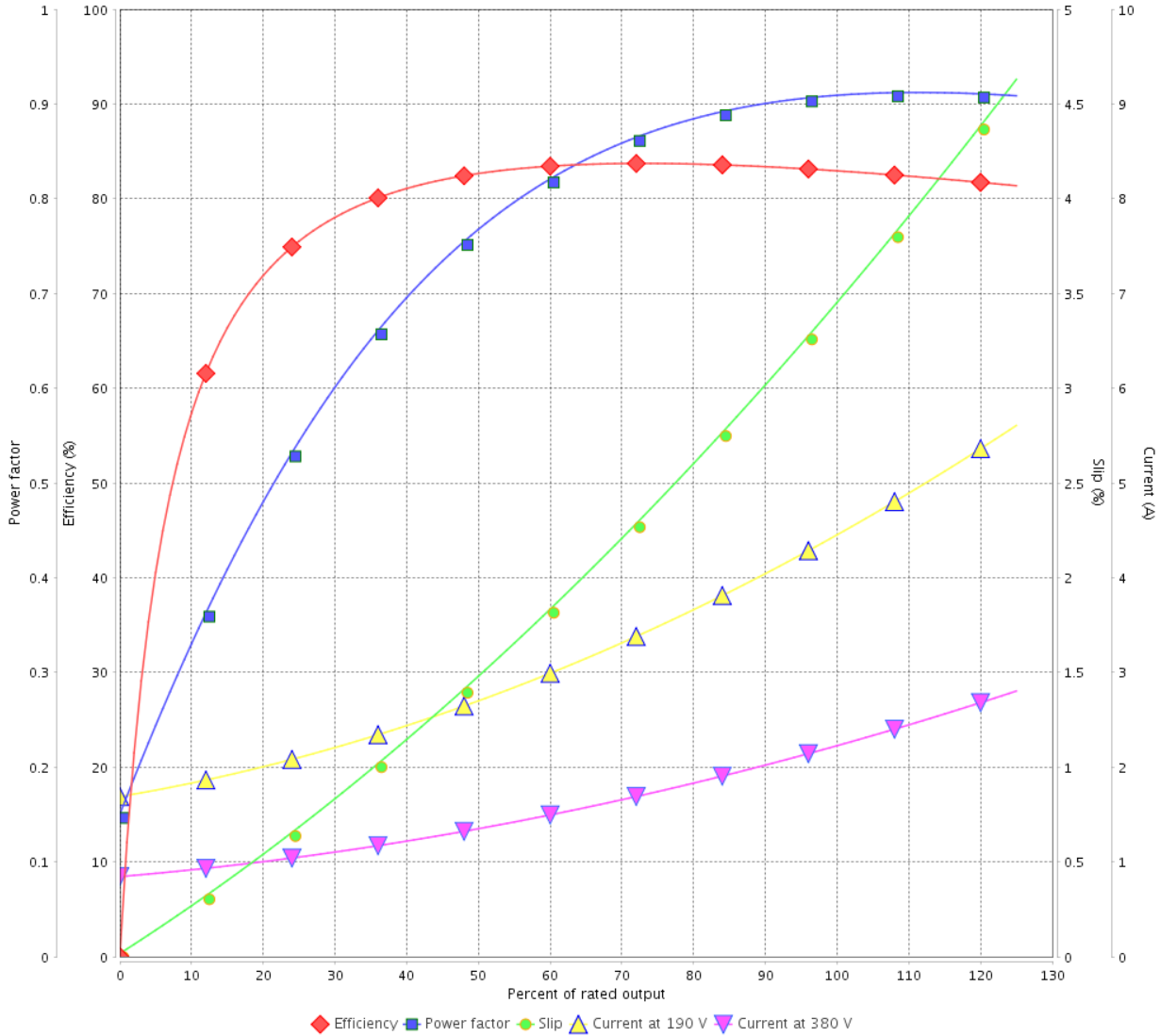
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Efficiency Three-Phase

Product code : 14807501

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LOAD PERFORMANCE CURVE



Performance : 190/380 V 50 Hz 2P

Rated current : 4.44/2.22 A  
 LRC : 7.2  
 Rated torque : 2.72 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 280 %  
 Rated speed : 2895 rpm

Moment of inertia (J) : 0.1023 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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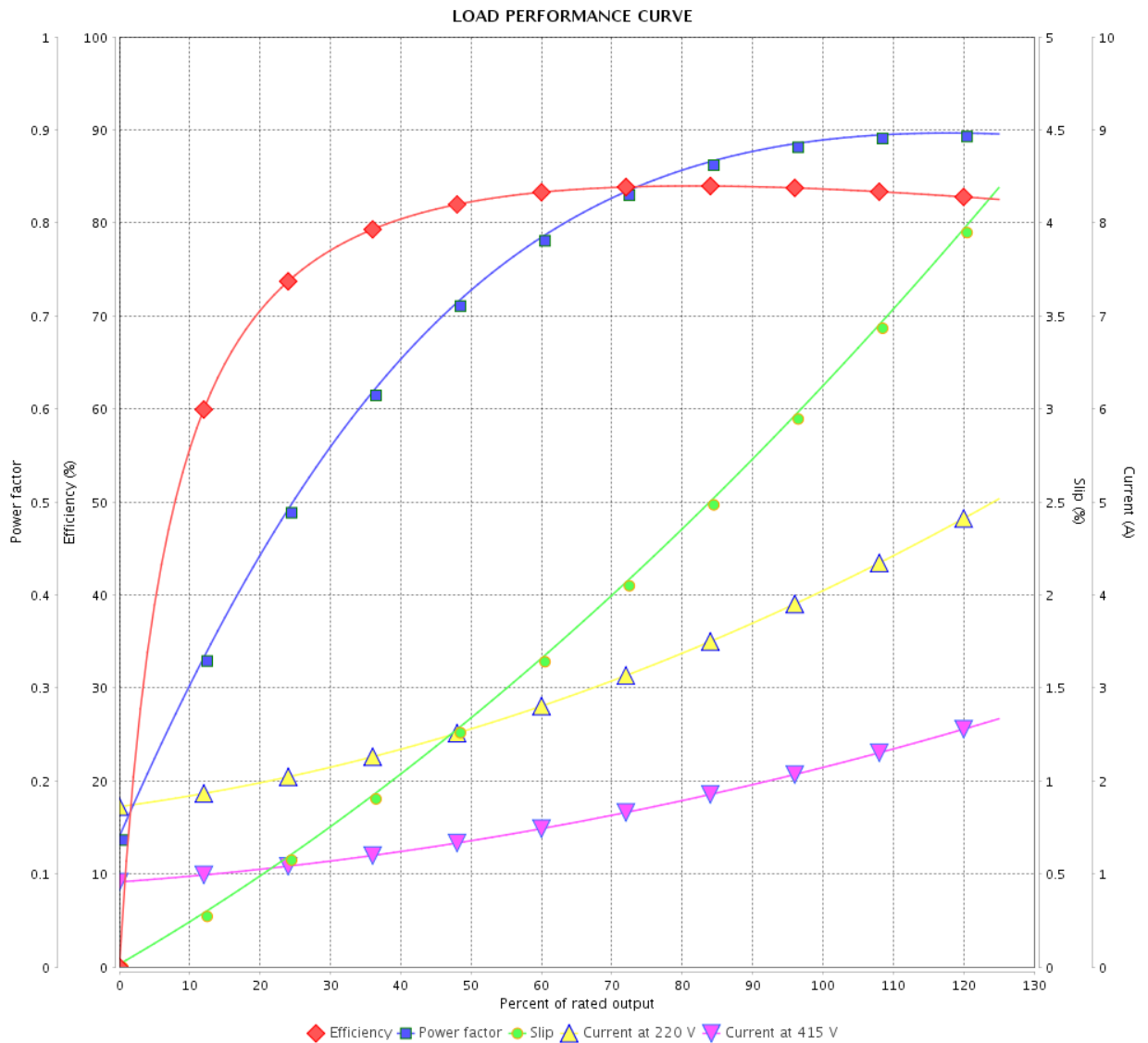


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Performance : 220/415 V 50 Hz 2P

Rated current : 4.02/2.13 A  
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 Locked rotor torque : 220 %  
 Breakdown torque : 310 %  
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# THERMAL LIMIT CURVE



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Rated torque : 2.24 ft.lb  
Locked rotor torque : 229 %  
Breakdown torque : 300 %  
Rated speed : 3520 rpm

Moment of inertia (J) : 0.1023 sq.ft.lb  
Duty cycle : Cont.(S1)  
Insulation class : F  
Service factor :  
Temperature rise : 80 K  
Design : B

Heating constant

Cooling constant

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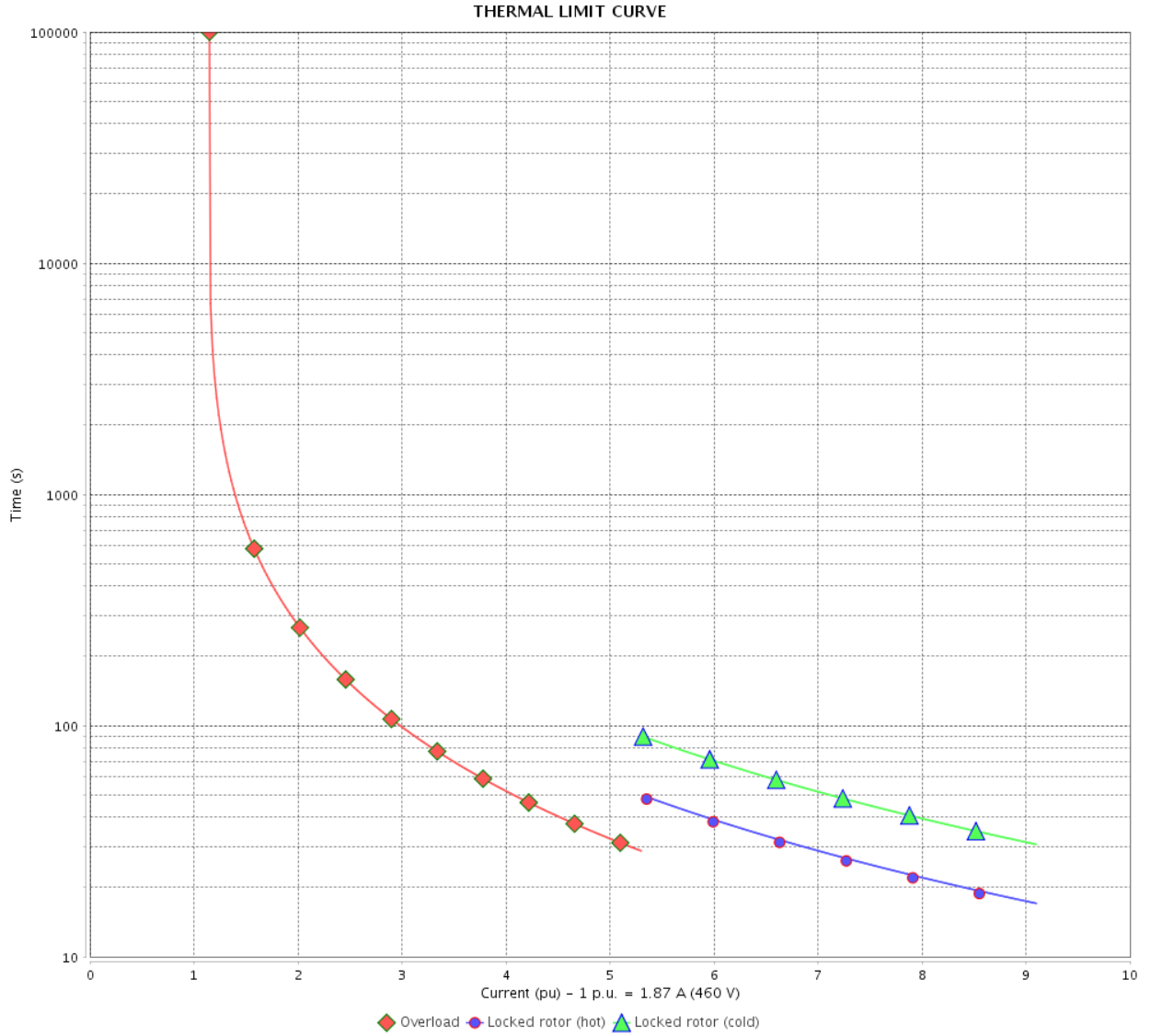


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Three Phase Induction Motor - Squirrel Cage



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



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Design : B

Heating constant

Cooling constant

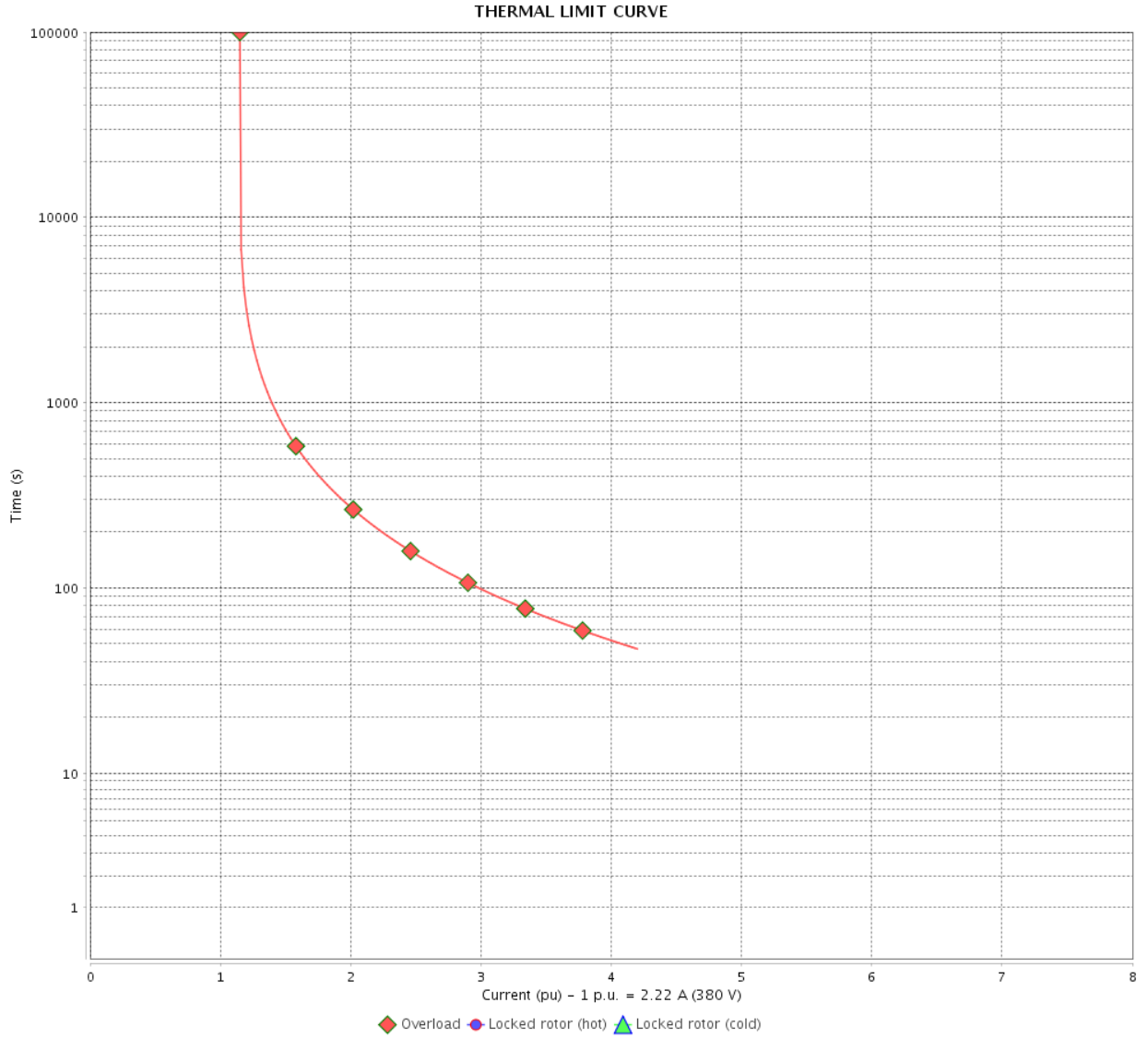
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Customer : \_\_\_\_\_



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Heating constant

Cooling constant

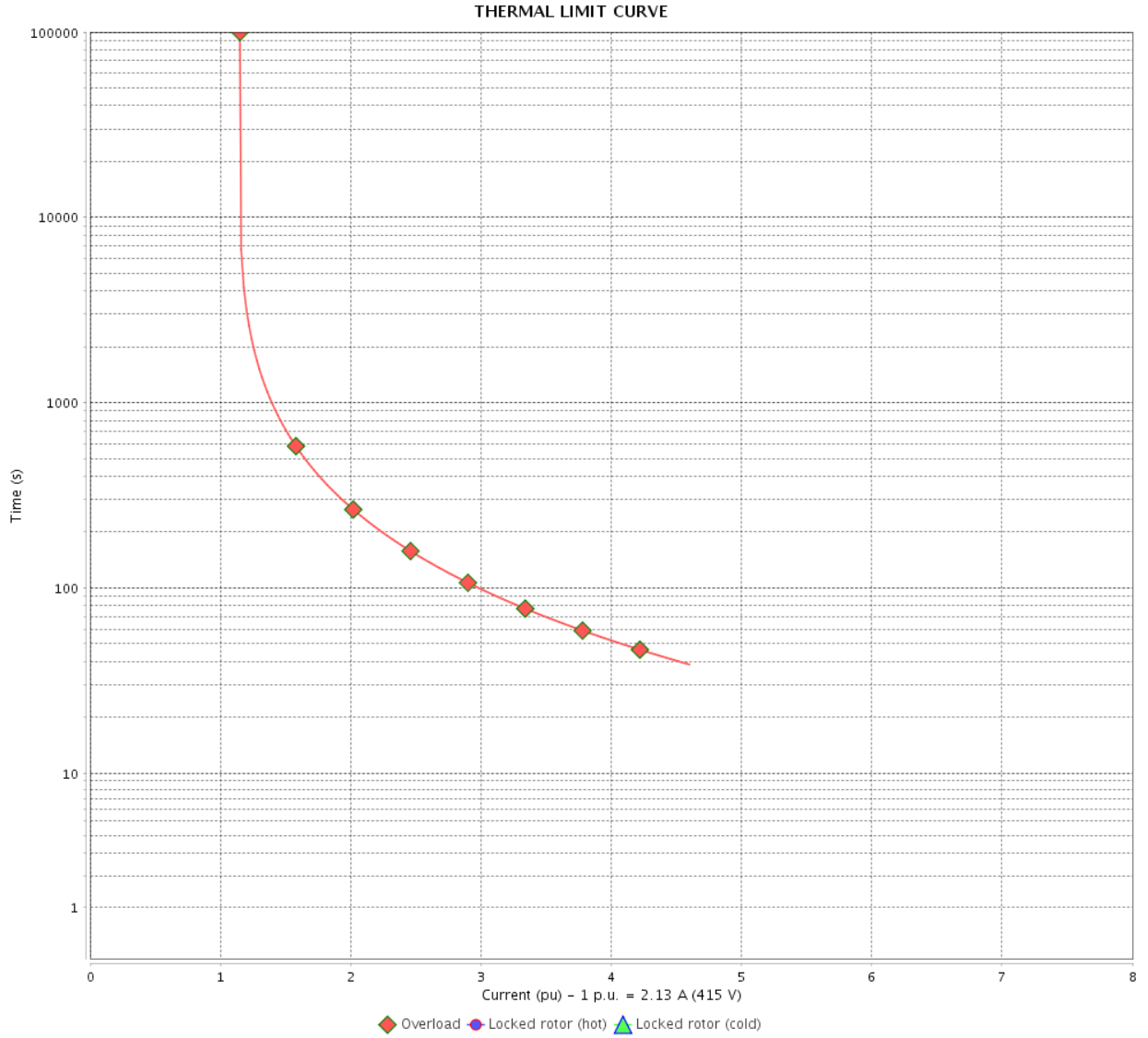
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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



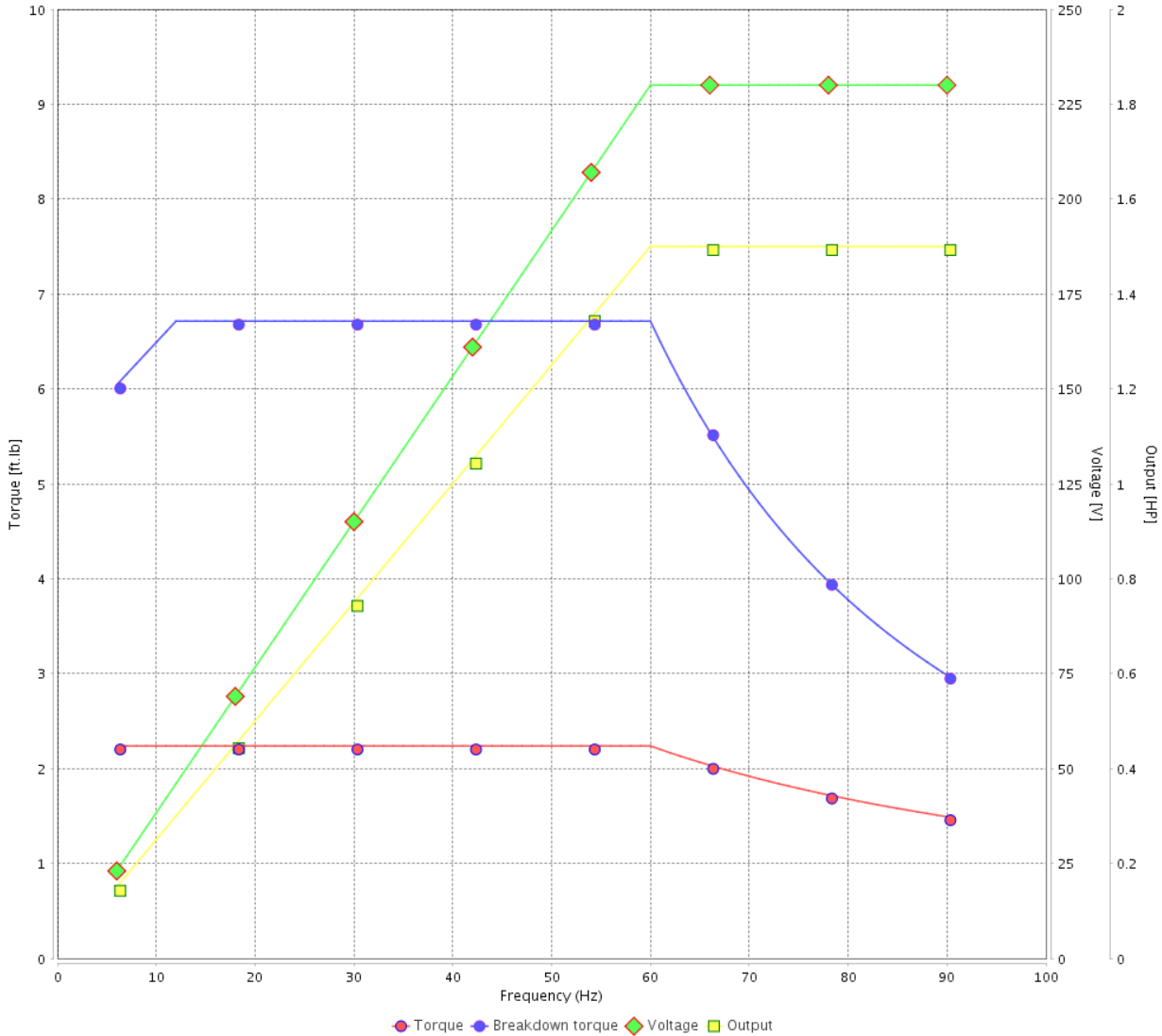
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Product code : 14807501

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VFD OPERATION CURVE



Performance : 230/460 V 60 Hz 2P

Rated current : 3.74/1.87 A  
 LRC : 9.1  
 Rated torque : 2.24 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 300 %  
 Rated speed : 3520 rpm

Moment of inertia (J) : 0.1023 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor :  
 Temperature rise : 80 K  
 Design : B

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Three Phase Induction Motor - Squirrel Cage

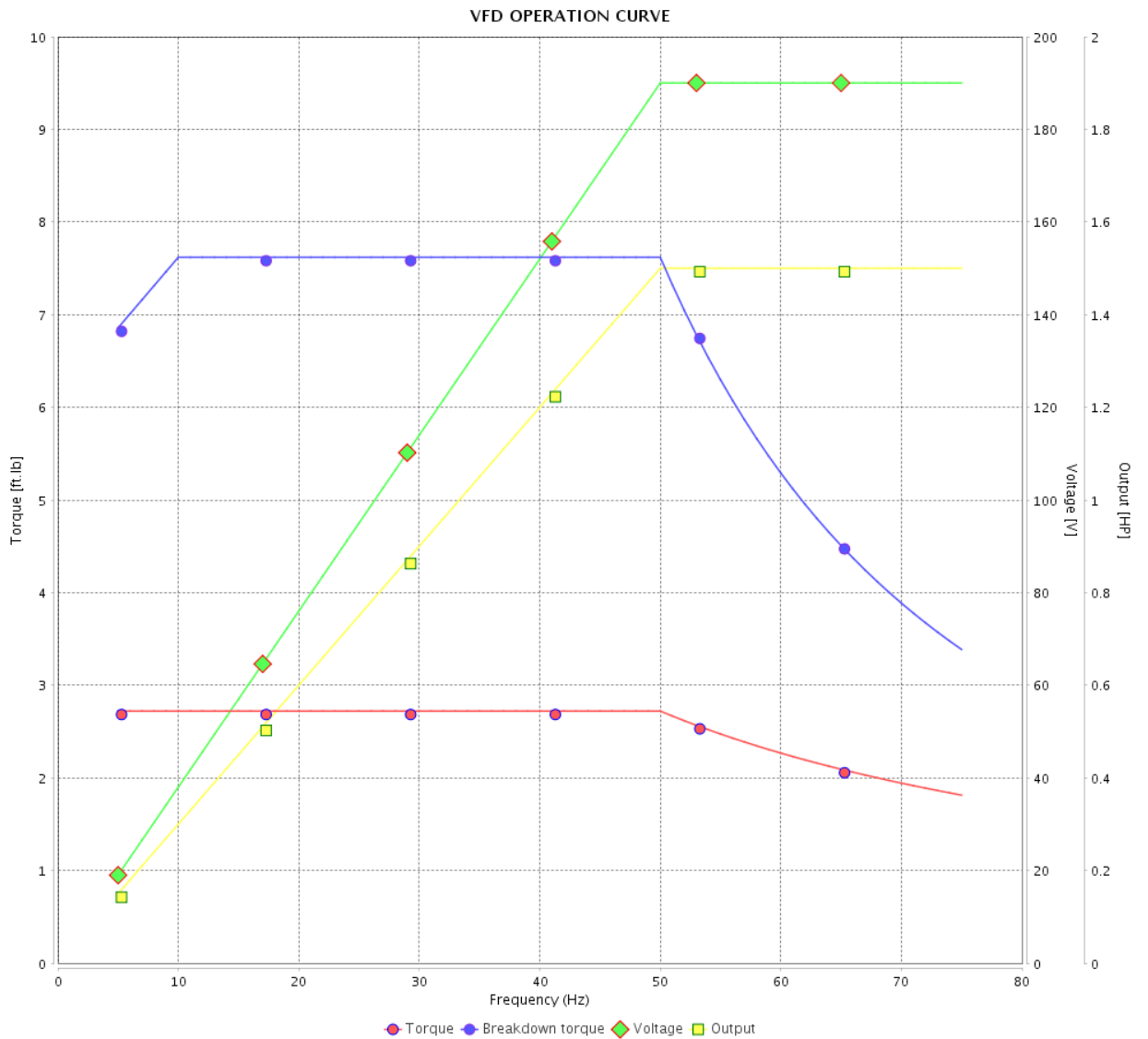


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Three Phase Induction Motor - Squirrel Cage



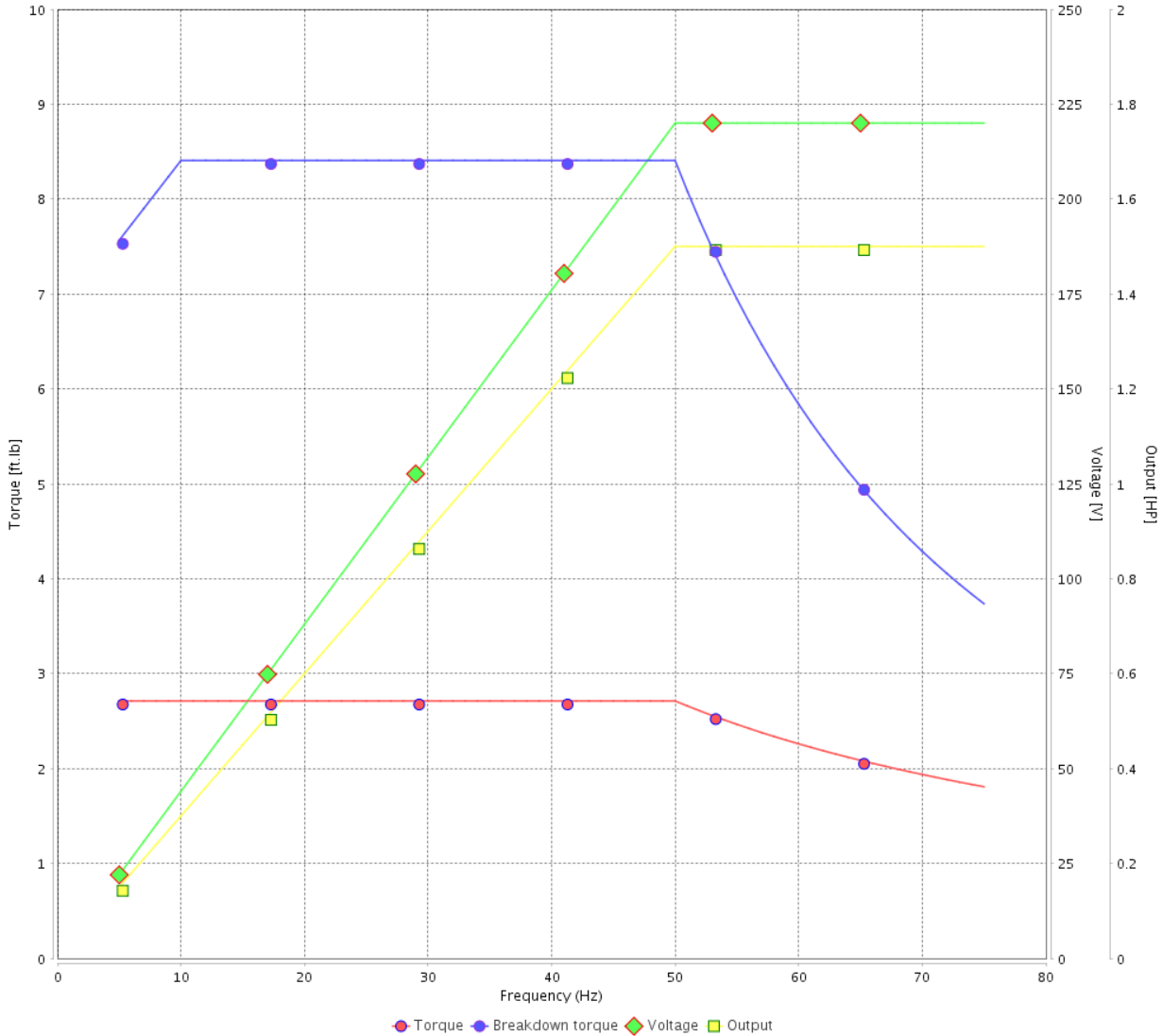
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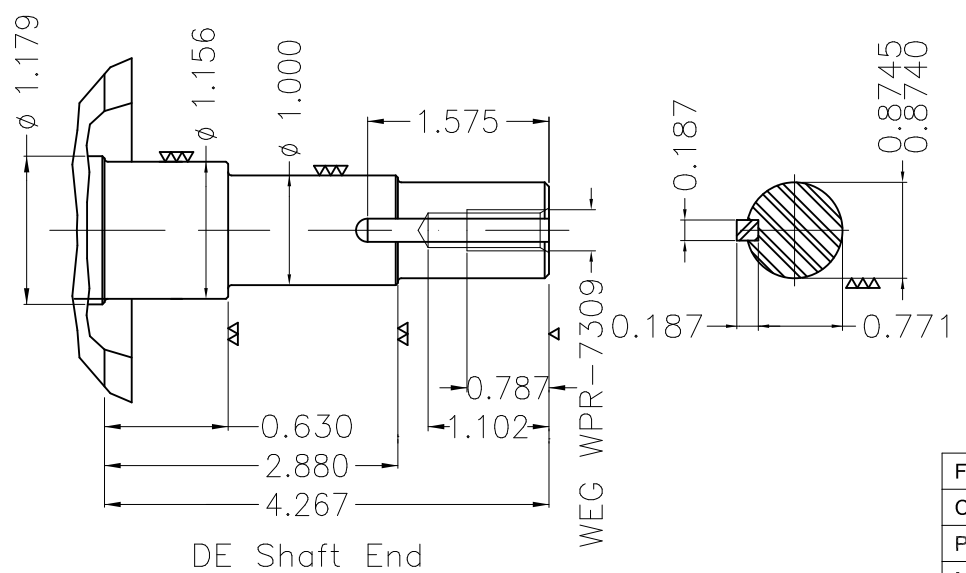
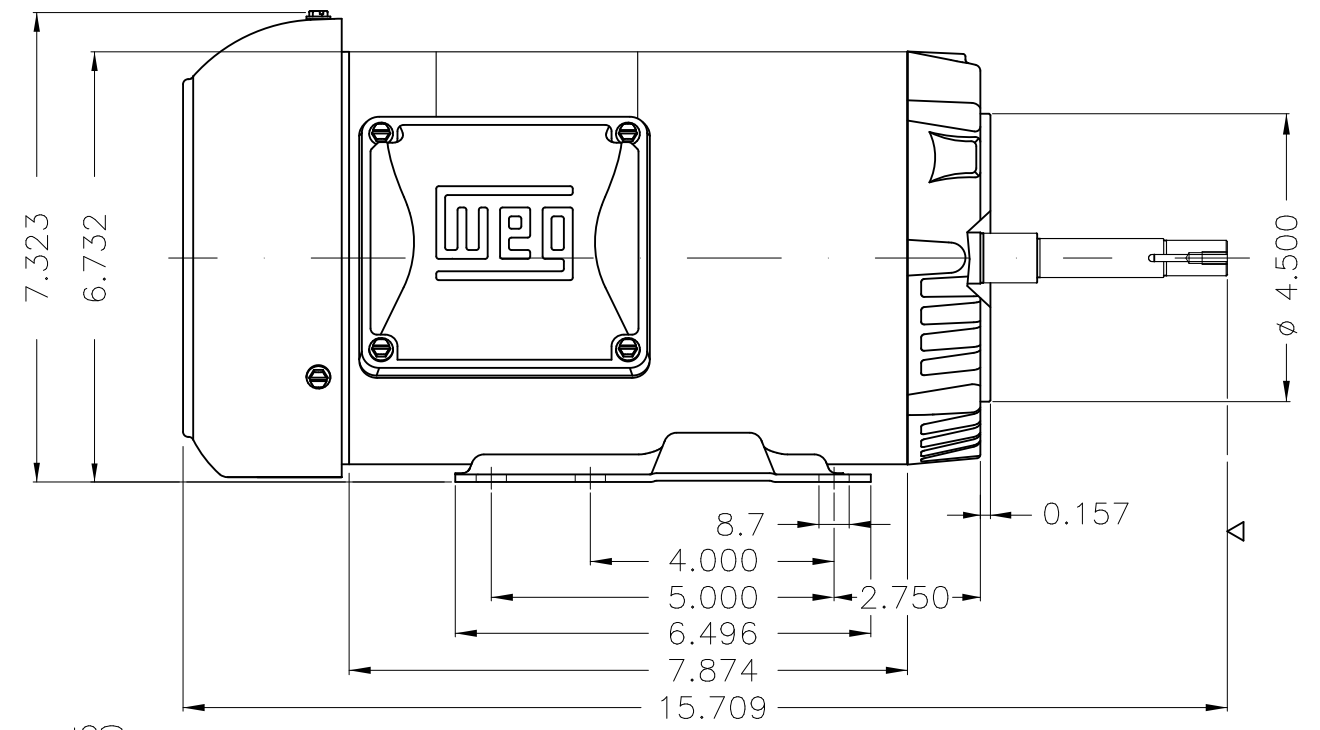
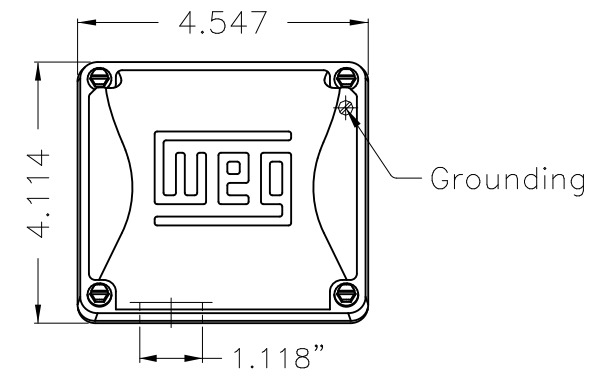
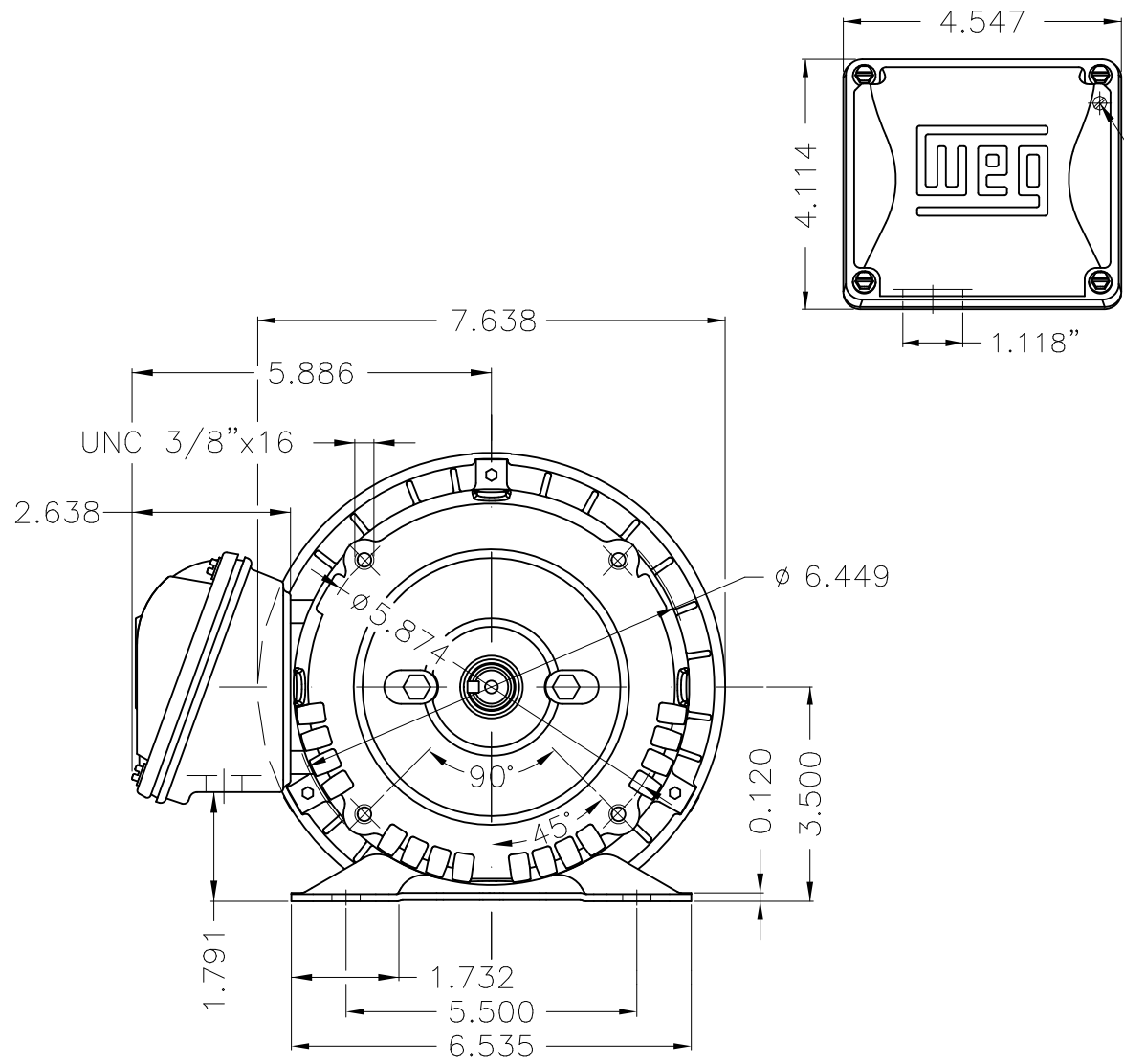
A

B

C

D

E



EUNC 3/8"-16 WEG WPR-7309

DE Shaft End

Fan cover - steel plate						
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 143			<p><b>PREVIEW</b></p> <p>WDD</p>		<p>REL DT.</p>	<p>Product Engineering</p>
CHECKED			FRAME 143/5JM IP55 TEFC						
RELEASED									
REL DT.		WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1			

1.5 HP 02 Poles 60 Hz



**NEMA**  
**Premium**



MADE IN BRAZIL

**MAT: 14807501 CC029A**

**W01.TE0IC0X0N**

**MODEL 00156ET3E143JM-S**

**02MAR2022 B/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**

<b>PH 3</b>	<b>Hz 60</b>	<b>HP 1.5</b>
<b>FR 143/5JM</b>		<b>KW 1.1</b>
<b>DUTY CONT.</b>		<b>V 230/460</b>
<b>ALT 1000 m.a.s.l.</b>		<b>A 3.74/1.87</b>
<b>INS CL F AT 80K</b>	<b>IP55</b>	<b>SFA 4.30/2.15</b>
<b>AMB 40°C</b>	<b>DES B</b>	<b>SF 1.15</b>
<b>ENCL TEFC</b>	<b>CODE L</b>	<b>PF 0.88</b>
<b>USABLE @ 208V 4.14A</b>		<b>RPM 3520</b>
<b>SF1.00</b>		<b>NEMA NOM. EFF 84.0%</b>

<b>ALTERNATE RATING: 1.5HP 50Hz 190-220/380-415V SF1.15</b>
<b>4.44-3.90/2.22-2.07A 2895RPM EFF 82.9% (IE3) IEC 60034-1</b>

For safe area-Inverter duty motor For 60Hz use on VPWM 1000:1 VT, 10:1 CT

<b>DE 6206-ZZ</b>	<b>ODE 6203-ZZ</b>	<b>MOBIL POLYREX EM</b>
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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.

