

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15834893

Frame : 225S/M
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
Rotation¹ : Both (CW and CCW)
Starting method : Direct On Line
Approx. weight³ : 394 kg
Moment of inertia (J) : 0.2861 kgm²

Output [kW]	45	45	45	45
Poles	2	2	2	2
Frequency [Hz]	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460
Rated current [A]	83.6/48.1	80.3/46.6	79.3	71.8
L. R. Amperes [A]	644/371	666/386	706	653
LRC [A]	7.7	8.3	8.9	9.1
No load current [A]	27.0/15.5	29.0/16.8	31.0	27.0
Rated speed [RPM]	2965	2970	2973	3575
Slip [%]	1.17	1.00	0.90	0.69
Rated torque [kgfm]	14.8	14.8	14.7	12.3
Locked rotor torque [%]	260	290	320	320
Breakdown torque [%]	320	370	400	420
Service factor	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K
Locked rotor time	14s (cold) 8s (hot)	14s (cold) 8s (hot)	12s (cold) 7s (hot)	16s (cold) 9s (hot)
Noise level ²	74.0 dB(A)	74.0 dB(A)	74.0 dB(A)	79.0 dB(A)
Efficiency (%)	25%	0.000	0.000	0.000
	50%	92.5	92.0	92.0
	75%	93.5	93.0	93.0
	100%	94.0	94.0	94.0
Power Factor	25%	0.00	0.00	0.00
	50%	0.74	0.72	0.68
	75%	0.83	0.82	0.79
	100%	0.87	0.86	0.84

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

Losses (%)	P1 (0,9;1,0)	6.0	6.0	6.0	6.4
	P2 (0,5;1,0)	4.6	4.6	4.6	4.9
	P3 (0,25;1,0)	4.2	4.2	4.2	4.5
	P4 (0,9;0,5)	3.3	3.3	3.3	3.6
	P5 (0,5;0,5)	2.0	2.0	2.0	2.1
	P6 (0,5;0,25)	1.4	1.4	1.4	1.5
	P7 (0,25;0,25)	0.9	0.9	0.9	0.9

Drive end Non drive end
Bearing type : 6314 C3 6314 C3
Sealing : WSeal WSeal
Lubrication interval : 5000 h 5000 h
Lubricant amount : 27 g 27 g
Lubricant type : Mobil Polyrex EM

Foundation loads
Max. traction : 381 kgf
Max. compression : 775 kgf

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

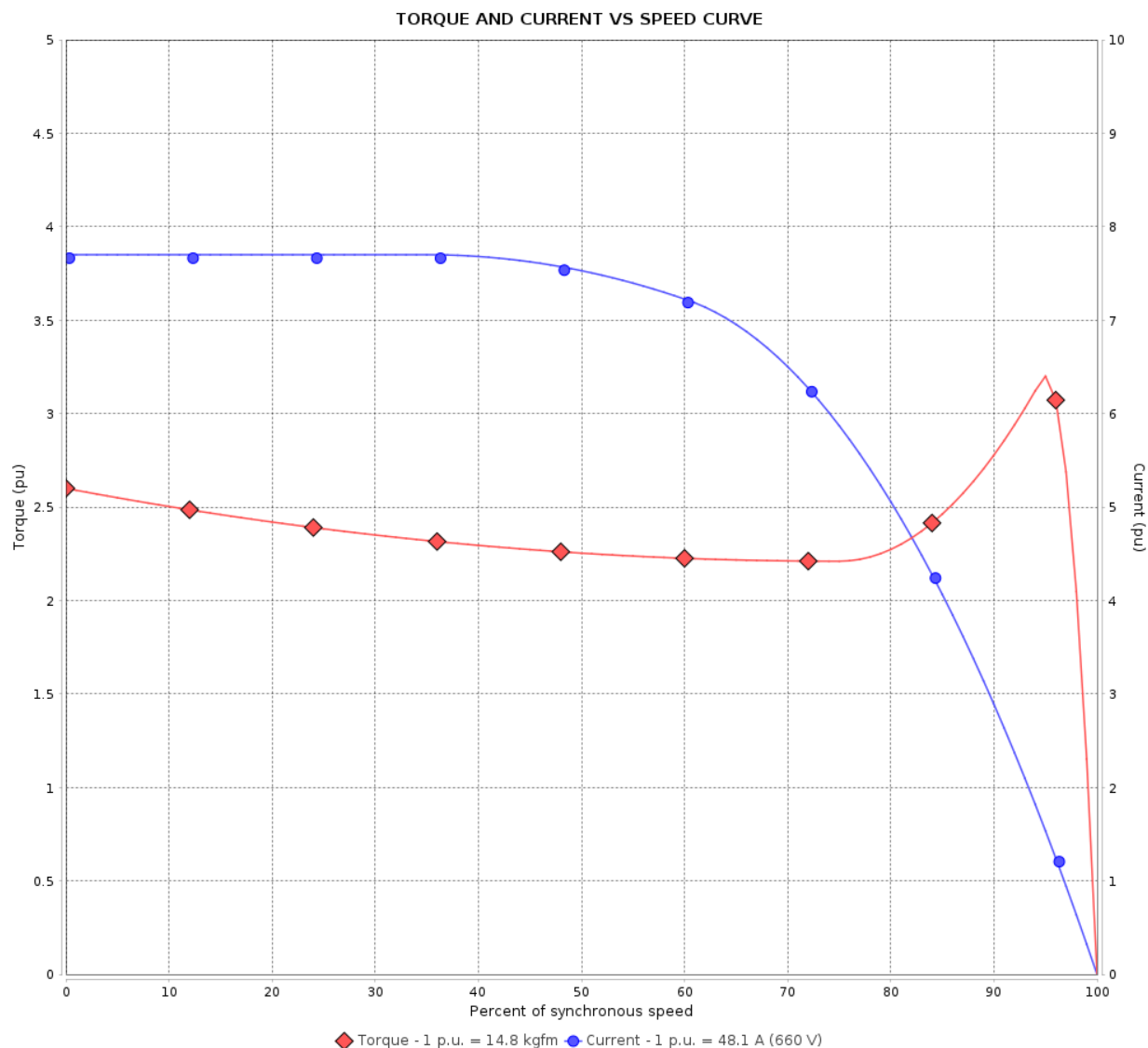
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15834893



Performance : 380/660 V 50 Hz 2P

Rated current : 83.6/48.1 A
LRC : 7.7
Rated torque : 14.8 kgfm
Locked rotor torque : 260 %
Breakdown torque : 320 %
Rated speed : 2965 rpm

Moment of inertia (J) : 0.2861 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Locked rotor time : 14s (cold) 8s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

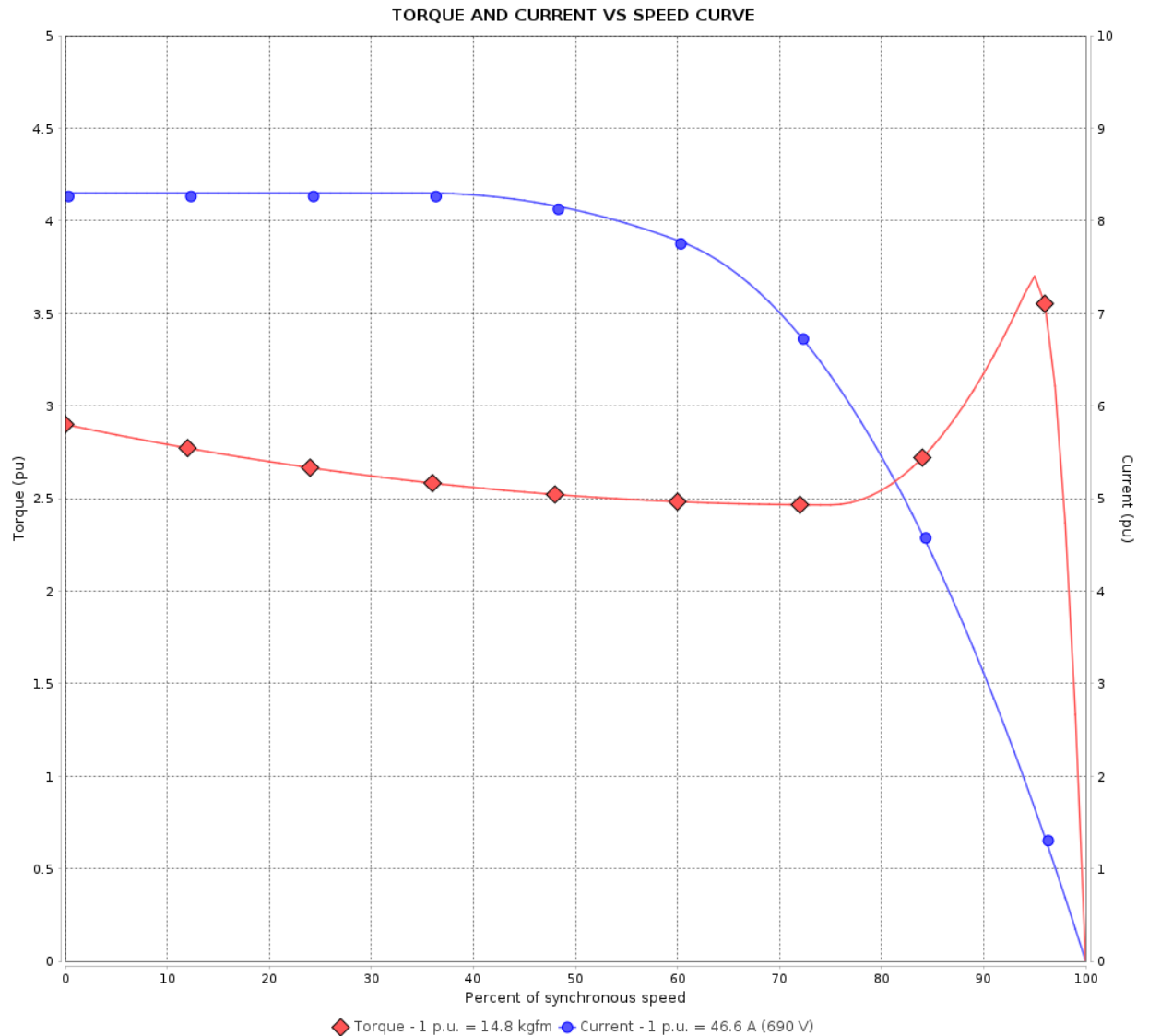
Three Phase Induction Motor - Squirrel Cage



Customer :

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Performance : 400/690 V 50 Hz 2P

Rated current : 80.3/46.6 A
LRC : 8.3
Rated torque : 14.8 kgfm
Locked rotor torque : 290 %
Breakdown torque : 370 %
Rated speed : 2970 rpm

Moment of inertia (J) : 0.2861 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Locked rotor time : 14s (cold) 8s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

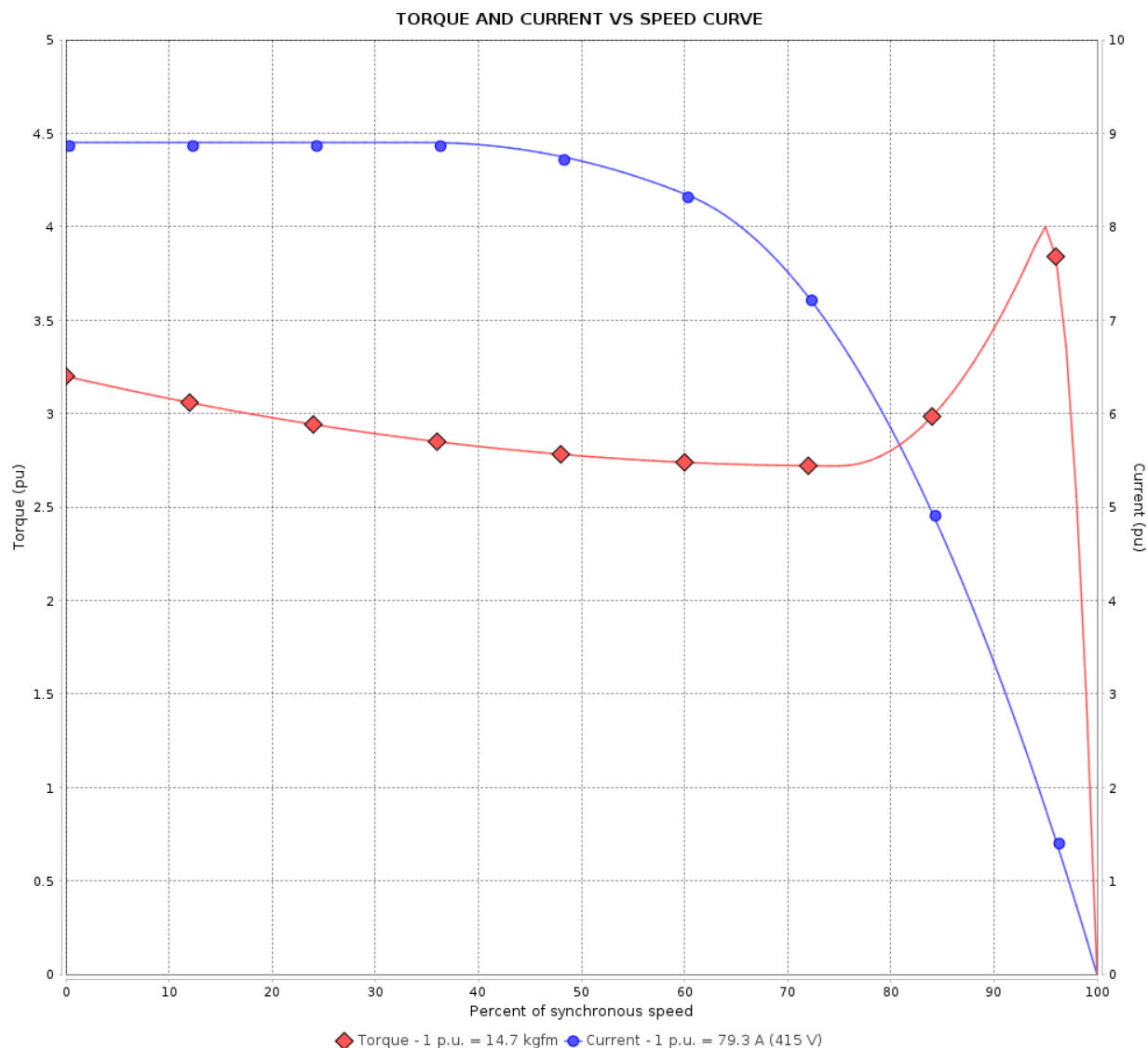
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : W22 IE3 Three-Phase

Product code : 15834893



Performance : 415 V 50 Hz 2P

Rated current : 79.3 A
LRC : 8.9
Rated torque : 14.7 kgfm
Locked rotor torque : 320 %
Breakdown torque : 400 %
Rated speed : 2973 rpm

Moment of inertia (J) : 0.2861 kgm²
Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Locked rotor time : 12s (cold) 7s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

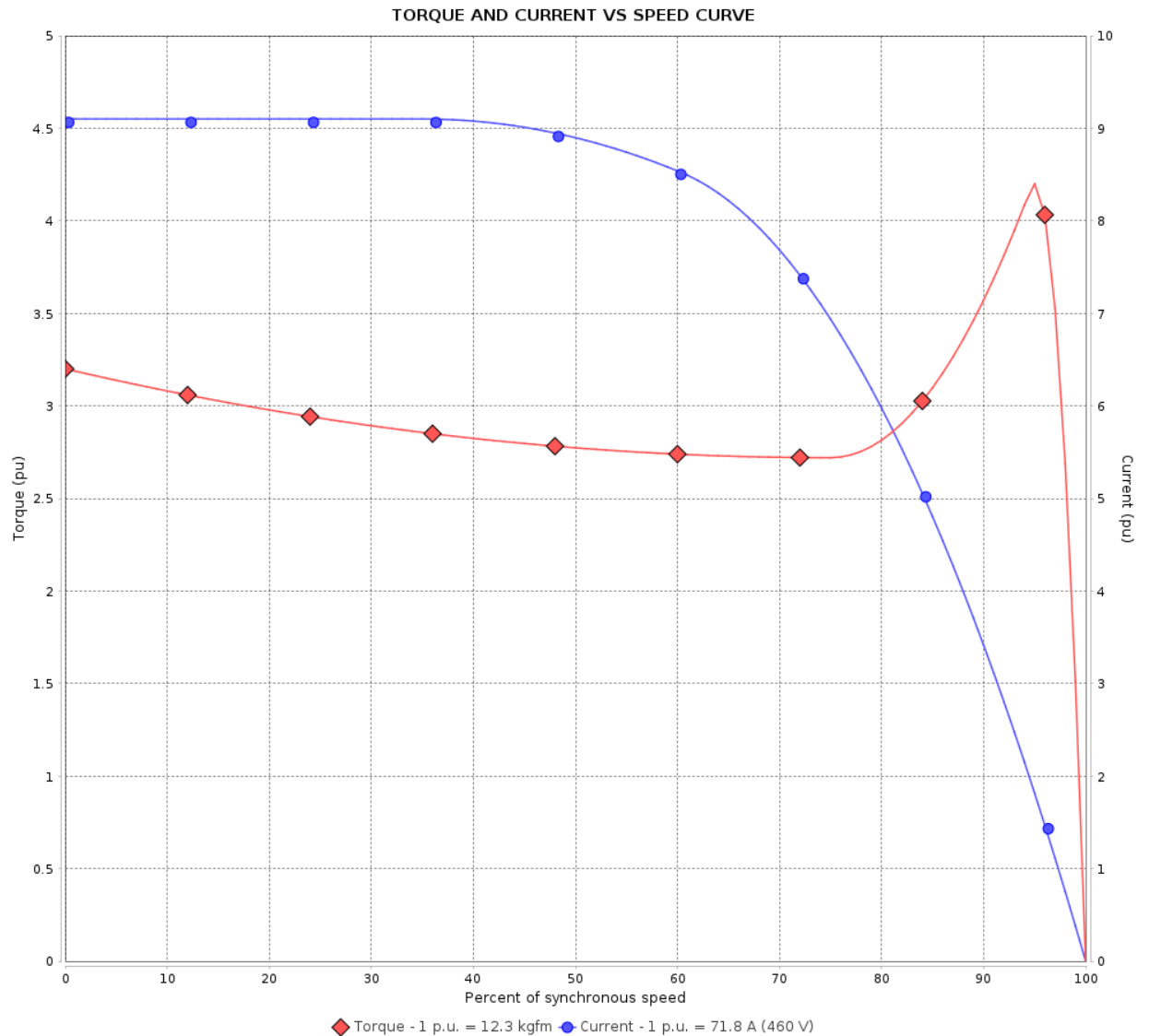
Three Phase Induction Motor - Squirrel Cage



Customer :

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Product code : 15834893



Performance : 460 V 60 Hz 2P

Rated current	: 71.8 A	Moment of inertia (J)	: 0.2861 kgm ²
LRC	: 9.1	Duty cycle	: S1
Rated torque	: 12.3 kgfm	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 420 %	Temperature rise	: 80 K
Rated speed	: 3575 rpm	Design	: N

Locked rotor time : 16s (cold) 9s (hot)

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LOAD PERFORMANCE CURVE

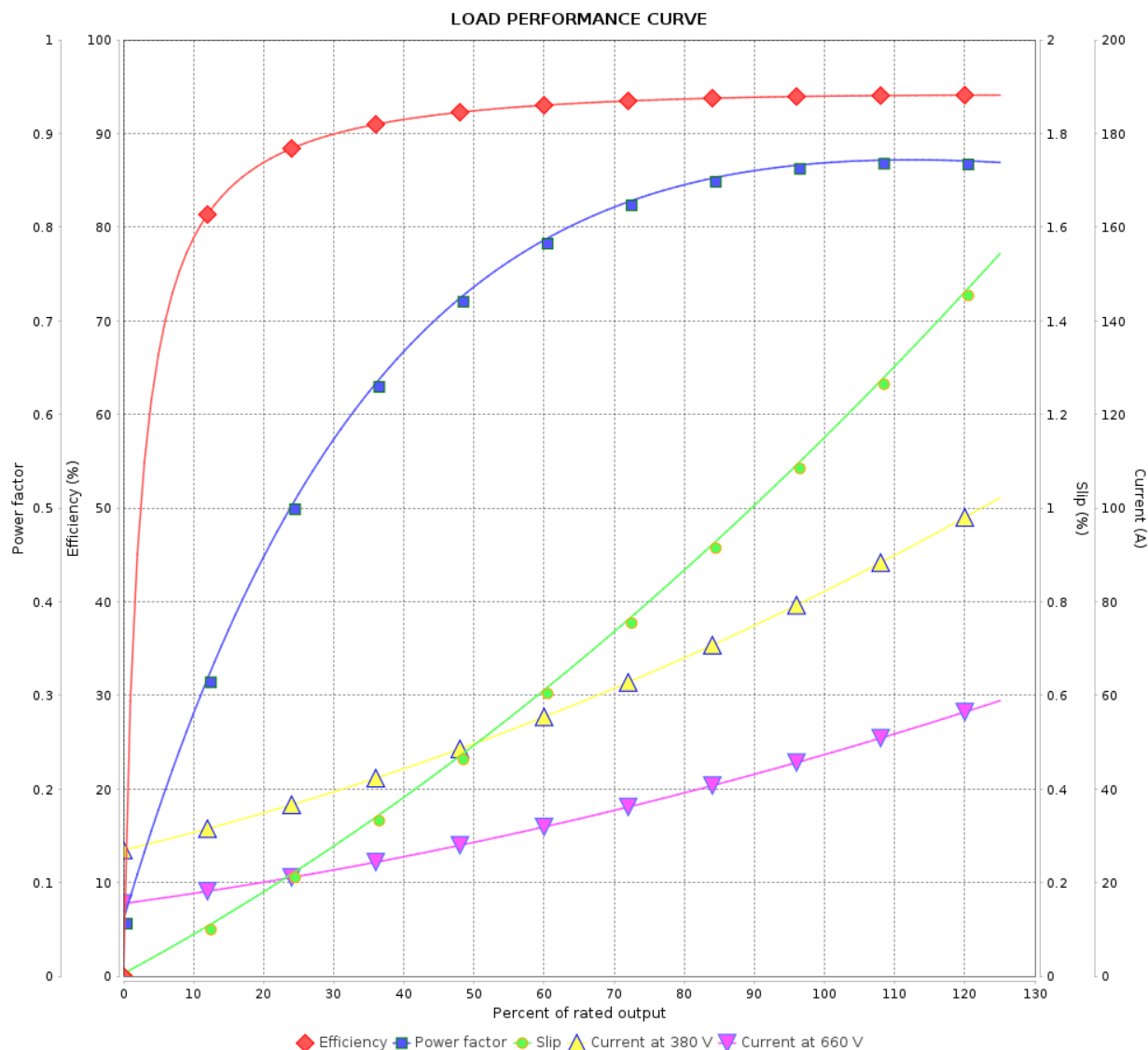
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Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

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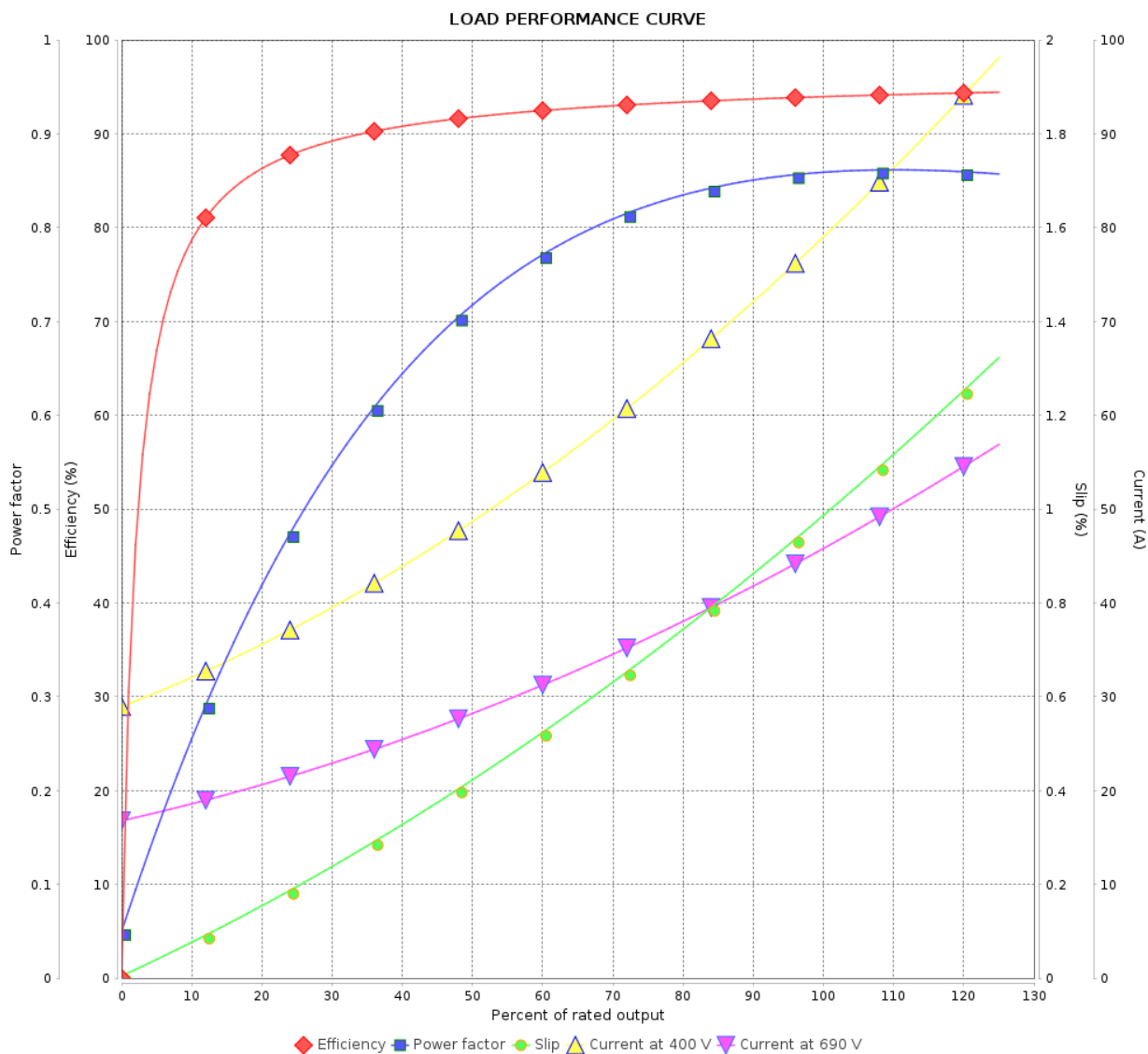
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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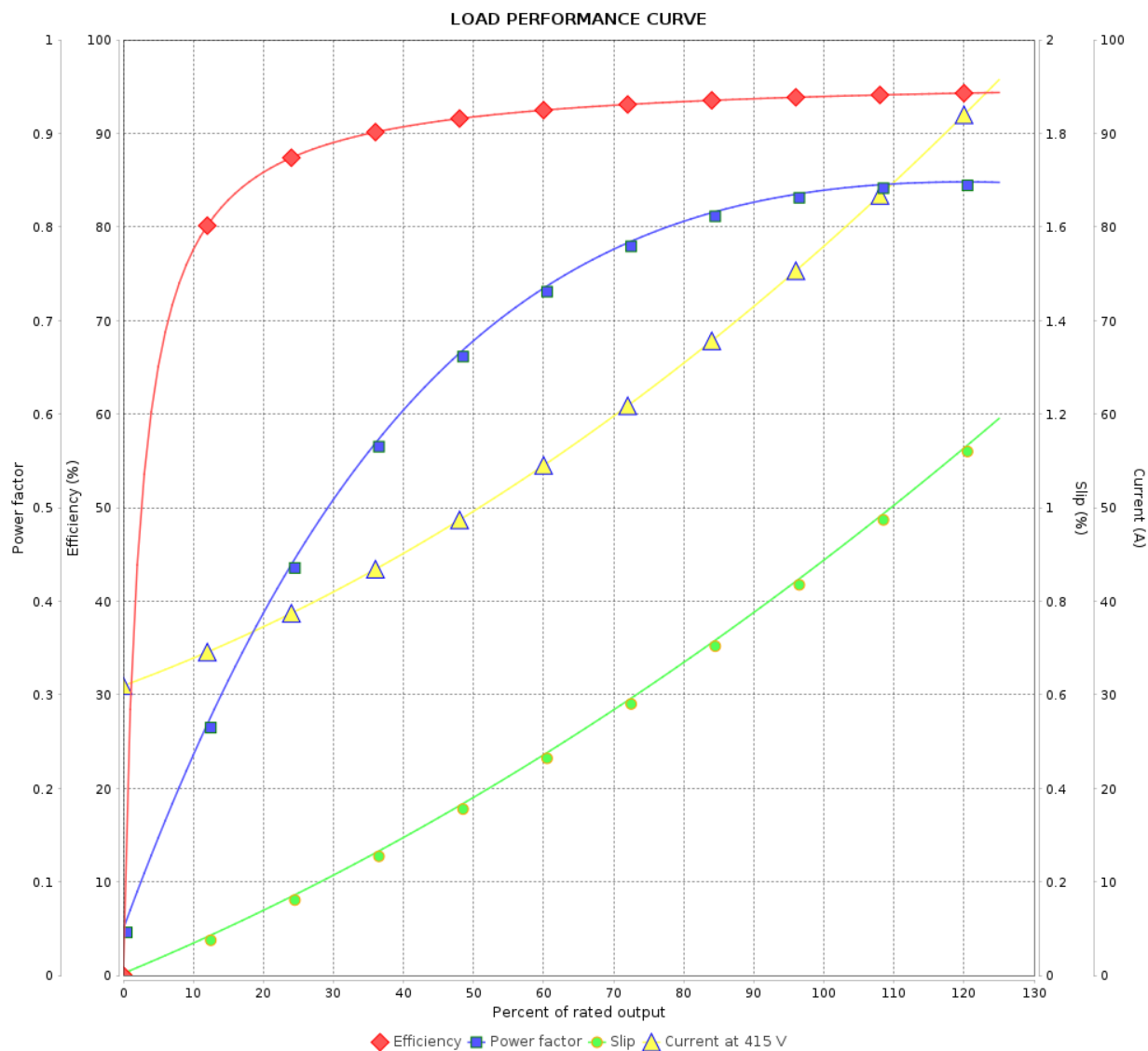
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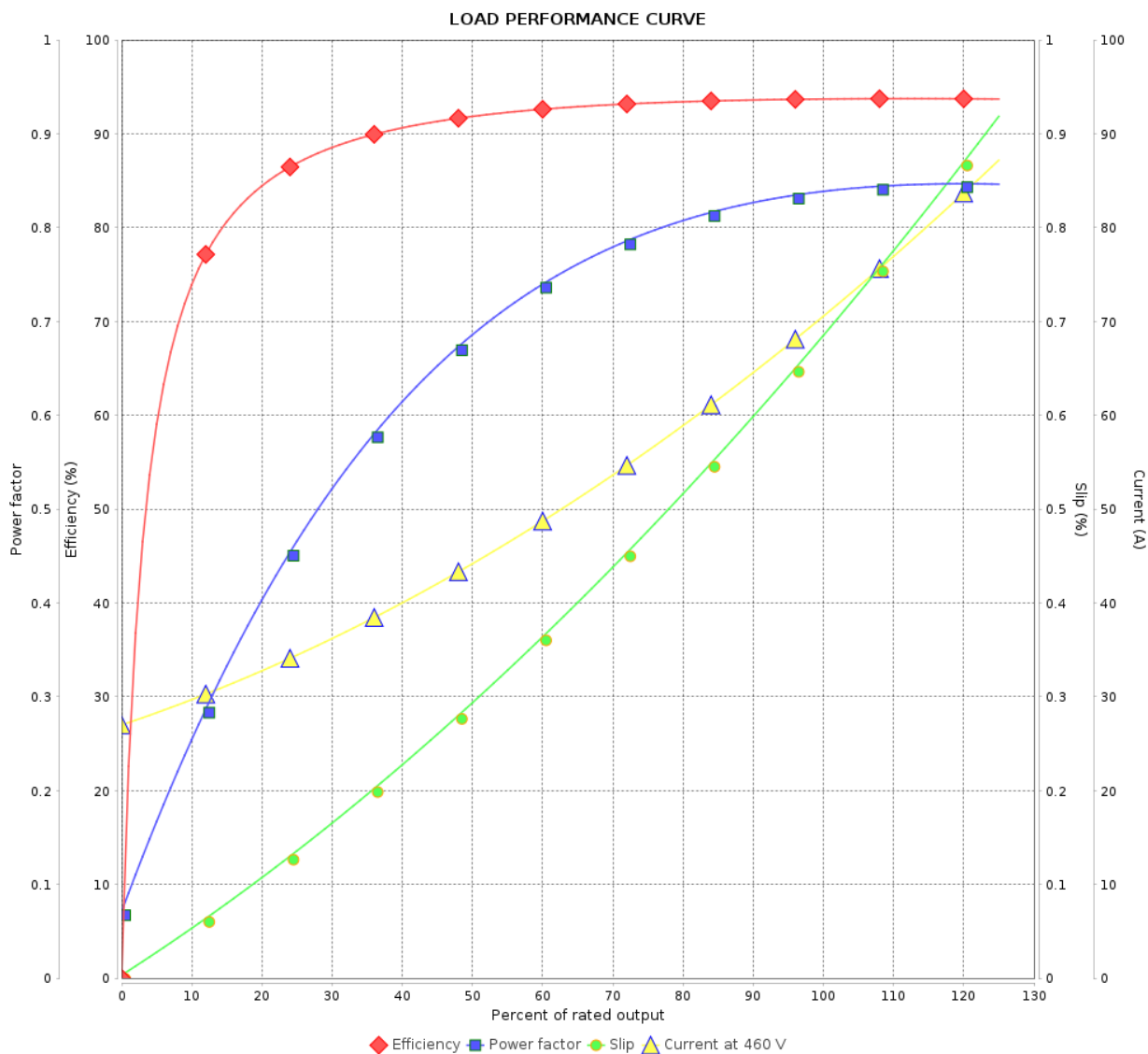
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THERMAL LIMIT CURVE

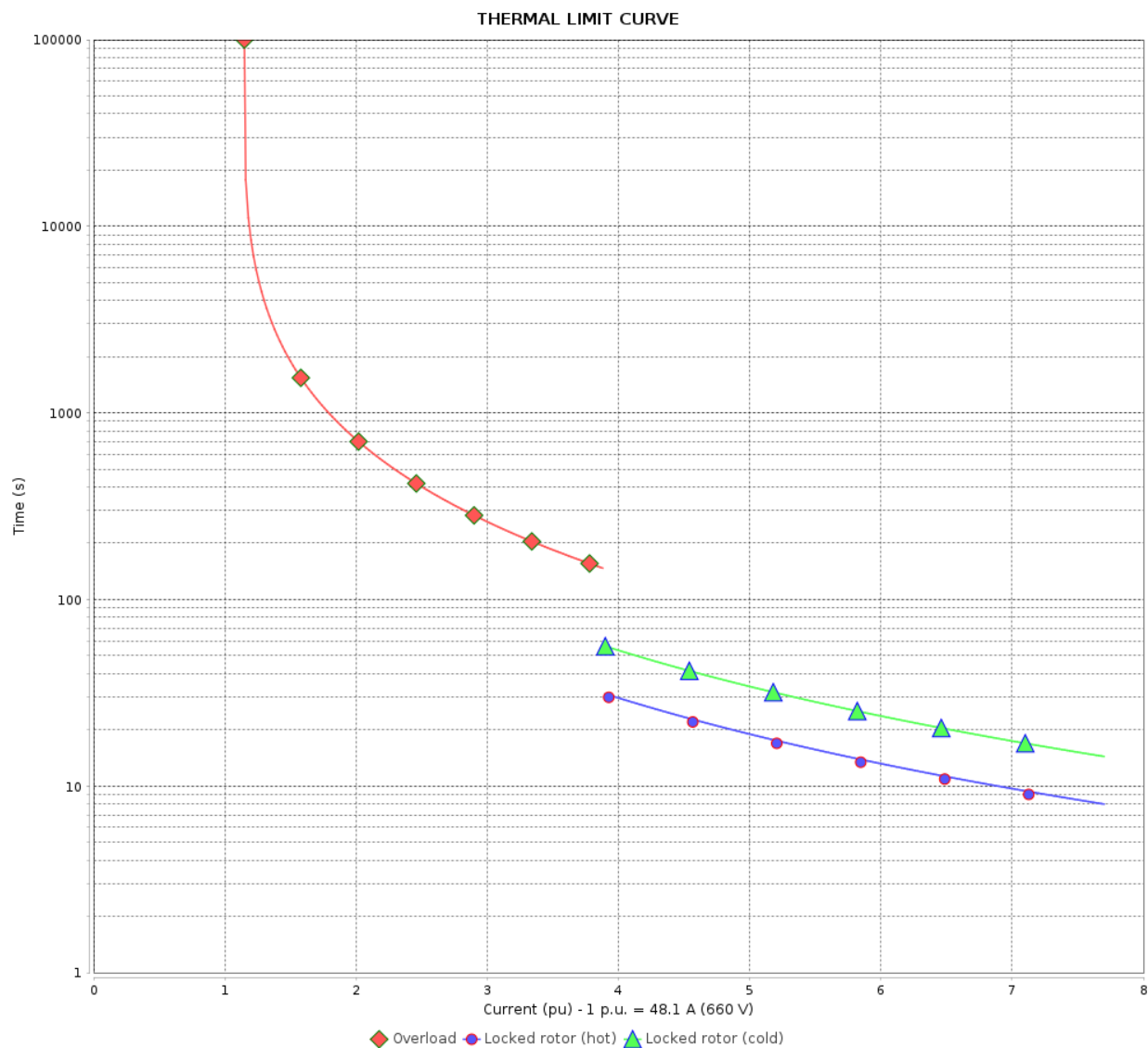
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Temperature rise : 80 K
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Heating constant

Cooling constant

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THERMAL LIMIT CURVE

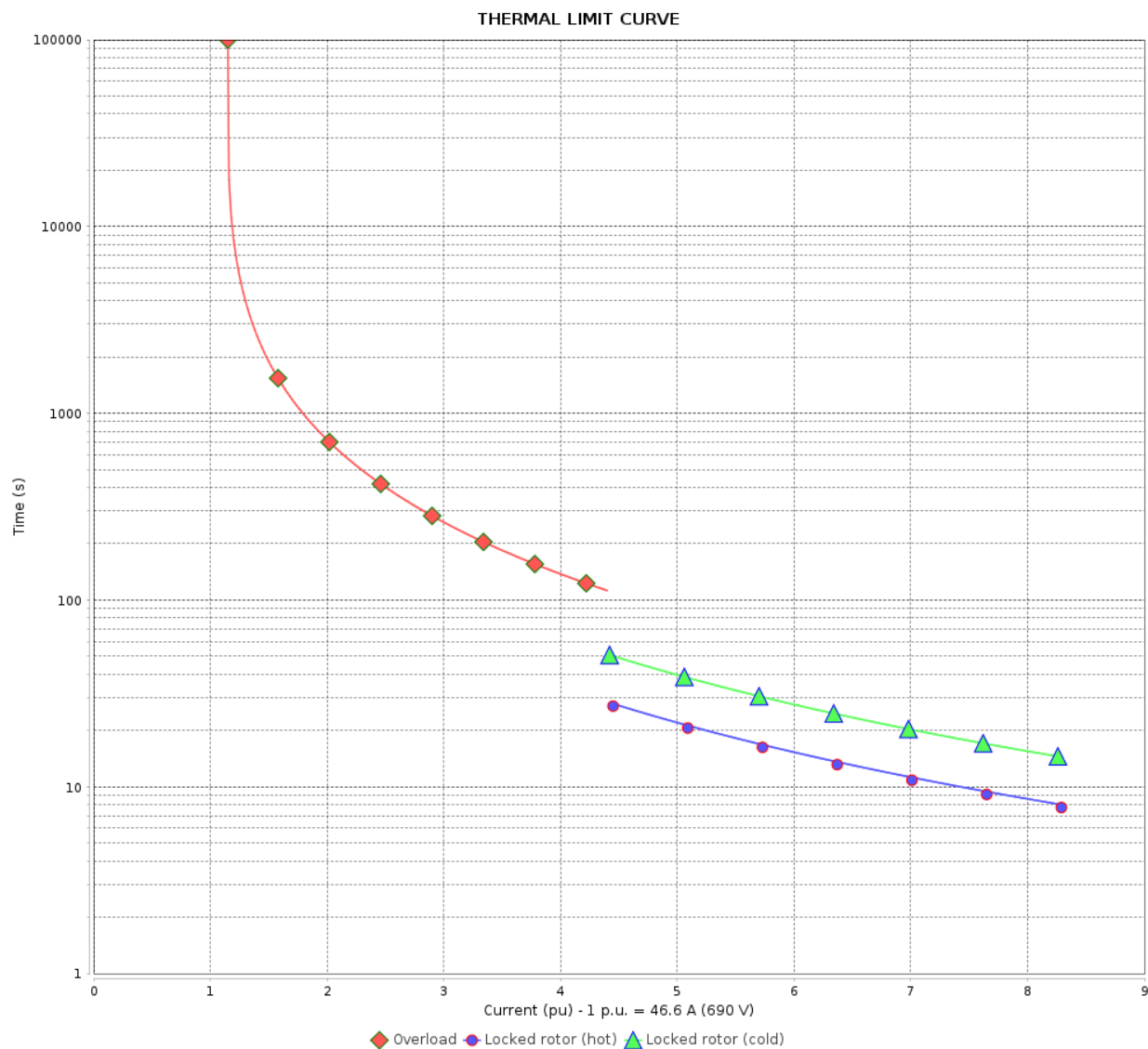
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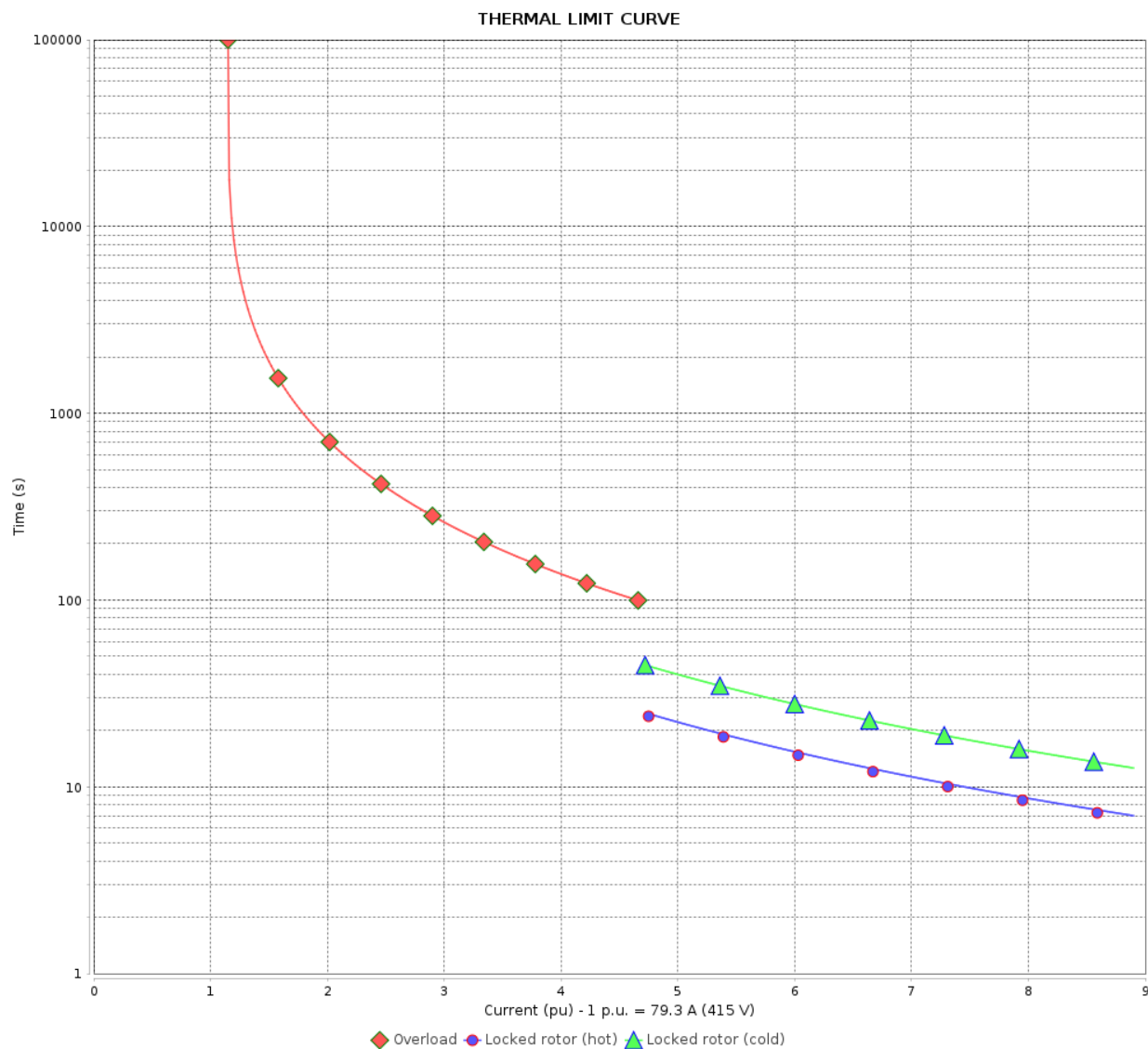
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Cooling constant

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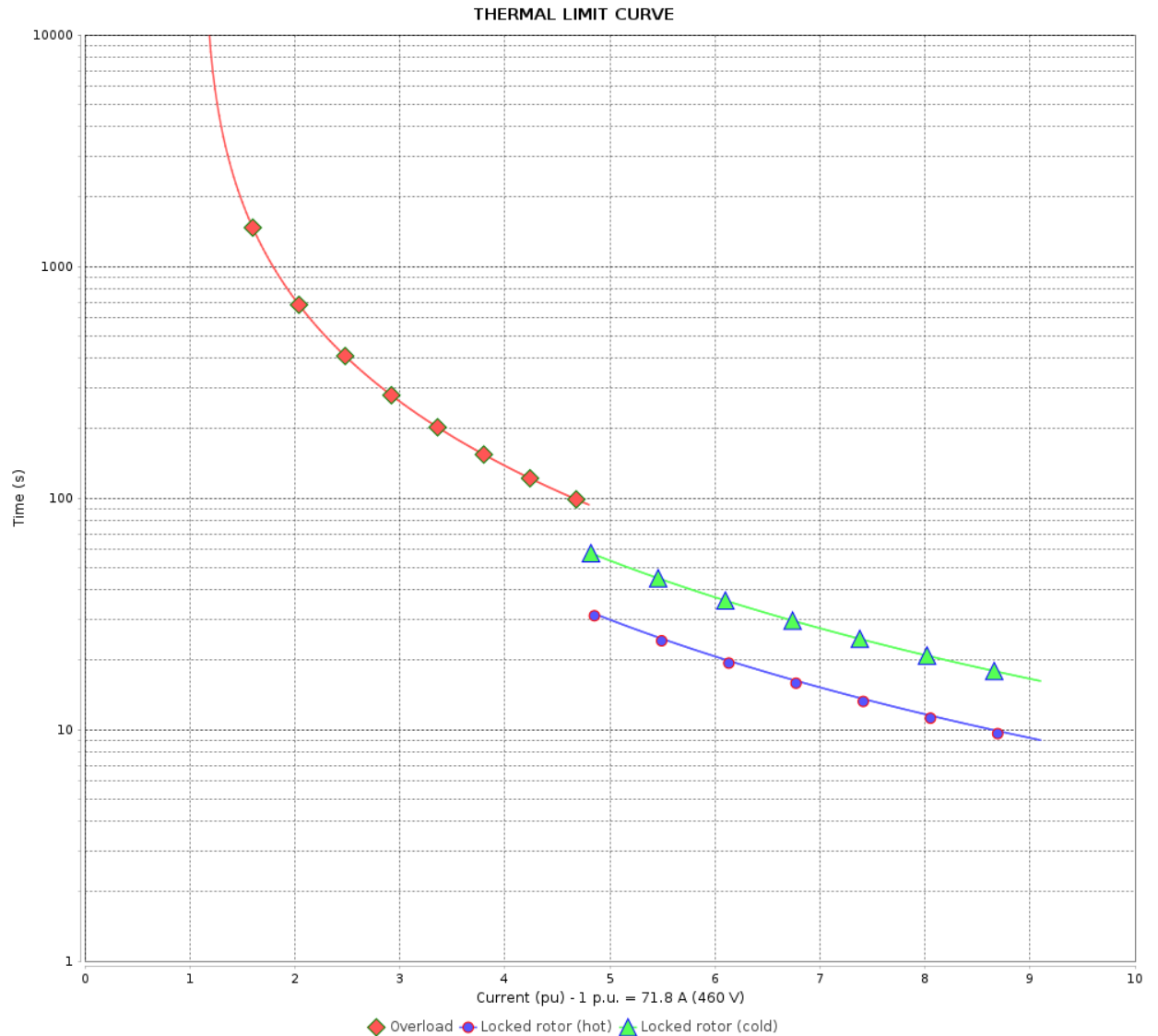
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Design : N

Heating constant

Cooling constant

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VFD OPERATION CURVE

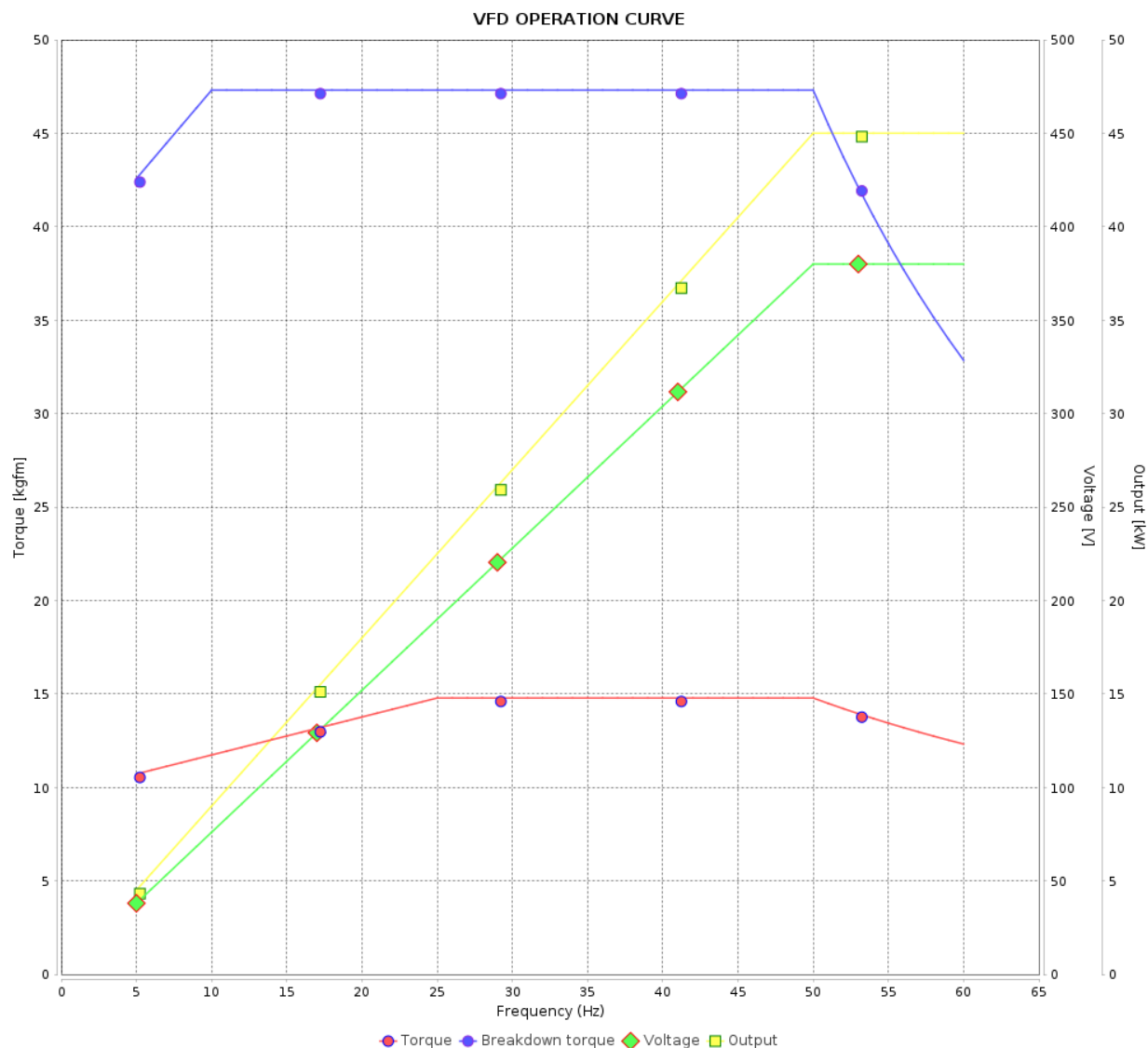
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VFD OPERATION CURVE

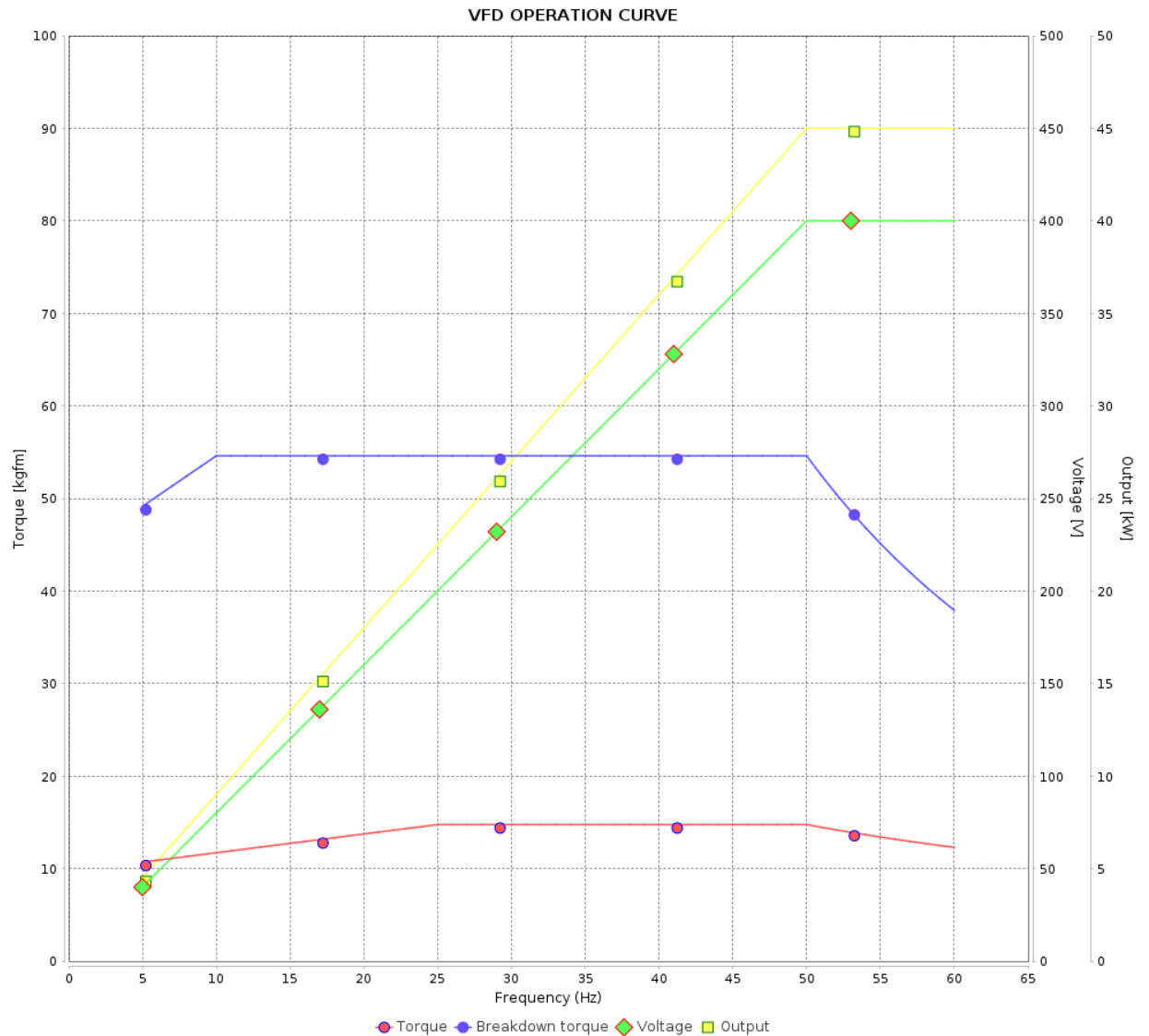
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 Service factor : 1.00
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VFD OPERATION CURVE

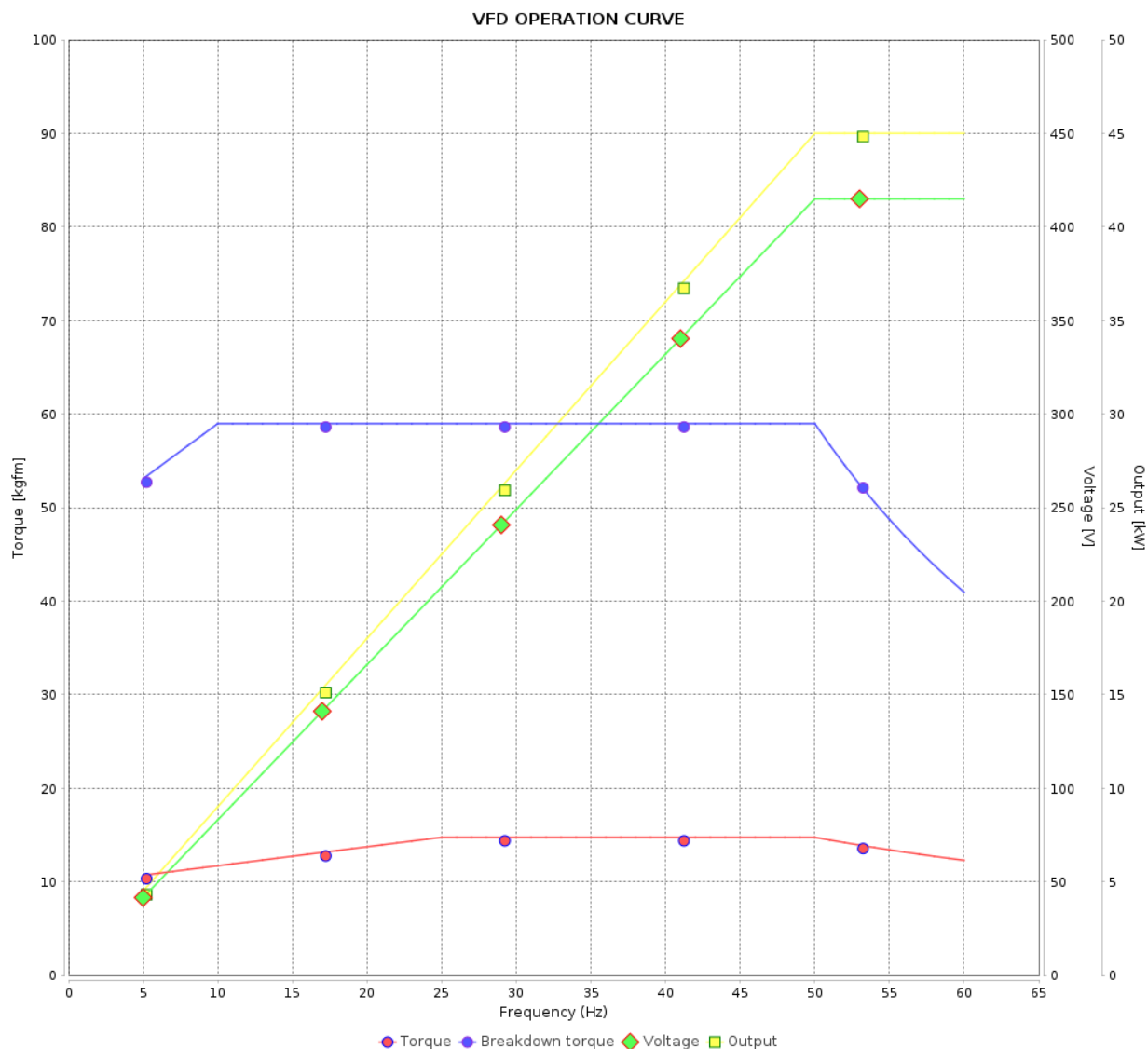
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VFD OPERATION CURVE

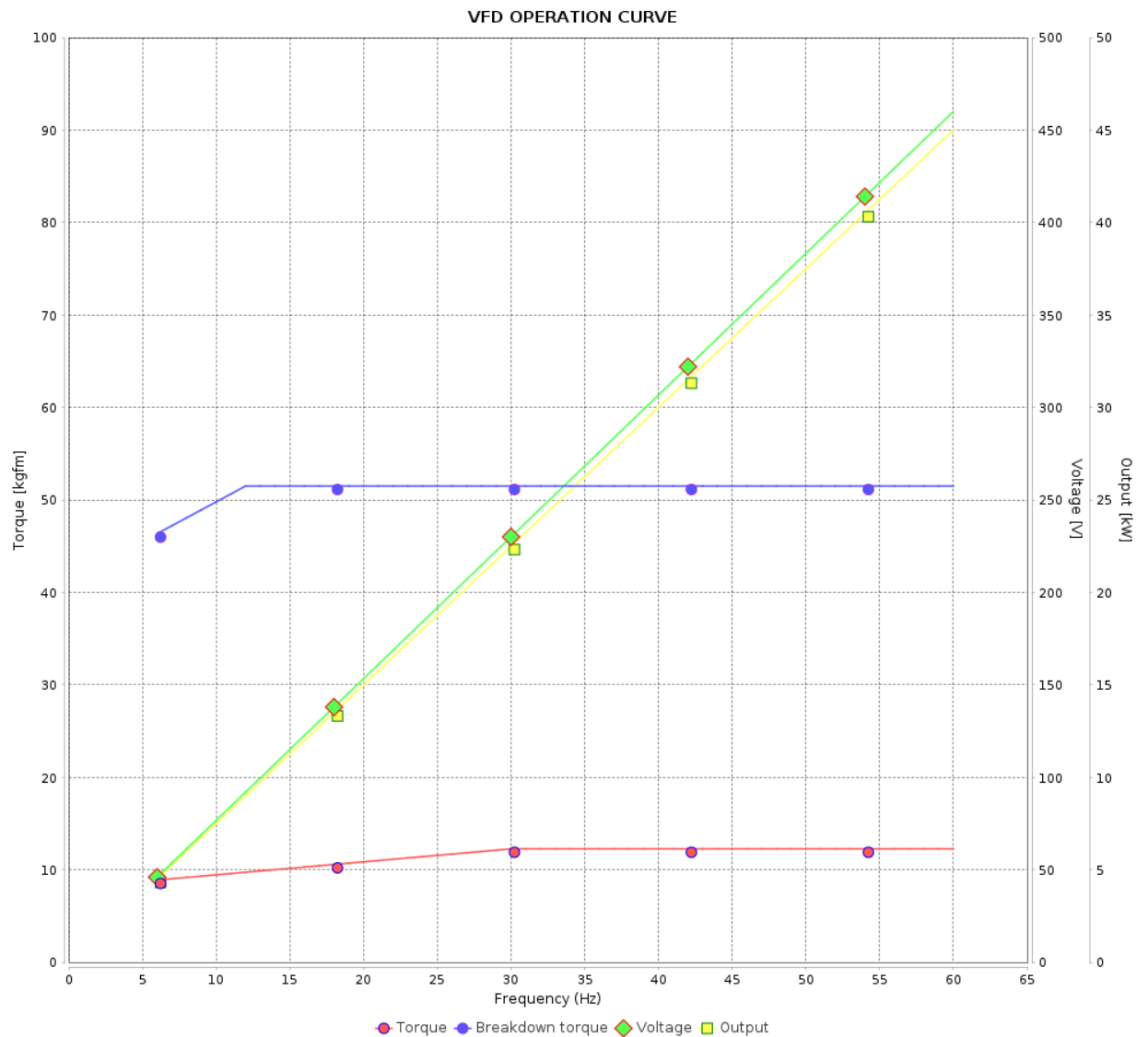
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Breakdown torque	: 420 %	Temperature rise	: 80 K
Rated speed	: 3575 rpm	Design	: N

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