

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer :				
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	13503280	
		Catalog # :	06009ET3EKD405T-W22	
Frame	: 404/5T	Cooling method	: IC411 - TEFC	
Insulation class	: F	Mounting	: F-1	
Duty cycle	: Cont.(S1)	Rotation <sup>1</sup>	: Both (CW and CCW)	
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line	
Altitude	: 1000 m.a.s.l.	Approx. weight <sup>2</sup>	: 1151 lb	
Protection degree	: IP55	Moment of inertia (J)		
Design	: A			
Output [HP]	60		60	
Poles	8		8	
Frequency [Hz]	60		50	
Rated voltage [V]	208-230/460		380	
Rated current [A]	161-146/73.0		89.2	
L. R. Amperes [A]	1047-949/475		455	
LRC [A]	6.5x(Code G)		5.1x(Code E)	
No load current [A]	51.7-60.0/30.0		29.7	
Rated speed [RPM]	880		720	
Slip [%]	2.22		4.00	
Rated torque [ft.lb]	358		438	
Locked rotor torque [%]	180		150	
Breakdown torque [%]	270		210	
Service factor	1.15		1.00	
Temperature rise	80 K		80 K	
Locked rotor time	23s (cold) 13s (hot)		18s (cold) 10s (hot)	
Noise level <sup>2</sup>	60.0 dB(A)		56.0 dB(A)	
Efficiency (%)	25%	0.000	0.000	
	50%	93.0	92.4	
	75%	93.0	91.7	
	100%	93.0	90.2	
Power Factor	25%	0.00	0.00	
	50%	0.68	0.74	
	75%	0.78	0.82	
	100%	0.83	0.85	
Bearing type	: <u>Drive end</u> NU-316 C3	<u>Non drive end</u> 6314 C3	Foundation loads	
Sealing	: WSeal	WSeal	Max. traction : 2183 lb	
Lubrication interval	: 17000 h	20000 h	Max. compression : 3334 lb	
Lubricant amount	: 34 g	27 g		
Lubricant type	: Mobil Polyrex EM			
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
Date	13/04/2022		1 / 11	

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



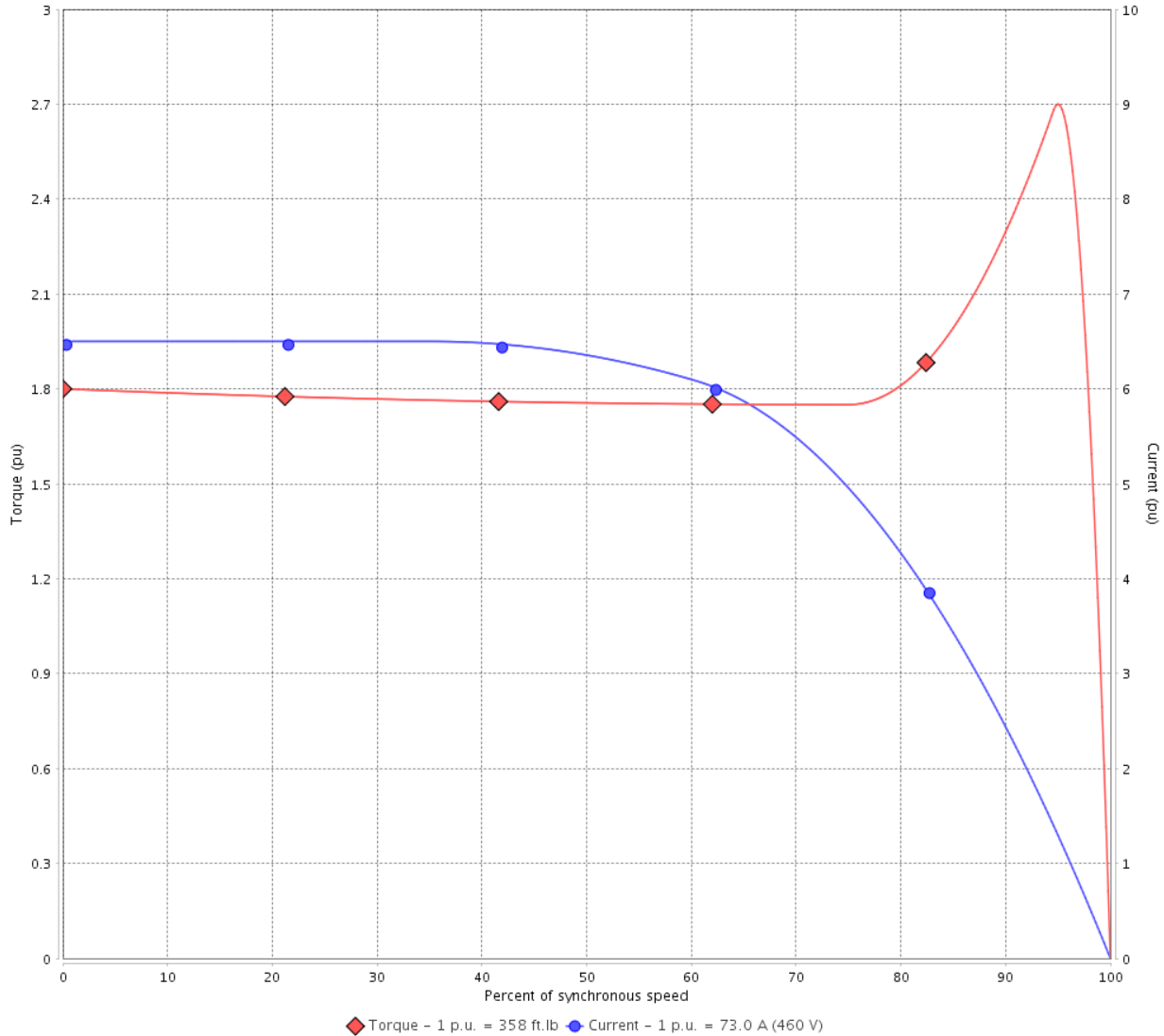
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13503280

Catalog # : 06009ET3EKD405T-W22

TORQUE AND CURRENT VS SPEED CURVE



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

Rated current	: 161-146/73.0 A	Moment of inertia (J)	
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 358 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: A

Locked rotor time : 23s (cold) 13s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 2 / 11	Revision
Checked by				
Date	13/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



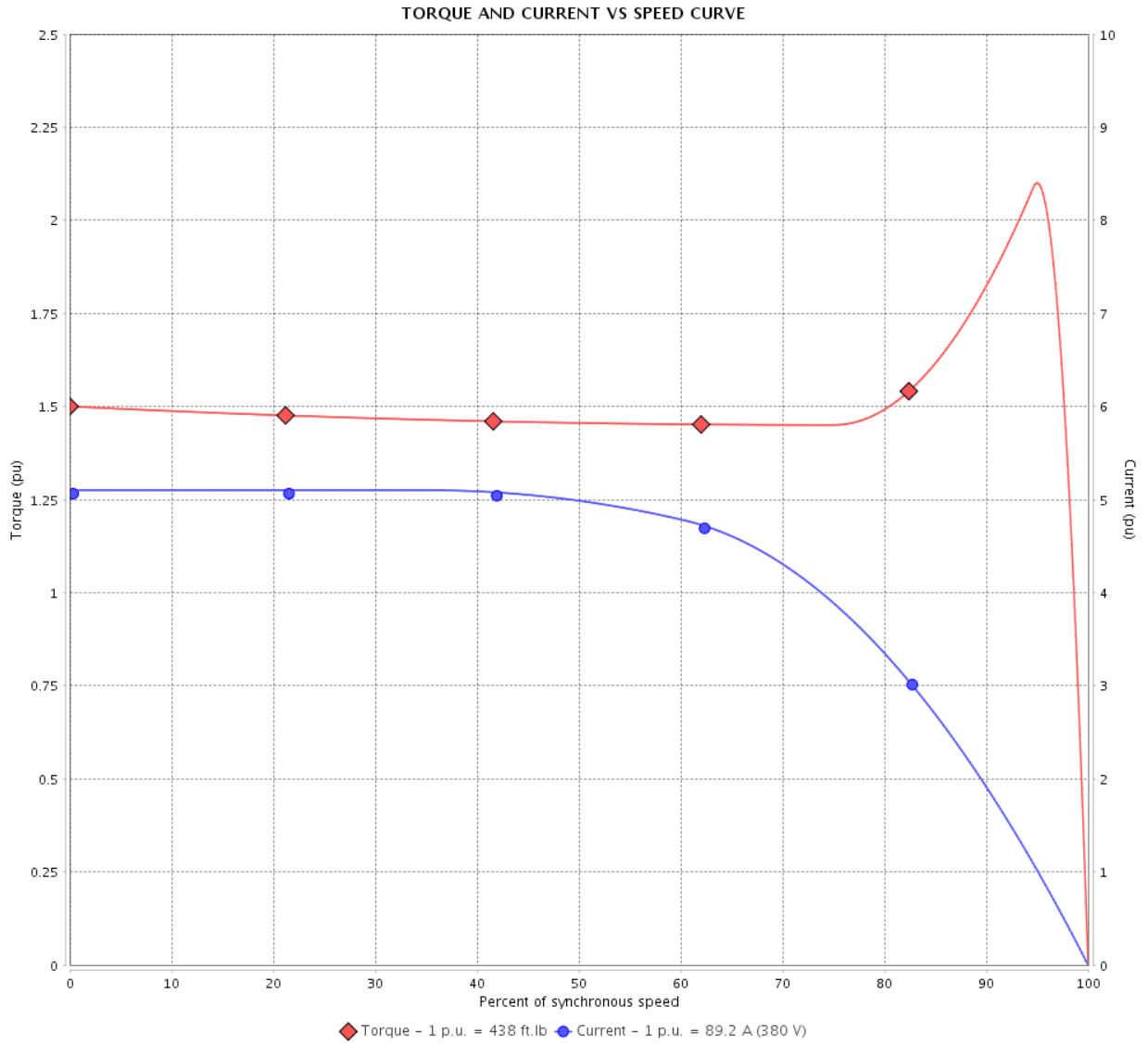
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13503280

Catalog # : 06009ET3EKD405T-W22



Performance : 380 V 50 Hz 8P

Rated current	: 89.2 A	Moment of inertia (J)	
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 438 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: A

Locked rotor time : 18s (cold) 10s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			3 / 11	
Date	13/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage



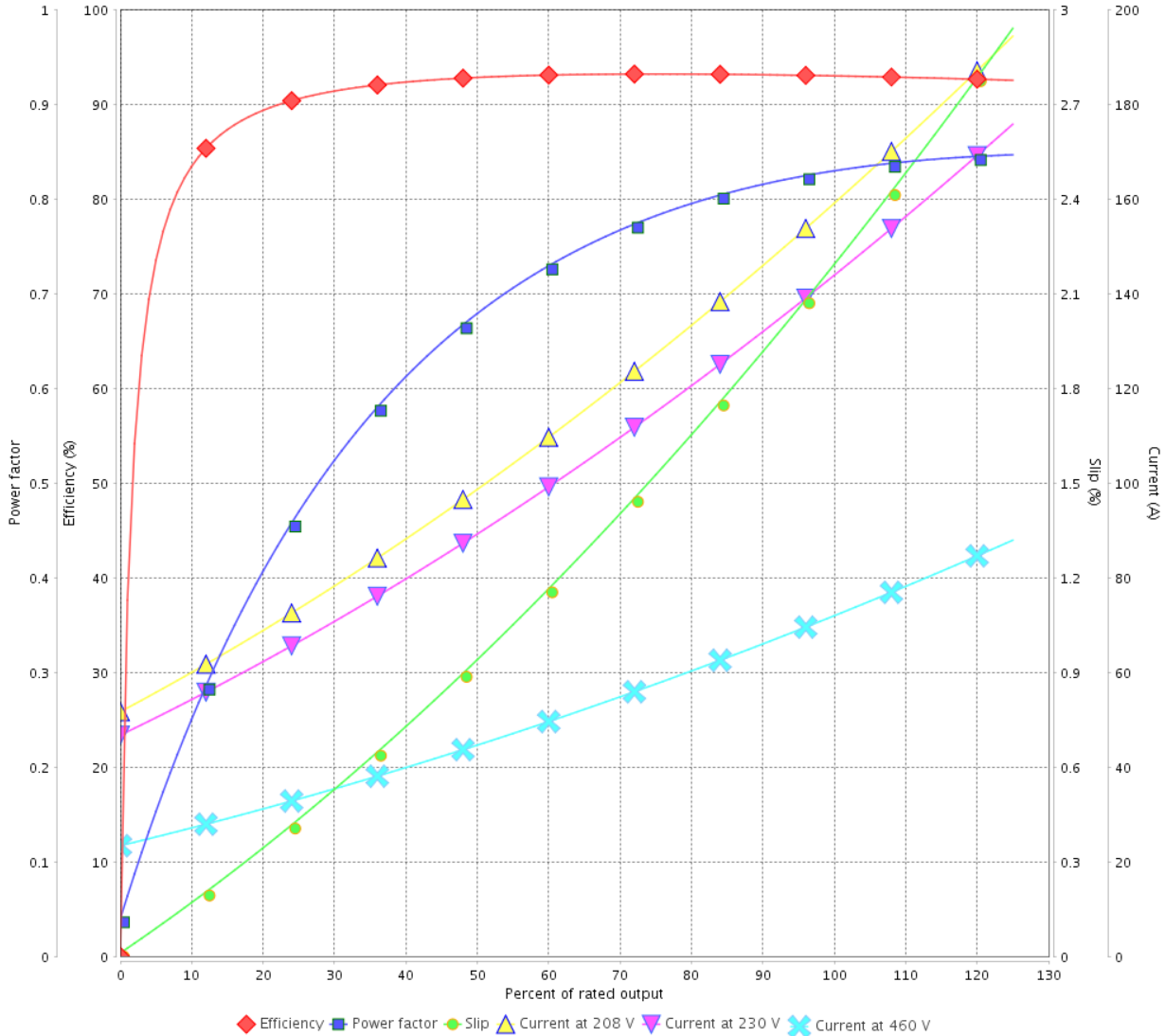
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13503280

Catalog # : 06009ET3EKD405T-W22

LOAD PERFORMANCE CURVE



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

Rated current : 161-146/73.0 A  
 LRC : 6.5  
 Rated torque : 358 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 270 %  
 Rated speed : 880 rpm

Moment of inertia (J)  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			4 / 11	
Date	13/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

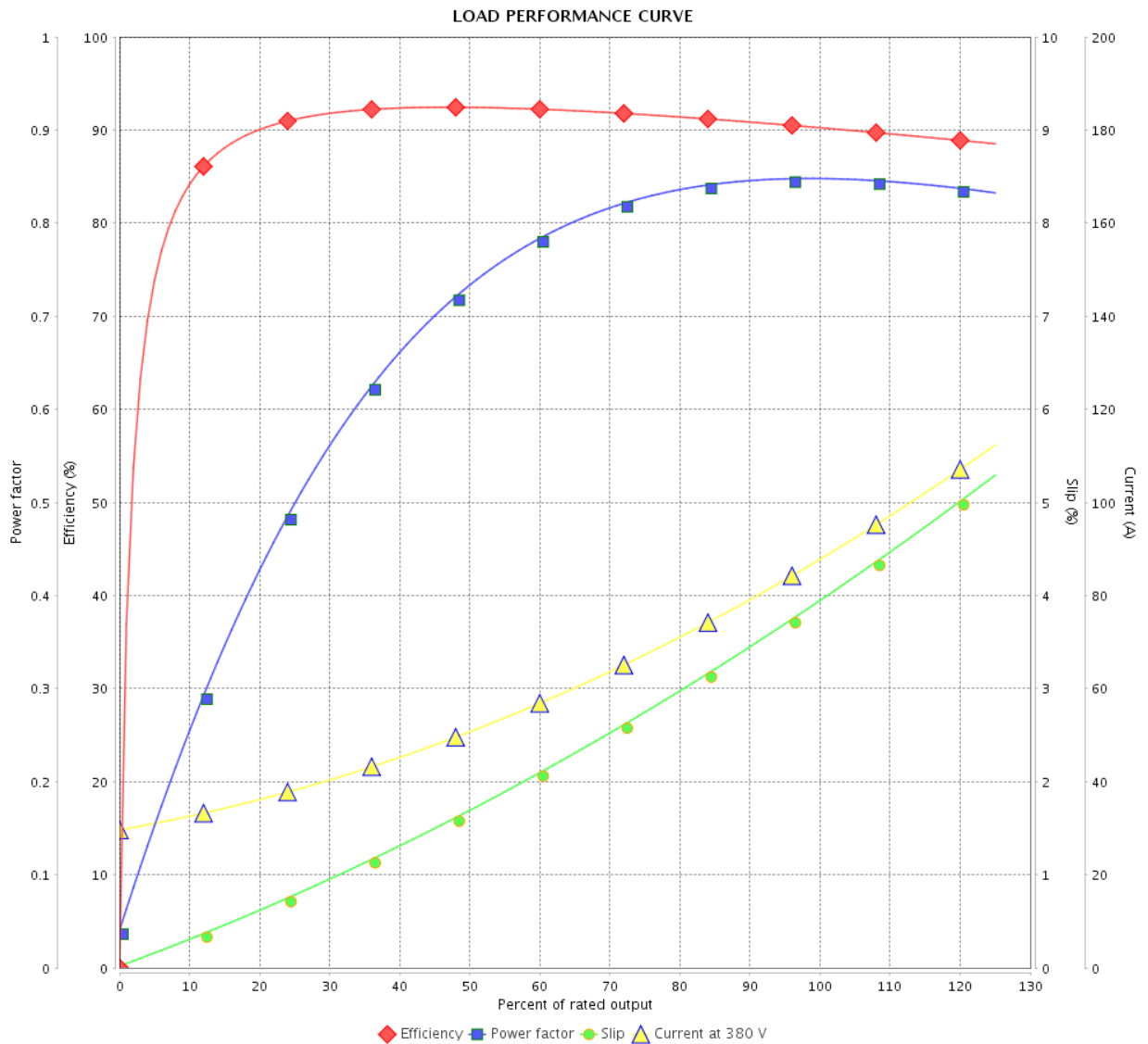


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13503280

Catalog # : 06009ET3EKD405T-W22



Performance : 380 V 50 Hz 8P

Rated current : 89.2 A  
 LRC : 5.1  
 Rated torque : 438 ft.lb  
 Locked rotor torque : 150 %  
 Breakdown torque : 210 %  
 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

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		5 / 11		
Date		13/04/2022		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13503280  
Catalog # : 06009ET3EKD405T-W22

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

Rated current	: 161-146/73.0 A	Moment of inertia (J)	
LRC	: 6.5	Duty cycle	: Cont.(S1)
Rated torque	: 358 ft.lb	Insulation class	: F
Locked rotor torque	: 180 %	Service factor	: 1.15
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 880 rpm	Design	: A

Heating constant

Cooling constant

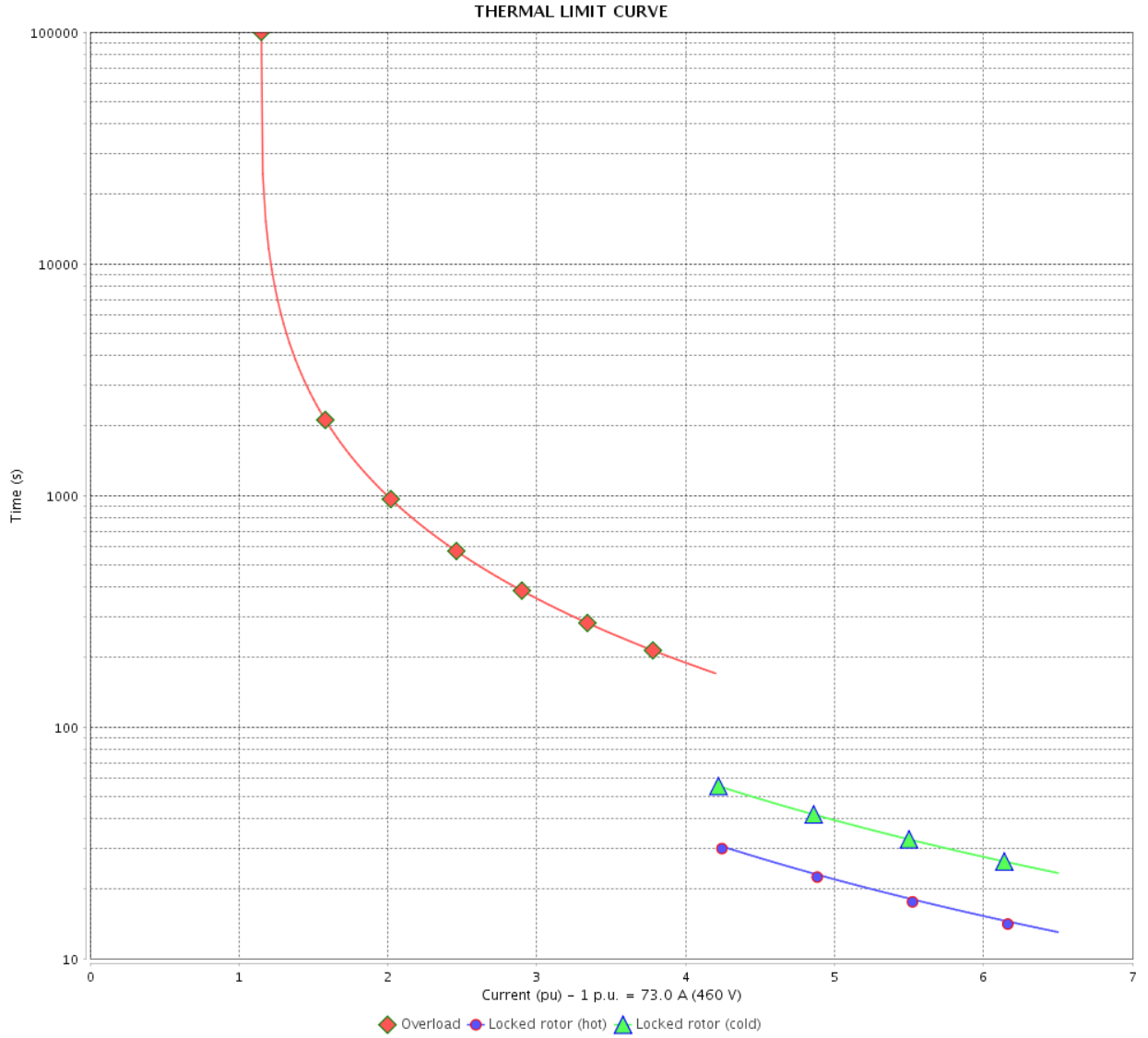
Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		6 / 11	

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		7 / 11		

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
Product code : 13503280  
Catalog # : 06009ET3EKD405T-W22

Performance : 380 V 50 Hz 8P

Rated current	: 89.2 A	Moment of inertia (J)	
LRC	: 5.1	Duty cycle	: Cont.(S1)
Rated torque	: 438 ft.lb	Insulation class	: F
Locked rotor torque	: 150 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 720 rpm	Design	: A

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	13/04/2022		8 / 11	

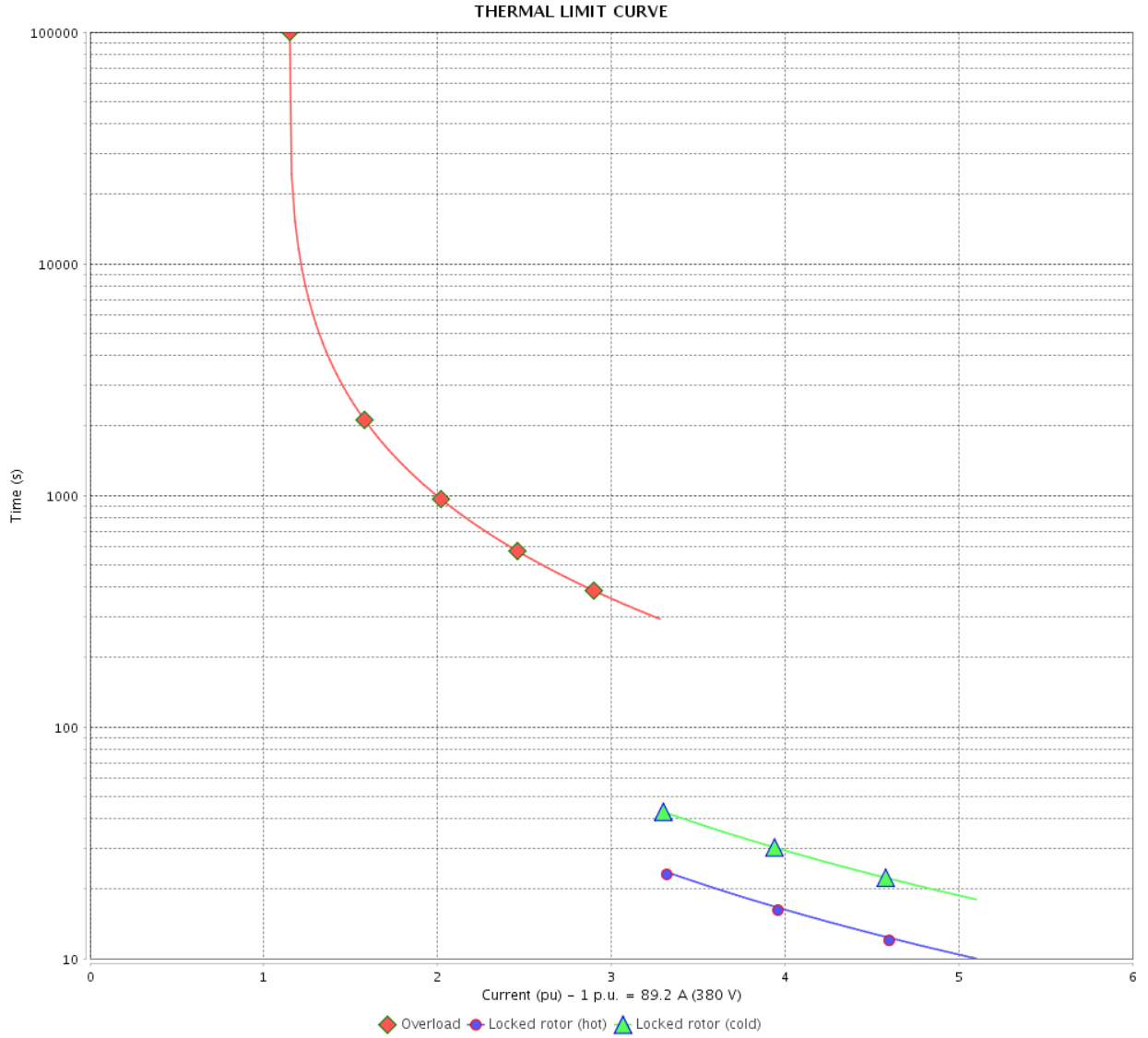


# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
			Page	Revision
			9 / 11	

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

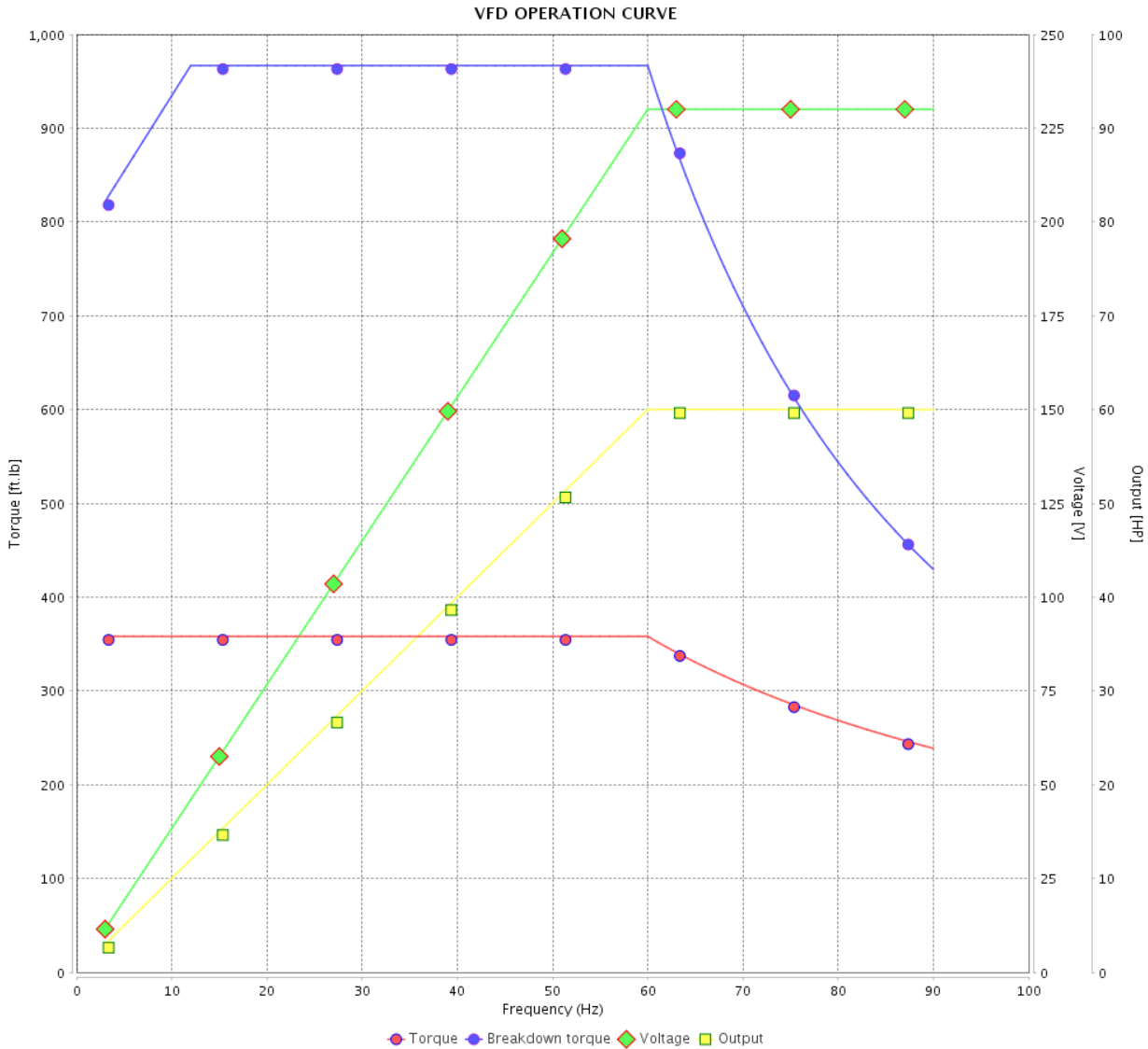


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13503280

Catalog # : 06009ET3EKD405T-W22



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

Rated current : 161-146/73.0 A  
 LRC : 6.5  
 Rated torque : 358 ft.lb  
 Locked rotor torque : 180 %  
 Breakdown torque : 270 %  
 Rated speed : 880 rpm

Moment of inertia (J)  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : A

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

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

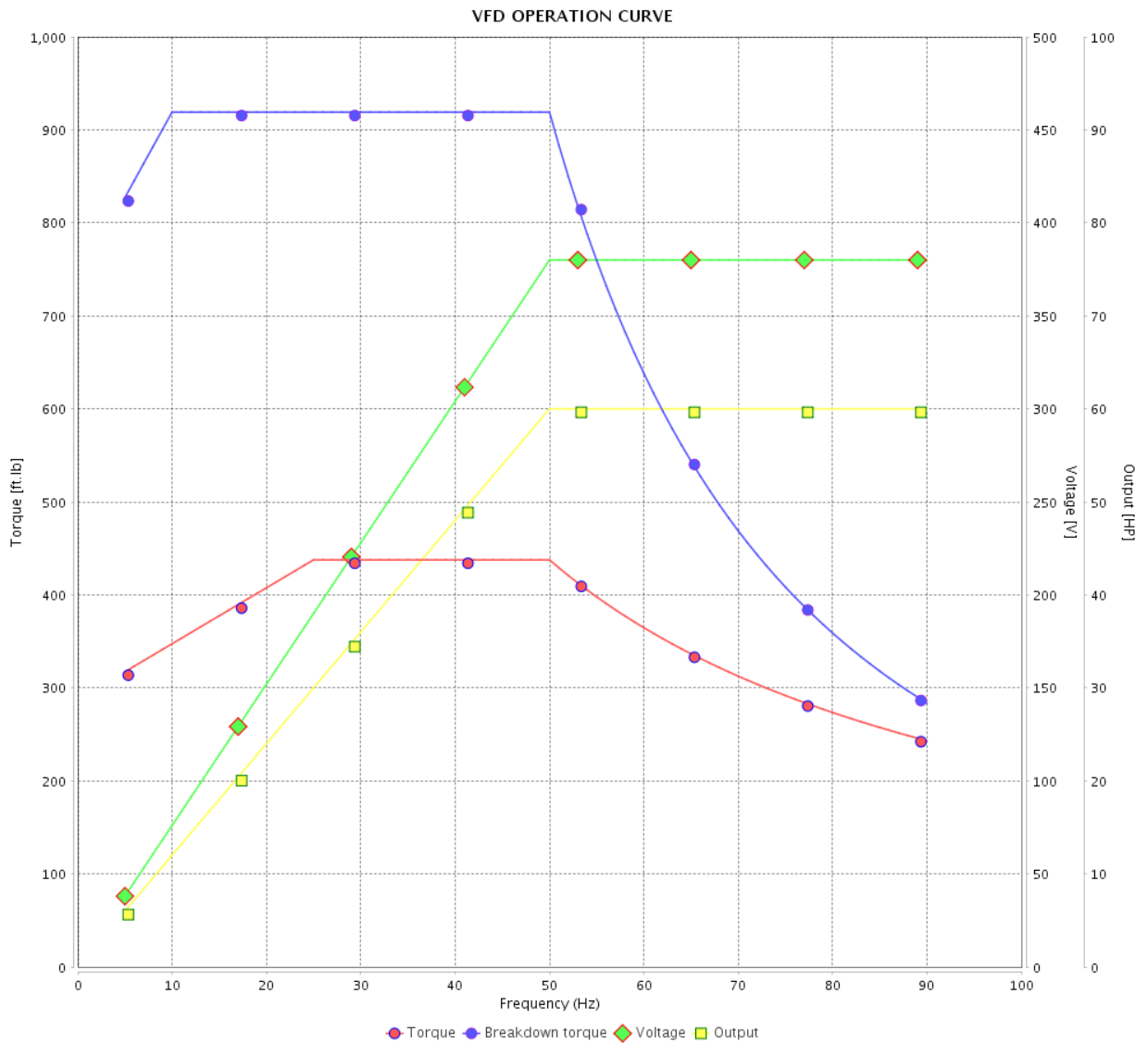


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 13503280

Catalog # : 06009ET3EKD405T-W22



Performance : 380 V 50 Hz 8P

Rated current : 89.2 A  
 LRC : 5.1  
 Rated torque : 438 ft.lb  
 Locked rotor torque : 150 %  
 Breakdown torque : 210 %  
 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

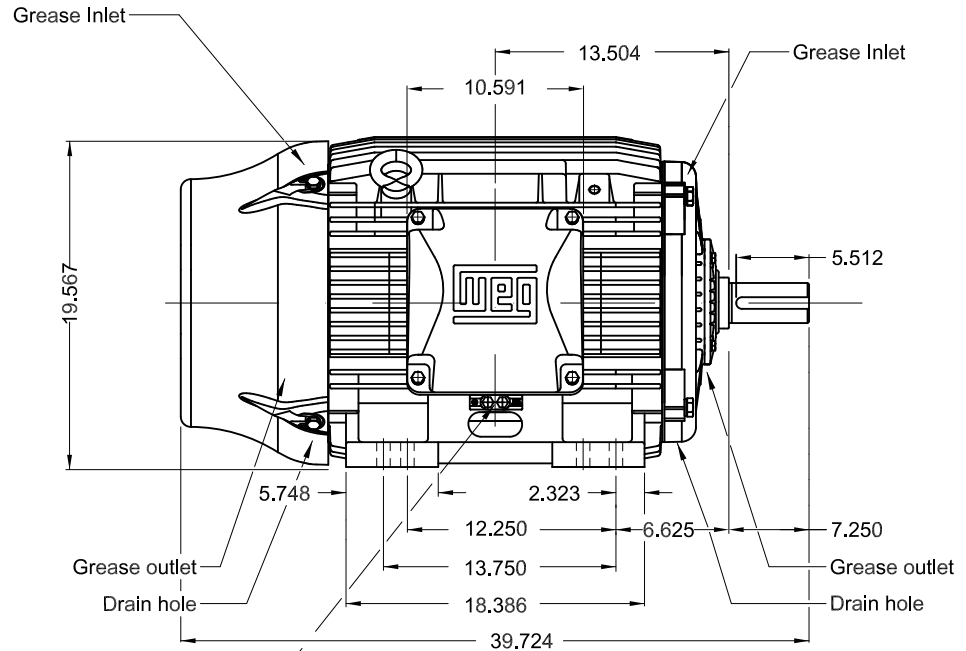
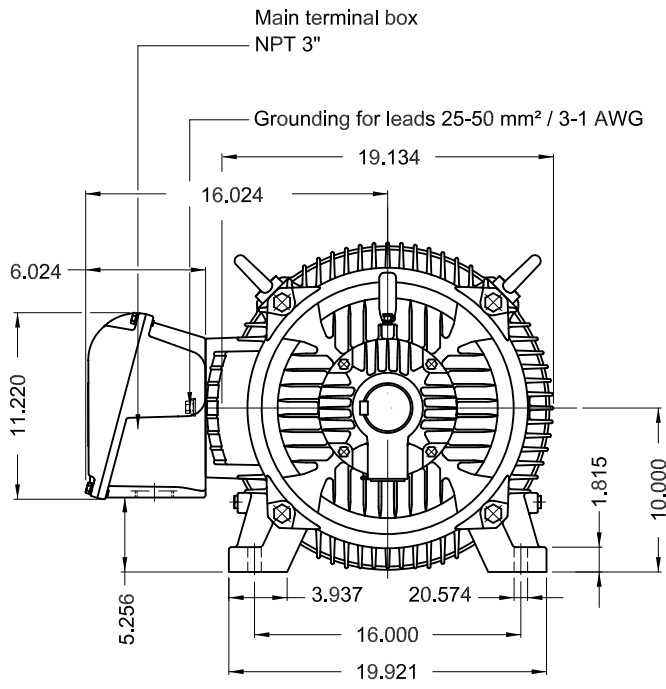
Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 11 / 11
Checked by				
Date	13/04/2022			

1 2 3 4 5 6

A

B

C

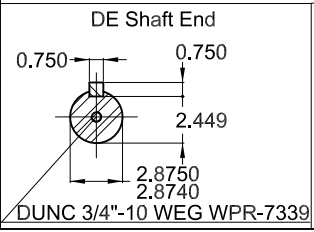


Grounding for leads 25-185 mm² / 3AWG-350MCM

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)



60 HP 08 Poles 60 Hz A

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

**PREVIEW**  
WDD

