

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15838627

Frame	: 160L	Cooling method	: IC411 - TEFC
Insulation class	: F	Mounting	: B5T
Duty cycle	: 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 ³	: 163 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0663 kgm ²
Design	: N		

Output [kW]	18.5	18.5	18.5	18.5
Poles	2	2	2	2
Frequency [Hz]	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460
Rated current [A]	35.0/20.1	34.0/19.7	33.6	29.9
L. R. Amperes [A]	297/171	306/177	319	305
LRC [A]	8.5	9.0	9.5	10.2
No load current [A]	13.0/7.48	14.5/8.41	15.5	13.5
Rated speed [RPM]	2950	2960	2960	3565
Slip [%]	1.67	1.33	1.33	0.97
Rated torque [kgfm]	6.11	6.09	6.09	5.05
Locked rotor torque [%]	300	330	360	420
Breakdown torque [%]	380	409	440	500
Service factor	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	10s (cold) 6s (hot)	9s (cold) 5s (hot)	9s (cold) 5s (hot)	10s (cold) 6s (hot)
Noise level ²	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	72.0 dB(A)
Efficiency (%)	25%			
	50%	91.0	91.0	90.6
	75%	92.3	92.3	92.2
	100%	92.4	92.4	92.4
Power Factor	25%			
	50%	0.73	0.69	0.67
	75%	0.83	0.80	0.78
	100%	0.87	0.85	0.84

Losses at normative operating points (speed;torque), in percentage of rated output power

Losses (%)	P1 (0,9;1,0)	7.0	7.1	7.1	8.0
	P2 (0,5;1,0)	5.0	5.1	5.1	5.7
	P3 (0,25;1,0)	4.2	4.3	4.3	4.8
	P4 (0,9;0,5)	4.7	4.8	4.8	5.4
	P5 (0,5;0,5)	2.8	2.9	2.9	3.2
	P6 (0,5;0,25)	2.3	2.4	2.4	2.7
	P7 (0,25;0,25)	1.5	1.5	1.5	1.7

	Drive end	Non drive end	Foundation loads
Bearing type	: 6309 C3	6209 C3	Max. traction : 316 kgf
Sealing	: V'Ring	V'Ring	Max. compression : 479 kgf
Lubrication interval	: 20000 h	20000 h	
Lubricant amount	: 13 g	9 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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Three Phase Induction Motor - Squirrel Cage



Customer :

Thermal protection

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

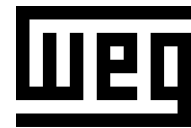
Space heater information

Voltage: 110-127/200-240 V

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TORQUE AND CURRENT VS SPEED CURVE

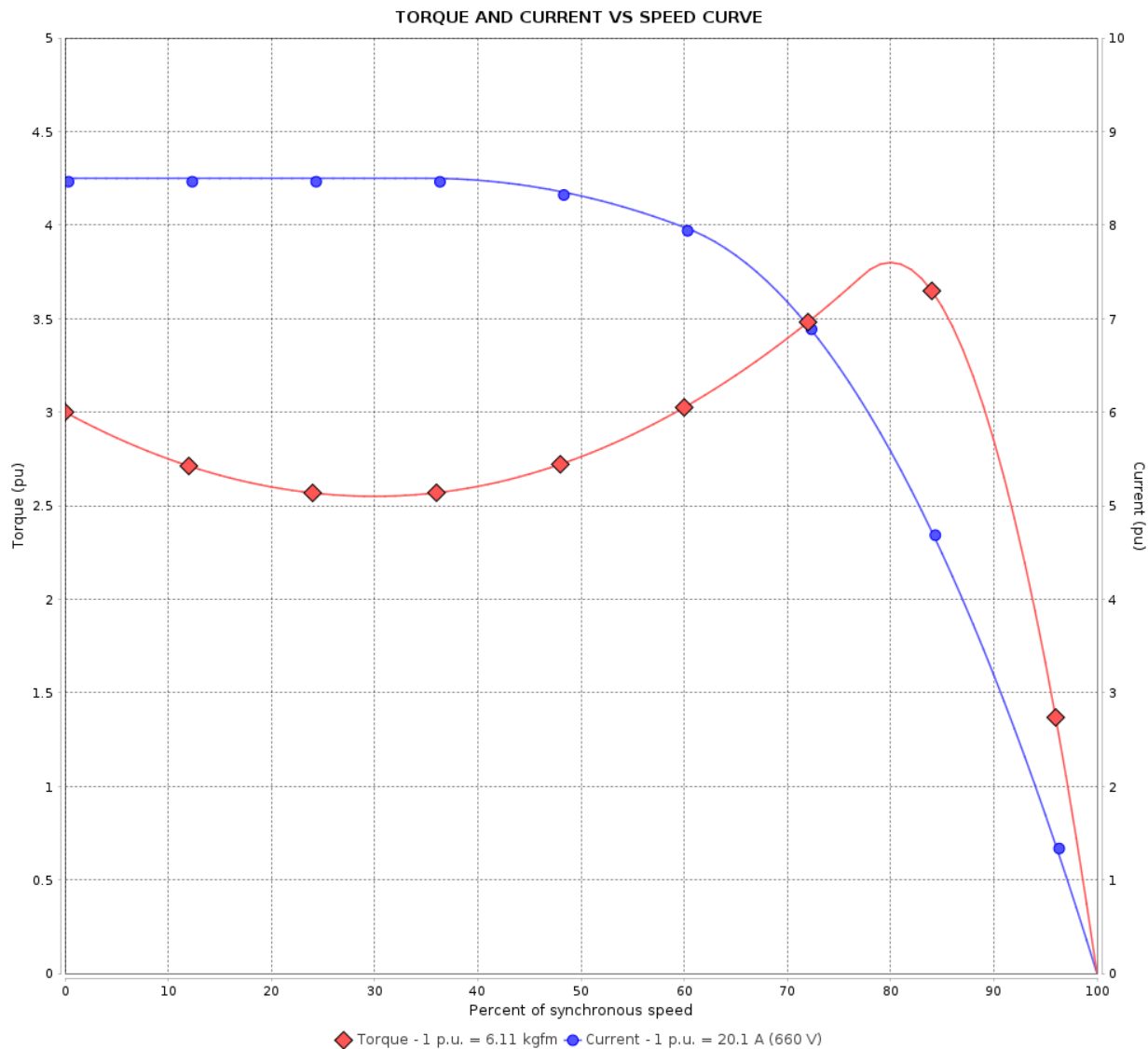
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15838627



Performance : 380/660 V 50 Hz 2P

Rated current : 35.0/20.1 A
LRC : 8.5
Rated torque : 6.11 kgfm
Locked rotor torque : 300 %
Breakdown torque : 380 %
Rated speed : 2950 rpm

Moment of inertia (J) : 0.0663 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Locked rotor time : 10s (cold) 6s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

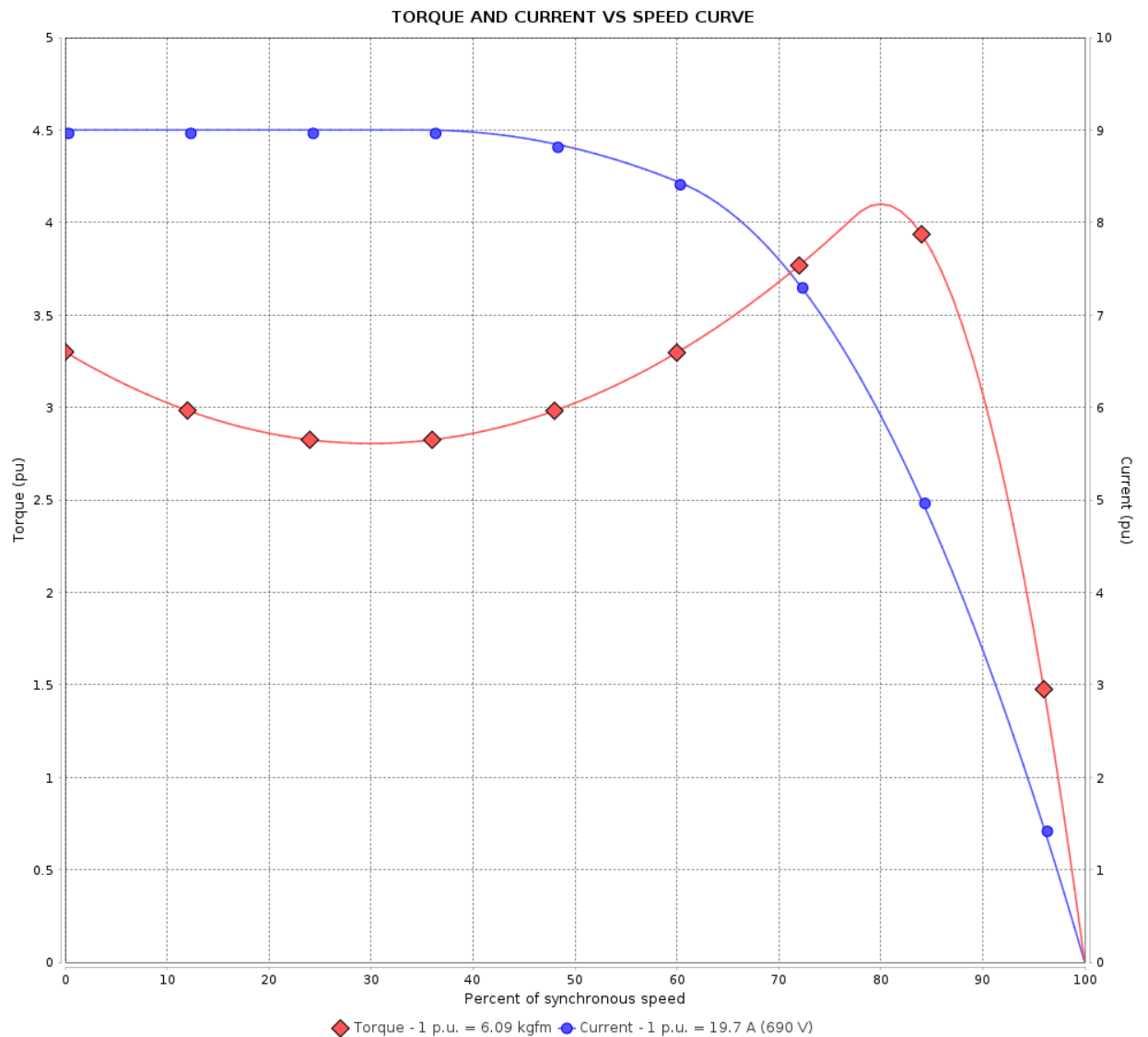
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 400/690 V 50 Hz 2P

Rated current : 34.0/19.7 A
LRC : 9.0
Rated torque : 6.09 kgfm
Locked rotor torque : 330 %
Breakdown torque : 409 %
Rated speed : 2960 rpm

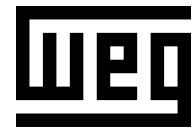
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Service factor : 1.00
Temperature rise : 80 K
Design : N

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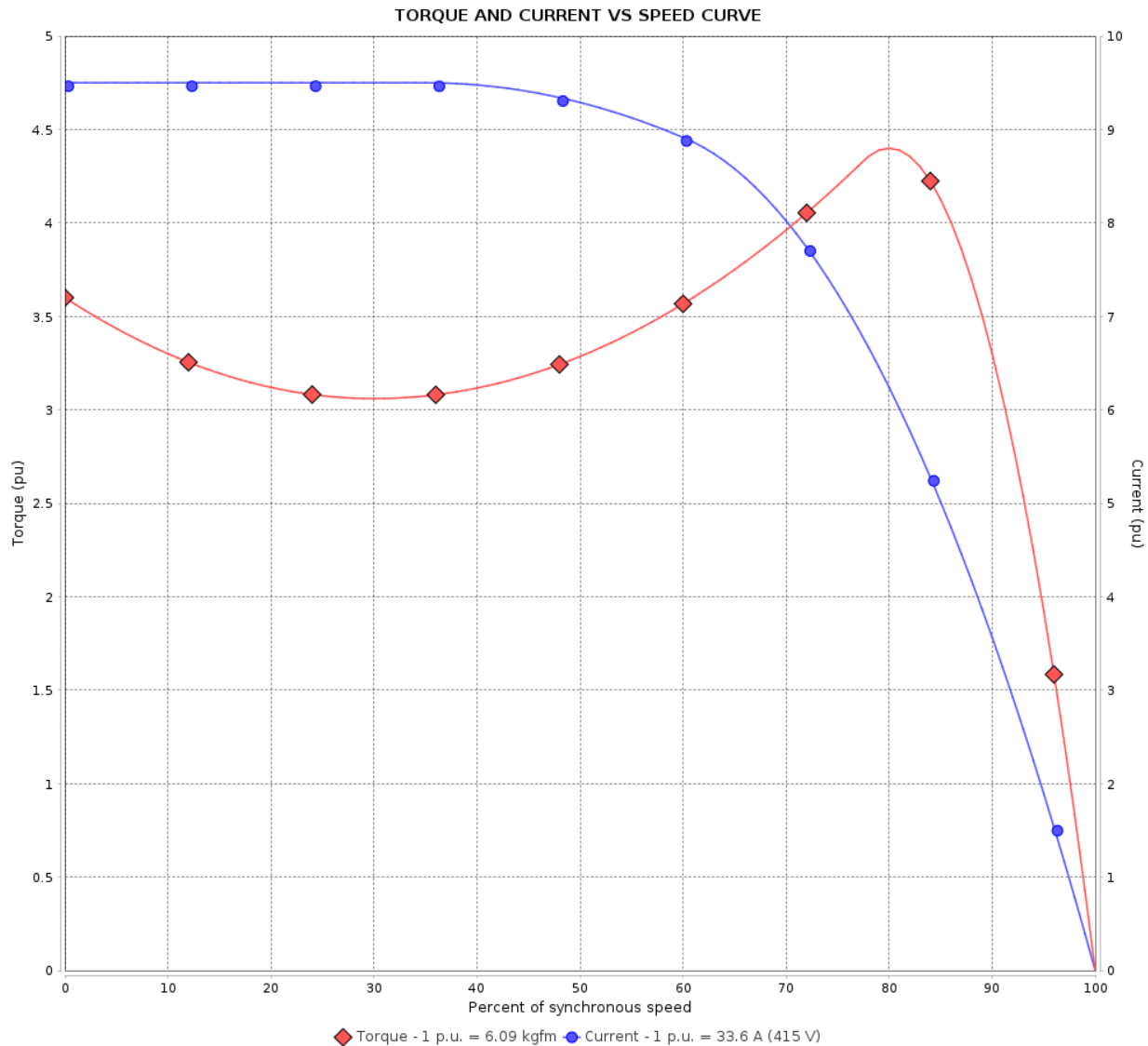
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Performance : 415 V 50 Hz 2P

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LRC	: 9.5	Duty cycle	: S1
Rated torque	: 6.09 kgfm	Insulation class	: F
Locked rotor torque	: 360 %	Service factor	: 1.00
Breakdown torque	: 440 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: N

Locked rotor time : 9s (cold) 5s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

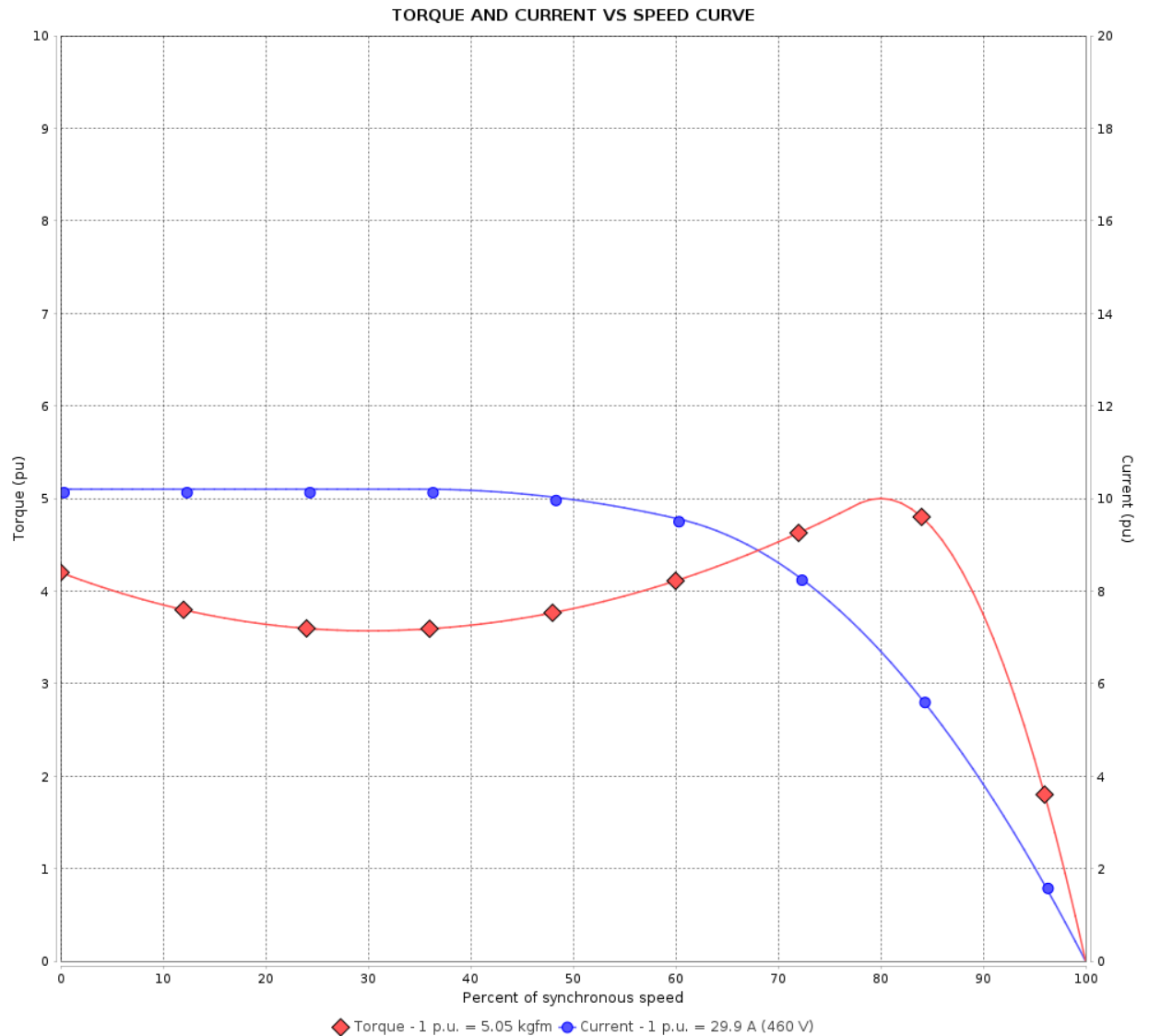
Three Phase Induction Motor - Squirrel Cage



Customer :

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Product code : 15838627



Performance : 460 V 60 Hz 2P

Rated current	: 29.9 A	Moment of inertia (J)	: 0.0663 kgm ²
LRC	: 10.2	Duty cycle	: S1
Rated torque	: 5.05 kgfm	Insulation class	: F
Locked rotor torque	: 420 %	Service factor	: 1.00
Breakdown torque	: 500 %	Temperature rise	: 80 K
Rated speed	: 3565 rpm	Design	: N

Locked rotor time : 10s (cold) 6s (hot)

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LOAD PERFORMANCE CURVE

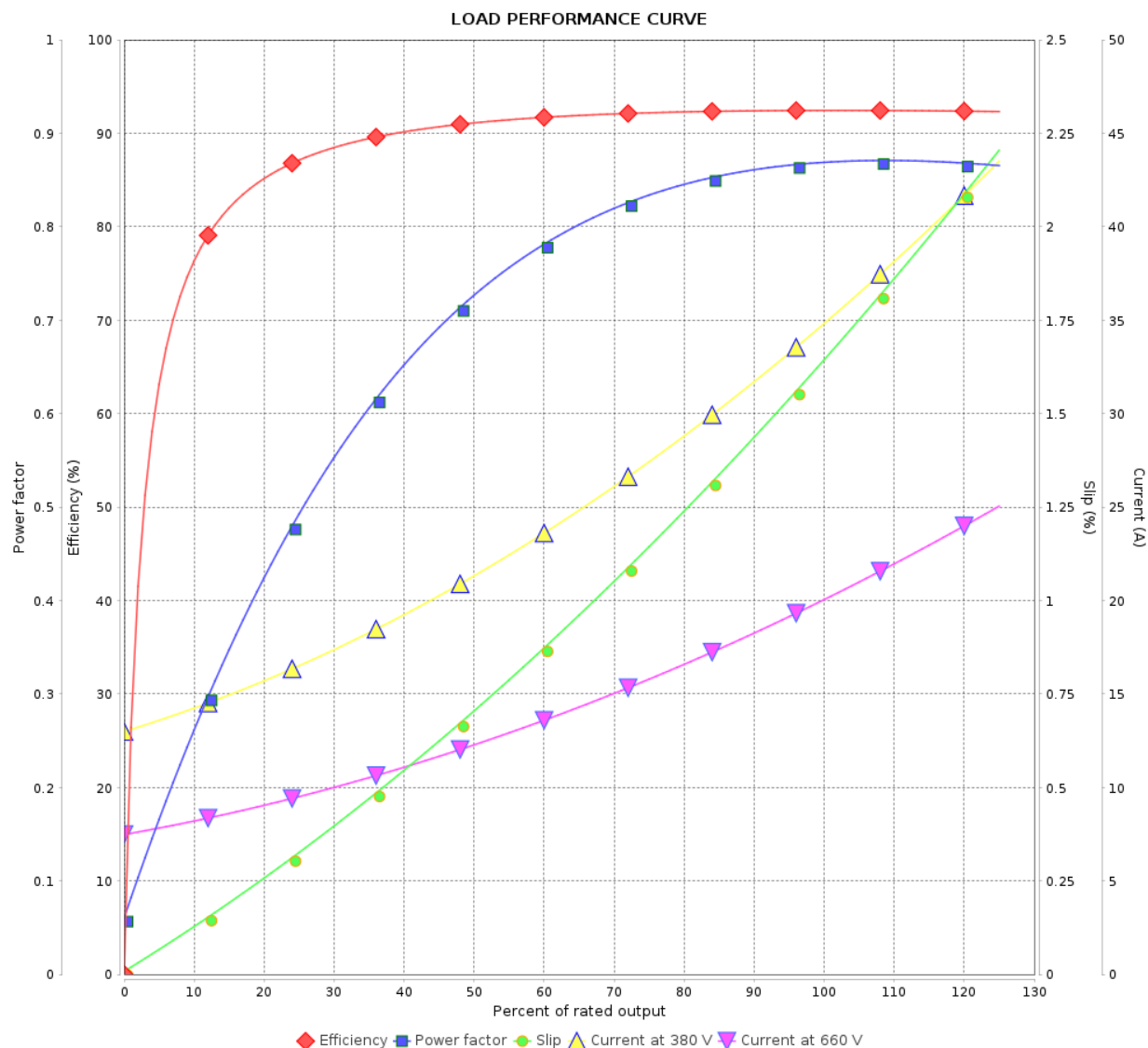
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Breakdown torque : 380 %
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Moment of inertia (J) : 0.0663 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

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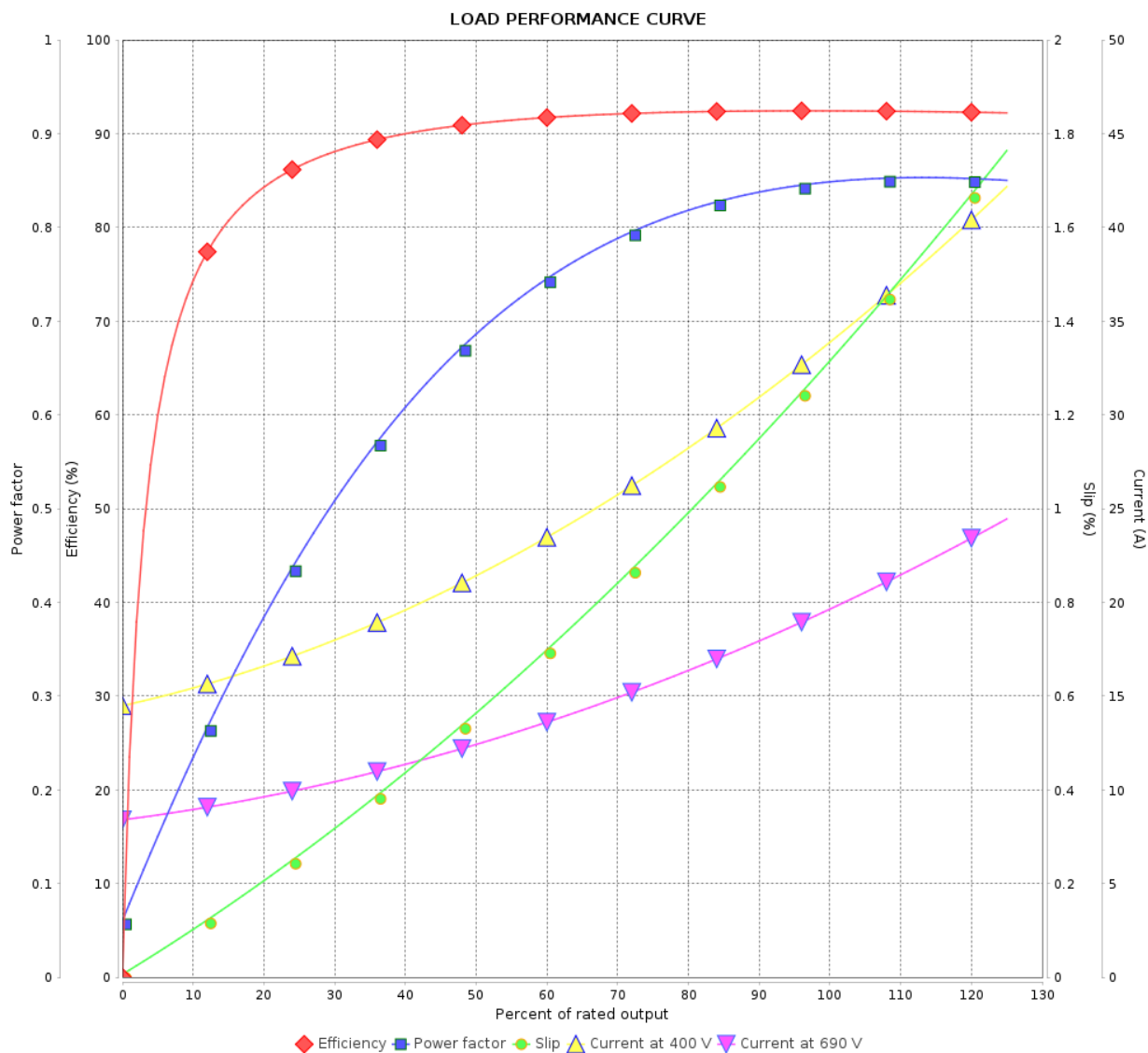
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Breakdown torque : 409 %
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Moment of inertia (J) : 0.0663 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

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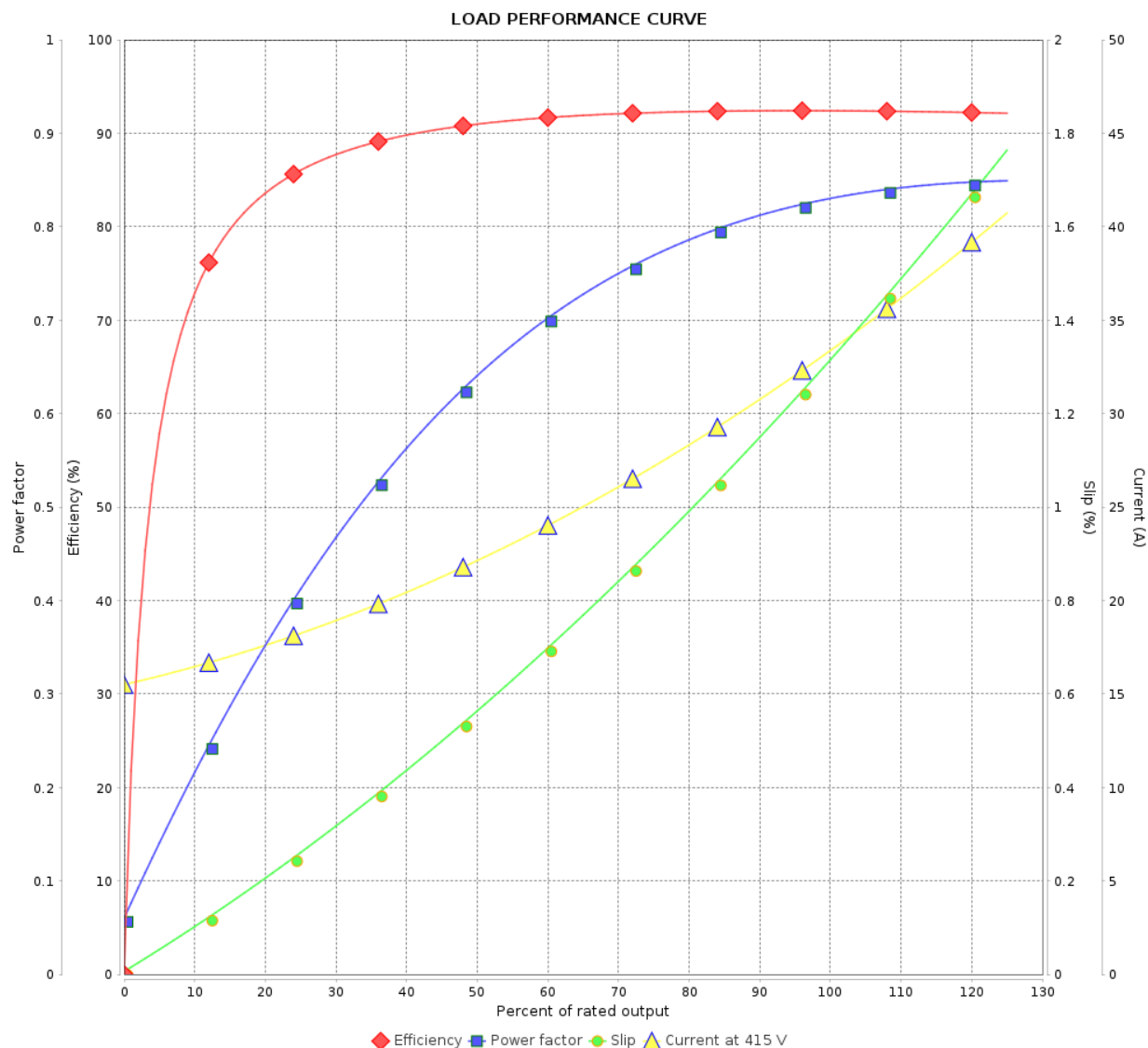
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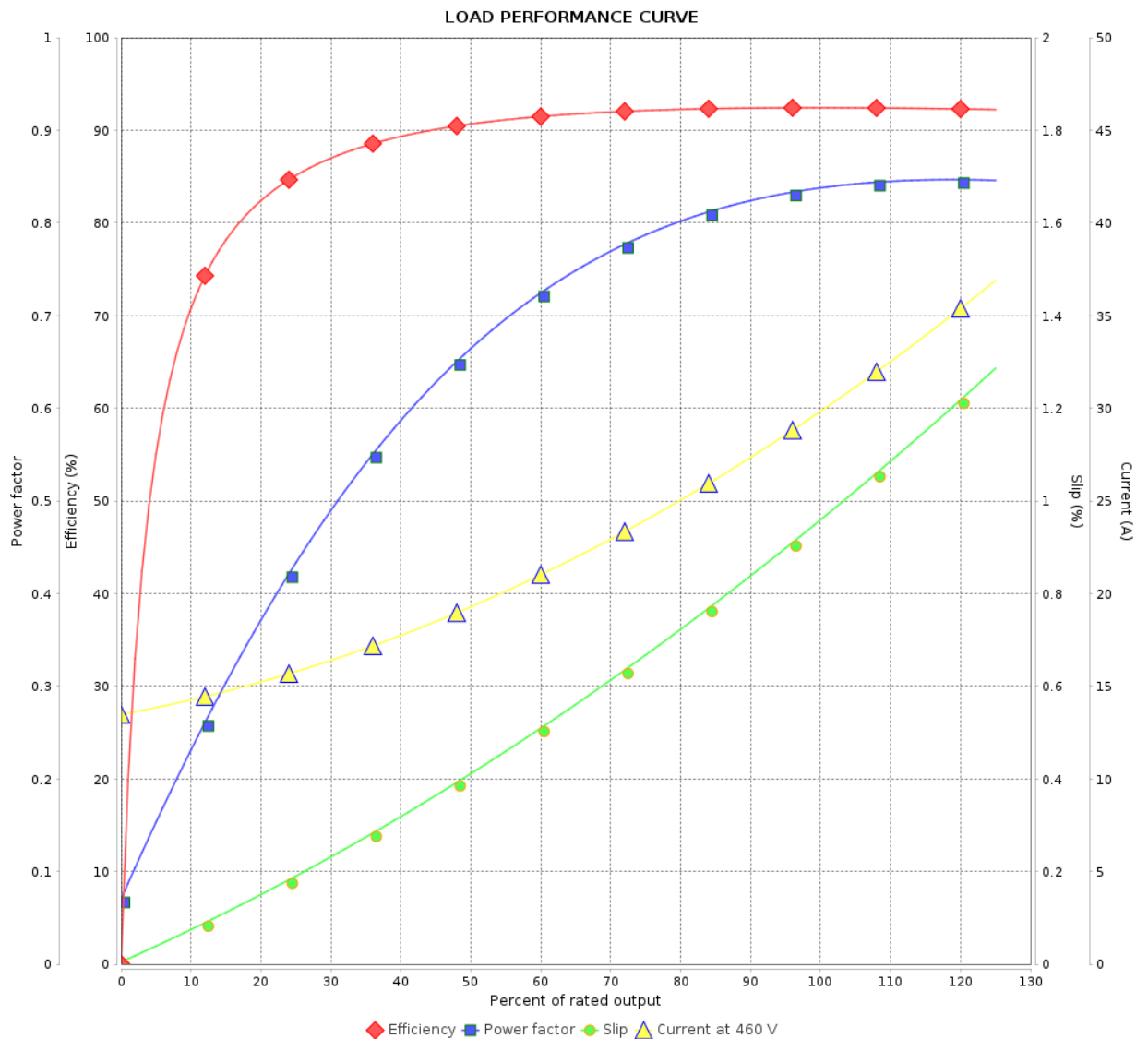
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THERMAL LIMIT CURVE

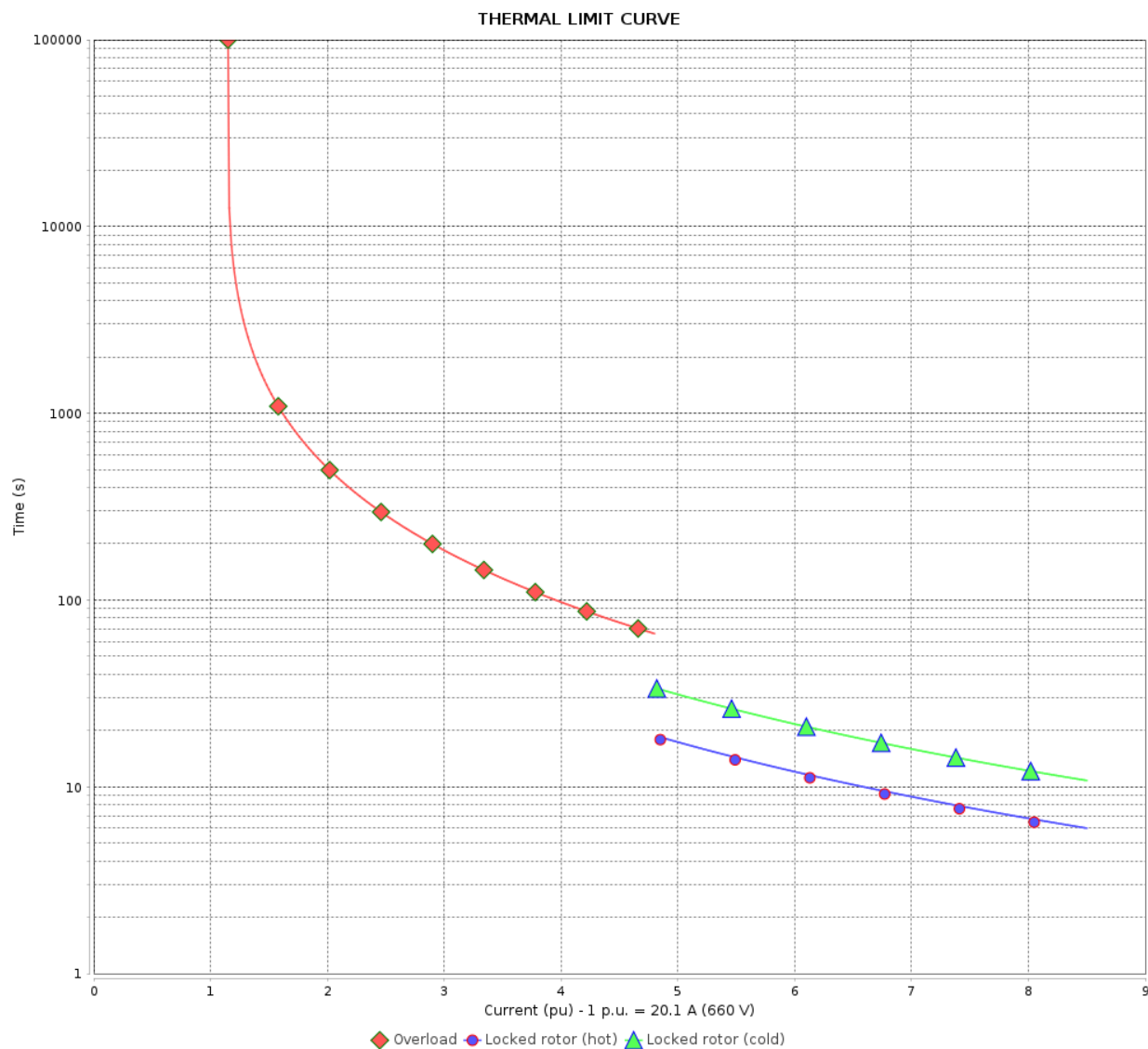
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Design : N

Heating constant

Cooling constant

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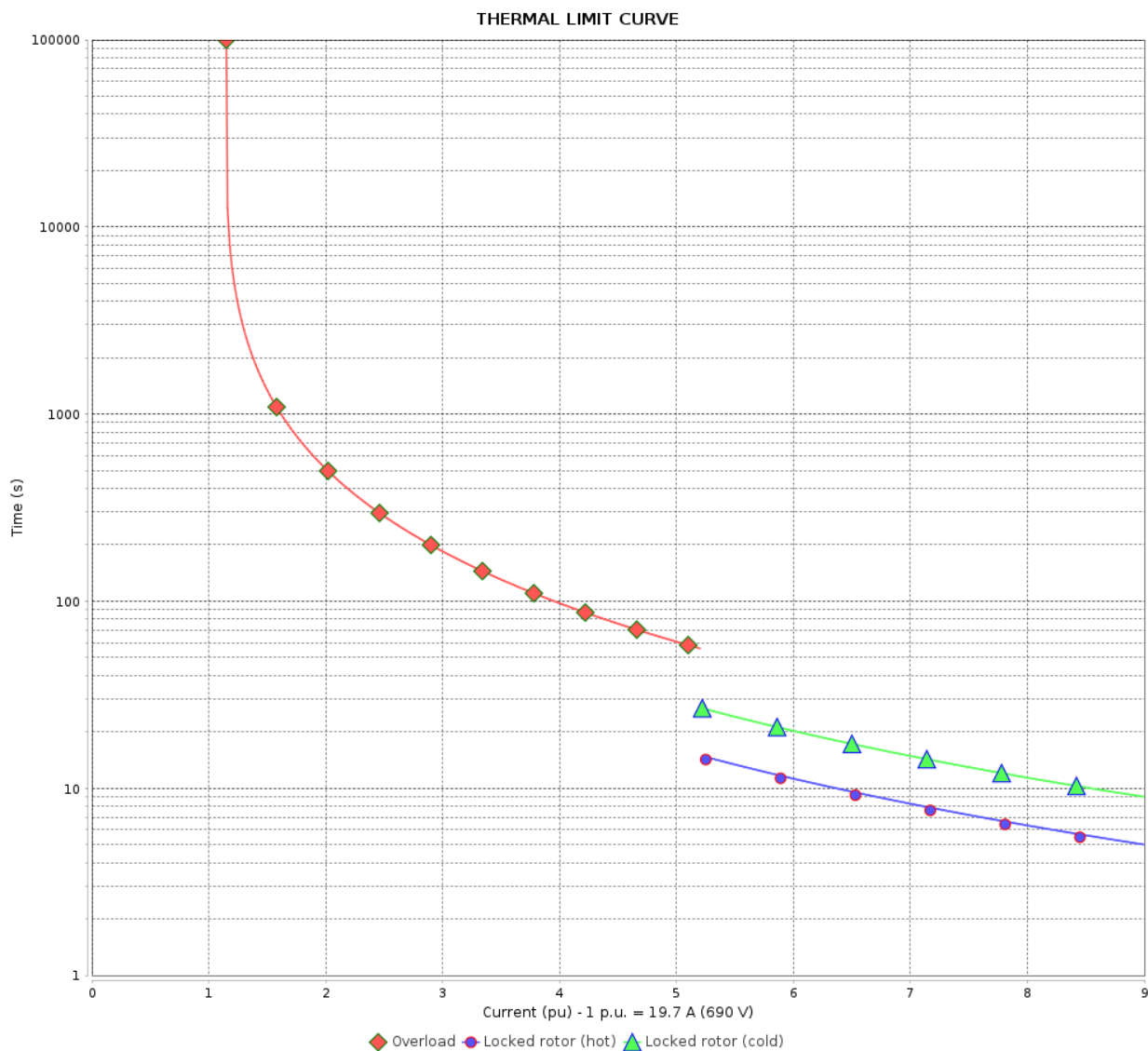
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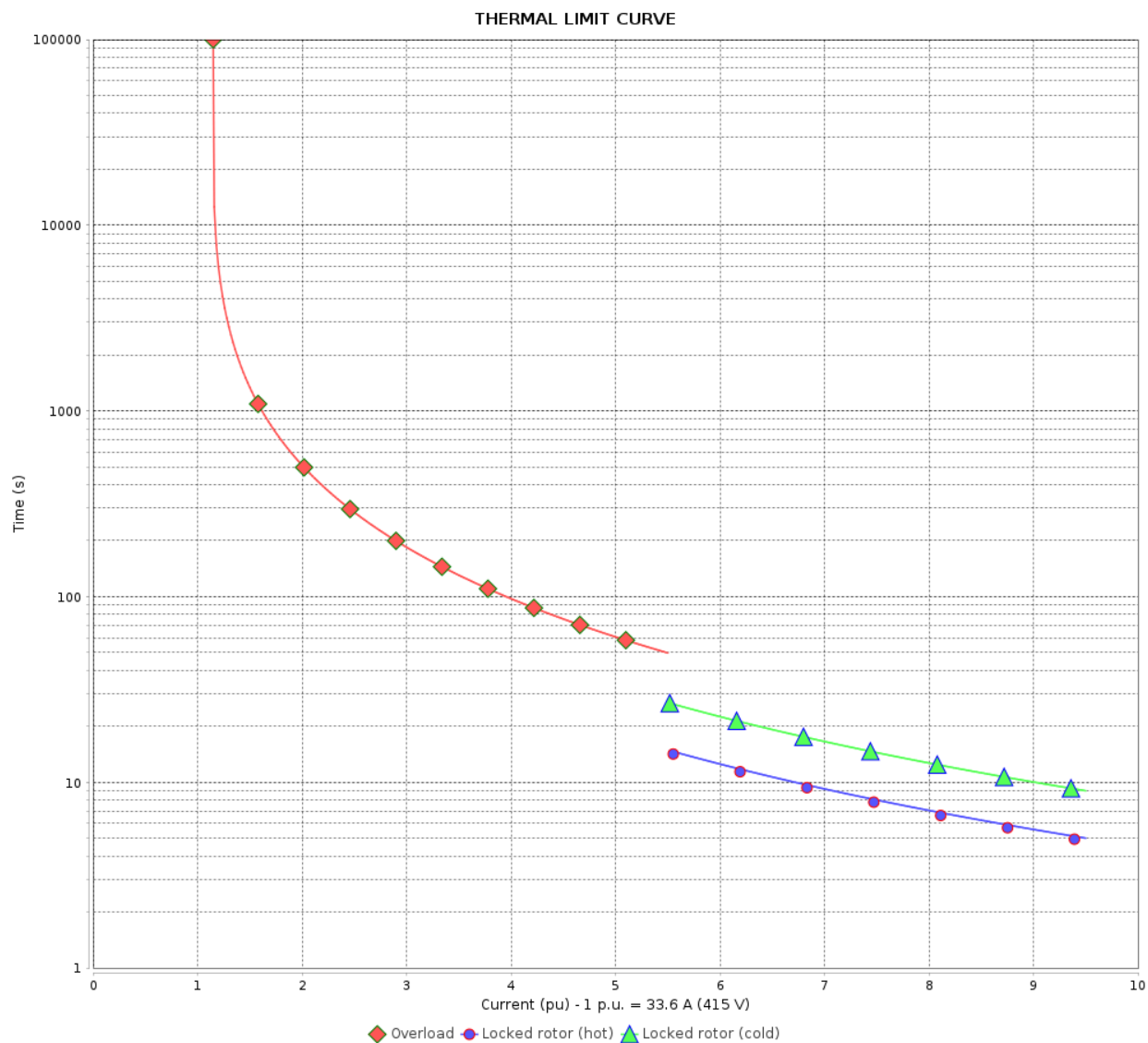
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Locked rotor torque	: 360 %	Service factor	: 1.00
Breakdown torque	: 440 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: N

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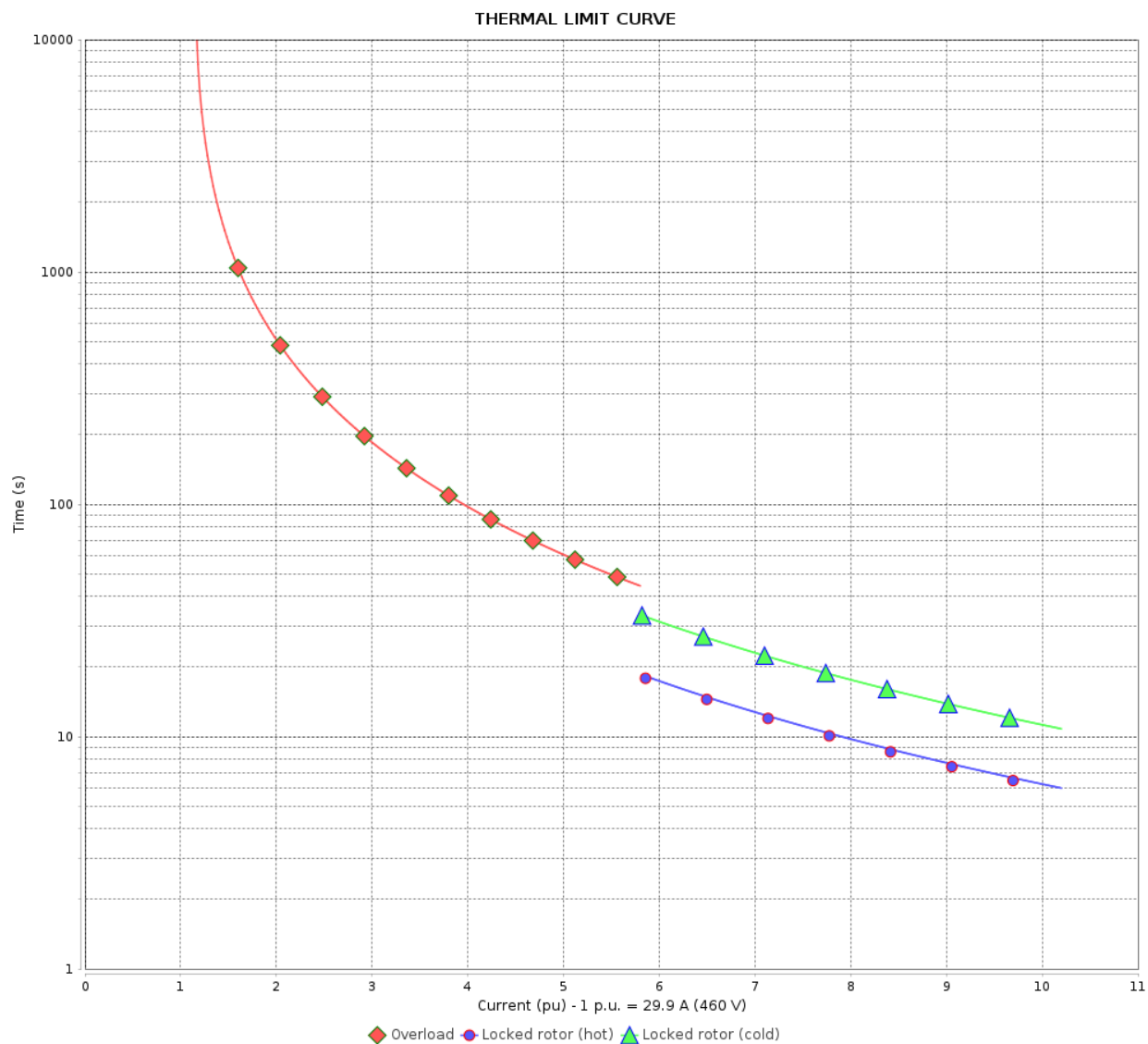
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Service factor : 1.00
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Cooling constant

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VFD OPERATION CURVE

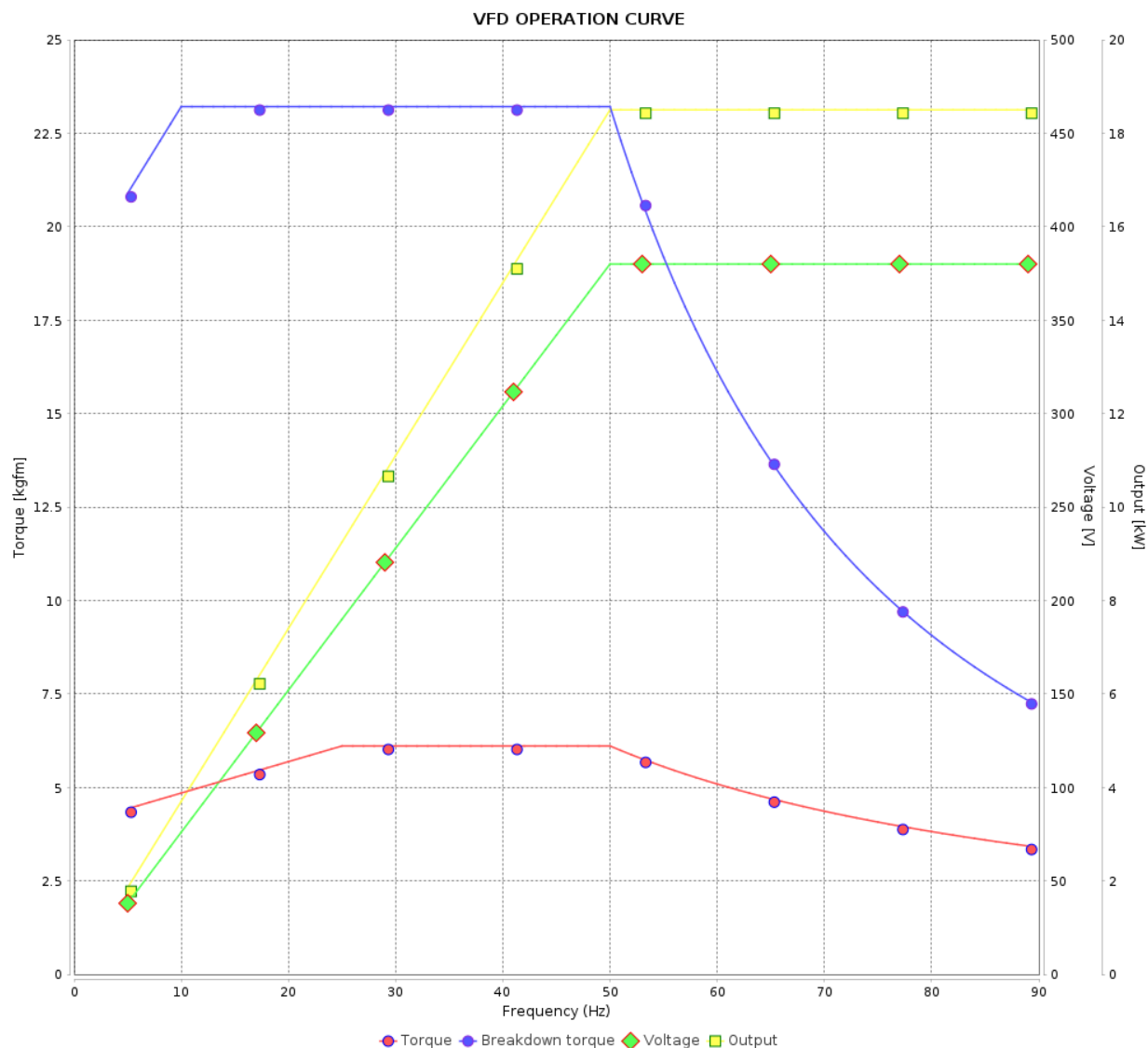
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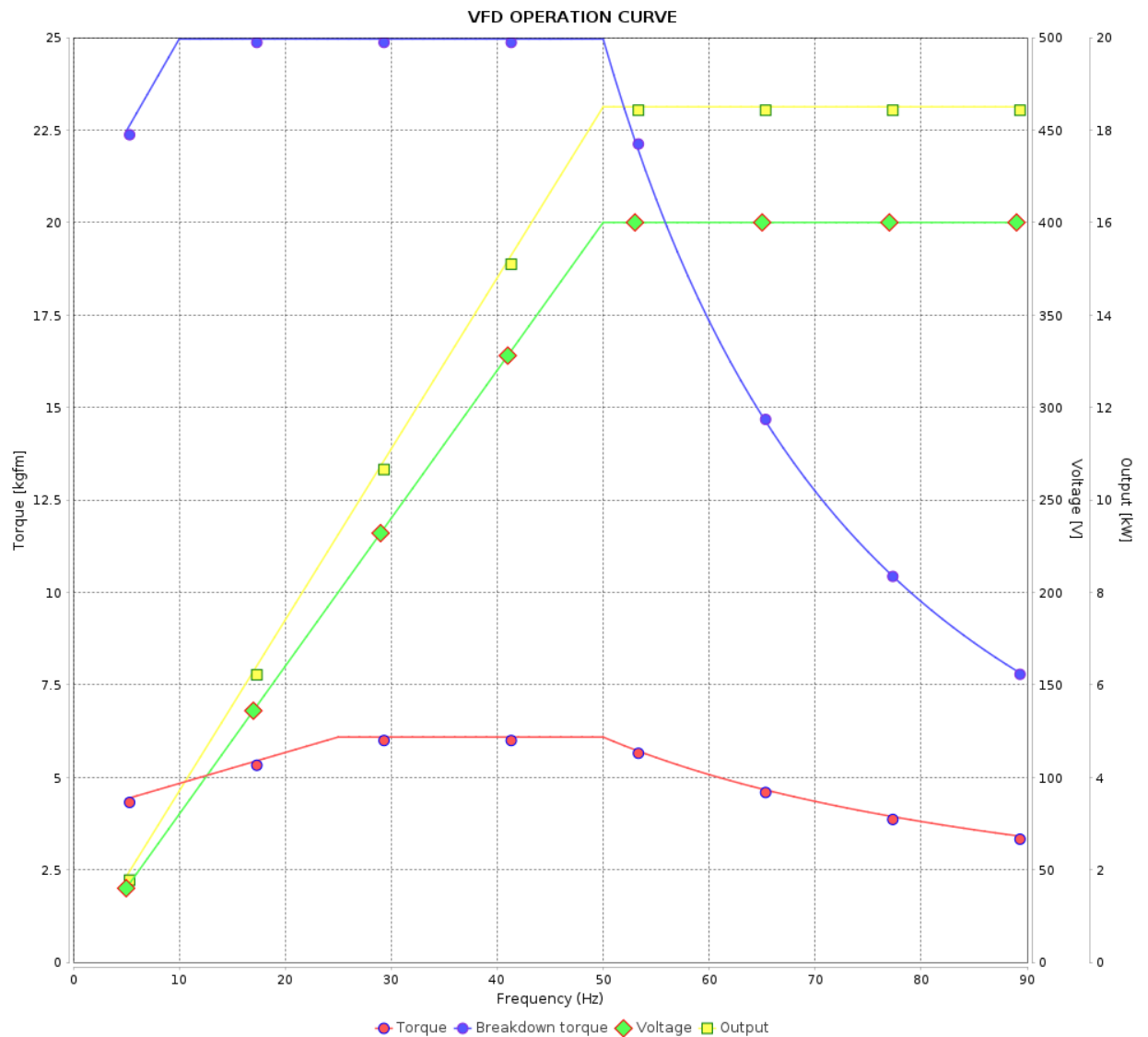
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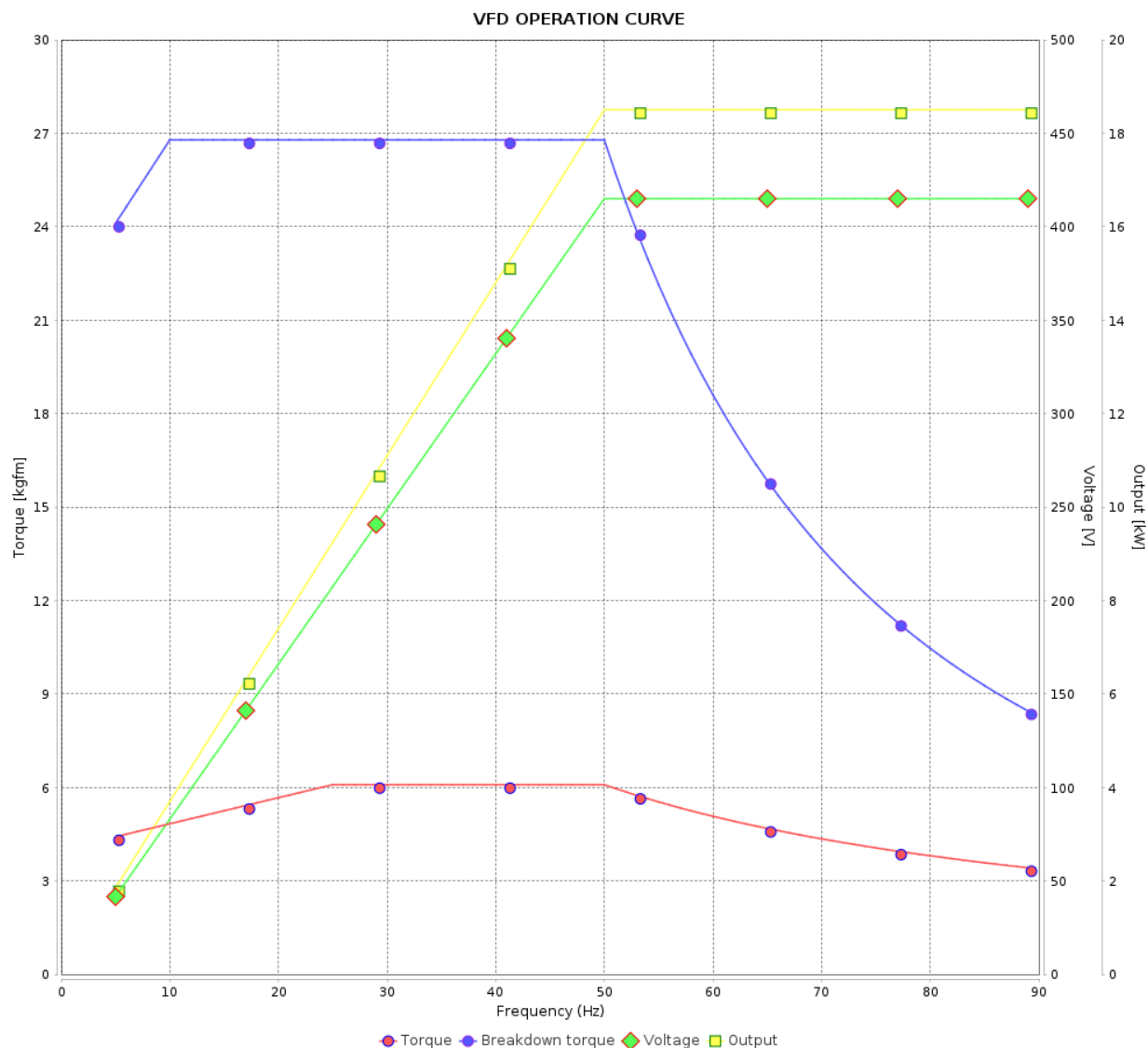
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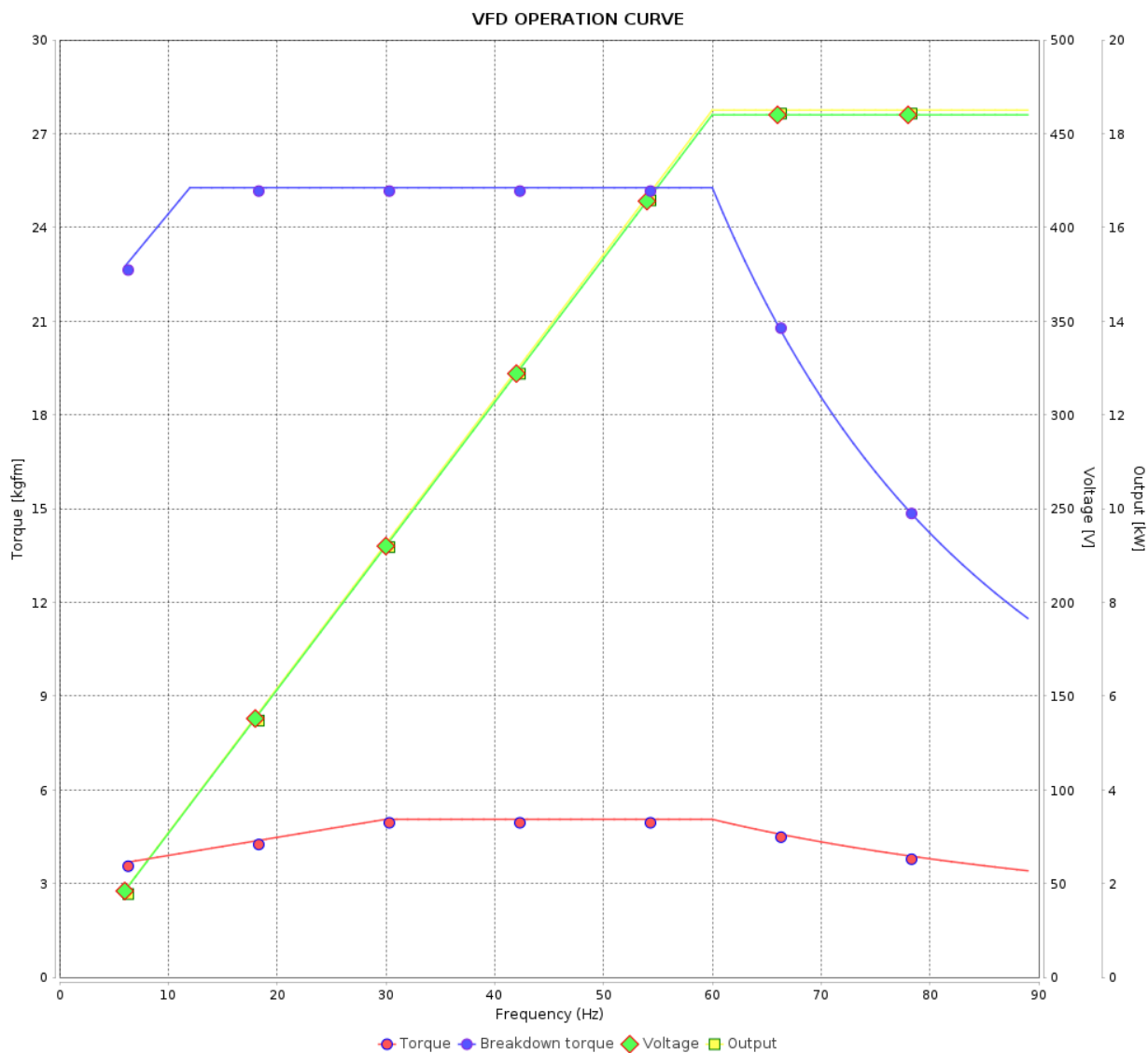
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