

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 11582913	
				Catalog # : 15012XT3G447T	
Frame : 447T		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> : 2660 lb			
Protection degree : IP55		Moment of inertia (J) : 134 sq.ft.lb			
Design : B					
Output [HP]	150	125	125	125	125
Poles	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	460	380	400	415	415
Rated current [A]	174	173	166	164	164
L. R. Amperes [A]	1305	1228	1311	1394	1394
LRC [A]	7.5x(Code H)	7.1x(Code H)	7.9x(Code J)	8.5x(Code K)	8.5x(Code K)
No load current [A]	66.0	66.0	70.0	73.0	73.0
Rated speed [RPM]	1190	990	990	990	990
Slip [%]	0.83	1.00	1.00	1.00	1.00
Rated torque [ft.lb]	662	663	663	663	663
Locked rotor torque [%]	260	240	270	290	290
Breakdown torque [%]	260	260	290	310	310
Service factor	1.15	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	75s (cold) 42s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)
Noise level <sup>2</sup>	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)
Efficiency (%)	25%	94.9	94.4	94.3	94.3
	50%	95.0	94.5	94.5	94.5
	75%	95.8	95.0	95.4	95.4
	100%	95.8	95.0	95.4	95.4
Power Factor	25%	0.44	0.44	0.41	0.38
	50%	0.68	0.68	0.65	0.62
	75%	0.78	0.78	0.76	0.74
	100%	0.83	0.83	0.82	0.80
Bearing type		Drive end : 6319 C3	Non drive end : 6316 C3	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 4149 lb	
Lubrication interval		: 11094 h	: 12823 h	Max. compression : 6810 lb	
Lubricant amount		: 45 g	: 34 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.		
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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



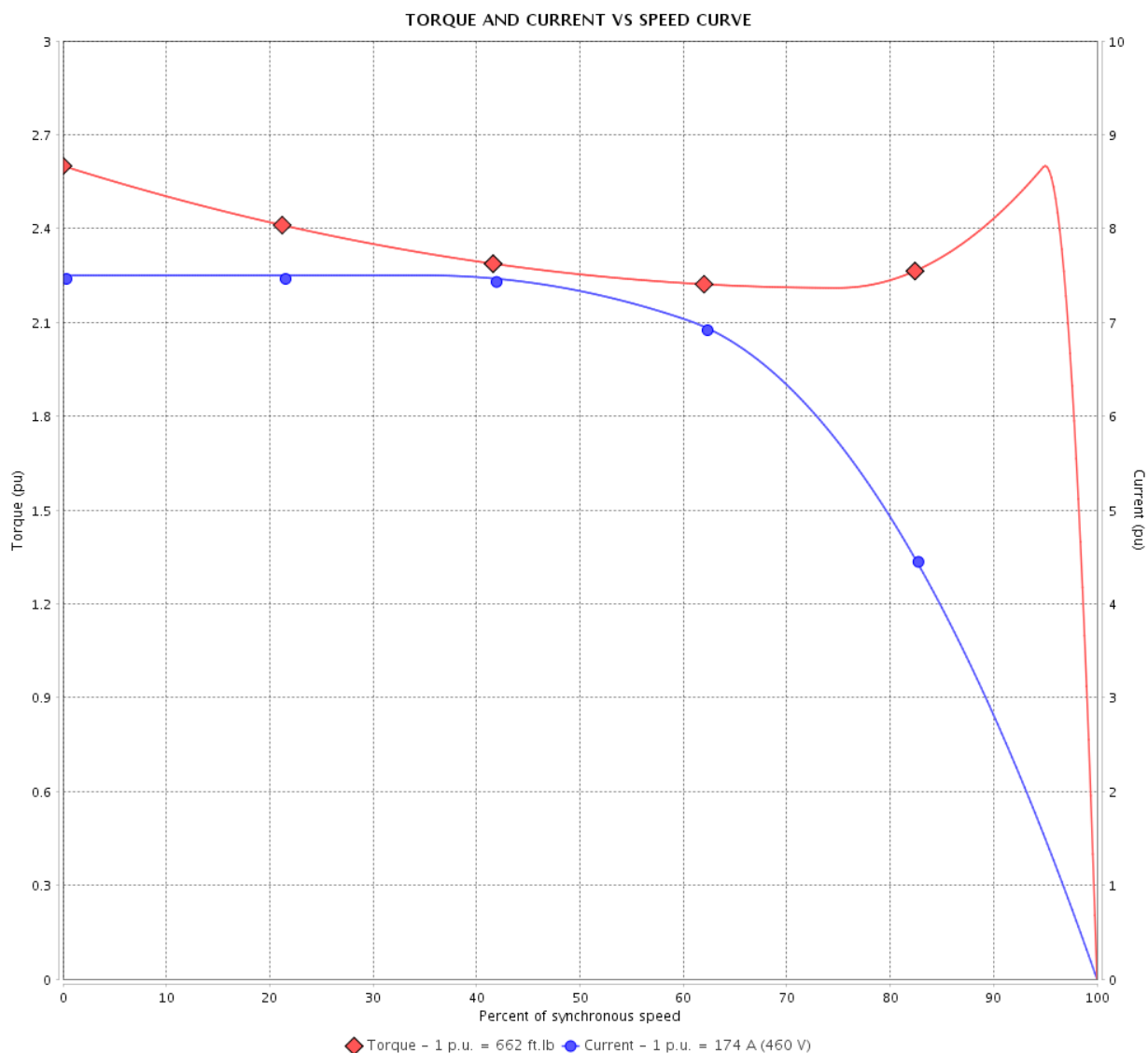
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T



Performance : 460 V 60 Hz 6P

Rated current	: 174 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 7.5	Duty cycle	: Cont.(S1)
Rated torque	: 662 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.15
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1190 rpm	Design	: B

Locked rotor time : 75s (cold) 42s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

## Three Phase Induction Motor - Squirrel Cage



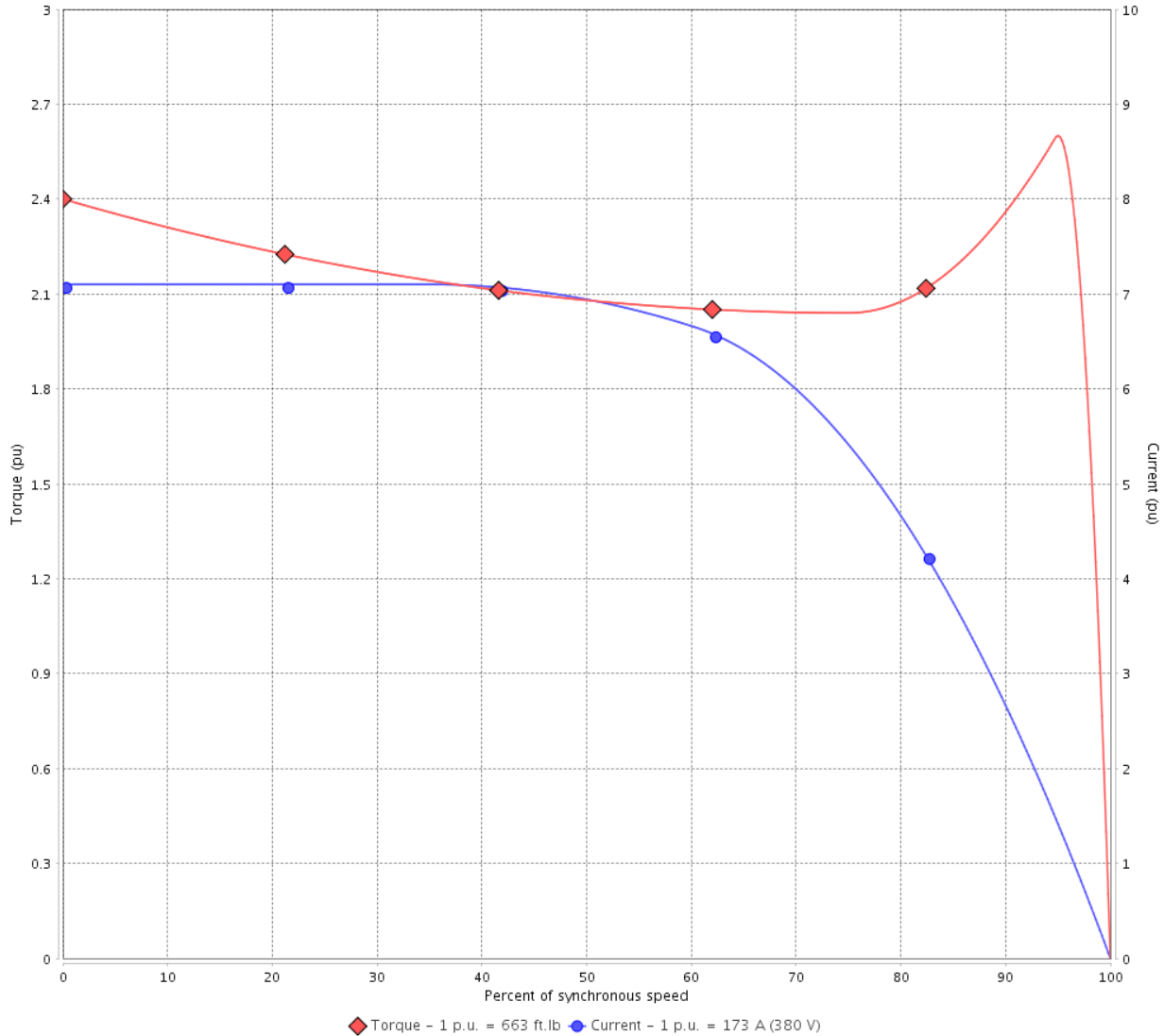
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 173 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 663 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE



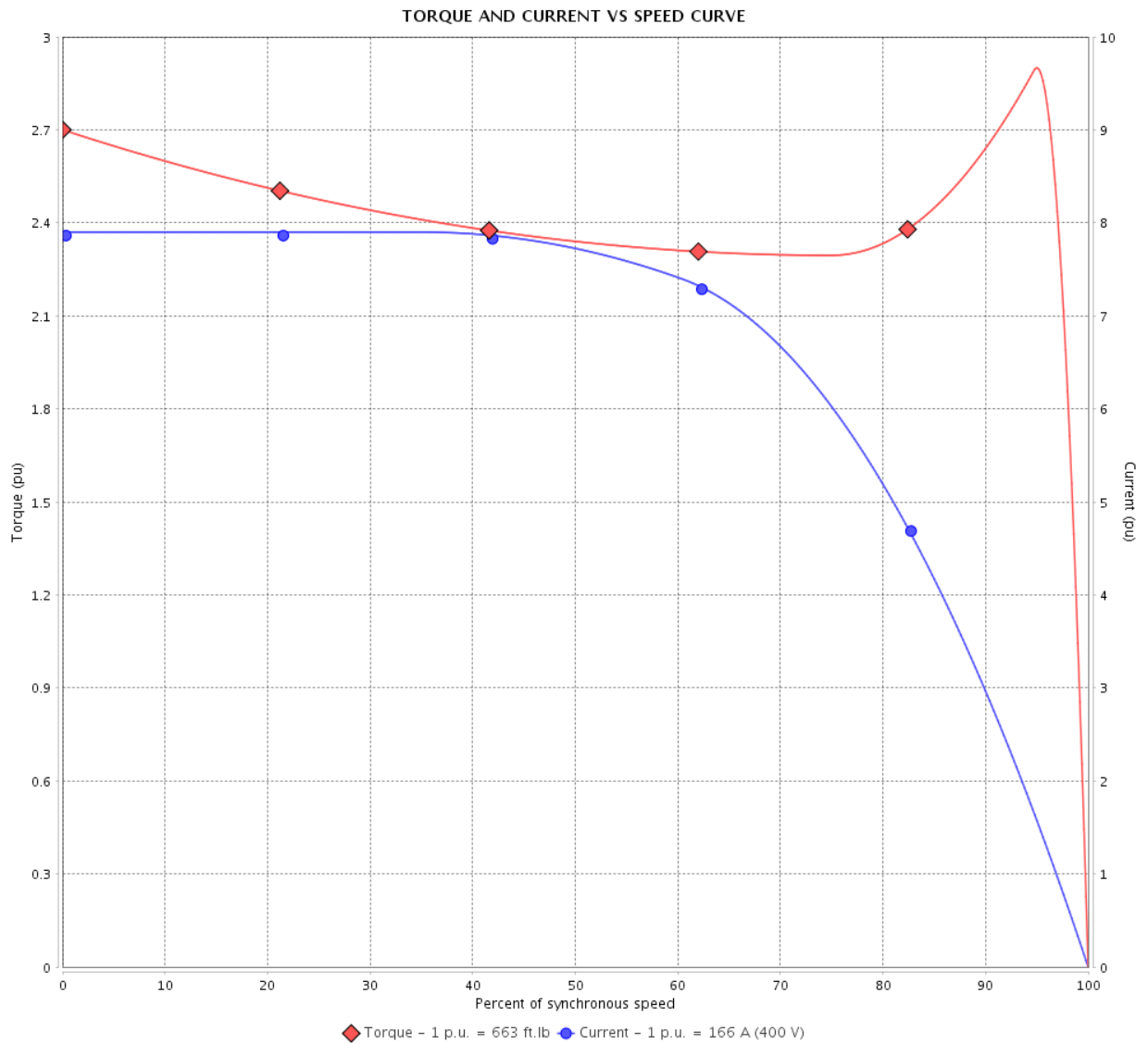
## Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T



Performance : 400 V 50 Hz 6P IE3

Rated current	: 166 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 7.9	Duty cycle	: Cont.(S1)
Rated torque	: 663 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



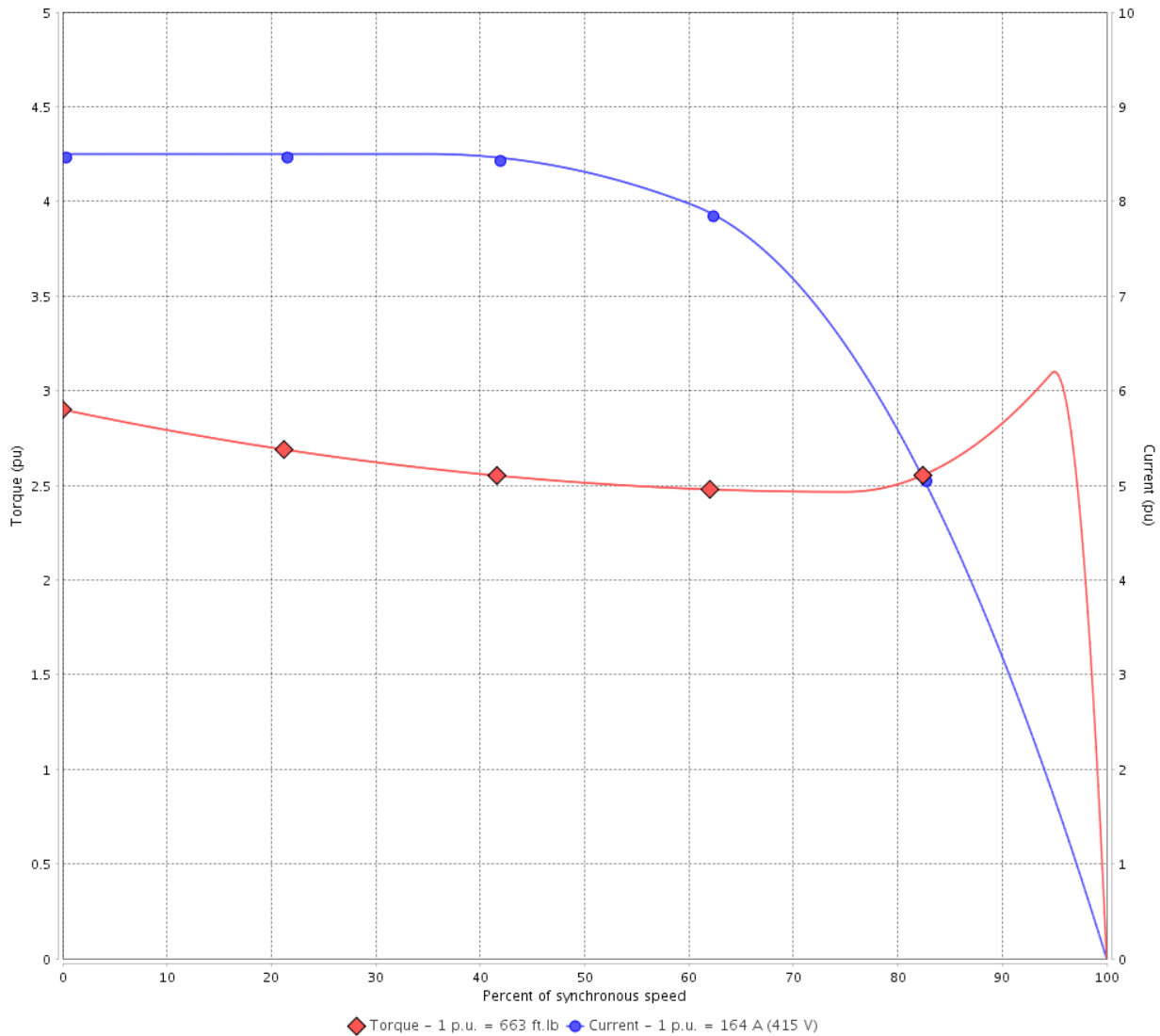
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 164 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 8.5	Duty cycle	: Cont.(S1)
Rated torque	: 663 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

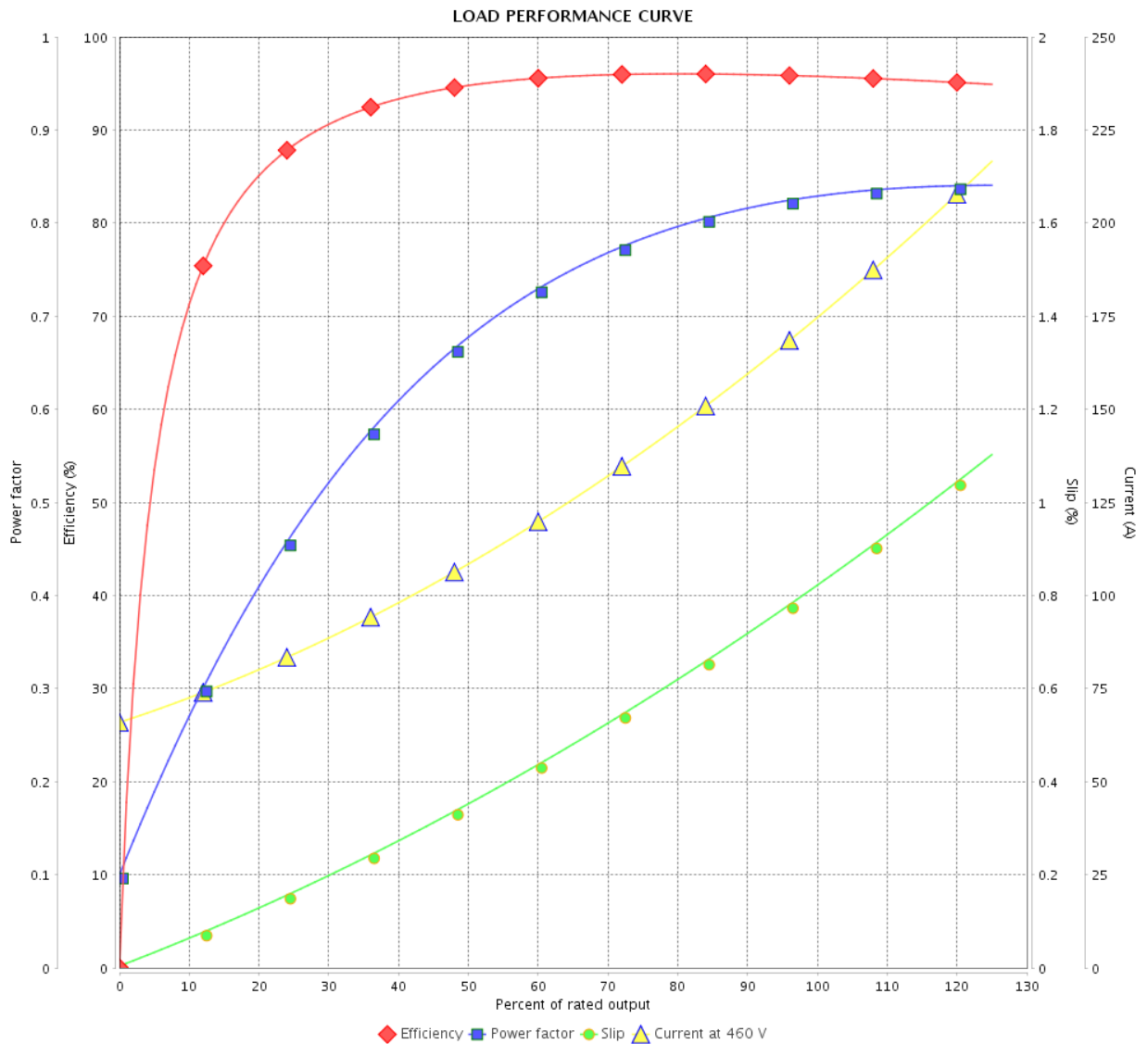


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T



Performance : 460 V 60 Hz 6P

Rated current : 174 A  
 LRC : 7.5  
 Rated torque : 662 ft.lb  
 Locked rotor torque : 260 %  
 Breakdown torque : 260 %  
 Rated speed : 1190 rpm

Moment of inertia (J) : 134 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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Date				

# LOAD PERFORMANCE CURVE

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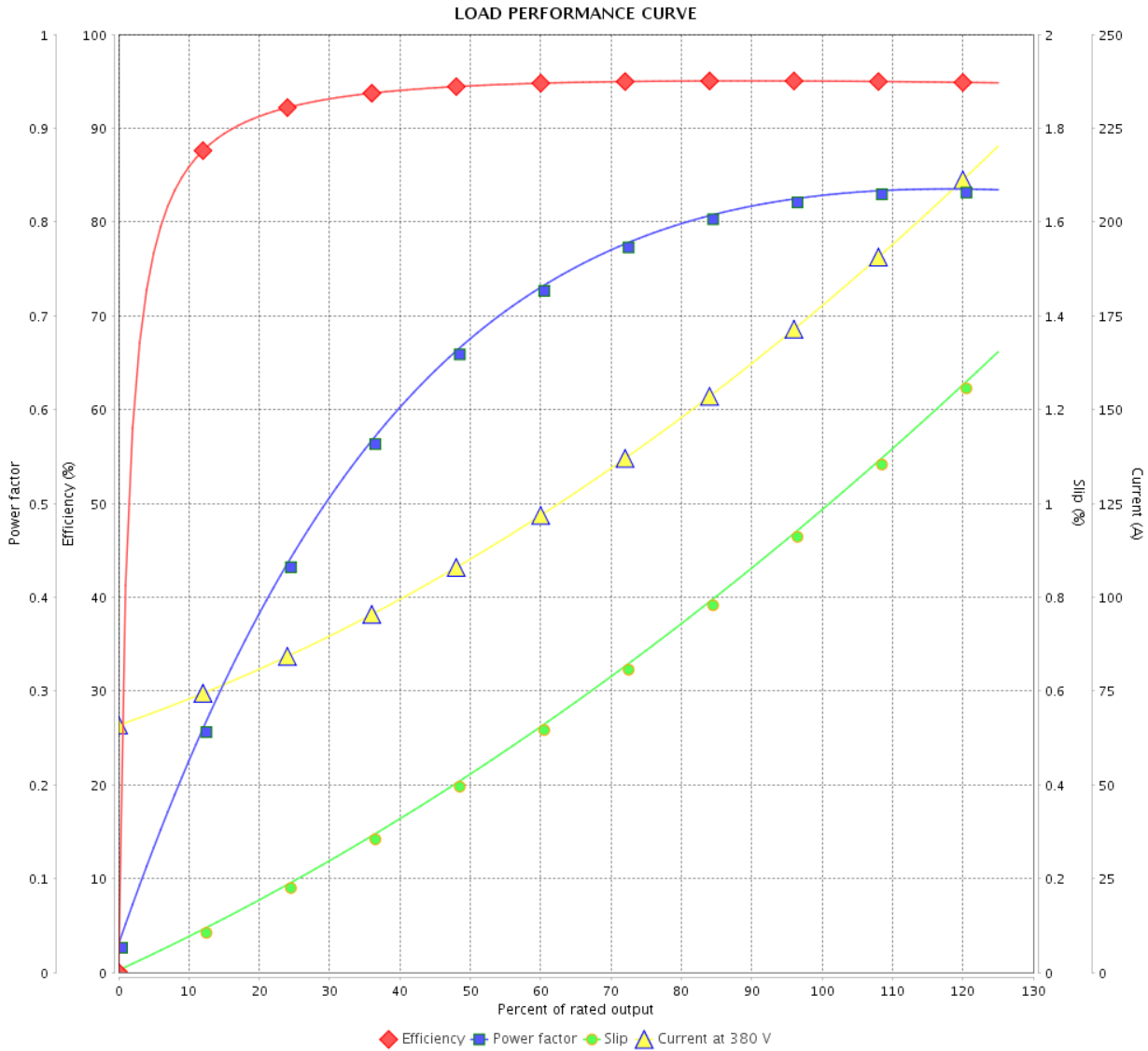


Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T



Performance : 380 V 50 Hz 6P IE3

Rated current	: 173 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 7.1	Duty cycle	: Cont.(S1)
Rated torque	: 663 ft.lb	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

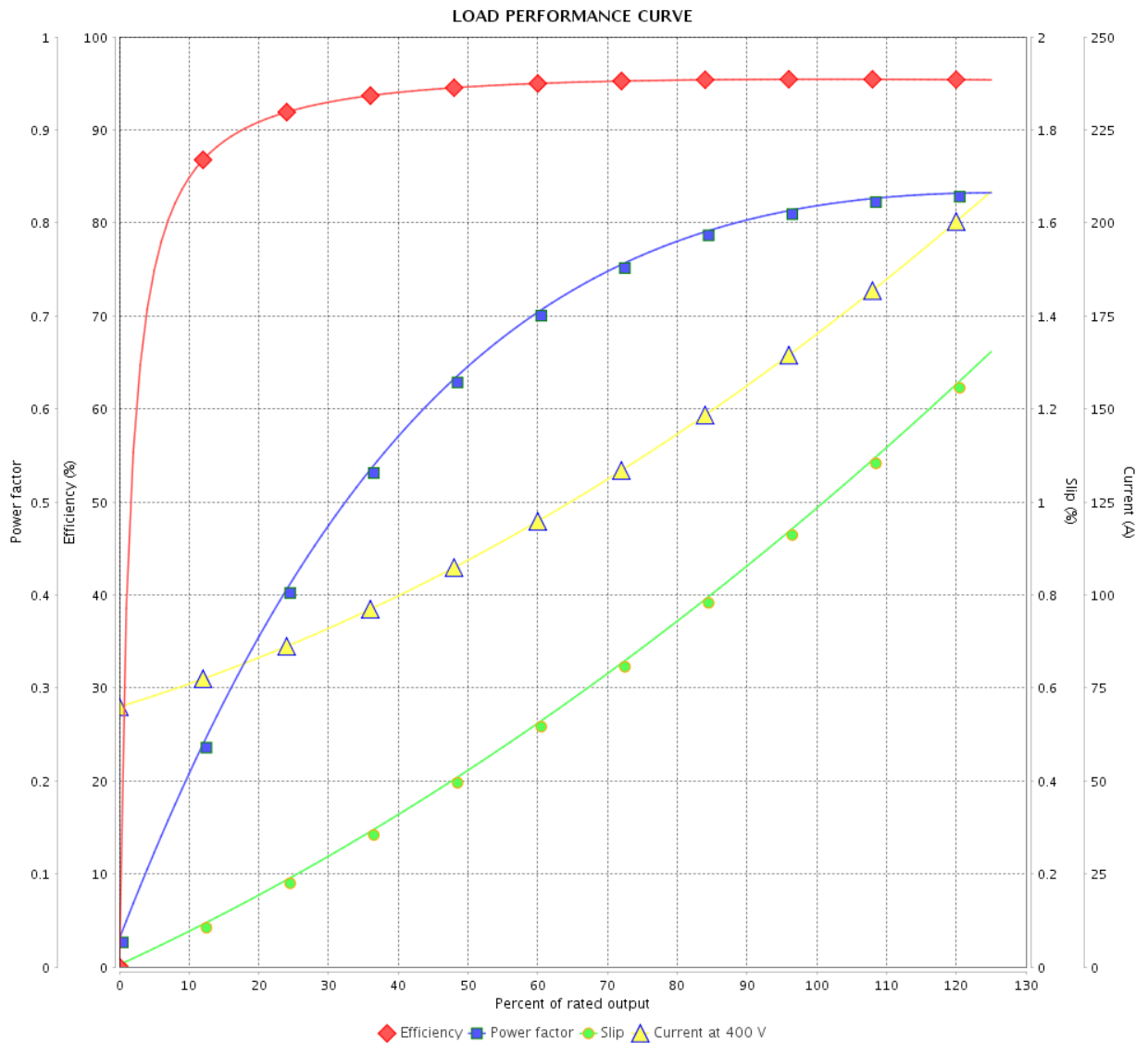


Customer : \_\_\_\_\_

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T



Performance : 400 V 50 Hz 6P IE3

Rated current : 166 A  
 LRC : 7.9  
 Rated torque : 663 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 290 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 134 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



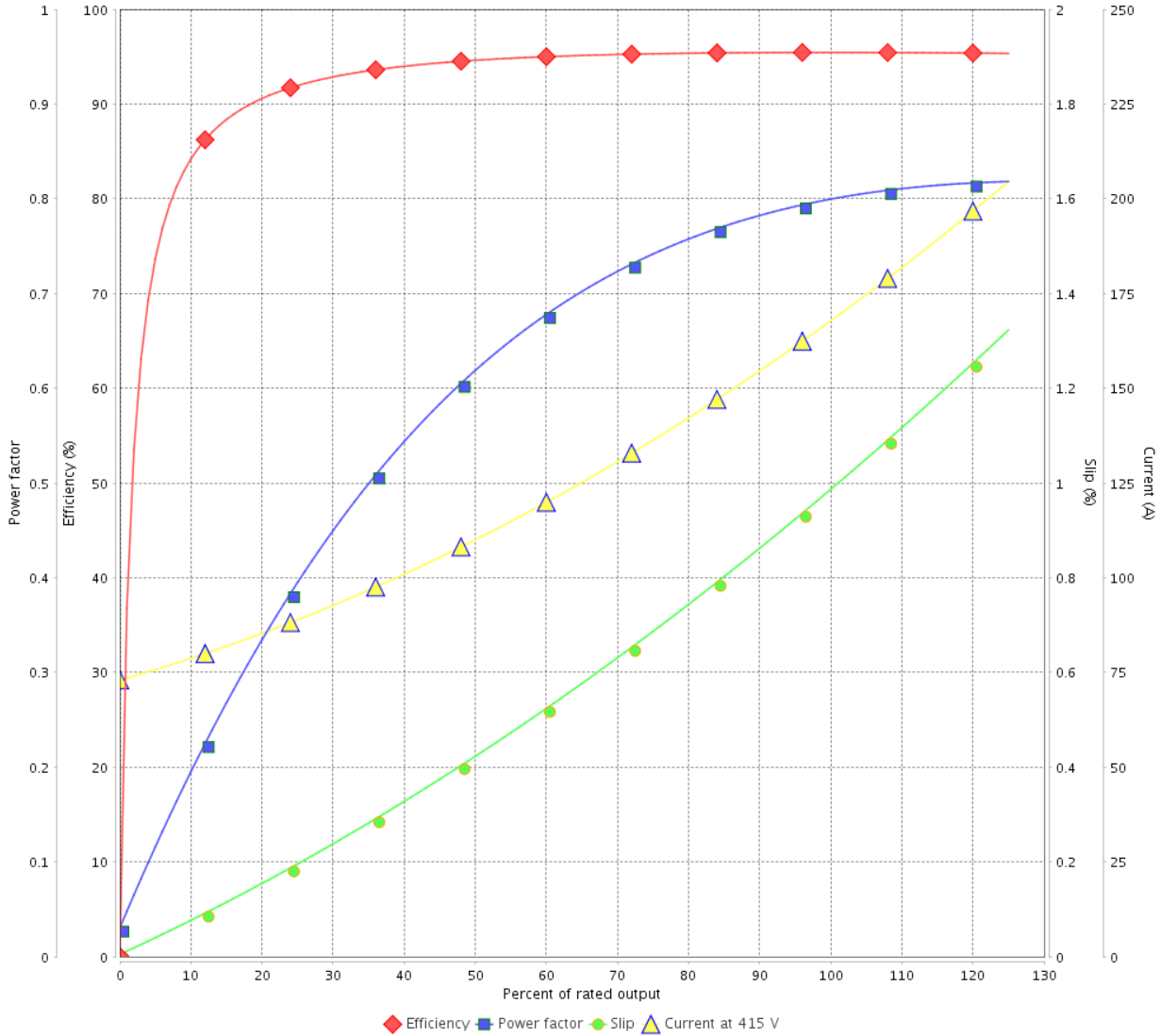
Customer :

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Product code : 11582913

Catalog # : 15012XT3G447T

LOAD PERFORMANCE CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 164 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 8.5	Duty cycle	: Cont.(S1)
Rated torque	: 663 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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# THERMAL LIMIT CURVE



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Locked rotor torque : 260 %	Service factor : 1.15
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 1190 rpm	Design : B

Heating constant

Cooling constant

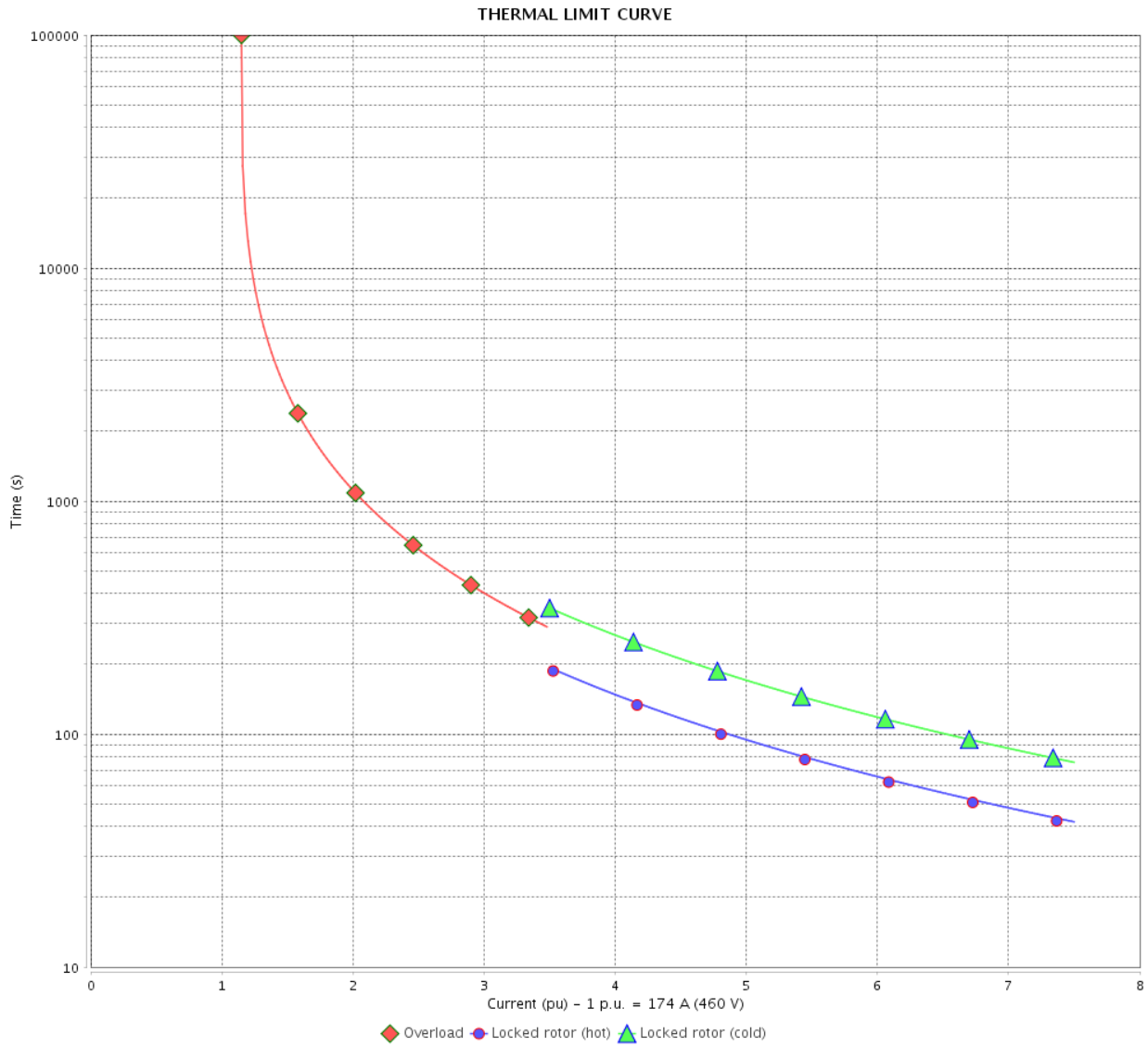
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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LRC : 7.1	Duty cycle : Cont.(S1)
Rated torque : 663 ft.lb	Insulation class : F
Locked rotor torque : 240 %	Service factor : 1.00
Breakdown torque : 260 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

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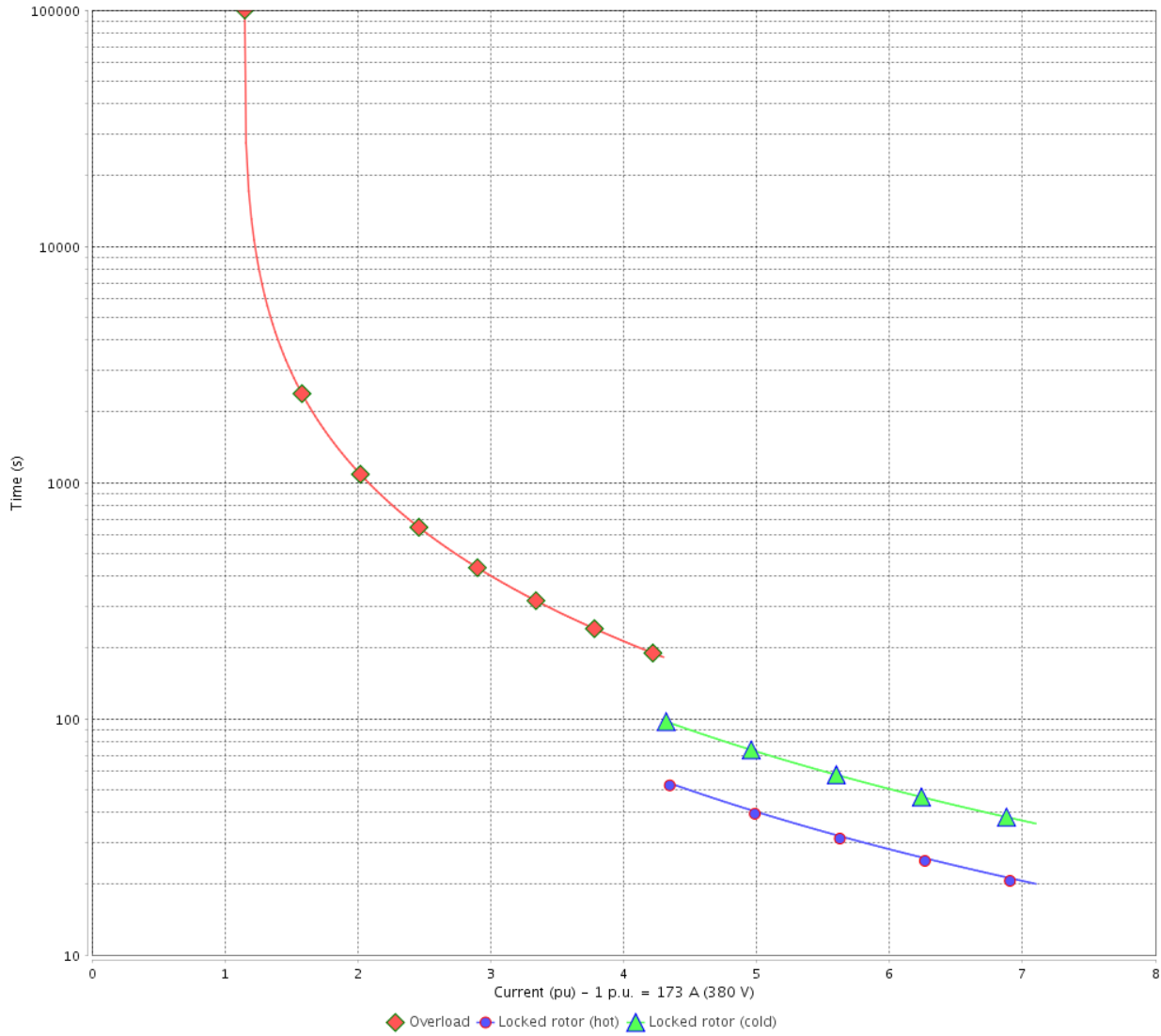
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Three Phase Induction Motor - Squirrel Cage



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

THERMAL LIMIT CURVE



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# THERMAL LIMIT CURVE



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 Product code : 11582913  
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Performance : 400 V 50 Hz 6P IE3

Rated current : 166 A	Moment of inertia (J) : 134 sq.ft.lb
LRC : 7.9	Duty cycle : Cont.(S1)
Rated torque : 663 ft.lb	Insulation class : F
Locked rotor torque : 270 %	Service factor : 1.00
Breakdown torque : 290 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

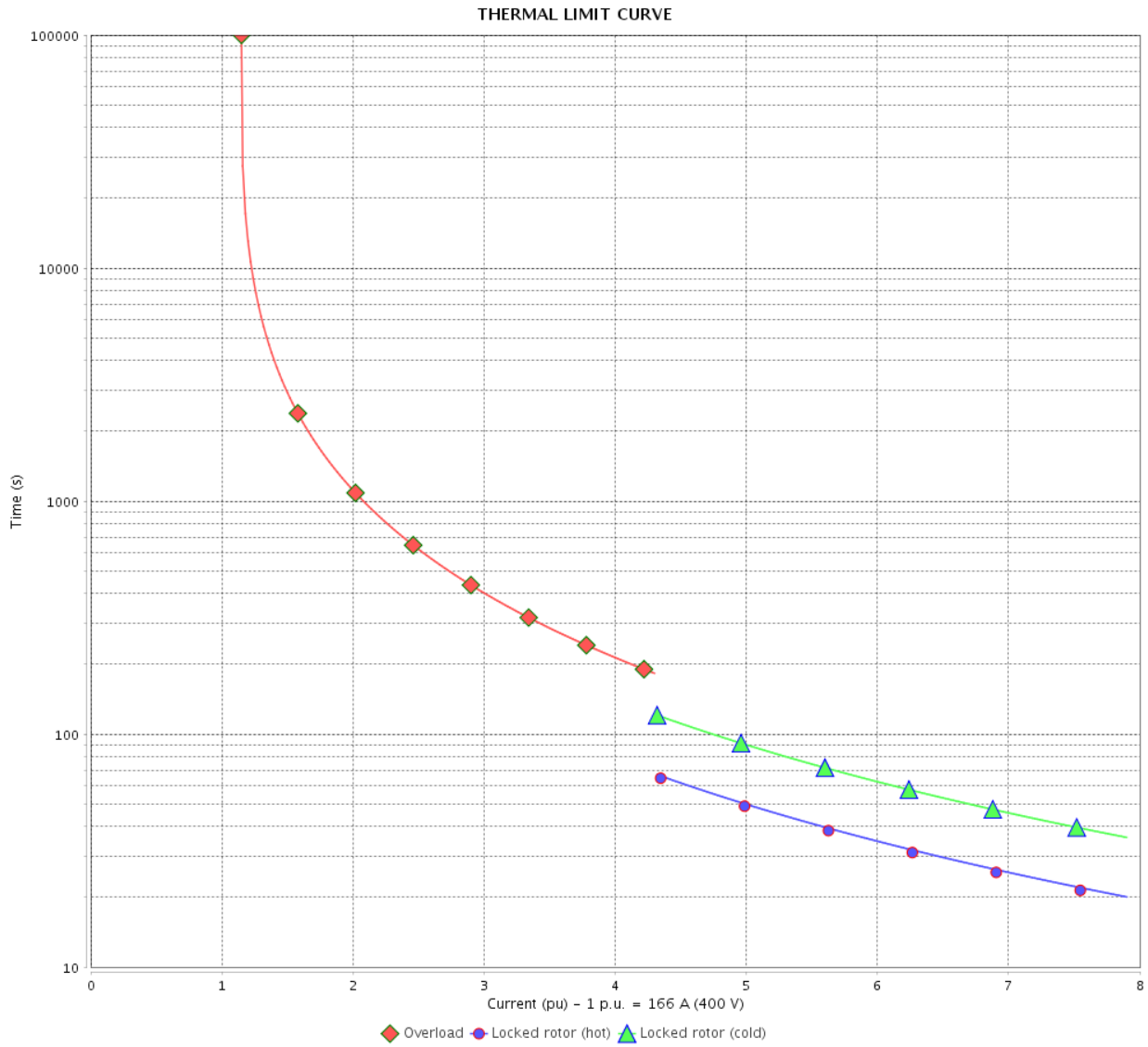
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# THERMAL LIMIT CURVE

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 : 11582913  
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LRC : 8.5	Duty cycle : Cont.(S1)
Rated torque : 663 ft.lb	Insulation class : F
Locked rotor torque : 290 %	Service factor : 1.00
Breakdown torque : 310 %	Temperature rise : 80 K
Rated speed : 990 rpm	Design : B

Heating constant

Cooling constant

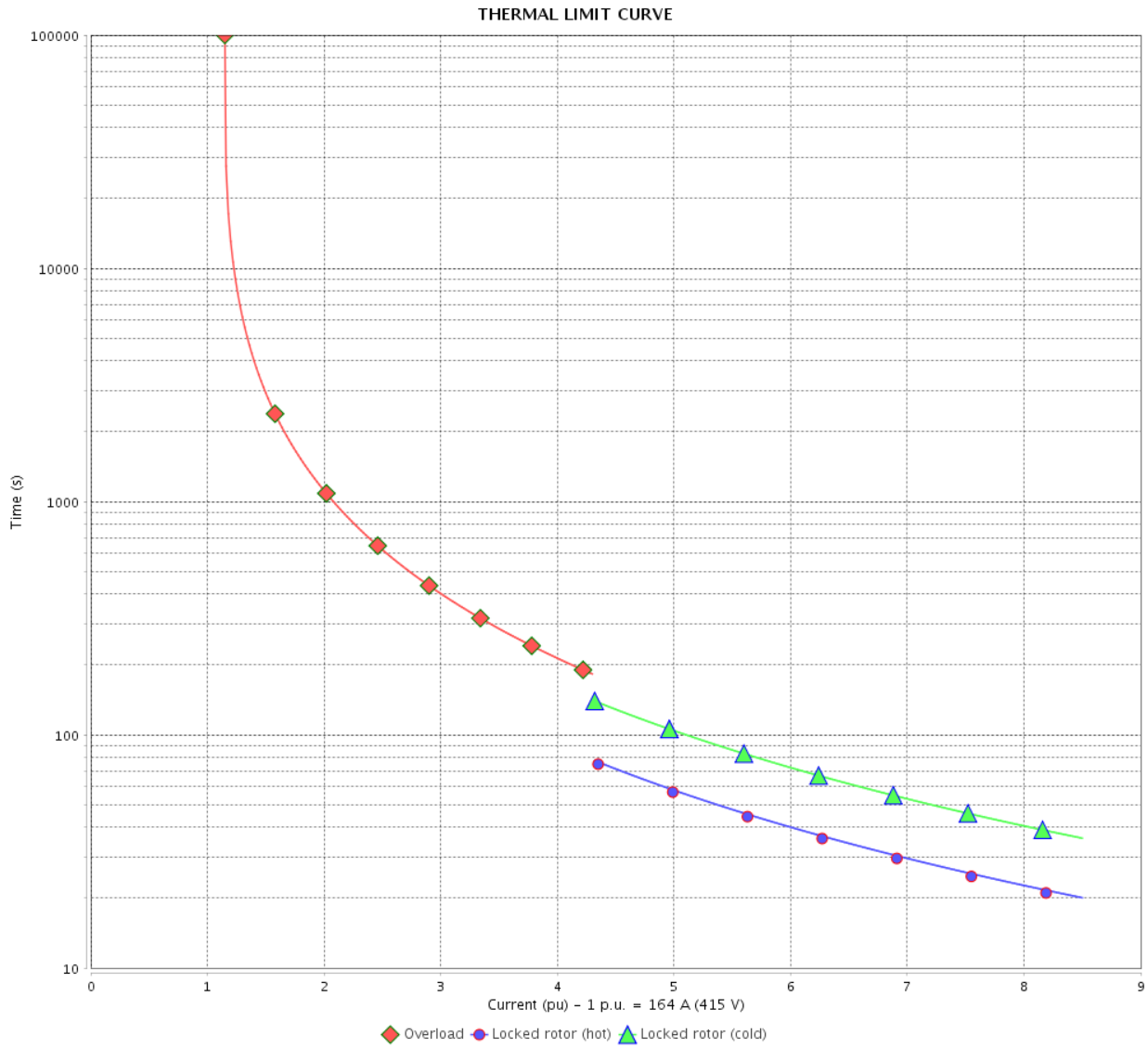
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# THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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



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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

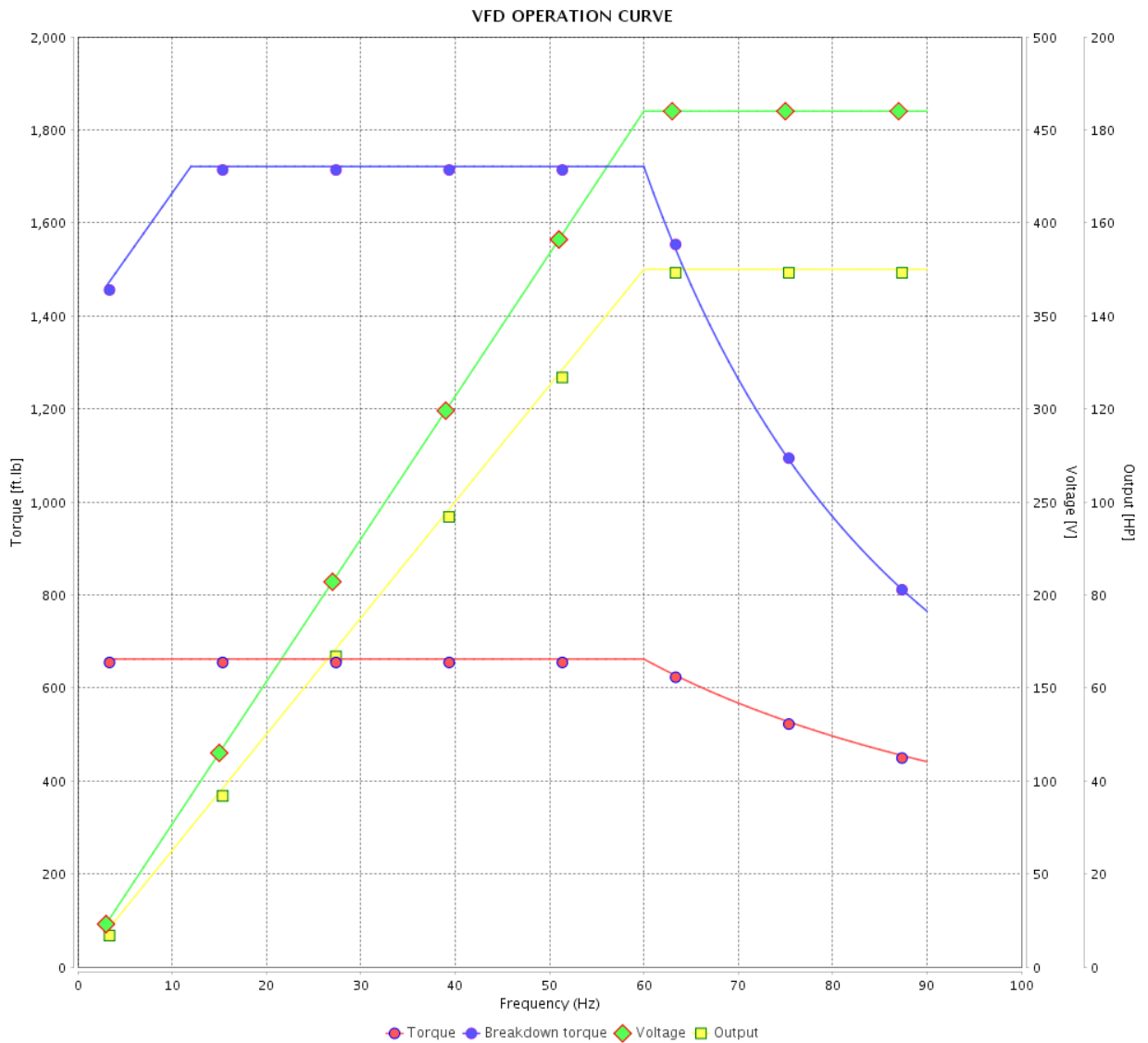


Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Performance : 460 V 60 Hz 6P

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 LRC : 7.5  
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 Locked rotor torque : 260 %  
 Breakdown torque : 260 %  
 Rated speed : 1190 rpm

Moment of inertia (J) : 134 sq.ft.lb  
 Duty cycle : Cont.(S1)  
 Insulation class : F  
 Service factor : 1.15  
 Temperature rise : 80 K  
 Design : B

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# VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



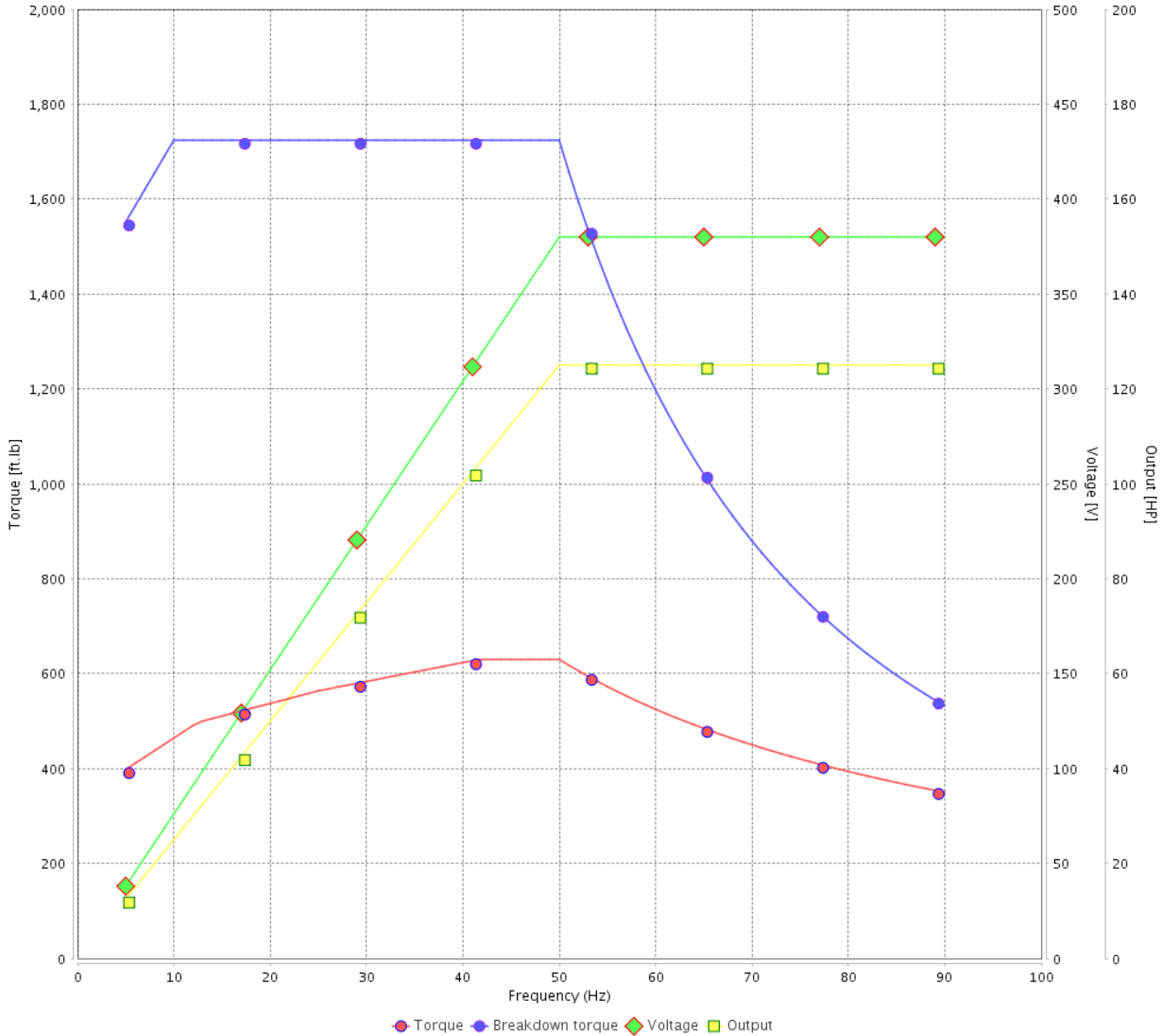
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T

VFD OPERATION CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current : 173 A  
 LRC : 7.1  
 Rated torque : 663 ft.lb  
 Locked rotor torque : 240 %  
 Breakdown torque : 260 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 134 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

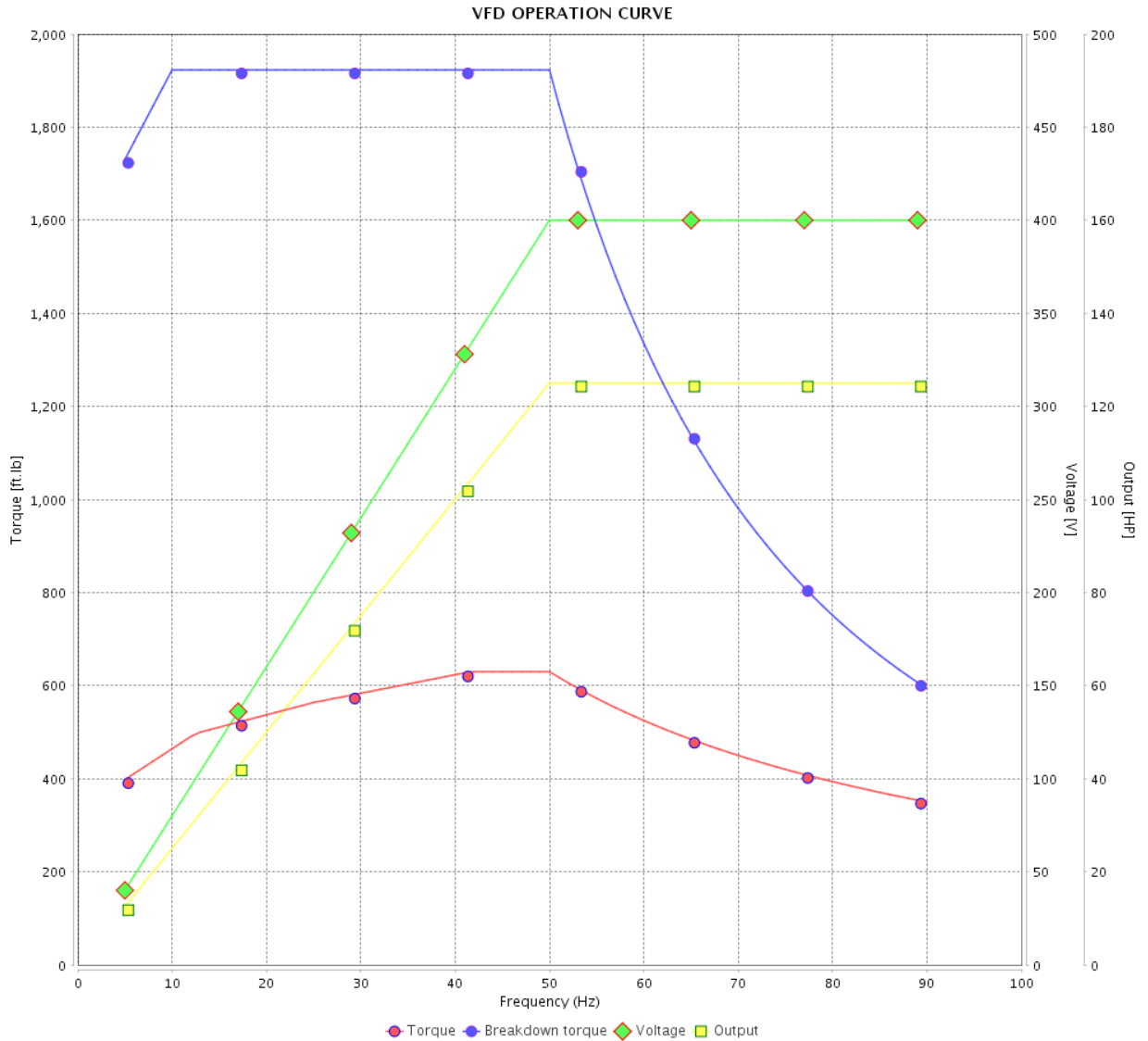


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Product code : 11582913

Catalog # : 15012XT3G447T



Performance : 400 V 50 Hz 6P IE3

Rated current : 166 A  
 LRC : 7.9  
 Rated torque : 663 ft.lb  
 Locked rotor torque : 270 %  
 Breakdown torque : 290 %  
 Rated speed : 990 rpm

Moment of inertia (J) : 134 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



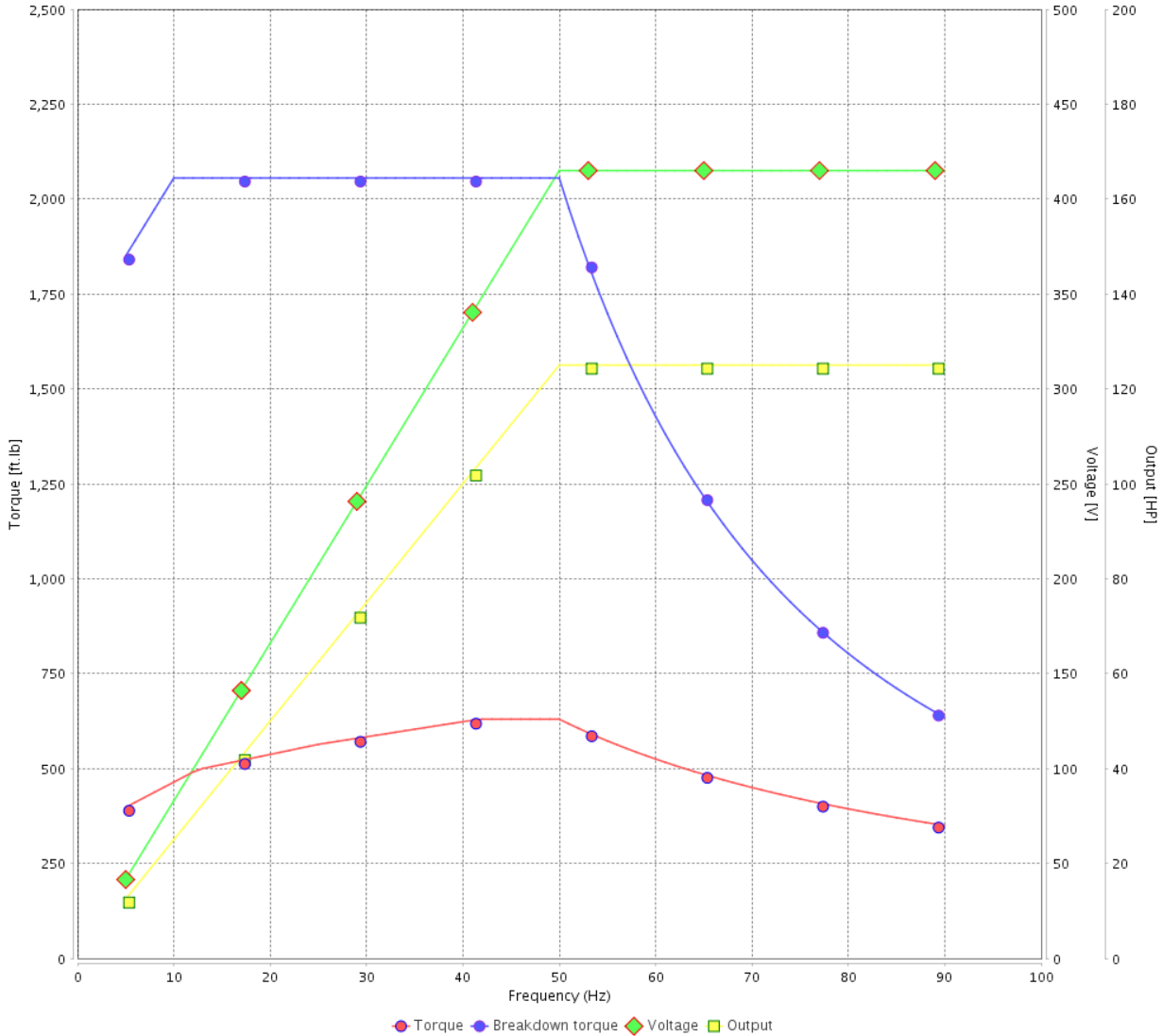
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 11582913

Catalog # : 15012XT3G447T

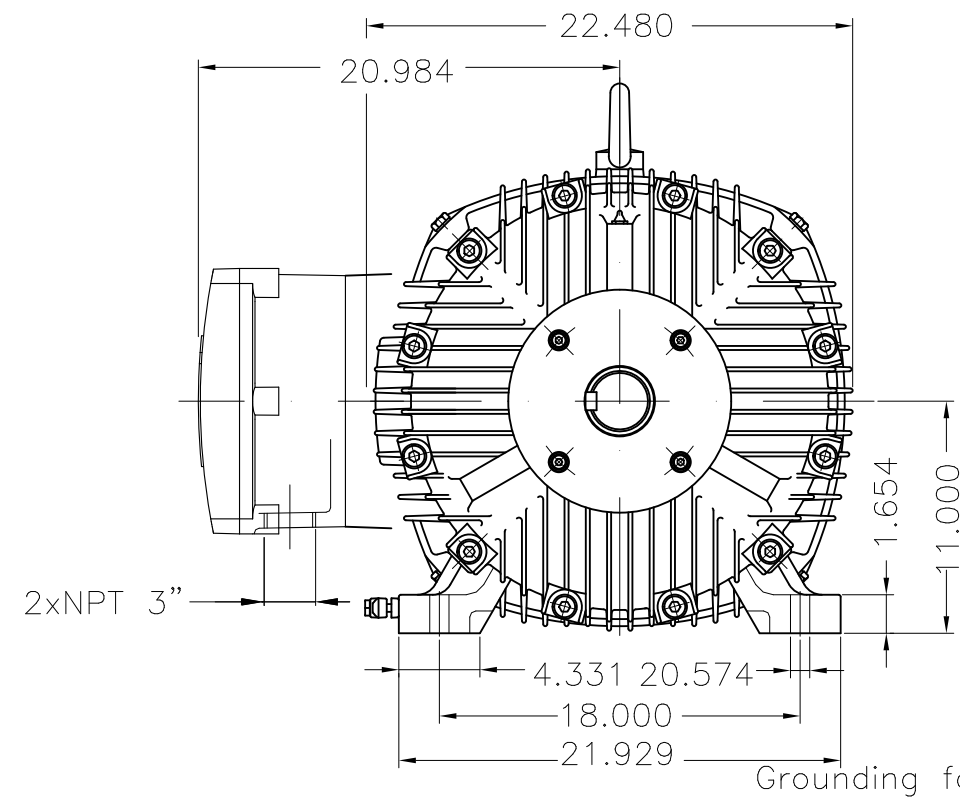
VFD OPERATION CURVE



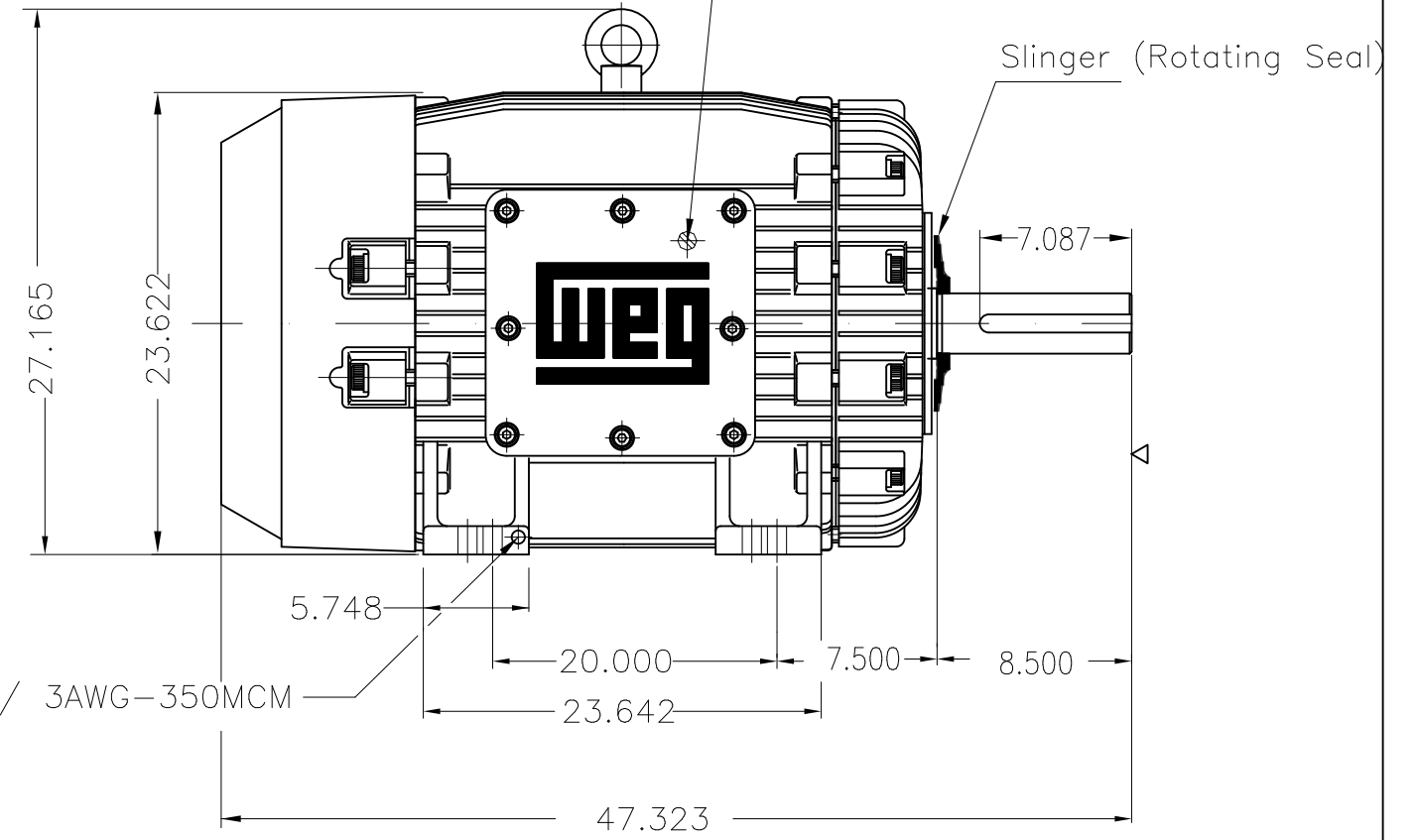
Performance : 415 V 50 Hz 6P IE3

Rated current	: 164 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 8.5	Duty cycle	: Cont.(S1)
Rated torque	: 663 ft.lb	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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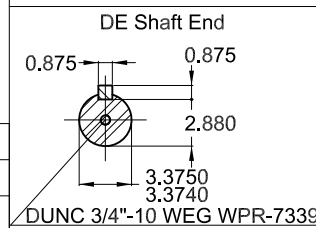
Grounding for leads 35–70 mm<sup>2</sup> / 1–2/0 AWG



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

150 HP 06 Poles 60 Hz

A



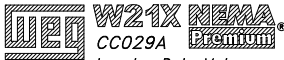
Color RAL 5009  
Painting plan 202P  
Mounting B3R(D)

ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 447T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW  
WDD



SHEET 1 / 1



**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 15012XT3G447T  
 MADE IN BRAZIL  
 11582913

PH 3	FR 447T	HP(kW) 150(110)	Hz 60
V 460	A 174	RPM 1190	
NEMA NOM. EFF. 95.8%		INS CL F $\Delta$ T 80 K	IP55
PF 0.83	DUTY CONT.		CODE H
ENCL. TEFC	SF 1.15	SFA 200	
AMB 40°C	DES B		

PART-WINDING						WYE-DELTA					
START			RUN			START			RUN		
○T12	○T10	○T11	○T12	○T10	○T11	○T12	○T10	○T11	○T12	○T10	○T11
○T7	○T8	○T9	○T7	○T8	○T9	○T6	○T4	○T5	○T6	○T4	○T5
○T6	○T4	○T5	○T6	○T4	○T5	○T7	○T8	○T9	○T7	○T8	○T9
○T1	○T2	○T3	○T1	○T2	○T3	○T1	○T2	○T3	○T1	○T2	○T3
L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3

	→ 6319-C3(45g)	Mobil POLYREX EM
	→ 6316-C3(34g)	11094 h

ALT 1000 m.a.s.l	2661 Lbs
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