

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	14408648		
		Catalog # :	05018XT3ER326TC		
Frame	: 326TC	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: W-6		
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>	: 696 lb		
Protection degree	: IP55	Moment of inertia (J)	: 9.16 sq.ft.lb		
Design	: B				
Output [HP]	50	40	40	40	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	121/60.6	60.1	58.6	58.7	
L. R. Amperes [A]	885/443	415	445	470	
LRC [A]	7.3x(Code H)	6.9x(Code H)	7.6x(Code J)	8.0x(Code K)	
No load current [A]	55.0/27.5	27.1	29.7	31.8	
Rated speed [RPM]	1775	1475	1480	1480	
Slip [%]	1.39	1.67	1.33	1.33	
Rated torque [ft.lb]	148	142	142	142	
Locked rotor torque [%]	260	240	260	280	
Breakdown torque [%]	280	260	290	310	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	36s (cold) 20s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	
Noise level <sup>2</sup>	71.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)	
Efficiency (%)	25%	93.4	92.8	92.8	
	50%	93.6	93.0	93.0	
	75%	94.5	93.6	93.6	
	100%	94.5	93.6	93.6	
Power Factor	25%	0.40	0.39	0.35	
	50%	0.65	0.65	0.60	
	75%	0.76	0.76	0.73	
	100%	0.81	0.81	0.79	
Bearing type	: <u>Drive end</u> 6312 C3 <u>Non drive end</u> 6212 C3	Foundation loads			
Sealing	: Oil Seal Lip Seal	Max. traction	: 1341 lb		
Lubrication interval	: 11307 h 12541 h	Max. compression	: 2036 lb		
Lubricant amount	: 21 g 13 g				
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 134A SF 1.00 SFA 134A					
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	12/04/2022			1 / 22	

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



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

### Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermostat - 2 wires	1 x Phase	155 °C

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	12/04/2022		2 / 22	

# TORQUE AND CURRENT VS SPEED CURVE



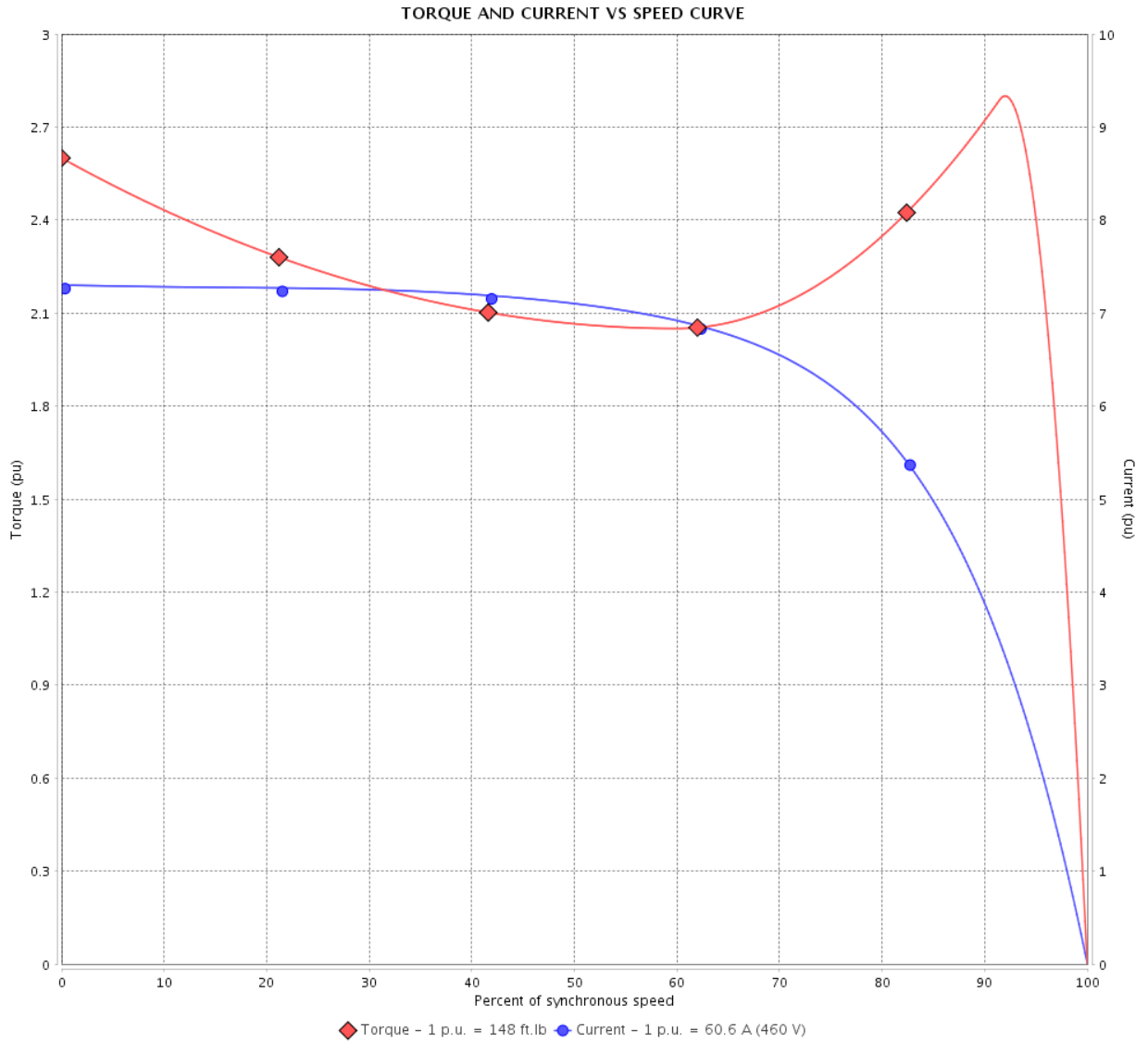
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 230/460 V 60 Hz 4P

Rated current : 121/60.6 A  
 LRC : 7.3  
 Rated torque : 148 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 280 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 9.16 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Locked rotor time : 36s (cold) 20s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			3 / 22	
Date	12/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



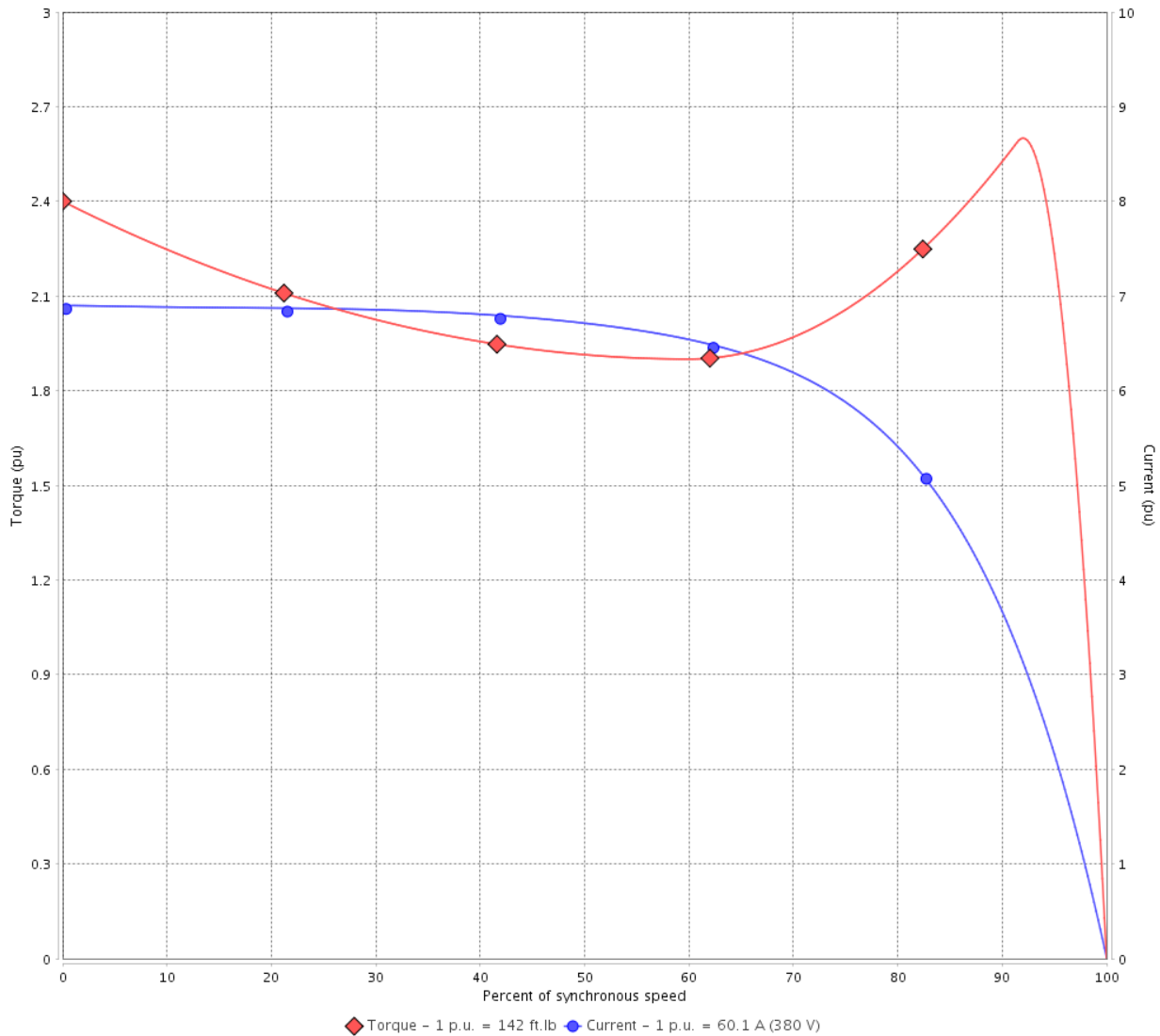
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE3

Rated current	: 60.1 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 142 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 22	Revision
Checked by				
Date	12/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE



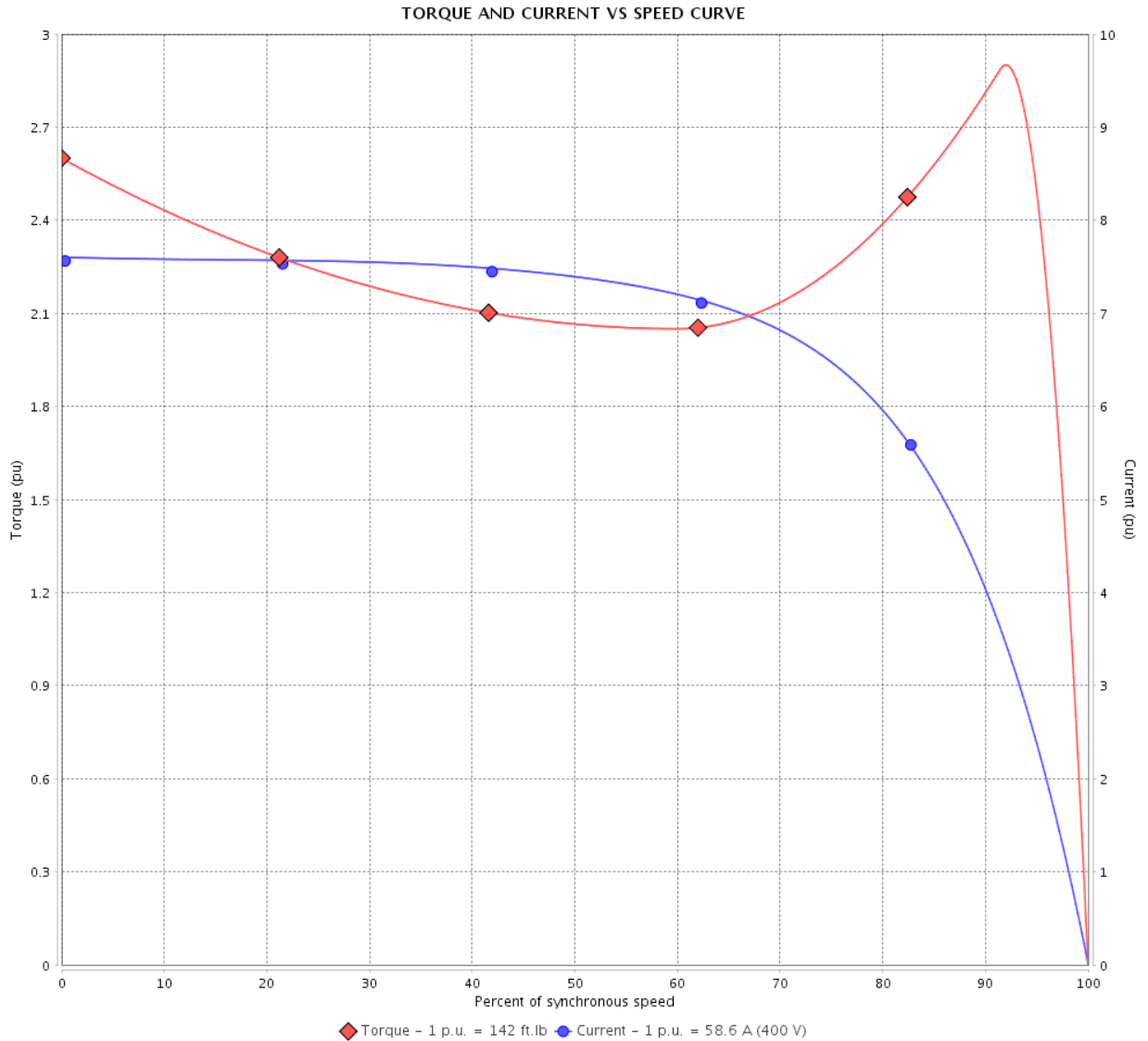
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 400 V 50 Hz 4P IE3

Rated current	: 58.6 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 7.6	Duty cycle	: Cont.(S1)
Rated torque	: 142 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 22	Revision
Checked by				
Date	12/04/2022			

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



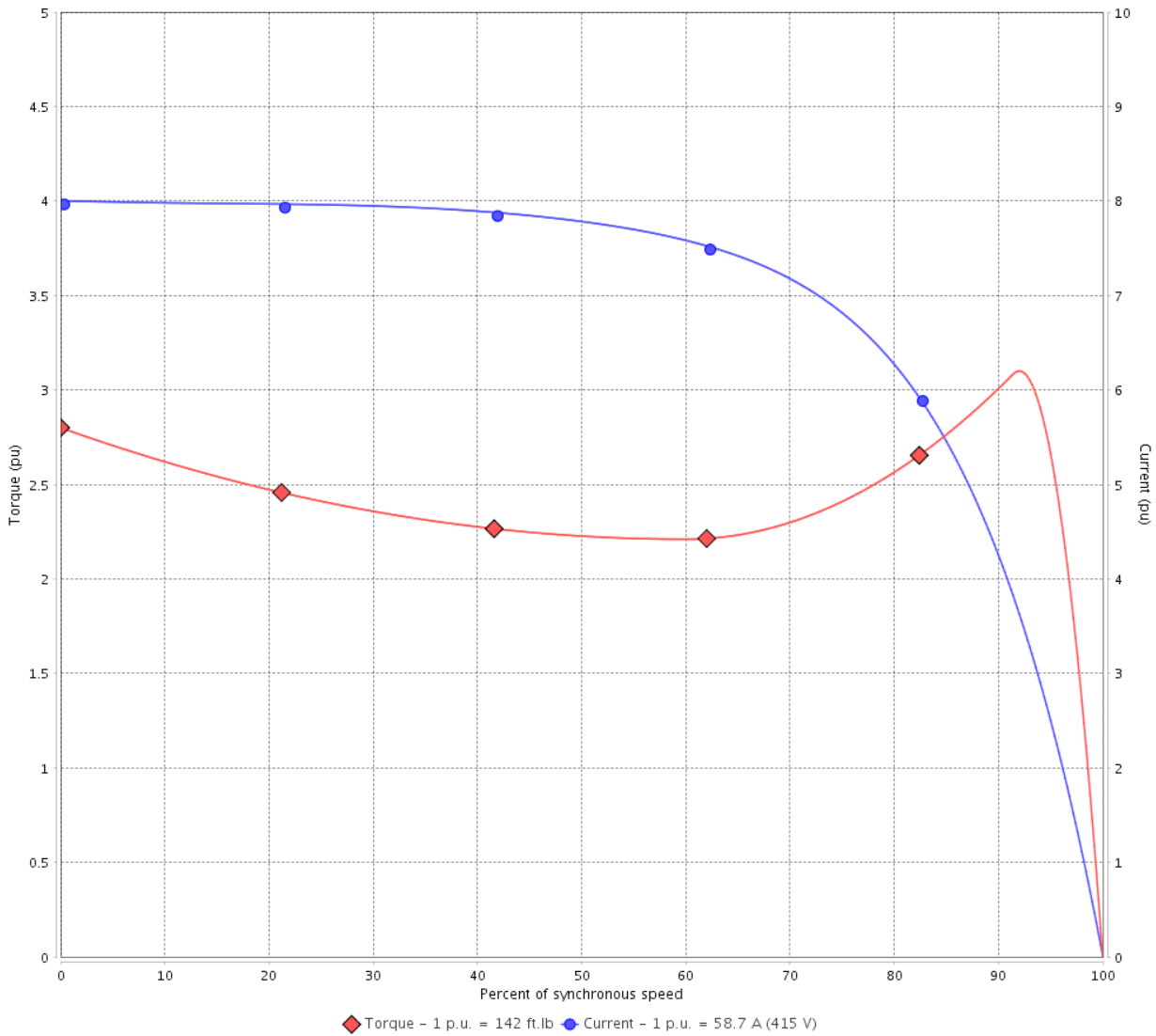
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 58.7 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 142 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 22	Revision
Checked by				
Date	12/04/2022			

# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

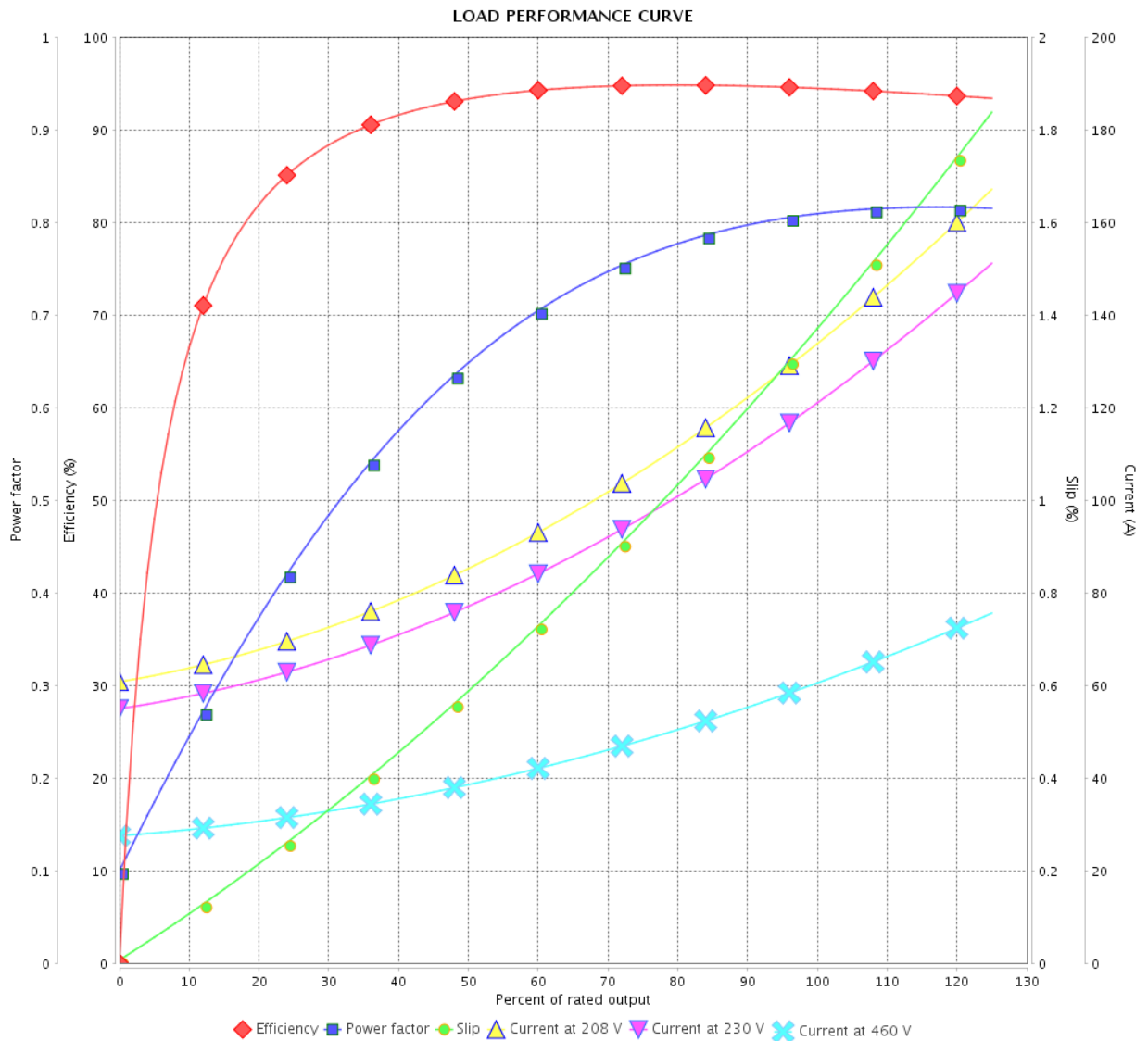


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 230/460 V 60 Hz 4P

Rated current : 121/60.6 A  
 LRC : 7.3  
 Rated torque : 148 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 280 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 9.16 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		7 / 22		
Date		12/04/2022		

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

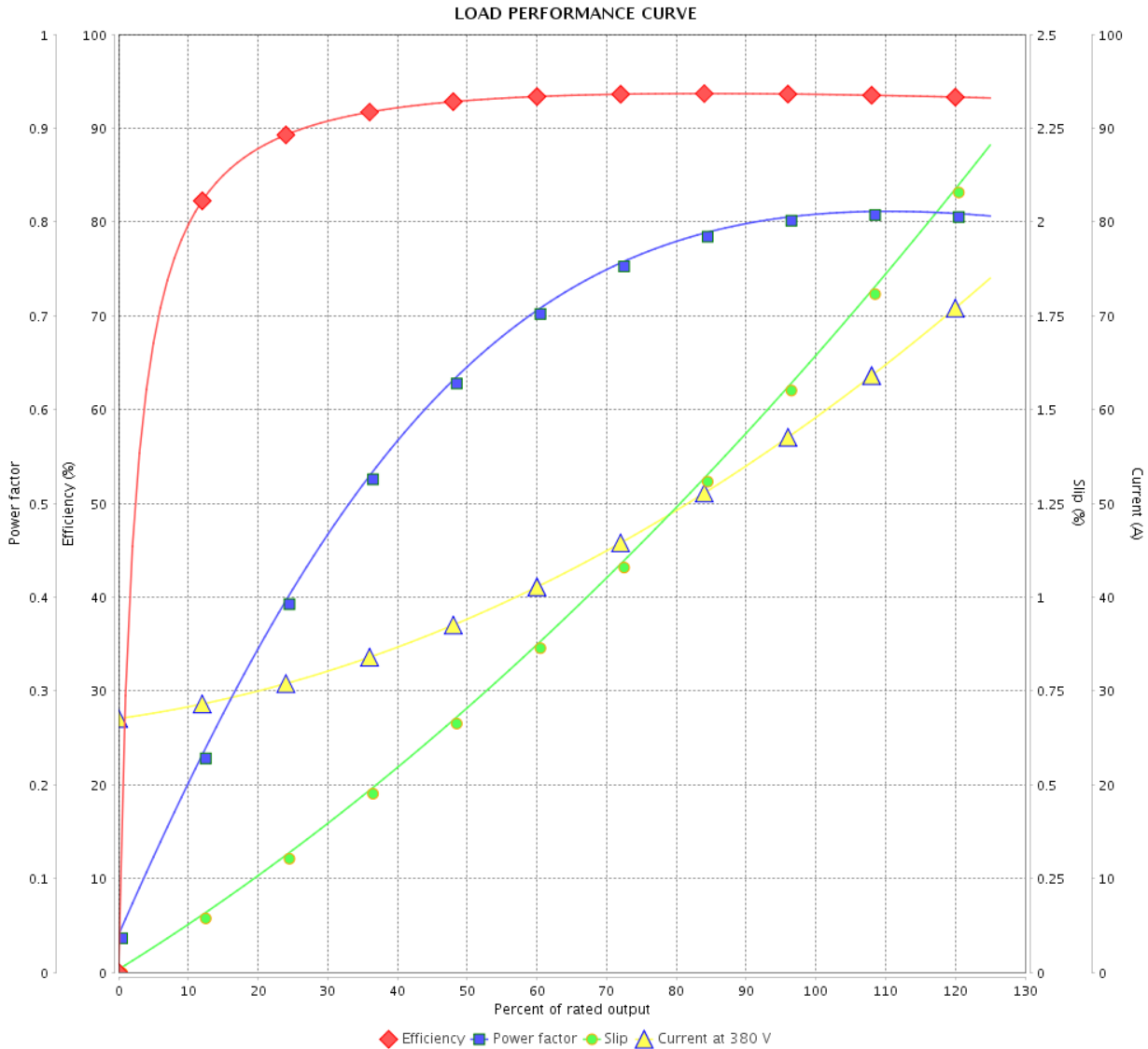


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 380 V 50 Hz 4P IE3

Rated current	: 60.1 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 6.9	Duty cycle	: Cont.(S1)
Rated torque	: 142 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		8 / 22		
Date	12/04/2022			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

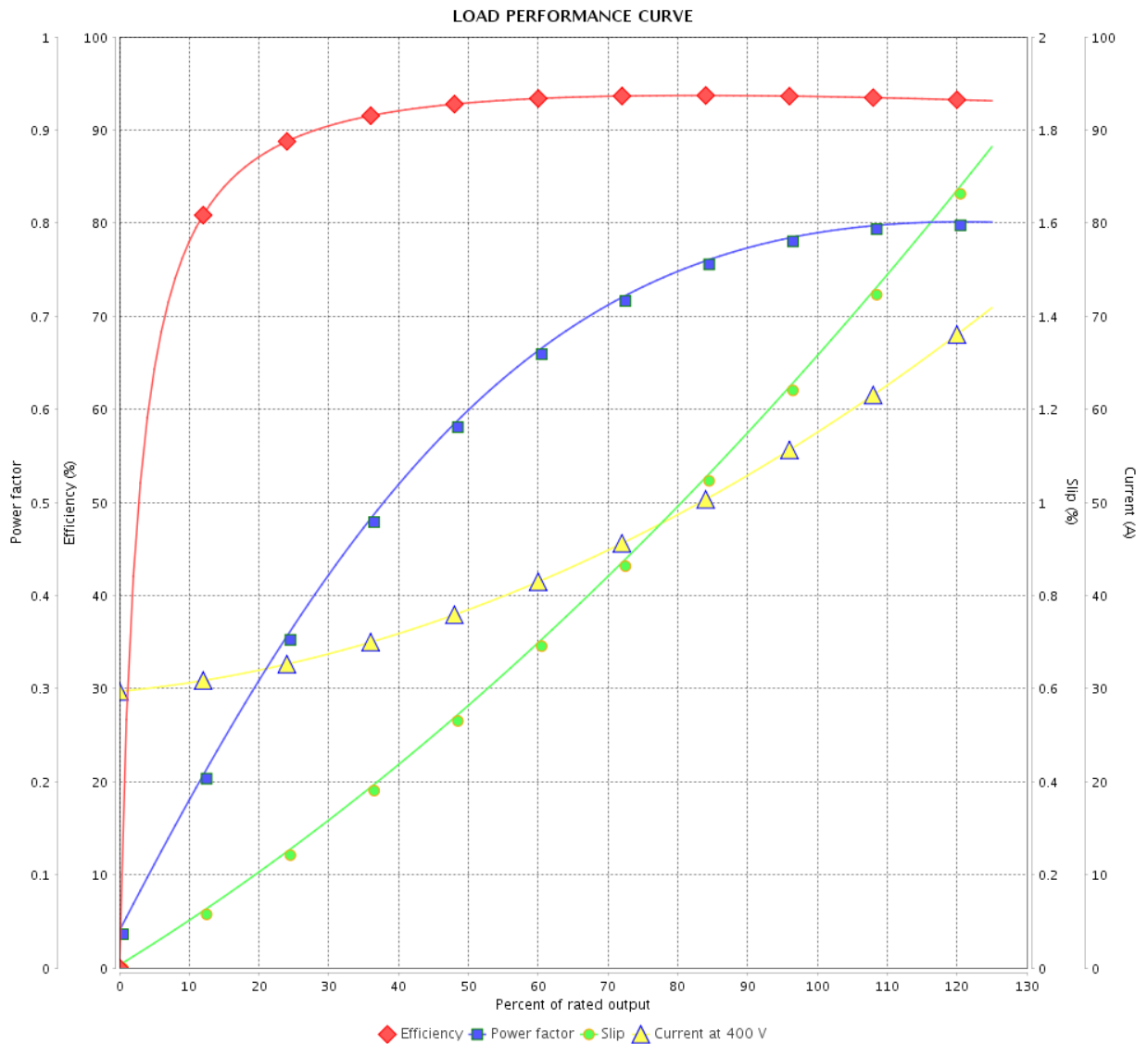


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 400 V 50 Hz 4P IE3

Rated current : 58.6 A  
 LRC : 7.6  
 Rated torque : 142 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 9.16 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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

# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



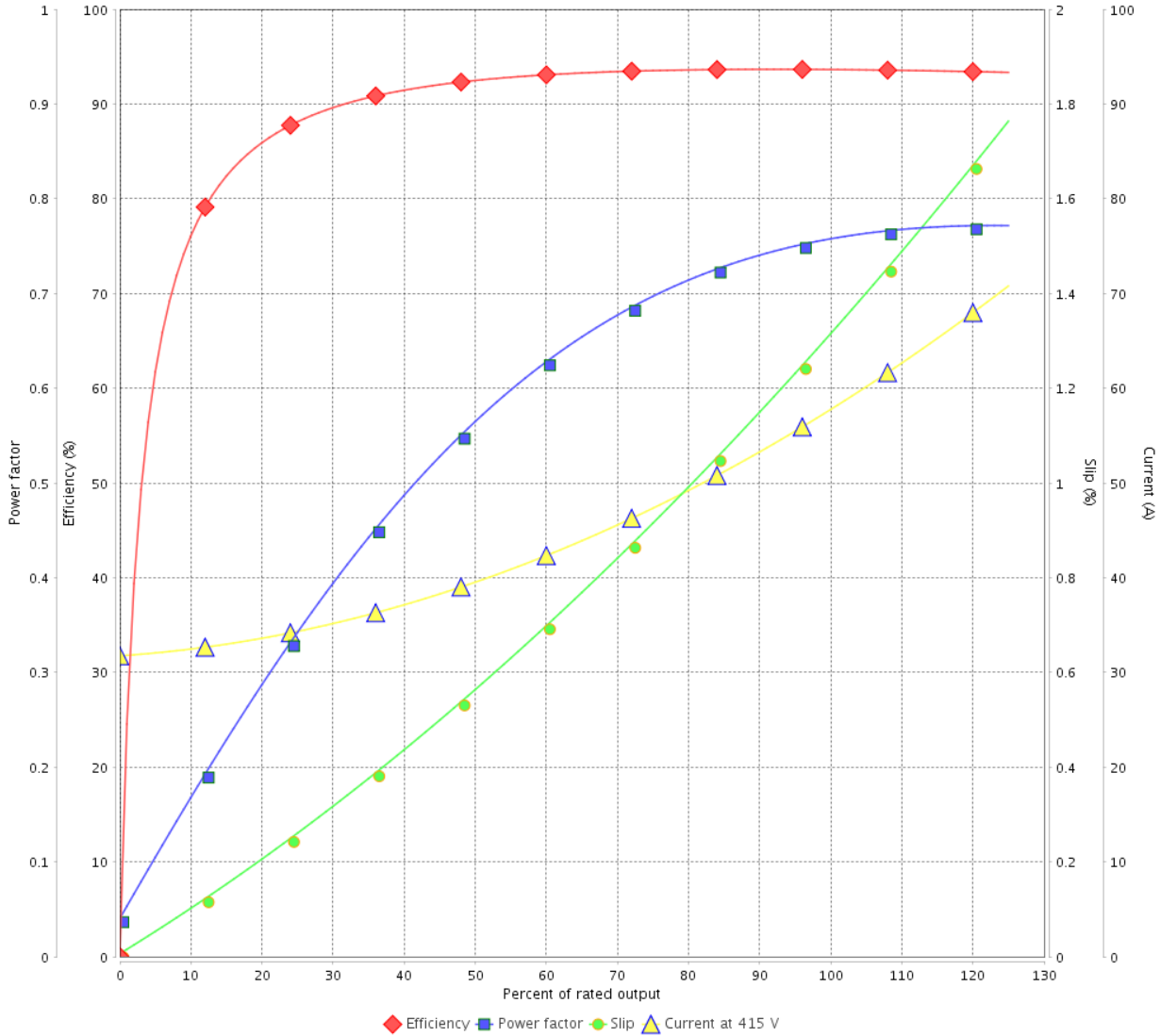
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC

LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 58.7 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 142 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by			10 / 22	
Date	12/04/2022			

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 14408648  
 Catalog # : 05018XT3ER326TC

Performance : 230/460 V 60 Hz 4P

Rated current : 121/60.6 A	Moment of inertia (J) : 9.16 sq.ft.lb
LRC : 7.3	Duty cycle : Cont.(S1)
Rated torque : 148 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.15
Breakdown torque : 280 %	Temperature rise : 80 K
Rated speed : 1775 rpm	Design : B

Heating constant

Cooling constant

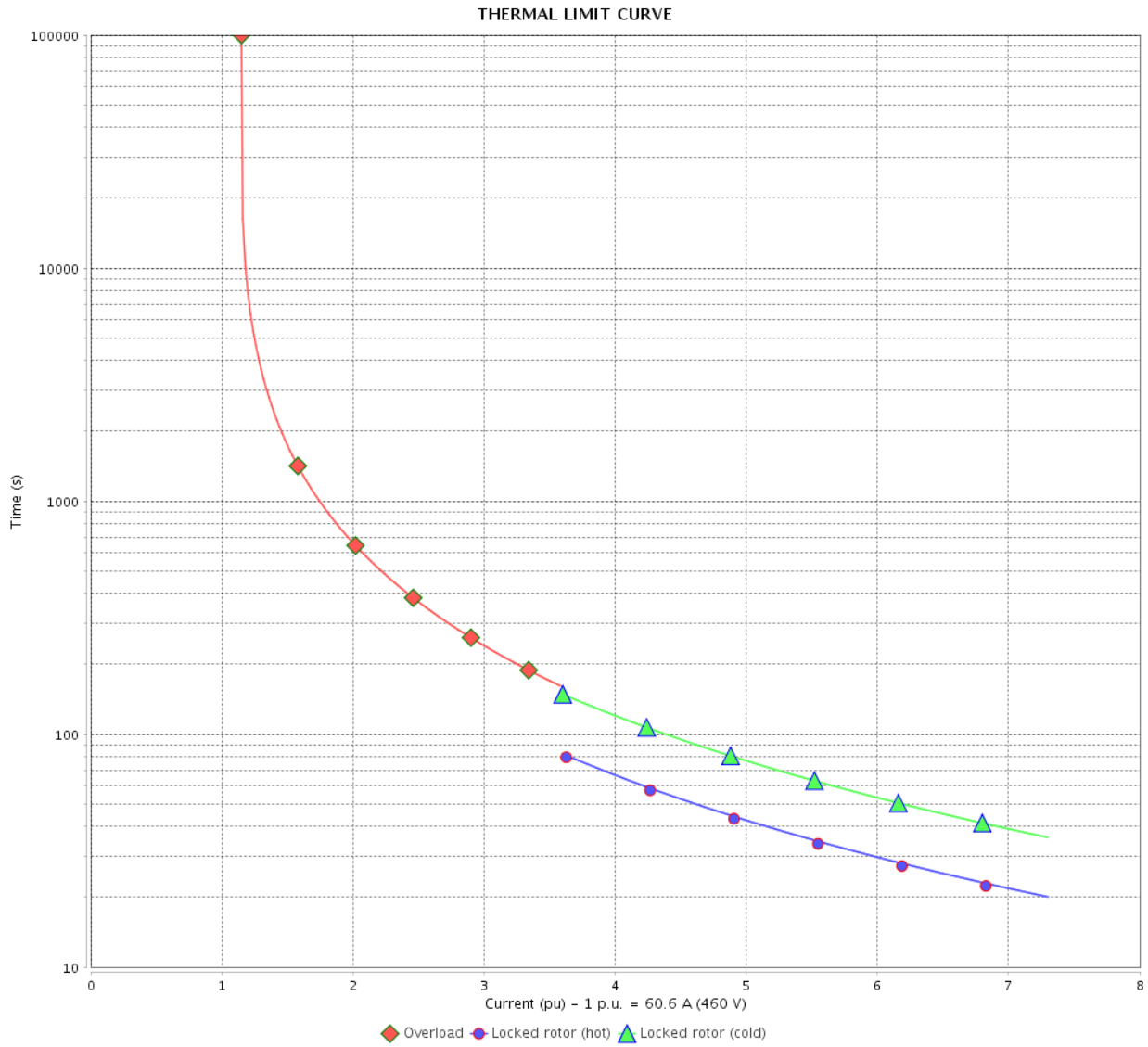
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 11 / 22	Revision
Checked by				
Date	12/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page 12 / 22		Revision
Checked by				
Date				

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 14408648  
 Catalog # : 05018XT3ER326TC

Performance : 380 V 50 Hz 4P IE3

Rated current : 60.1 A	Moment of inertia (J) : 9.16 sq.ft.lb
LRC : 6.9	Duty cycle : Cont.(S1)
Rated torque : 142 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1475 rpm	Design : B

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 13 / 22	Revision
Checked by				
Date	12/04/2022			

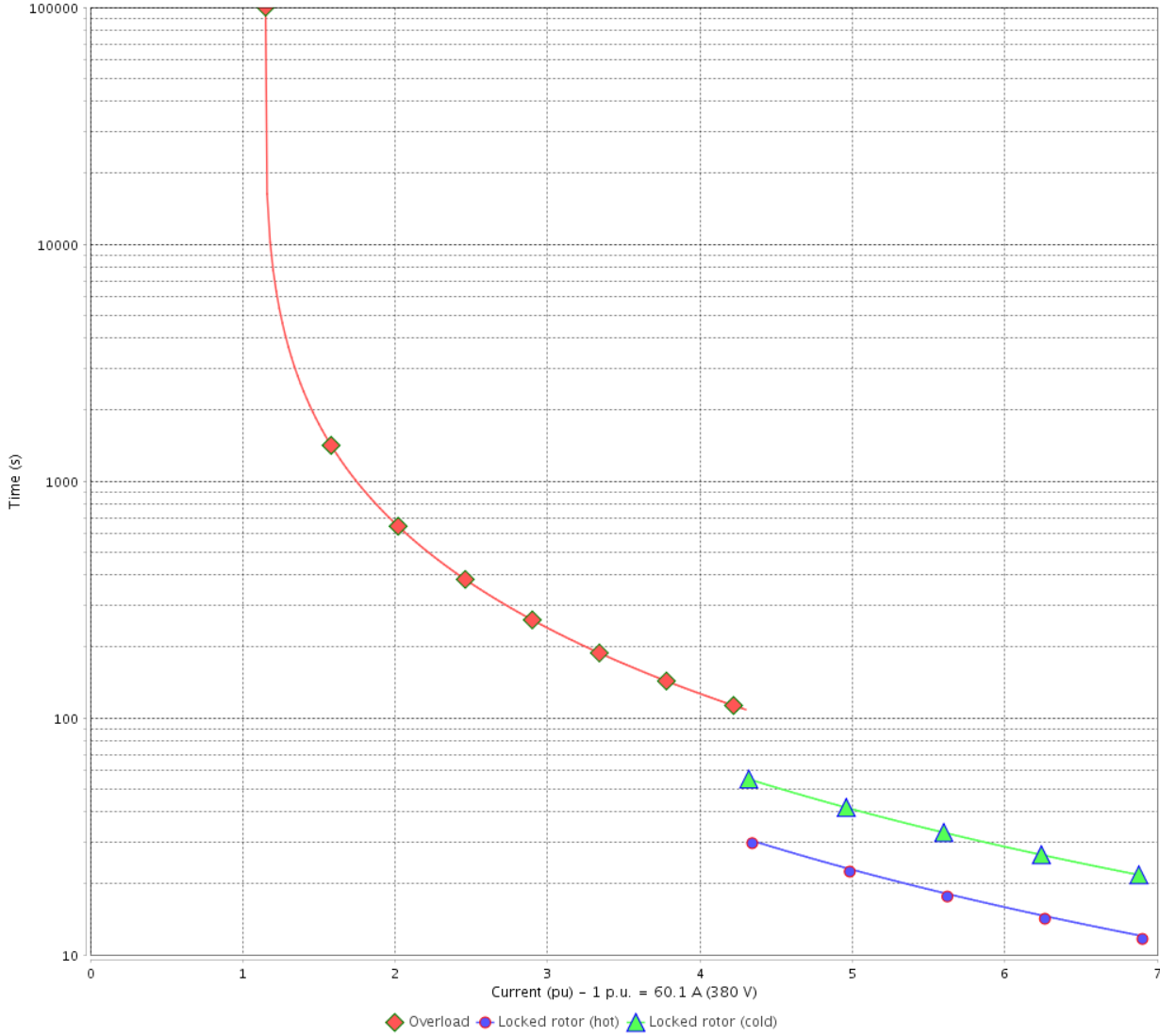
# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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

THERMAL LIMIT CURVE



Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 14 / 22	Revision
Checked by				
Date	12/04/2022			

# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 14408648  
 Catalog # : 05018XT3ER326TC

Performance : 400 V 50 Hz 4P IE3

Rated current : 58.6 A	Moment of inertia (J) : 9.16 sq.ft.lb
LRC : 7.6	Duty cycle : Cont.(S1)
Rated torque : 142 ft.lb	Insulation class : F
Locked rotor torque : 260 %	Service factor : 1.00
Breakdown torque : 290 %	Temperature rise : 80 K
Rated speed : 1480 rpm	Design : B

Heating constant

Cooling constant

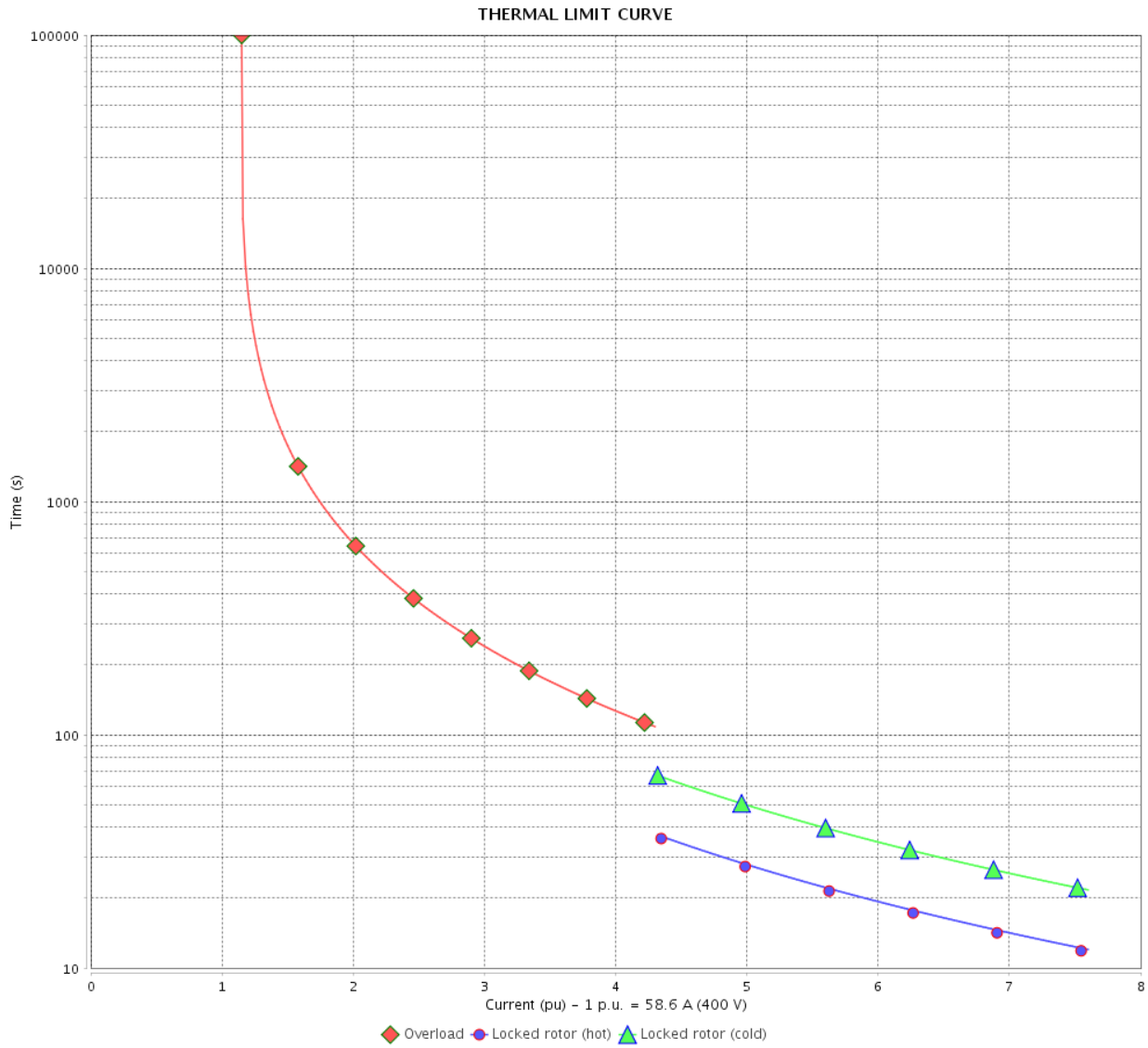
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 15 / 22	Revision
Checked by				
Date	12/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		16 / 22		
Date		12/04/2022		



# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 14408648  
 Catalog # : 05018XT3ER326TC

Performance : 415 V 50 Hz 4P IE3

Rated current : 58.7 A	Moment of inertia (J) : 9.16 sq.ft.lb
LRC : 8.0	Duty cycle : Cont.(S1)
Rated torque : 142 ft.lb	Insulation class : F
Locked rotor torque : 280 %	Service factor : 1.00
Breakdown torque : 310 %	Temperature rise : 80 K
Rated speed : 1480 rpm	Design : B

Heating constant

Cooling constant

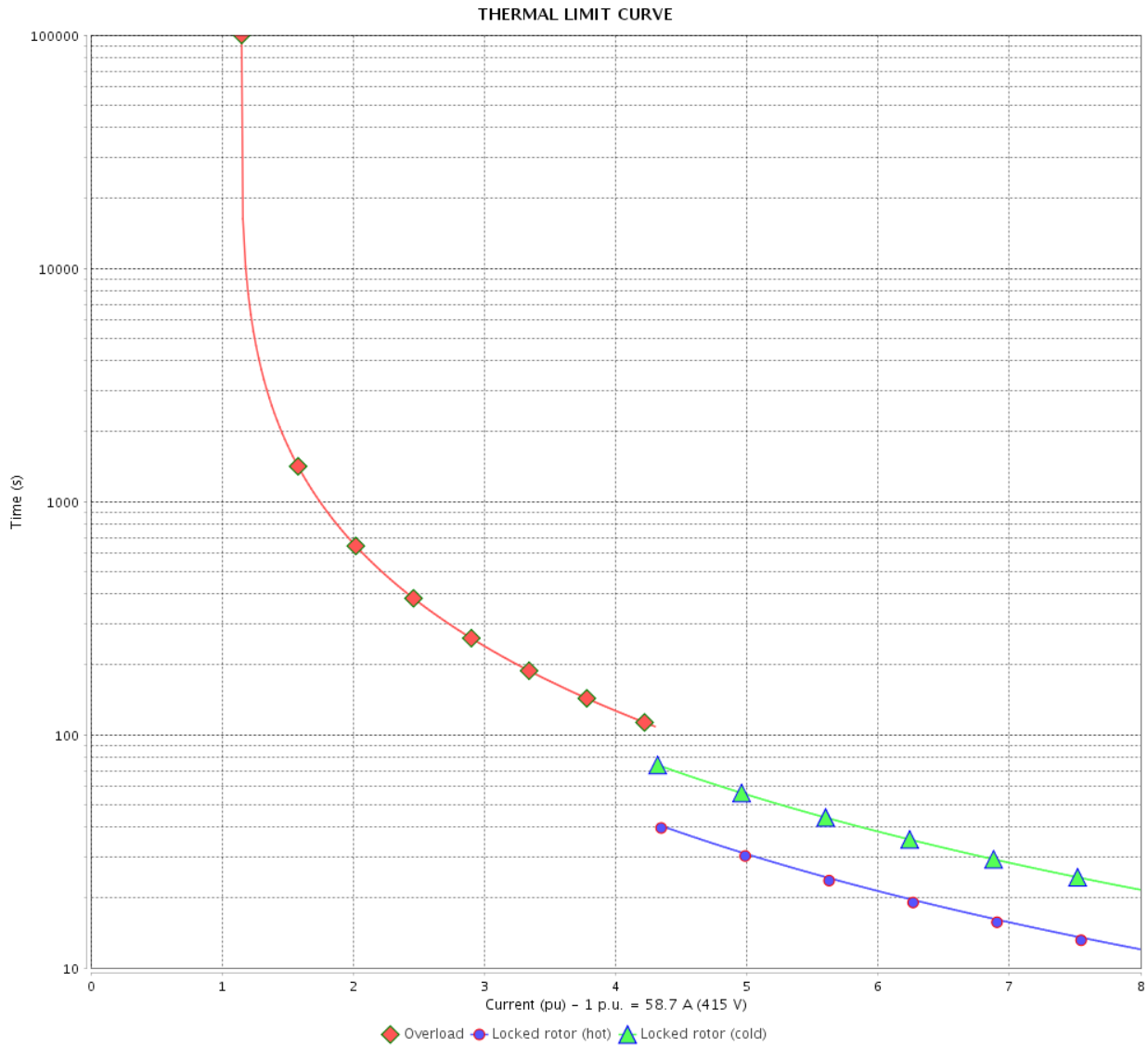
Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 17 / 22	Revision
Checked by				
Date	12/04/2022			

# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		18 / 22		
Date		12/04/2022		

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

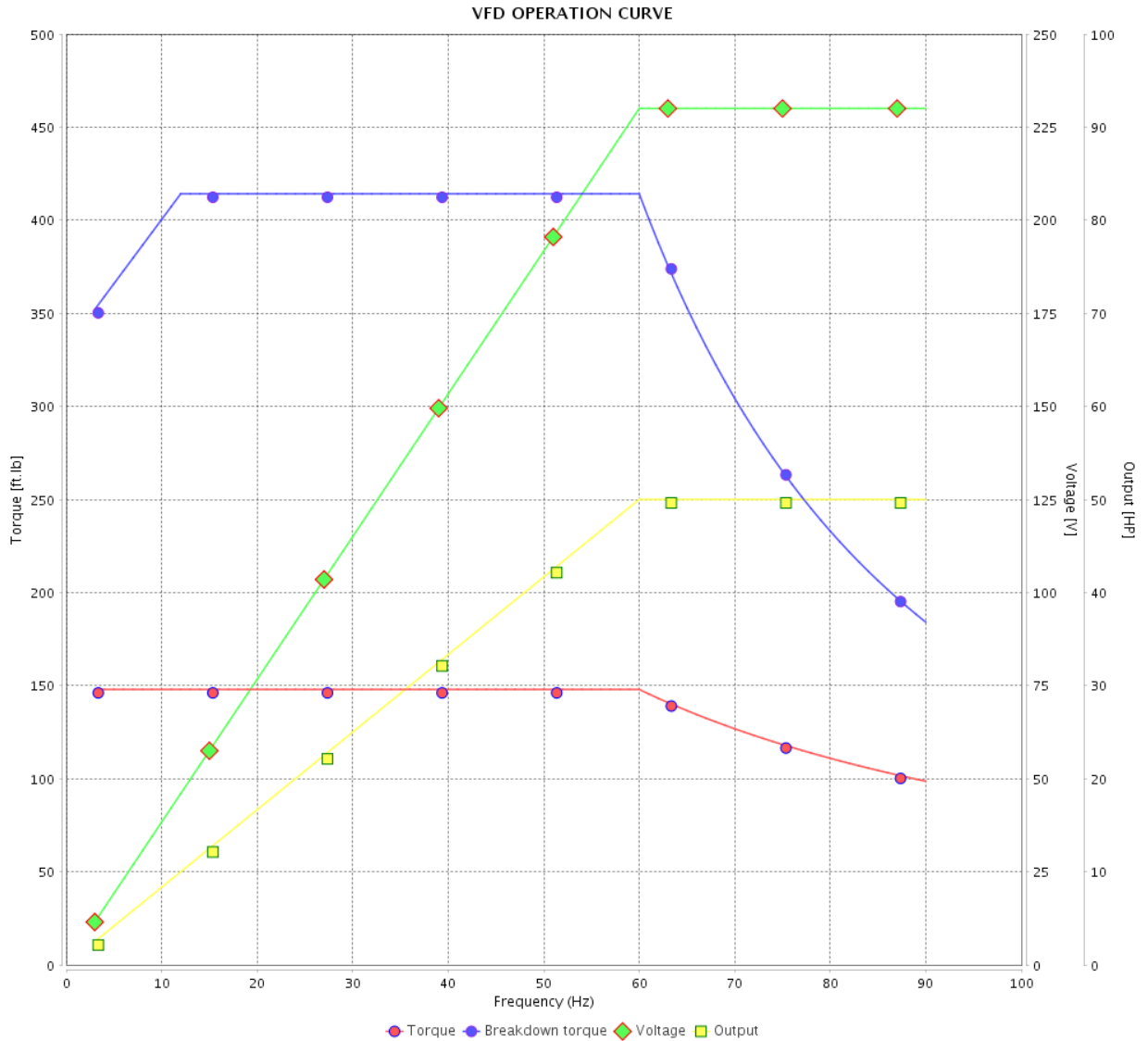


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 230/460 V 60 Hz 4P

Rated current : 121/60.6 A  
 LRC : 7.3  
 Rated torque : 148 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 280 %  
 Rated speed : 1775 rpm

Moment of inertia (J) : 9.16 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 19 / 22	Revision
Checked by				
Date	12/04/2022			

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



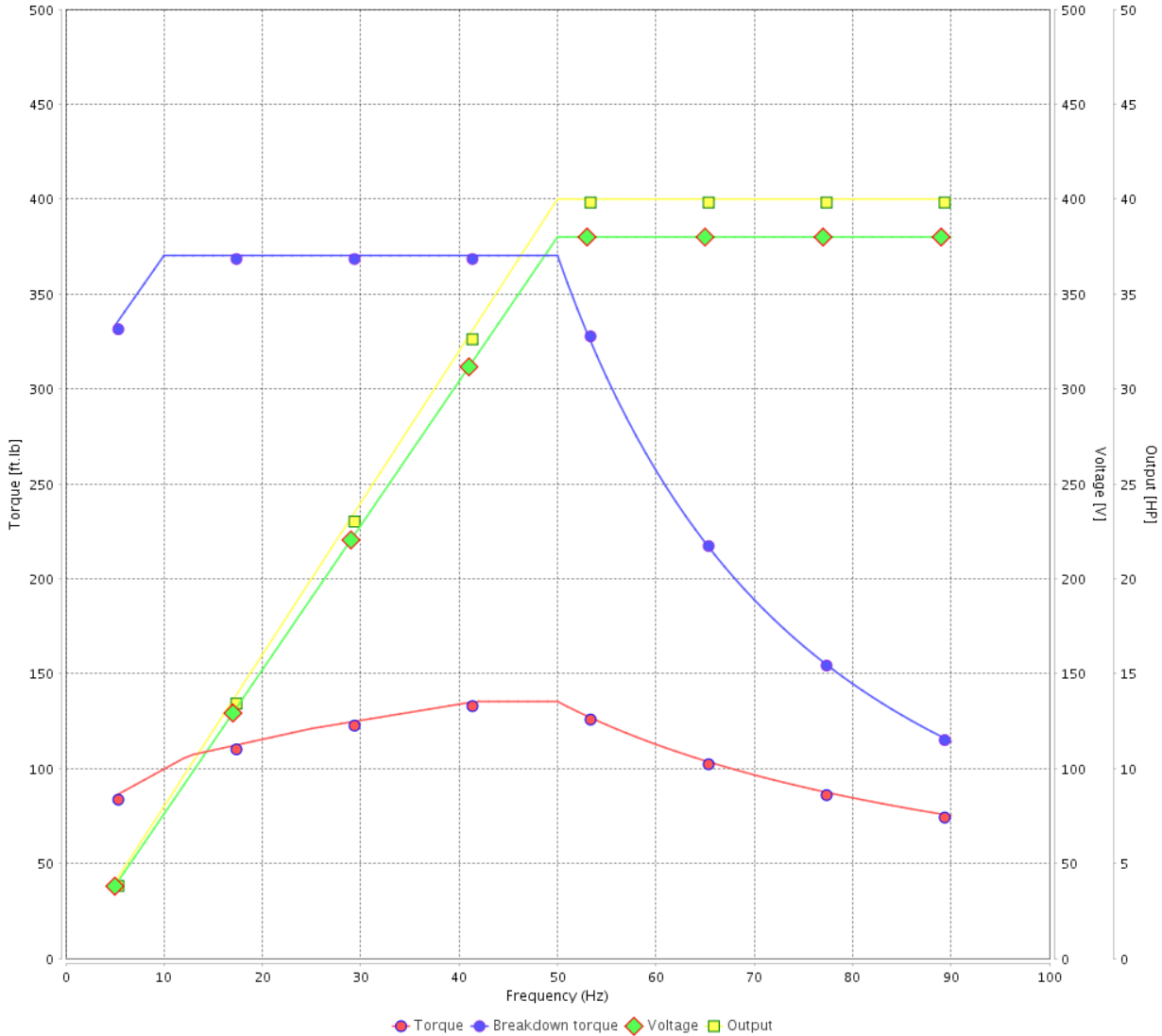
Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC

VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE3

Rated current : 60.1 A  
 LRC : 6.9  
 Rated torque : 142 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 1475 rpm

Moment of inertia (J) : 9.16 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 20 / 22	Revision
Checked by				
Date	12/04/2022			

# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

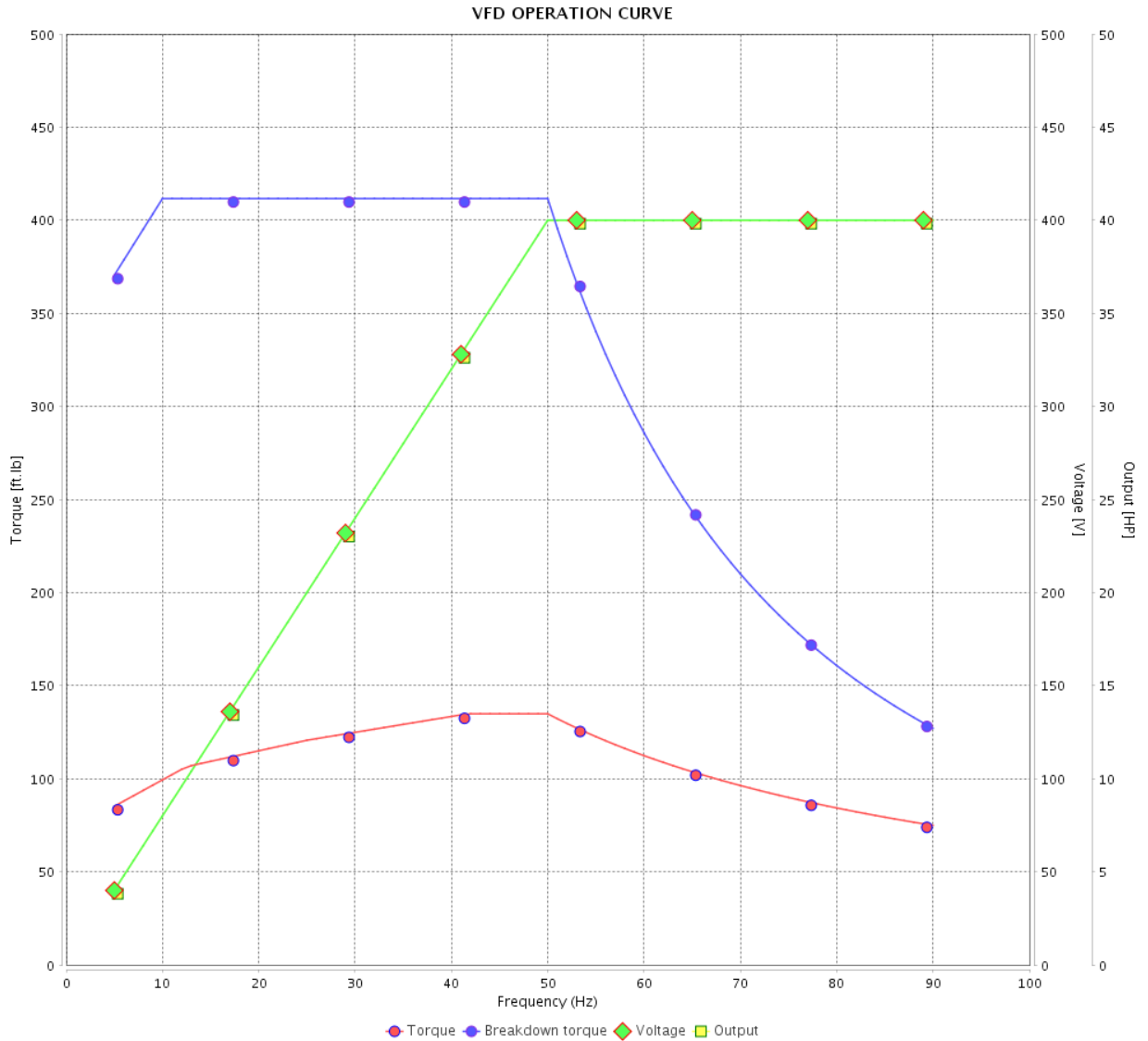


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC



Performance : 400 V 50 Hz 4P IE3

Rated current : 58.6 A  
 LRC : 7.6  
 Rated torque : 142 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 1480 rpm

Moment of inertia (J) : 9.16 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		21 / 22		
Date		12/04/2022		

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



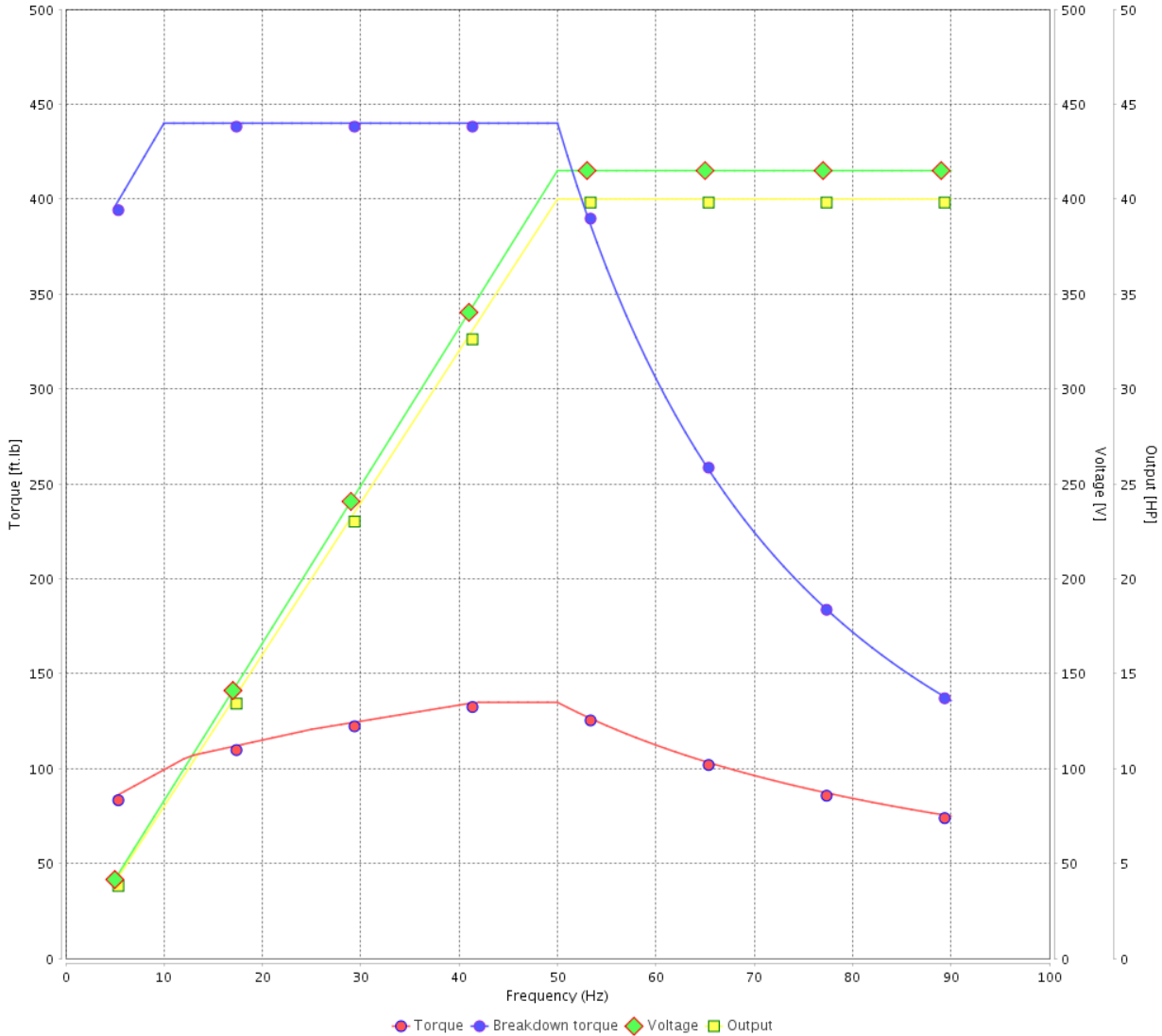
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14408648

Catalog # : 05018XT3ER326TC

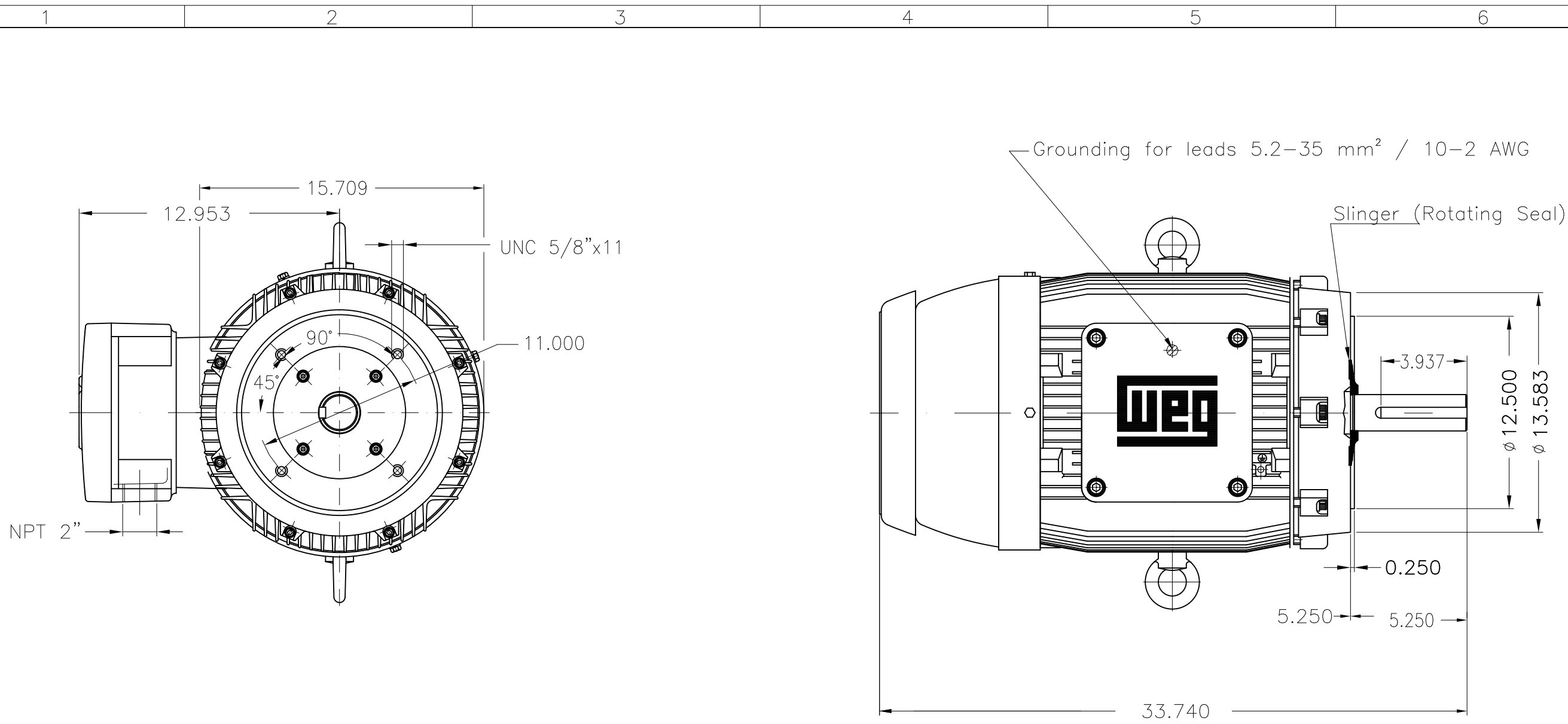
VFD OPERATION CURVE



Performance : 415 V 50 Hz 4P IE3

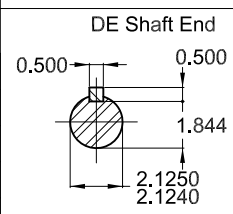
Rated current	: 58.7 A	Moment of inertia (J)	: 9.16 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 142 ft.lb	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 22 / 22	Revision
Checked by				
Date	12/04/2022			



50 HP 04 Poles 60 Hz A

- With grease fitting
- Color RAL 5009
- Painting plan 202P
- Mounting NEMA W-6
- Mounting V18



ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF. FRAME 326TC IP55 TEFC					
CHECKED							
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering	SHEET	1 / 1		

**PREVIEW**

WDD

Dimensions in inches XME A3

MADE IN BRAZIL

**W21X NEMA**  
**Premium**

14408648



LISTED

CC029A

*Inverter Duty Motor*  
*Severe Duty*

MODEL 05018XT3ER326TC

PH 3 FR 326TC

HP(kW) 50.0(37.0)

HZ 60

IP55

V 230/460

A 121/60.6

RPM 1775

NEMA NOM EFF 94.5%

PF 0.81

SFA 139/69.7

DES B

INS CL F  $\Delta T$  80 K SF 1.15

ENCL TEFC

DUTY CONT.

CODE H

ALT 1000

m.a.s.l.

AMB 40°C

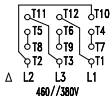
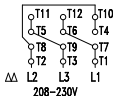
USABLE @208V

134 A

SF 1.00

AMB 55°C SF1.0

40HP 30kW 50Hz 380V 60.1A 1475RPM SF1.00 EFF 93.6% (IE3)



→ 6312-C3 MOBIL POLYREX EM

→ 6212-C3 21 g 11307 h

694 Lbs

TEMP CODE T3C  
CSA/UL: Class I - Div. 1 - Groups C and D  
CSA: Class II - Div. 1 - Groups F and G  
CSA: Class I - Zone 1 - IIB

EXPLOSION PROOF MOTOR

FOR USE ON VPWM VFD 1000:1VT, 6:1CT, 1.0SF, T3C, AMB 40°C.