

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :																			
Product line	: NEMA Premium Efficiency Three-Phase																		
Product code :	12377085																		
Catalog # :	02012ET3E286JP-W22																		
Frame : 284/6JP Output : 20 HP (15 kW) Poles : 6 Frequency : 60 Hz Rated voltage : 208-230/460 V Rated current : 53.5-48.4/24.2 A L. R. Amperes : 332-300/150 A LRC : 6.2x(Code G) No load current : 16.4-19.0/9.50 A Rated speed : 1175 rpm Slip : 2.08 % Rated torque : 89.4 ft.lb Locked rotor torque : 229 % Breakdown torque : 260 % Insulation class : F Service factor : 1.25 Design : B	Locked rotor time : 28s (cold) 16s (hot) Temperature rise : 80 K Duty cycle : Cont.(S1) Ambient temperature : -20°C to +40°C Altitude : 1000 m.a.s.l. Protection degree : IP55 Cooling method : IC411 - TEFC Mounting : F-1 Rotation <sup>1</sup> : Both (CW and CCW) Noise level <sup>2</sup> : 59.0 dB(A) Starting method : Direct On Line Approx. weight <sup>3</sup> : 426 lb																		
Output	25% 50% 75% 100%																		
Efficiency (%)	0.000 91.0 91.7 91.7																		
Power Factor	0.00 0.70 0.80 0.85																		
Foundation loads																			
Max. traction	: 801 lb																		
Max. compression	: 1226 lb																		
	<table border="0"> <tr> <td></td> <td style="text-align: center;"><u>Drive end</u></td> <td style="text-align: center;"><u>Non drive end</u></td> </tr> <tr> <td>Bearing type</td> <td>: 6311 C3</td> <td>6211 C3</td> </tr> <tr> <td>Sealing</td> <td>: V'Ring</td> <td>V'Ring</td> </tr> <tr> <td>Lubrication interval</td> <td>: 20000 h</td> <td>20000 h</td> </tr> <tr> <td>Lubricant amount</td> <td>: 18 g</td> <td>11 g</td> </tr> <tr> <td>Lubricant type</td> <td colspan="2" style="text-align: center;">Mobil Polyrex EM</td> </tr> </table>		<u>Drive end</u>	<u>Non drive end</u>	Bearing type	: 6311 C3	6211 C3	Sealing	: V'Ring	V'Ring	Lubrication interval	: 20000 h	20000 h	Lubricant amount	: 18 g	11 g	Lubricant type	Mobil Polyrex EM	
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Notes																			
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															
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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



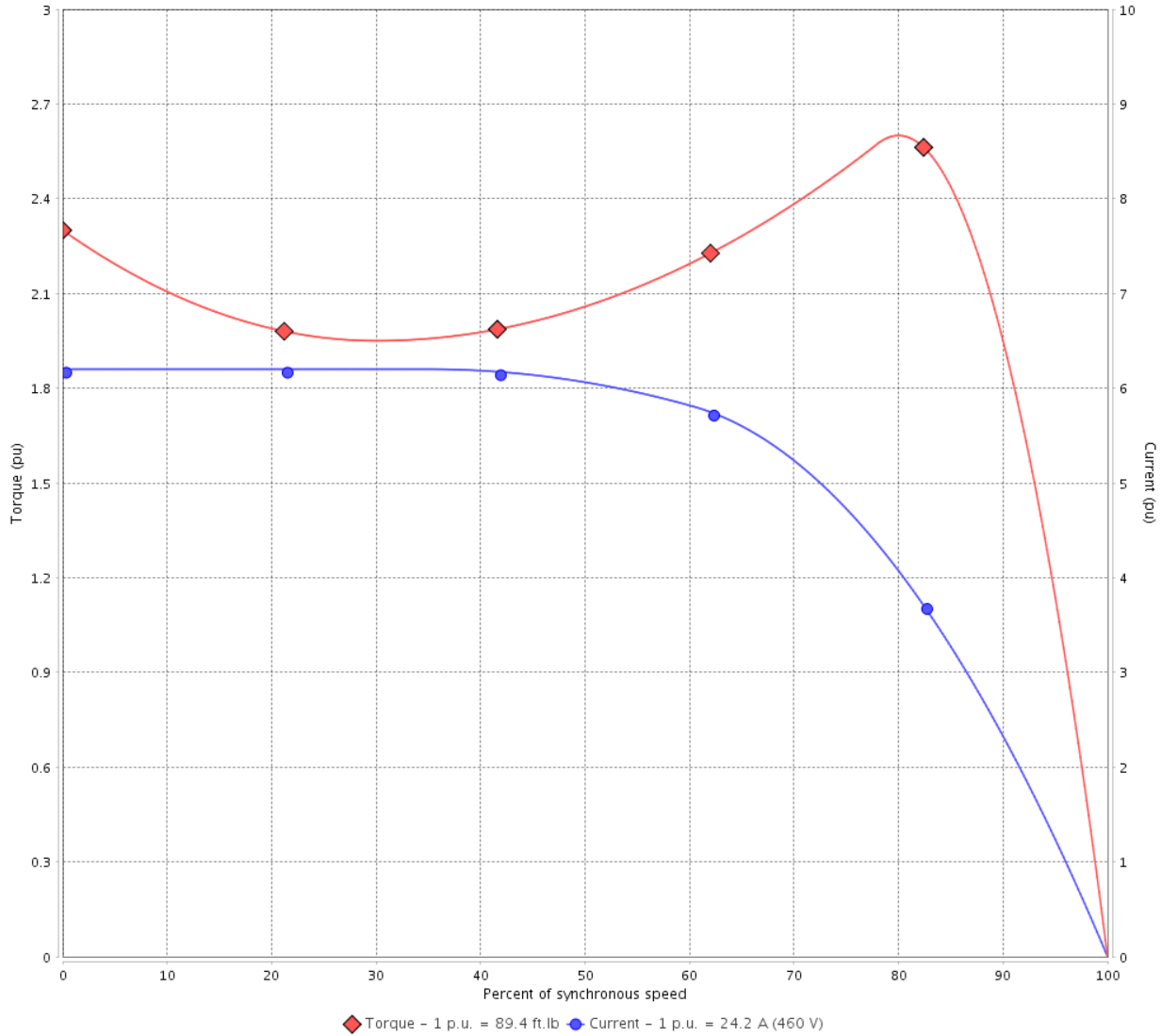
Customer :

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Catalog # : 02012ET3E286JP-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 208-230/460 V 60 Hz 6P

Rated current	: 53.5-48.4/24.2 A	Moment of inertia (J)	
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 89.4 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: B

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

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Date	14/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

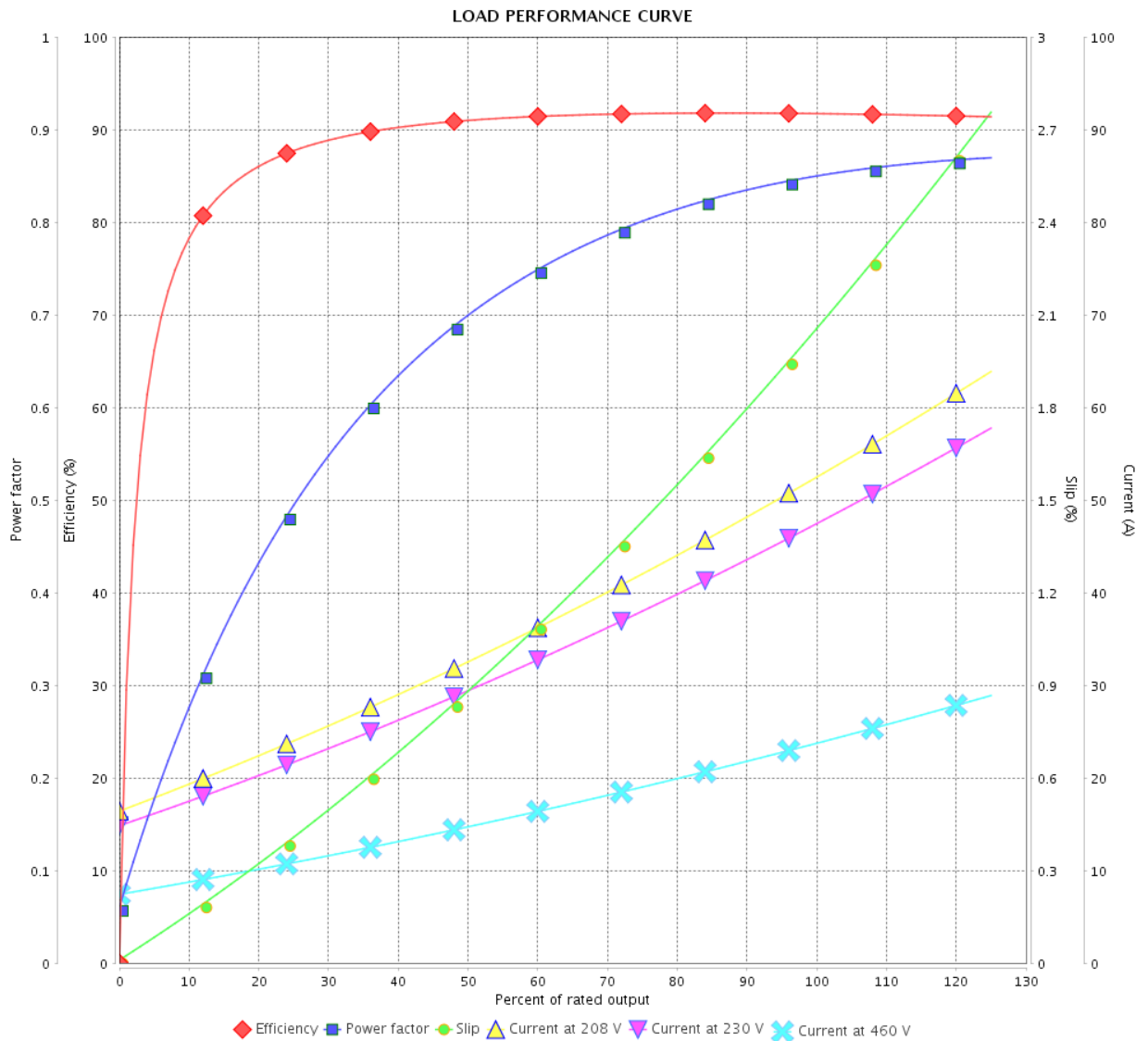


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Performance : 208-230/460 V 60 Hz 6P

Rated current : 53.5-48.4/24.2 A  
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 Breakdown torque : 260 %  
 Rated speed : 1175 rpm

Moment of inertia (J)  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE

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Heating constant

Cooling constant

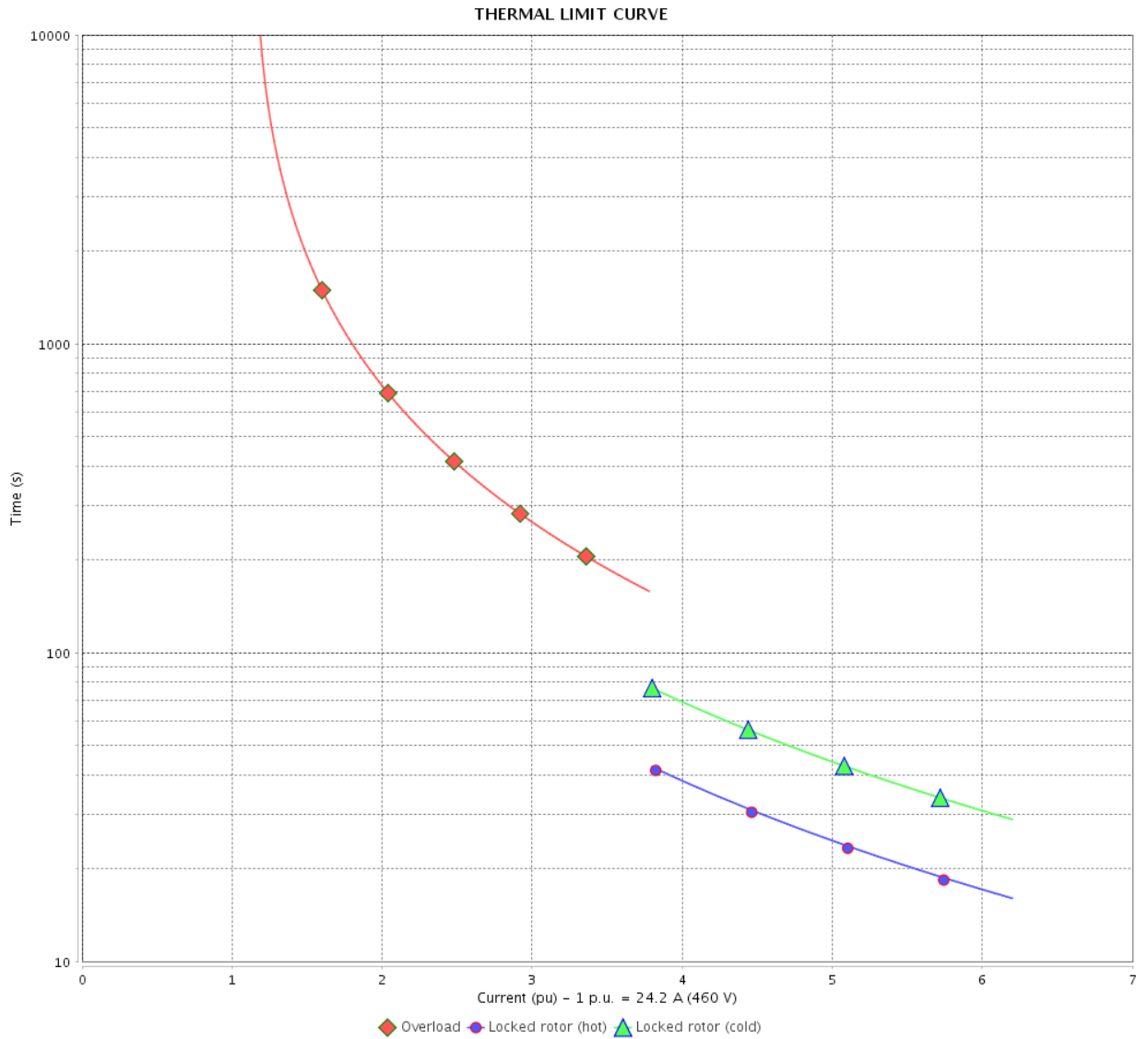
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

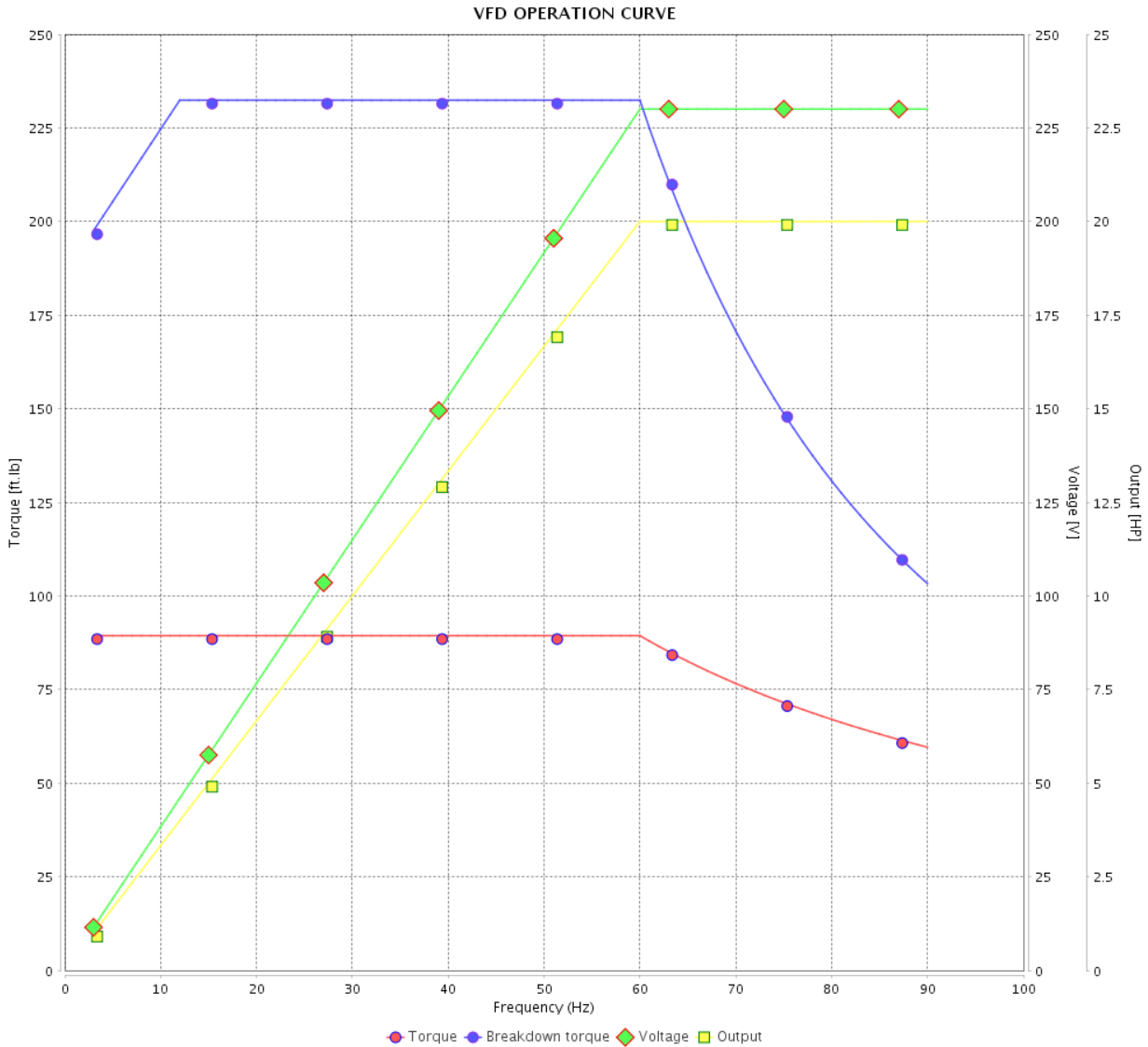


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Performance : 208-230/460 V 60 Hz 6P

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 LRC : 6.2  
 Rated torque : 89.4 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 260 %  
 Rated speed : 1175 rpm

Moment of inertia (J)  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

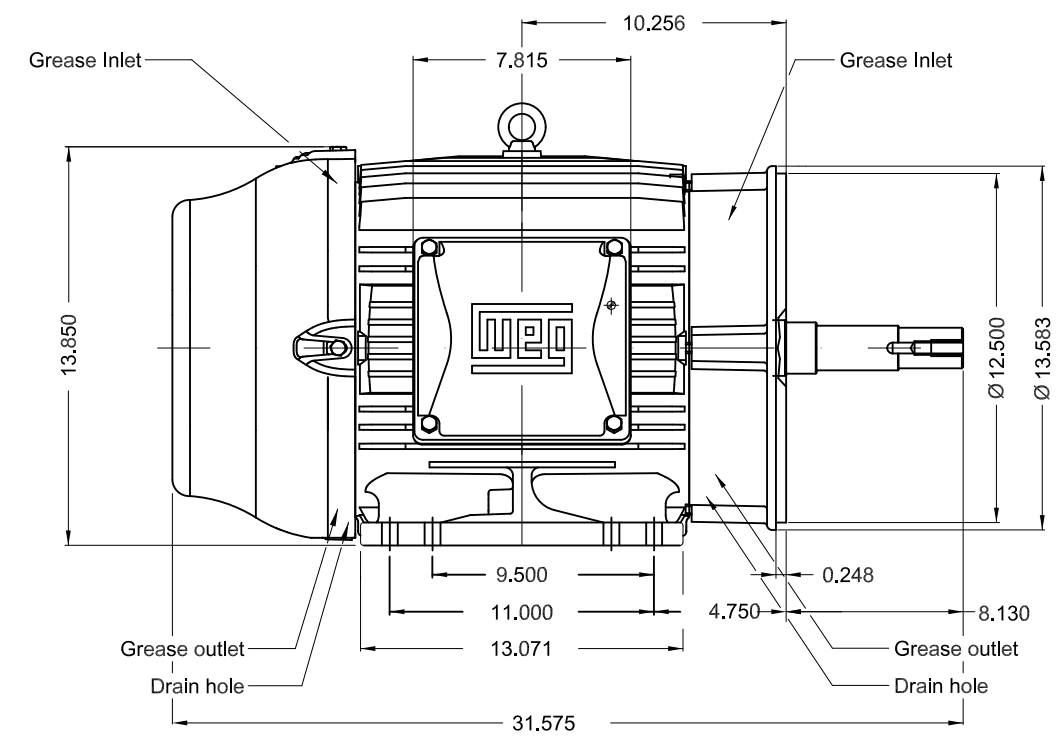
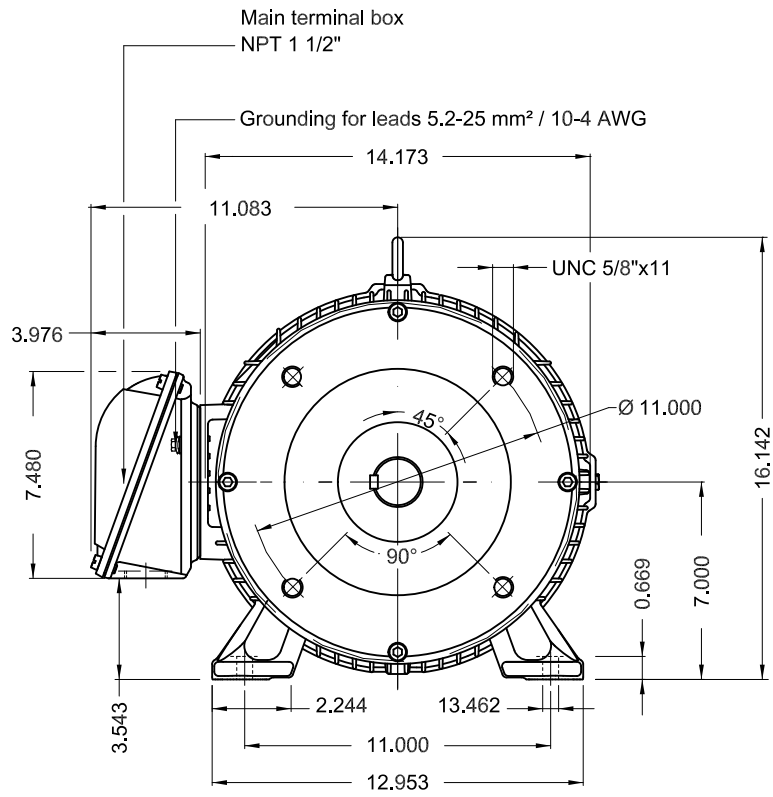
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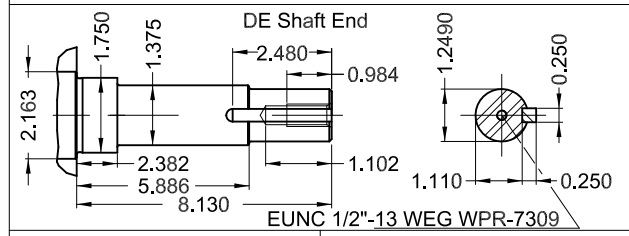
A

B

C



D



E

Color RAL 5009  
 Painting plan 203A  
 Mounting B34R(D)

20 HP 06 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR JM/JP/JET PUMP W22 PREM. EFF. FRAME 284/6JP IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO		Jaragua do Sul	Product Engineering	SHEET	1 / 1	

**PREVIEW**  
 WDD





FOR SAFE AREA  
MOD.TE1BFOXON

For 60Hz: Class I, Div 2, Gr. A, B, C and D - T3  
Class I, Zone 2, IIC - T3  
Class II, Div 2, Gr. F and G - T4  
For 60Hz use on PWM, Gr. A, B, C, D and F,  
VT 1000:1, CT 20:1, 1.0SF, T3A



MODEL 02012ET3E286JP-W22  
MADE IN BRAZIL  
12377085

PH 3	FR 284/6JP	HP(kW) 20.0(15.0)	Hz 60		
V 230/460	A 48.4/24.2	RPM 1175	DES B		
NEMA NOM EFF 91.7 %	INS. CL. F ΔT 80 K	IP55			
ENCL TEFC	DUTY CONT.	AMB. 40°C			
CODE G	PF 0.85	SF 1.25	SFA 60.5/30.3		
USABLE @208V	53.5 A	SF 1.15	SFA 61.5		
20HP 15kW 50Hz 380V 29.6A 965RPM SF1.00 EFF 88.5% (IE1)	ALT 1000 m.a.s.l.	450 Lbs			