

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12862502

Frame	: 225S/M	Cooling method	: IC411 - TEFC
Insulation class	: F	Mounting	: B3T
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	: 379 kg
Protection degree	: IP55	Moment of inertia (J)	: 0.6733 kgm ²
Design	: N		

Output [kW]	45	45	45	45
Poles	4	4	4	4
Frequency [Hz]	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460
Rated current [A]	86.4/49.7	84.1/48.8	83.1	73.4
L. R. Amperes [A]	579/333	631/366	656	631
LRC [A]	6.7	7.5	7.9	8.6
No load current [A]	33.0/19.0	37.0/21.4	40.0	34.0
Rated speed [RPM]	1475	1480	1480	1783
Slip [%]	1.67	1.33	1.33	0.94
Rated torque [kgfm]	29.6	29.5	29.5	24.5
Locked rotor torque [%]	240	280	300	320
Breakdown torque [%]	280	310	340	360
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)	19s (cold) 11s (hot)	19s (cold) 11s (hot)	25s (cold) 14s (hot)
Noise level ²	63.0 dB(A)	63.0 dB(A)	63.0 dB(A)	67.0 dB(A)
Efficiency (%)	25%			
	50%	93.8	93.7	93.0
	75%	94.0	94.1	94.5
	100%	94.2	94.2	95.0
Power Factor	25%			
	50%	0.70	0.66	0.64
	75%	0.80	0.77	0.75
	100%	0.84	0.82	0.81

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

Losses (%)	P1 (0,9;1,0)	5.9	5.9	5.9	5.0
	P2 (0,5;1,0)	5.0	5.0	5.0	4.3
	P3 (0,25;1,0)	4.9	4.9	4.9	4.2
	P4 (0,9;0,5)	2.8	2.8	2.8	2.4
	P5 (0,5;0,5)	1.9	1.9	1.9	1.6
	P6 (0,5;0,25)	1.2	1.2	1.2	1.1
	P7 (0,25;0,25)	0.9	0.9	0.9	0.7

	Drive end	Non drive end	Foundation loads
Bearing type	: 6314 C3	6314 C3	Max. traction : 804 kgf
Sealing	: WSeal	WSeal	Max. compression : 1183 kgf
Lubrication interval	: 14000 h	14000 h	
Lubricant amount	: 27 g	27 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 : Astraprom d.o.o.

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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

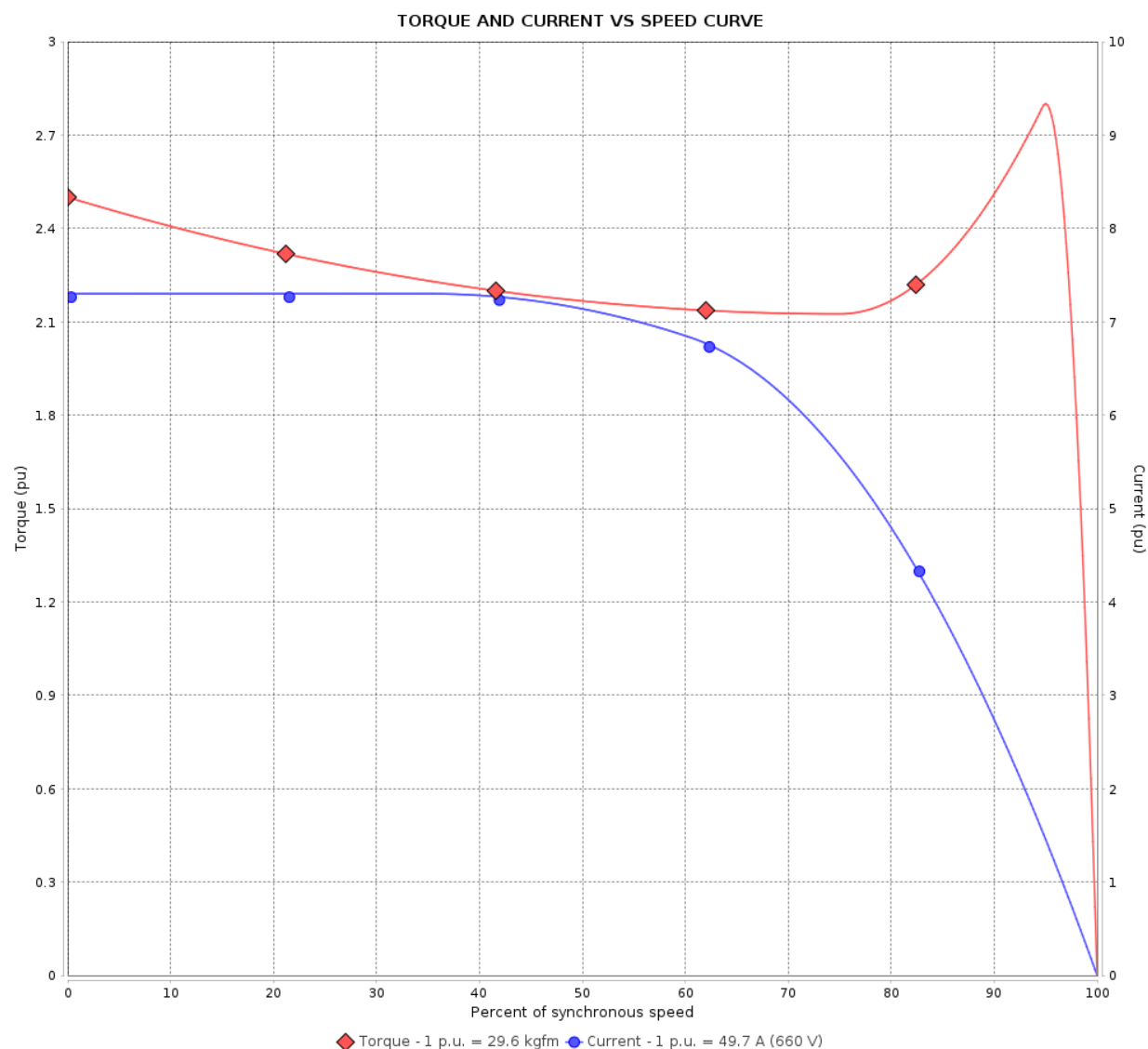
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12862502



Performance : 380/660 V 50 Hz 4P

Rated current : 86.4/49.7 A
 LRC : 6.7
 Rated torque : 29.6 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 0.6733 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

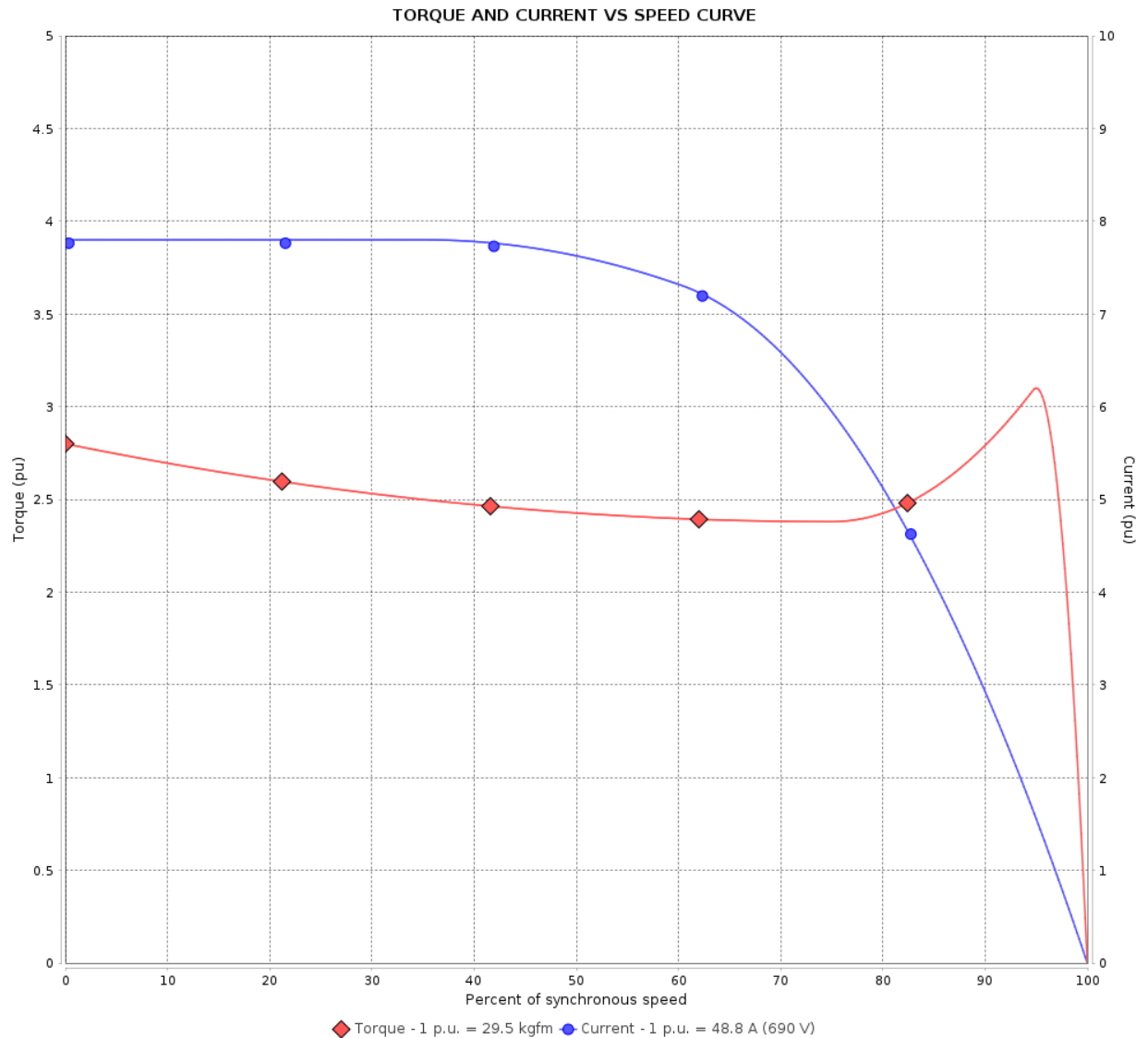
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

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Performance : 400/690 V 50 Hz 4P

Rated current : 84.1/48.8 A
LRC : 7.5
Rated torque : 29.5 kgfm
Locked rotor torque : 280 %
Breakdown torque : 310 %
Rated speed : 1480 rpm

Moment of inertia (J) : 0.6733 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

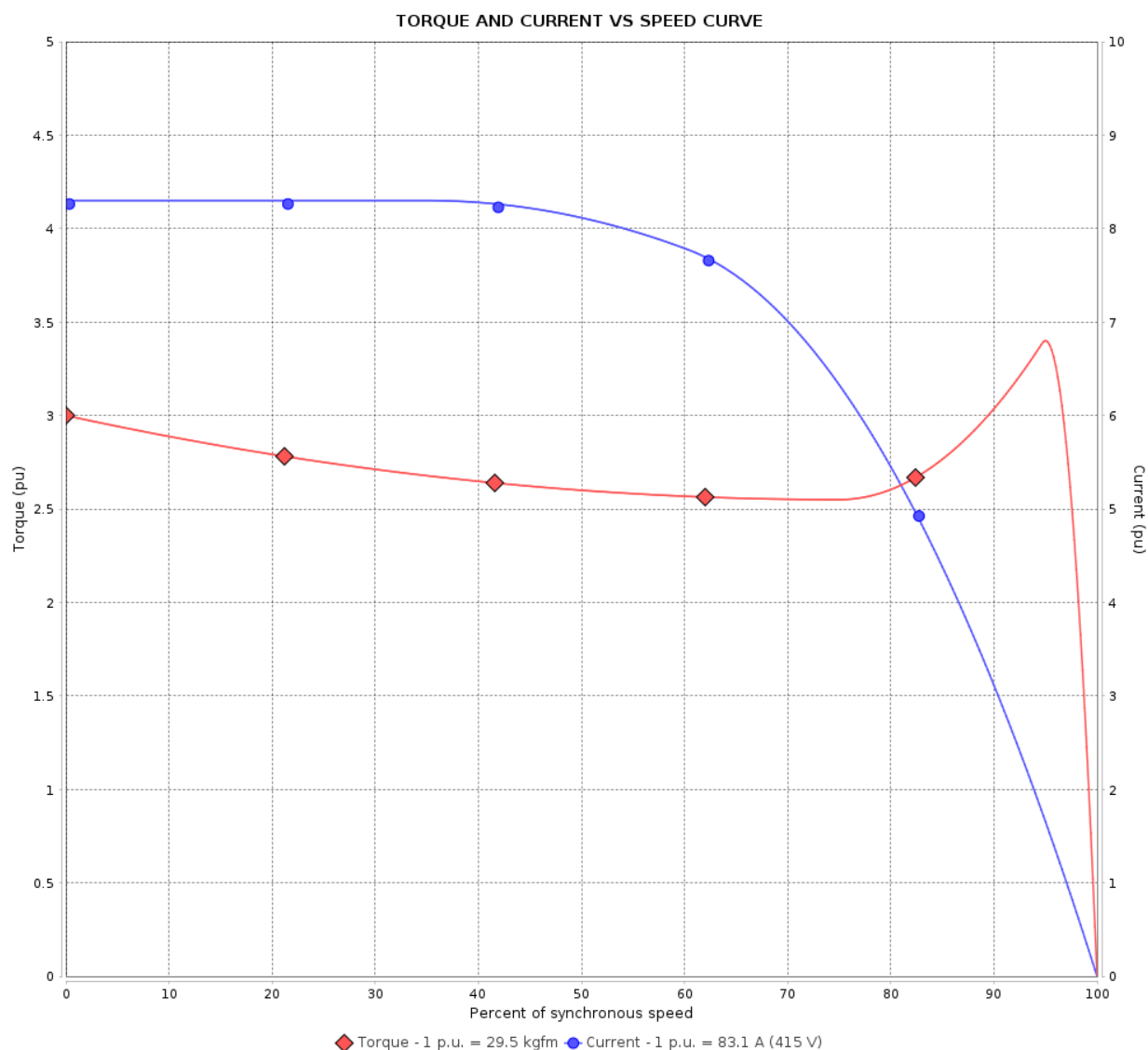
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12862502



Performance : 415 V 50 Hz 4P

Rated current	: 83.1 A	Moment of inertia (J)	: 0.6733 kgm ²
LRC	: 7.9	Duty cycle	: S1
Rated torque	: 29.5 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: N

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

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TORQUE AND CURRENT VS SPEED CURVE

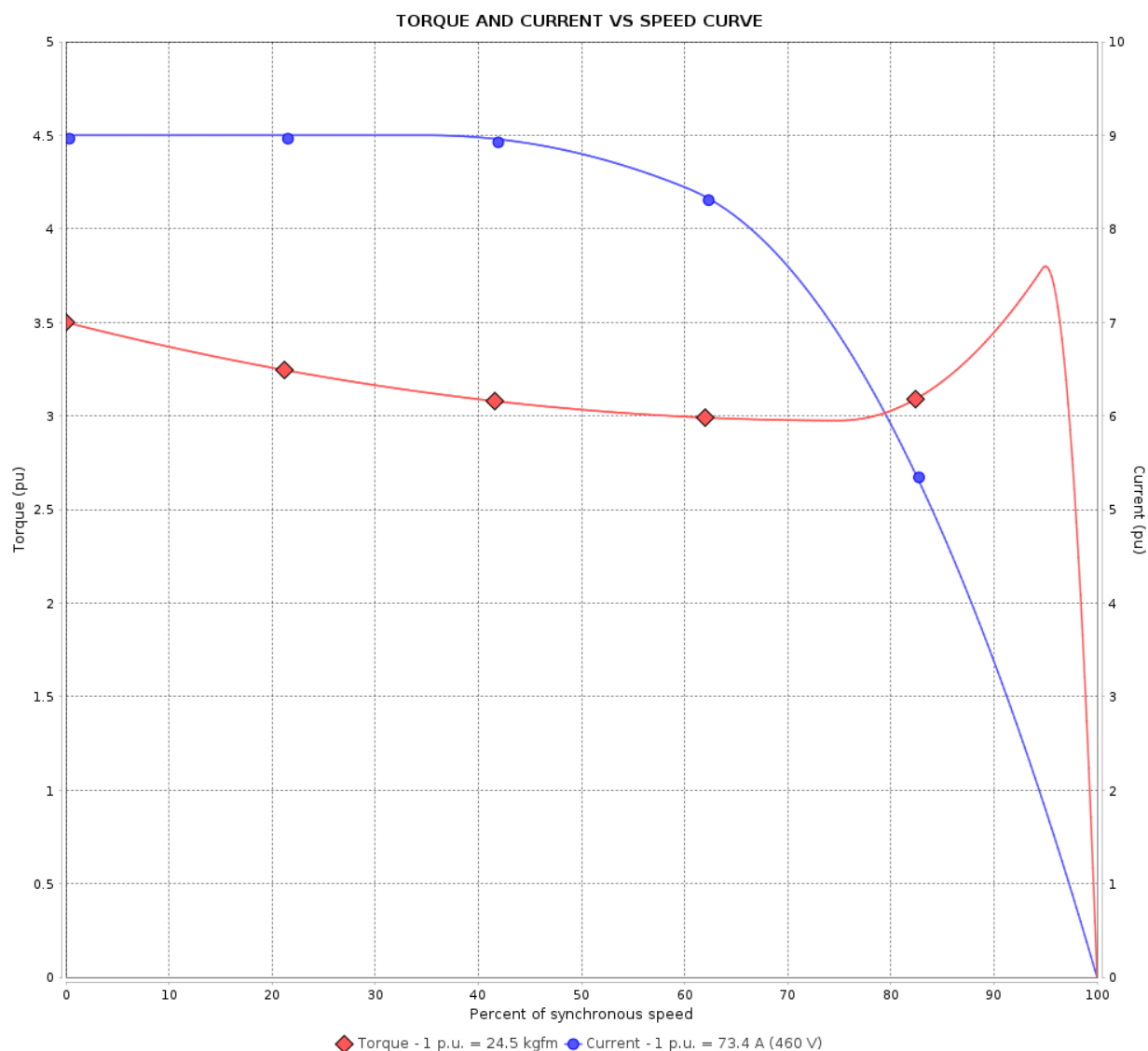
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12862502



Performance : 460 V 60 Hz 4P

Rated current	: 73.4 A	Moment of inertia (J)	: 0.6733 kgm ²
LRC	: 8.6	Duty cycle	: S1
Rated torque	: 24.5 kgfm	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1783 rpm	Design	: N

Locked rotor time : 25s (cold) 14s (hot)

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LOAD PERFORMANCE CURVE

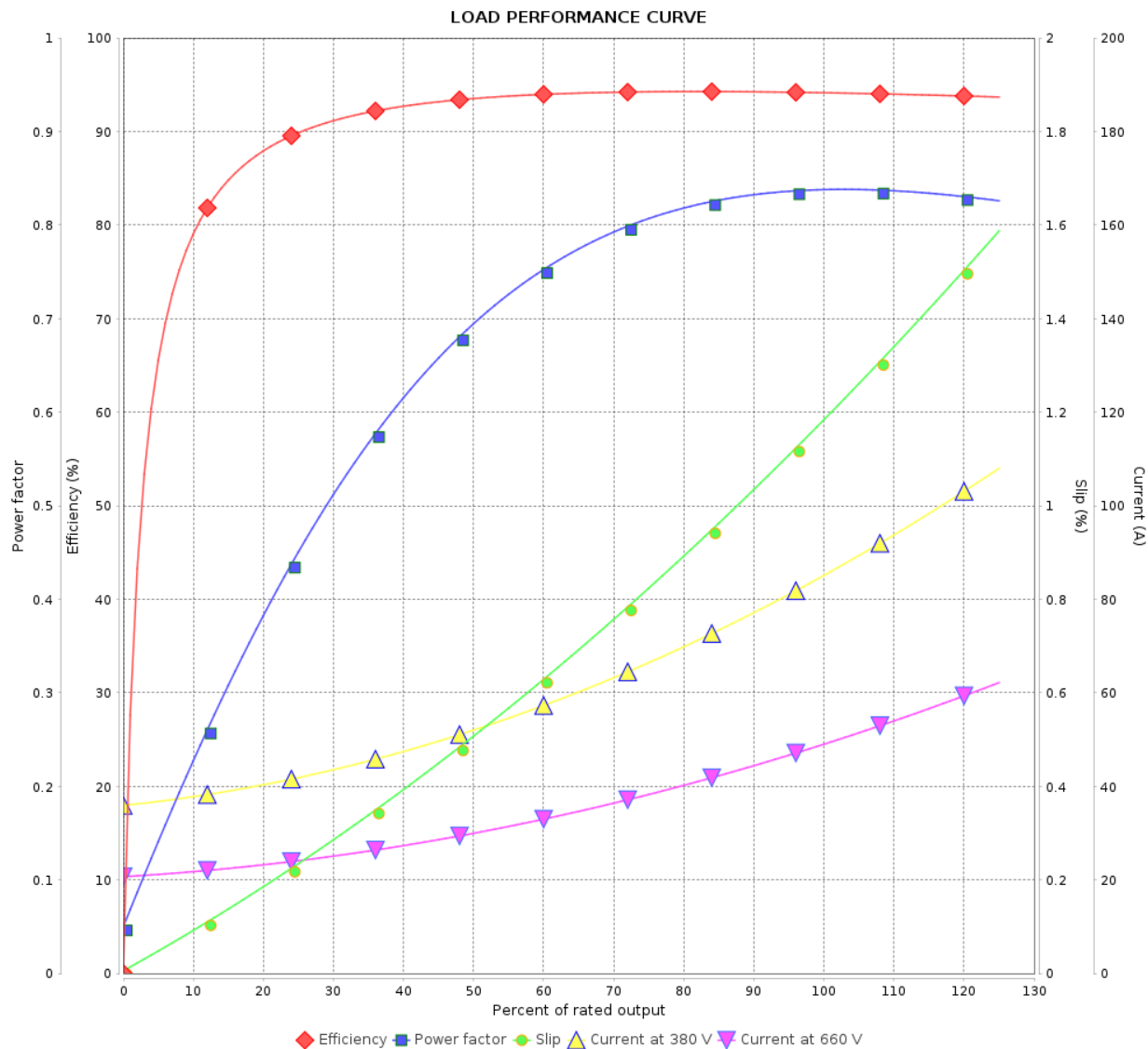
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Performance : 380/660 V 50 Hz 4P

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 Locked rotor torque : 240 %
 Breakdown torque : 280 %
 Rated speed : 1475 rpm

Moment of inertia (J) : 0.6733 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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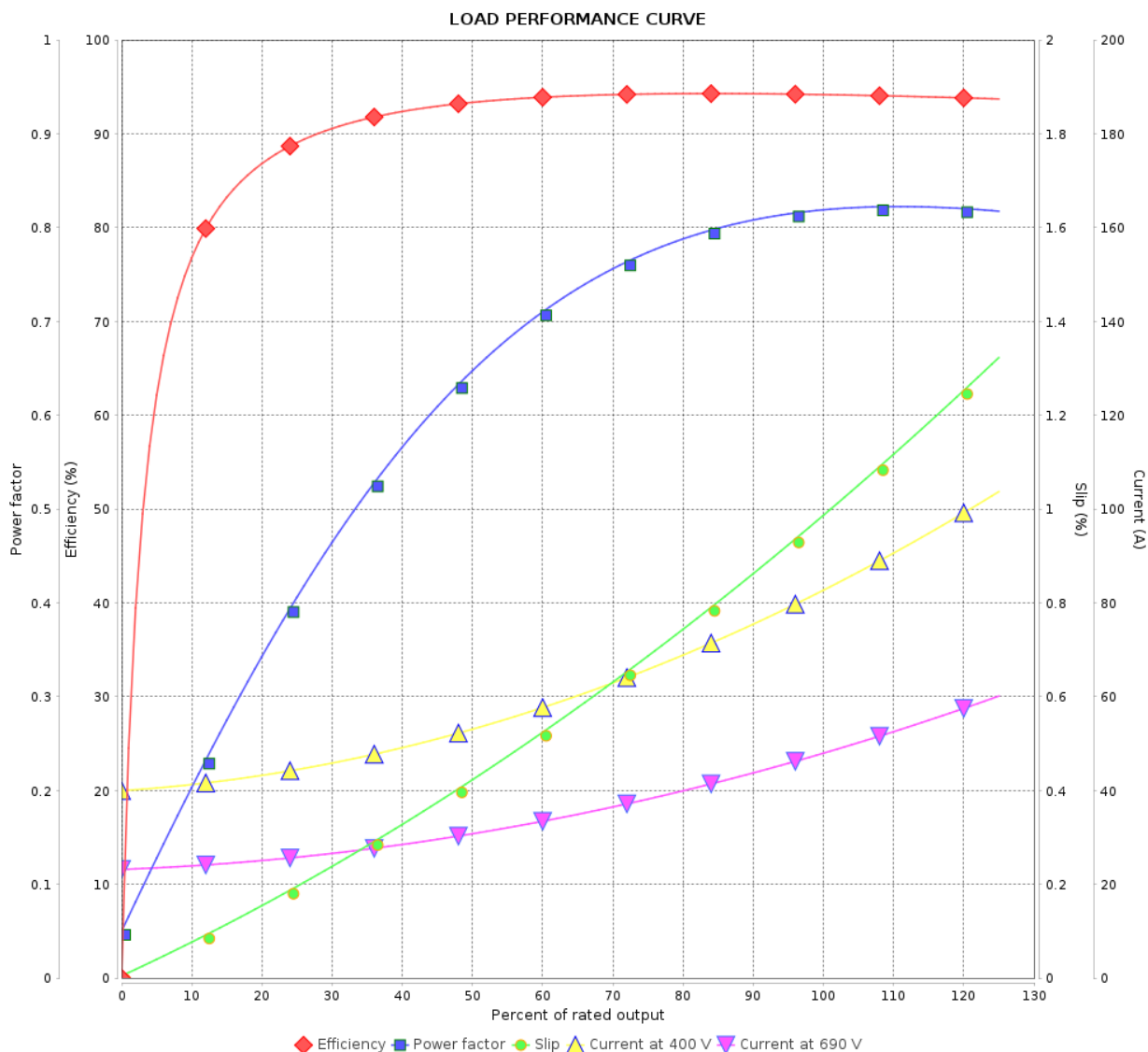
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 Breakdown torque : 310 %
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Moment of inertia (J) : 0.6733 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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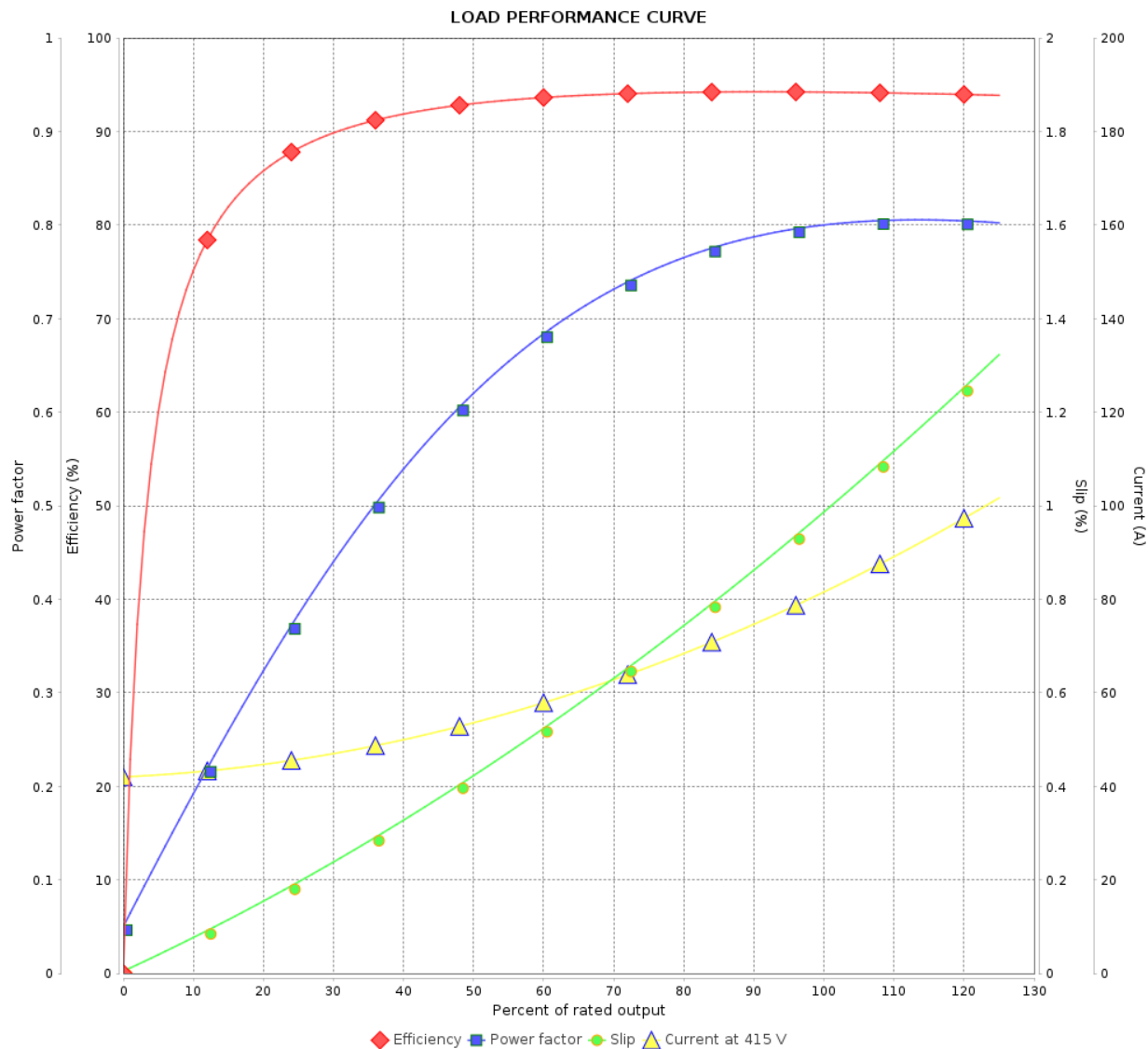
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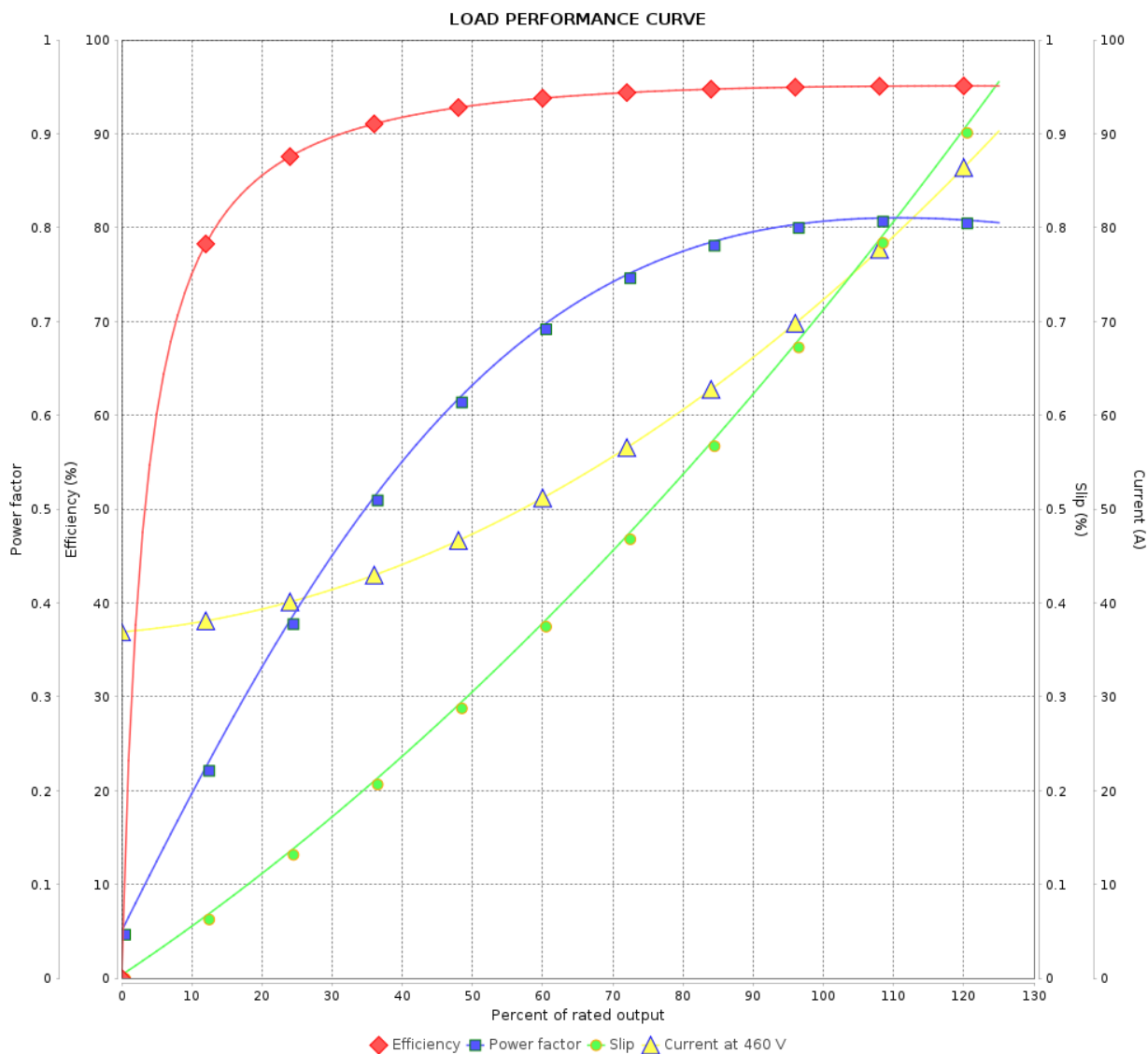
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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THERMAL LIMIT CURVE

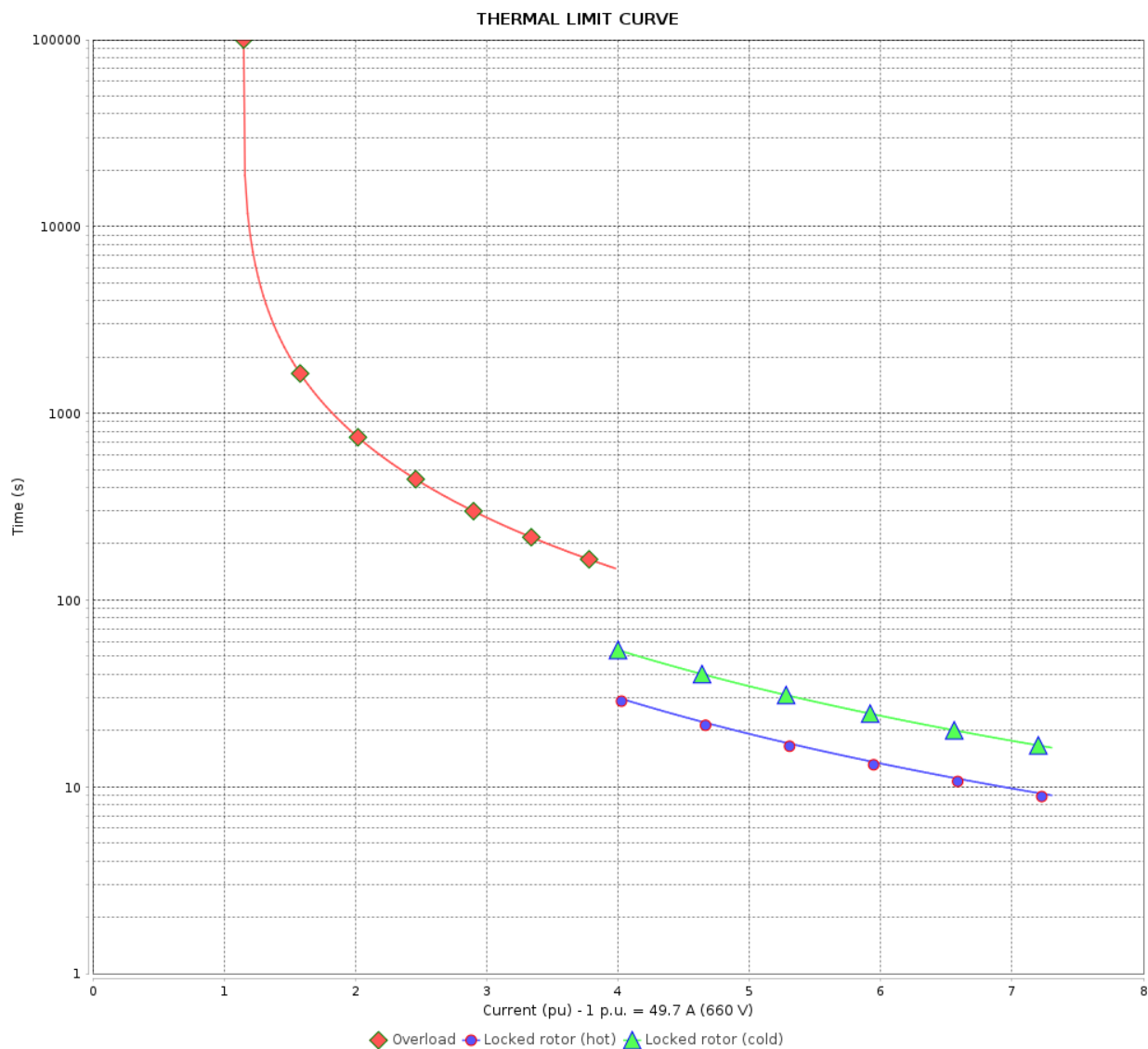
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Duty cycle : S1
Insulation class : F
Service factor : 1.00
Temperature rise : 80 K
Design : N

Heating constant

Cooling constant

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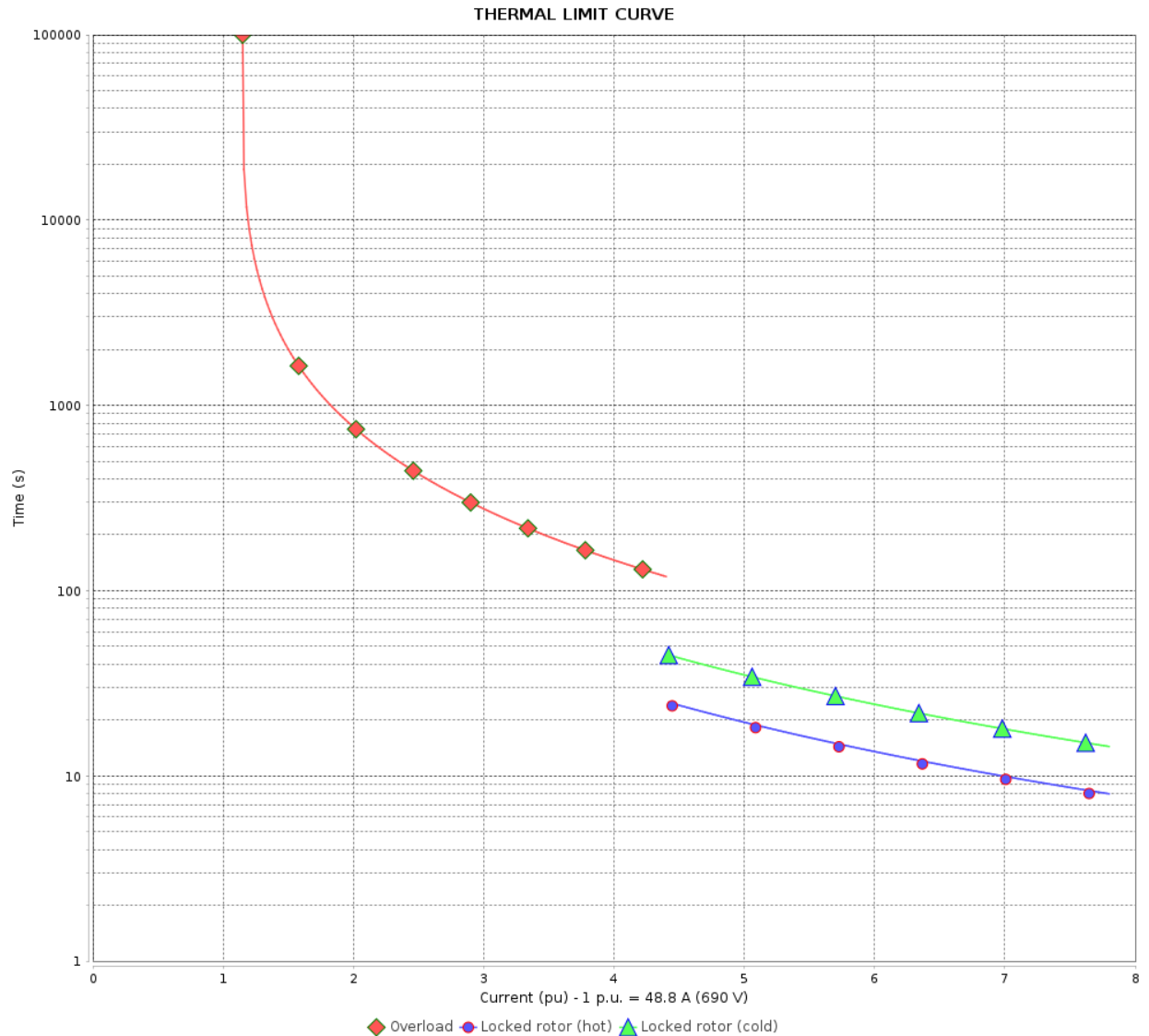
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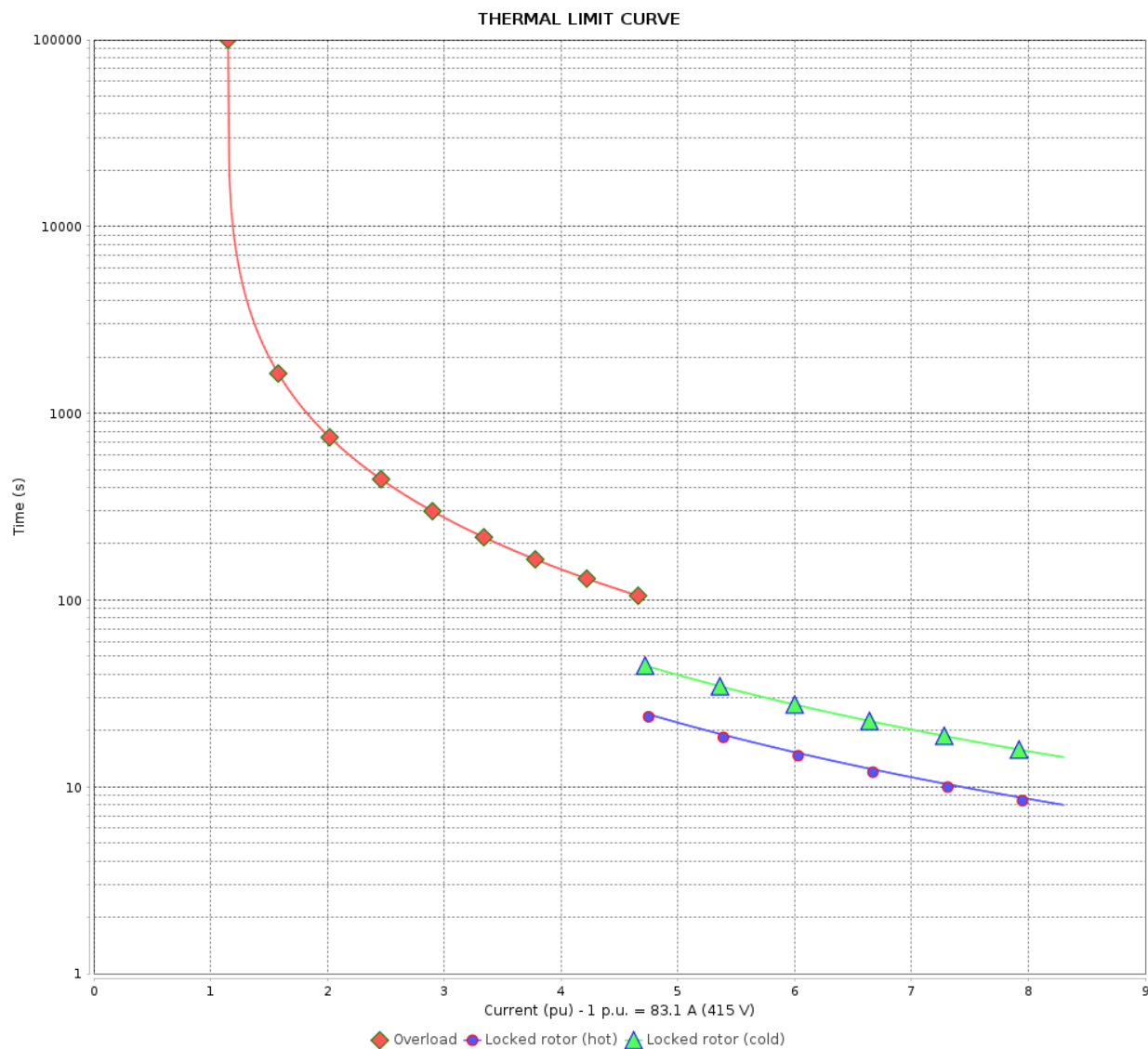
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LRC	: 7.9	Duty cycle	: S1
Rated torque	: 29.5 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: N

Heating constant

Cooling constant

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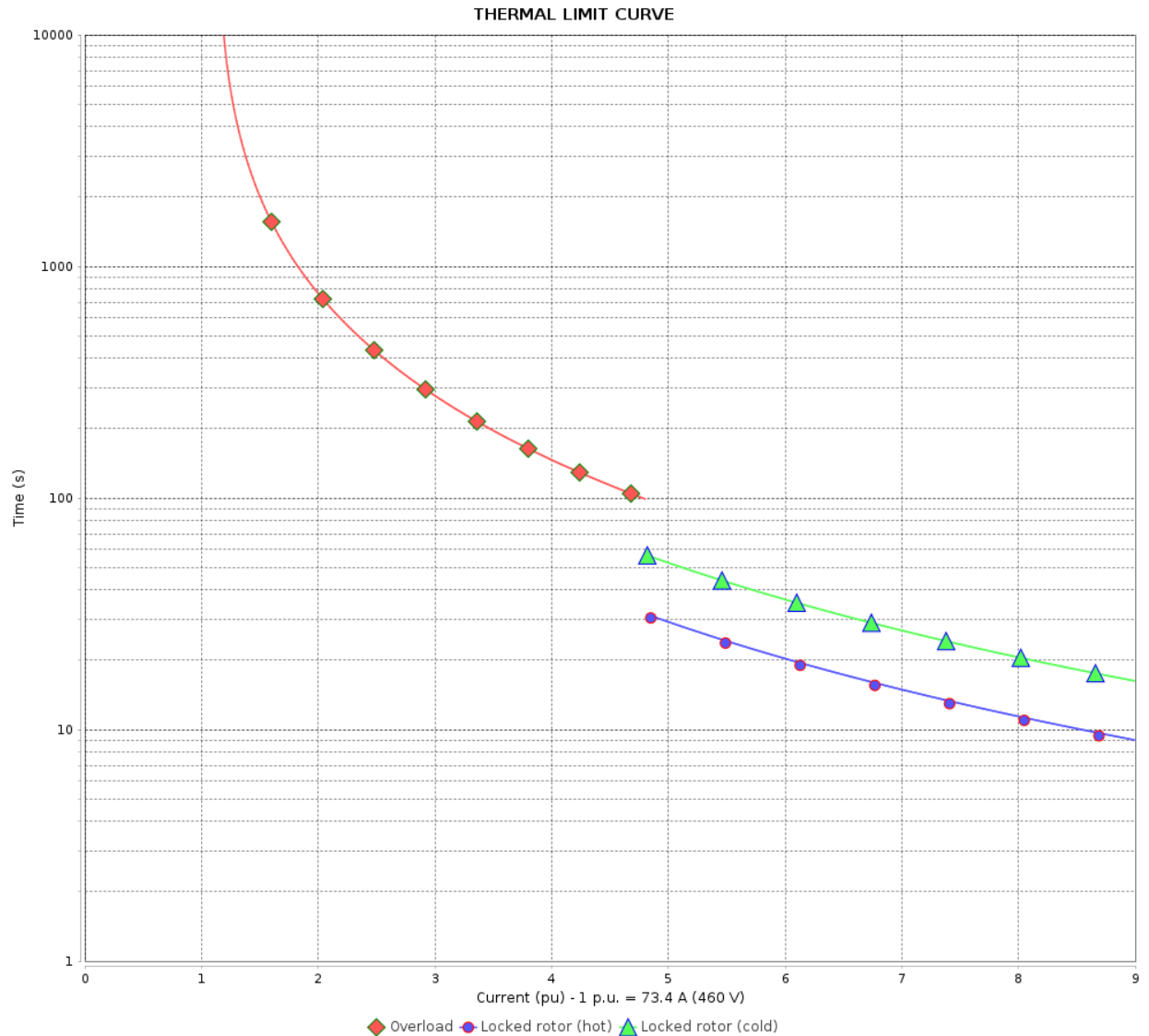
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Customer : Astraprom d.o.o.

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Performance : 460 V 60 Hz 4P

Rated current : 73.4 A
 LRC : 8.6
 Rated torque : 24.5 kgfm
 Locked rotor torque : 320 %
 Breakdown torque : 360 %
 Rated speed : 1783 rpm

Moment of inertia (J) : 0.6733 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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Cooling constant

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VFD OPERATION CURVE

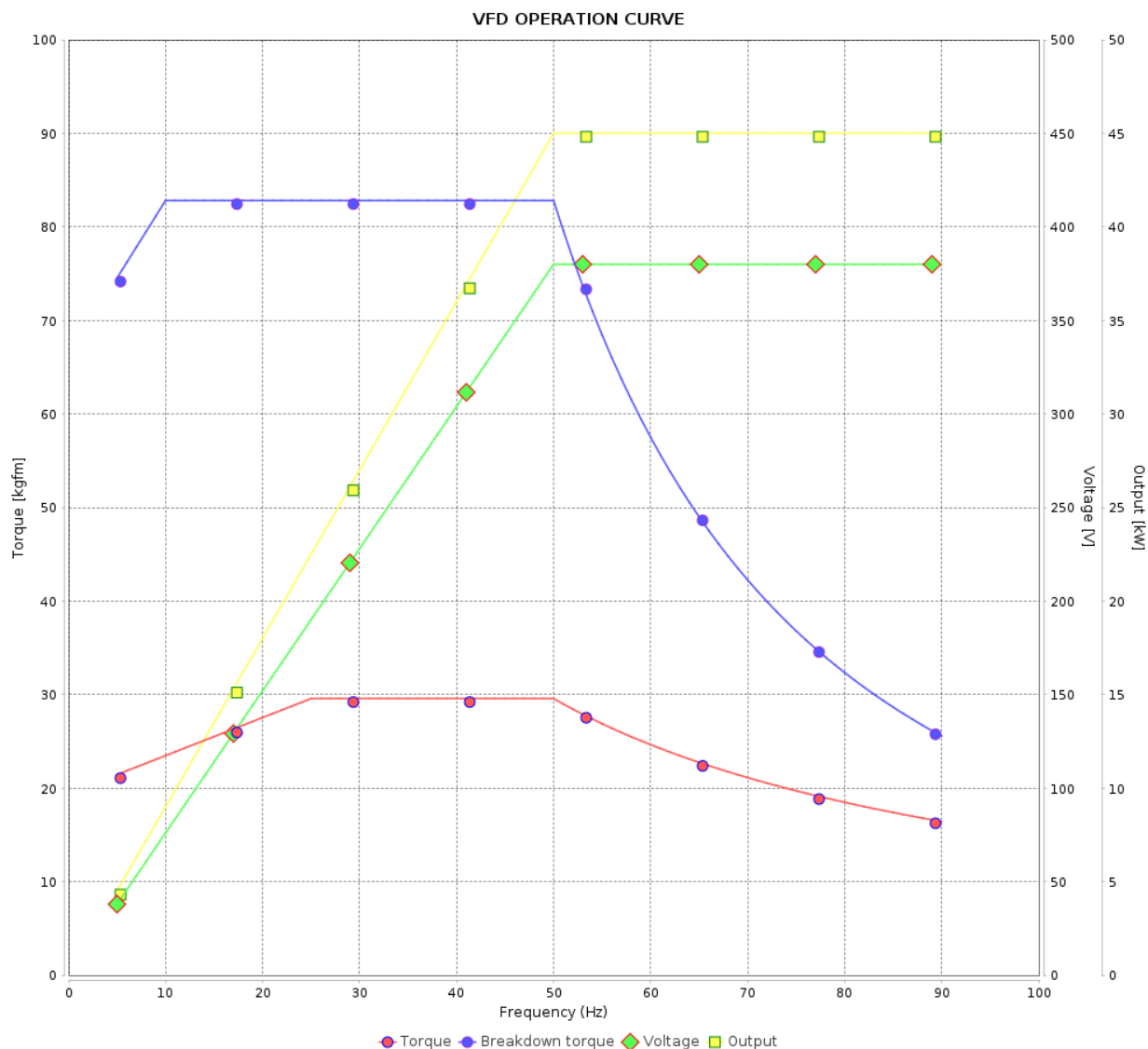
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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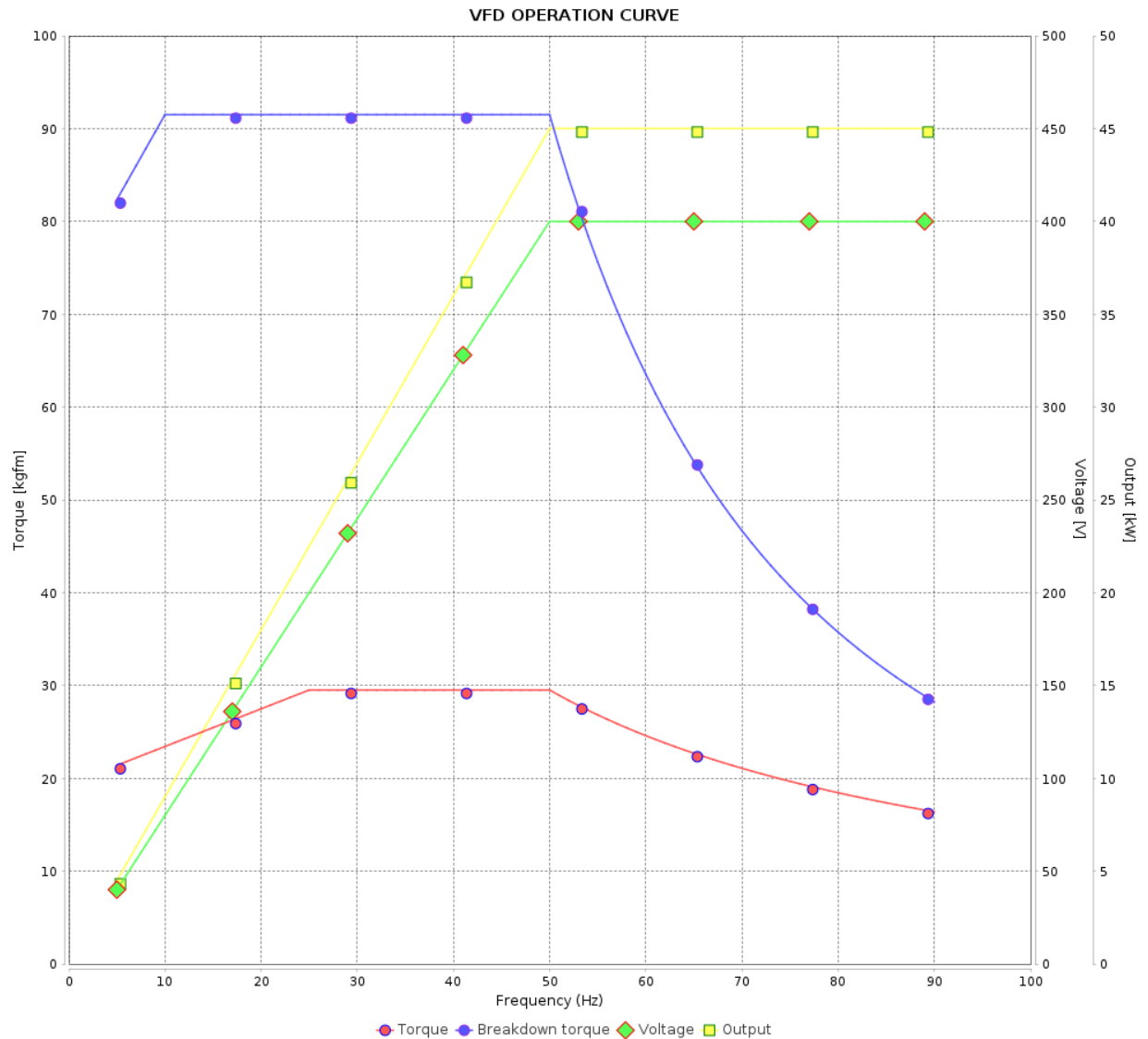
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VFD OPERATION CURVE

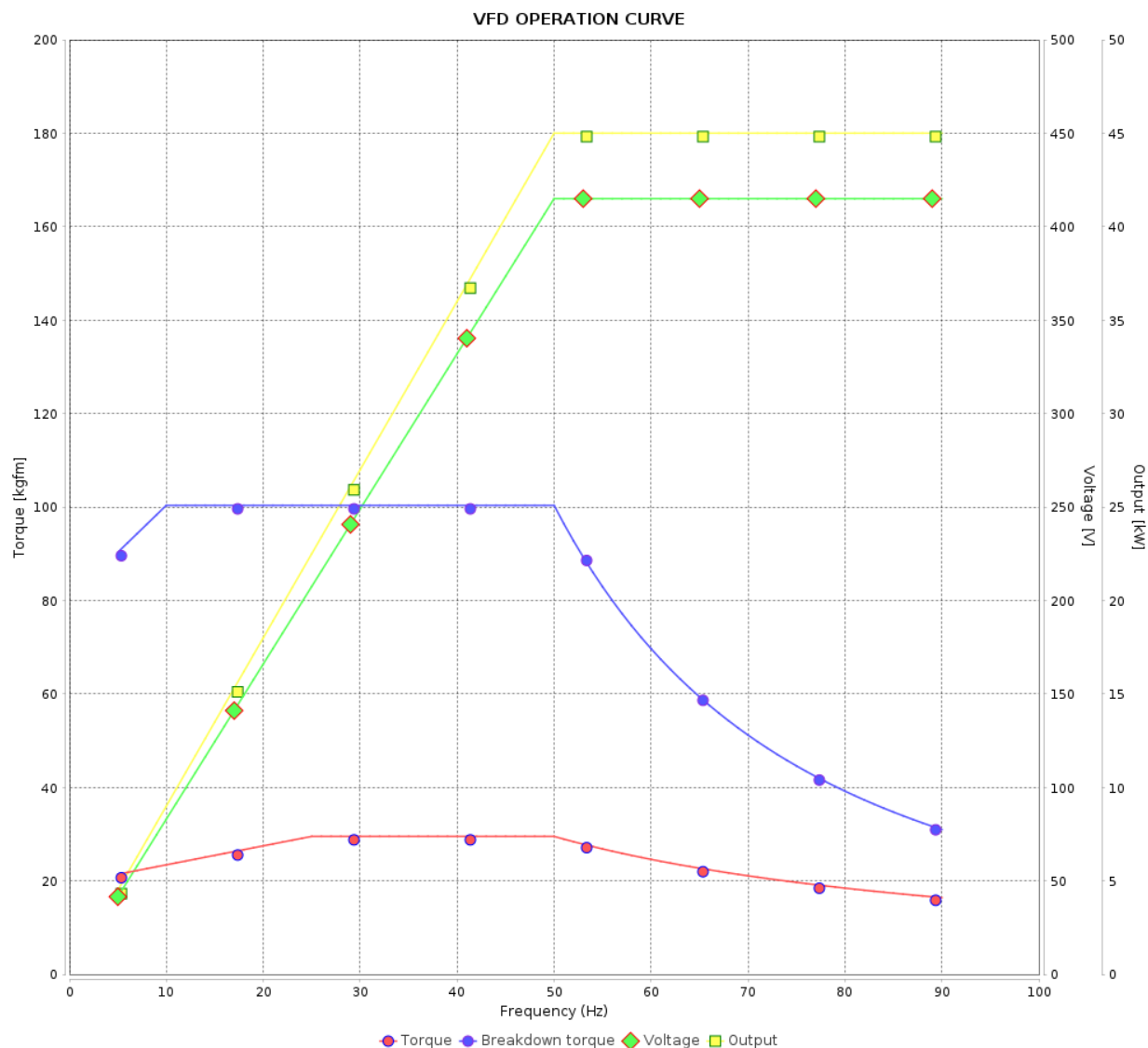
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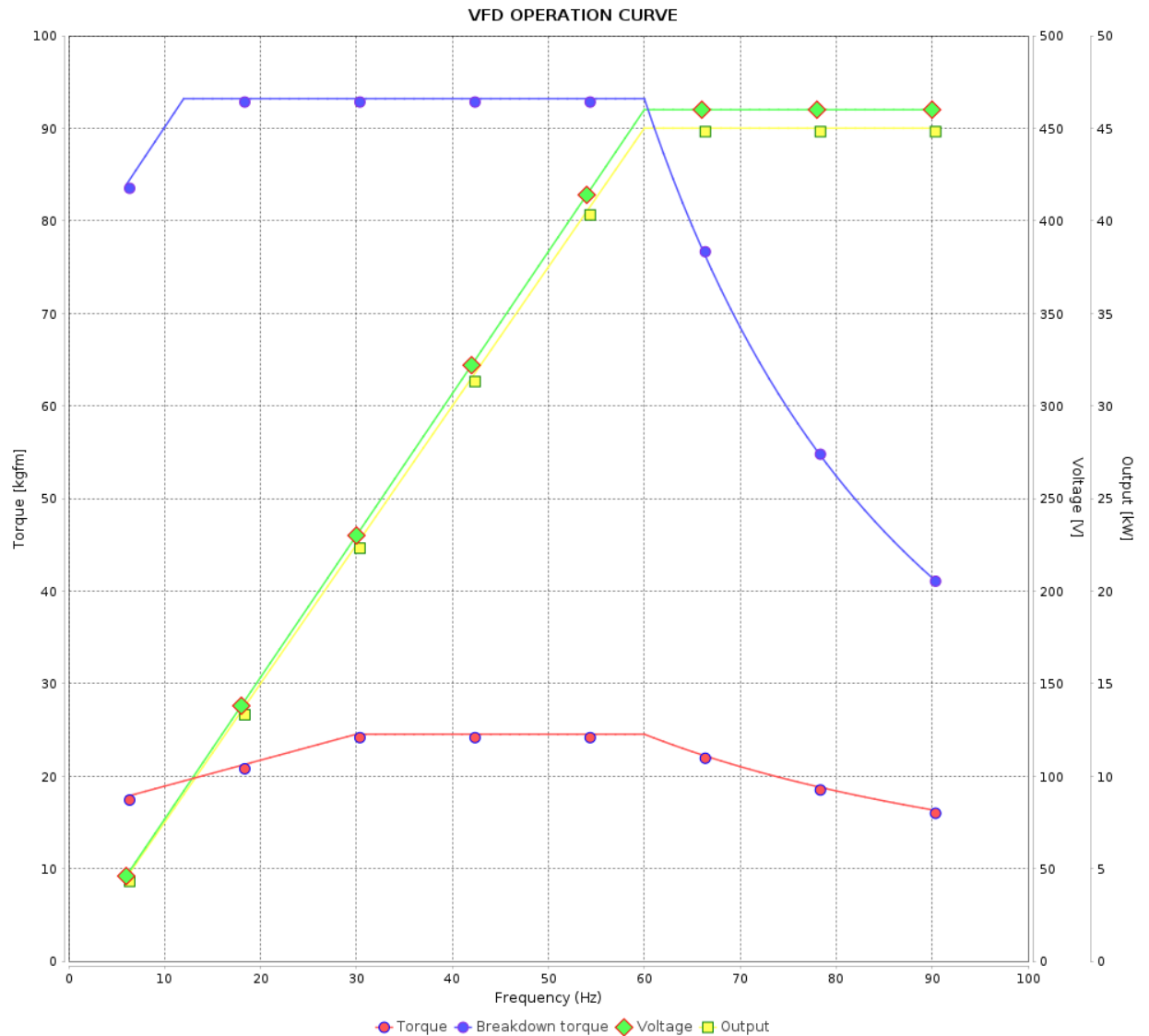
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Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1783 rpm	Design	: N

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