

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15838623

Frame	: 112M	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	: 43.9 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.0081 kgm ²
Design	: N		

Output [kW]	4	4	4	4
Poles	2	2	2	2
Frequency [Hz]	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460
Rated current [A]	8.01/4.61	7.87/4.56	7.77	6.92
L. R. Amperes [A]	59.3/34.1	60.6/35.1	62.2	60.9
LRC [A]	7.4	7.7	8.0	8.8
No load current [A]	3.40/1.96	3.80/2.20	4.20	3.70
Rated speed [RPM]	2890	2910	2920	3525
Slip [%]	3.67	3.00	2.67	2.08
Rated torque [kgfm]	1.35	1.34	1.33	1.11
Locked rotor torque [%]	229	250	280	300
Breakdown torque [%]	310	350	380	430
Service factor	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	19s (cold) 11s (hot)	18s (cold) 10s (hot)	18s (cold) 10s (hot)	21s (cold) 12s (hot)
Noise level ²	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	66.0 dB(A)
Efficiency (%)	25%			
	50%	87.5	87.0	85.5
	75%	88.2	88.4	87.5
	100%	88.2	88.4	88.5
Power Factor	25%			
	50%	0.70	0.65	0.63
	75%	0.80	0.77	0.72
	100%	0.86	0.83	0.82

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

Losses (%)	P1 (0,9;1,0)	13.2	13.0	13.0	12.9
	P2 (0,5;1,0)	11.8	11.6	11.6	11.4
	P3 (0,25;1,0)	10.8	10.6	10.6	10.5
	P4 (0,9;0,5)	6.6	6.4	6.4	6.4
	P5 (0,5;0,5)	4.7	4.6	4.6	4.5
	P6 (0,5;0,25)	3.2	3.1	3.1	3.1
	P7 (0,25;0,25)	2.3	2.2	2.2	2.2

	Drive end	Non drive end	Foundation loads
Bearing type	: 6207 ZZ	6206 ZZ	Max. traction : 78 kgf
Sealing	: V'Ring	V'Ring	Max. compression : 122 kgf
Lubrication interval	: -	-	
Lubricant amount	: -	-	
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

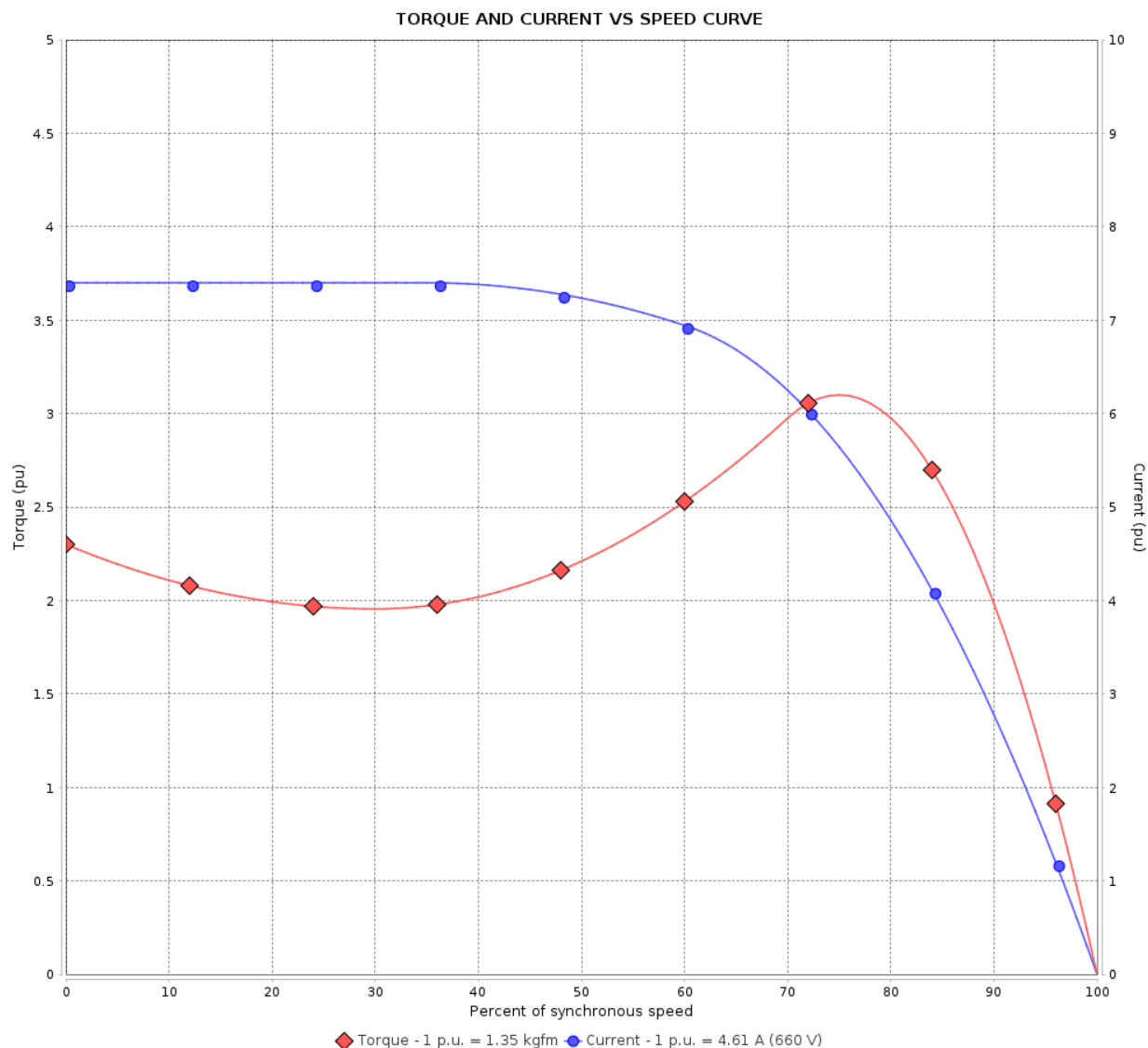
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15838623



Performance : 380/660 V 50 Hz 2P

Rated current : 8.01/4.61 A
LRC : 7.4
Rated torque : 1.35 kgfm
Locked rotor torque : 229 %
Breakdown torque : 310 %
Rated speed : 2890 rpm

Moment of inertia (J) : 0.0081 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Locked rotor time : 19s (cold) 11s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

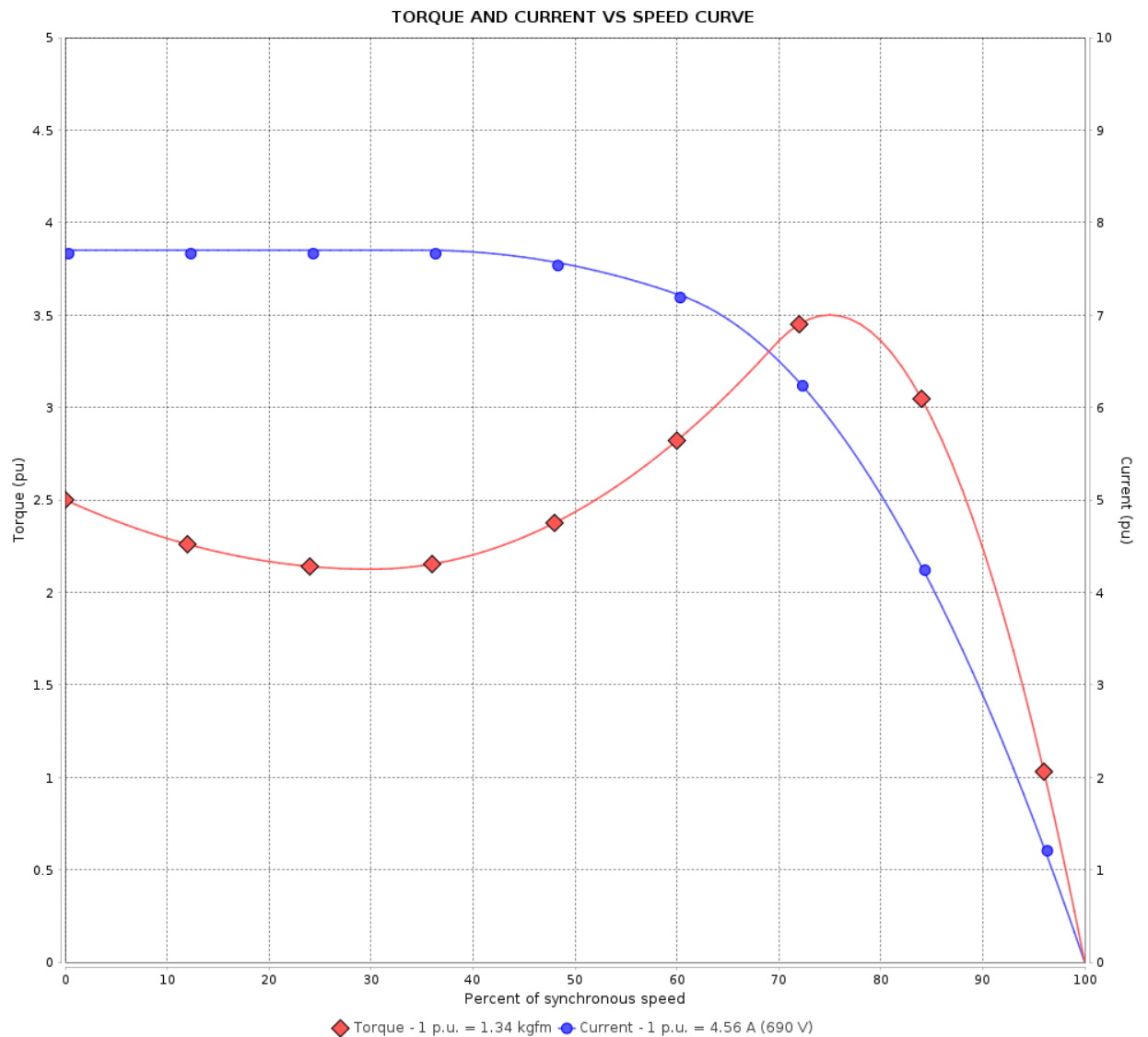
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15838623



Performance : 400/690 V 50 Hz 2P

Rated current : 7.87/4.56 A
LRC : 7.7
Rated torque : 1.34 kgfm
Locked rotor torque : 250 %
Breakdown torque : 350 %
Rated speed : 2910 rpm

Moment of inertia (J) : 0.0081 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Locked rotor time : 18s (cold) 10s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

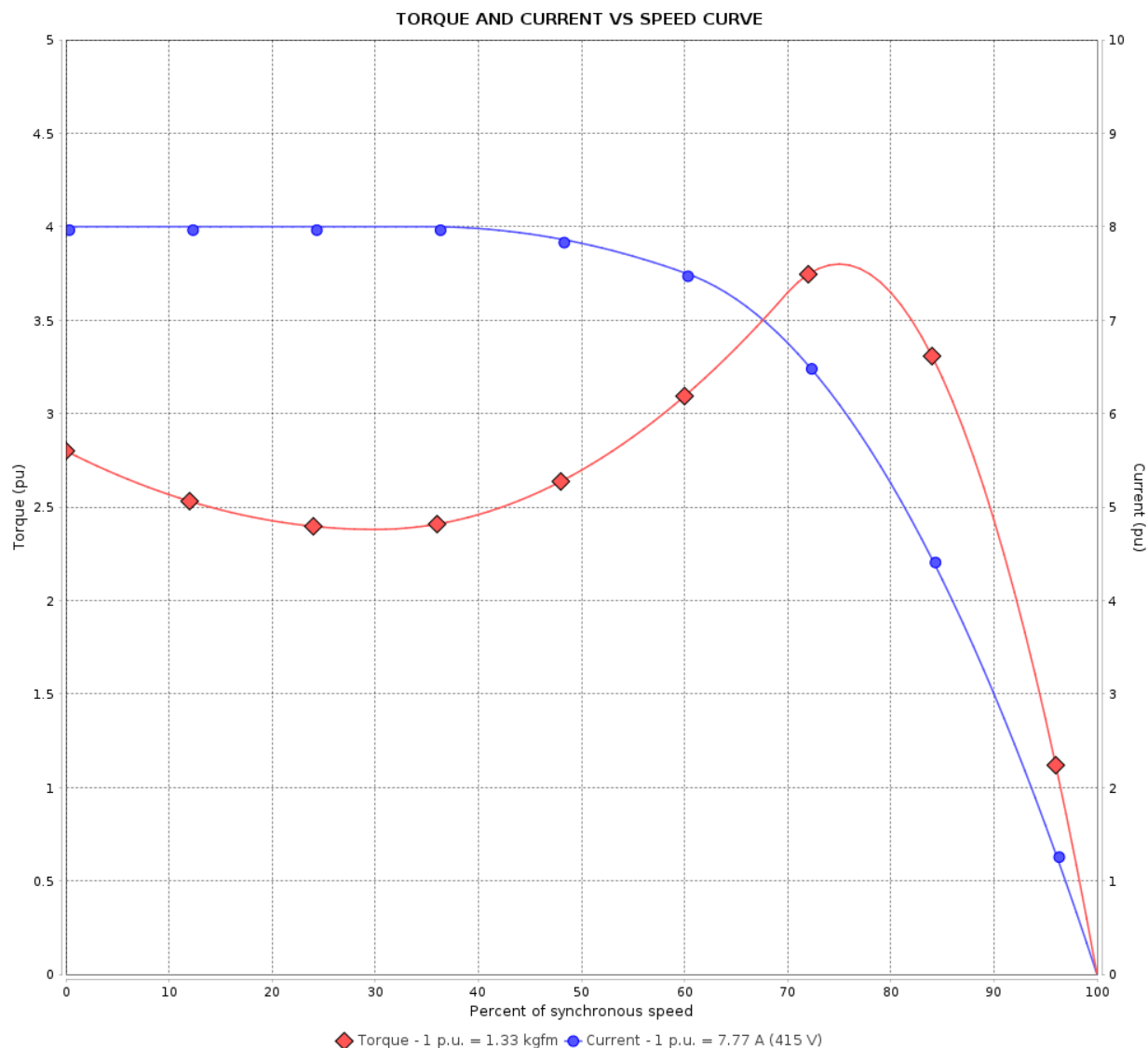
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 415 V 50 Hz 2P

Rated current	: 7.77 A	Moment of inertia (J)	: 0.0081 kgm ²
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 1.33 kgfm	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2920 rpm	Design	: N

Locked rotor time : 18s (cold) 10s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

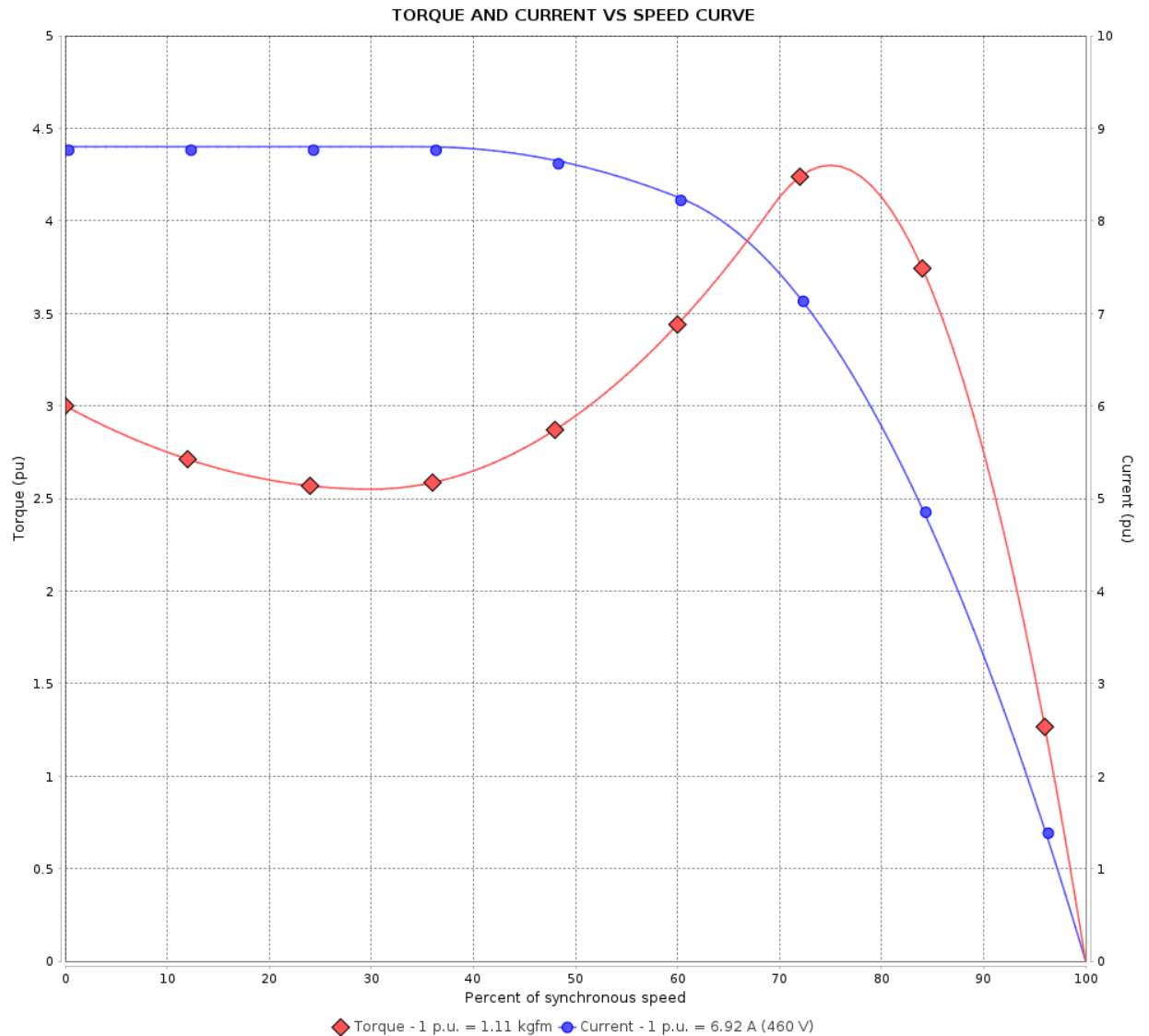
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15838623



Performance : 460 V 60 Hz 2P

Rated current	: 6.92 A	Moment of inertia (J)	: 0.0081 kgm ²
LRC	: 8.8	Duty cycle	: S1
Rated torque	: 1.11 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 3525 rpm	Design	: N

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

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LOAD PERFORMANCE CURVE

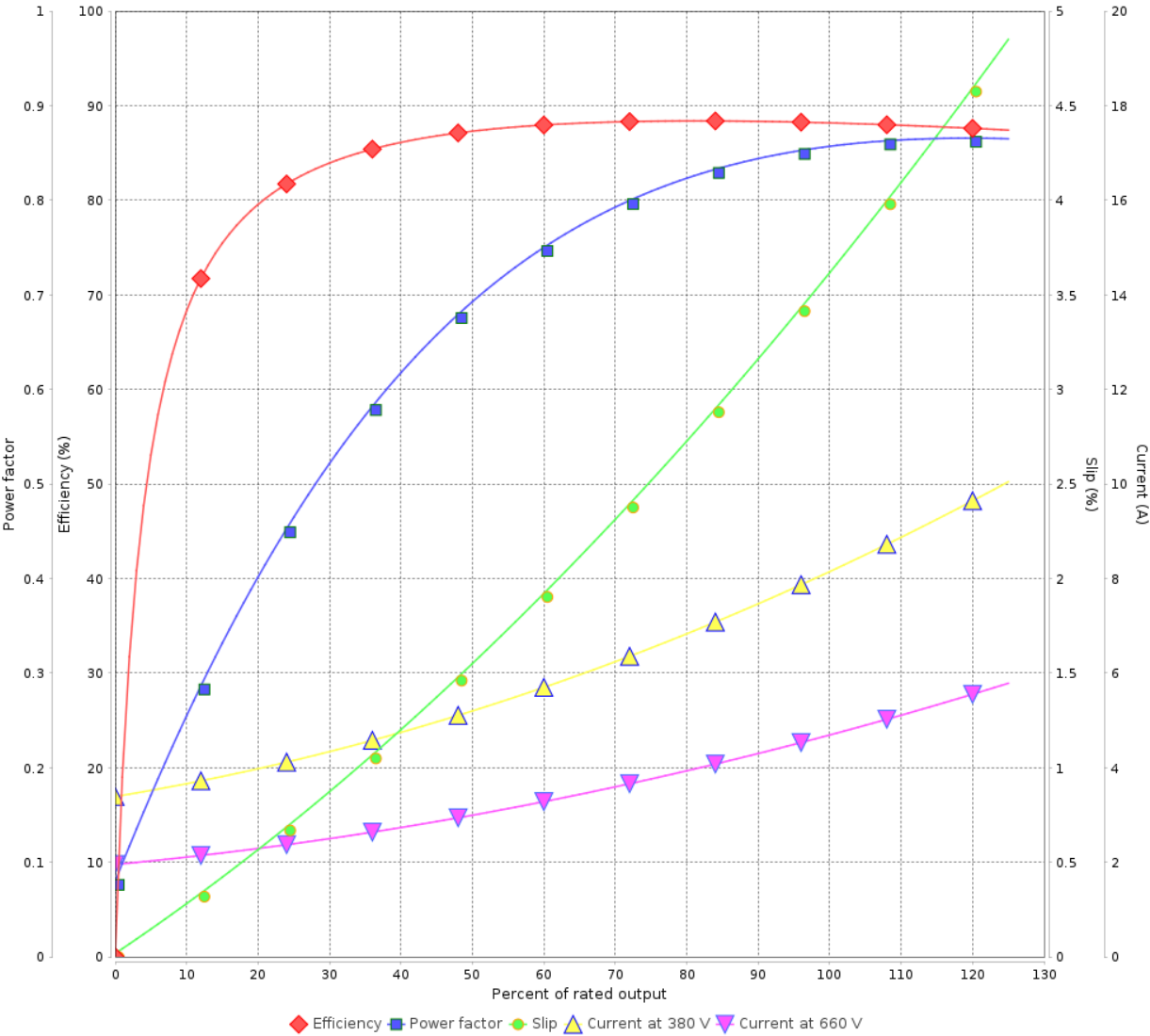
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Performance : 380/660 V 50 Hz 2P			
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LRC	: 7.4	Duty cycle	: S1
Rated torque	: 1.35 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2890 rpm	Design	: N

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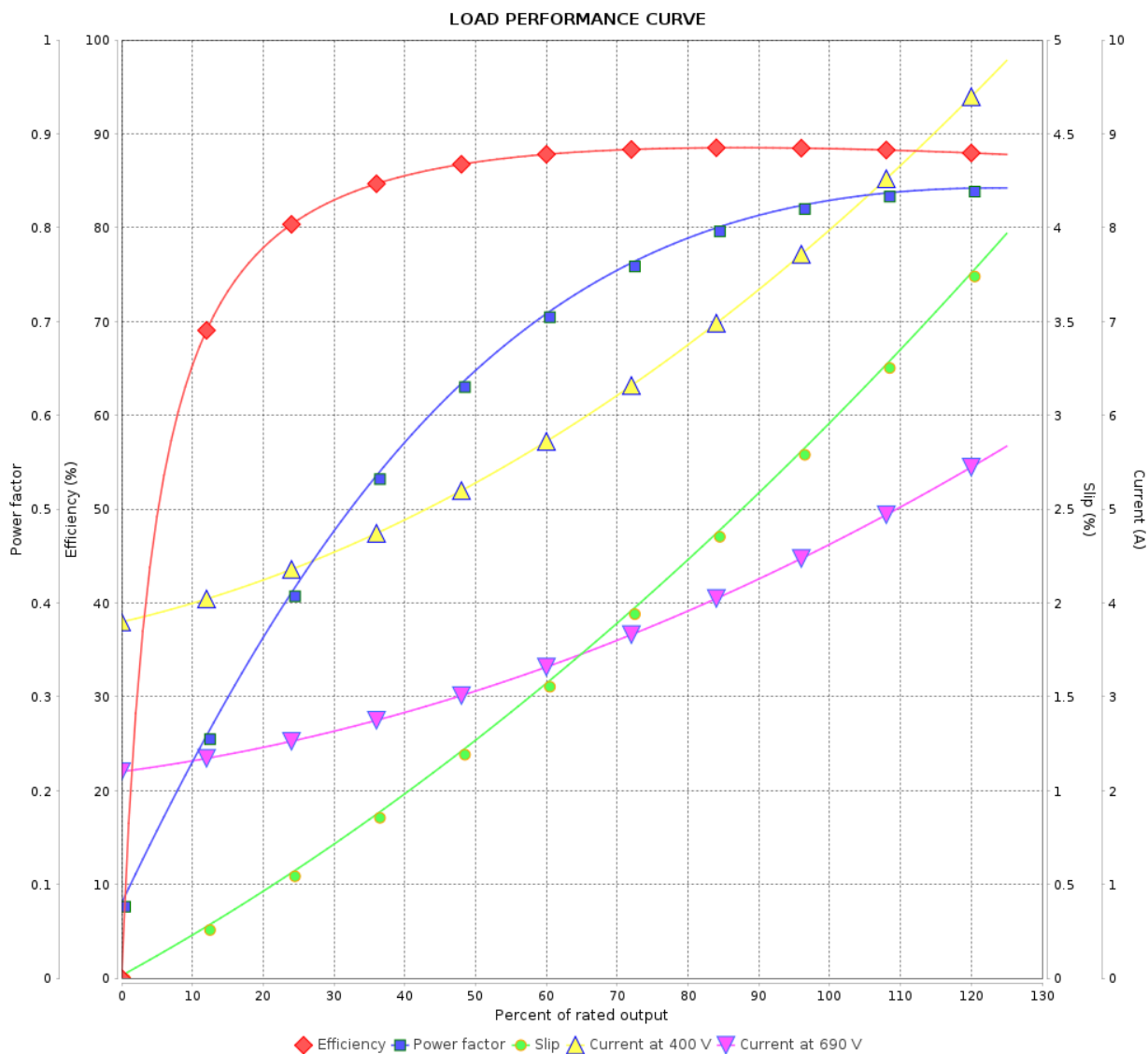
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Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

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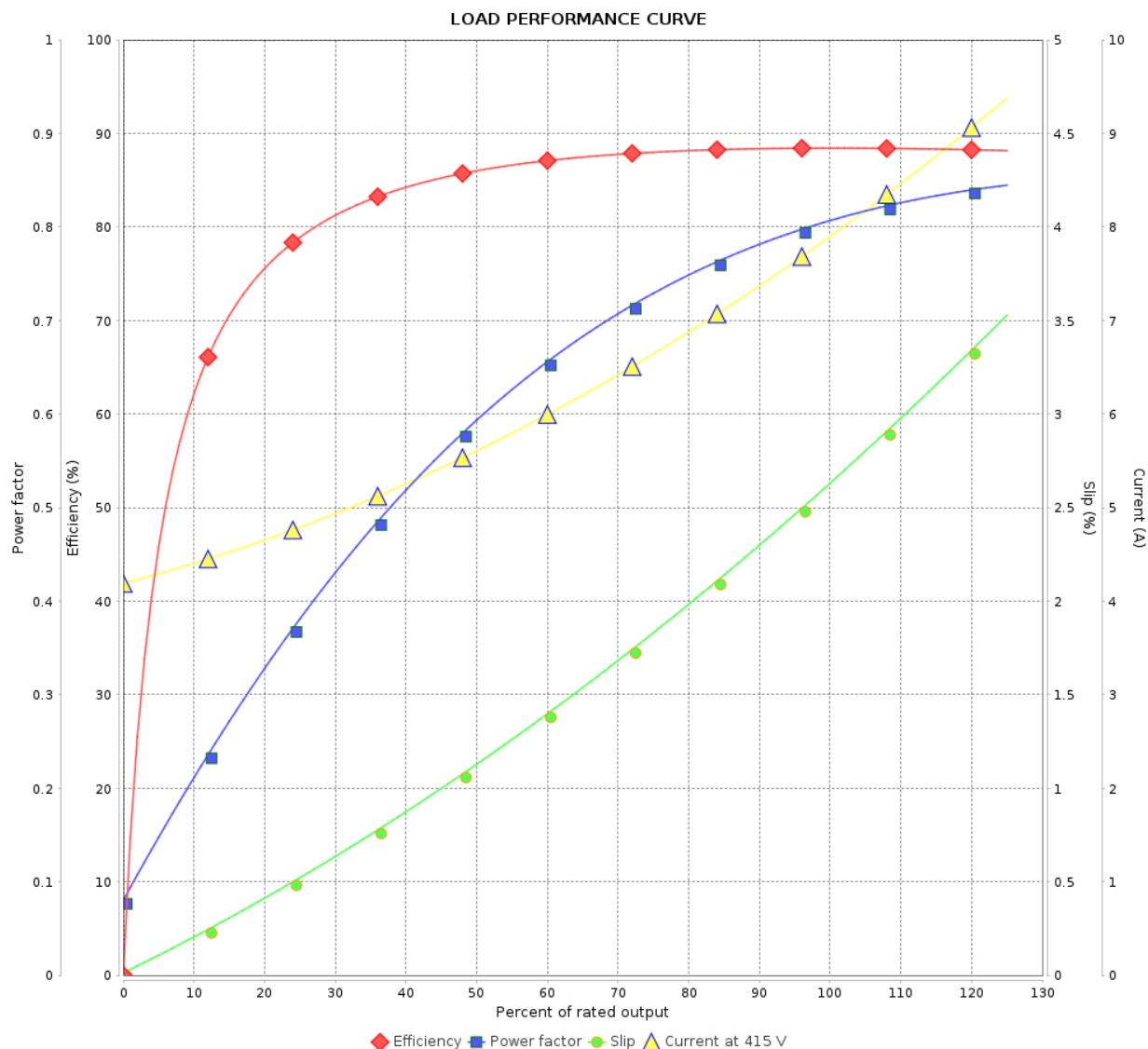
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Performance : 415 V 50 Hz 2P

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Rated torque : 1.33 kgfm
Locked rotor torque : 280 %
Breakdown torque : 380 %
Rated speed : 2920 rpm

Moment of inertia (J) : 0.0081 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

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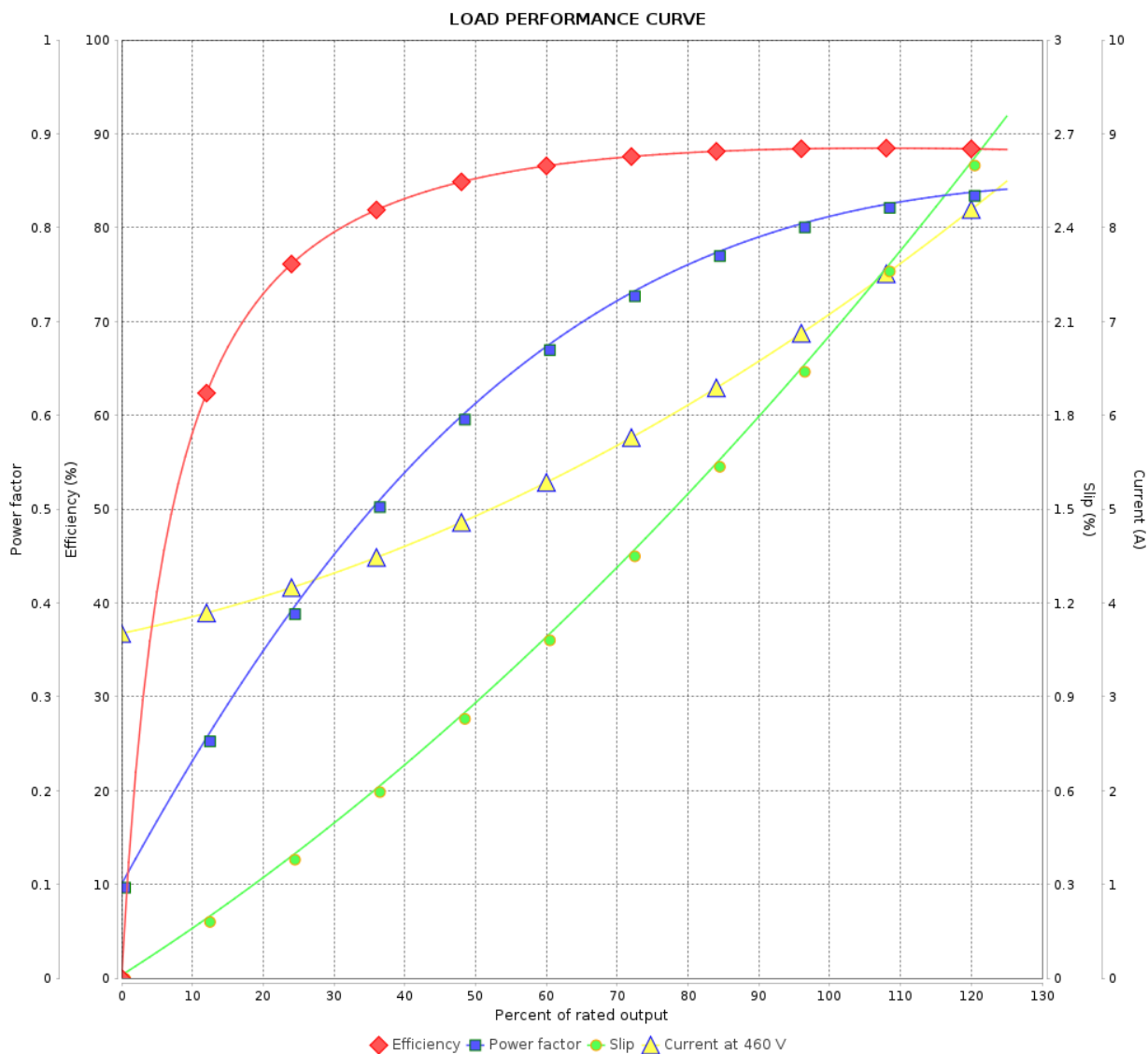
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Performance : 460 V 60 Hz 2P

Rated current : 6.92 A
LRC : 8.8
Rated torque : 1.11 kgfm
Locked rotor torque : 300 %
Breakdown torque : 430 %
Rated speed : 3525 rpm

Moment of inertia (J) : 0.0081 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

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THERMAL LIMIT CURVE

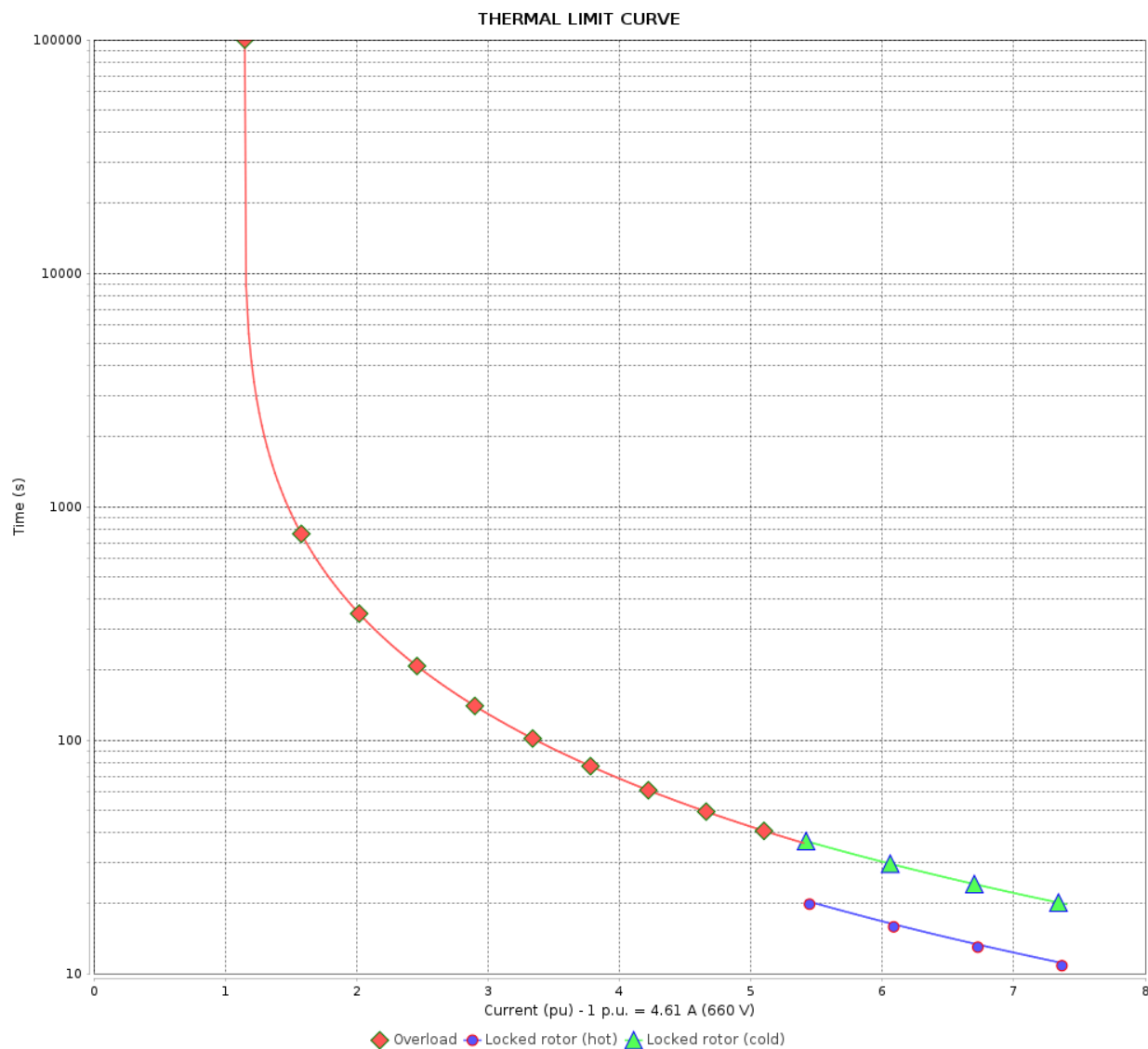
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Temperature rise : 80 K
Design : N

Heating constant

Cooling constant

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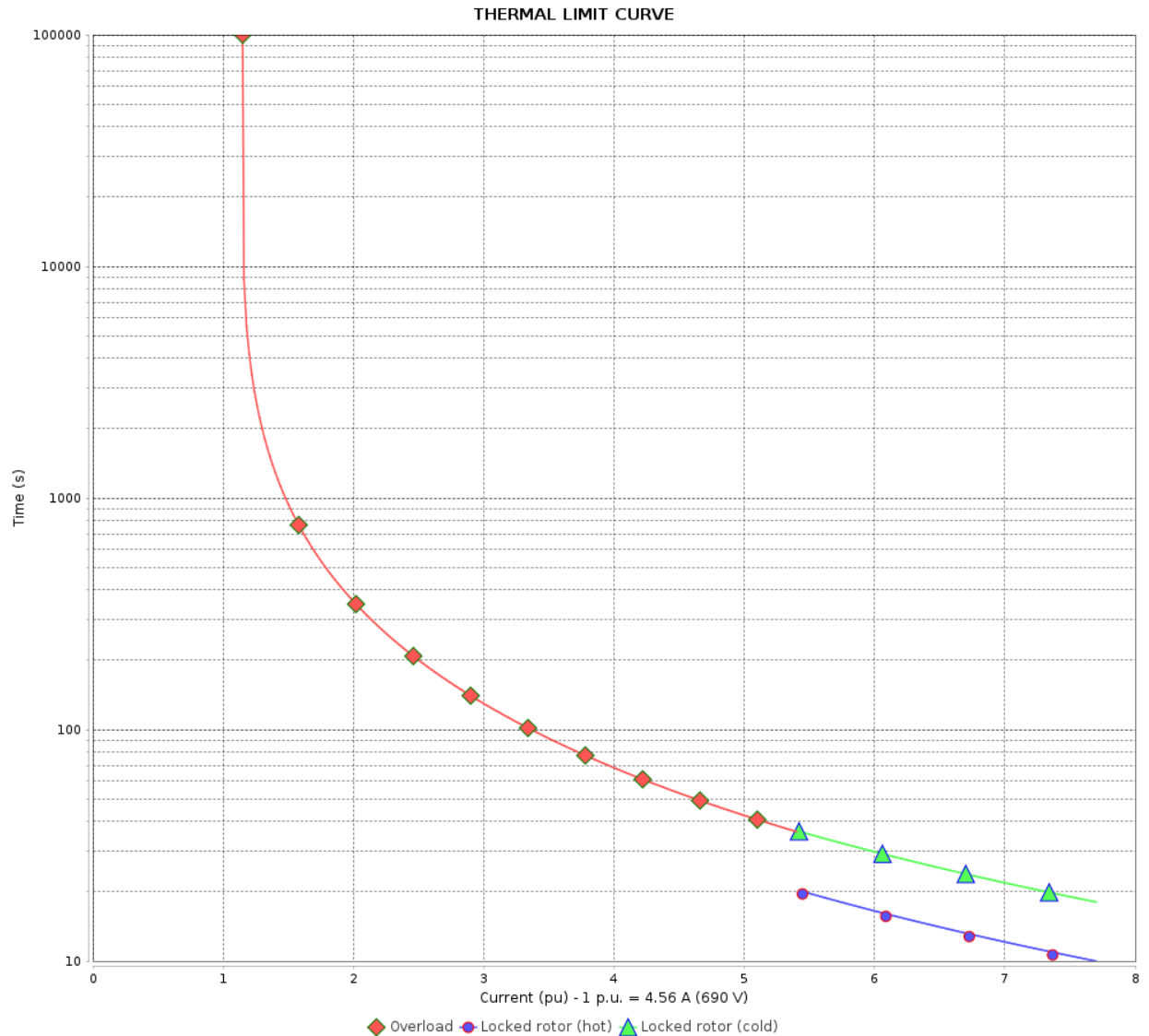
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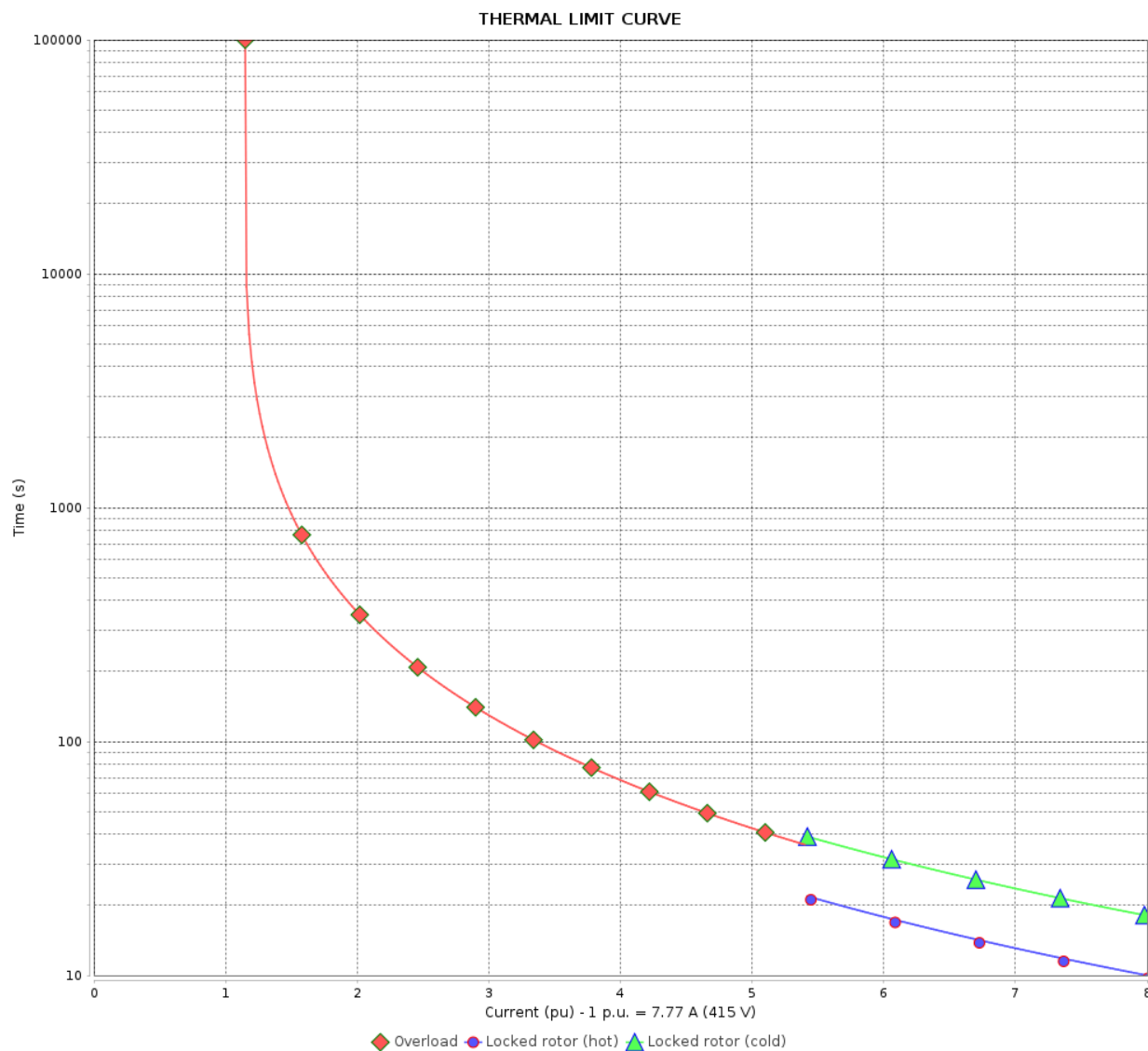
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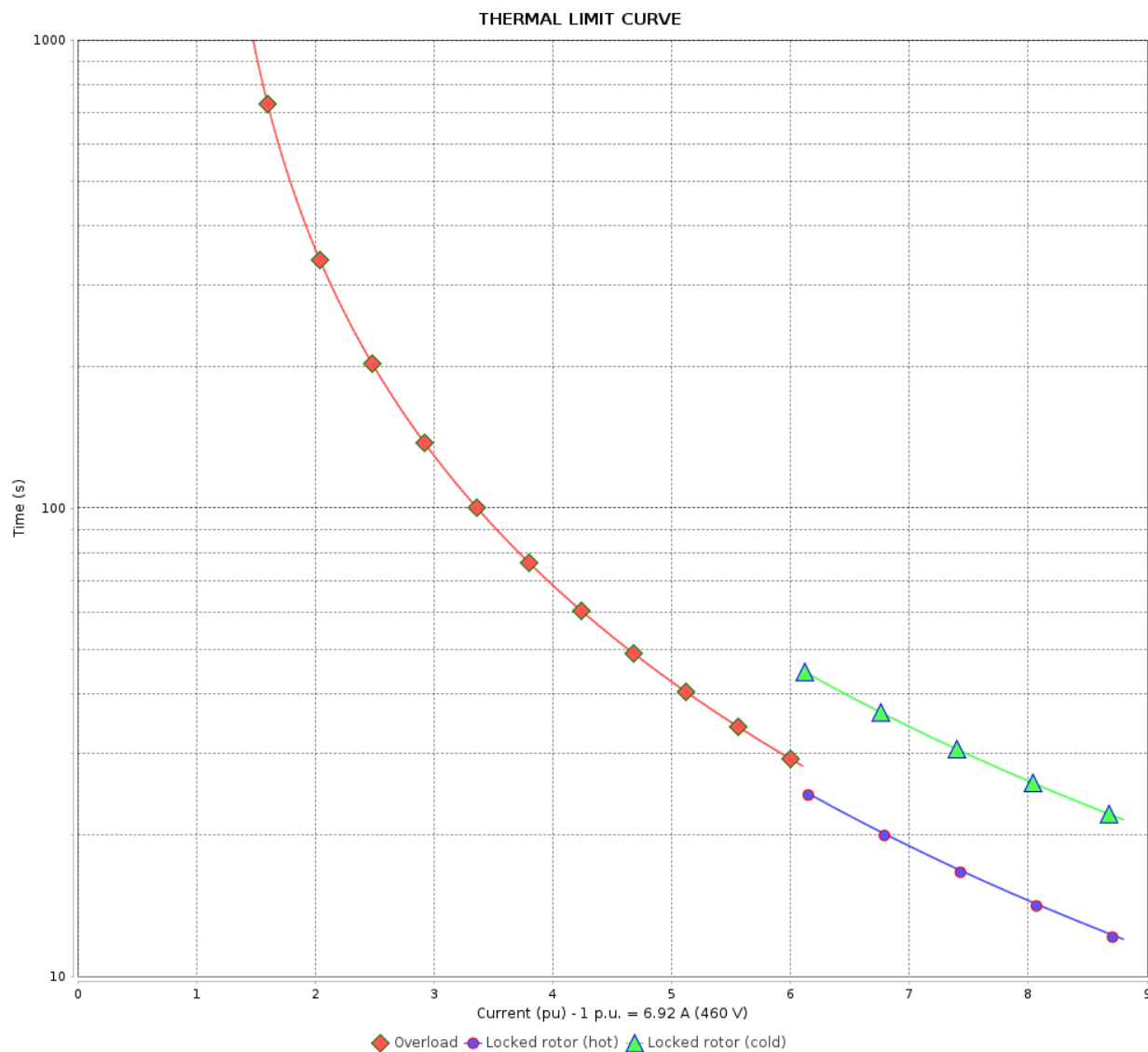
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Service factor : 1.00
Temperature rise : 80 K
Design : N

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VFD OPERATION CURVE

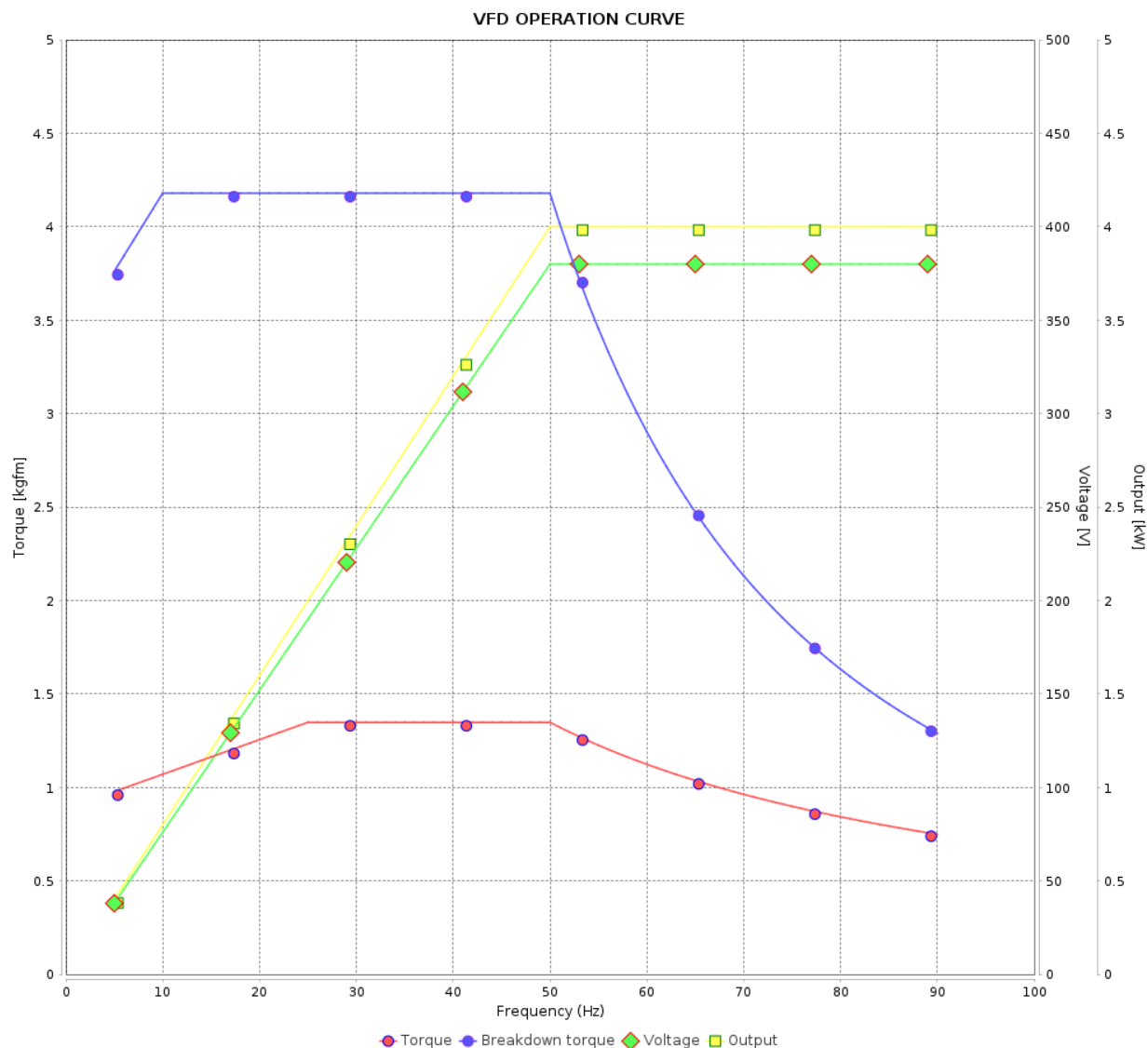
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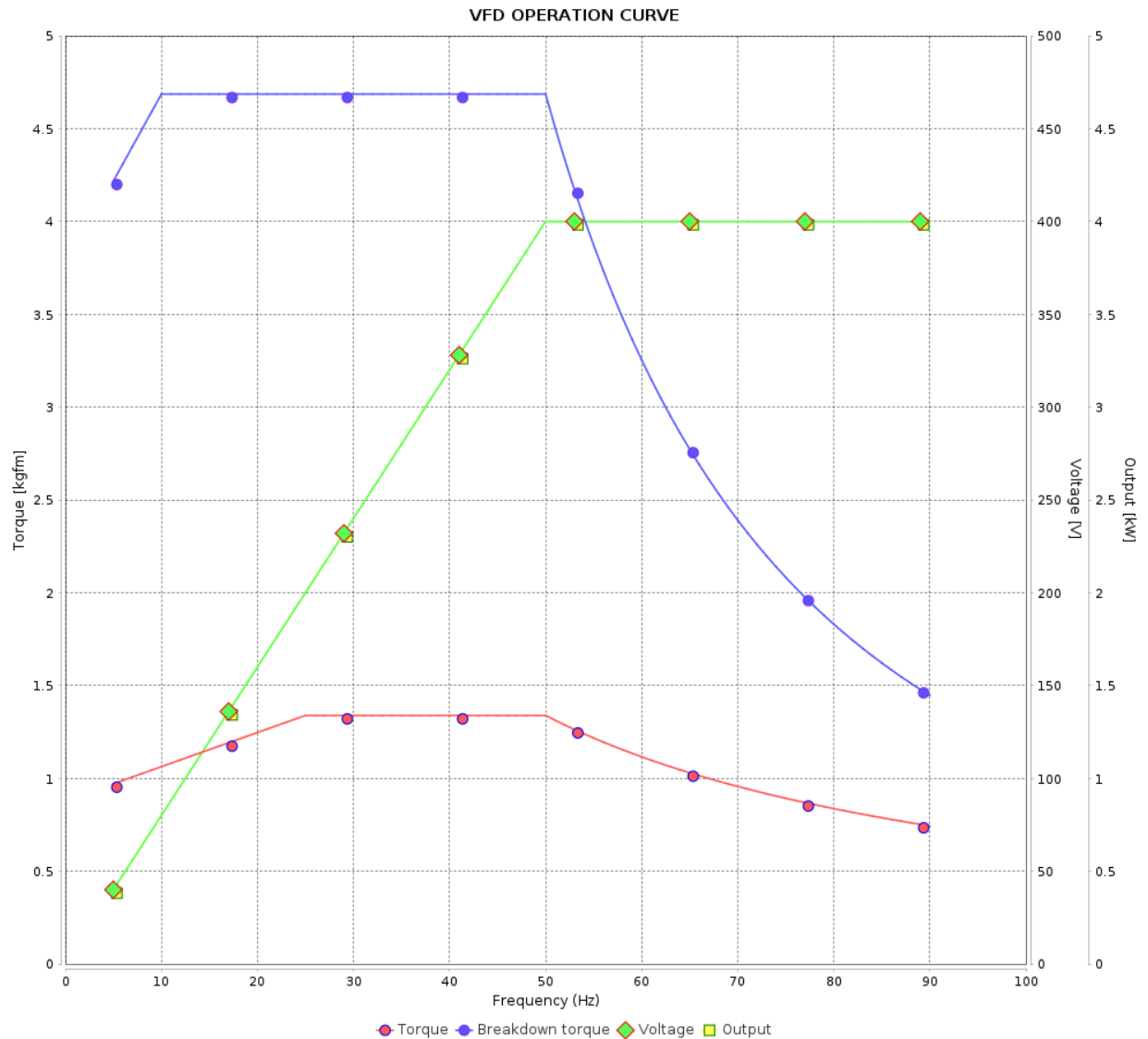
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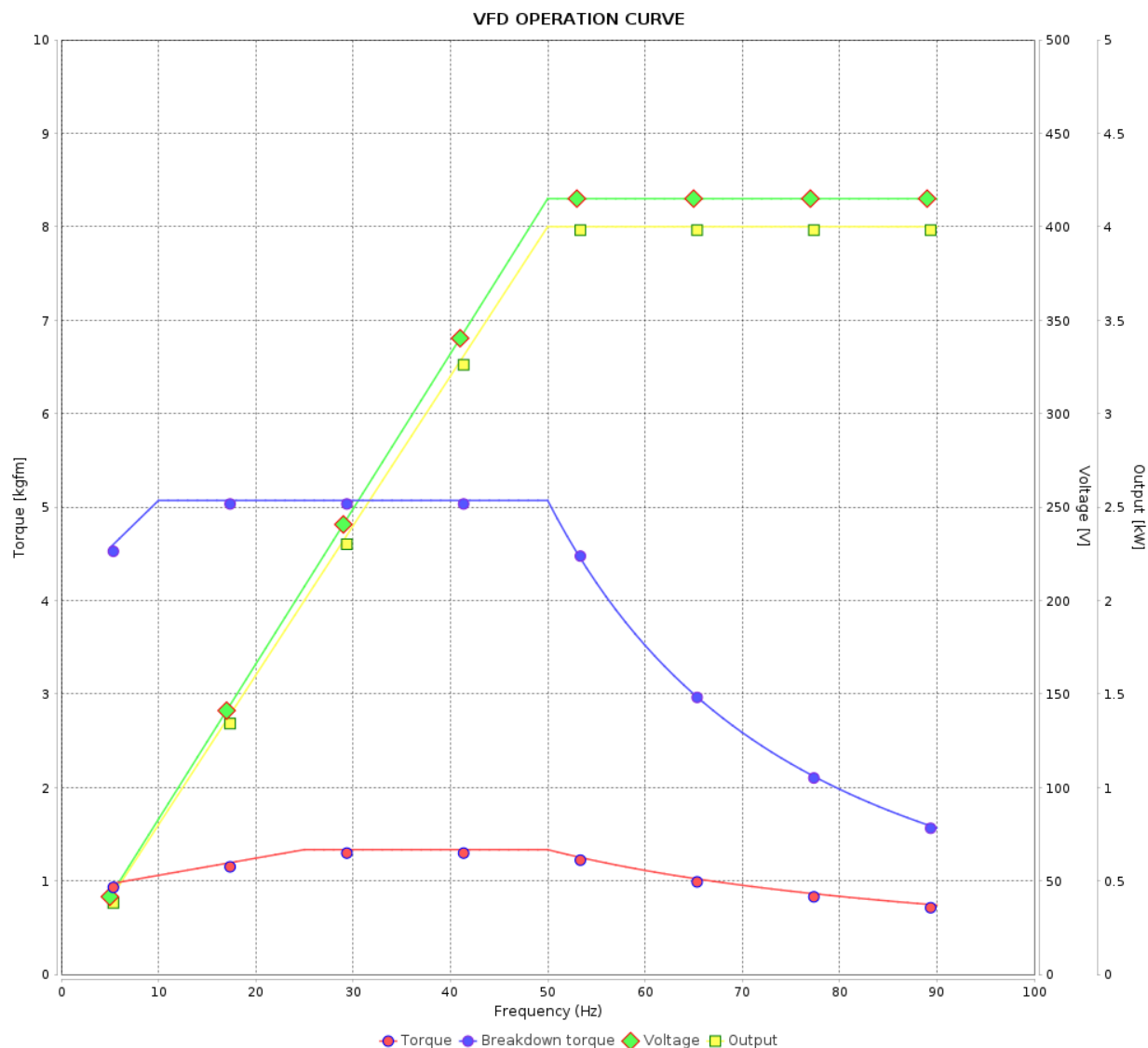
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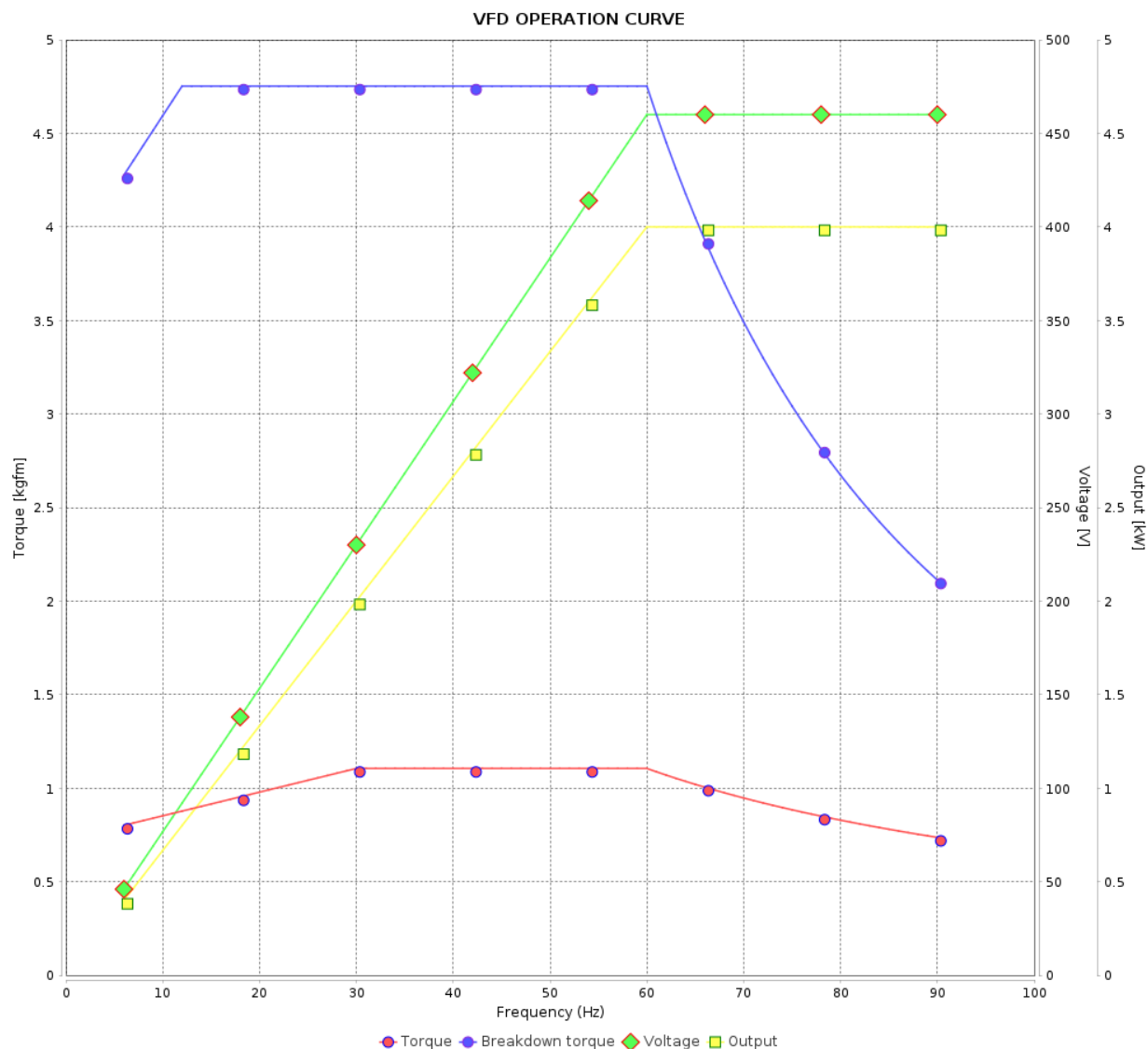
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