

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line : IE3 Three-Phase	Product code : 13147927				
Frame : 112M Insulation class : F Duty cycle : S1 Ambient temperature : -20°C to +40°C Altitude : 1000 m.a.s.l. Protection degree : IP55 Design : N	Cooling method : IC411 - TEFC Mounting : B3T Rotation ¹ : Both (CW and CCW) Starting method : Direct On Line Approx. weight ² : 97.0 lb Moment of inertia (J) : 0.4319 sq.ft.lb				
Output [kW]	4	4	4	4	
Poles	4	4	4	4	
Frequency [Hz]	50	50	50	60	
Rated voltage [V]	380/660	400/690	415	460	
Rated current [A]	8.47/4.88	8.20/4.75	8.09	7.28	
L. R. Amperes [A]	59.3/34.2	57.4/33.2	56.6	58.2	
LRC [A]	7.0	7.0	7.0	8.0	
No load current [A]	4.15/2.39	4.60/2.67	4.95	4.25	
Rated speed [RPM]	1445	1450	1455	1755	
Slip [%]	3.67	3.33	3.00	2.50	
Rated torque [ft.lb]	19.5	19.4	19.4	16.1	
Locked rotor torque [%]	200	229	260	250	
Breakdown torque [%]	270	310	340	350	
Service factor	1.00	1.00	1.00	1.25	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	27s (cold) 15s (hot)	27s (cold) 15s (hot)	27s (cold) 15s (hot)	34s (cold) 19s (hot)	
Noise level ²	56.0 dB(A)	56.0 dB(A)		56.0 dB(A)	
Efficiency (%)	25%	0.000	0.000	0.000	0.000
	50%	89.3	88.7	88.2	87.5
	75%	89.0	89.1	88.9	89.5
	100%	88.6	89.1	89.3	89.5
Power Factor	25%	0.00	0.00	0.00	0.00
	50%	0.65	0.60	0.57	0.58
	75%	0.76	0.72	0.70	0.70
	100%	0.81	0.79	0.77	0.77
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	12.2	11.6	11.4	10.6
	P2 (0,5;1,0)	11.0	10.4	10.2	9.5
	P3 (0,25;1,0)	11.7	11.1	10.9	10.1
	P4 (0,9;0,5)	6.3	6.0	5.9	5.4
	P5 (0,5;0,5)	4.8	4.6	4.5	4.2
	P6 (0,5;0,25)	3.5	3.4	3.3	3.1
	P7 (0,25;0,25)	2.8	2.6	2.6	2.4
Bearing type	Drive end : 6307 ZZ	Non drive end : 6206 ZZ	Foundation loads		
Sealing	: V'Ring	: V'Ring	Max. traction	: 312 lb	
Lubrication interval	: 0 h	: 0 h	Max. compression	: 409 lb	
Lubricant amount	: 0 g	: 0 g			
Lubricant type	: Mobil Polyrex EM				
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 IEC 60034-1.		
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Thermal protection

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

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TORQUE AND CURRENT VS SPEED CURVE

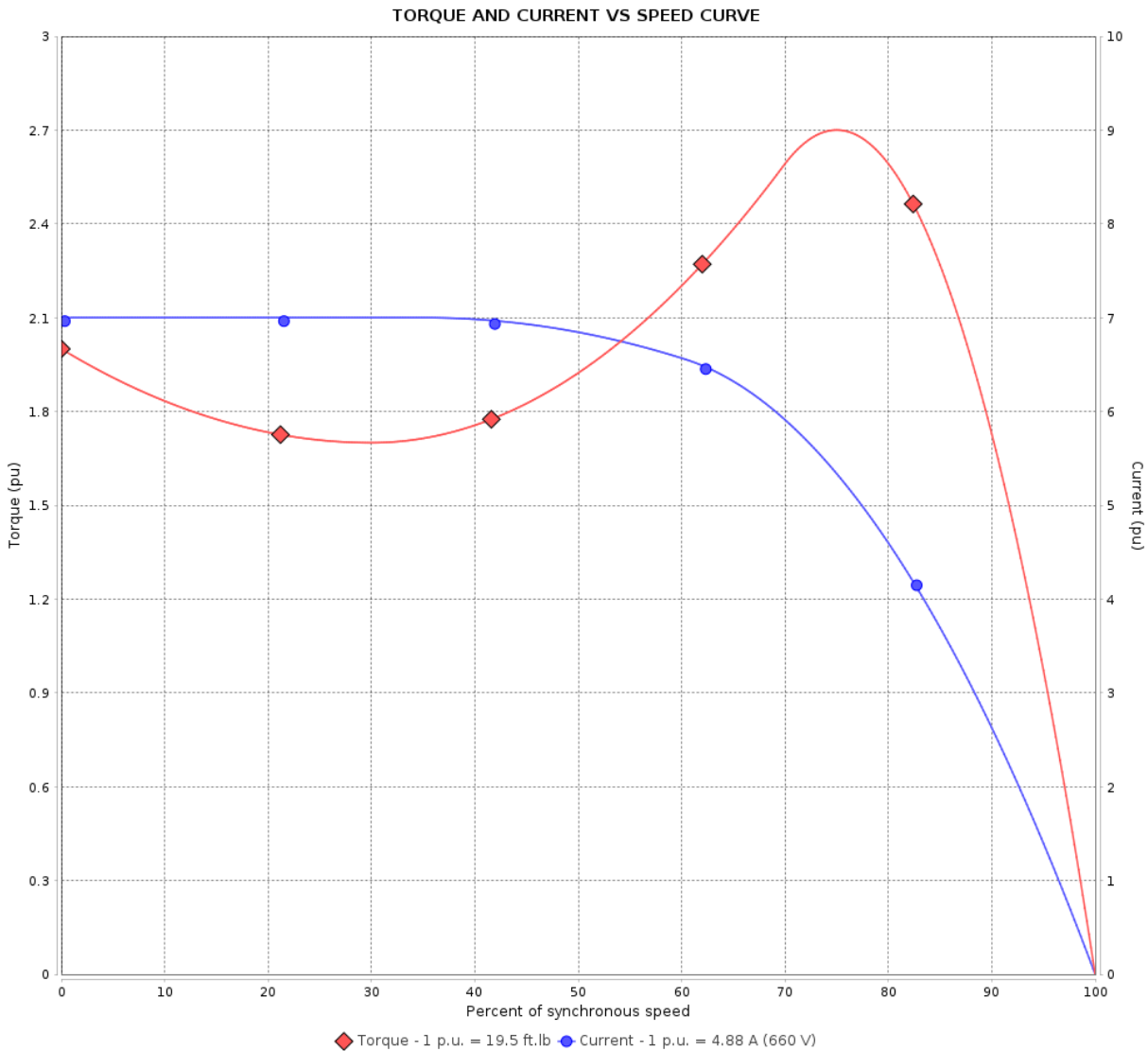
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE3 Three-Phase

Product code : 13147927



Performance : 380/660 V 50 Hz 4P

Rated current	: 8.47/4.88 A	Moment of inertia (J)	: 0.4319 sq.ft.lb
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 19.5 ft.lb	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1445 rpm	Design	: N

Locked rotor time : 27s (cold) 15s (hot)

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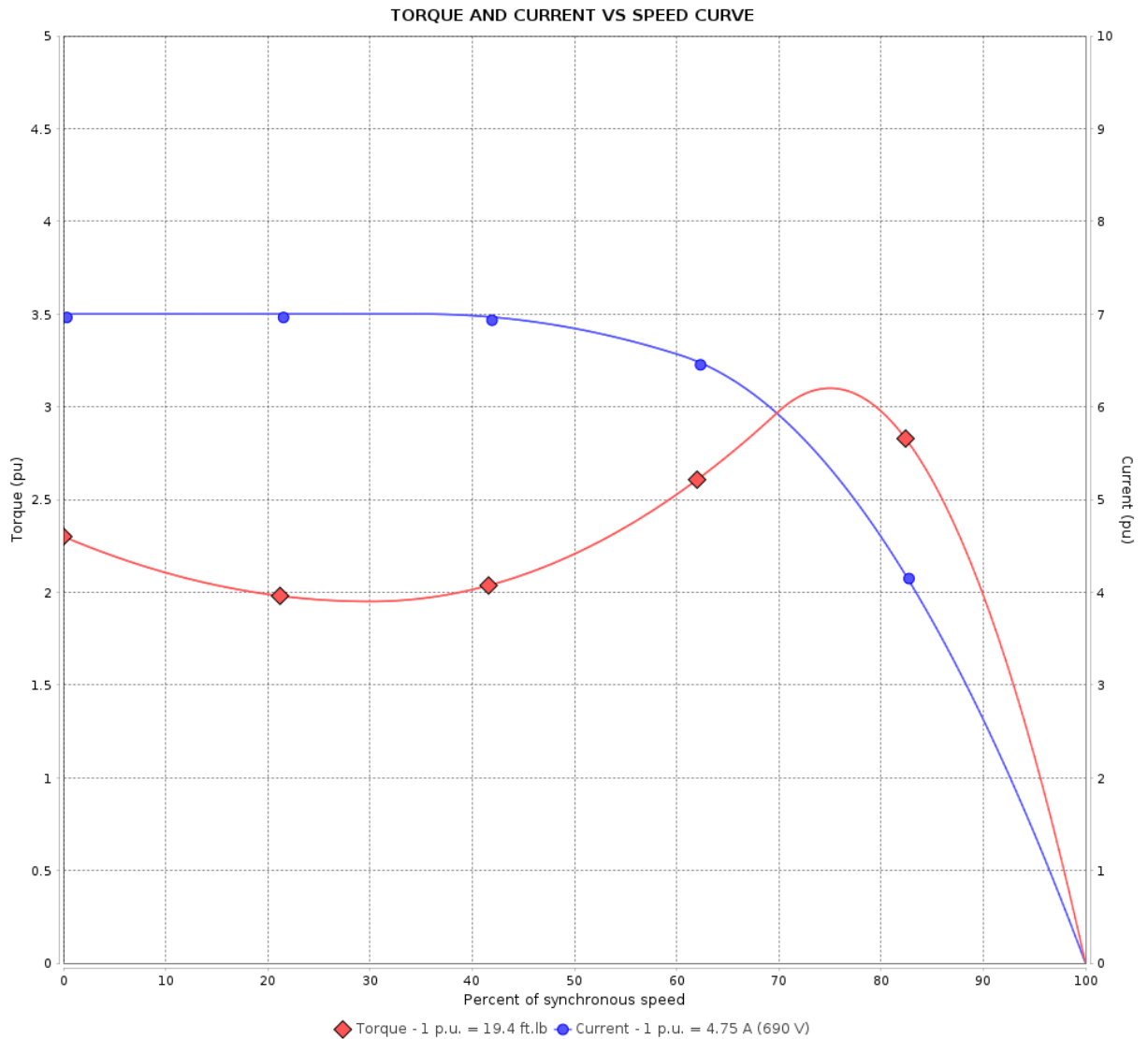
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Performance : 400/690 V 50 Hz 4P

Rated current	: 8.20/4.75 A	Moment of inertia (J)	: 0.4319 sq.ft.lb
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 19.4 ft.lb	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1450 rpm	Design	: N

Locked rotor time : 27s (cold) 15s (hot)

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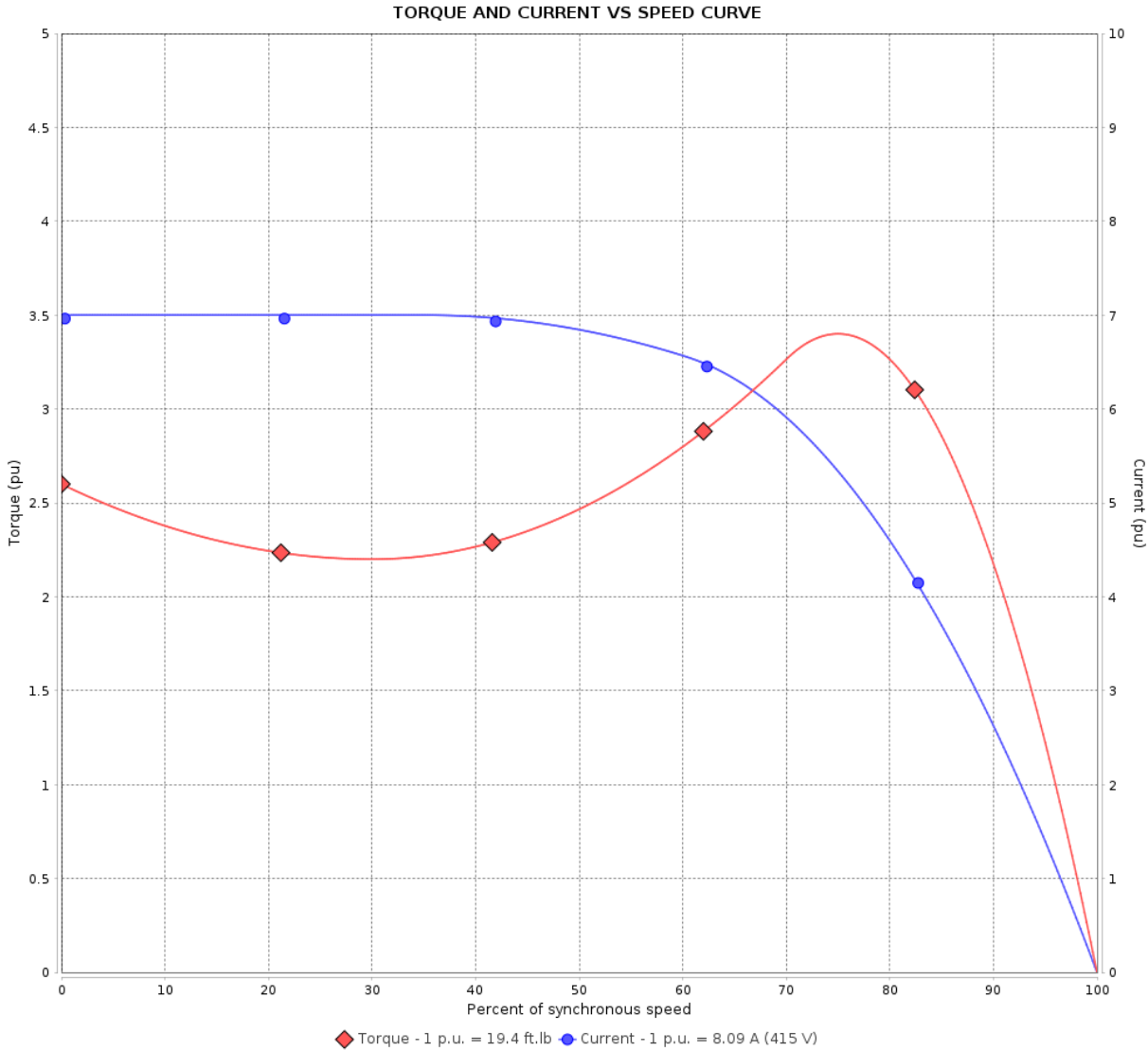
Three Phase Induction Motor - Squirrel Cage



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Performance : 415 V 50 Hz 4P

Rated current	: 8.09 A	Moment of inertia (J)	: 0.4319 sq.ft.lb
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 19.4 ft.lb	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: N

Locked rotor time : 27s (cold) 15s (hot)

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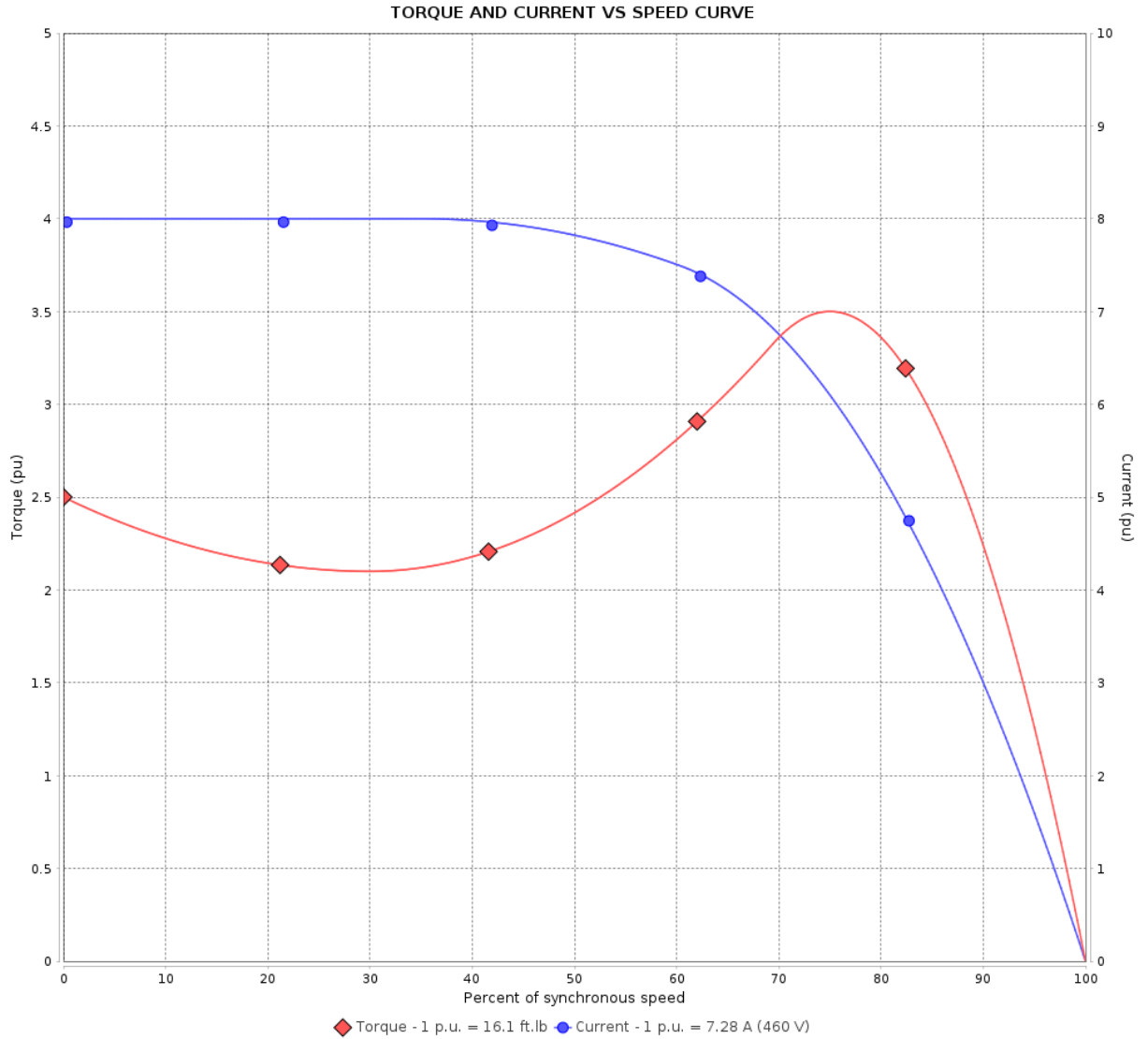
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 460 V 60 Hz 4P

Rated current	: 7.28 A	Moment of inertia (J)	: 0.4319 sq.ft.lb
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 16.1 ft.lb	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.25
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 1755 rpm	Design	: N

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

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LOAD PERFORMANCE CURVE

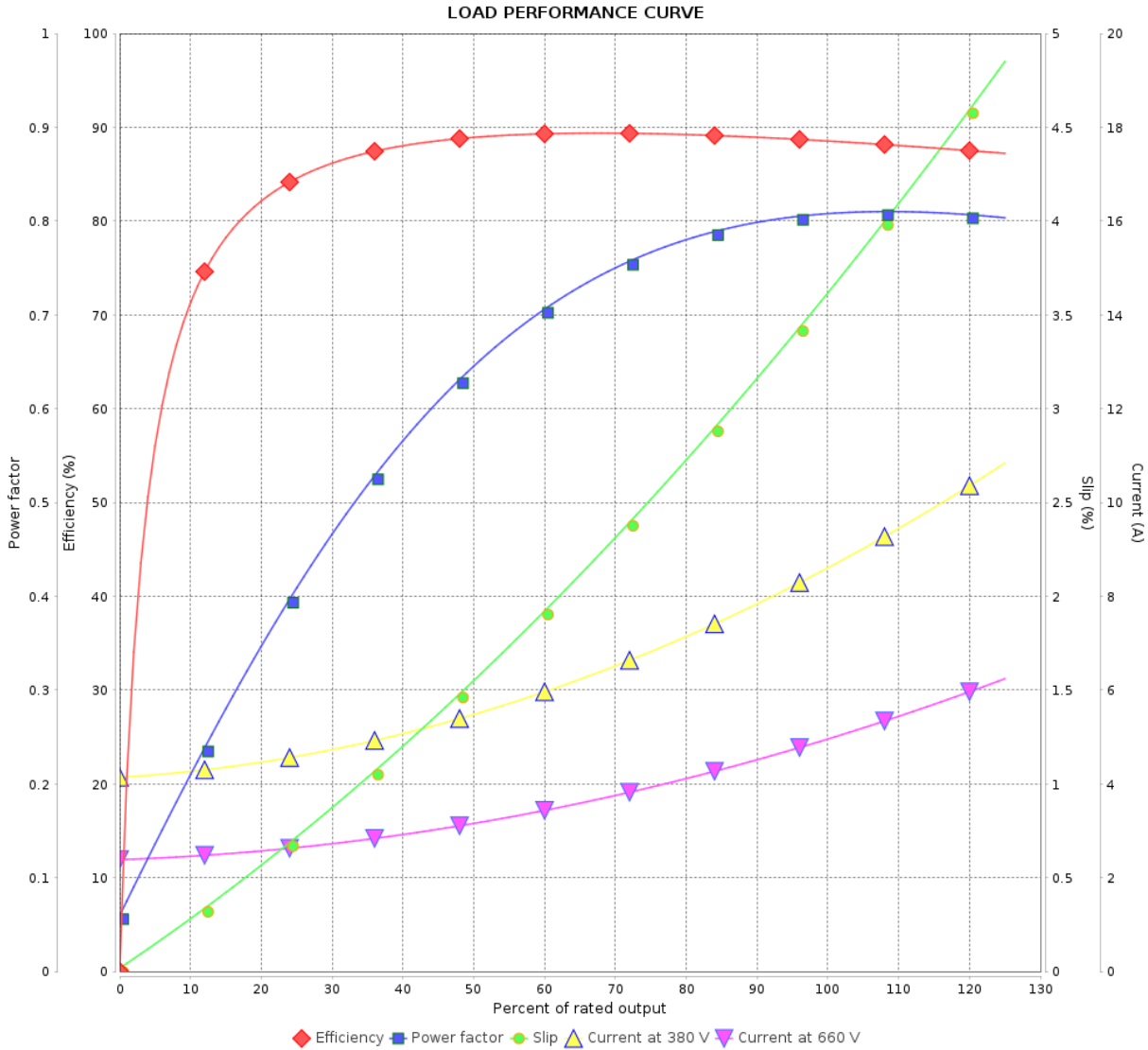
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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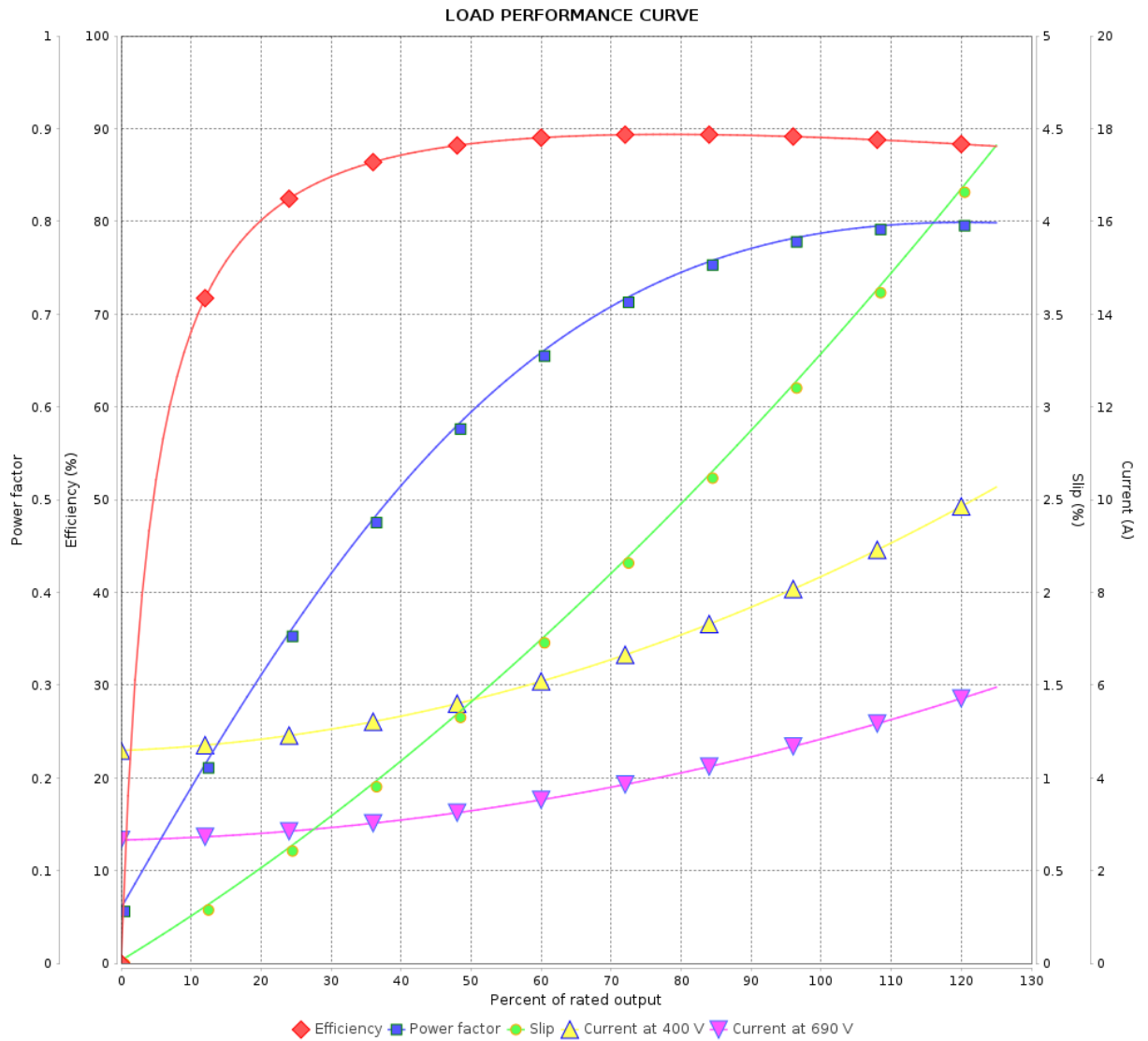
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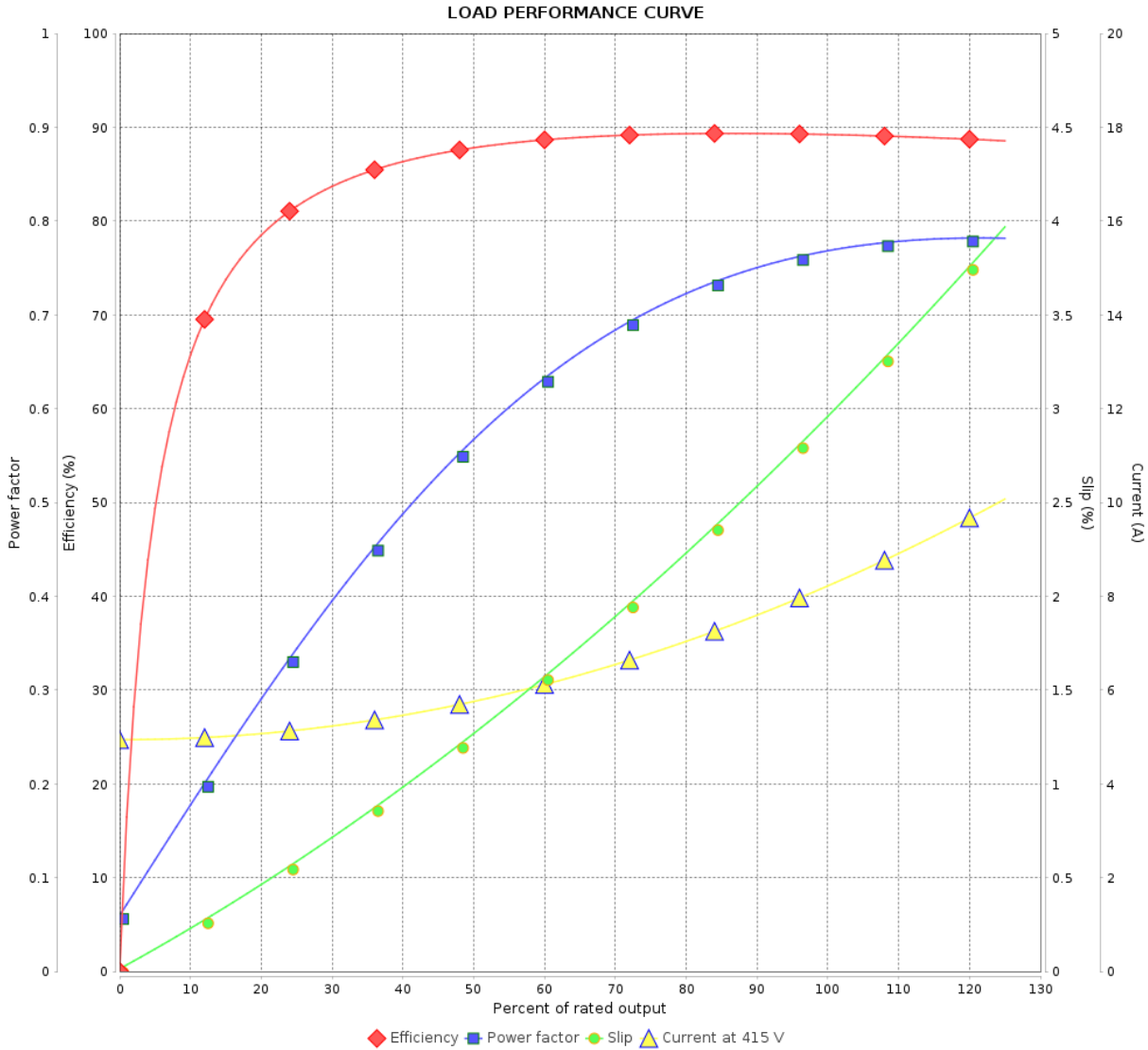
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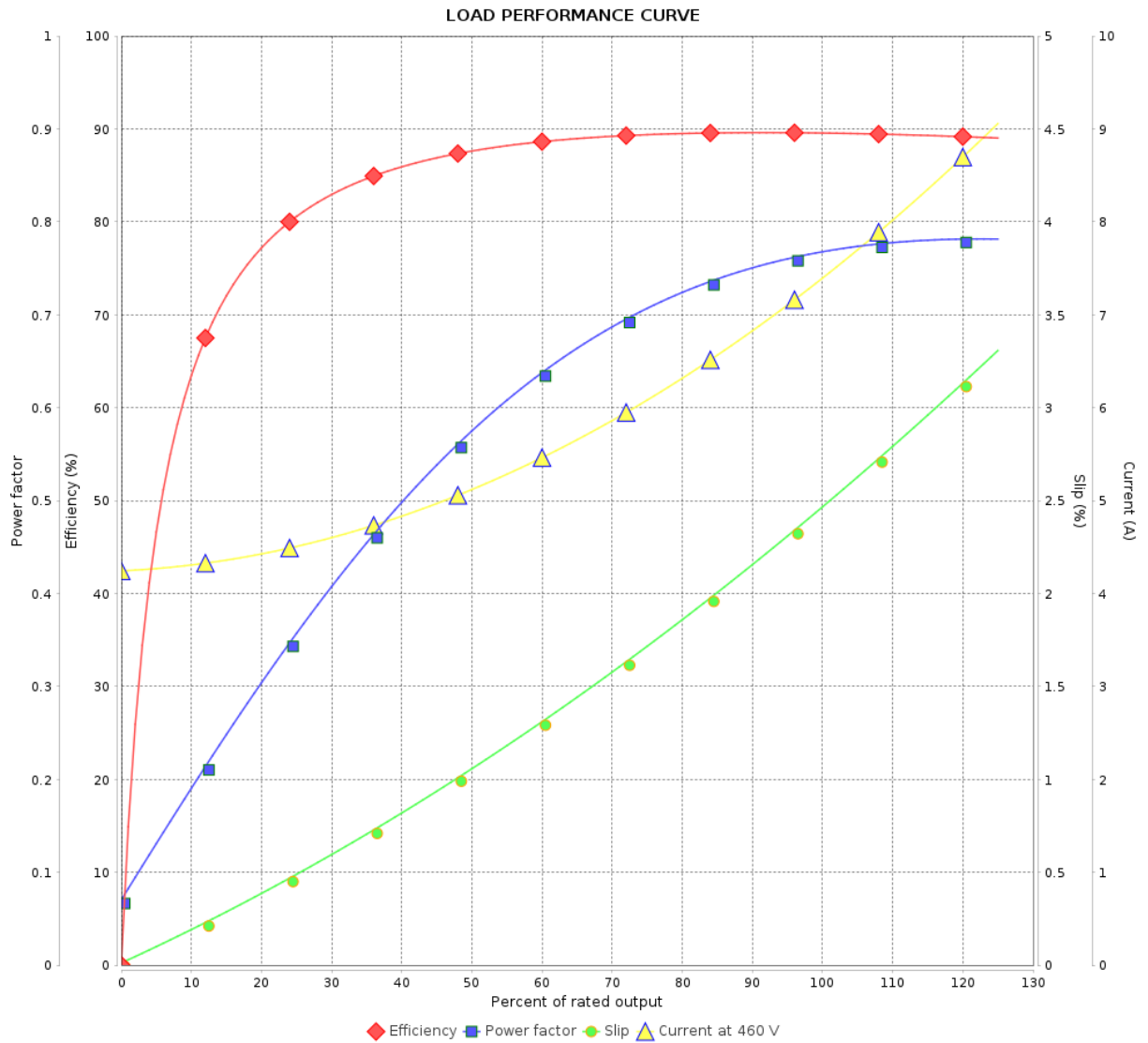
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THERMAL LIMIT CURVE

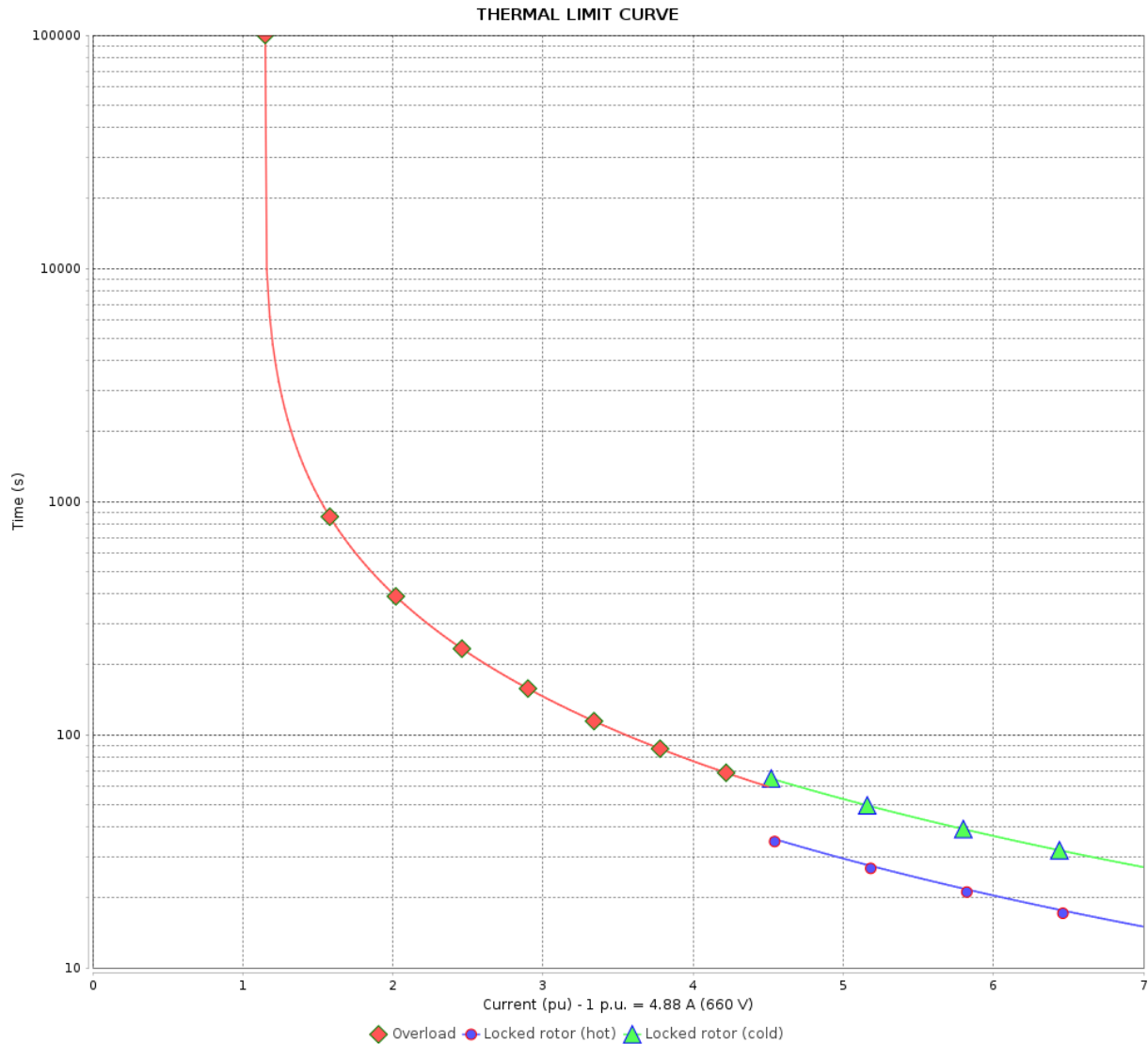
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 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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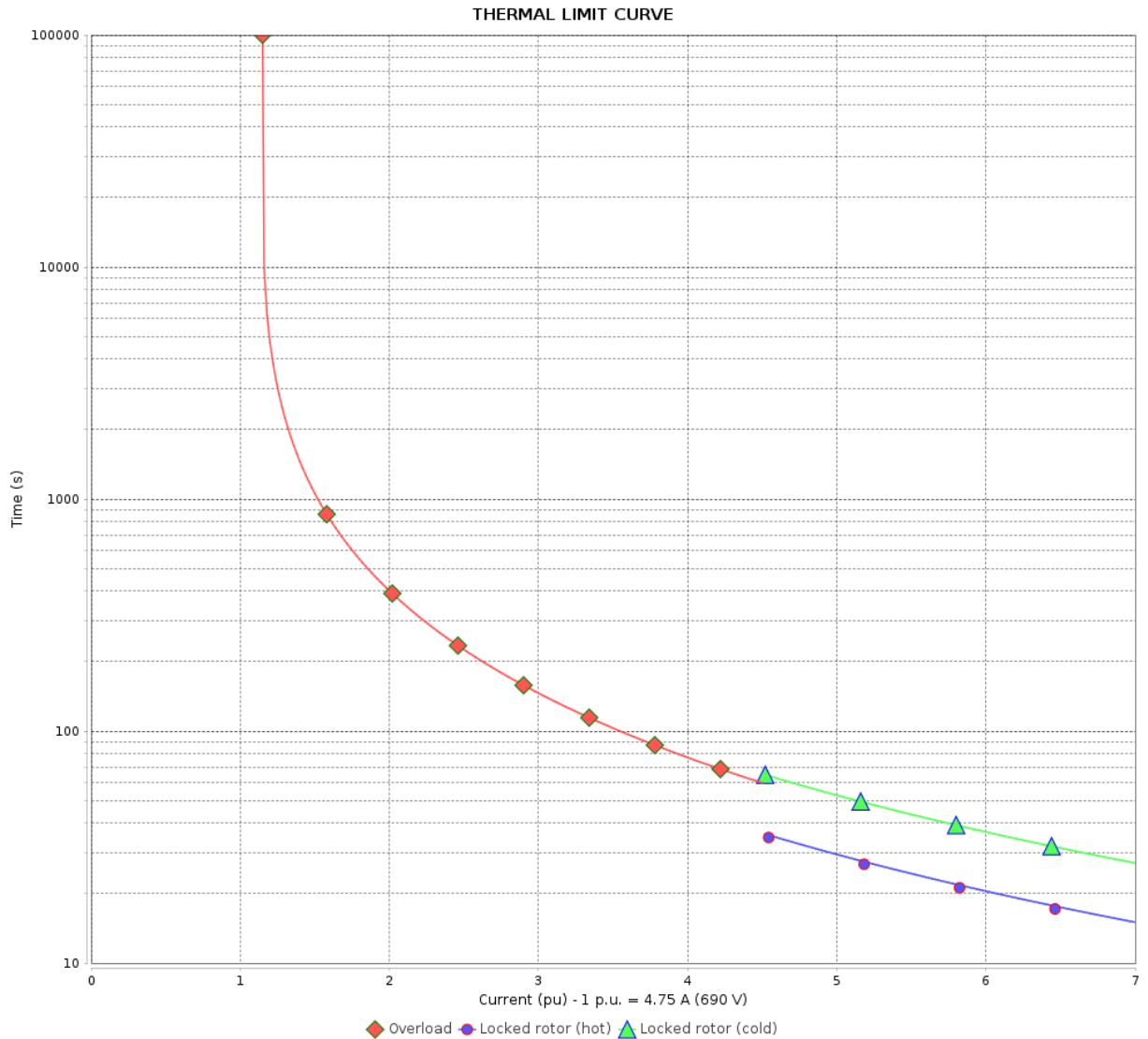
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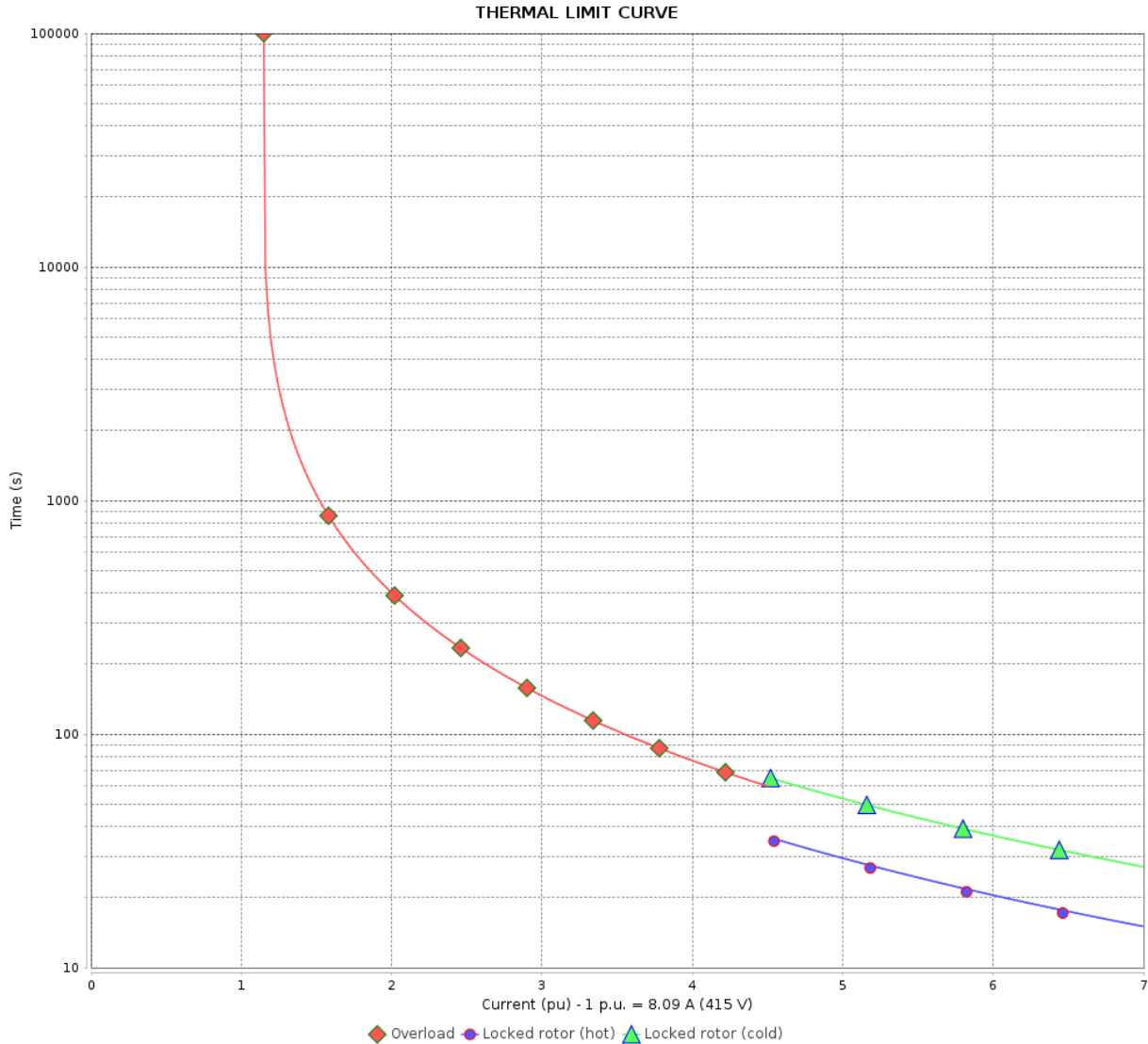
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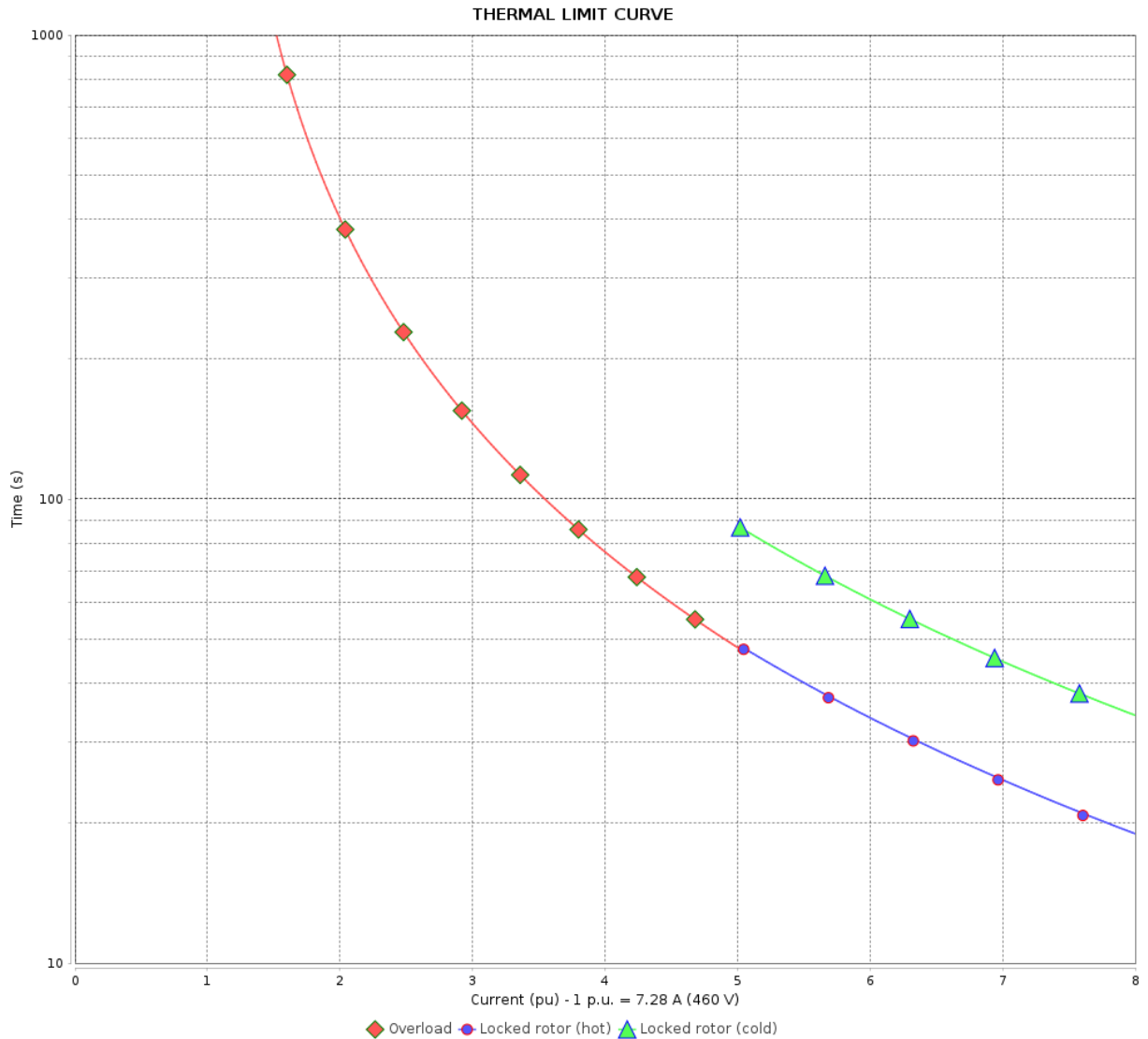
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VFD OPERATION CURVE

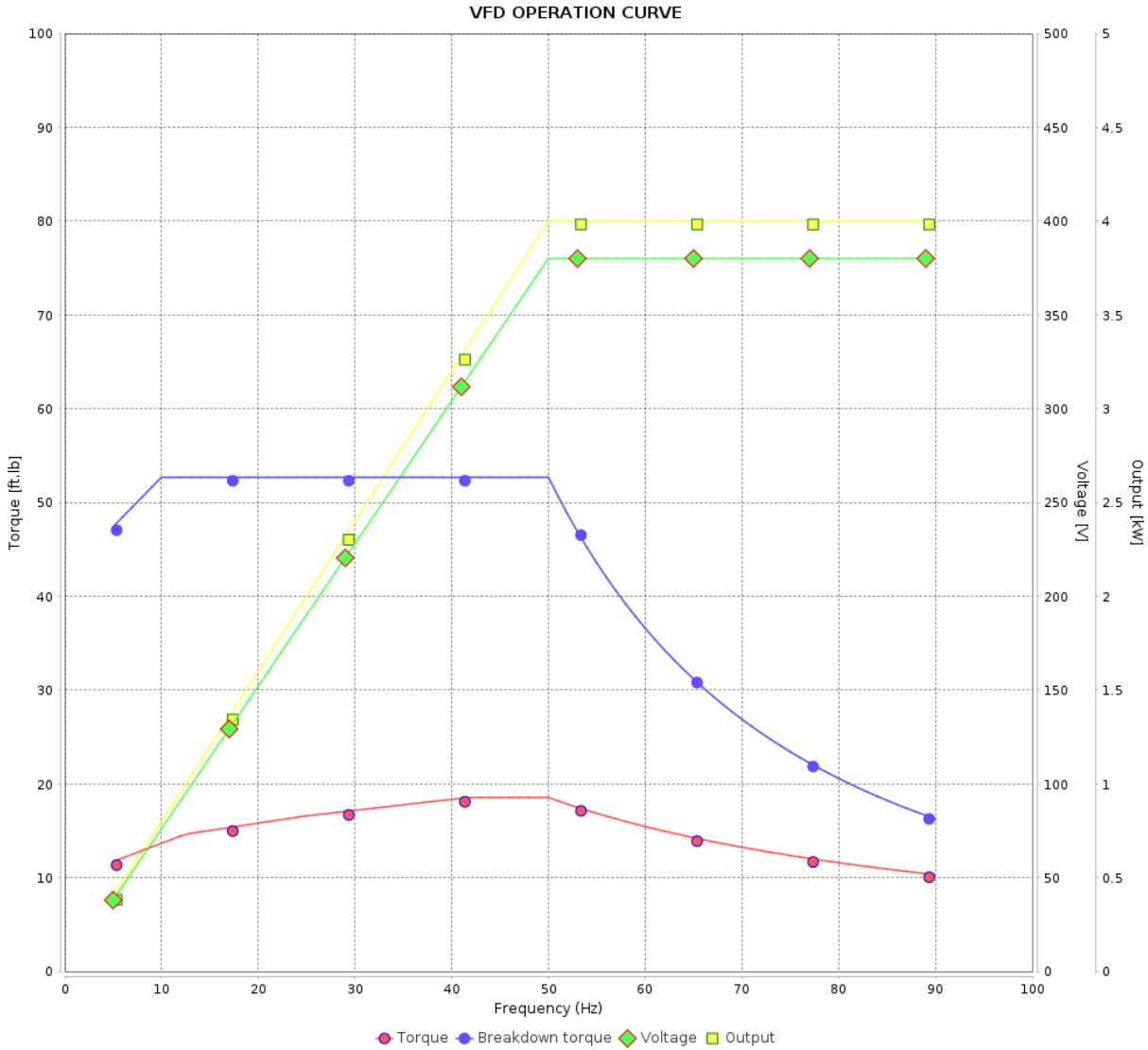
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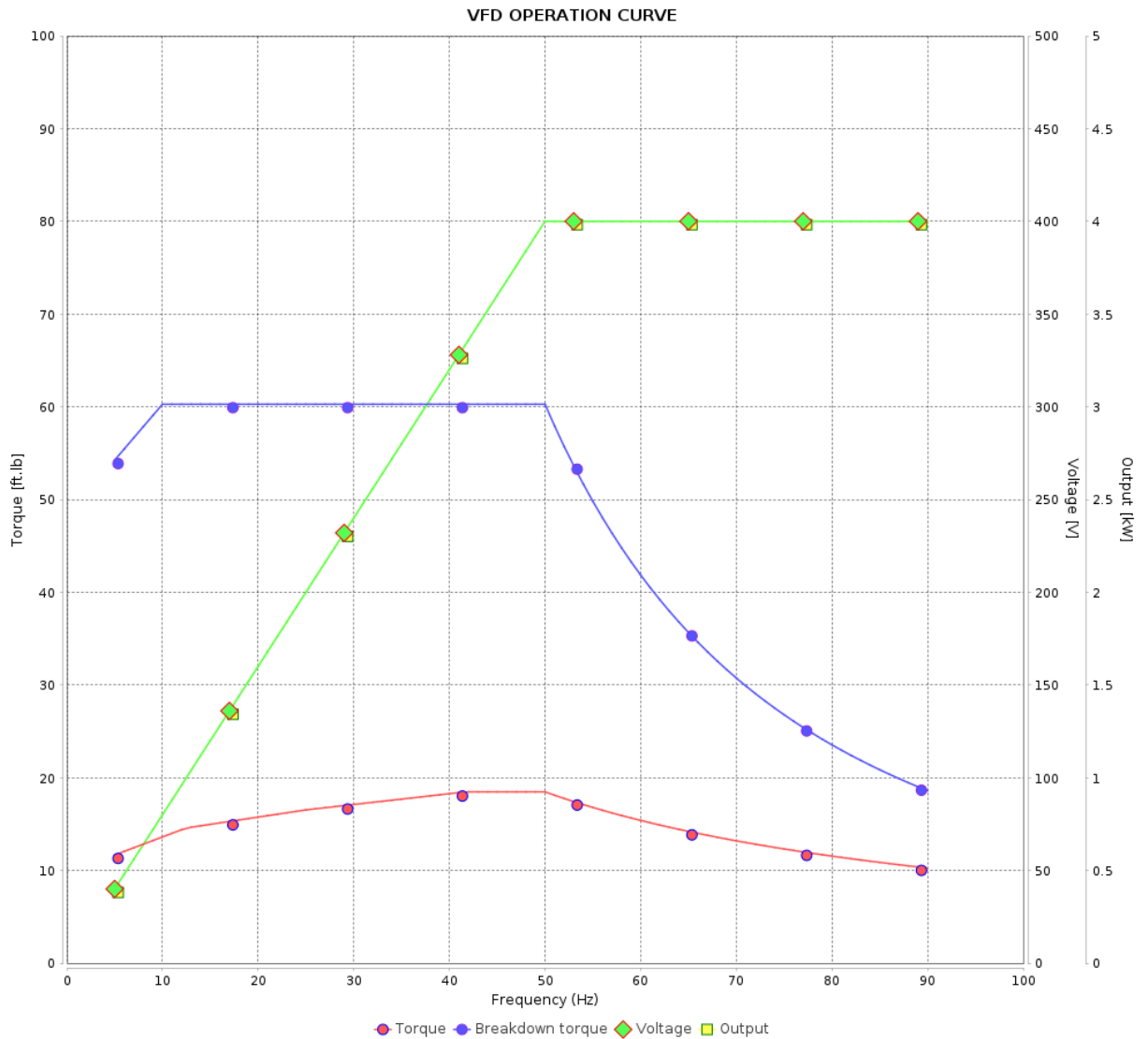
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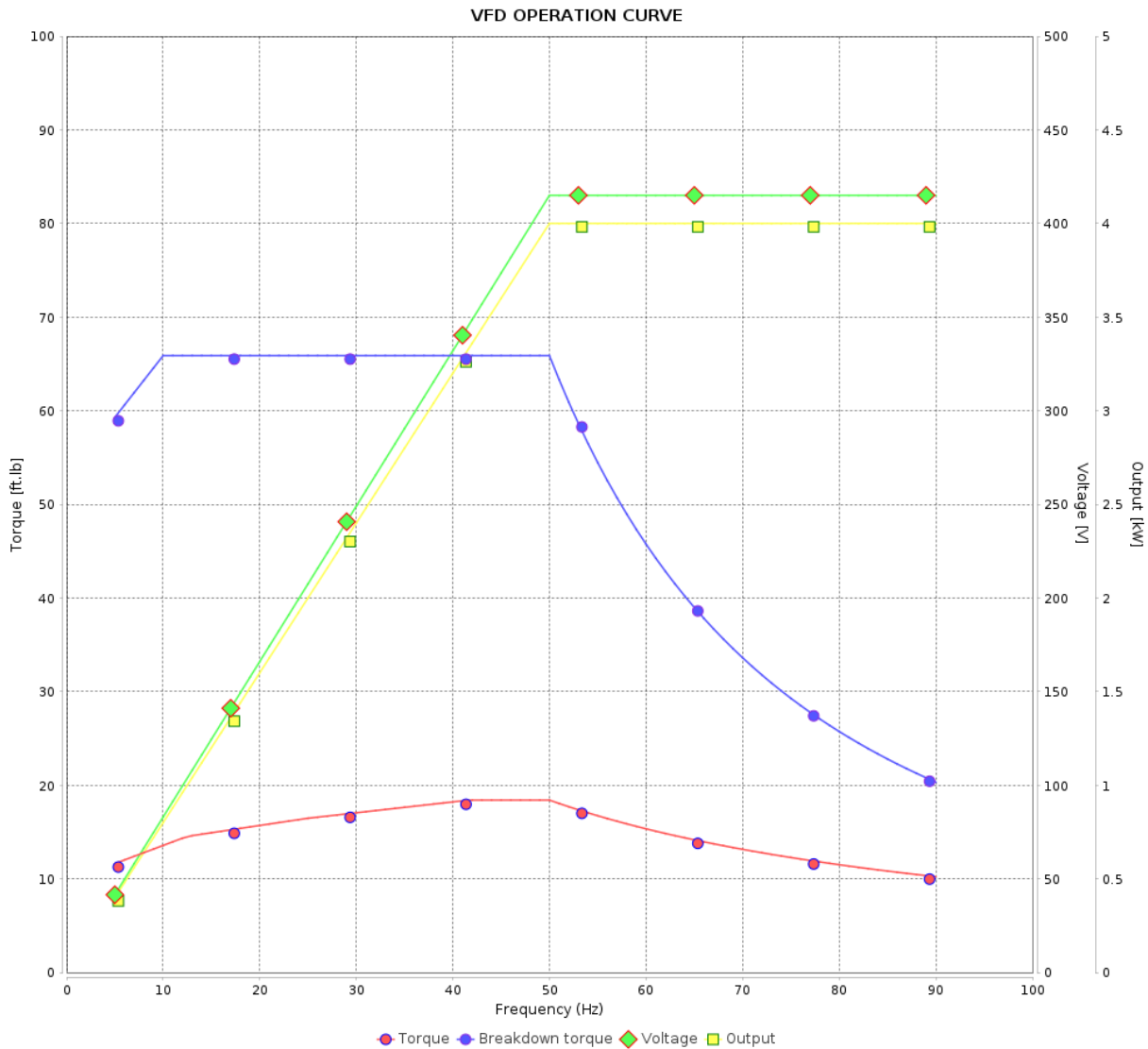
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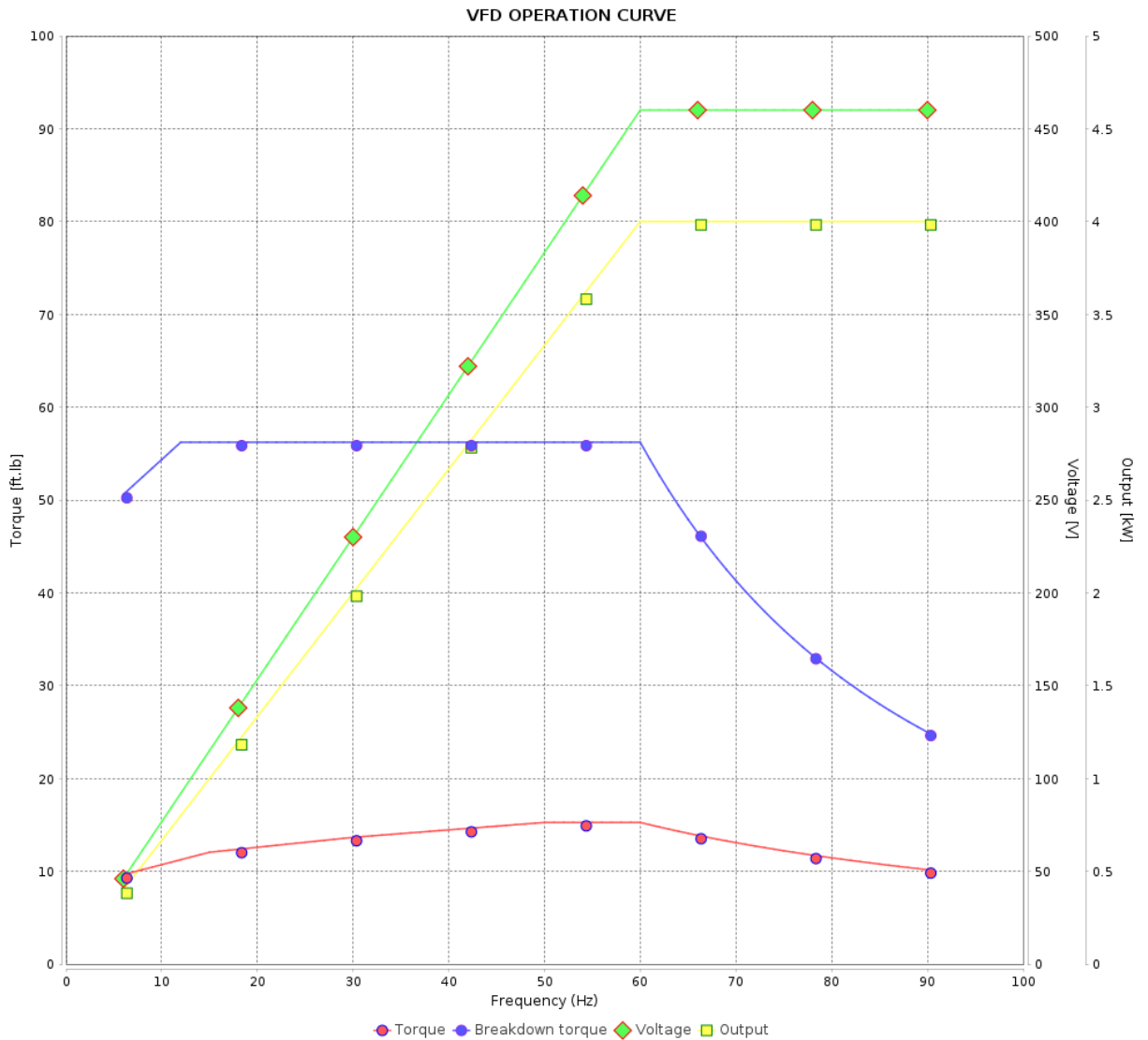
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