

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :																			
Product line	: NEMA Premium Efficiency Three-Phase																		
Product code :	12912584																		
Catalog # :	10009ST3HIE445T-W22																		
Frame : 444/5T Output : 100 HP (75 kW) Poles : 8 Frequency : 60 Hz Rated voltage : 575 V Rated current : 102 A L. R. Amperes : 610 A LRC : 6.0x(Code G) No load current : 44.8 A Rated speed : 890 rpm Slip : 1.11 % Rated torque : 590 ft.lb Locked rotor torque : 190 % Breakdown torque : 220 % Insulation class : F Service factor : 1.25 Moment of inertia (J) : 87.3 sq.ft.lb Design : B	Locked rotor time : 27s (cold) 15s (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> : 63.0 dB(A) Starting method : Direct On Line Approx. weight <sup>3</sup> : 1770 lb																		
Output	25%    50%    75%    100%																		
Efficiency (%)	93.5    93.6    94.1    94.1																		
Power Factor	0.38    0.63    0.74    0.79																		
Foundation loads																			
Max. traction : 2575 lb																			
Max. compression : 4345 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 style="text-align: center;">6319 C3</td> <td style="text-align: center;">6316 C3</td> </tr> <tr> <td>Sealing :</td> <td style="text-align: center;">Inpro/Seal</td> <td style="text-align: center;">Inpro/Seal</td> </tr> <tr> <td>Lubrication interval :</td> <td style="text-align: center;">17000 h</td> <td style="text-align: center;">20000 h</td> </tr> <tr> <td>Lubricant amount :</td> <td style="text-align: center;">45 g</td> <td style="text-align: center;">34 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 :	6319 C3	6316 C3	Sealing :	Inpro/Seal	Inpro/Seal	Lubrication interval :	17000 h	20000 h	Lubricant amount :	45 g	34 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



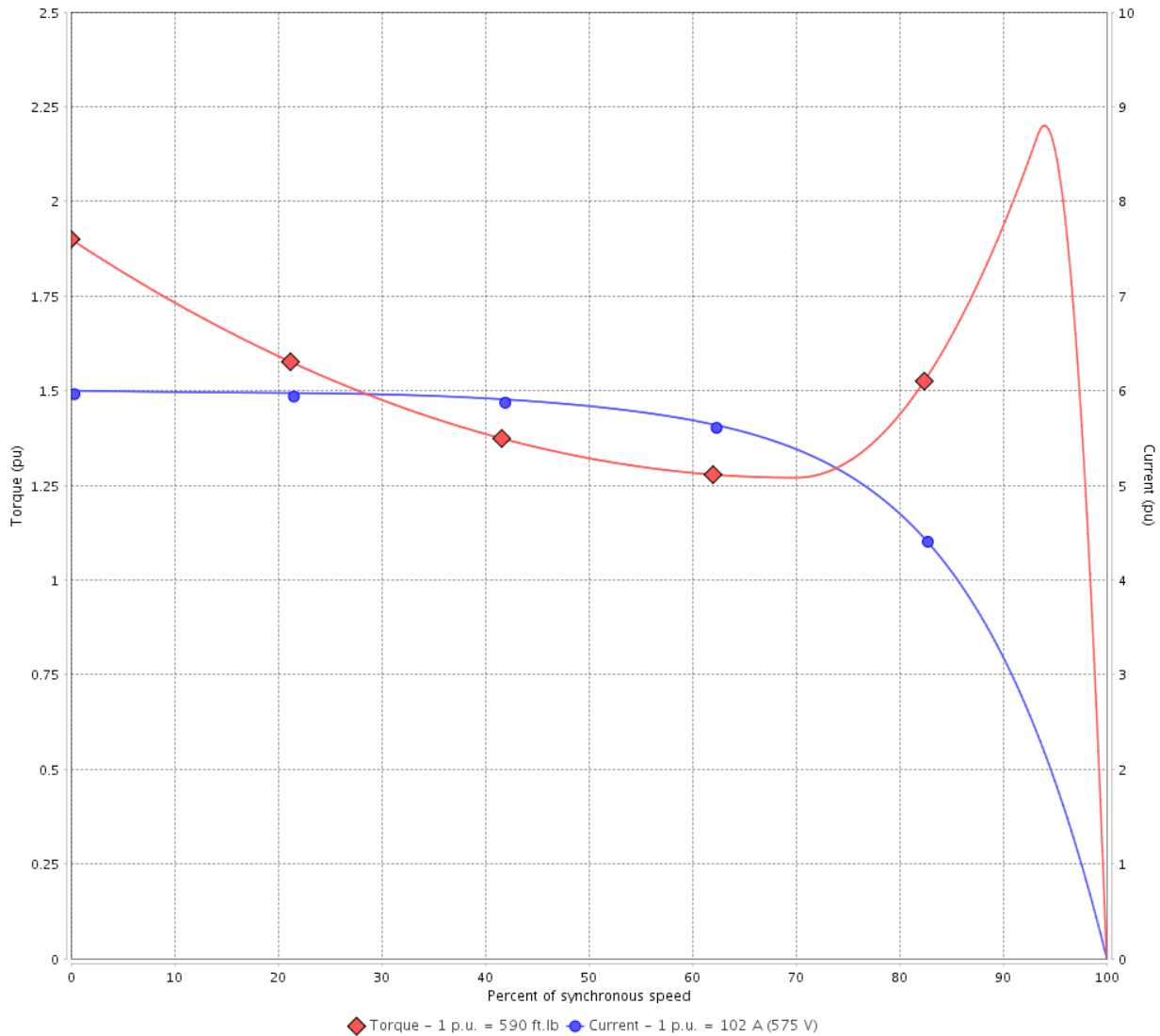
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12912584

Catalog # : 10009ST3HIE445T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 575 V 60 Hz 8P

Rated current	: 102 A	Moment of inertia (J)	: 87.3 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 590 ft.lb	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.25
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 890 rpm	Design	: B

Locked rotor time : 27s (cold) 15s (hot)

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Date	01/06/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

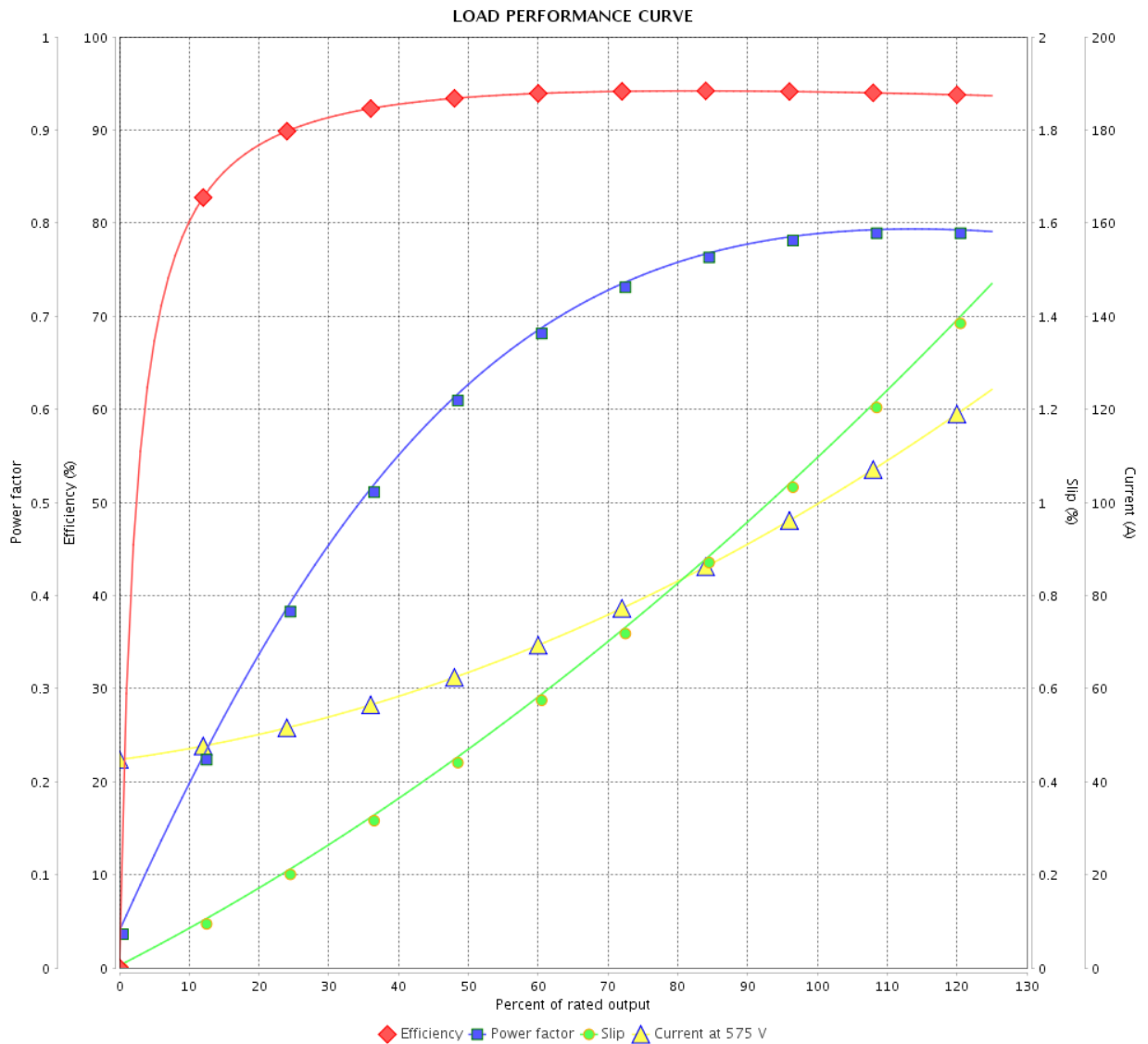


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 12912584

Catalog # : 10009ST3HIE445T-W22



Performance : 575 V 60 Hz 8P

Rated current : 102 A  
 LRC : 6.0  
 Rated torque : 590 ft.lb  
 Locked rotor torque : 190 %  
 Breakdown torque : 220 %  
 Rated speed : 890 rpm

Moment of inertia (J) : 87.3 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 890 rpm	Design	: B

Heating constant

Cooling constant

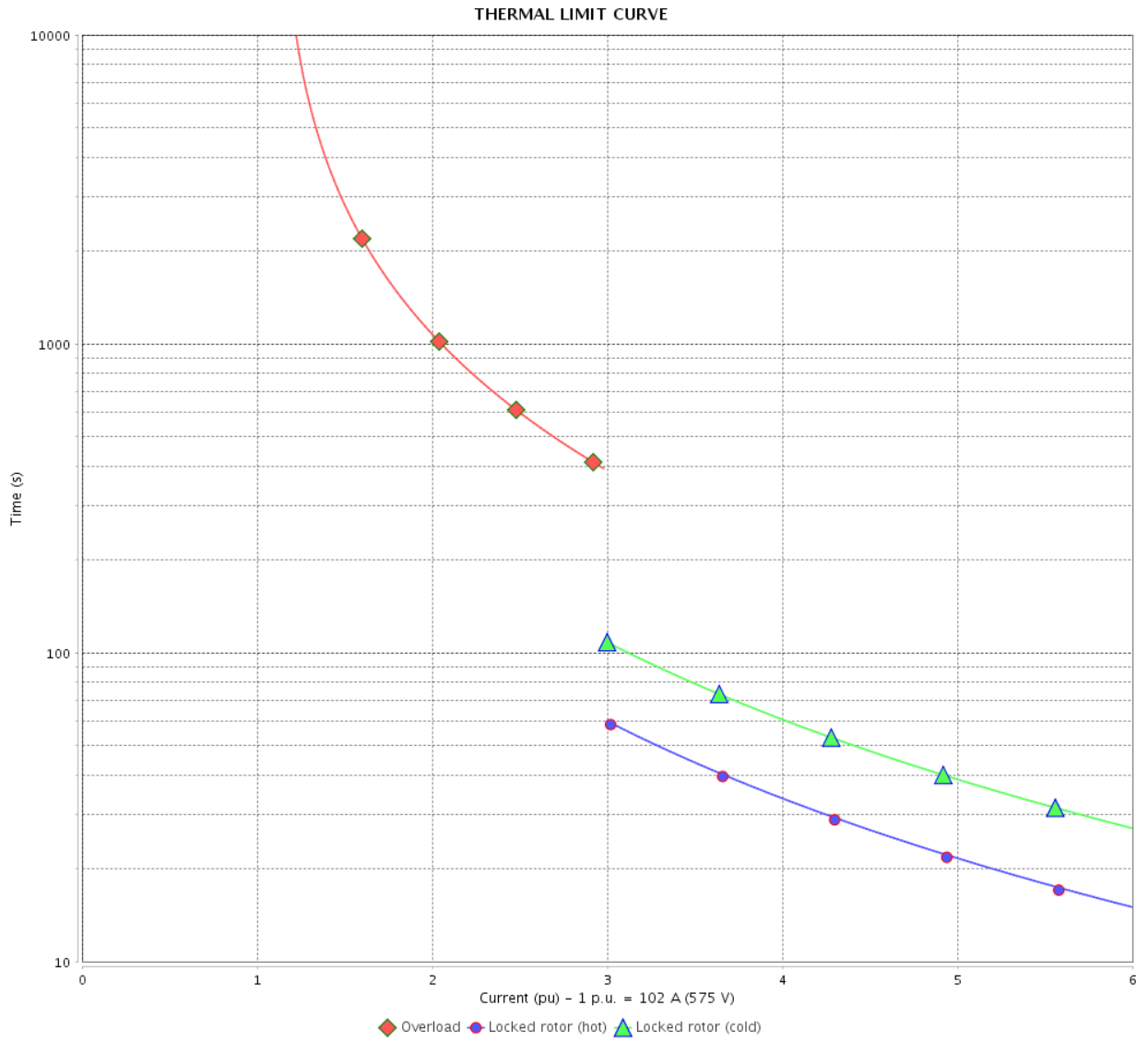
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# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



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



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Checked by				
Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



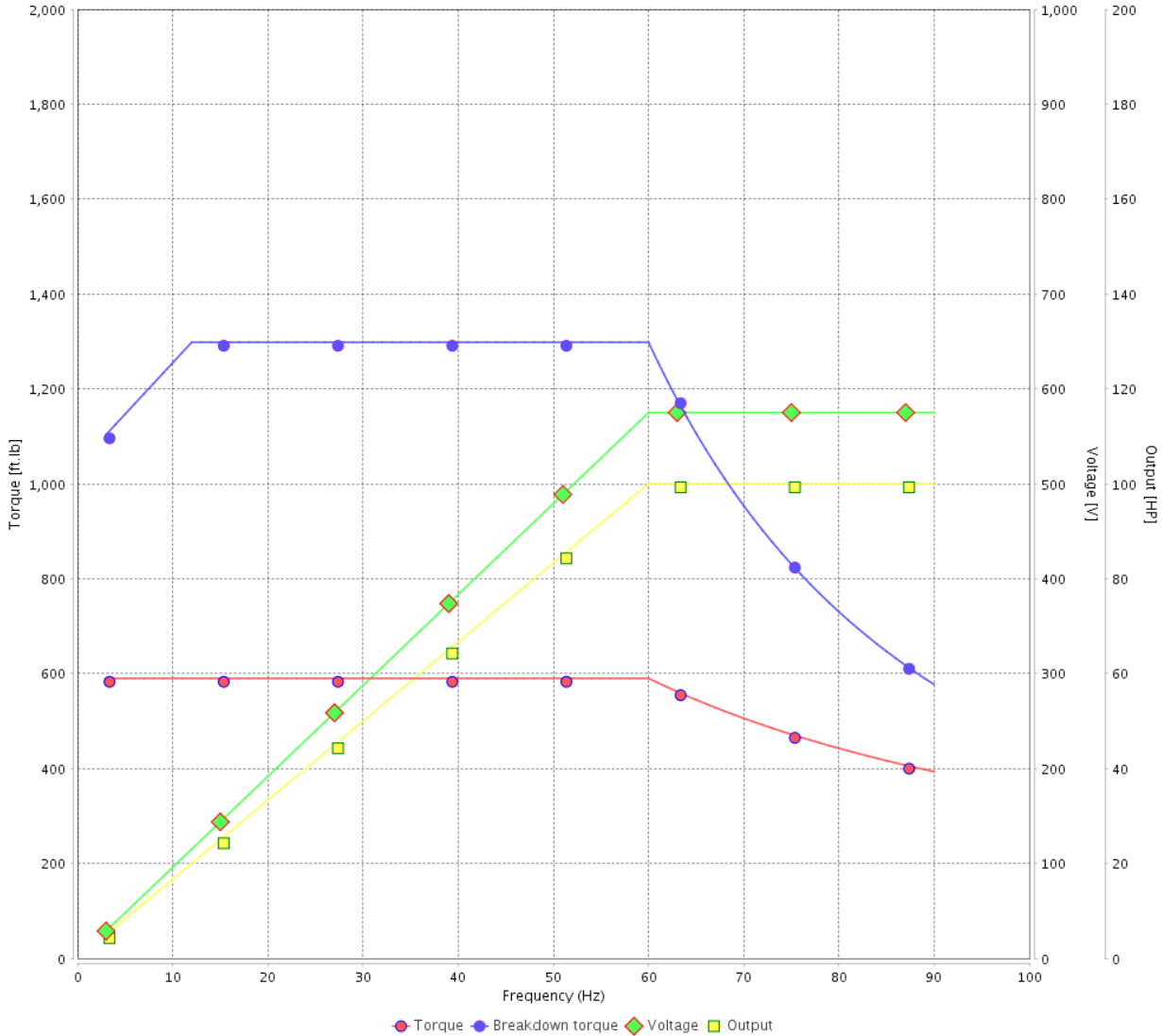
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VFD OPERATION CURVE



Performance : 575 V 60 Hz 8P

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 Breakdown torque : 220 %  
 Rated speed : 890 rpm

Moment of inertia (J) : 87.3 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.25  
 Temperature rise : 80 K  
 Design : B

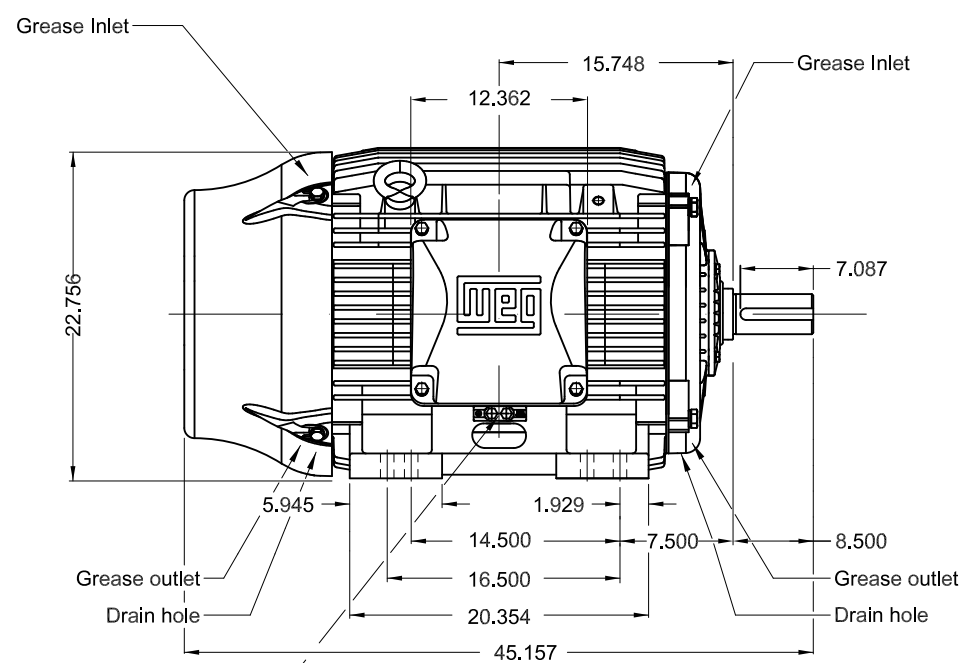
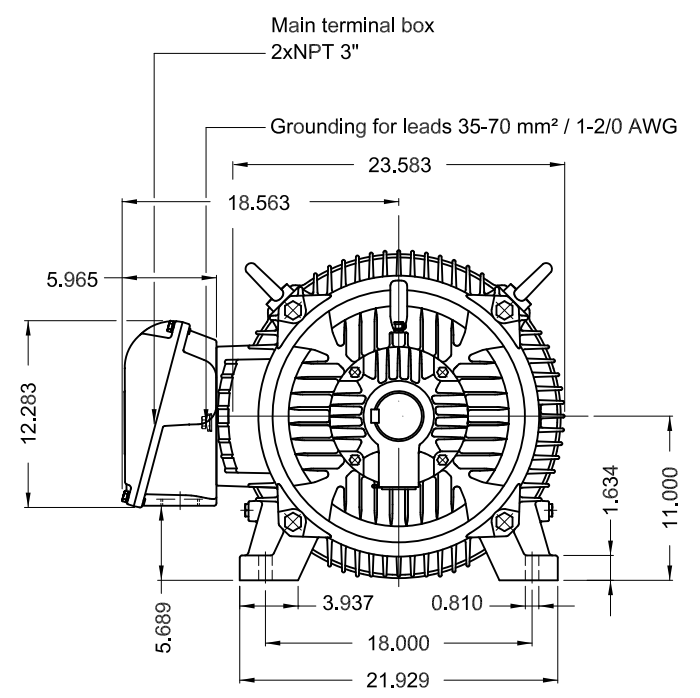
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1 2 3 4 5 6

A

B

C

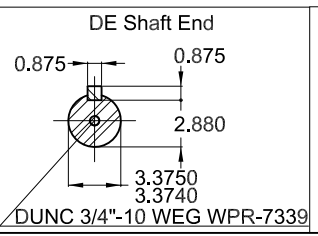


Grounding for leads 25-185 mm<sup>2</sup> / 3AWG-350MCM

D

E

Color RAL 5009  
 Painting plan 202E  
 Mounting NEMA F-1  
 Mounting B3R(D)



100 HP 08 Poles 60 Hz A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	HYBRISUSER	THREE PH. MOTOR IEEE 841 W22 PREM. EFF.					
CHECKED		FRAME 444/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

**PREVIEW**  
 WDD



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