

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 14653233	
				Catalog # : 20012XT3G447T	
Frame : 447T		Cooling method : IC411 - TEFC			
Insulation class : F		Mounting : F-1			
Duty cycle : Cont.(S1)		Rotation ¹ : Both (CW and CCW)			
Ambient temperature : -20°C to +40°C		Starting method : Direct On Line			
Altitude : 1000 m.a.s.l.		Approx. weight ² : 2658 lb			
Protection degree : IP55		Moment of inertia (J) : 134 sq.ft.lb			
Design : B					
Output [HP]	200	150	150	150	150
Poles	6	6	6	6	6
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	460	380	400	415	415
Rated current [A]	249	228	225	223	223
L. R. Amperes [A]	1942	1824	1980	2052	2052
LRC [A]	7.8x(Code J)	8.0x(Code K)	8.8x(Code L)	9.2x(Code L)	9.2x(Code L)
No load current [A]	125	123	132	140	140
Rated speed [RPM]	1190	990	990	990	990
Slip [%]	0.83	1.00	1.00	1.00	1.00
Rated torque [ft.lb]	883	796	796	796	796
Locked rotor torque [%]	270	270	300	340	340
Breakdown torque [%]	280	300	320	360	360
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	25s (cold) 14s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)
Noise level ²	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)	73.0 dB(A)
Efficiency (%)	25%	94.0	93.5	92.7	92.0
	50%	94.5	94.0	93.6	93.0
	75%	95.4	95.0	94.5	94.5
	100%	95.8	95.4	95.4	95.4
Power Factor	25%	0.35	0.33	0.30	0.28
	50%	0.60	0.57	0.52	0.50
	75%	0.73	0.70	0.66	0.63
	100%	0.79	0.77	0.74	0.72
Bearing type		Drive end : 6319 C3	Non drive end : 6316 C3	Foundation loads	
Sealing		Oil Seal		Max. traction : 6307 lb	
		Lip Seal		Max. compression : 8965 lb	
Lubrication interval		11094 h	12823 h		
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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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



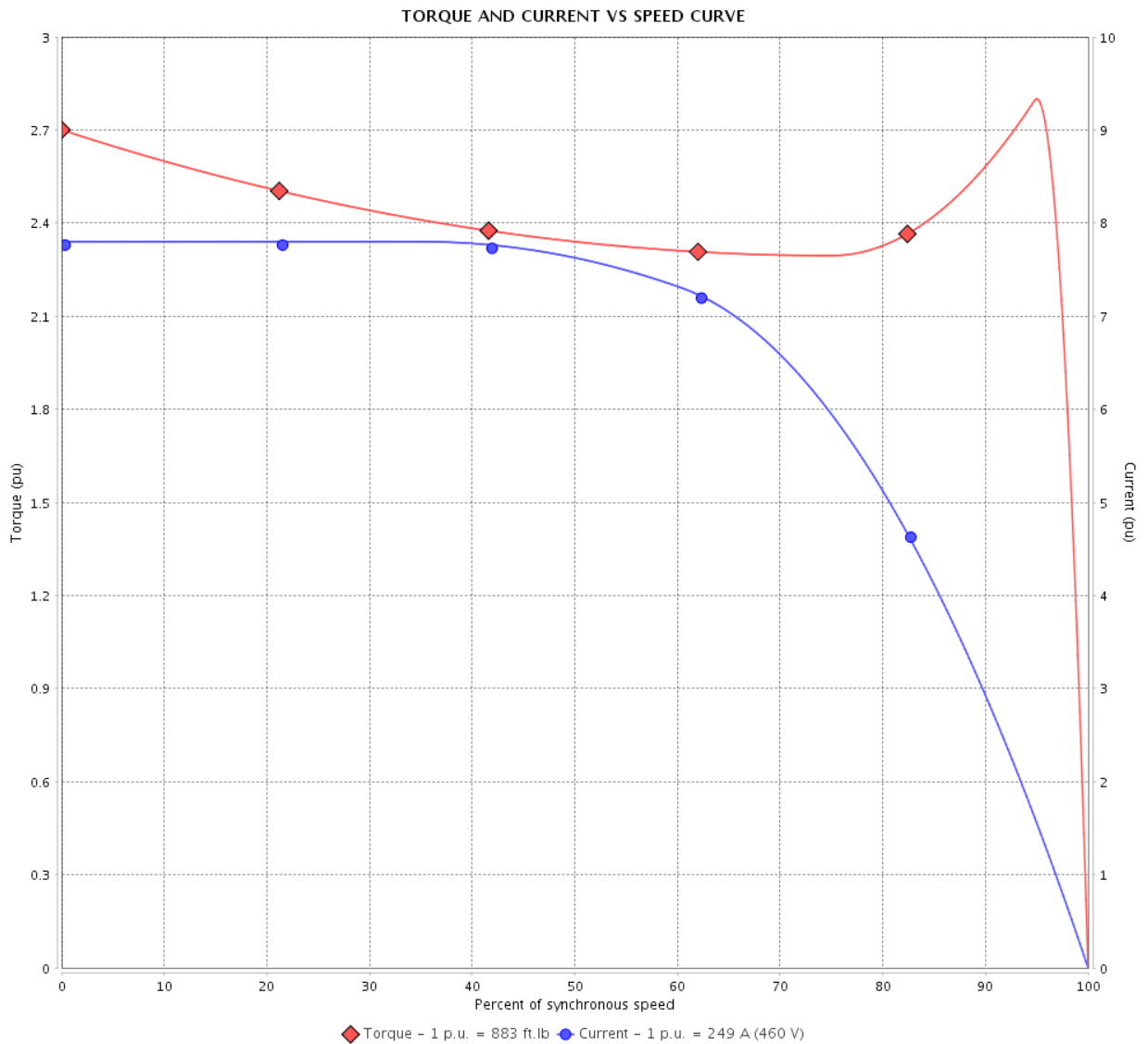
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14653233

Catalog # : 20012XT3G447T



Performance : 460 V 60 Hz 6P

Rated current	: 249 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 7.8	Duty cycle	: Cont.(S1)
Rated torque	: 883 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.15
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1190 rpm	Design	: B

Locked rotor time : 25s (cold) 14s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



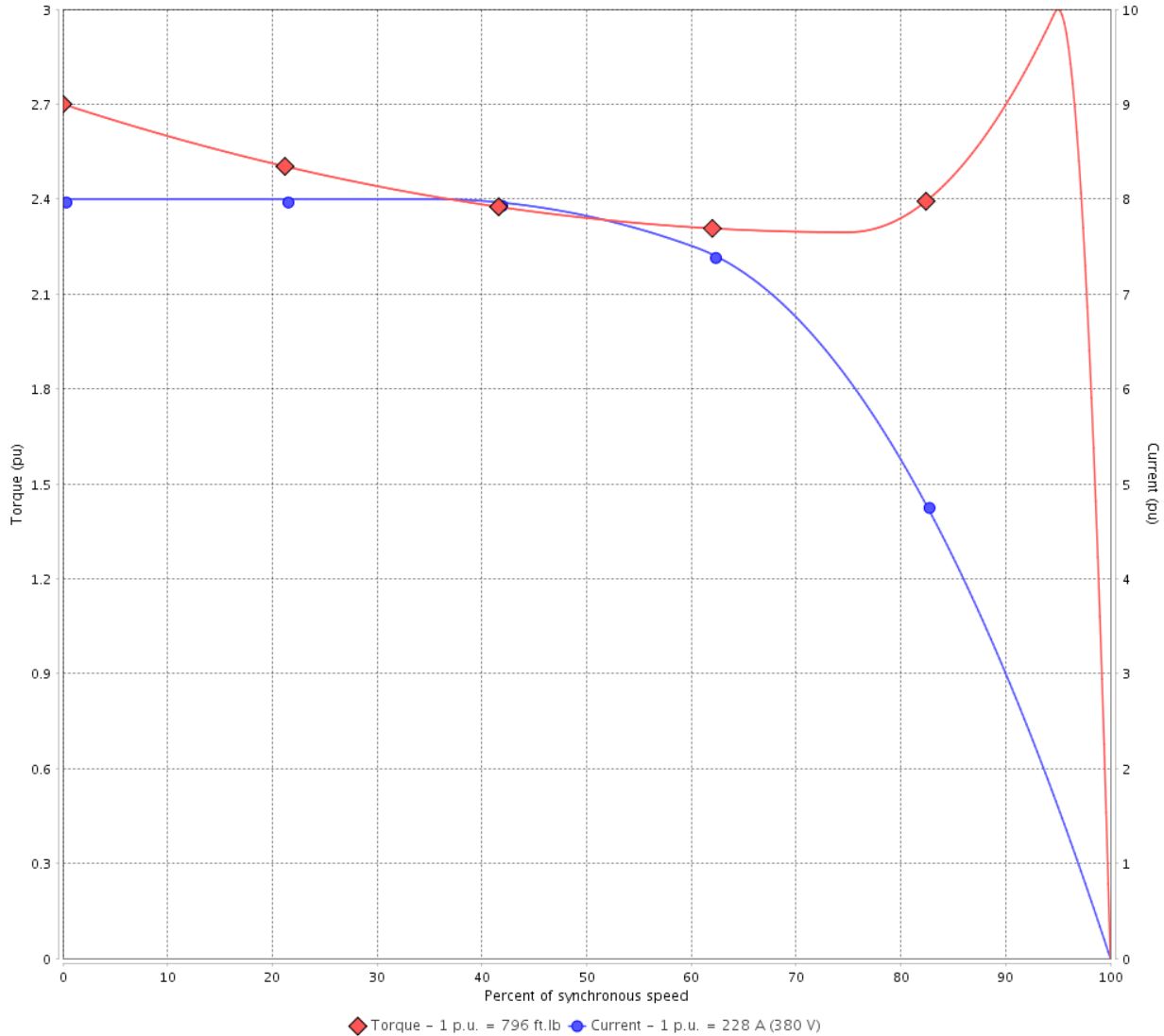
Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14653233

Catalog # : 20012XT3G447T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 6P IE3

Rated current	: 228 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 8.0	Duty cycle	: Cont.(S1)
Rated torque	: 796 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE



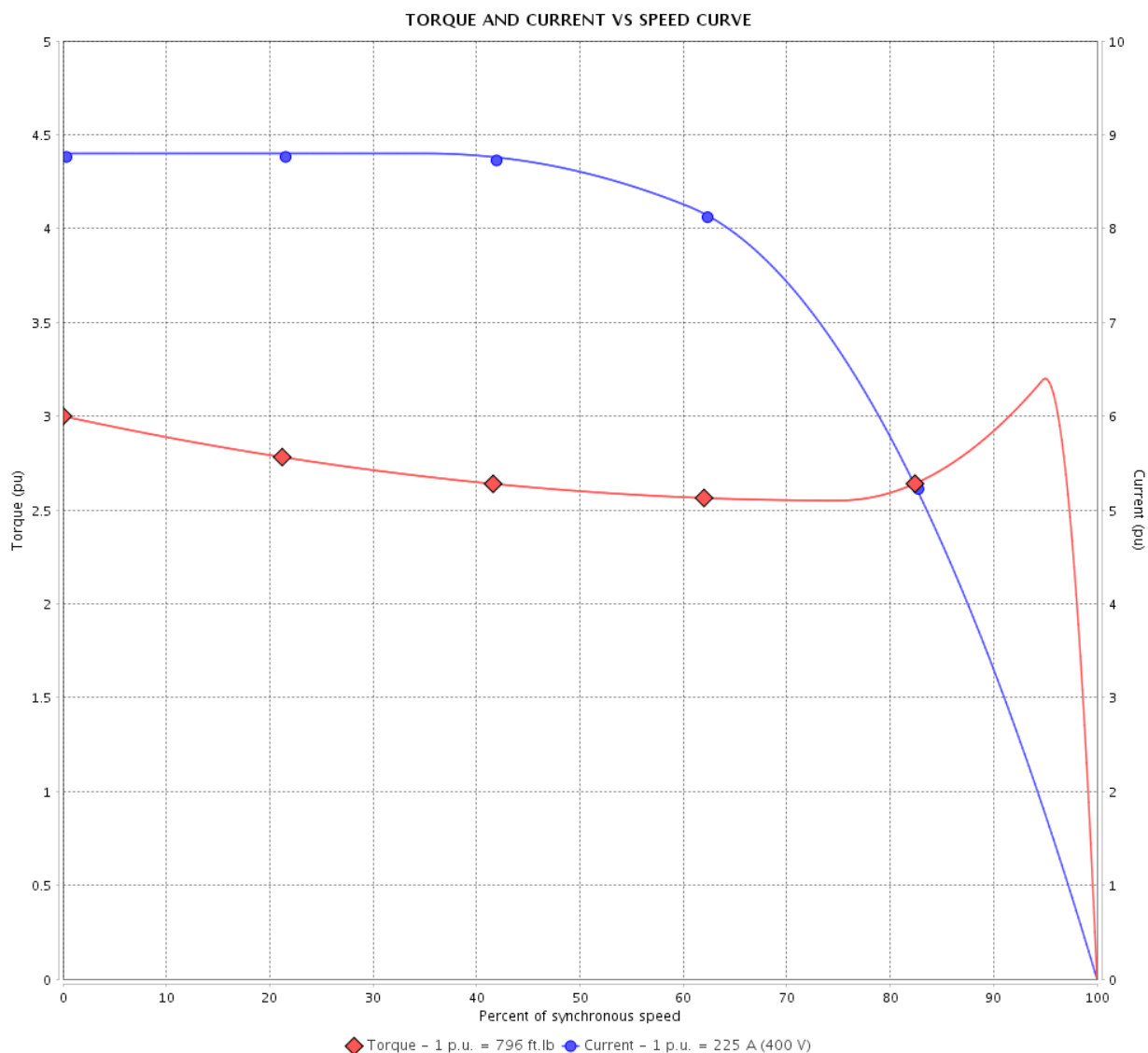
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14653233

Catalog # : 20012XT3G447T



Performance : 400 V 50 Hz 6P IE3

Rated current	: 225 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 8.8	Duty cycle	: Cont.(S1)
Rated torque	: 796 ft.lb	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



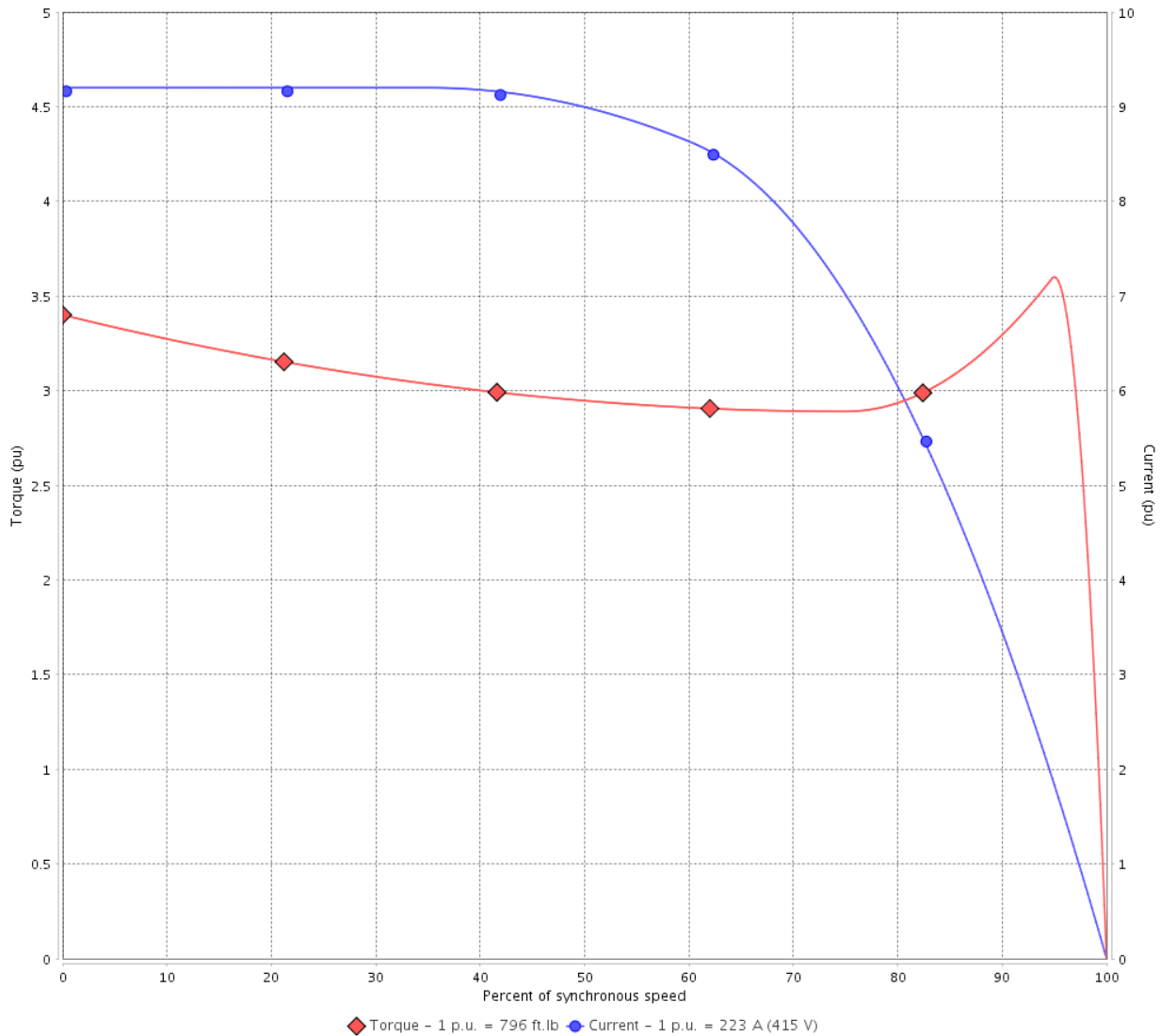
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Catalog # : 20012XT3G447T

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 6P IE3

Rated current	: 223 A	Moment of inertia (J)	: 134 sq.ft.lb
LRC	: 9.2	Duty cycle	: Cont.(S1)
Rated torque	: 796 ft.lb	Insulation class	: F
Locked rotor torque	: 340 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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

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LOAD PERFORMANCE CURVE

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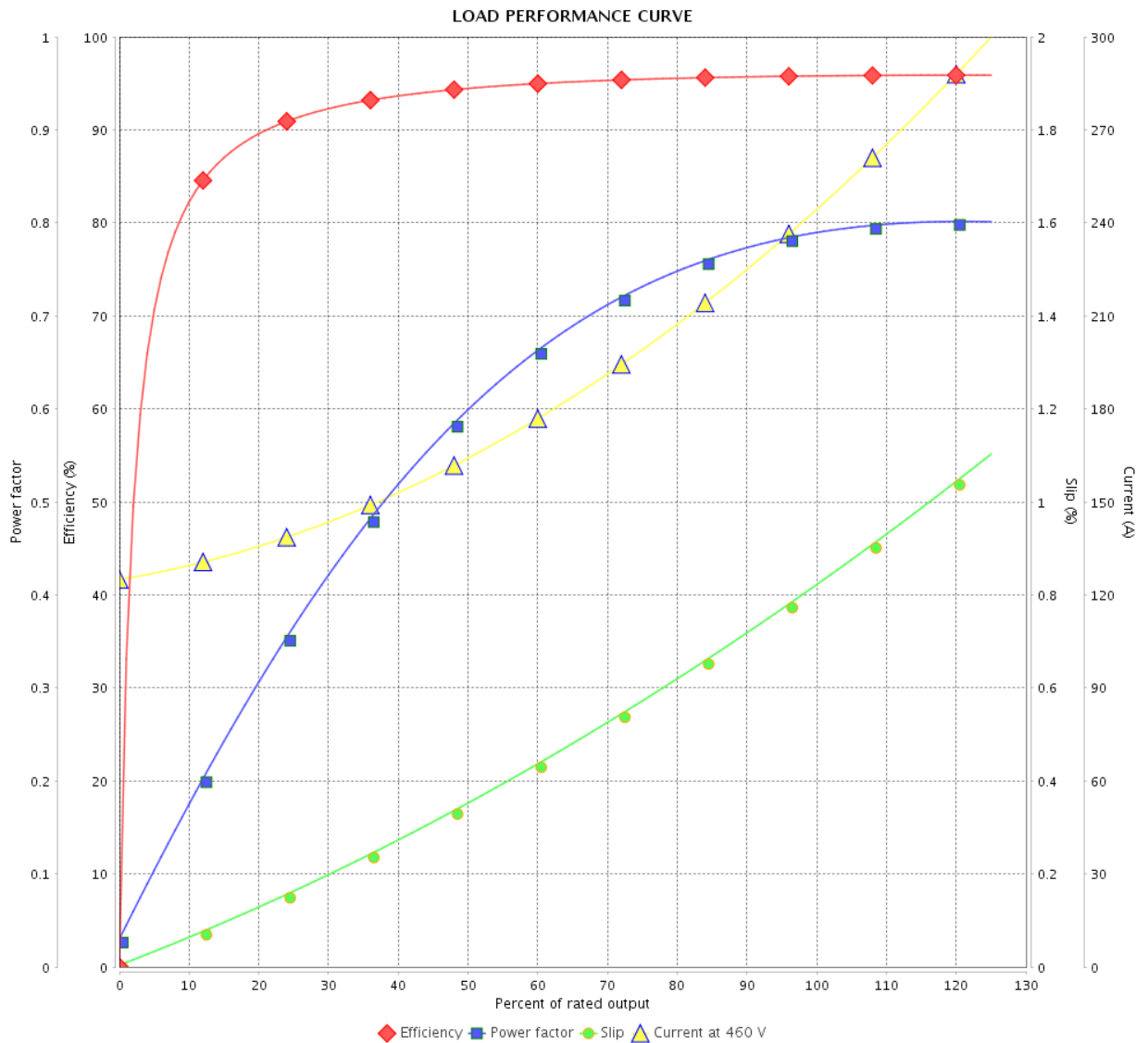


Customer :

Product line : NEMA Premium Efficiency Three-Phase

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Catalog # : 20012XT3G447T



Performance : 460 V 60 Hz 6P

Rated current : 249 A
 LRC : 7.8
 Rated torque : 883 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 280 %
 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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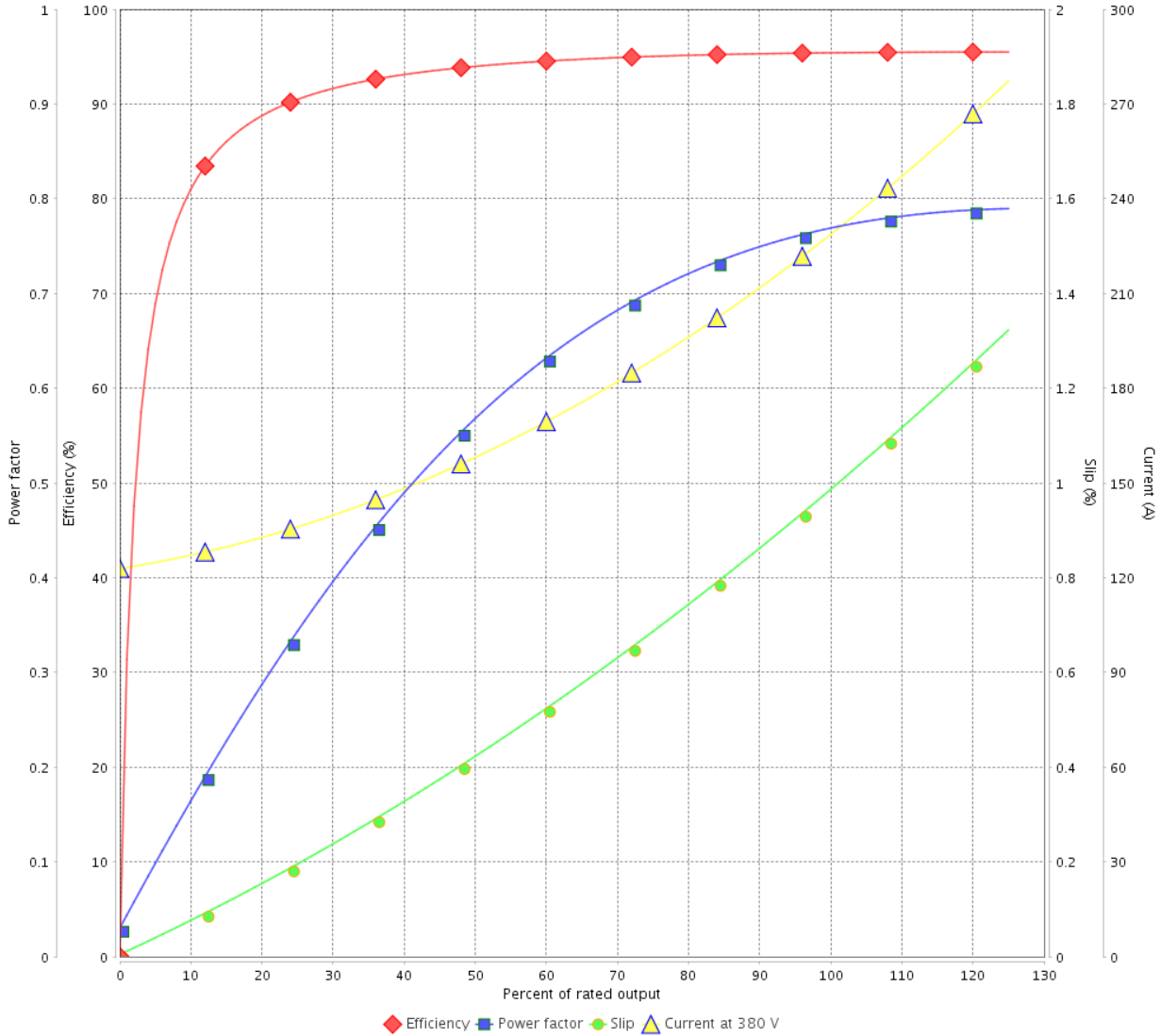
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Rated torque	: 796 ft.lb	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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Three Phase Induction Motor - Squirrel Cage

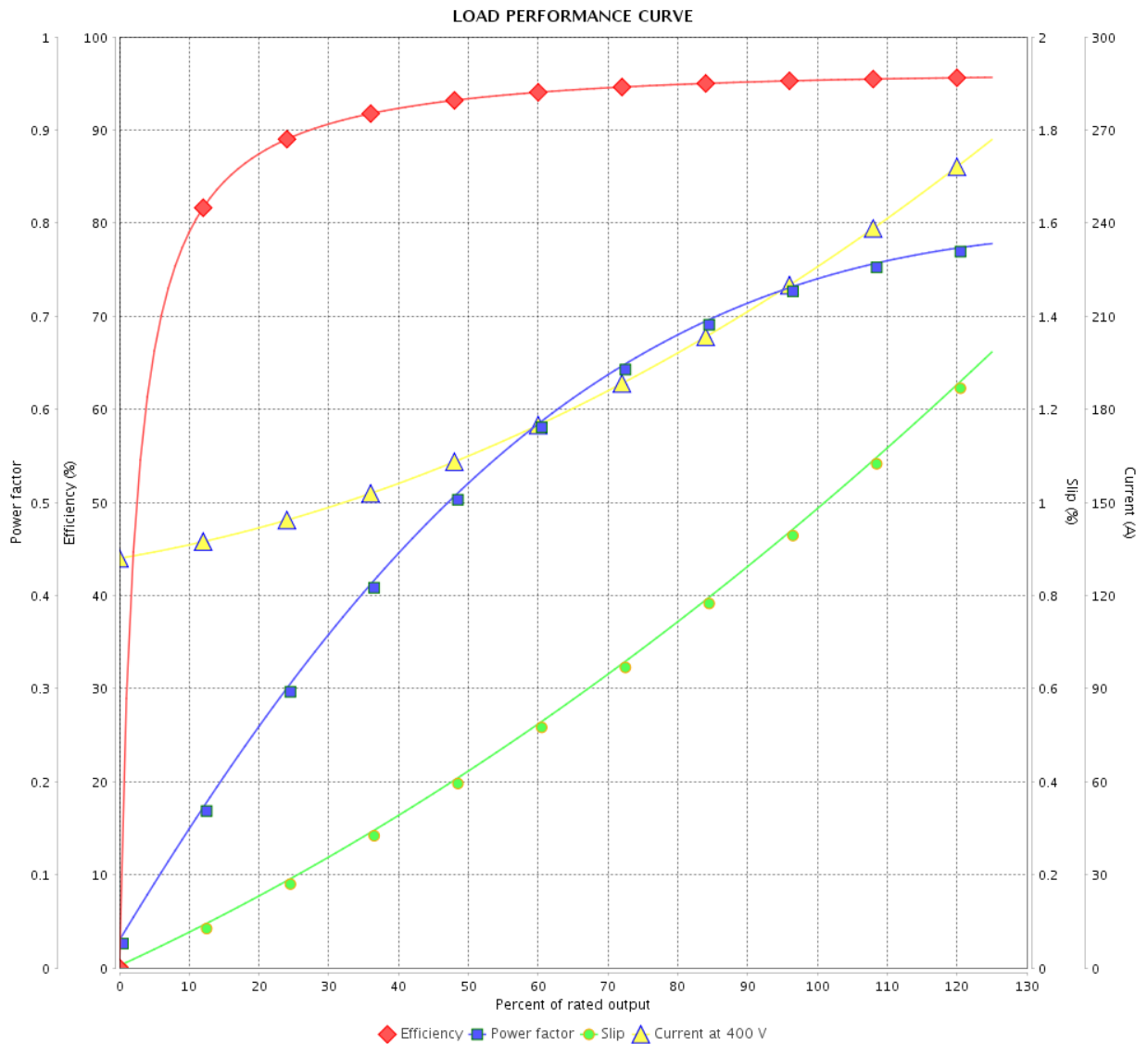


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Performance : 400 V 50 Hz 6P IE3

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 Breakdown torque : 320 %
 Rated speed : 990 rpm

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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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Three Phase Induction Motor - Squirrel Cage



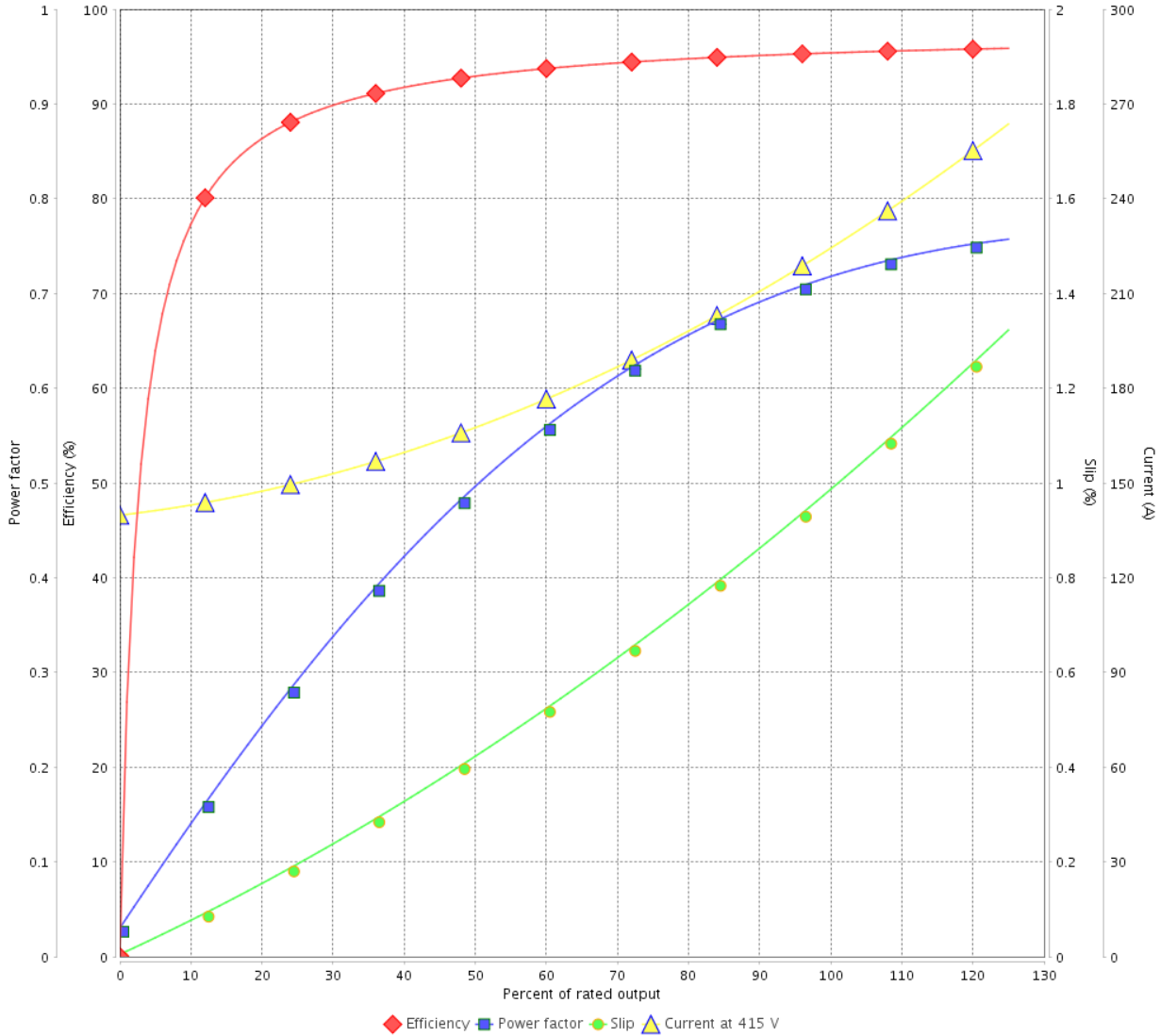
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THERMAL LIMIT CURVE



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Heating constant

Cooling constant

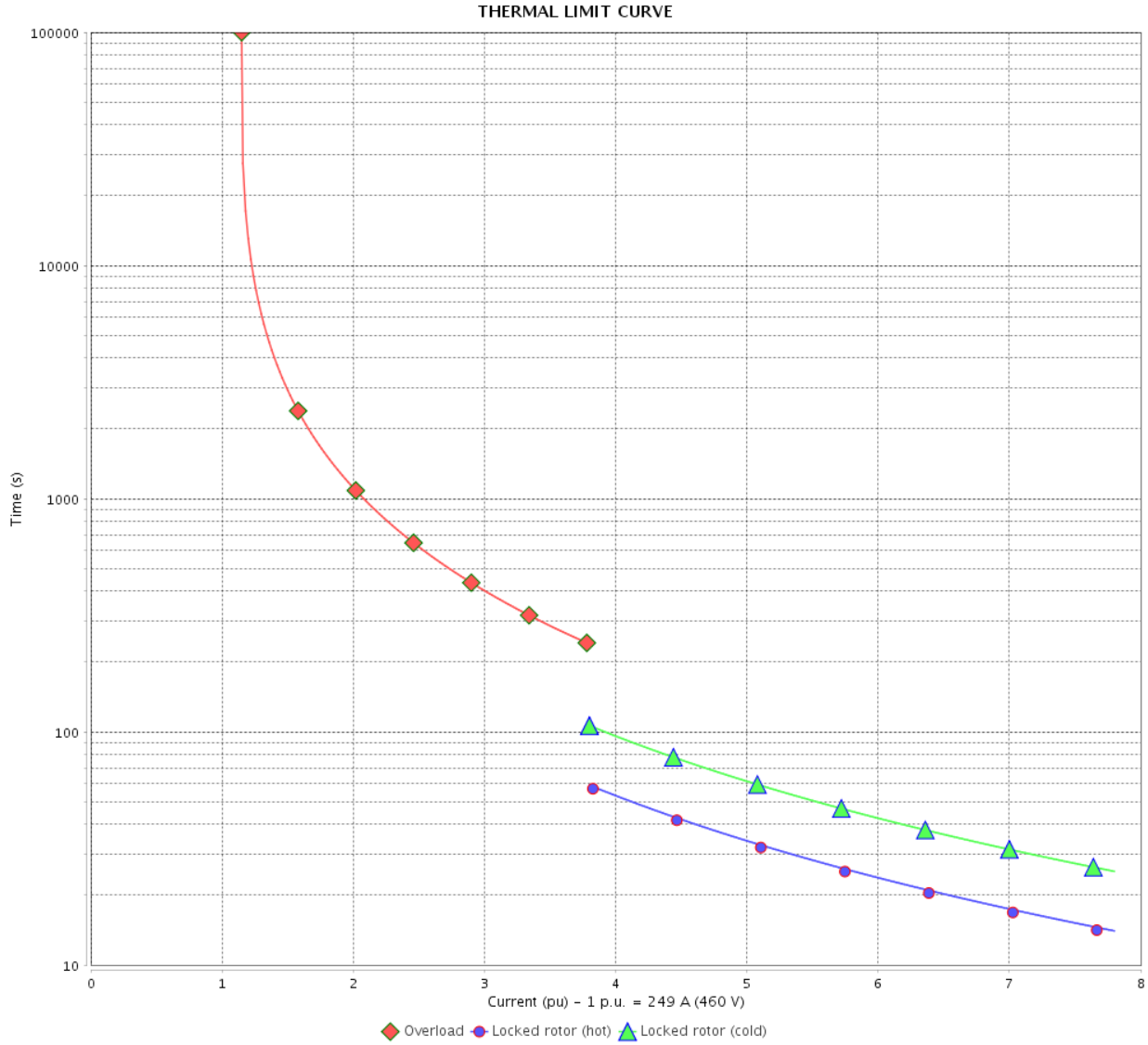
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THERMAL LIMIT CURVE

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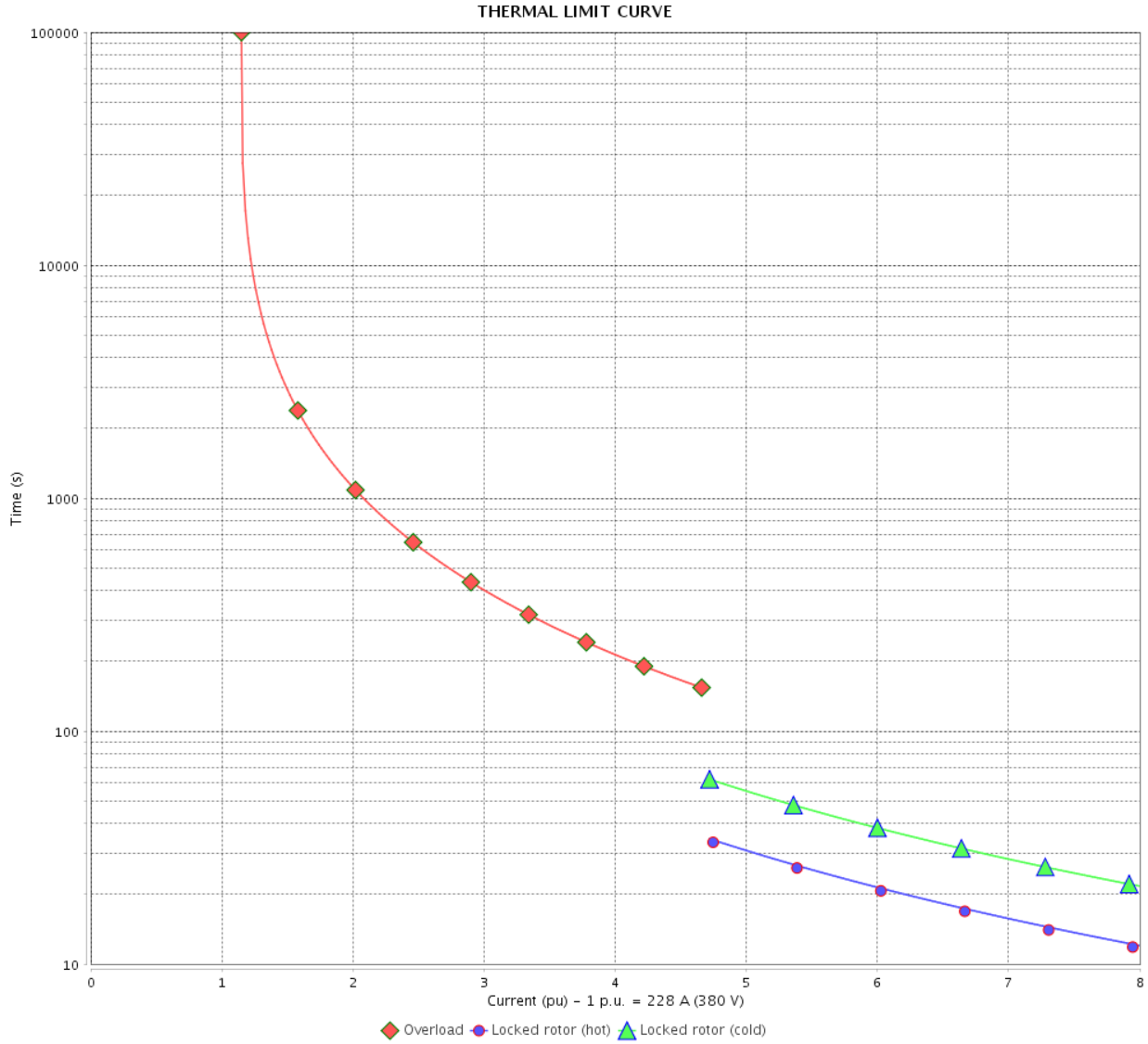
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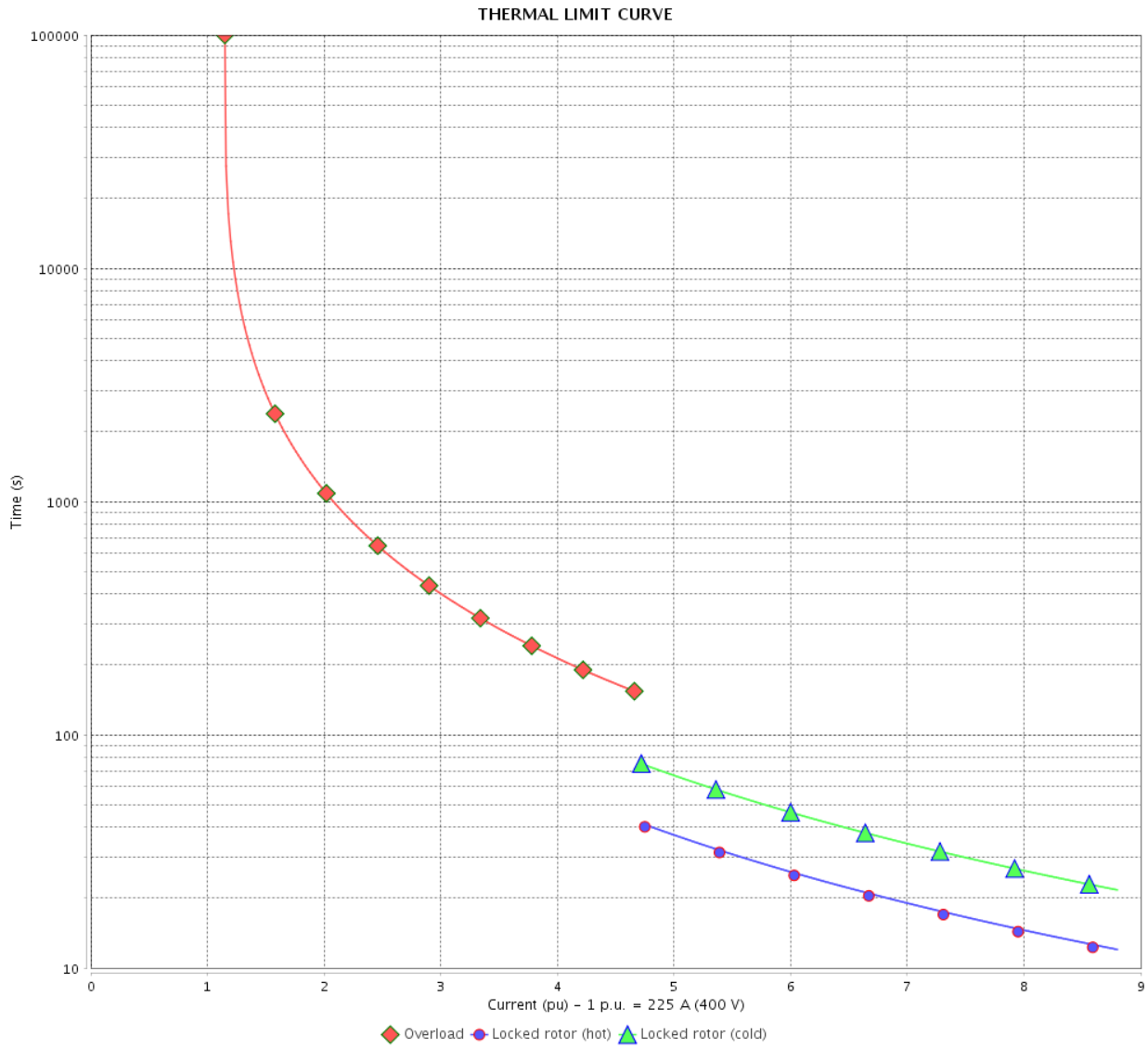
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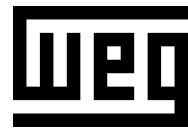
Heating constant

Cooling constant

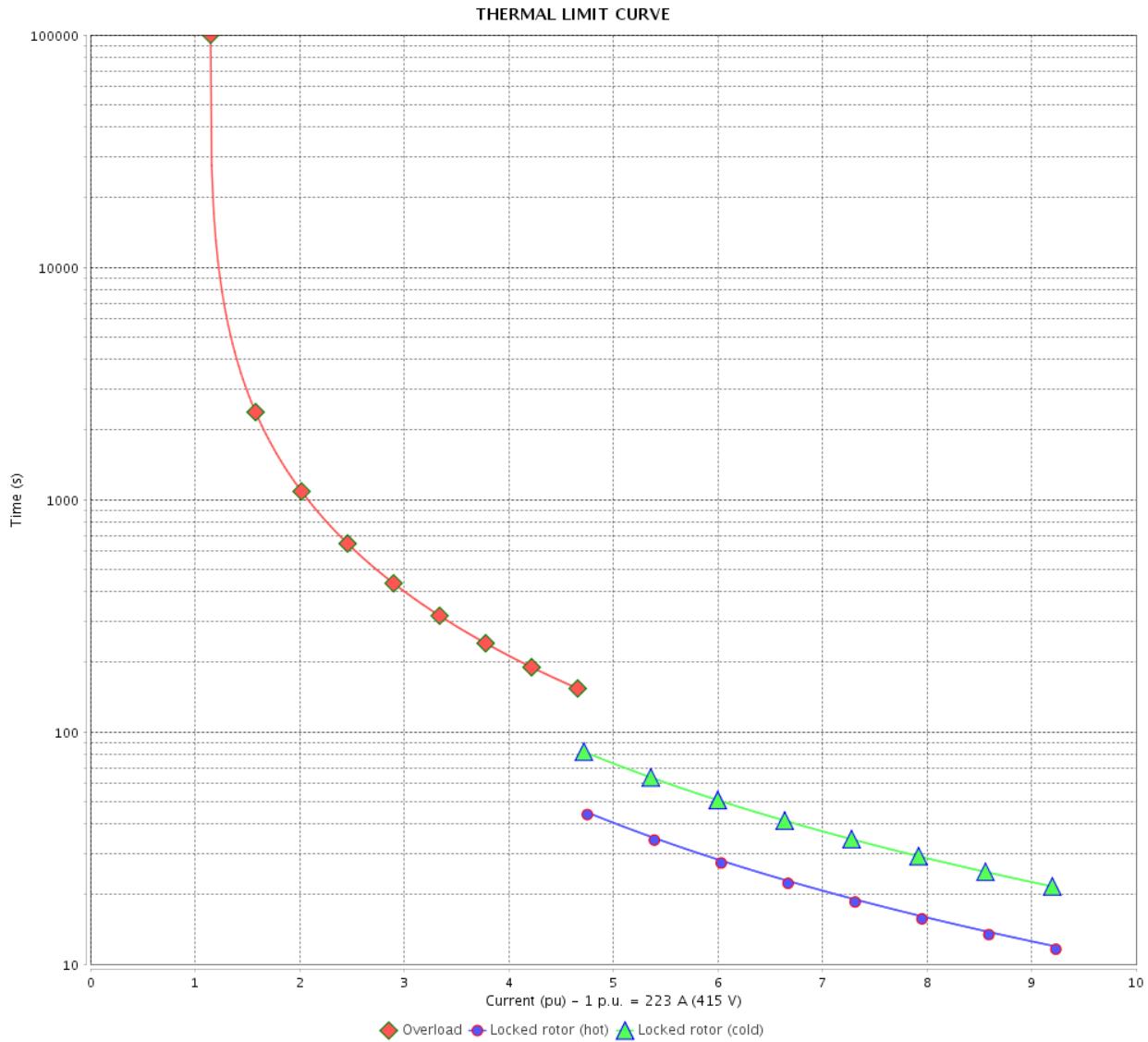
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THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage

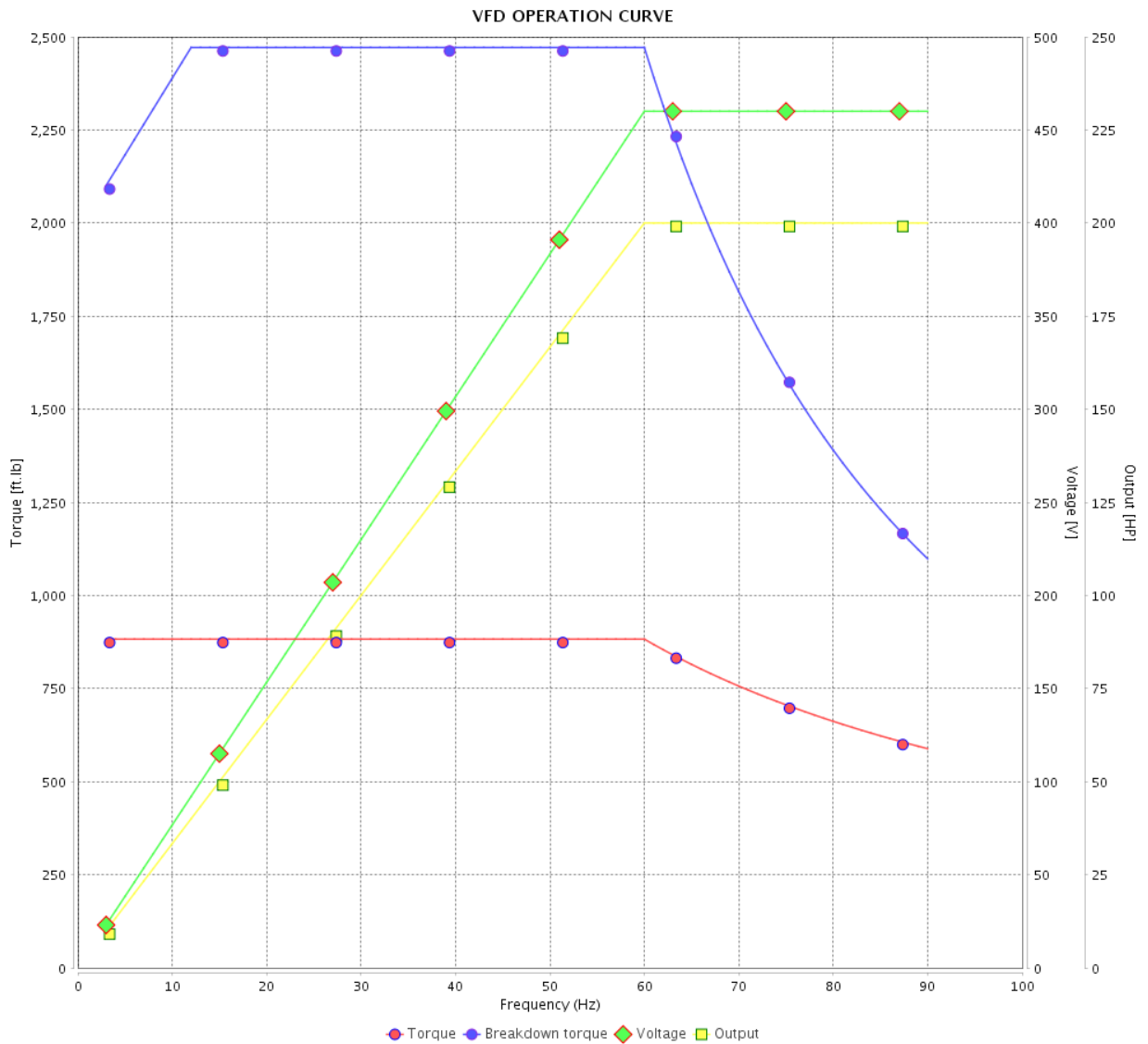


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 LRC : 7.8
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 Breakdown torque : 280 %
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Moment of inertia (J) : 134 sq.ft.lb
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 Insulation class : F
 Service factor : 1.15
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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



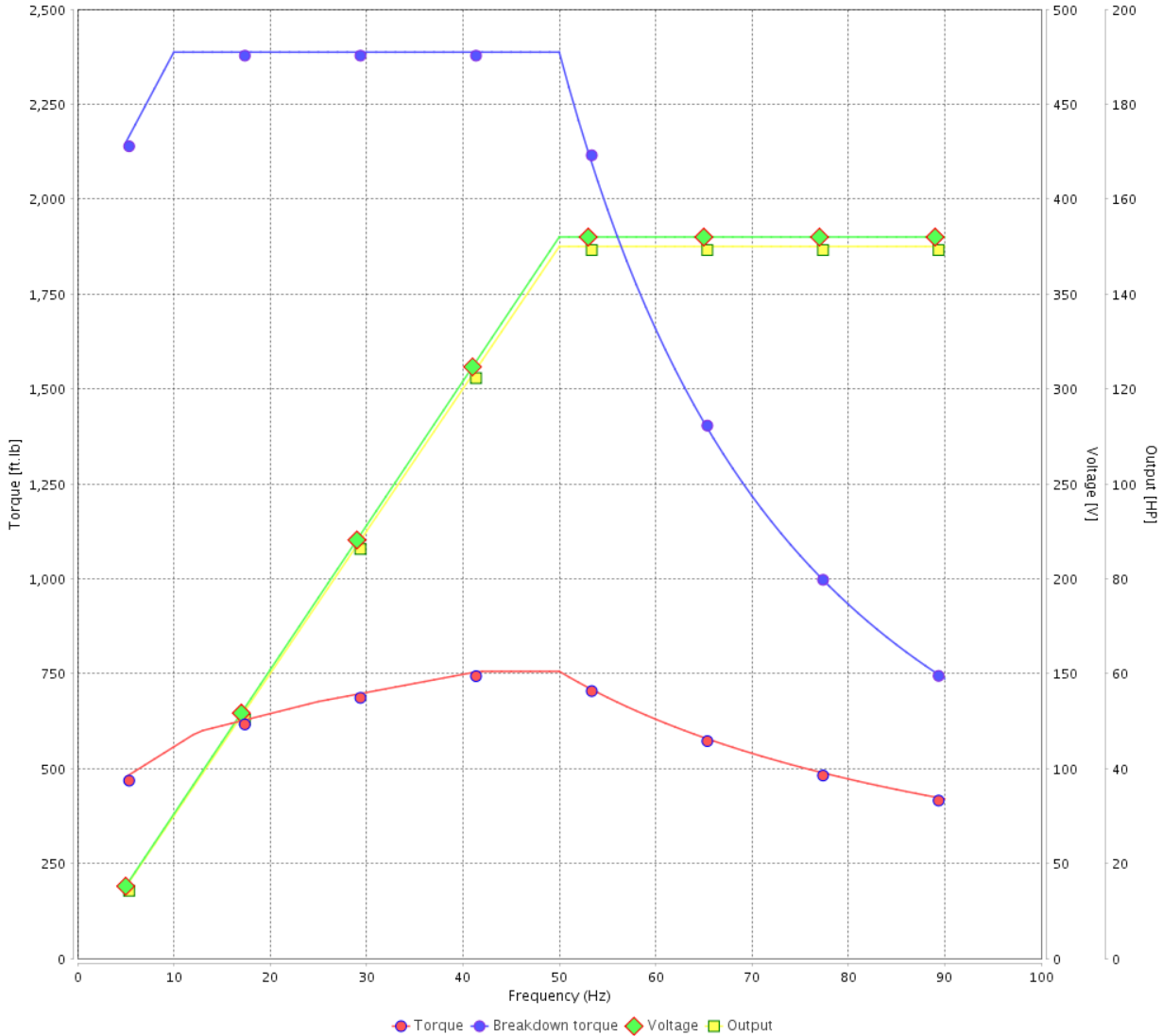
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VFD OPERATION CURVE



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VFD OPERATION CURVE

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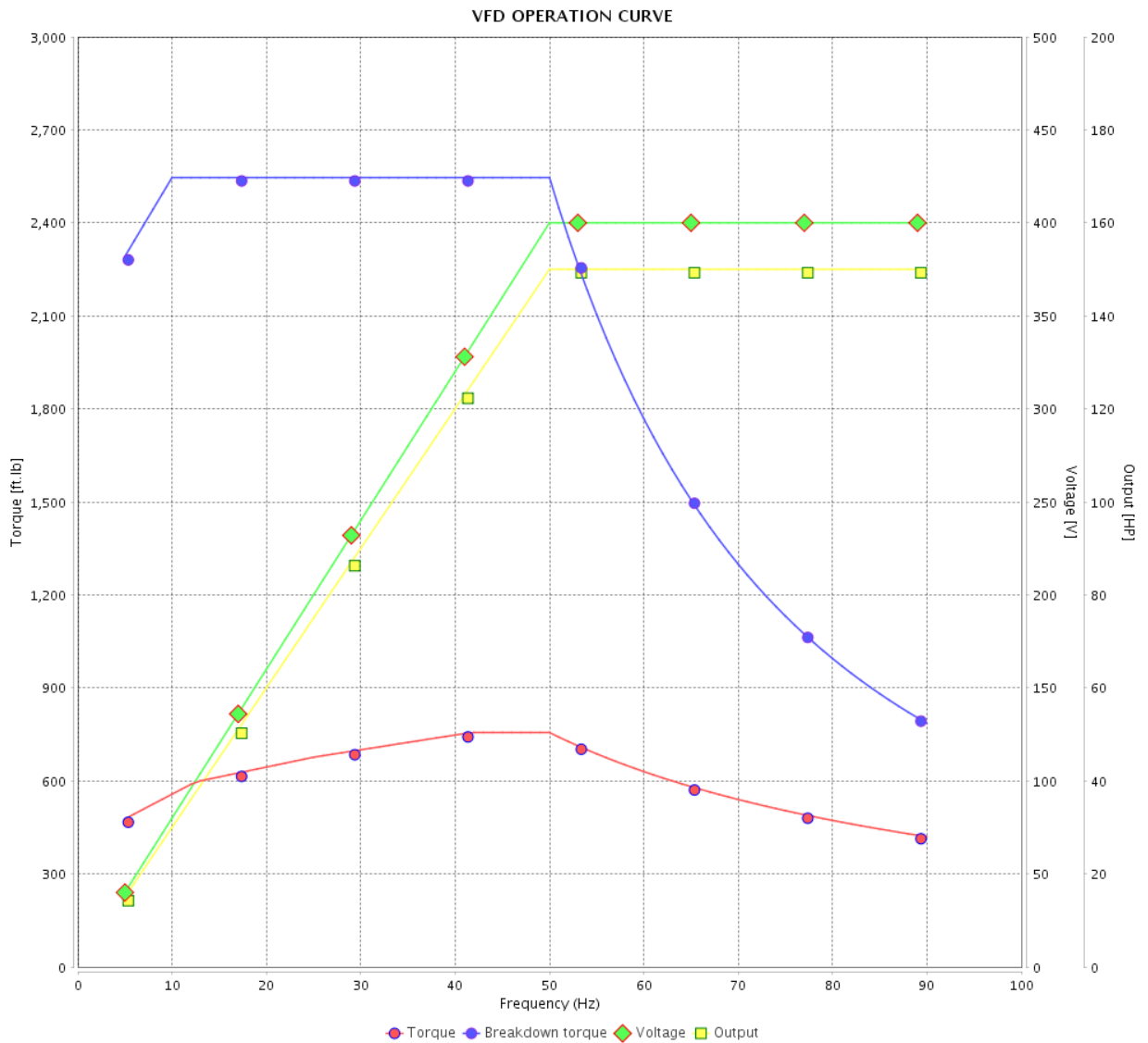


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Performance : 400 V 50 Hz 6P IE3

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 Rated speed : 990 rpm

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 Insulation class : F
 Service factor : 1.00
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 Design : B

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VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



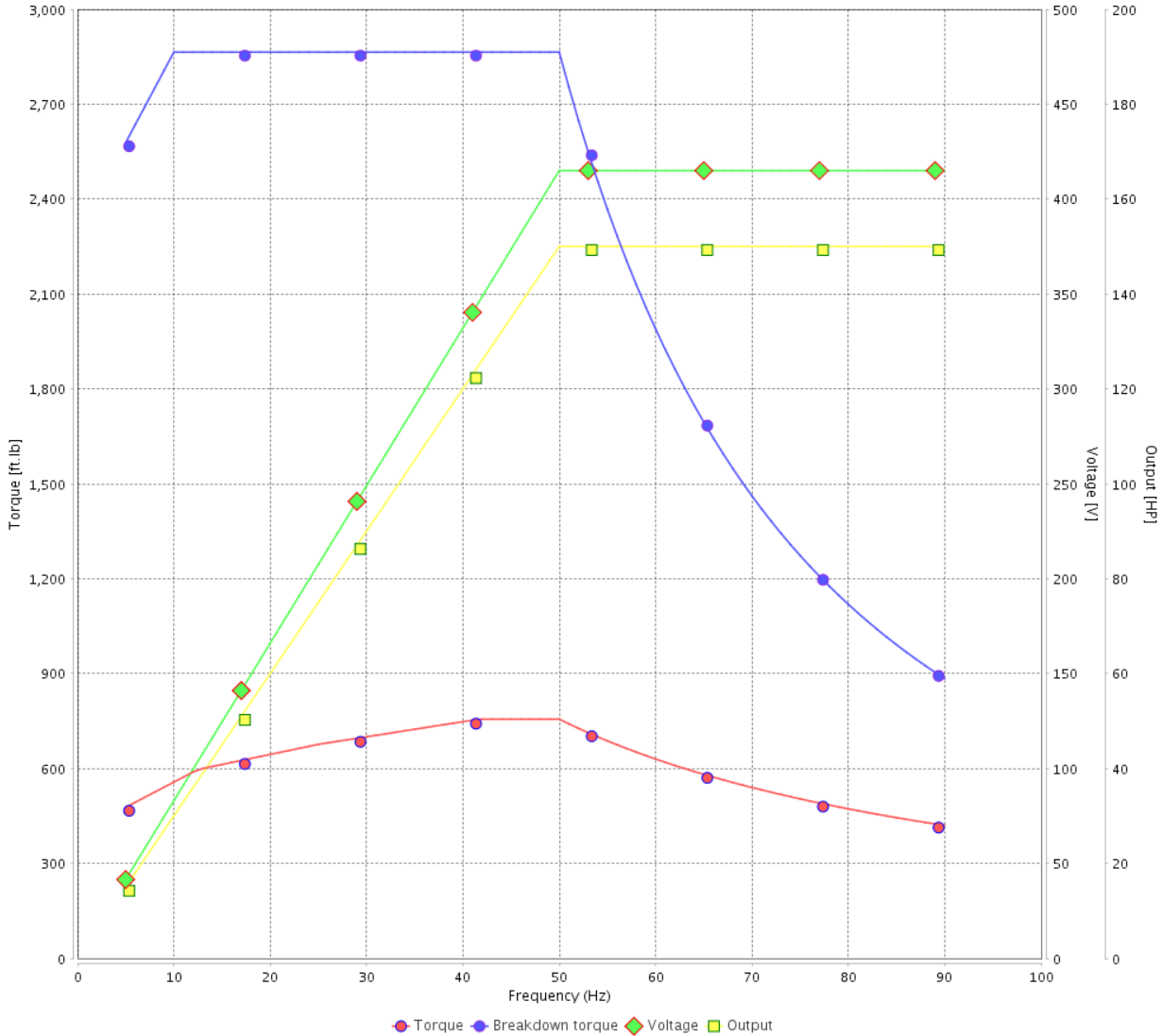
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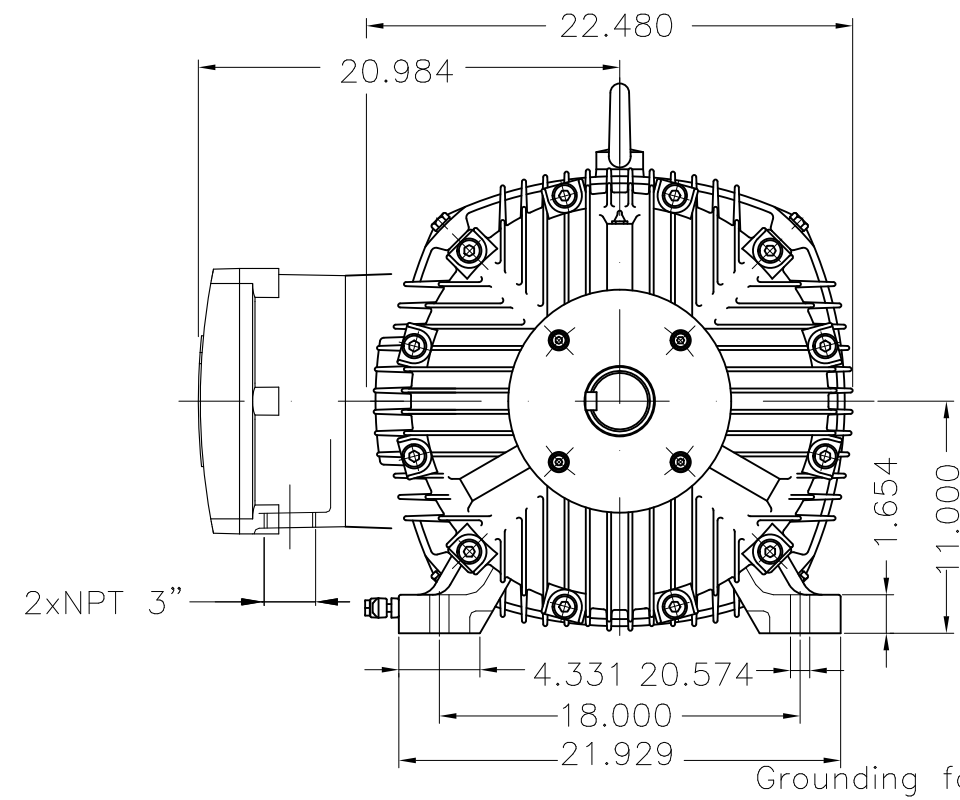
VFD OPERATION CURVE



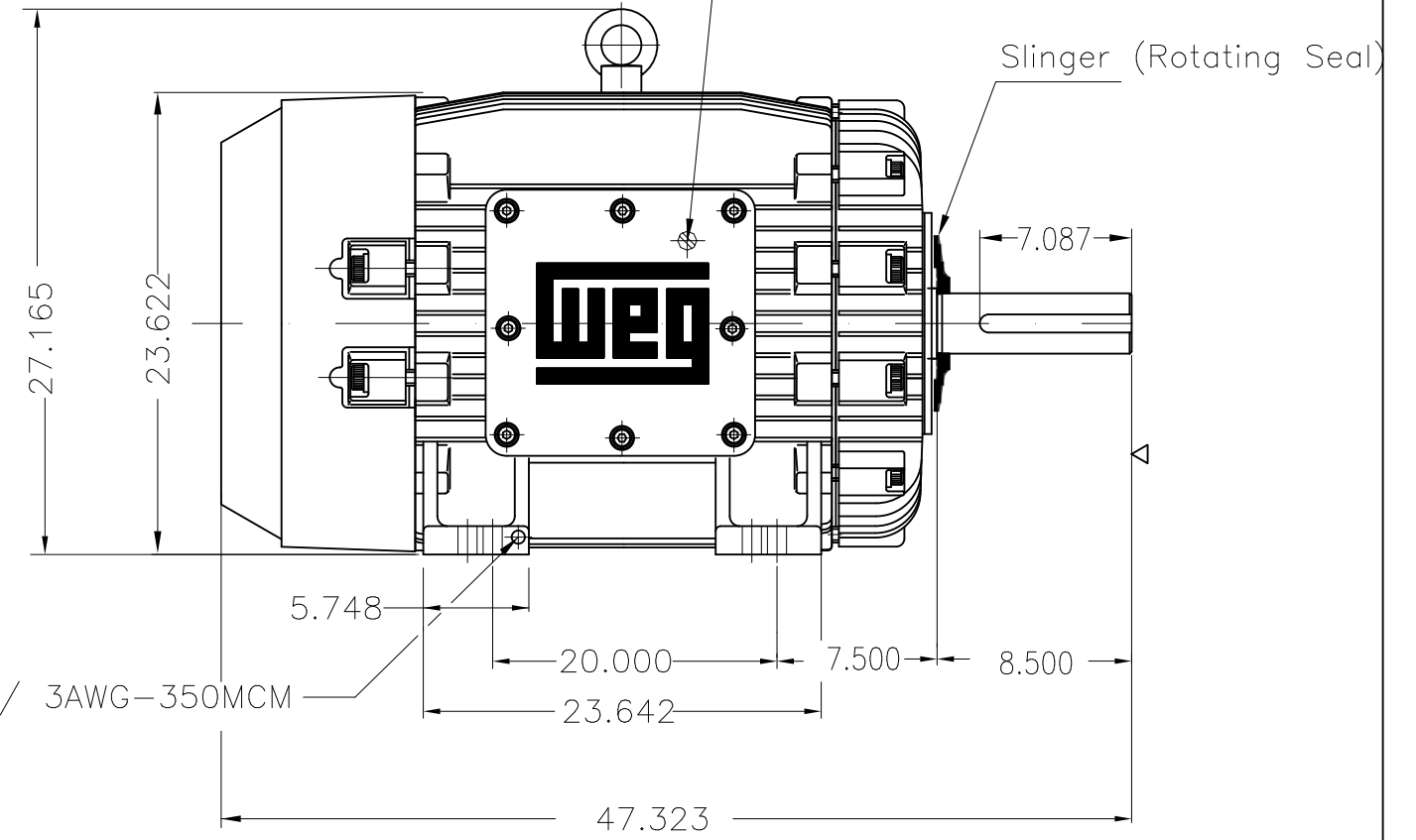
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Locked rotor torque	: 340 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 990 rpm	Design	: B

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Grounding for leads 35–70 mm² / 1–2/0 AWG

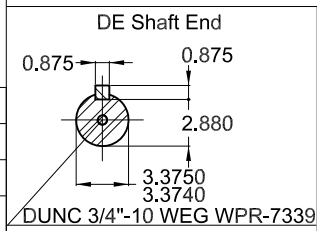


Grounding for leads 25–185 mm² / 3AWG–350MCM

200 HP 06 Poles 60 Hz

Dimensions in inches

Color RAL 5009
 Painting plan 202P
 Mounting NEMA F-1
 Mounting B3R(D)

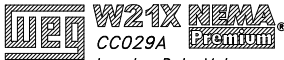


ECM	LOC	SUMMARY OF MODIFICATIONS	EXECUTED	CHECKED	RELEASED	DATE	VER
EXECUTED	PIRWBUSER	THREE PH. MOTOR EXPLOSION PROOF PREM. EFF.					
CHECKED		FRAME 447T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
 WDD



SHEET 1 / 1



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 20012XT3G447T
MADE IN BRAZIL
14653233

PH 3	FR 447T	HP(kW) 200(150)	Hz 60
V 460	A 249	RPM 1190	
NEMA NOM. EFF. 95.8%		INS CL F Δ T 80 K	IP55
PF 0.79	DUTY CONT.		CODE J
ENCL. TEFC	SF 1.15	SFA 286	
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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