

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line	: NEMA Premium Efficiency Three-Phase	Product code :	11461420		
		Catalog # :	15018XT3E445T		
Frame	: 444/5T	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>	: 2207 lb		
Protection degree	: IP55	Moment of inertia (J)	: 66.7 sq.ft.lb		
Design	: B				
Output [HP]	150	125	125	125	
Poles	4	4	4	4	
Frequency [Hz]	60	50	50	50	
Rated voltage [V]	230/460	380	400	415	
Rated current [A]	340/170	169	163	158	
L. R. Amperes [A]	2142/1071	1014	1076	1122	
LRC [A]	6.3x(Code G)	6.0x(Code G)	6.6x(Code H)	7.1x(Code H)	
No load current [A]	104/52.0	52.0	55.0	58.0	
Rated speed [RPM]	1780	1480	1483	1485	
Slip [%]	1.11	1.33	1.13	1.00	
Rated torque [ft.lb]	442	443	442	441	
Locked rotor torque [%]	210	200	229	250	
Breakdown torque [%]	220	220	250	270	
Service factor	1.15	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	39s (cold) 22s (hot)	54s (cold) 30s (hot)	54s (cold) 30s (hot)	54s (cold) 30s (hot)	
Noise level <sup>2</sup>	76.0 dB(A)	72.0 dB(A)	72.0 dB(A)	72.0 dB(A)	
Efficiency (%)	25%	94.8	94.4	94.9	94.0
	50%	95.0	94.5	95.0	94.5
	75%	95.8	95.0	95.0	95.0
	100%	95.8	95.0	95.0	95.4
Power Factor	25%	0.49	0.49	0.46	0.44
	50%	0.72	0.72	0.69	0.67
	75%	0.81	0.81	0.79	0.78
	100%	0.85	0.85	0.84	0.83
Bearing type	: <u>Drive end</u> 6219 C3	<u>Non drive end</u> 6316 C3	Foundation loads		
Sealing	: Viton	Lip Seal	Max. traction	: 2078 lb	
	Oil Seal		Max. compression	: 4285 lb	
Lubrication interval	: 8033 h	8569 h			
Lubricant amount	: 28 g	34 g			
Lubricant type	: Mobil Polyrex EM				
Notes USABLE @208V 376A SF 1.00 SFA 376A					
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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# 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

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# TORQUE AND CURRENT VS SPEED CURVE



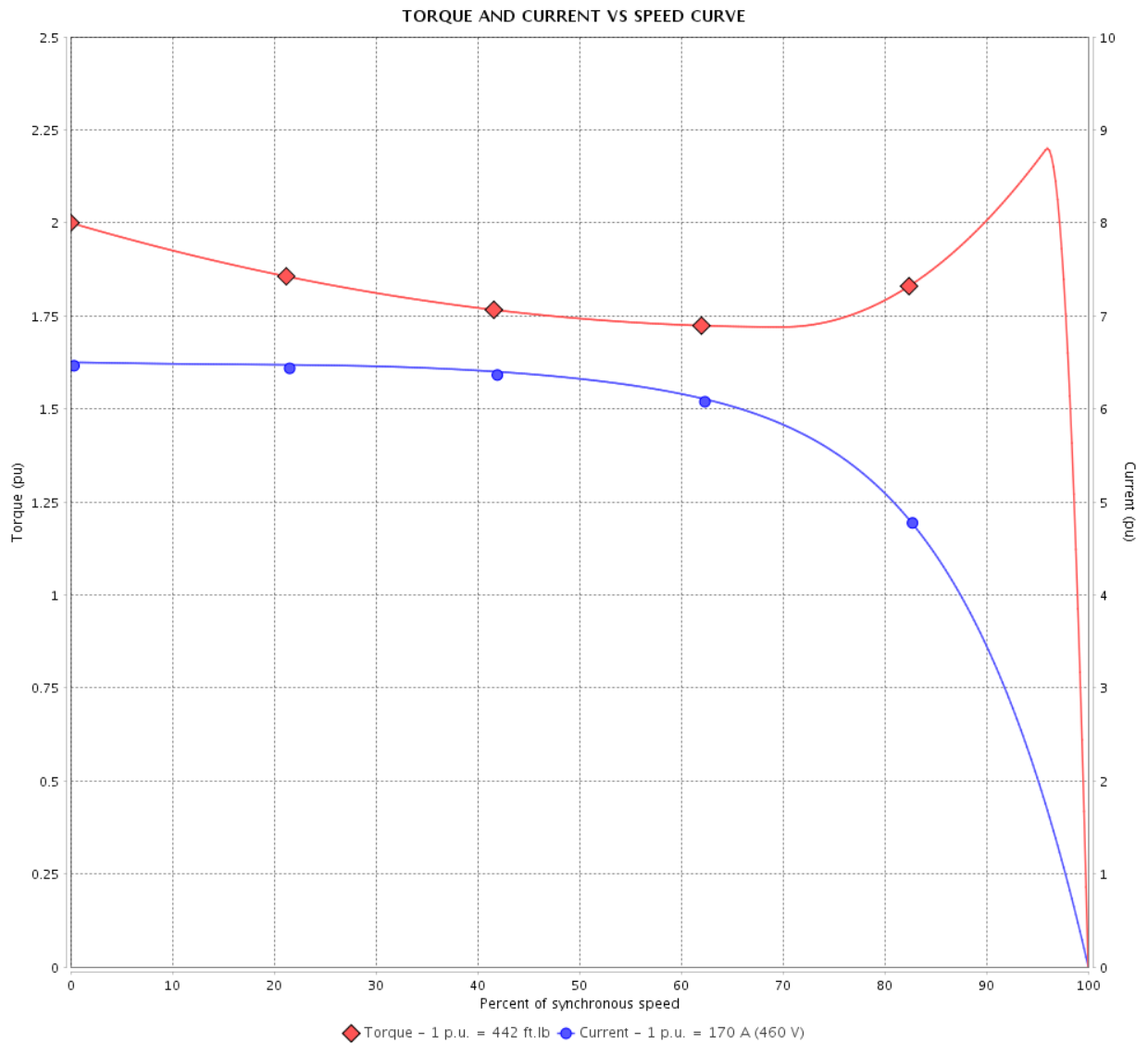
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 230/460 V 60 Hz 4P

Rated current : 340/170 A  
 LRC : 6.3  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 220 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 66.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

Locked rotor time : 39s (cold) 22s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



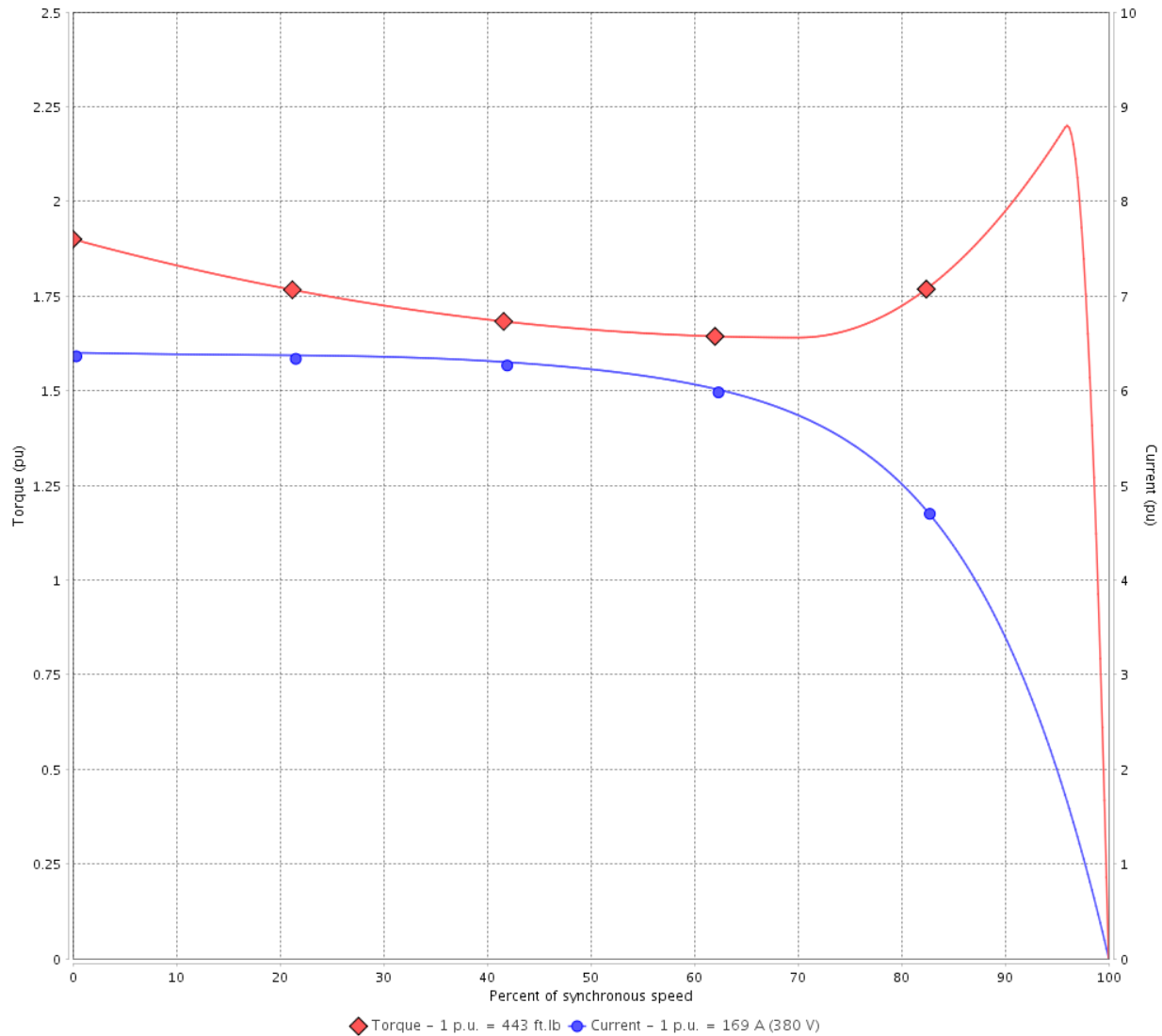
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 169 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



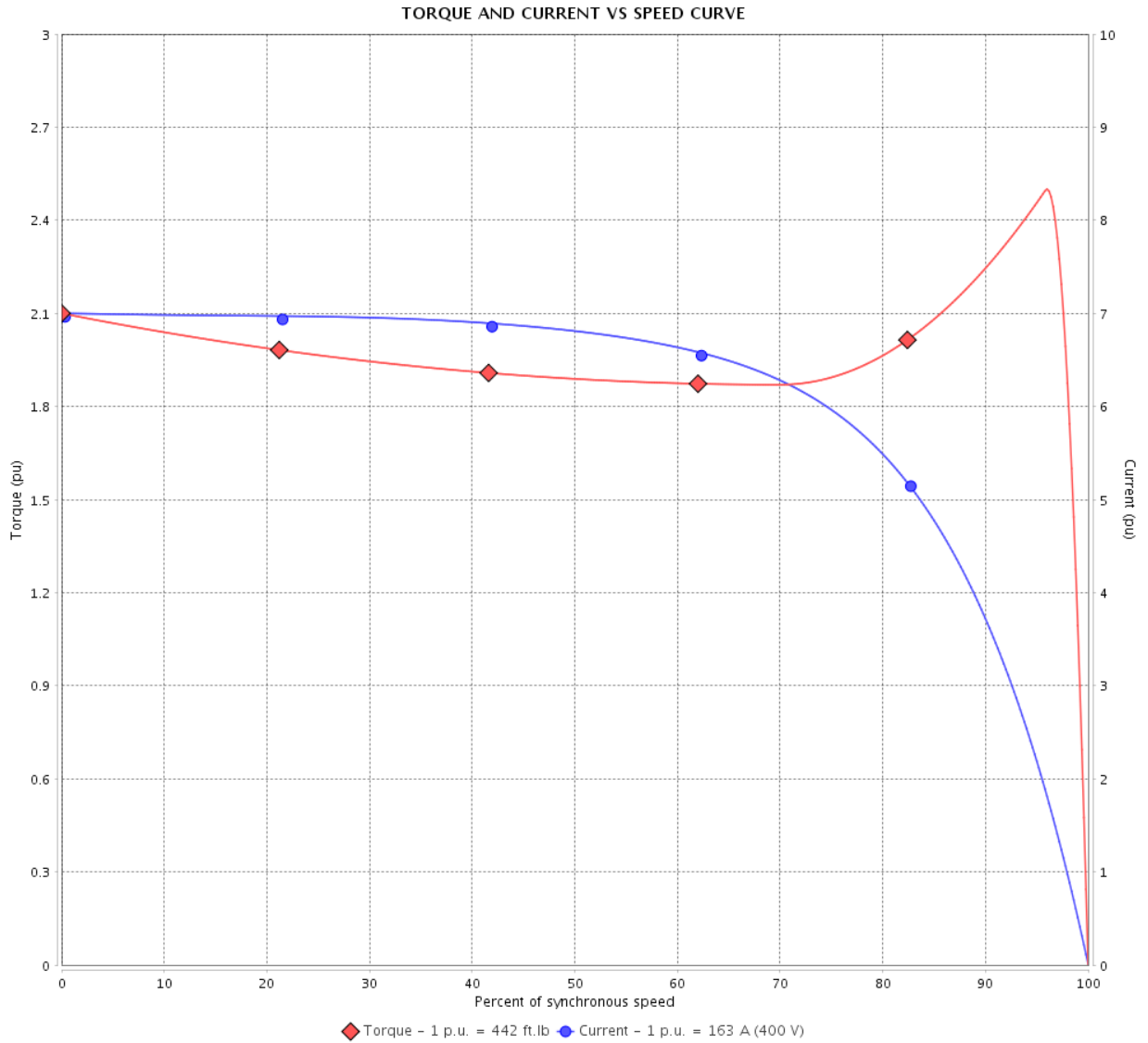
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 400 V 50 Hz 4P IE2

Rated current	: 163 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.6	Duty cycle	: Cont.(S1)
Rated torque	: 442 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1483 rpm	Design	: B

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



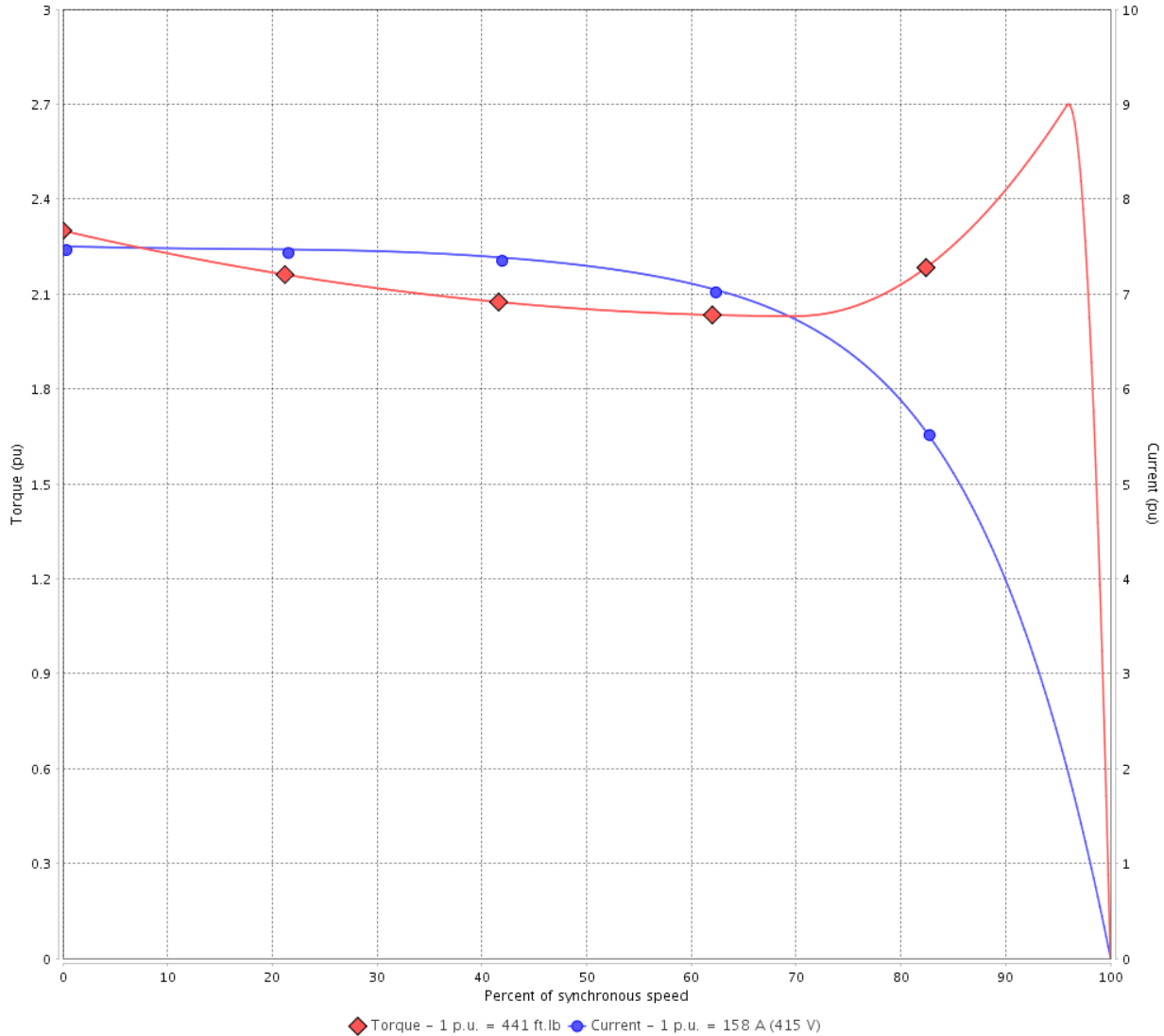
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 158 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

Locked rotor time : 54s (cold) 30s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

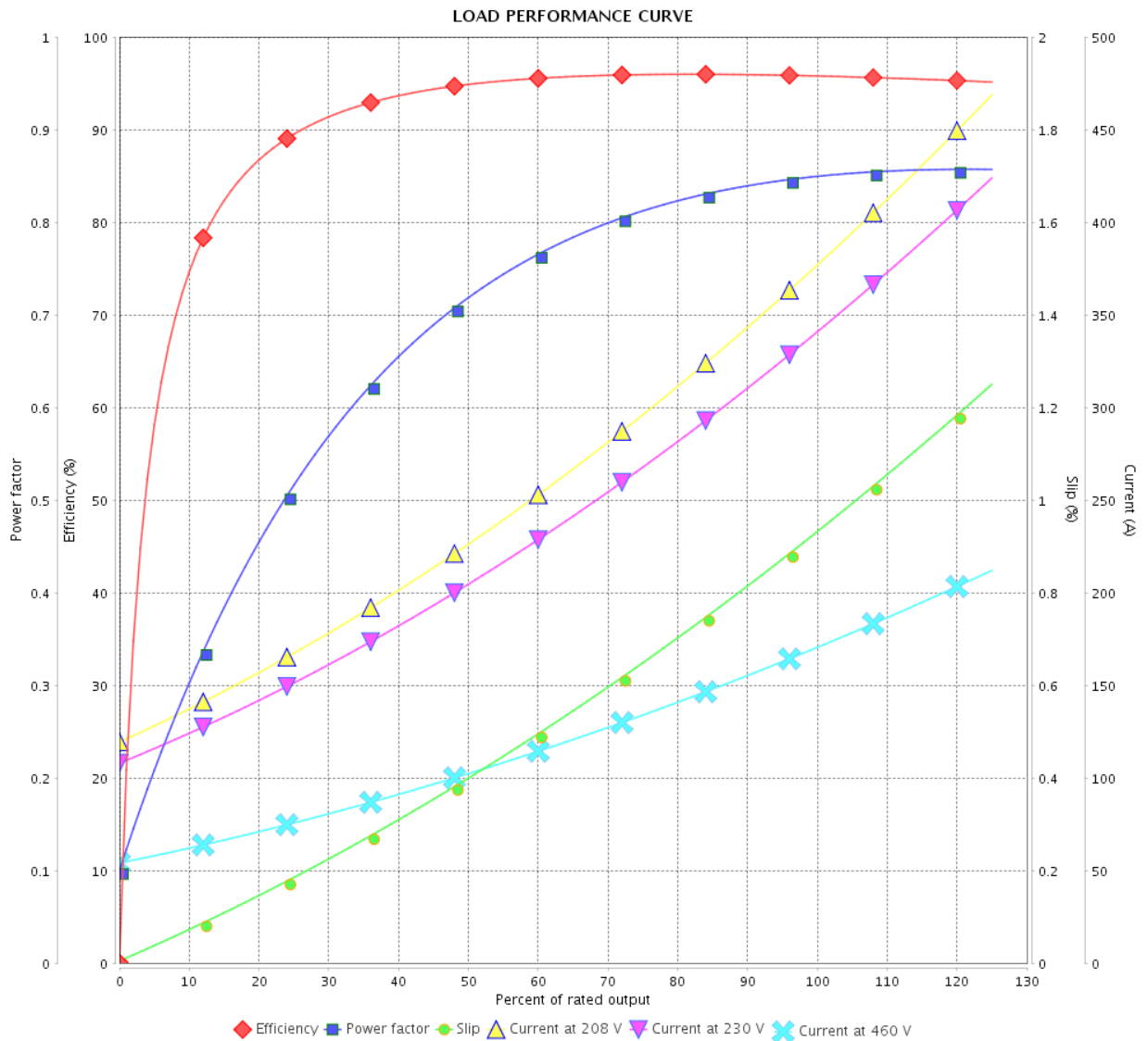


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 230/460 V 60 Hz 4P

Rated current : 340/170 A  
 LRC : 6.3  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 220 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 66.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

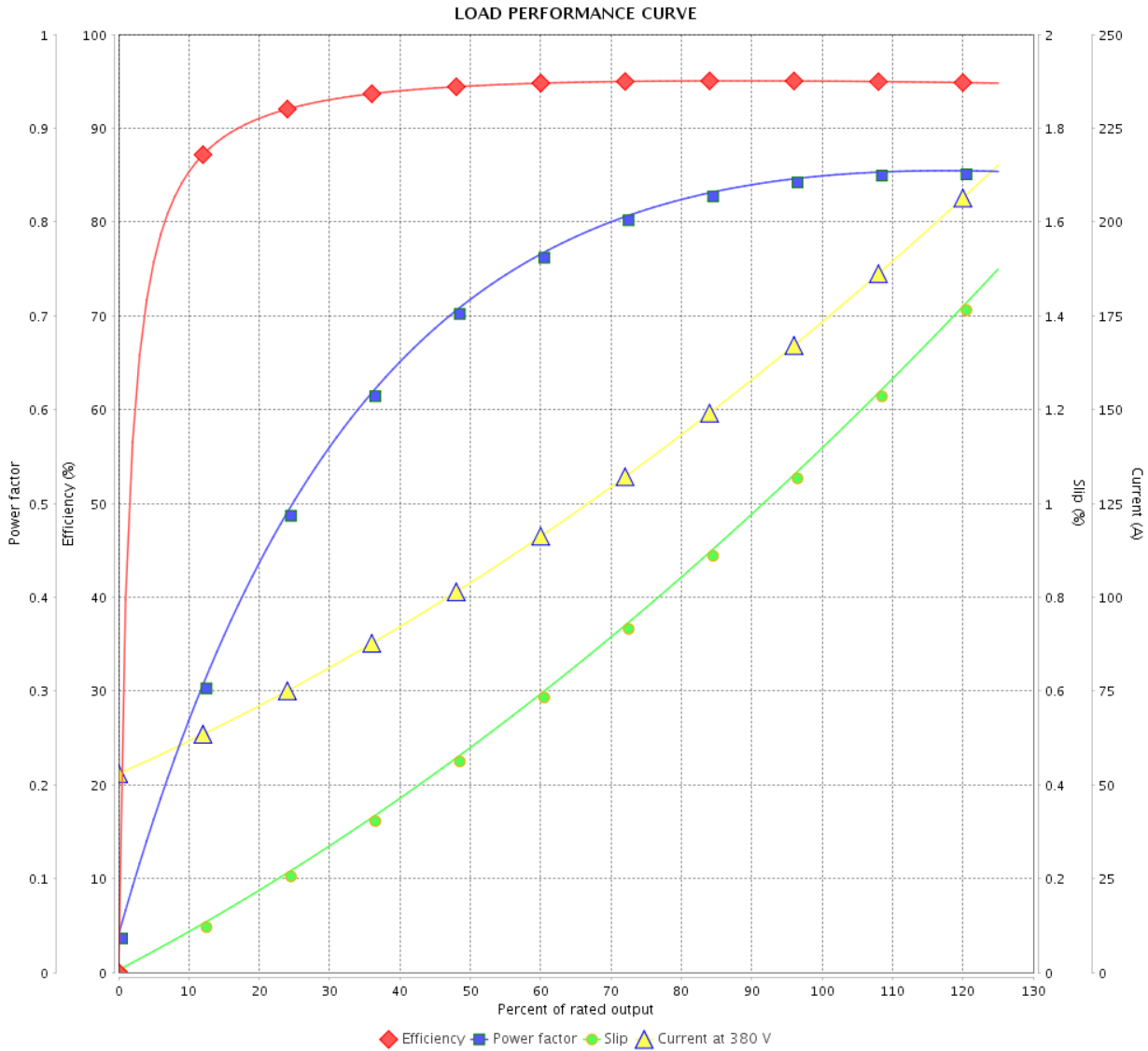


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 380 V 50 Hz 4P IE2

Rated current	: 169 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

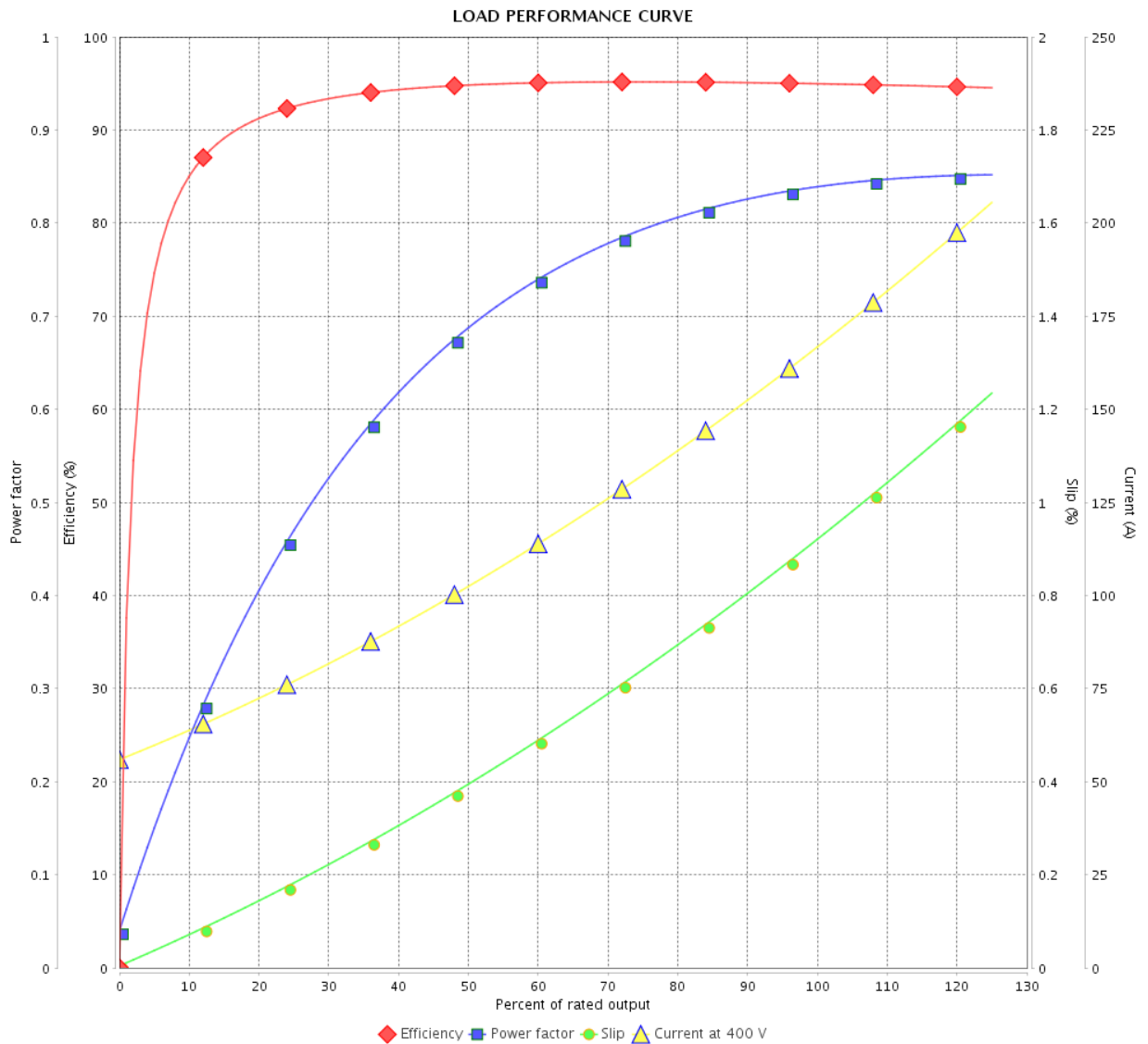


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 400 V 50 Hz 4P IE2

Rated current : 163 A  
 LRC : 6.6  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 250 %  
 Rated speed : 1483 rpm

Moment of inertia (J) : 66.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

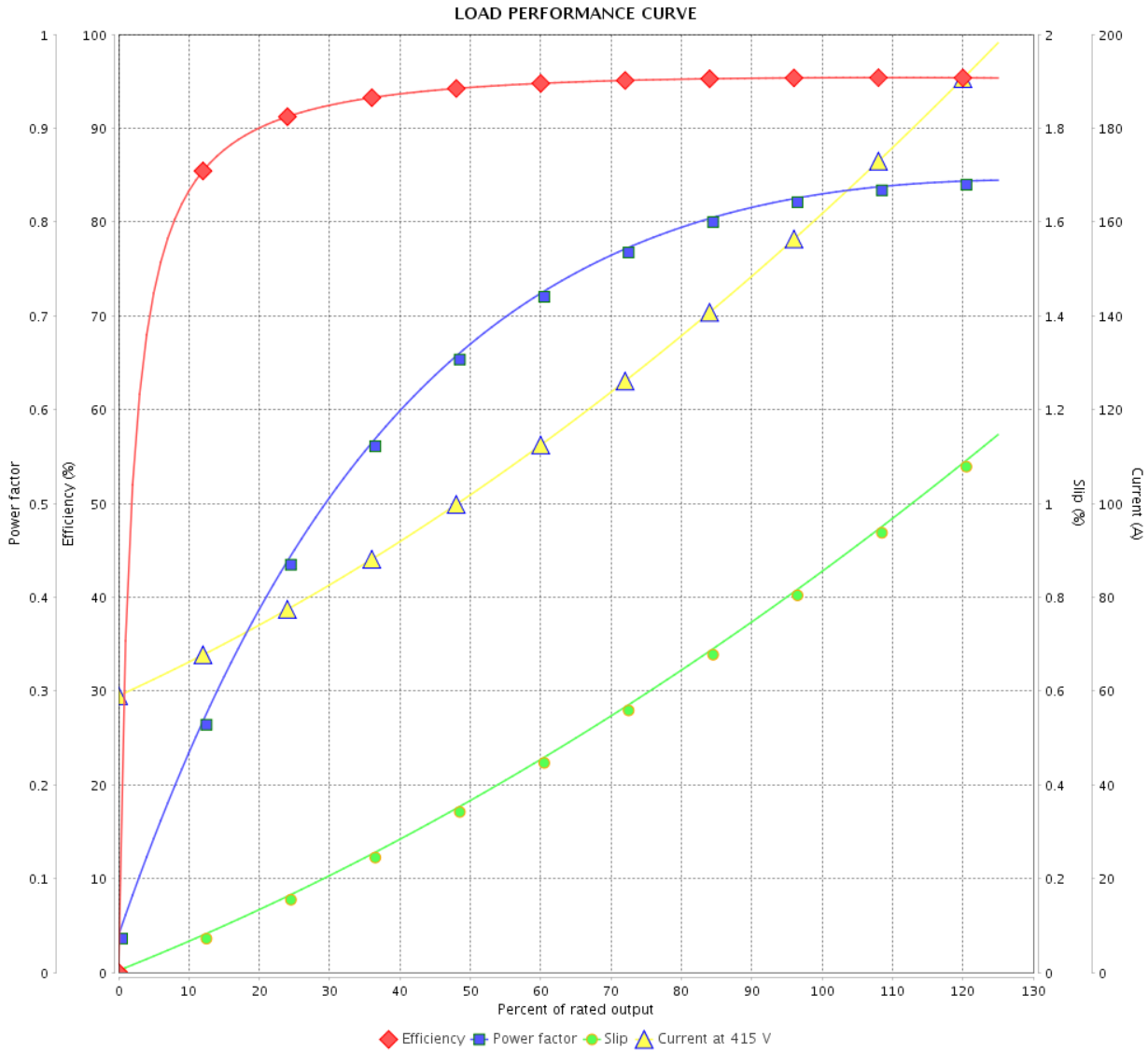


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 415 V 50 Hz 4P IE3

Rated current	: 158 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11461420  
 Catalog # : 15018XT3E445T

Performance : 230/460 V 60 Hz 4P

Rated current : 340/170 A	Moment of inertia (J) : 66.7 sq.ft.lb
LRC : 6.3	Duty cycle : Cont.(S1)
Rated torque : 442 ft.lb	Insulation class : F
Locked rotor torque : 210 %	Service factor : 1.15
Breakdown torque : 220 %	Temperature rise : 80 K
Rated speed : 1780 rpm	Design : B

Heating constant

Cooling constant

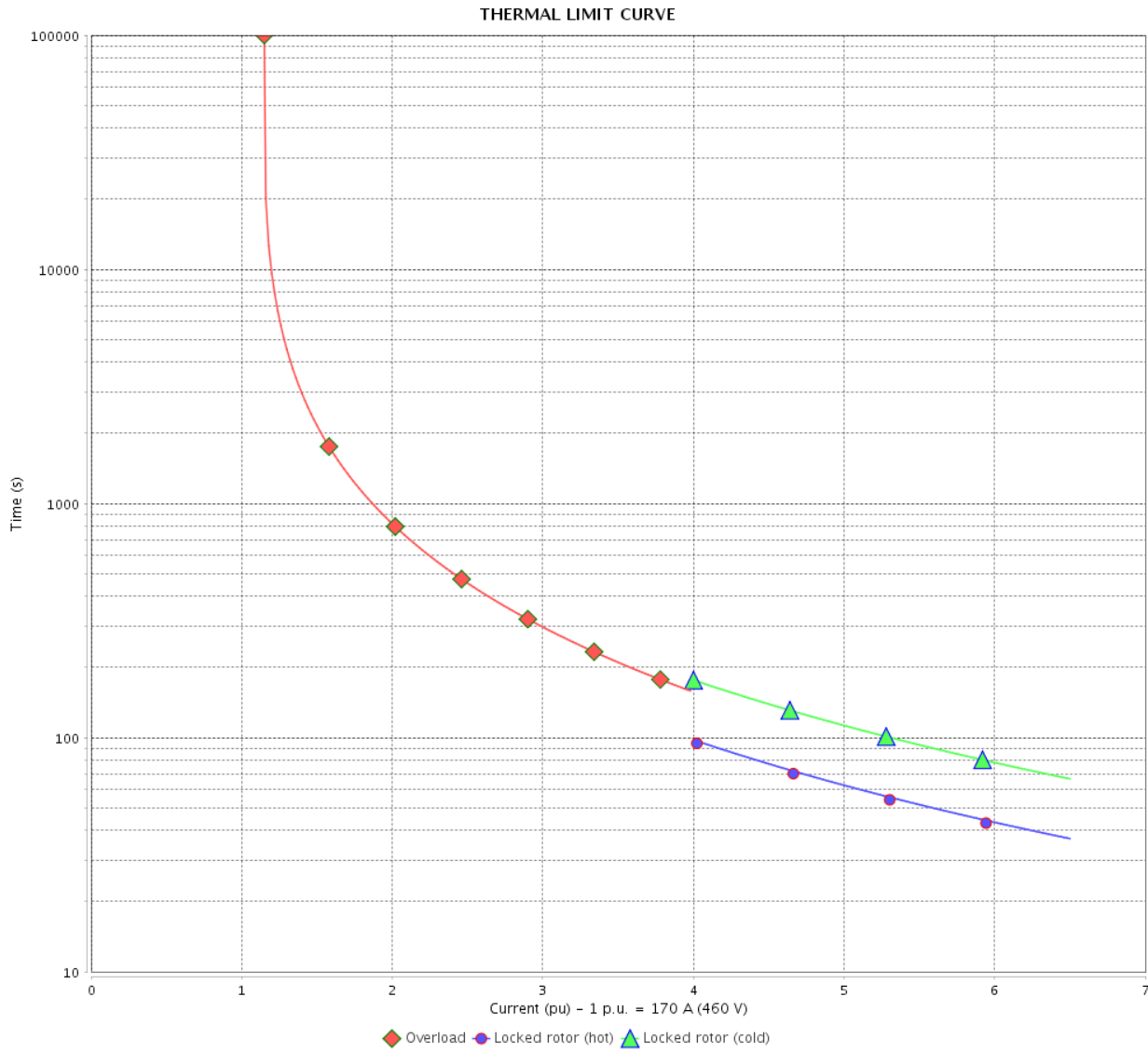
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11461420  
 Catalog # : 15018XT3E445T

Performance : 380 V 50 Hz 4P IE2

Rated current : 169 A	Moment of inertia (J) : 66.7 sq.ft.lb
LRC : 6.0	Duty cycle : Cont.(S1)
Rated torque : 443 ft.lb	Insulation class : F
Locked rotor torque : 200 %	Service factor : 1.00
Breakdown torque : 220 %	Temperature rise : 80 K
Rated speed : 1480 rpm	Design : B

Heating constant

Cooling constant

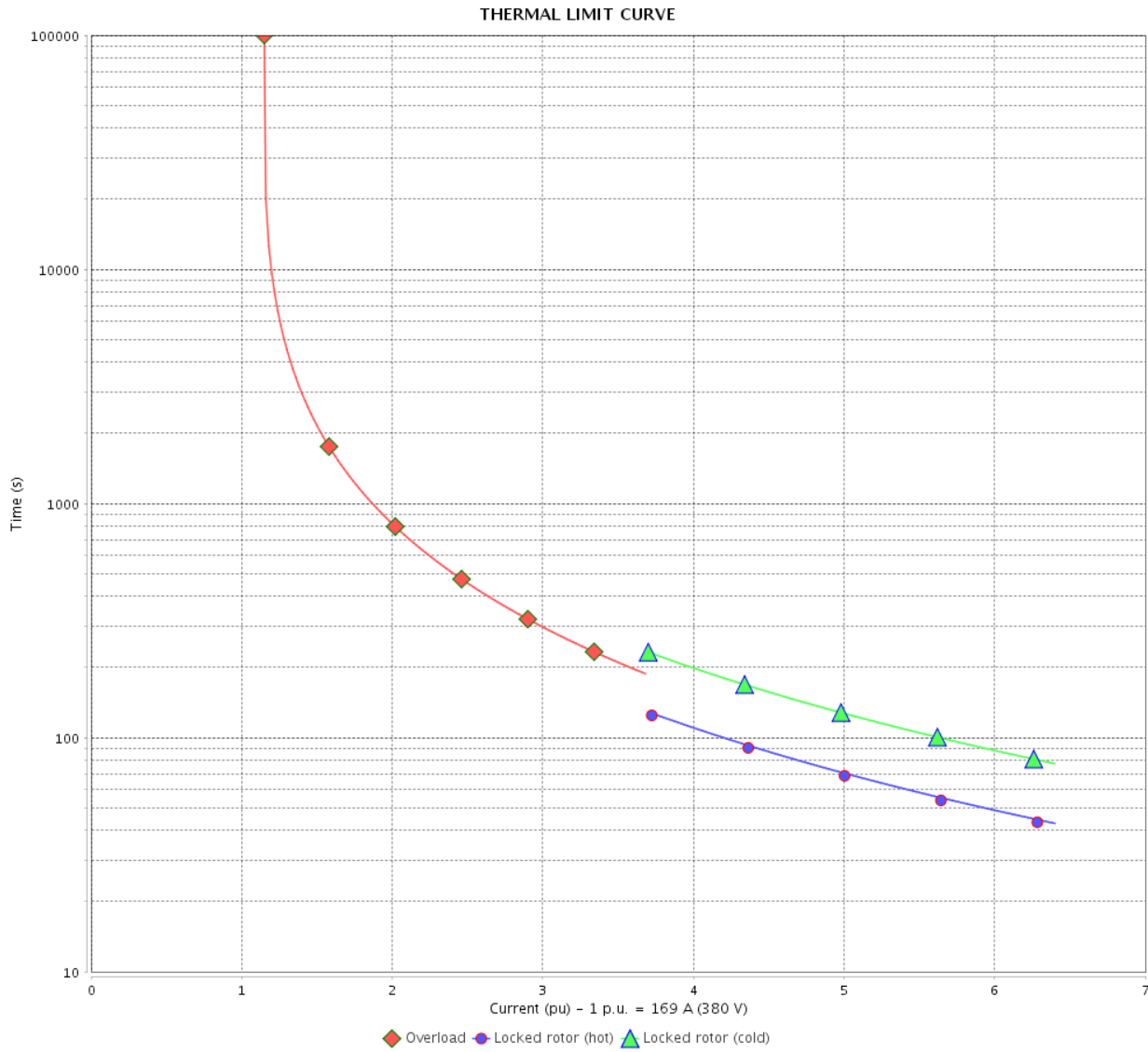
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11461420  
 Catalog # : 15018XT3E445T

Performance : 400 V 50 Hz 4P IE2

Rated current : 163 A	Moment of inertia (J) : 66.7 sq.ft.lb
LRC : 6.6	Duty cycle : Cont.(S1)
Rated torque : 442 ft.lb	Insulation class : F
Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 250 %	Temperature rise : 80 K
Rated speed : 1483 rpm	Design : B

Heating constant

Cooling constant

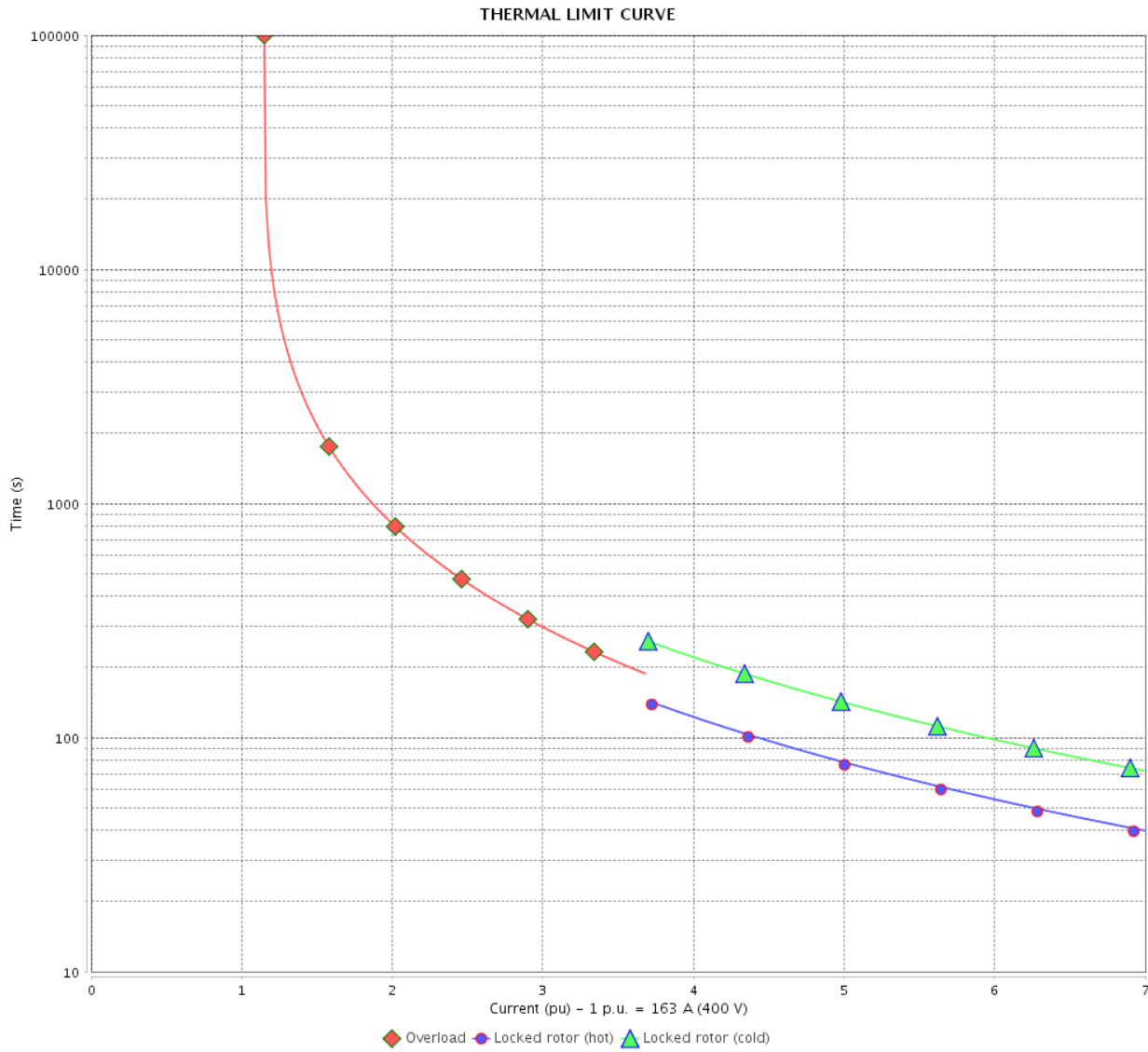
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Three Phase Induction Motor - Squirrel Cage



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# THERMAL LIMIT CURVE



## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase  
 Product code : 11461420  
 Catalog # : 15018XT3E445T

Performance : 415 V 50 Hz 4P IE3

Rated current : 158 A	Moment of inertia (J) : 66.7 sq.ft.lb
LRC : 7.1	Duty cycle : Cont.(S1)
Rated torque : 441 ft.lb	Insulation class : F
Locked rotor torque : 250 %	Service factor : 1.00
Breakdown torque : 270 %	Temperature rise : 80 K
Rated speed : 1485 rpm	Design : B

Heating constant

Cooling constant

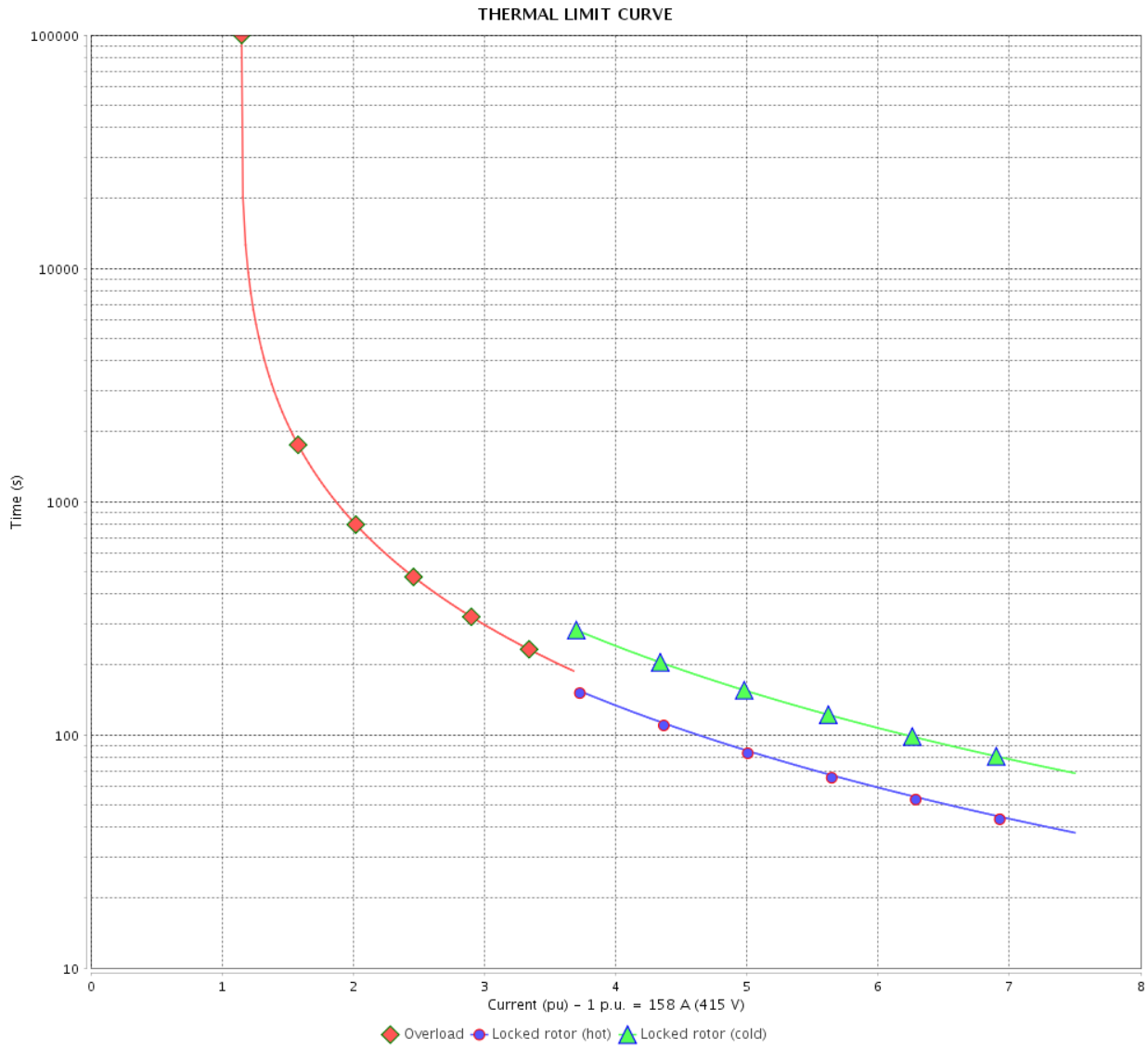
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

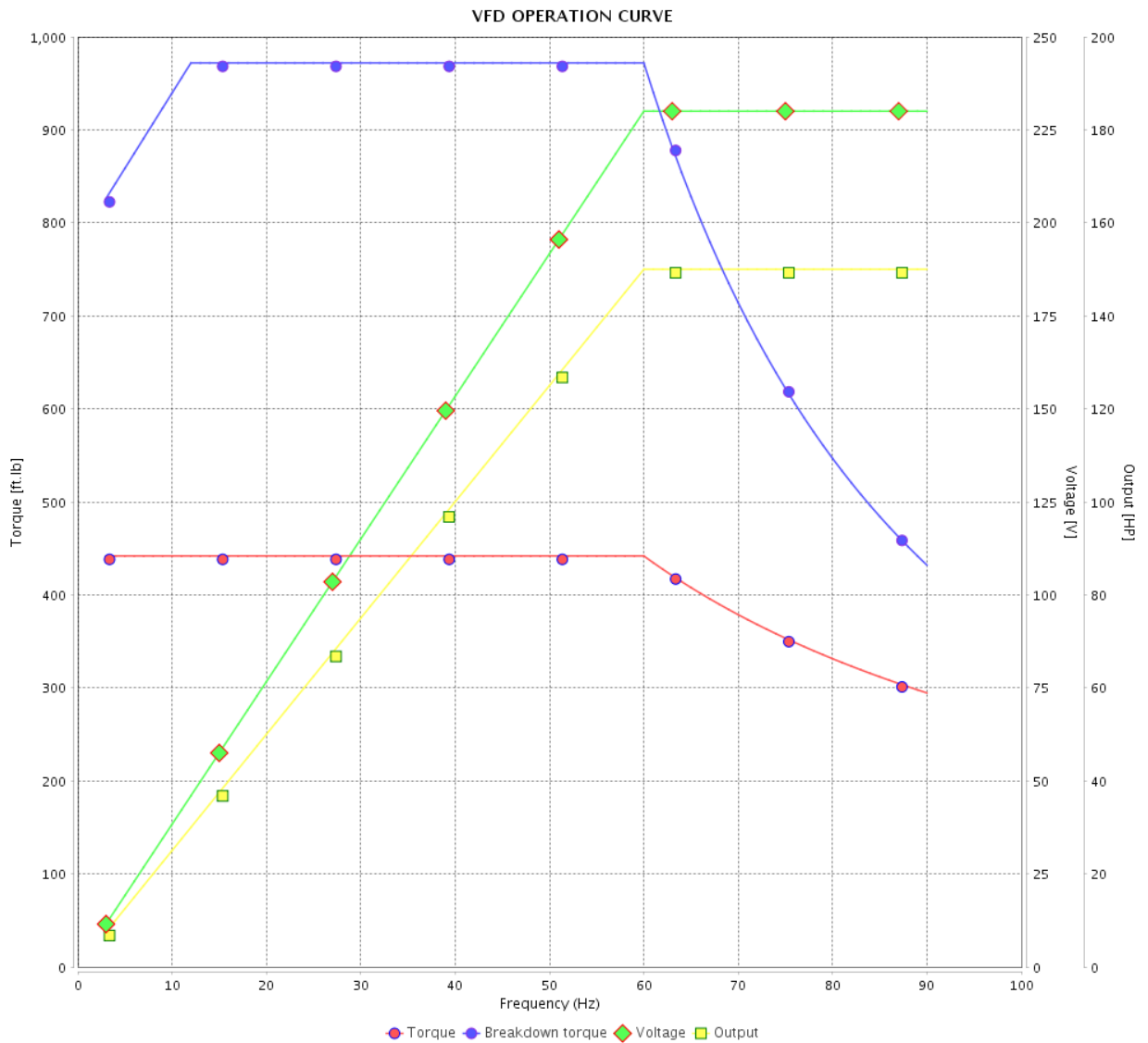


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 230/460 V 60 Hz 4P

Rated current : 340/170 A  
 LRC : 6.3  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 210 %  
 Breakdown torque : 220 %  
 Rated speed : 1780 rpm

Moment of inertia (J) : 66.7 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
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Date				

# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



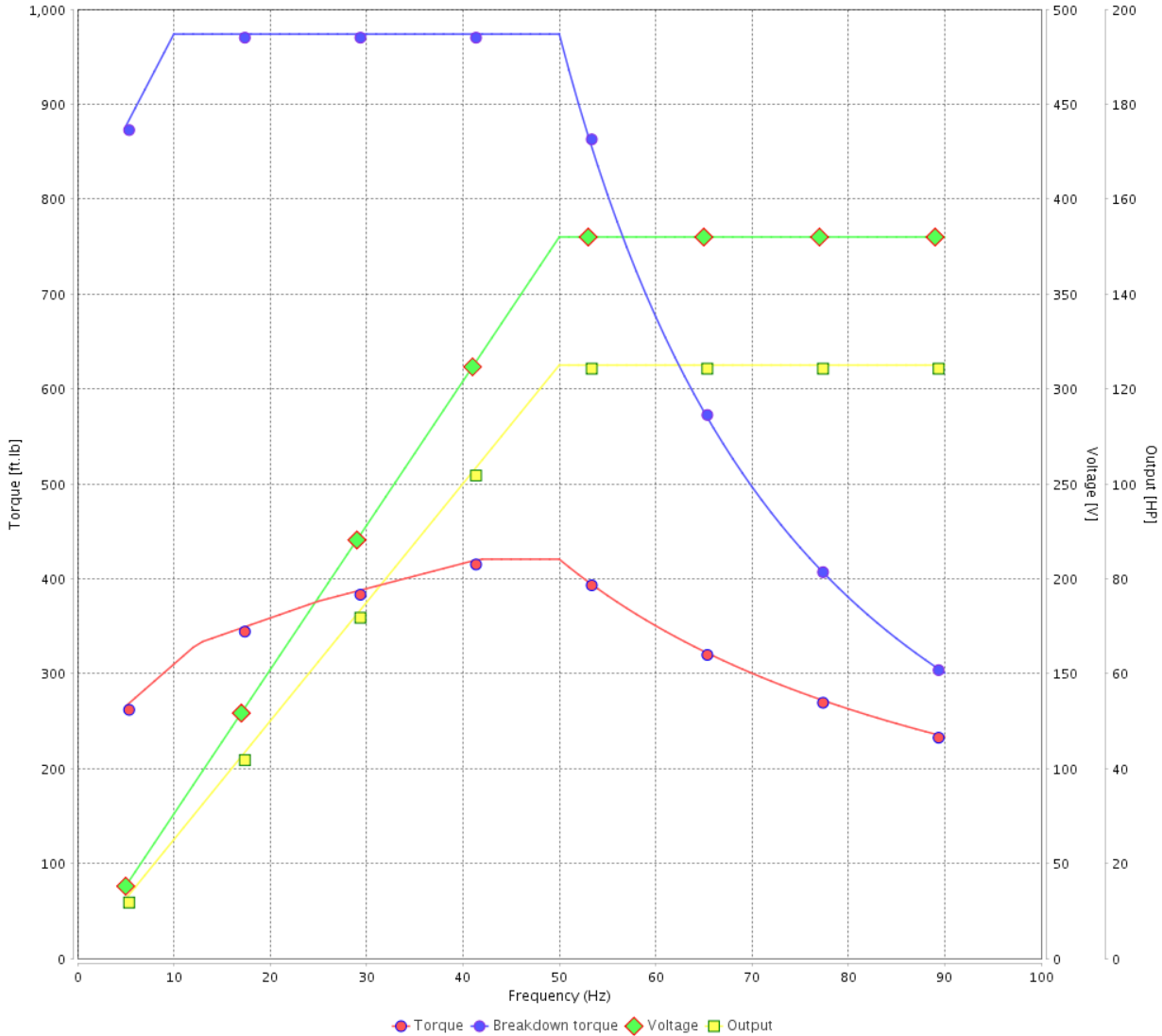
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T

VFD OPERATION CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 169 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 6.0	Duty cycle	: Cont.(S1)
Rated torque	: 443 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 220 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: B

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# VFD OPERATION CURVE

## Three Phase Induction Motor - Squirrel Cage

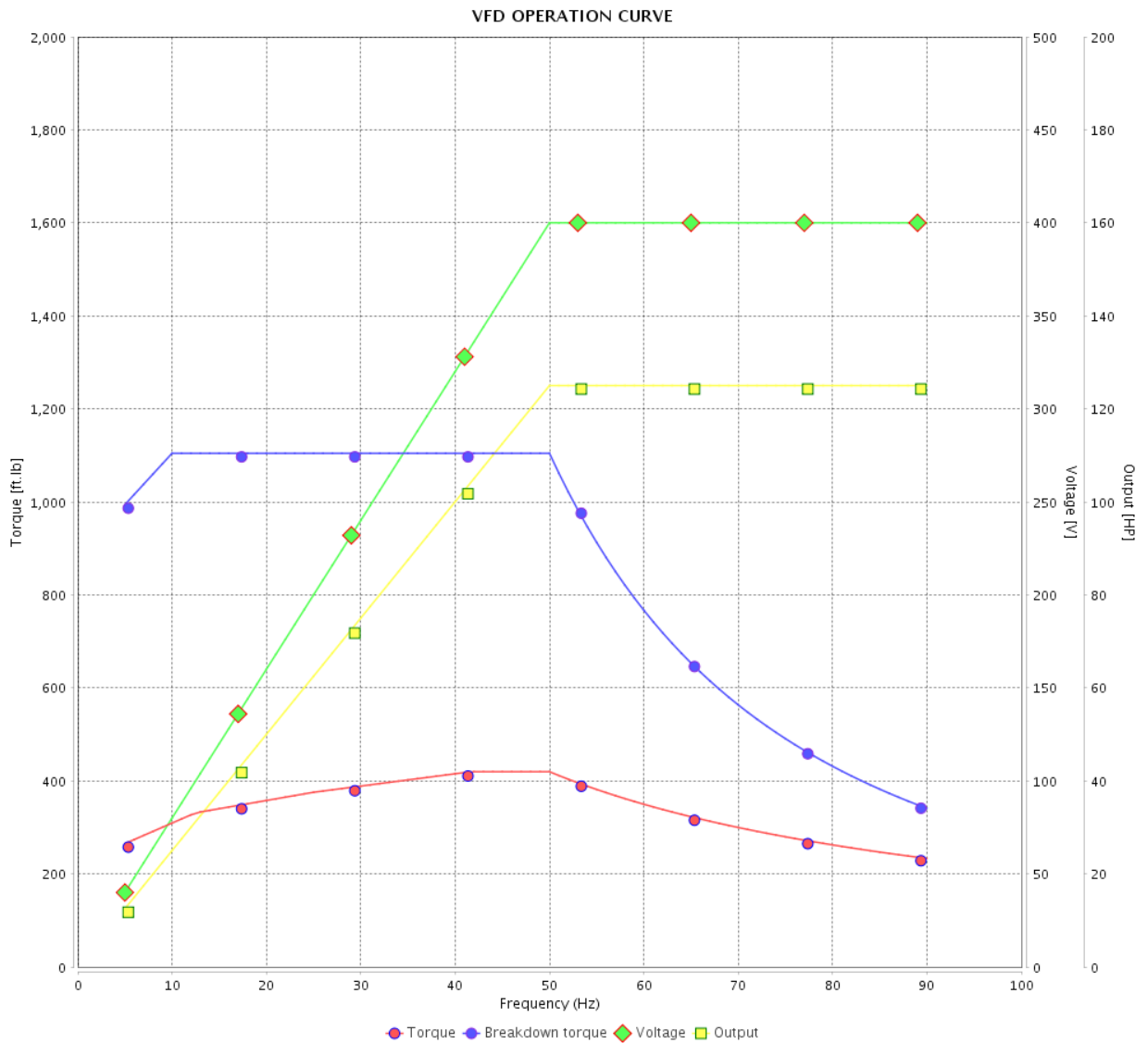


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T



Performance : 400 V 50 Hz 4P IE2

Rated current : 163 A  
 LRC : 6.6  
 Rated torque : 442 ft.lb  
 Locked rotor torque : 229 %  
 Breakdown torque : 250 %  
 Rated speed : 1483 rpm

Moment of inertia (J) : 66.7 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



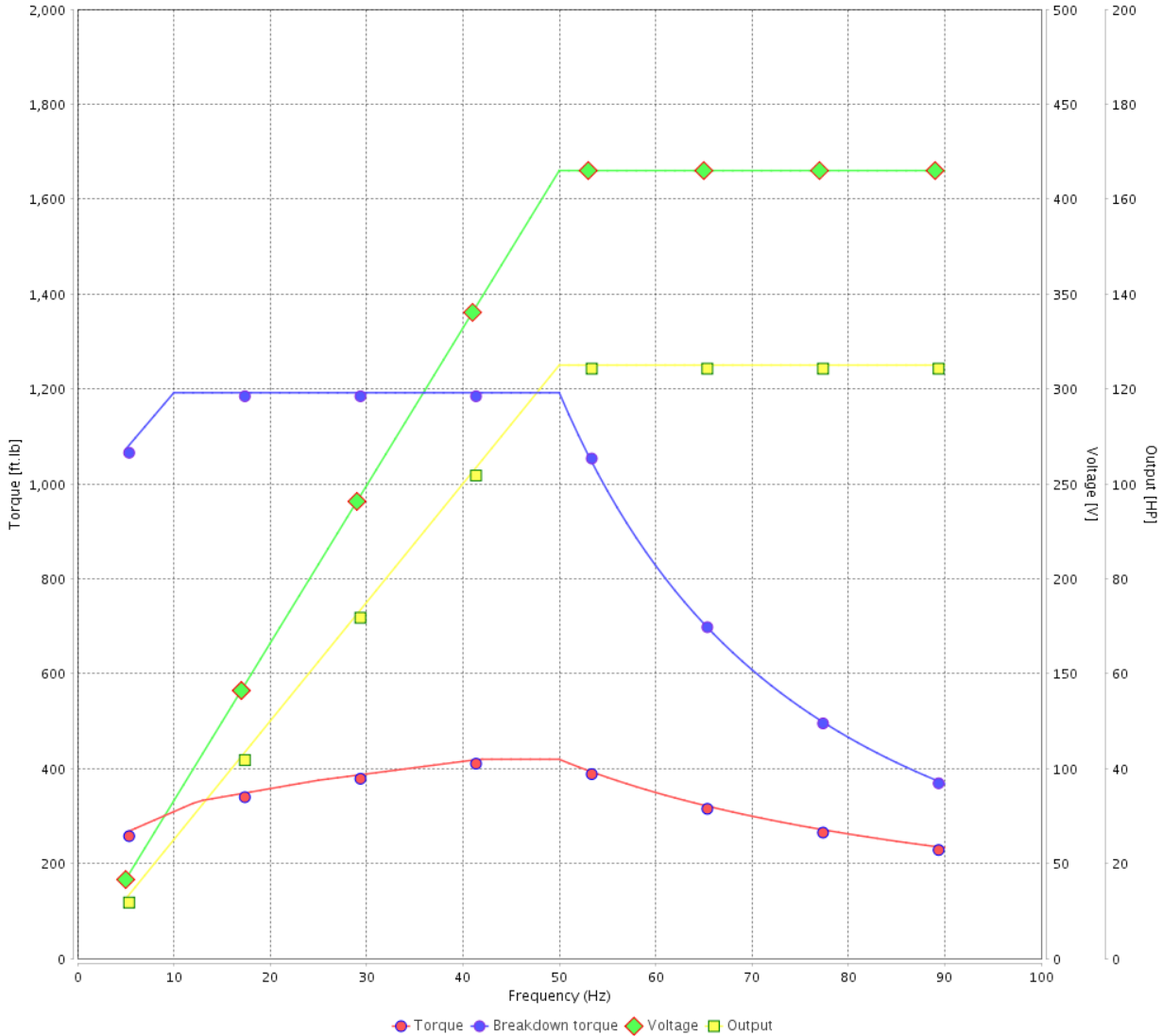
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11461420

Catalog # : 15018XT3E445T

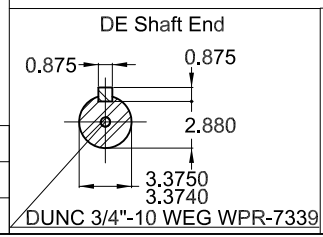
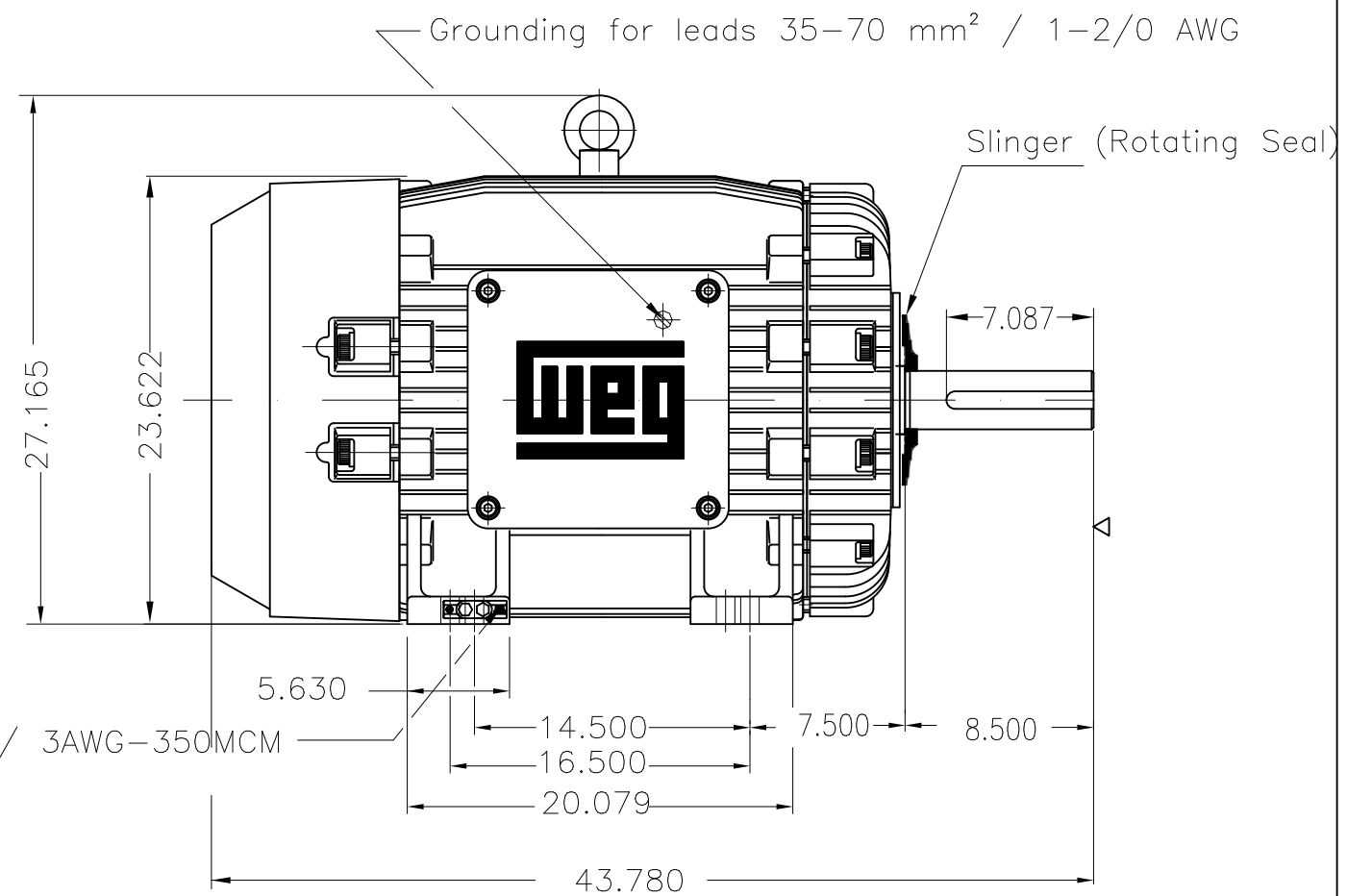
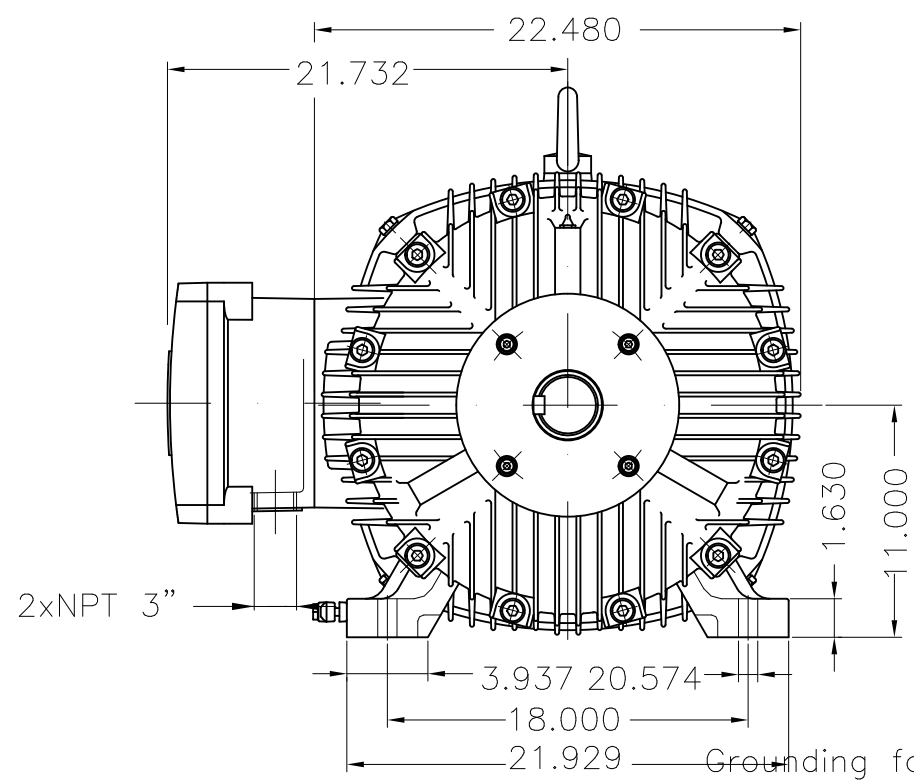
VFD OPERATION CURVE



Performance : 415 V 50 Hz 4P IE3

Rated current	: 158 A	Moment of inertia (J)	: 66.7 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 441 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: B

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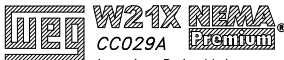
Color RAL 5009  
 Painting plan 202P  
 Mounting B3R(D)

150 HP 04 Poles 60 Hz A

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

**PREVIEW**  
**WDD**  
 SHEET 1 / 1

Dimensions in inches XME A3



**W21X NEMA**  
**CC029A Premium**

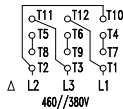
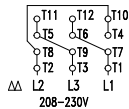
*Inverter Duty Motor  
 Severe Duty*



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, 2:1CT, 1.0SF, T3C, AMB 40°C.

MODEL 15018XT3E445T  
 MADE IN BRAZIL  
 11461420

PH 3	FR 444/5T	HP(kW) 150.0(110.0)	Hz 60
V 230/460		A 340/170	RPM 1783
NEMA NOM. EFF. 95.8%		INS CL F $\Delta$ T 80 K	IP55
PF 0.85	DUTY CONT.		CODE G
ENCL. TEFC	SF 1.15	SFA 391/195	
AMB 40°C	DES B	USABLE @208V 376 A SF 1.00	
AMB 55°C SF1.0	-bearings lub interval reduced by a factor of 50%		
125HP 90kW 50Hz 380V 169A 1483RPM SF1.00 EFF 95.0% (IE2)			



→ 6219-C3(28g)  
 → 6316-C3(34g)

MOBIL POLYREX EM  
 8033 h

ALT 1000 m.a.s.l | 2 1 2 1 Lbs