

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :				
Product line	: NEMA Premium Efficiency Three-Phase			
Product code :	13500516			
Catalog # :	05009ET3EKD404T-W22			
Frame	: 404/5T			
Insulation class	: F			
Duty cycle	: Cont.(S1)			
Ambient temperature	: -20°C to +40°C			
Altitude	: 1000 m.a.s.l.			
Protection degree	: IP55			
Design	: A			
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>	: 1012 lb			
Moment of inertia (J)				
Output [HP]	50			
Poles	8			
Frequency [Hz]	60			
Rated voltage [V]	208-230/460			
Rated current [A]	133-120/60.0			
L. R. Amperes [A]	904-816/408			
LRC [A]	6.8x(Code H)			
No load current [A]	43.1-50.0/25.0			
Rated speed [RPM]	880			
Slip [%]	2.22			
Rated torque [ft.lb]	298			
Locked rotor torque [%]	170			
Breakdown torque [%]	260			
Service factor	1.25			
Temperature rise	80 K			
Locked rotor time	27s (cold) 15s (hot)			
Noise level <sup>2</sup>	60.0 dB(A)			
Efficiency (%)	25%	0.000		
	50%	93.0		
	75%	93.0		
	100%	93.0		
Power Factor	25%	0.00		
	50%	0.68		
	75%	0.78		
	100%	0.83		
Bearing type	: <u>Drive end</u> NU-316 C3 <u>Non drive end</u> 6314 C3			
Sealing	: WSeal WSeal			
Lubrication interval	: 17000 h 20000 h			
Lubricant amount	: 34 g 27 g			
Lubricant type	: Mobil Polyrex EM			
Foundation loads	Max. traction : 1683 lb			
	Max. compression : 2695 lb			
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.				
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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



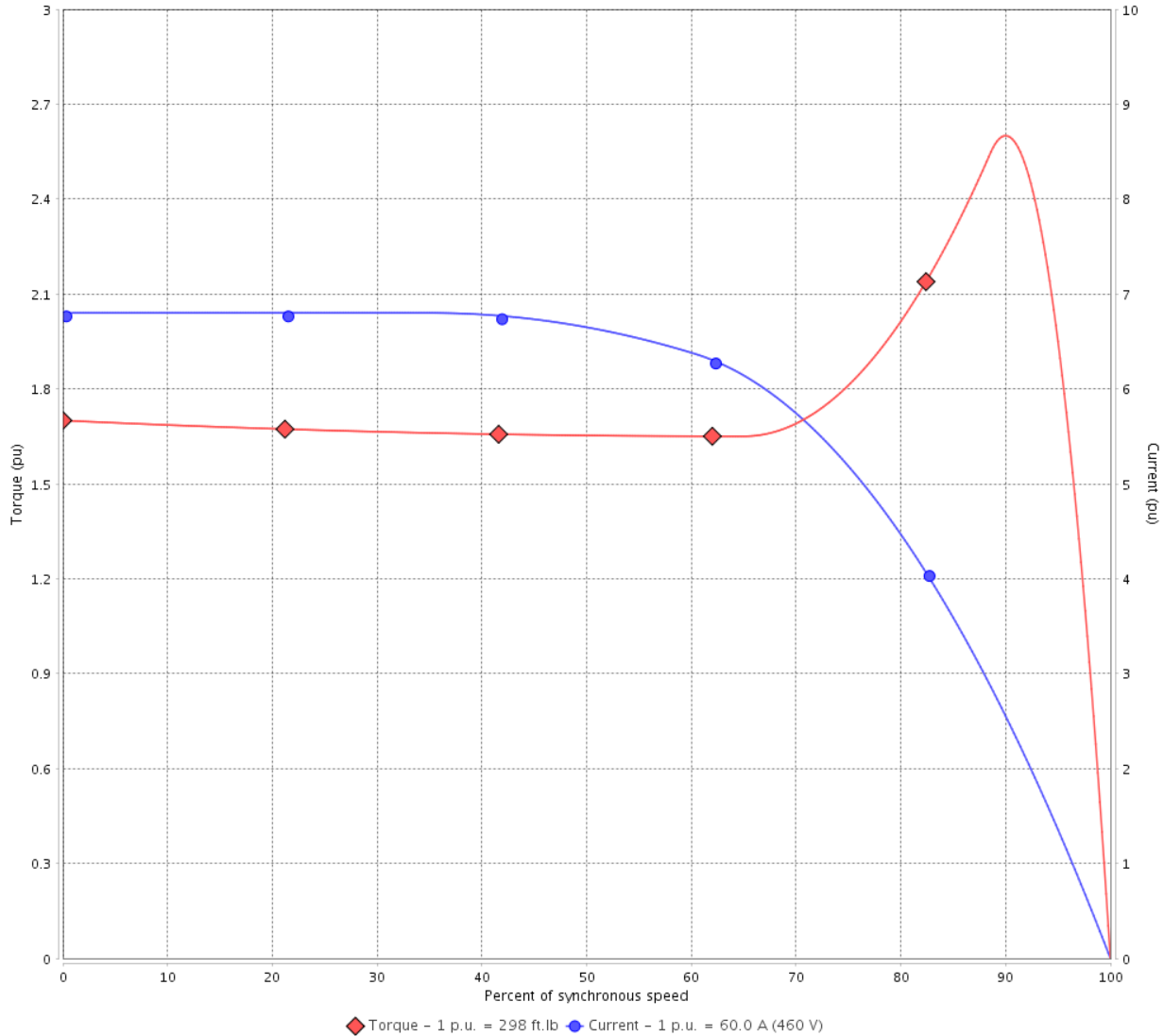
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13500516

Catalog # : 05009ET3EKD404T-W22

TORQUE AND CURRENT VS SPEED CURVE



Performance : 208-230/460 V 60 Hz 8P

Rated current	: 133-120/60.0 A	Moment of inertia (J)	
LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 298 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: A

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

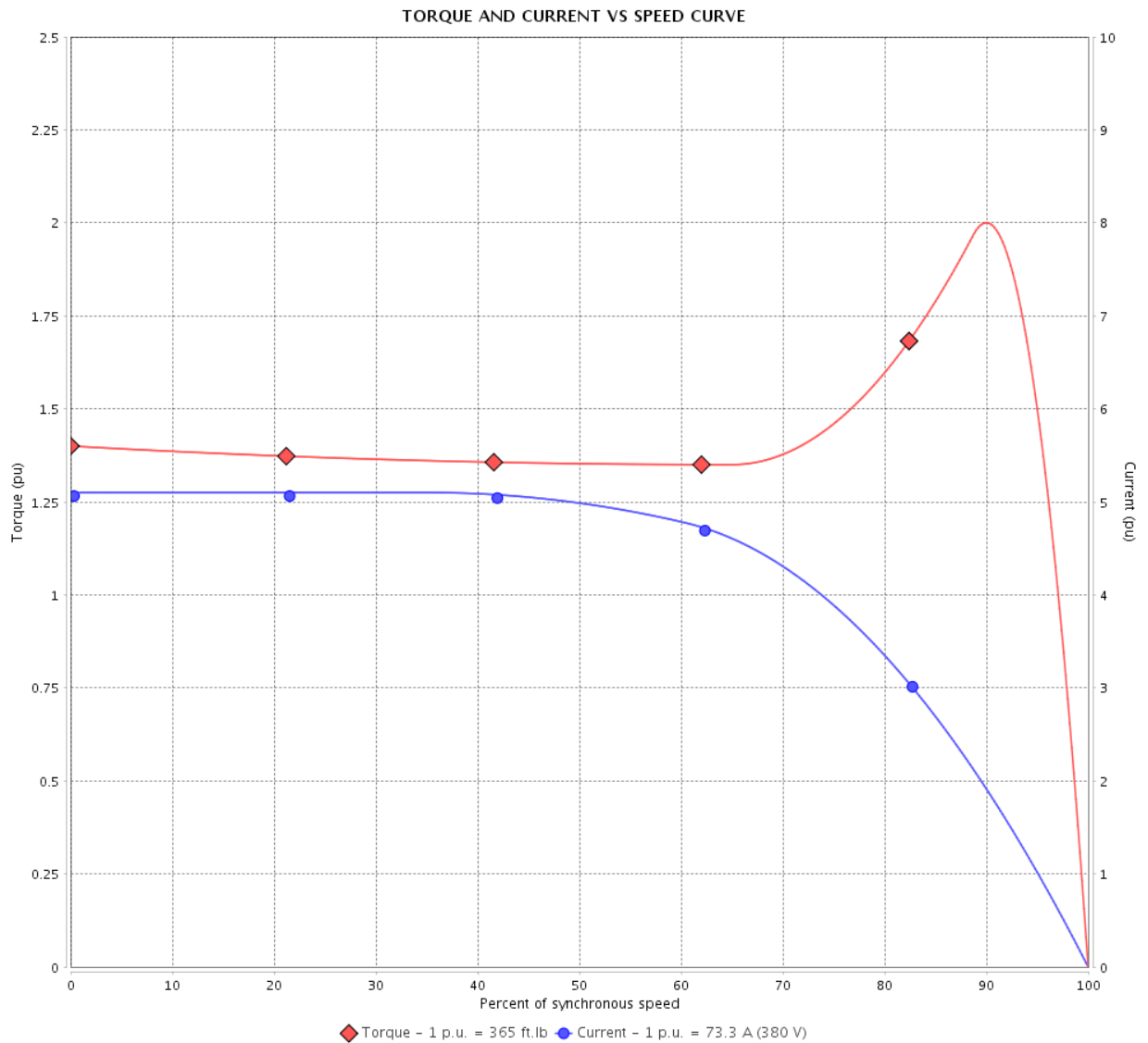
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# TORQUE AND CURRENT VS SPEED CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :  
 Product line : NEMA Premium Efficiency Three-Phase      Product code : 13500516  
 Catalog # : 05009ET3EKD404T-W22



Performance	: 380 V 50 Hz 8P		
Rated current	: 73.3 A	Moment of inertia (J)	
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 365 ft.lb	Insulation class	: F
Locked rotor torque	: 140 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: A

Locked rotor time : 21s (cold) 12s (hot)

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



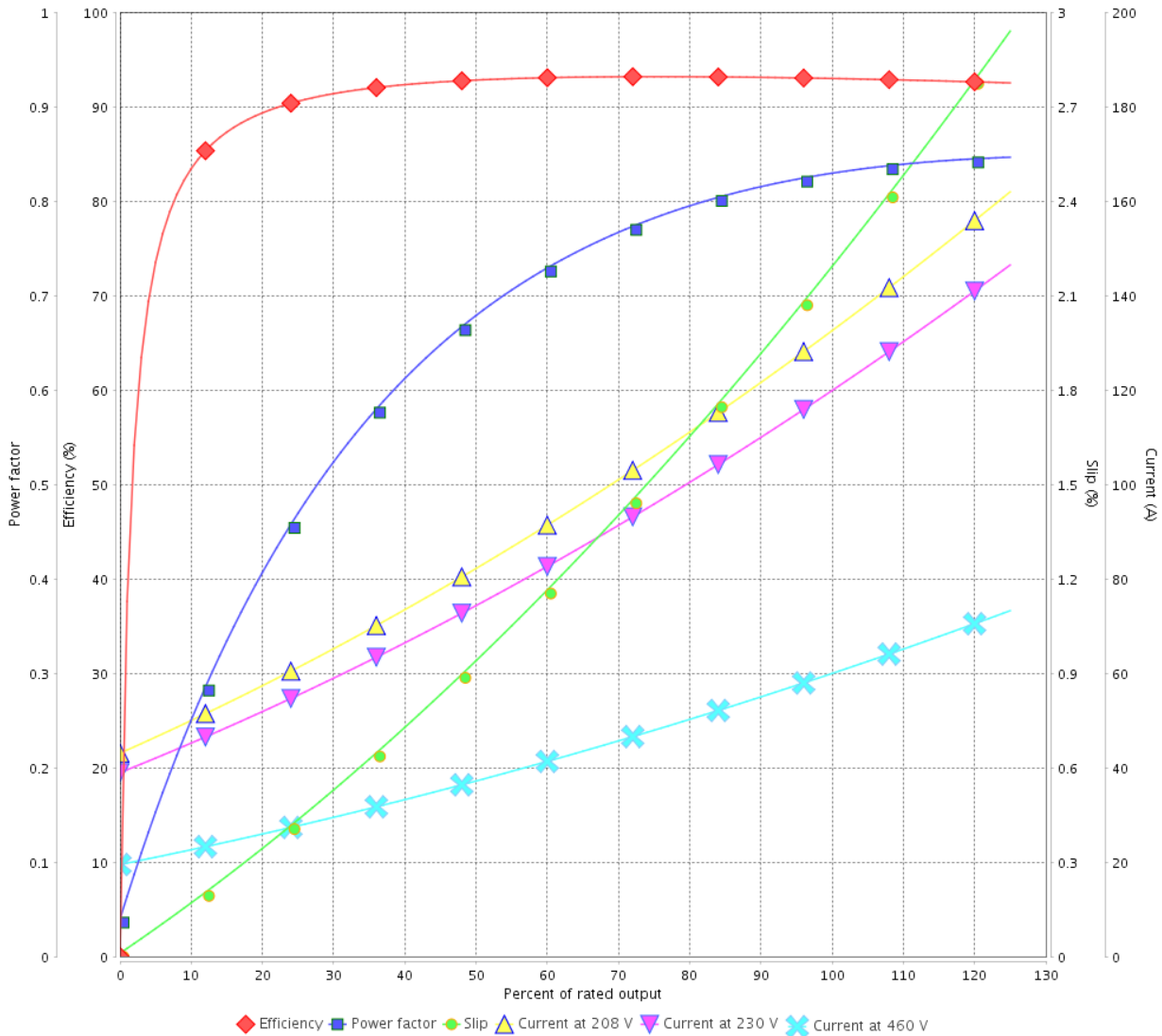
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13500516

Catalog # : 05009ET3EKD404T-W22

LOAD PERFORMANCE CURVE



Performance : 208-230/460 V 60 Hz 8P

Rated current : 133-120/60.0 A  
 LRC : 6.8  
 Rated torque : 298 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 260 %  
 Rated speed : 880 rpm

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

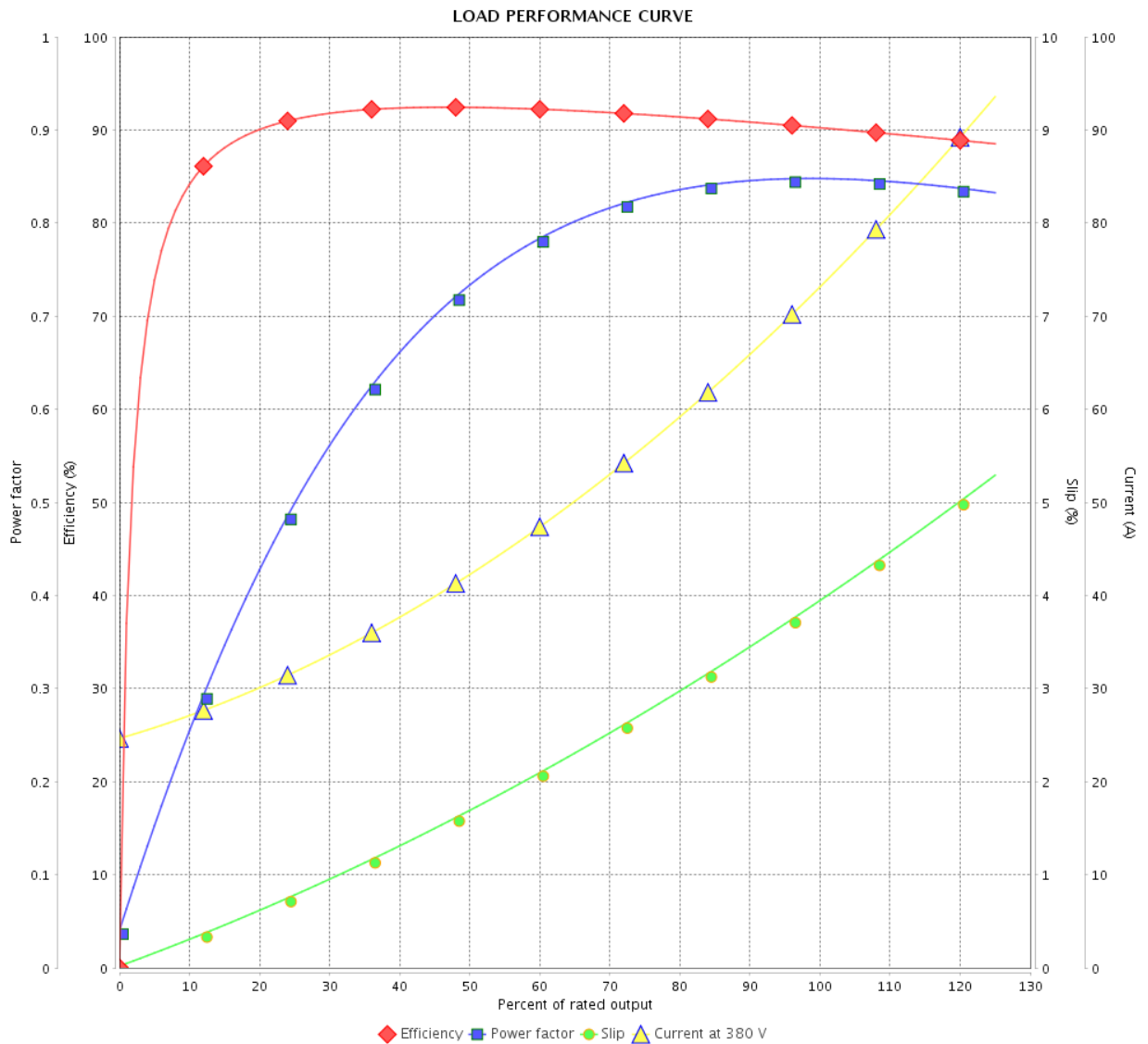


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13500516

Catalog # : 05009ET3EKD404T-W22



Performance : 380 V 50 Hz 8P

Rated current : 73.3 A  
 LRC : 5.1  
 Rated torque : 365 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 200 %  
 Rated speed : 720 rpm

Moment of inertia (J)  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : A

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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

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Catalog # : 05009ET3EKD404T-W22

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LRC	: 6.8	Duty cycle	: Cont.(S1)
Rated torque	: 298 ft.lb	Insulation class	: F
Locked rotor torque	: 170 %	Service factor	: 1.25
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: A

Heating constant

Cooling constant

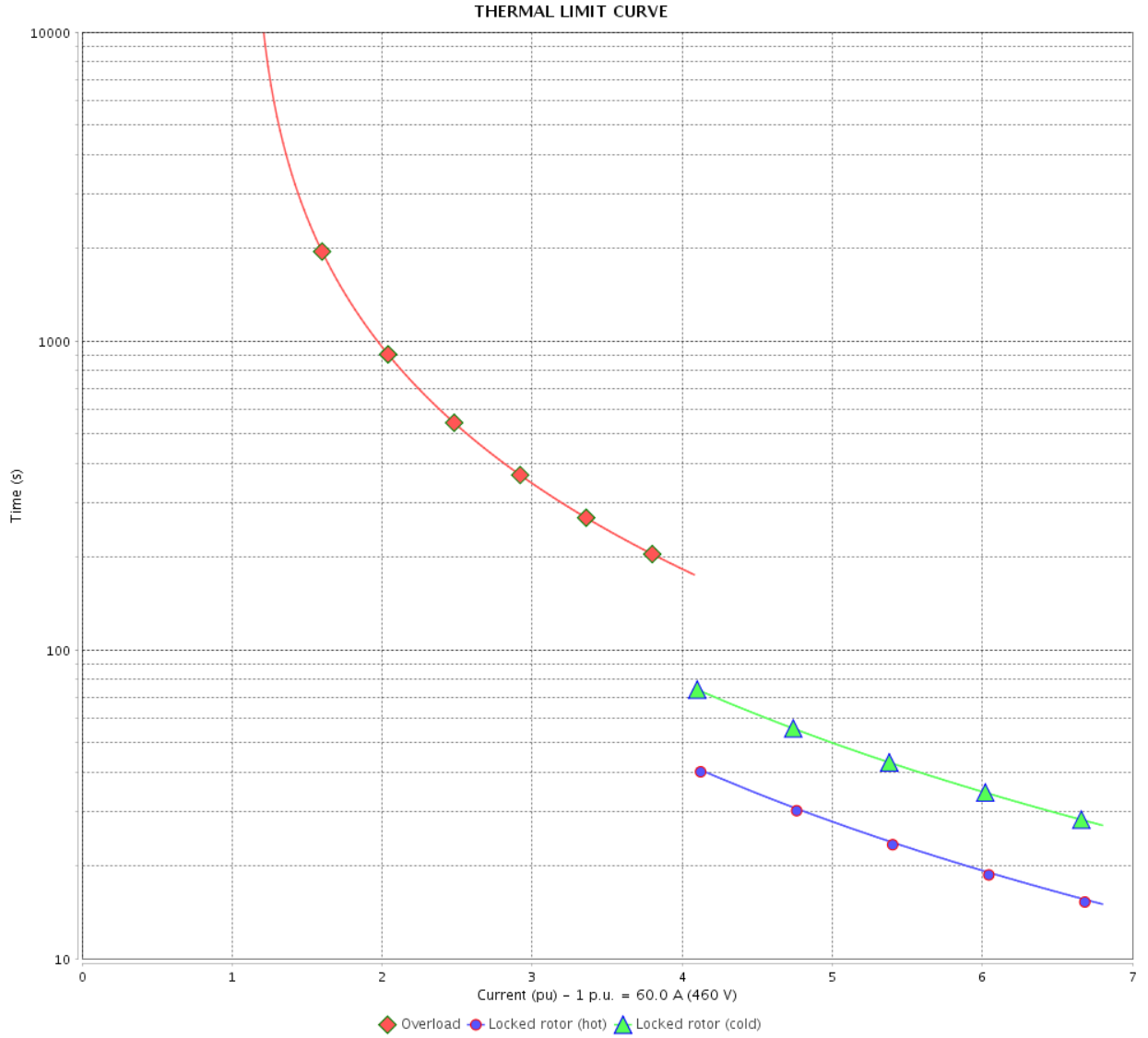
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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Date				

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13500516  
Catalog # : 05009ET3EKD404T-W22

Performance : 380 V 50 Hz 8P

Rated current : 73.3 A	Moment of inertia (J)
LRC : 5.1	Duty cycle : Cont.(S1)
Rated torque : 365 ft.lb	Insulation class : F
Locked rotor torque : 140 %	Service factor : 1.00
Breakdown torque : 200 %	Temperature rise : 80 K
Rated speed : 720 rpm	Design : A

Heating constant

Cooling constant

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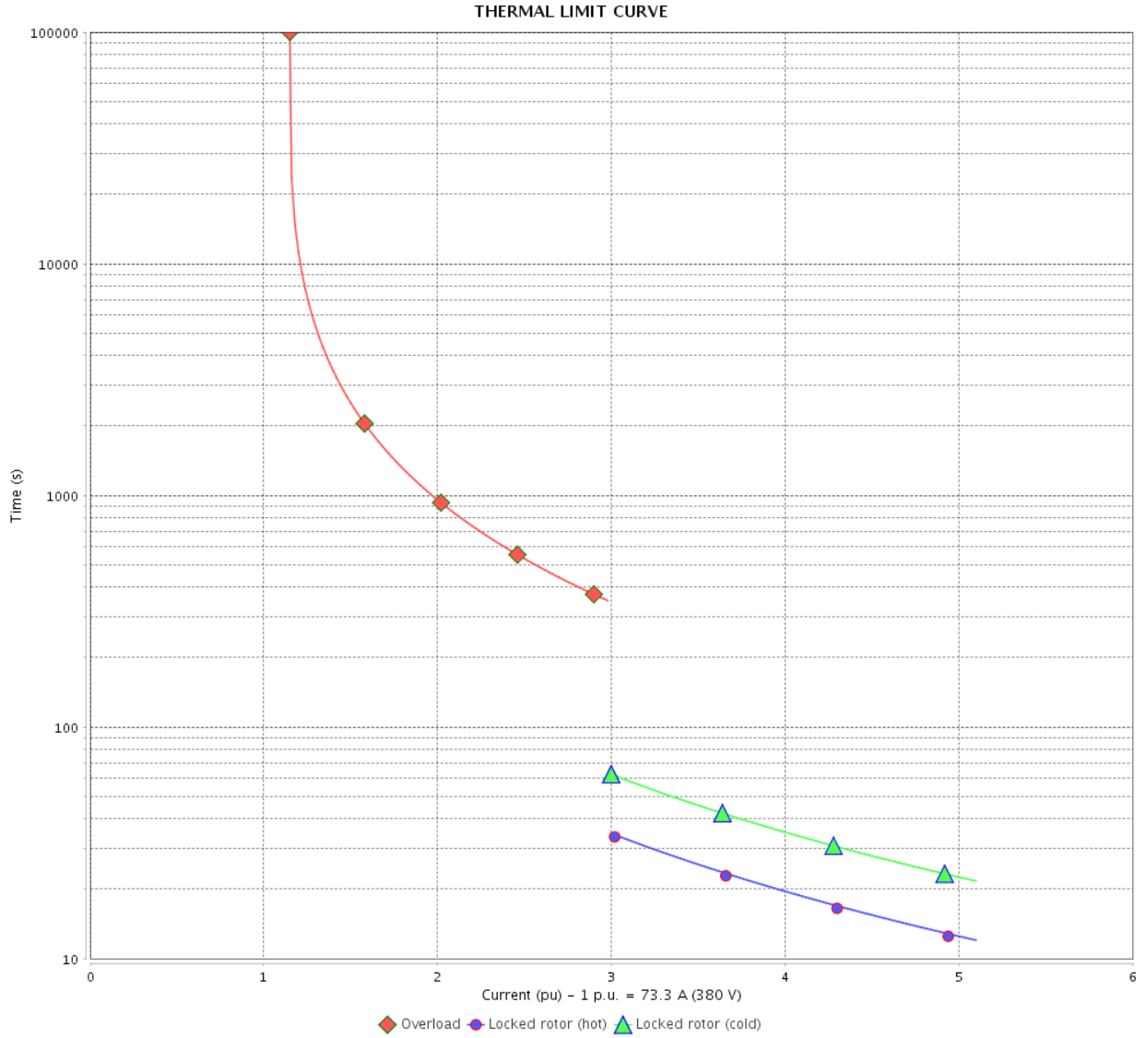


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



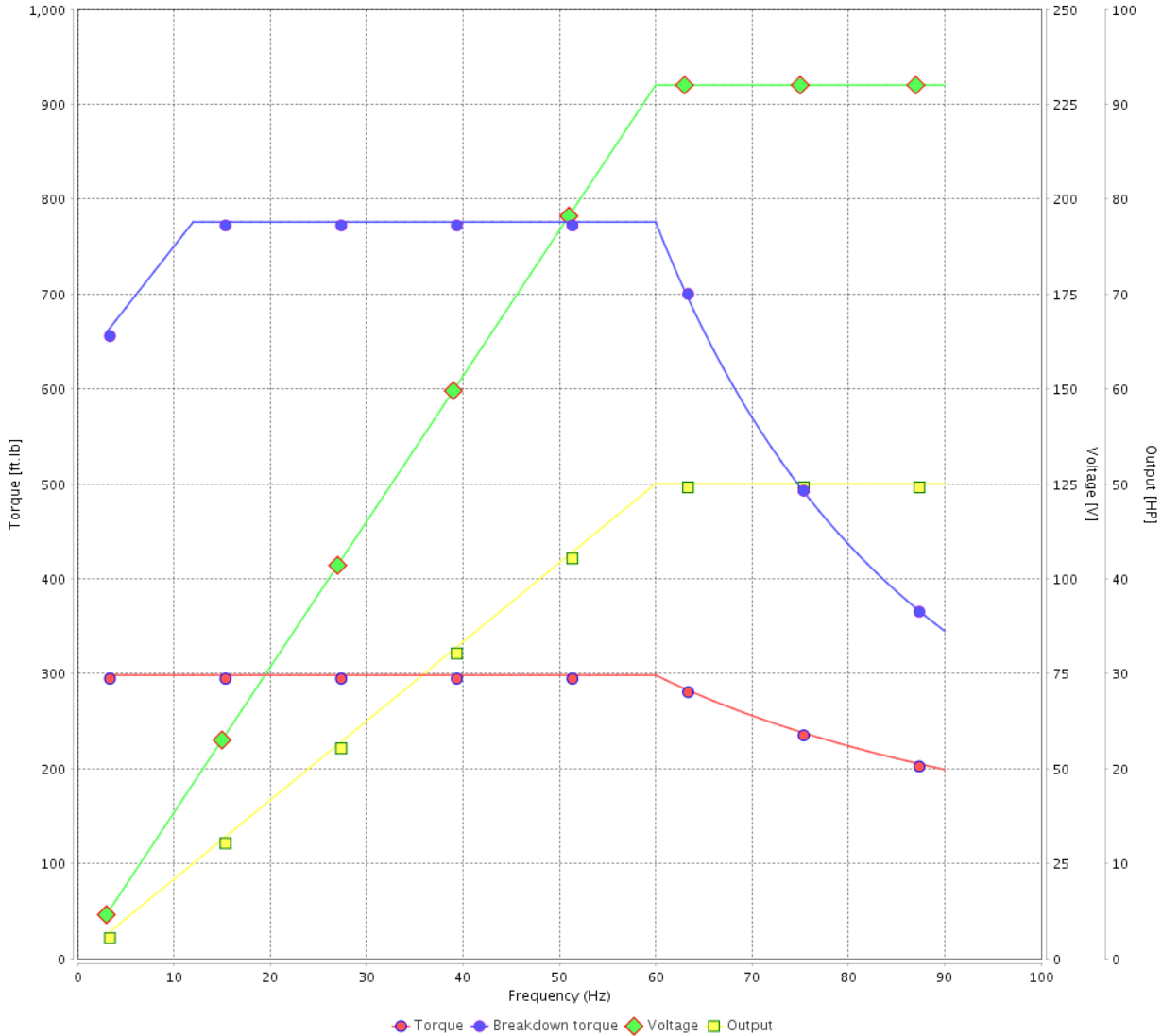
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13500516

Catalog # : 05009ET3EKD404T-W22

VFD OPERATION CURVE



Performance : 208-230/460 V 60 Hz 8P

Rated current : 133-120/60.0 A  
 LRC : 6.8  
 Rated torque : 298 ft.lb  
 Locked rotor torque : 170 %  
 Breakdown torque : 260 %  
 Rated speed : 880 rpm

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

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

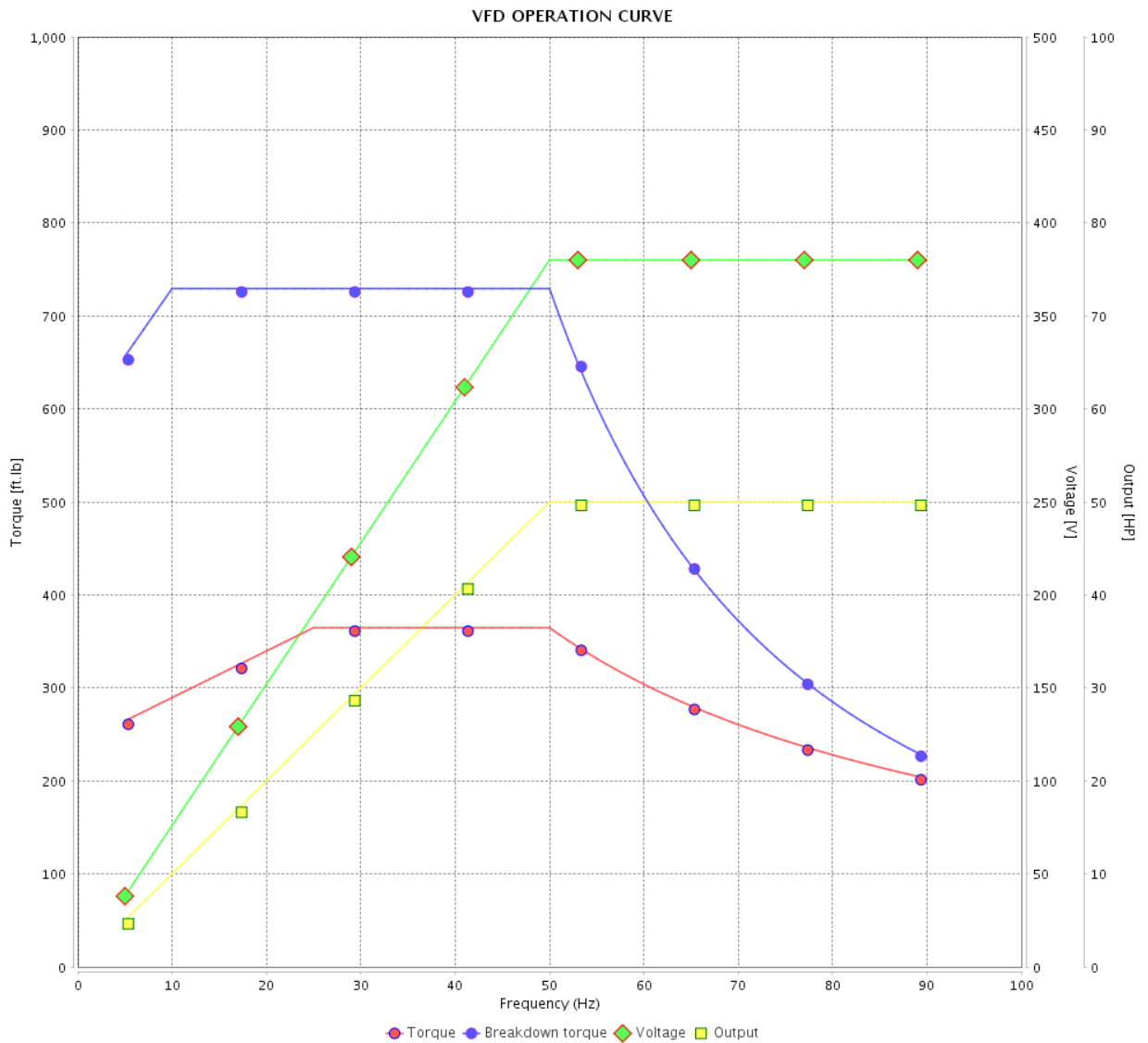


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Rated current : 73.3 A  
 LRC : 5.1  
 Rated torque : 365 ft.lb  
 Locked rotor torque : 140 %  
 Breakdown torque : 200 %  
 Rated speed : 720 rpm

Moment of inertia (J)  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : A

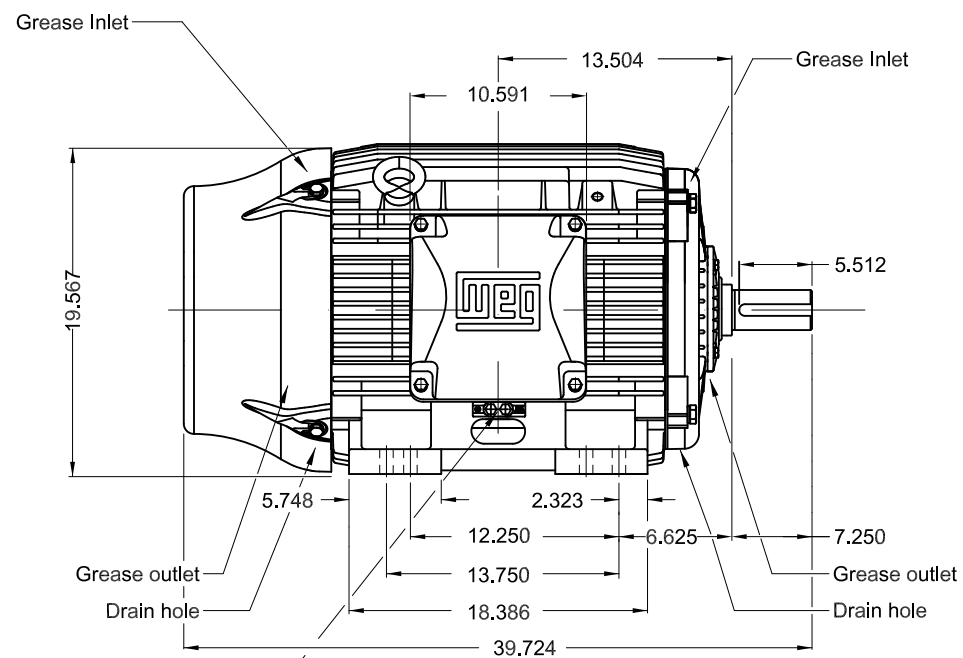
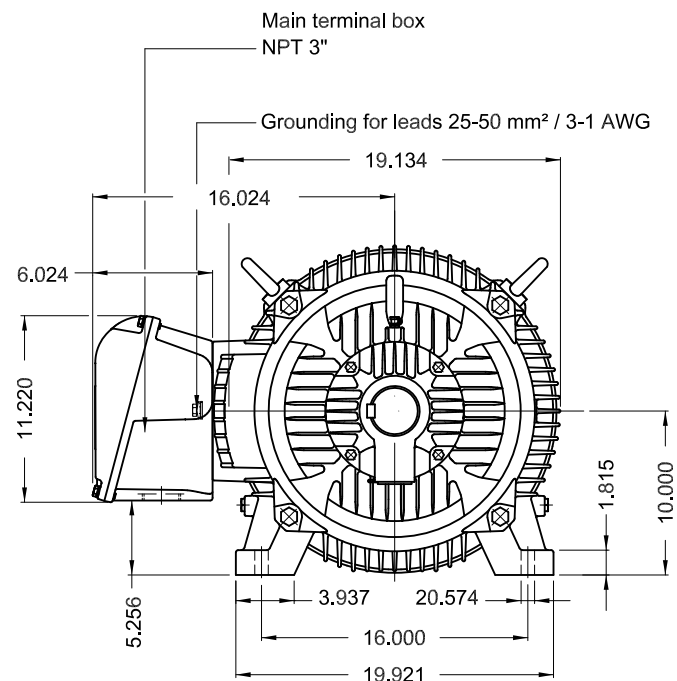
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1 2 3 4 5 6

A

B

C

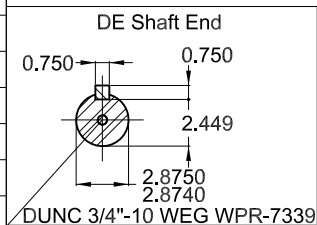


Grounding for leads 25-185 mm² / 3AWG-350MCM

D

E

- Terminal block with 6 terminals
- Design A
- DE roller bearing
- Shaft locking device
- Color RAL 5009
- Painting plan 203A
- Mounting NEMA F-1
- Mounting B3R(D)



50 HP 08 Poles 60 Hz

A

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR W22 PREM. EFF.					
CHECKED		FRAME 404/5T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET 1 / 1			

PREVIEW  
WDD



Dimensions in inches XME A3