

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer					
Product line		: NEMA Premium Efficiency Three-Phase		Product code : 14390091	
				Catalog # : 04018XT3E324T	
Frame : 324T		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 : 650 lb			
Protection degree : IP55		Moment of inertia (J) : 8.17 sq.ft.lb			
Design : B					
Output [HP]	40	40	40	40	40
Poles	4	4	4	4	4
Frequency [Hz]	60	50	50	50	50
Rated voltage [V]	230/460	380	400	415	415
Rated current [A]	96.4/48.2	58.7	56.1	54.1	54.1
L. R. Amperes [A]	742/371	364	387	400	400
LRC [A]	7.7x(Code J)	6.2x(Code G)	6.9x(Code H)	7.4x(Code J)	7.4x(Code J)
No load current [A]	46.0/23.0	22.8	24.1	25.3	25.3
Rated speed [RPM]	1780	1470	1475	1475	1475
Slip [%]	1.11	2.00	1.67	1.67	1.67
Rated torque [ft.lb]	118	143	142	142	142
Locked rotor torque [%]	270	200	229	250	250
Breakdown torque [%]	300	210	240	260	260
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	34s (cold) 19s (hot)	45s (cold) 25s (hot)	45s (cold) 25s (hot)	45s (cold) 25s (hot)	45s (cold) 25s (hot)
Noise level ²	71.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)
Efficiency (%)	25%	92.8	93.4	92.9	92.7
	50%	93.0	93.0	93.0	92.4
	75%	94.1	93.0	93.0	93.6
	100%	94.1	92.4	93.0	93.0
Power Factor	25%	0.39	0.45	0.42	0.39
	50%	0.66	0.72	0.68	0.66
	75%	0.77	0.81	0.79	0.77
	100%	0.83	0.84	0.83	0.83
Bearing type		Drive end : 6312 C3	Non drive end : 6212 C3	Foundation loads	
Sealing		: Oil Seal	: Lip Seal	Max. traction : 1096 lb	
Lubrication interval		: 20000 h	: 20000 h	Max. compression : 1746 lb	
Lubricant amount		: 21 g	: 13 g		
Lubricant type		: Mobil Polyrex EM			
Notes					
USABLE @208V 107A SF 1.00 SFA 107A					
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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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



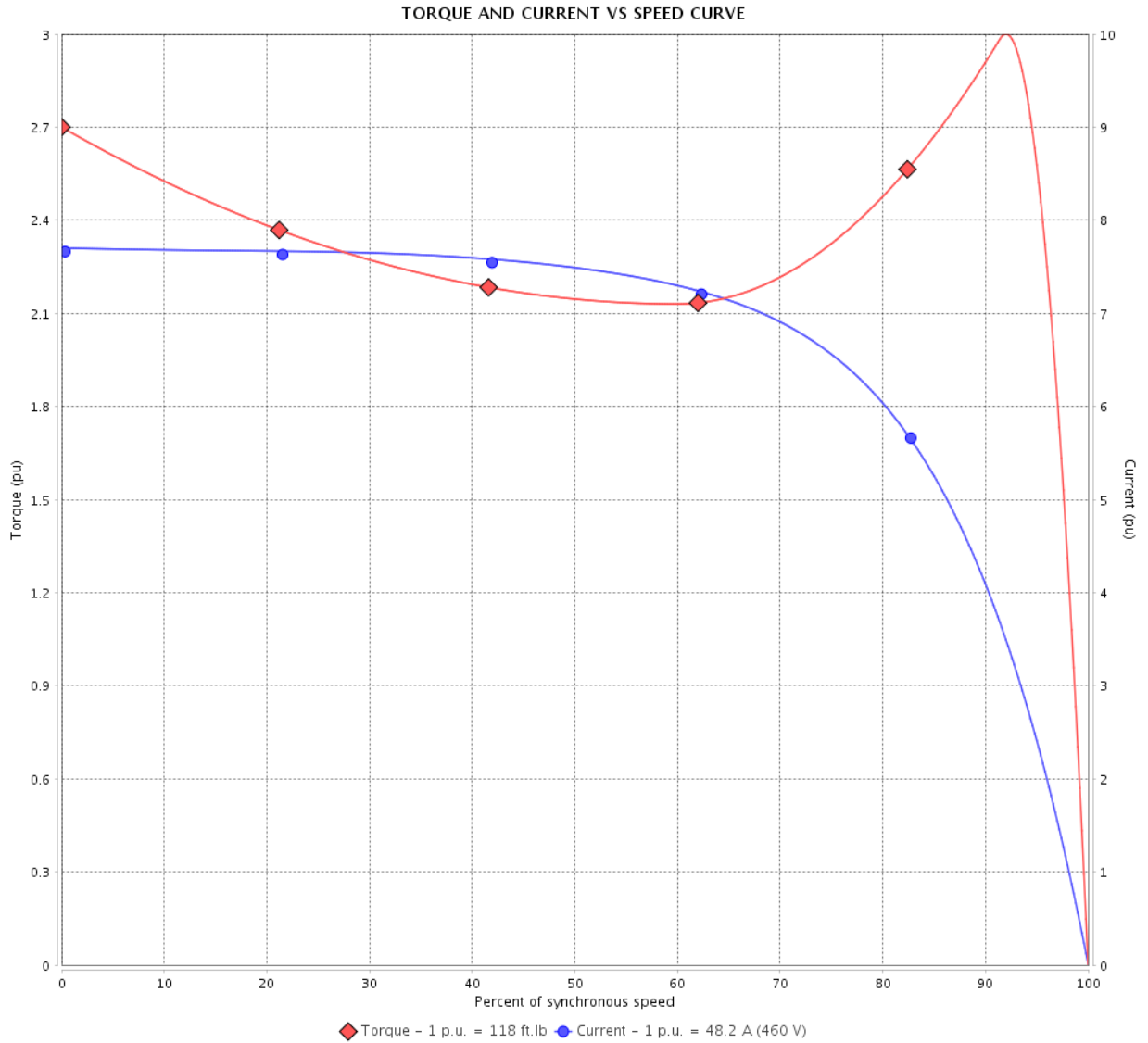
Three Phase Induction Motor - Squirrel Cage

Customer :

Product line : NEMA Premium Efficiency Three-Phase

Product code : 14390091

Catalog # : 04018XT3E324T



Performance : 230/460 V 60 Hz 4P

Rated current : 96.4/48.2 A
 LRC : 7.7
 Rated torque : 118 ft.lb
 Locked rotor torque : 270 %
 Breakdown torque : 300 %
 Rated speed : 1780 rpm

Moment of inertia (J) : 8.17 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.15
 Temperature rise : 80 K
 Design : B

Locked rotor time : 34s (cold) 19s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



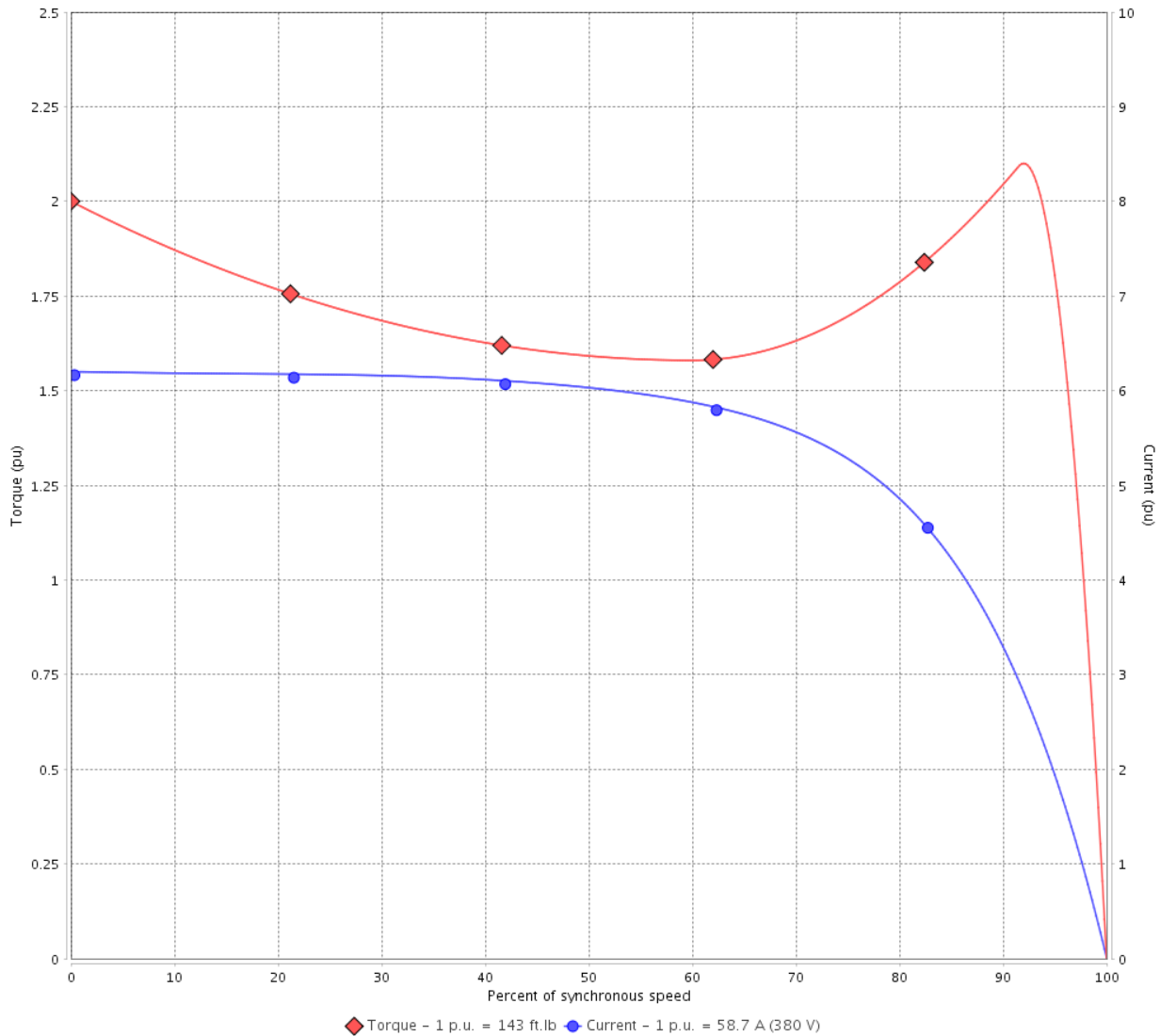
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TORQUE AND CURRENT VS SPEED CURVE



Performance : 380 V 50 Hz 4P IE2

Rated current	: 58.7 A	Moment of inertia (J)	: 8.17 sq.ft.lb
LRC	: 6.2	Duty cycle	: Cont.(S1)
Rated torque	: 143 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 1470 rpm	Design	: B

Locked rotor time : 45s (cold) 25s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



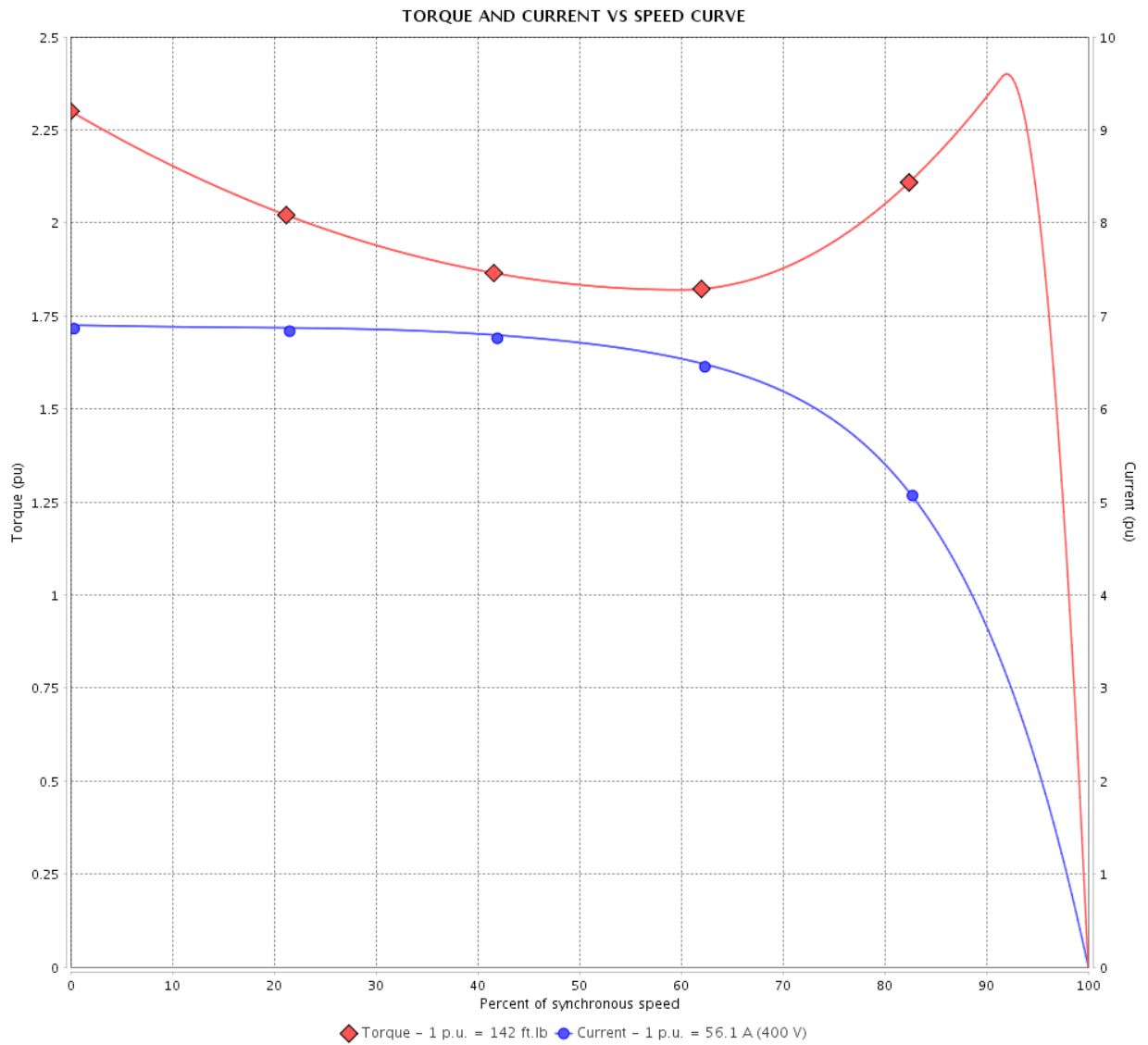
Three Phase Induction Motor - Squirrel Cage

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Performance : 400 V 50 Hz 4P IE2

Rated current : 56.1 A
 LRC : 6.9
 Rated torque : 142 ft.lb
 Locked rotor torque : 229 %
 Breakdown torque : 240 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 8.17 sq.ft.lb
 Duty cycle : Cont.(S1)
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : B

Locked rotor time : 45s (cold) 25s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



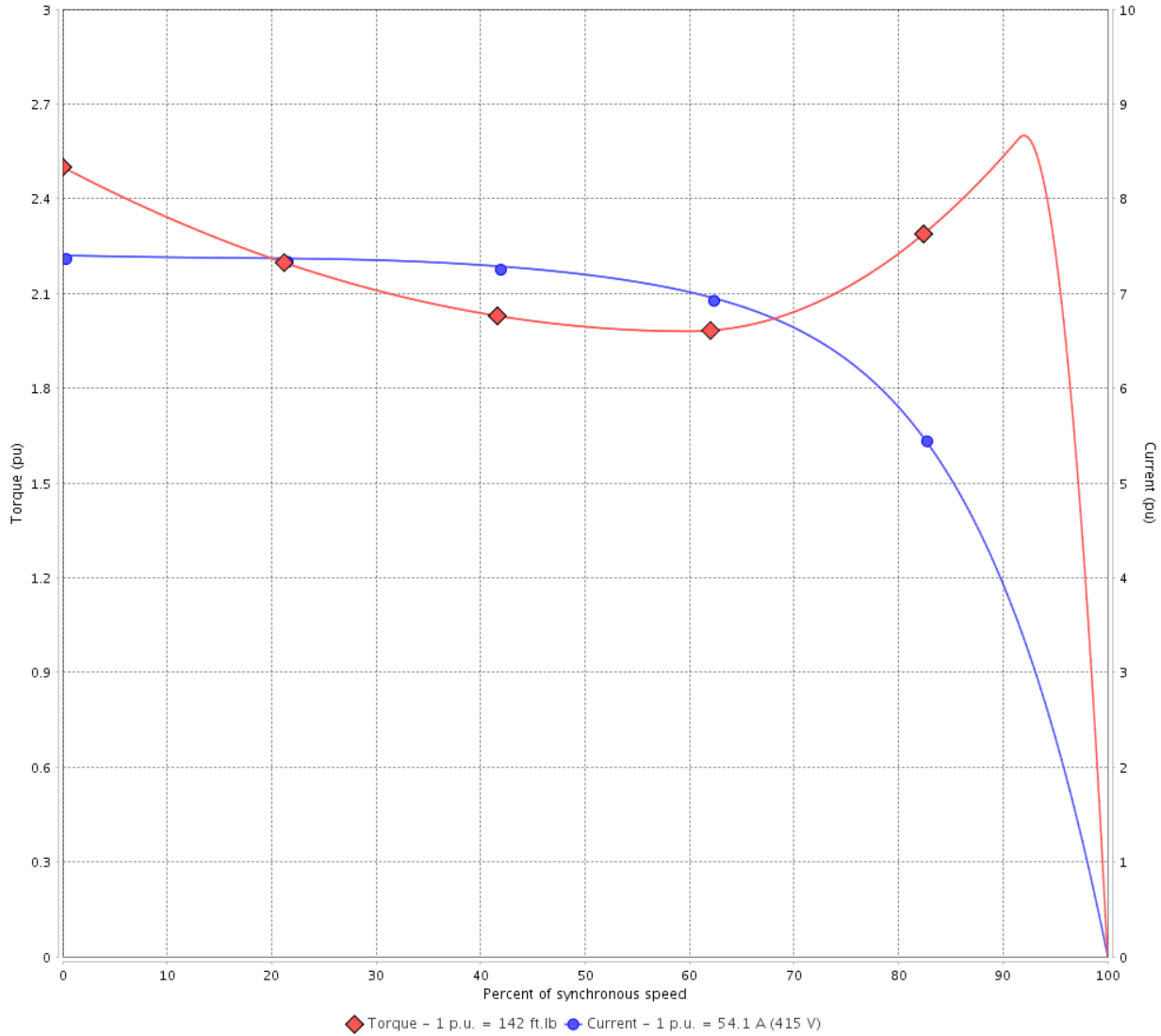
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Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 1475 rpm	Design	: B

Locked rotor time : 45s (cold) 25s (hot)

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LOAD PERFORMANCE CURVE

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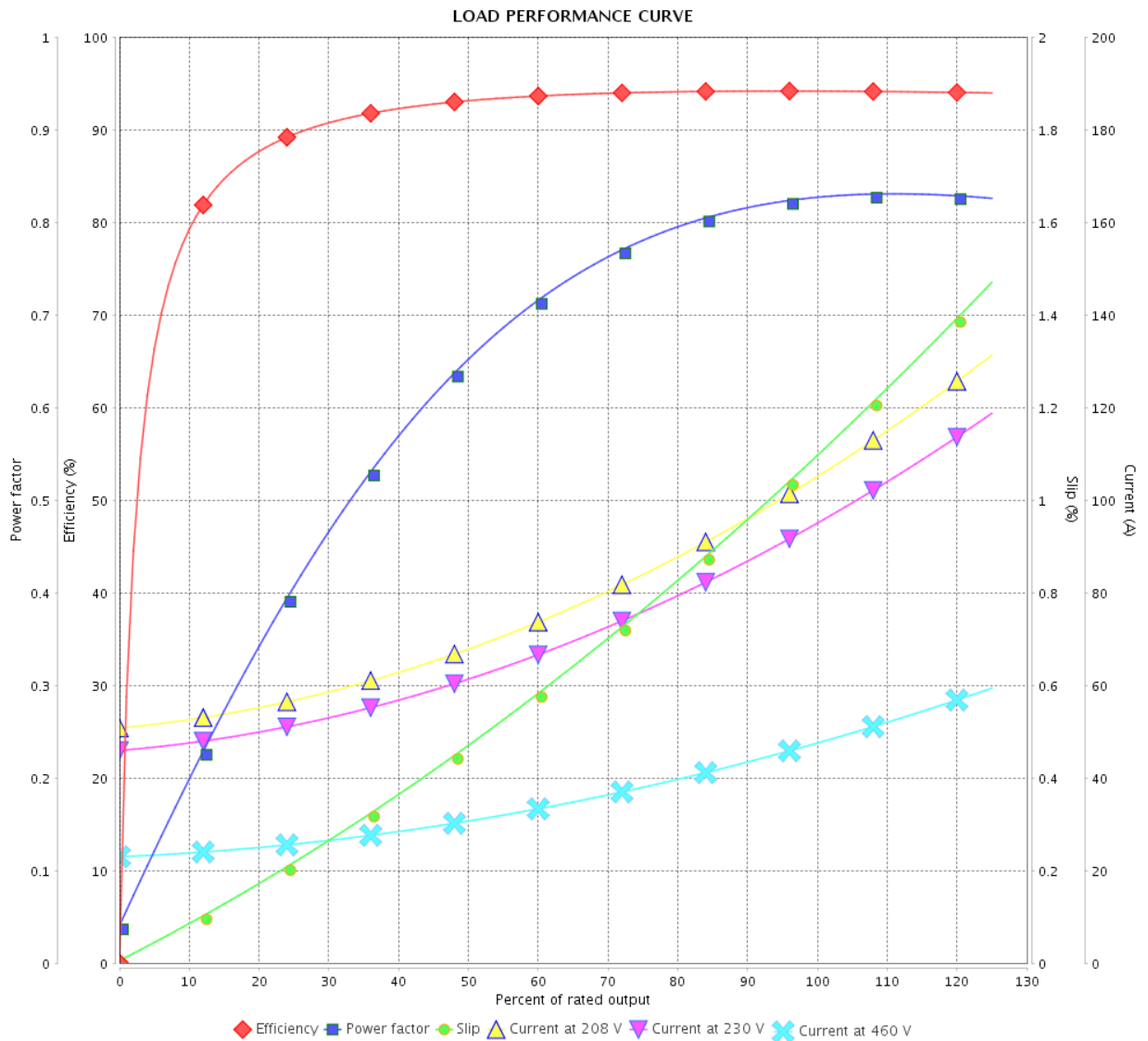


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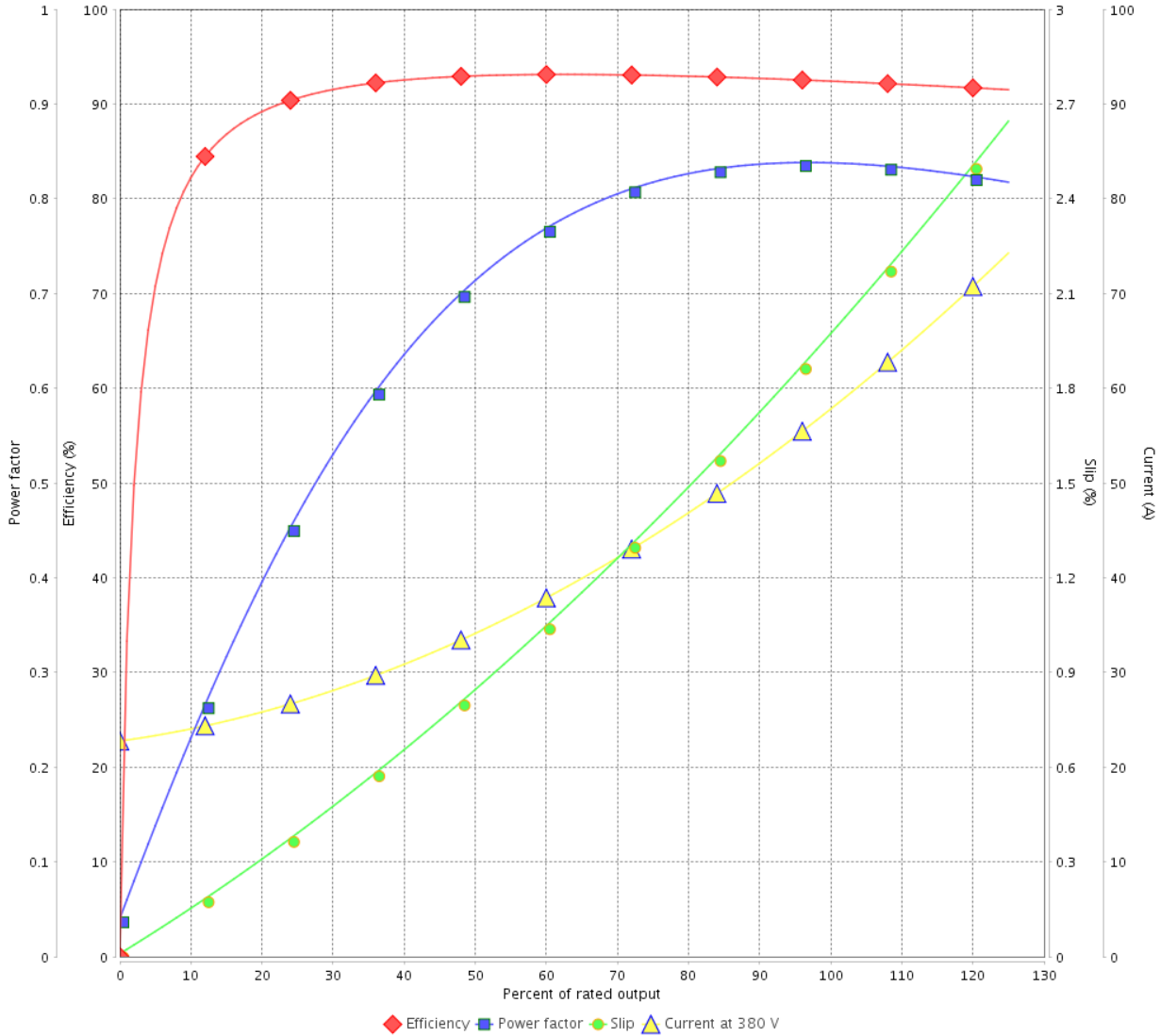
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Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 210 %	Temperature rise	: 80 K
Rated speed	: 1470 rpm	Design	: B

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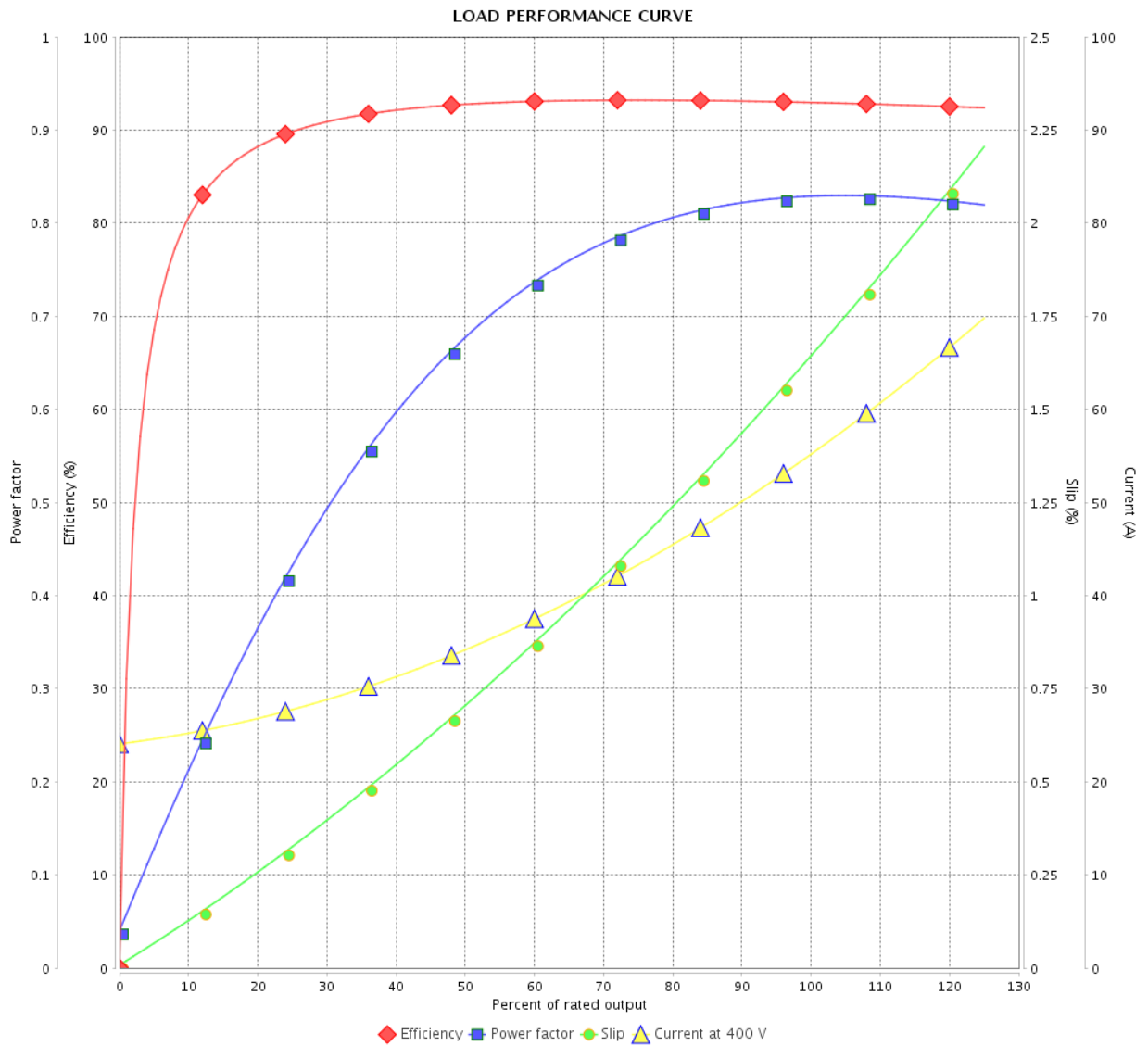


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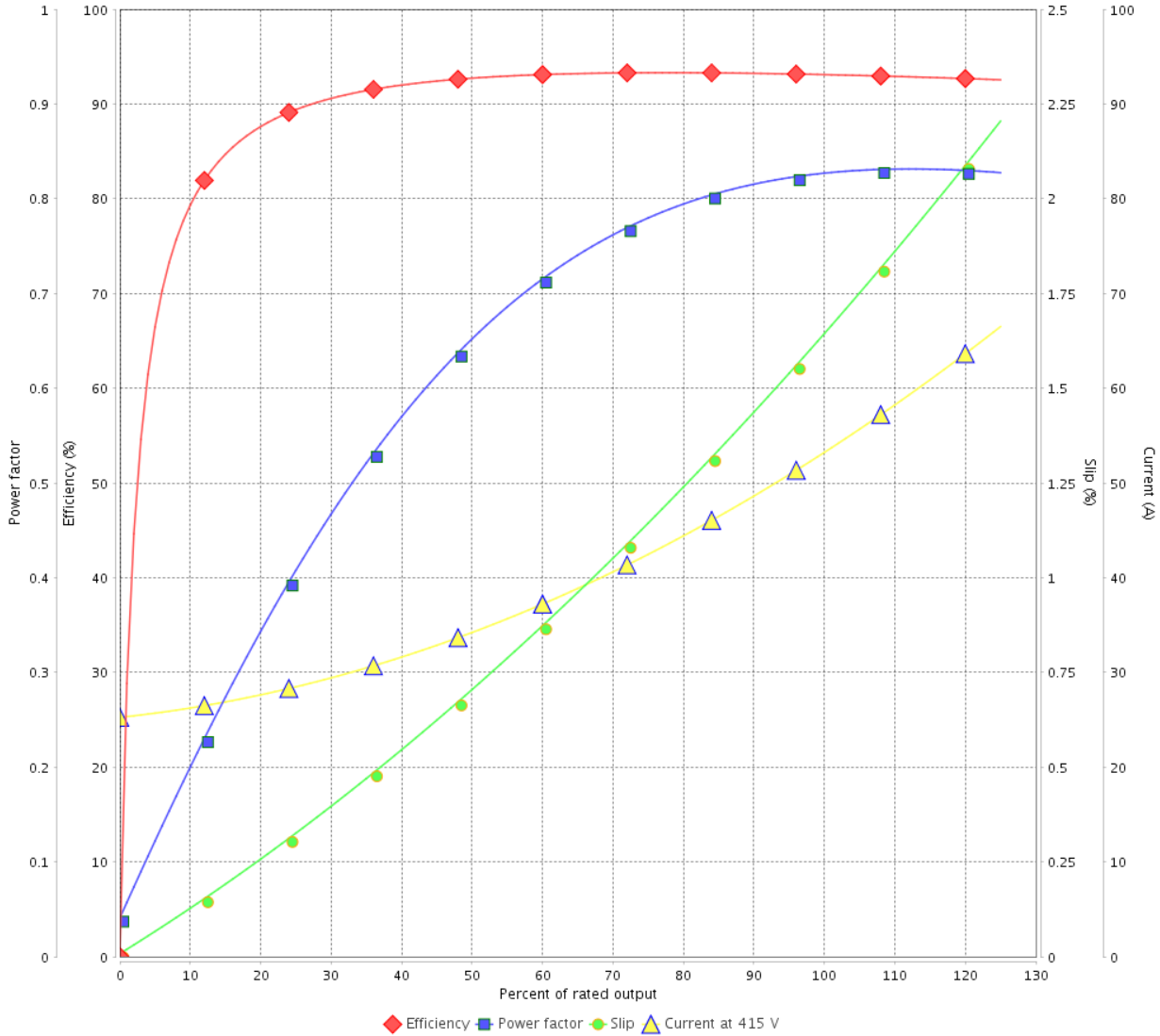
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THERMAL LIMIT CURVE



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Rated speed : 1780 rpm	Design : B

Heating constant

Cooling constant

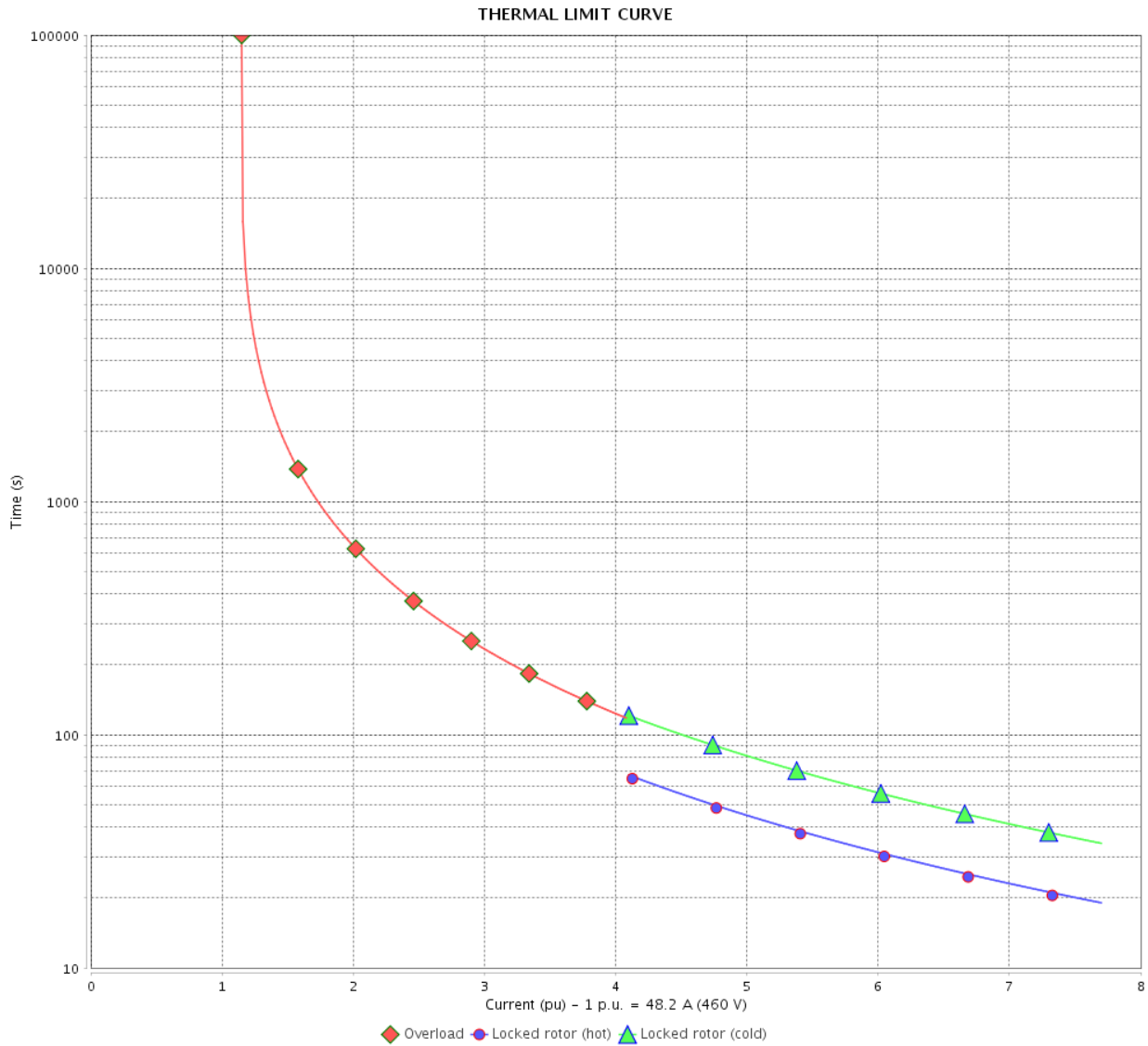
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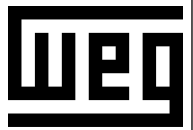


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Locked rotor torque : 200 %	Service factor : 1.00
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Cooling constant

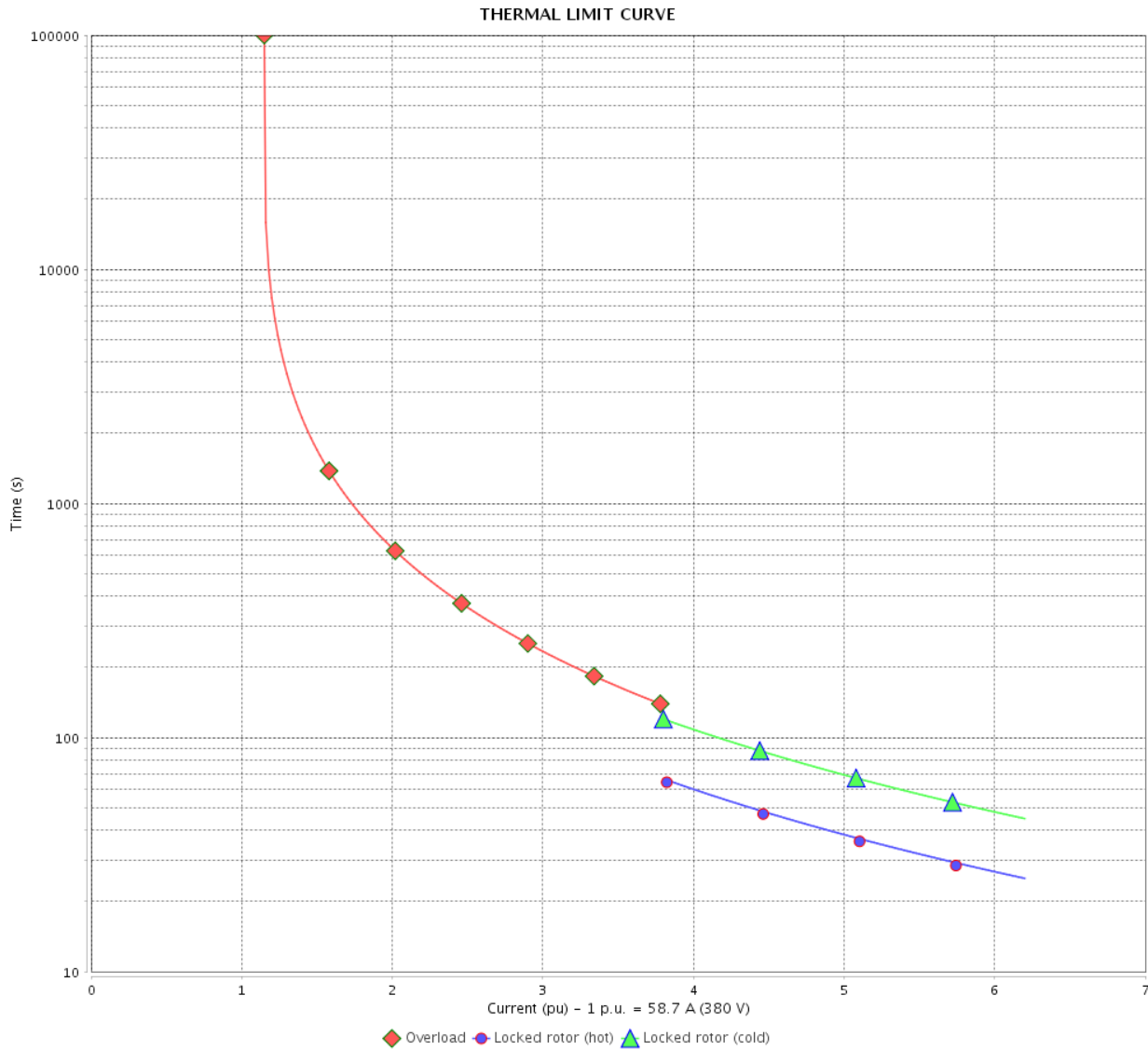
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Locked rotor torque : 229 %	Service factor : 1.00
Breakdown torque : 240 %	Temperature rise : 80 K
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Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
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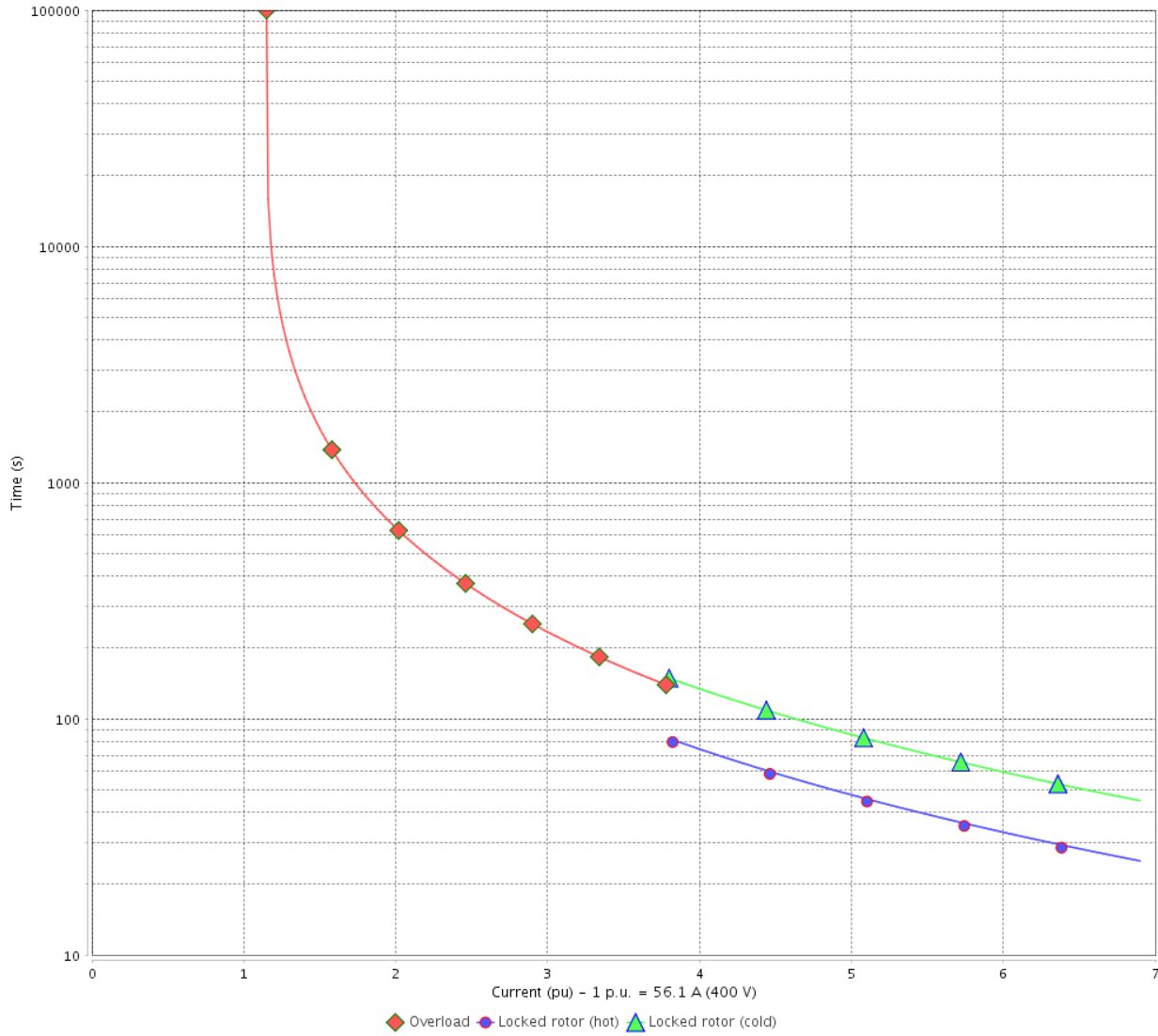
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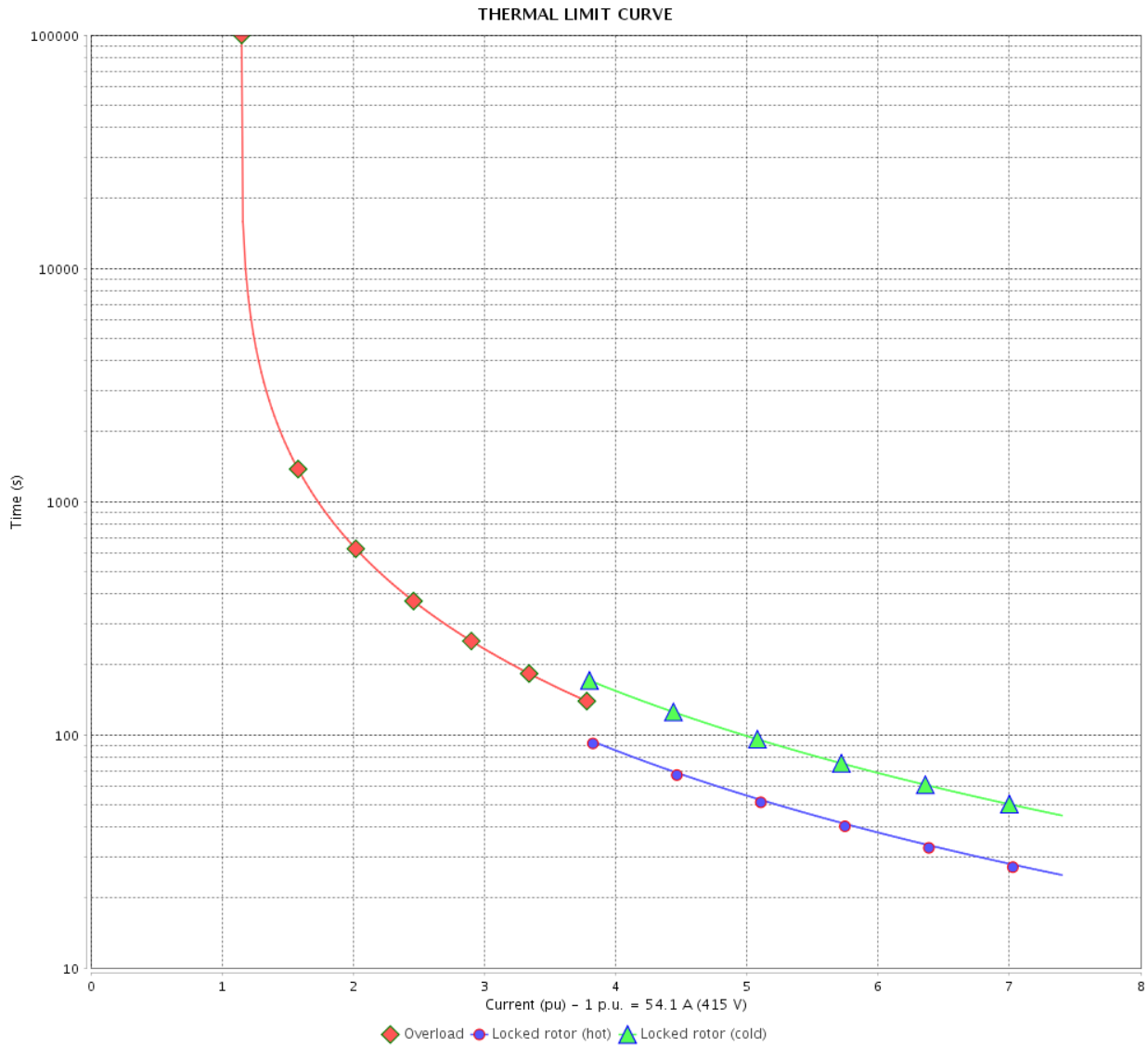
Rev.	Changes Summary	Performed	Checked	Date
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VFD OPERATION CURVE

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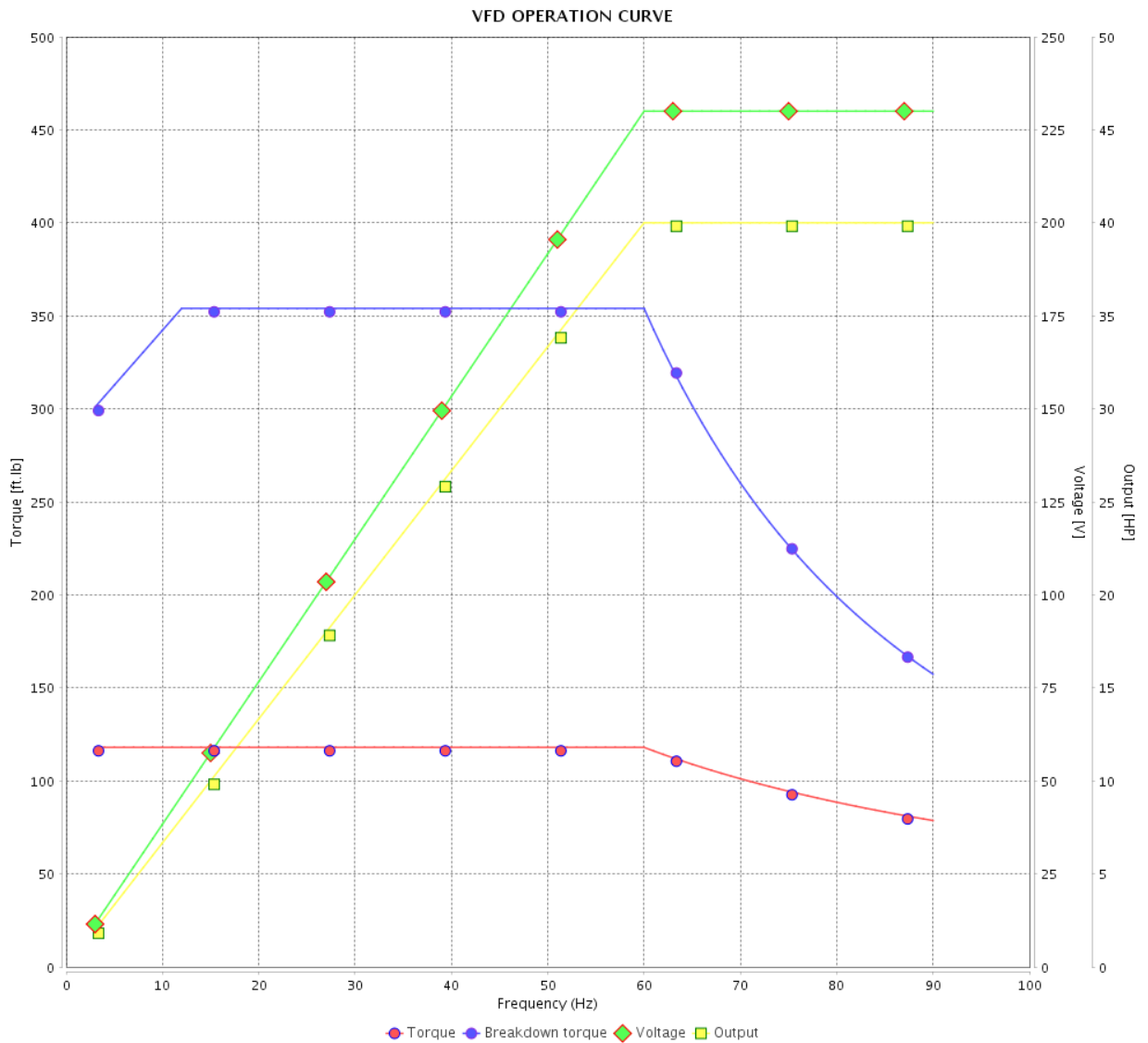


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VFD OPERATION CURVE

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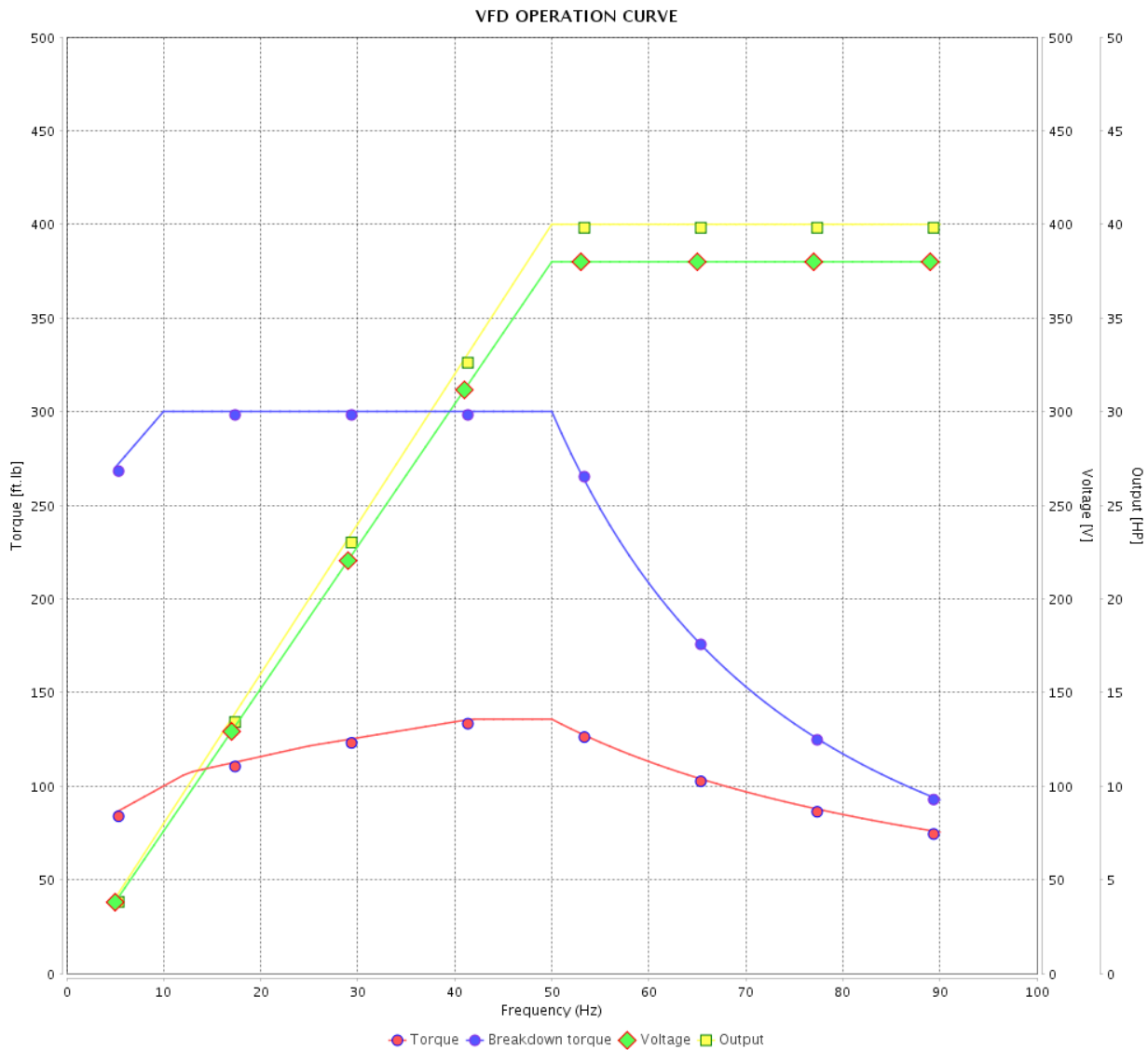


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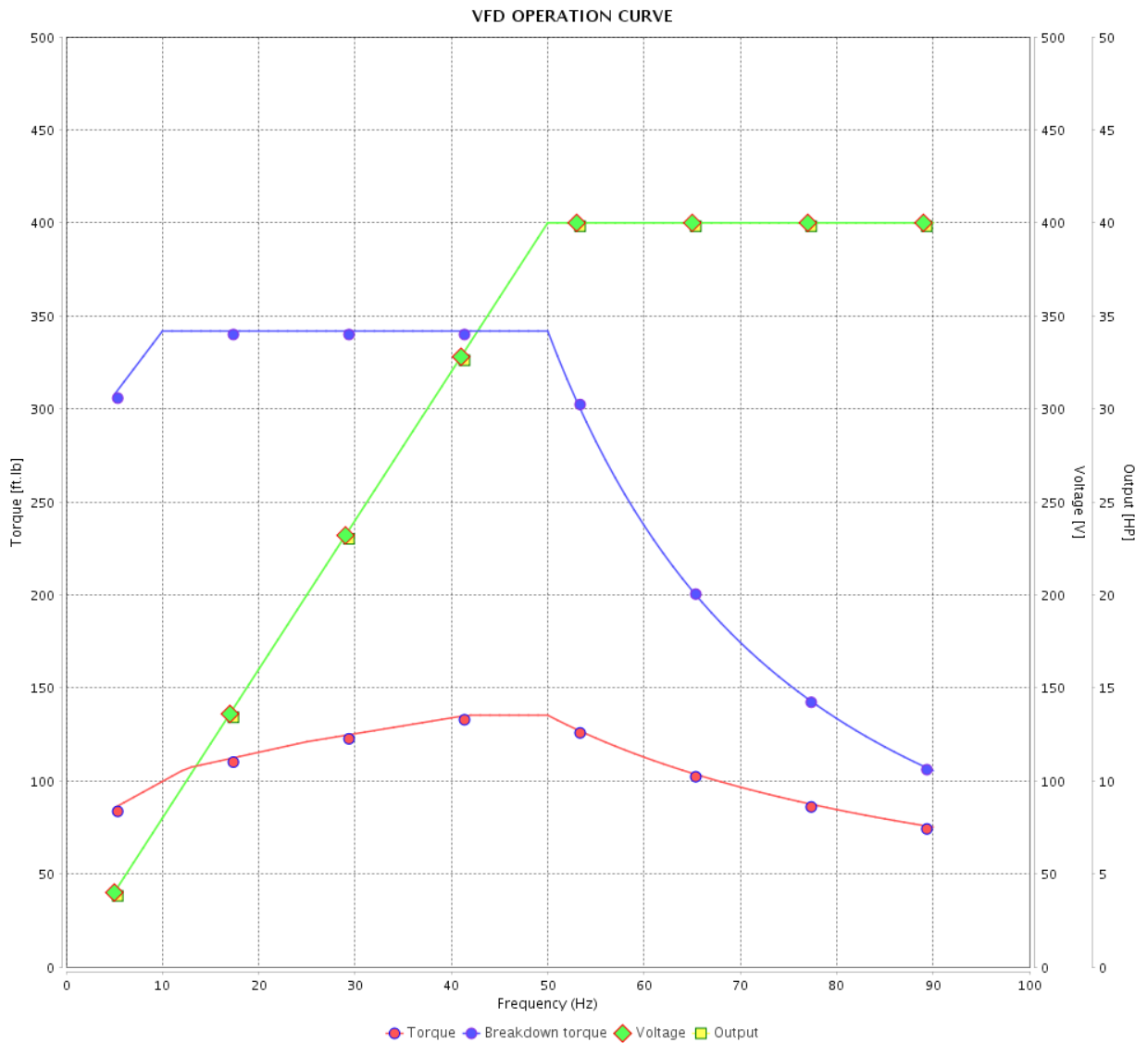


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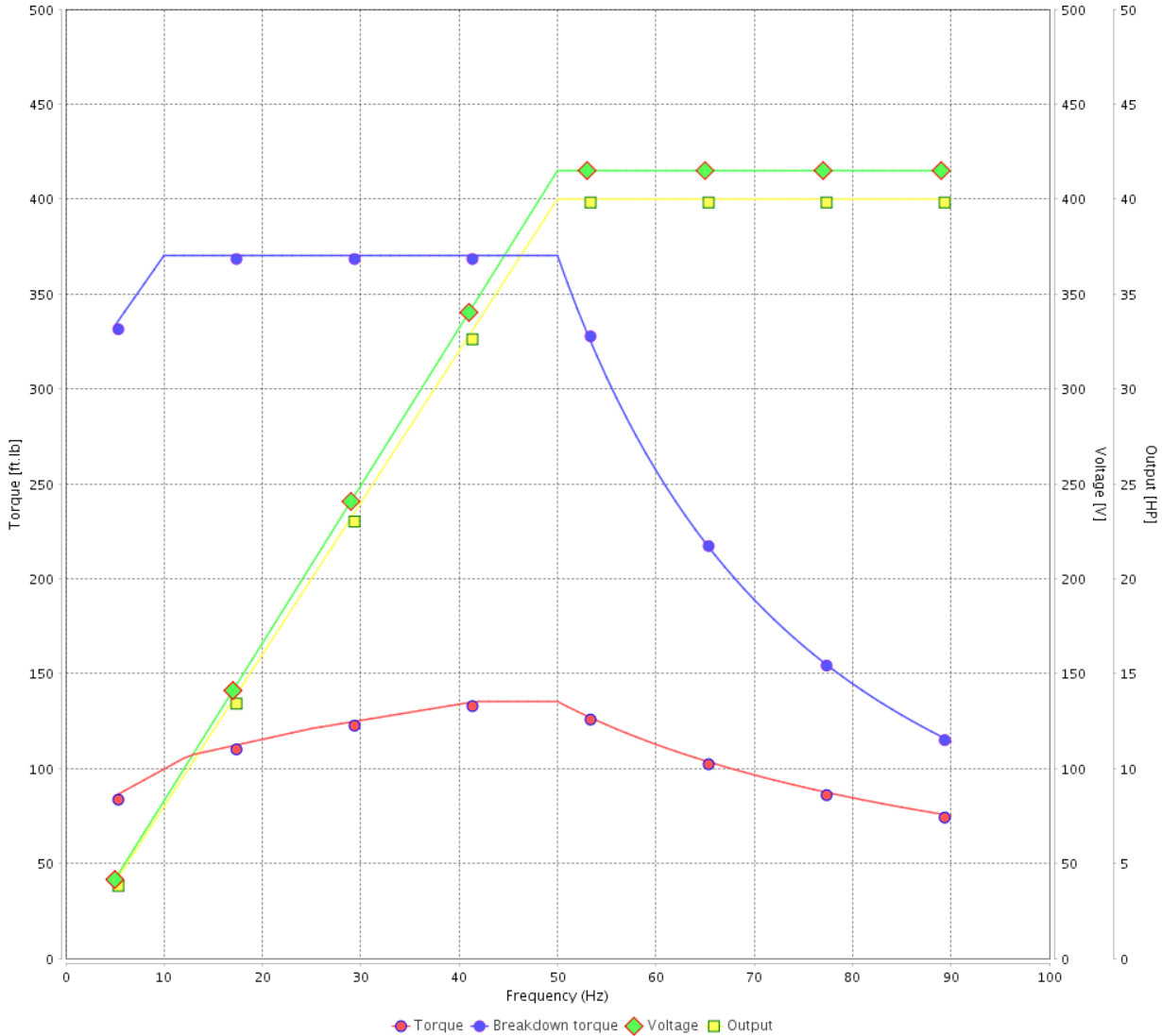
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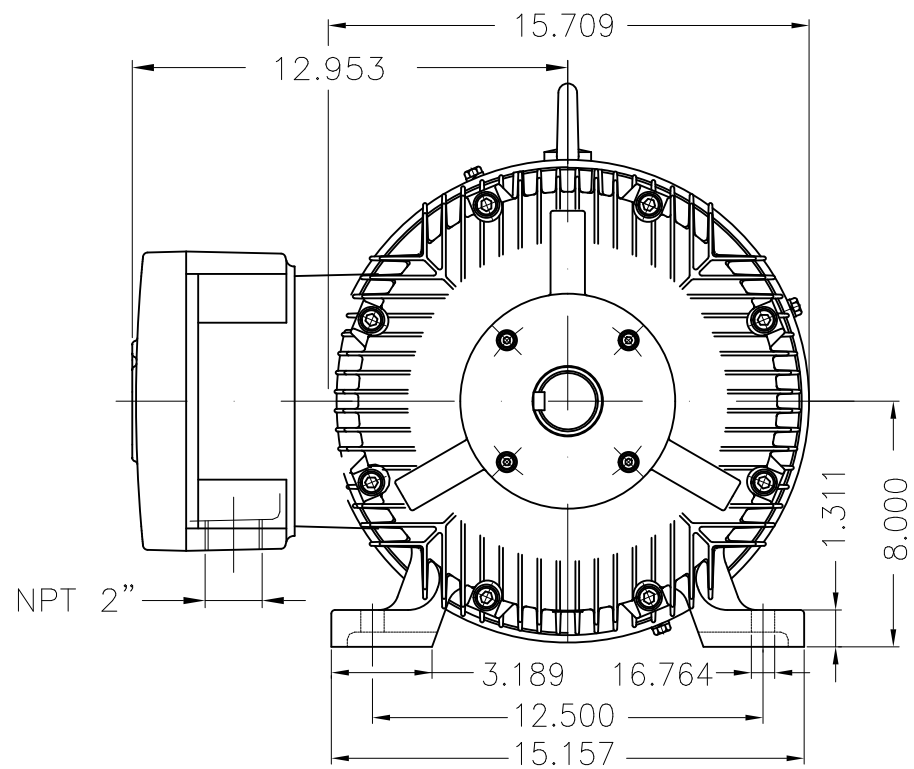
VFD OPERATION CURVE



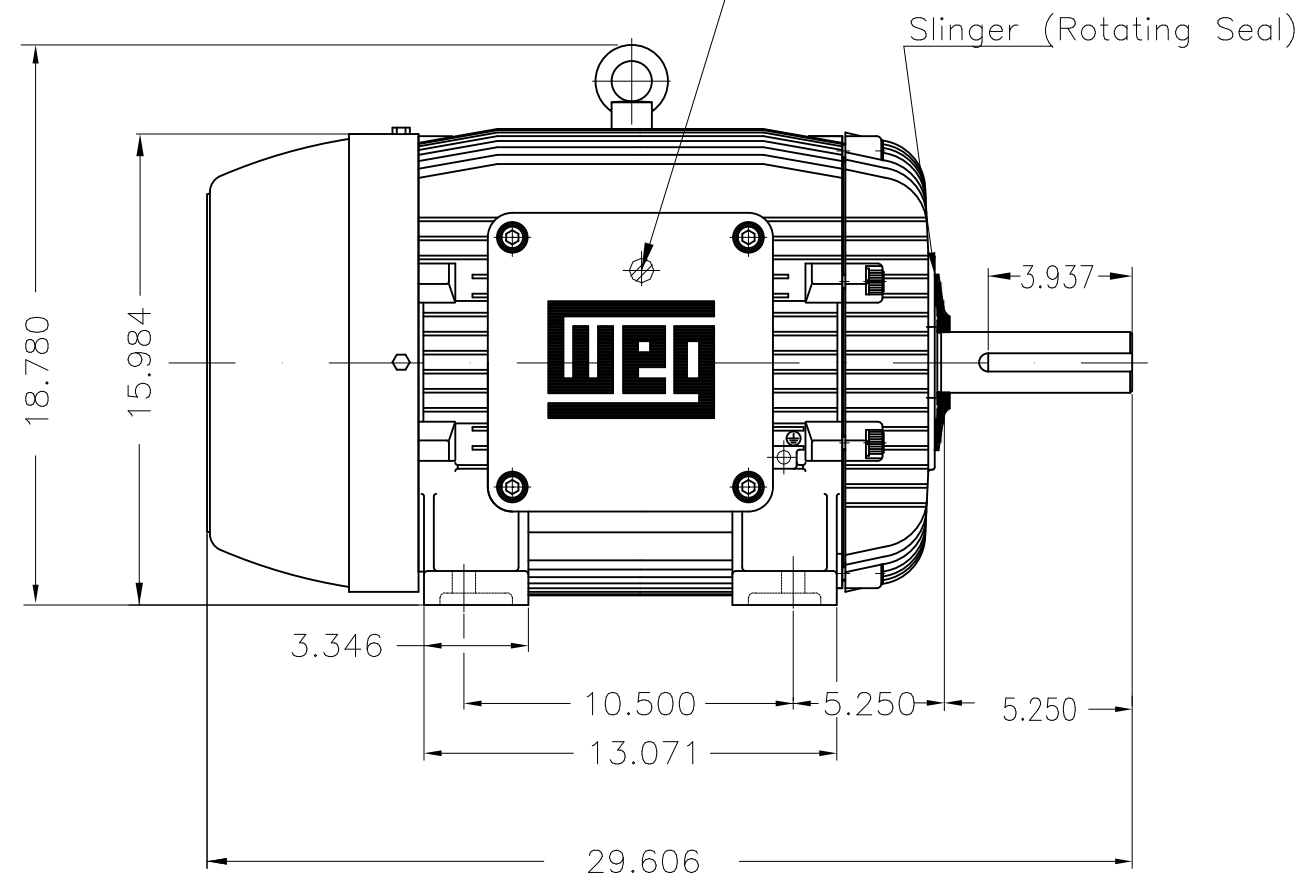
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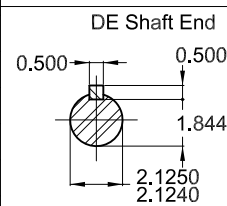
Grounding for leads 5.2–35 mm² / 10–2 AWG



40 HP 04 Poles 60 Hz

A

- C3 NDE bearing
- With grease fitting
- C3 DE bearing
- 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 324T IP55 TEFC					
RELEASED							
REL DT.	WMO	Jaragua do Sul	Product Engineering				

PREVIEW
WDD



SHEET 1 / 1

MADE IN BRAZIL

**W21X NEMA**
Premium

14390091

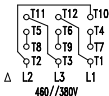
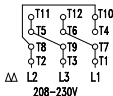
CC029A

Inverter Duty Motor
Severe Duty

LISTED

MODEL 04018XT3E324T

PH 3	FR 324T		
HP(kW) 40.0(30.0)		HZ 60	IP55
V 230/460		A 96.4/48.2	
RPM 1780		NEMA NOM EFF 94.1%	
PF 0.83		SFA 111/55.4	DES B
INS CL F ΔT 80 K		SF 1.15	ENCL TEFC
DUTY CONT.		CODE J	ALT 1000 m.a.s.l.
AMB 40°C	USABLE @208V	107 A	SF 1.00
AMB 55°C SF1.0			
40HP 30kW 50Hz 380V 58.7A 1470RPM SF1.00 EFF 92.4% (IE2)			



→ 6312-C3 MOBIL POLYREX EM
→ 6212-C3 21 g 20000 h

650 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.