

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: W22 IE3 Three-Phase		Product code : 13317473	
Frame	: 100L	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: B14T		
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	: 31.8 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0090 kgm ²		
Design	: N				
Output [kW]	2.2	2.2	2.2	2.2	2.2
Poles	4	4	4	4	4
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	220/380	230/400	240/415	460	
Rated current [A]	8.22/4.76	8.03/4.62	7.89/4.56	4.06	
L. R. Amperes [A]	60.8/35.2	62.7/36.0	64.7/37.4	36.5	
LRC [A]	7.4	7.8	8.2	9.0	
No load current [A]	3.80/2.20	4.17/2.40	4.50/2.60	2.20	
Rated speed [RPM]	1430	1435	1440	1745	
Slip [%]	4.67	4.33	4.00	3.06	
Rated torque [kgfm]	1.50	1.49	1.49	1.23	
Locked rotor torque [%]	310	350	380	409	
Breakdown torque [%]	290	340	370	400	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	32s (cold) 0s (hot)	32s (cold) 0s (hot)	32s (cold) 0s (hot)	32s (cold) 0s (hot)	
Noise level ²	53.0 dB(A)	53.0 dB(A)	53.0 dB(A)	54.0 dB(A)	
Efficiency (%)	25%				
	50%	87.2	86.5	85.7	84.0
	75%	87.1	87.0	86.8	86.5
	100%	86.7	87.0	87.2	89.5
Power Factor	25%				
	50%	0.62	0.59	0.55	0.55
	75%	0.75	0.72	0.68	0.68
	100%	0.81	0.79	0.77	0.76
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	15.3	14.9	14.6	11.7
	P2 (0,5;1,0)	13.9	13.5	13.3	10.6
	P3 (0,25;1,0)	12.5	12.2	11.9	9.5
	P4 (0,9;0,5)	6.7	6.5	6.4	5.1
	P5 (0,5;0,5)	5.0	4.9	4.8	3.8
	P6 (0,5;0,25)	3.1	3.0	3.0	2.4
	P7 (0,25;0,25)	2.4	2.3	2.3	1.8
Bearing type	: Drive end 6206 ZZ	Non drive end 6205 ZZ	Foundation loads		
Sealing	: Oil Seal	Lip Seal	Max. traction	: 106 kgf	
Lubrication interval	: -	-	Max. compression	: 138 kgf	
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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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

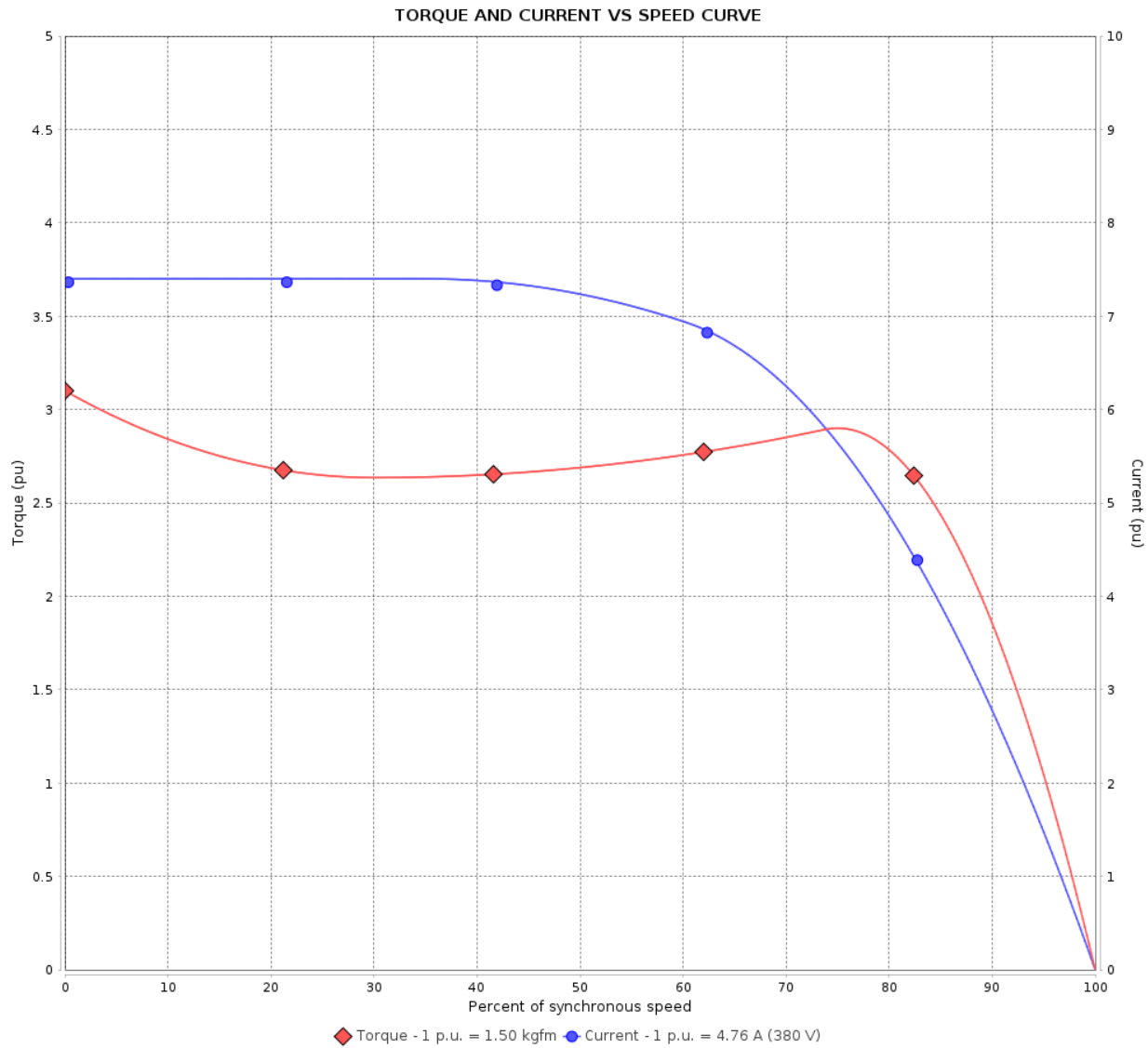
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 13317473



Performance : 220/380 V 50 Hz 4P

Rated current	: 8.22/4.76 A	Moment of inertia (J)	: 0.0090 kgm ²
LRC	: 7.4	Duty cycle	: S1
Rated torque	: 1.50 kgfm	Insulation class	: F
Locked rotor torque	: 310 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1430 rpm	Design	: N

Locked rotor time : 32s (cold) 0s (hot)

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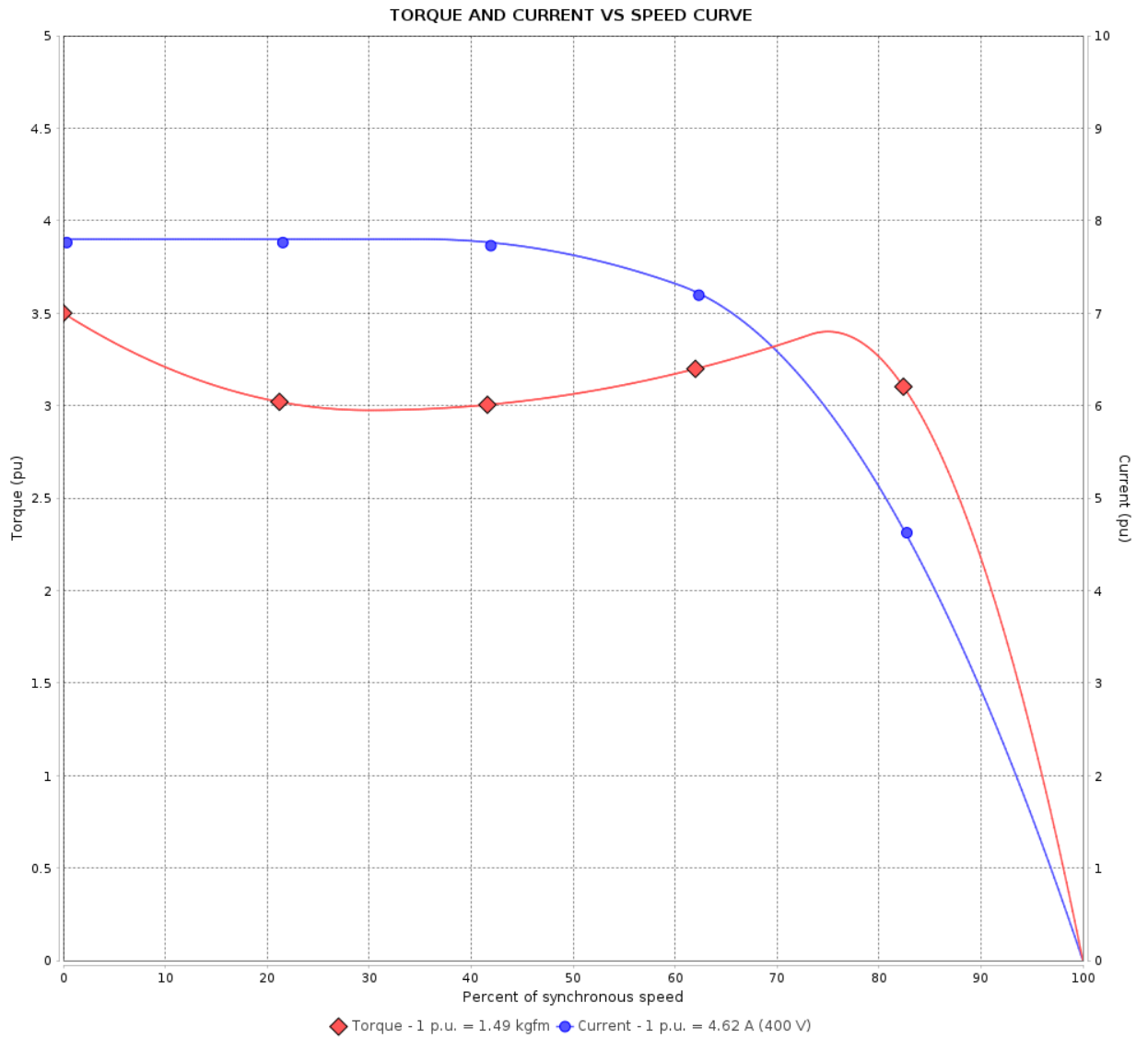


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

13317473



Performance : 230/400 V 50 Hz 4P

Rated current	: 8.03/4.62 A	Moment of inertia (J)	: 0.0090 kgm ²
LRC	: 7.8	Duty cycle	: S1
Rated torque	: 1.49 kgfm	Insulation class	: F
Locked rotor torque	: 350 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1435 rpm	Design	: N

Locked rotor time : 32s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

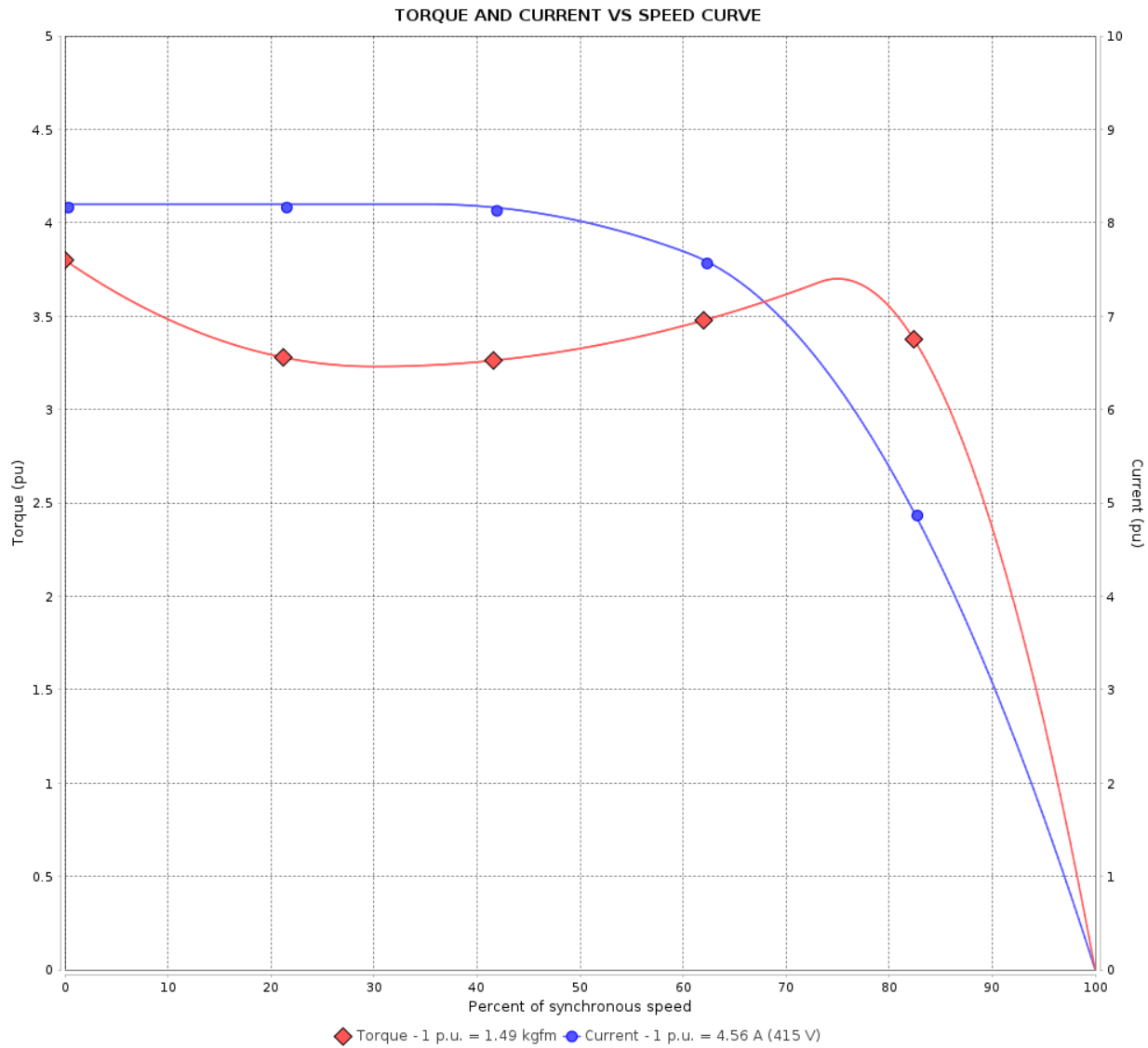
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 13317473



Performance : 240/415 V 50 Hz 4P

Rated current	: 7.89/4.56 A	Moment of inertia (J)	: 0.0090 kgm ²
LRC	: 8.2	Duty cycle	: S1
Rated torque	: 1.49 kgfm	Insulation class	: F
Locked rotor torque	: 380 %	Service factor	: 1.00
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 1440 rpm	Design	: N

Locked rotor time : 32s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE



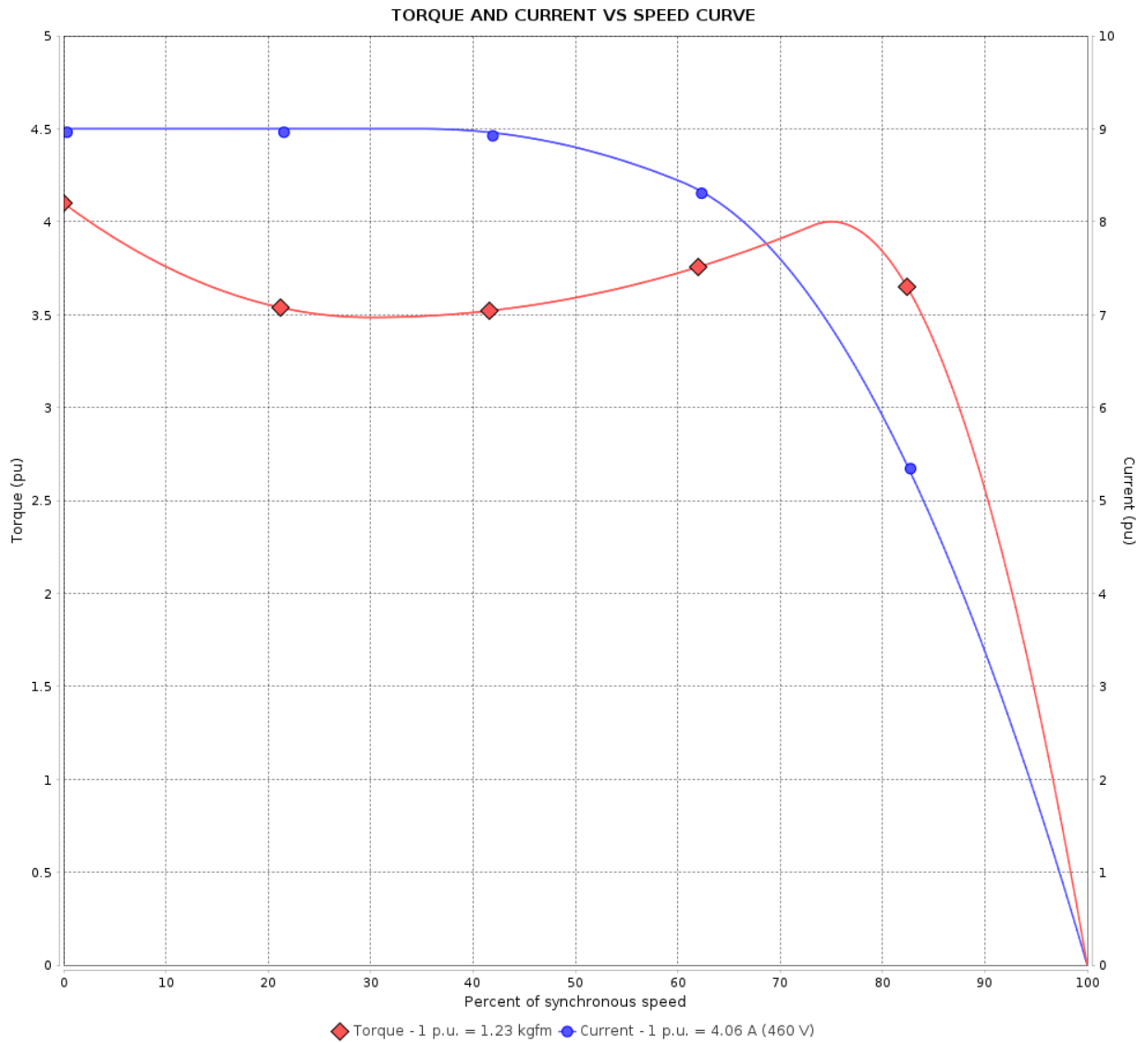
Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

13317473



Performance : 460 V 60 Hz 4P

Rated current	: 4.06 A	Moment of inertia (J)	: 0.0090 kgm ²
LRC	: 9.0	Duty cycle	: S1
Rated torque	: 1.23 kgfm	Insulation class	: F
Locked rotor torque	: 409 %	Service factor	: 1.00
Breakdown torque	: 400 %	Temperature rise	: 80 K
Rated speed	: 1745 rpm	Design	: N

Locked rotor time : 32s (cold) 0s (hot)

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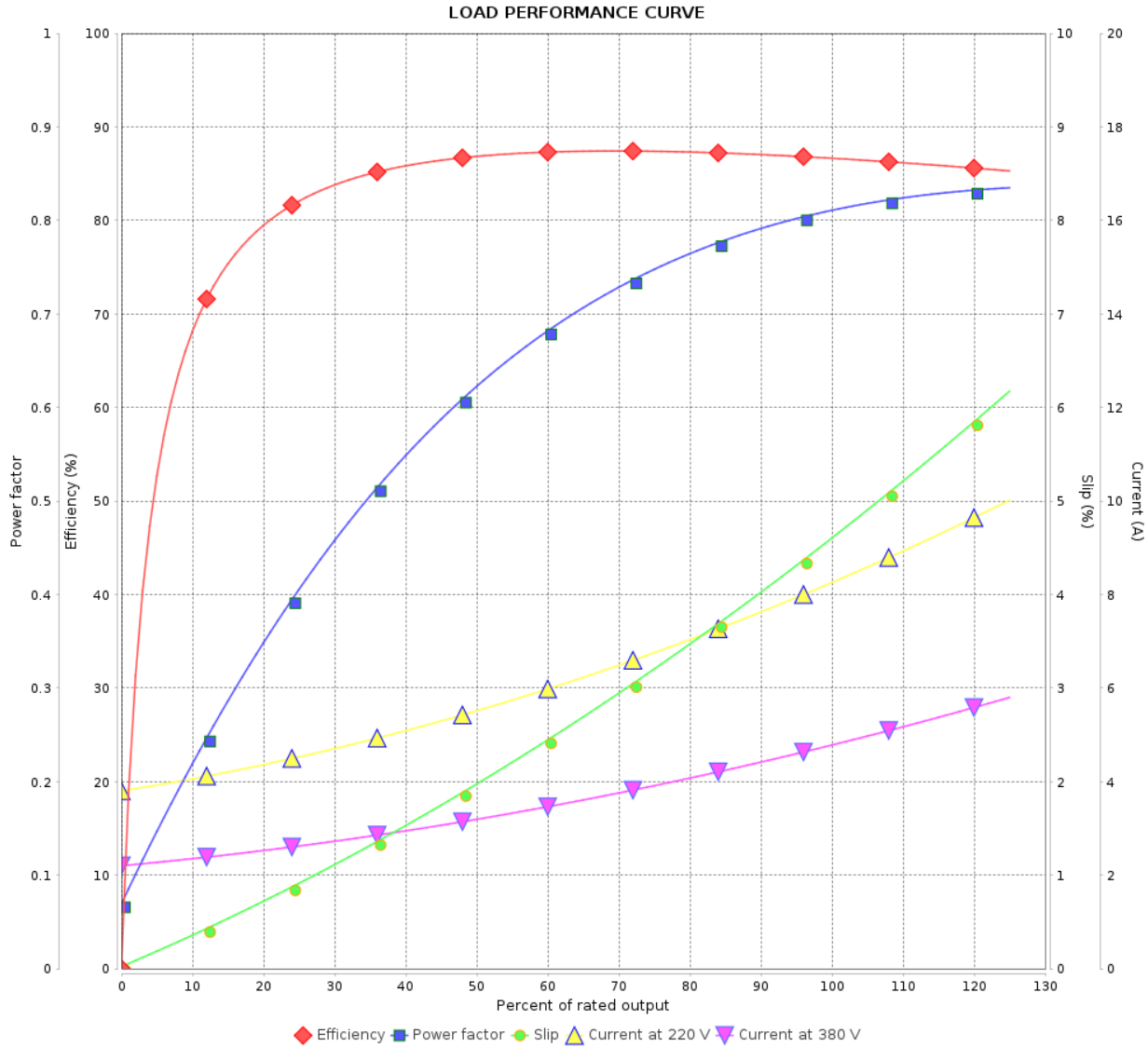
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Performance : 220/380 V 50 Hz 4P

Rated current : 8.22/4.76 A
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 Rated torque : 1.50 kgfm
 Locked rotor torque : 310 %
 Breakdown torque : 290 %
 Rated speed : 1430 rpm

Moment of inertia (J) : 0.0090 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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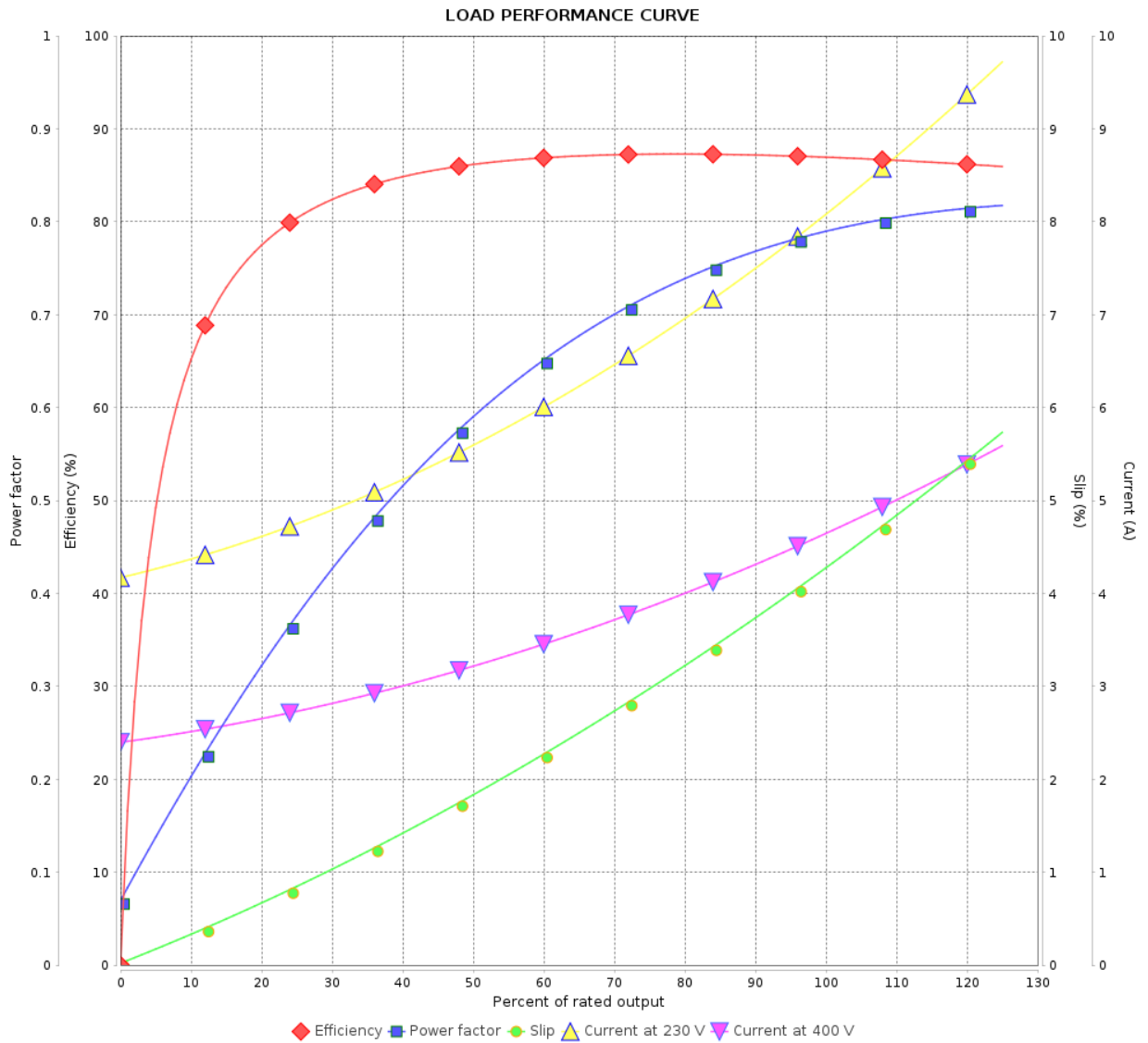
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Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

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Performance : 230/400 V 50 Hz 4P

Rated current : 8.03/4.62 A
 LRC : 7.8
 Rated torque : 1.49 kgfm
 Locked rotor torque : 350 %
 Breakdown torque : 340 %
 Rated speed : 1435 rpm

Moment of inertia (J) : 0.0090 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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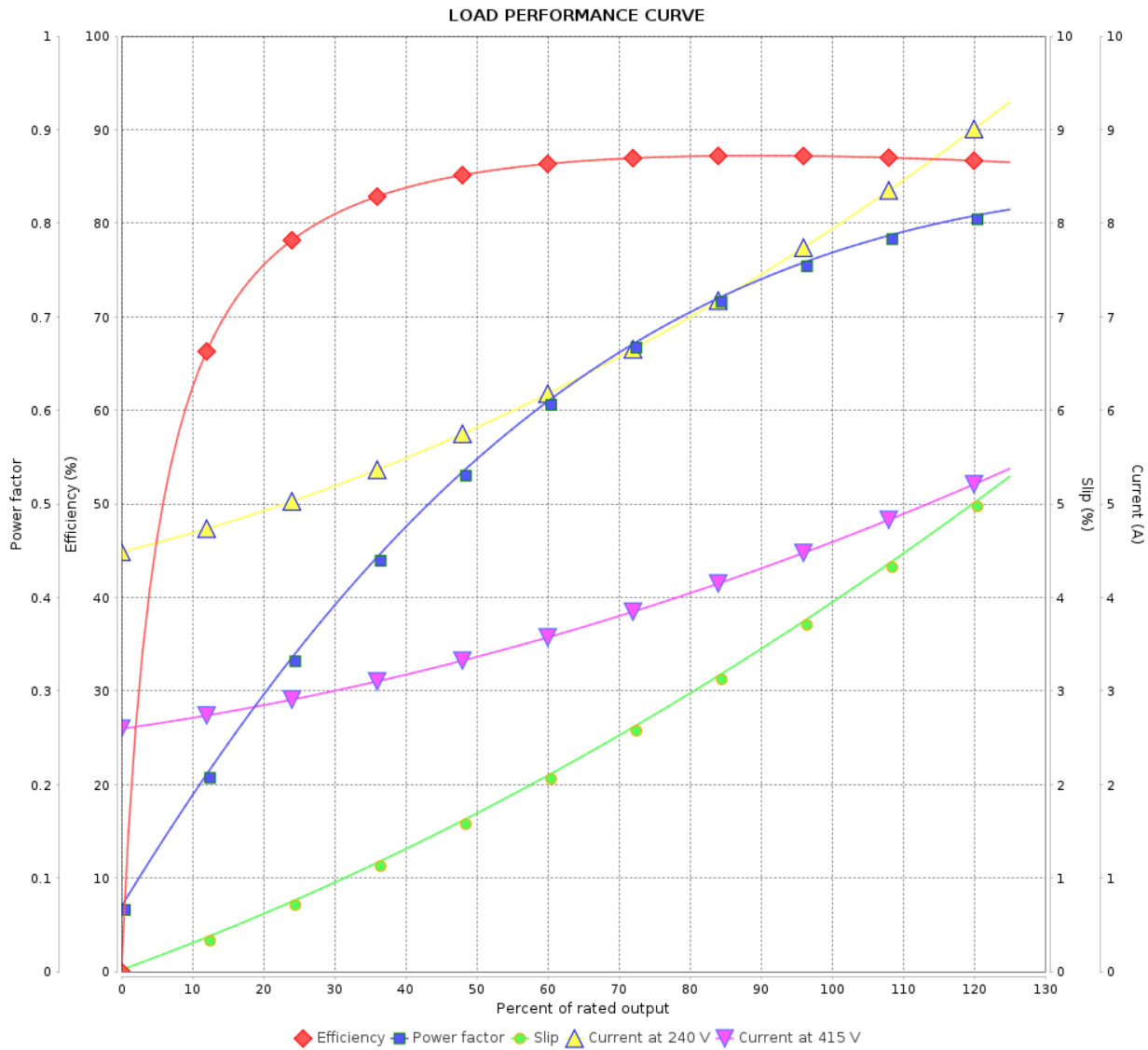
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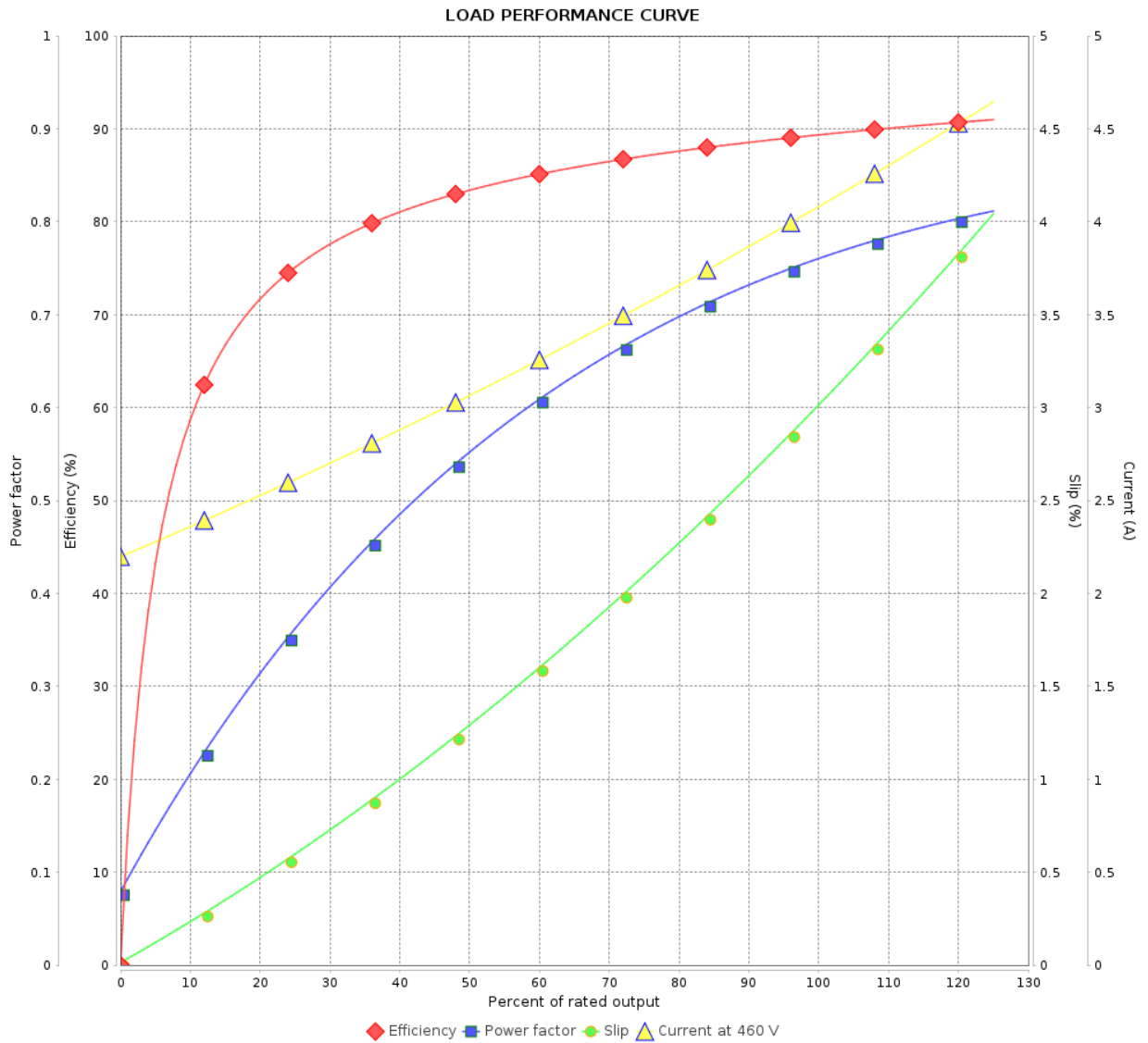


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THERMAL LIMIT CURVE

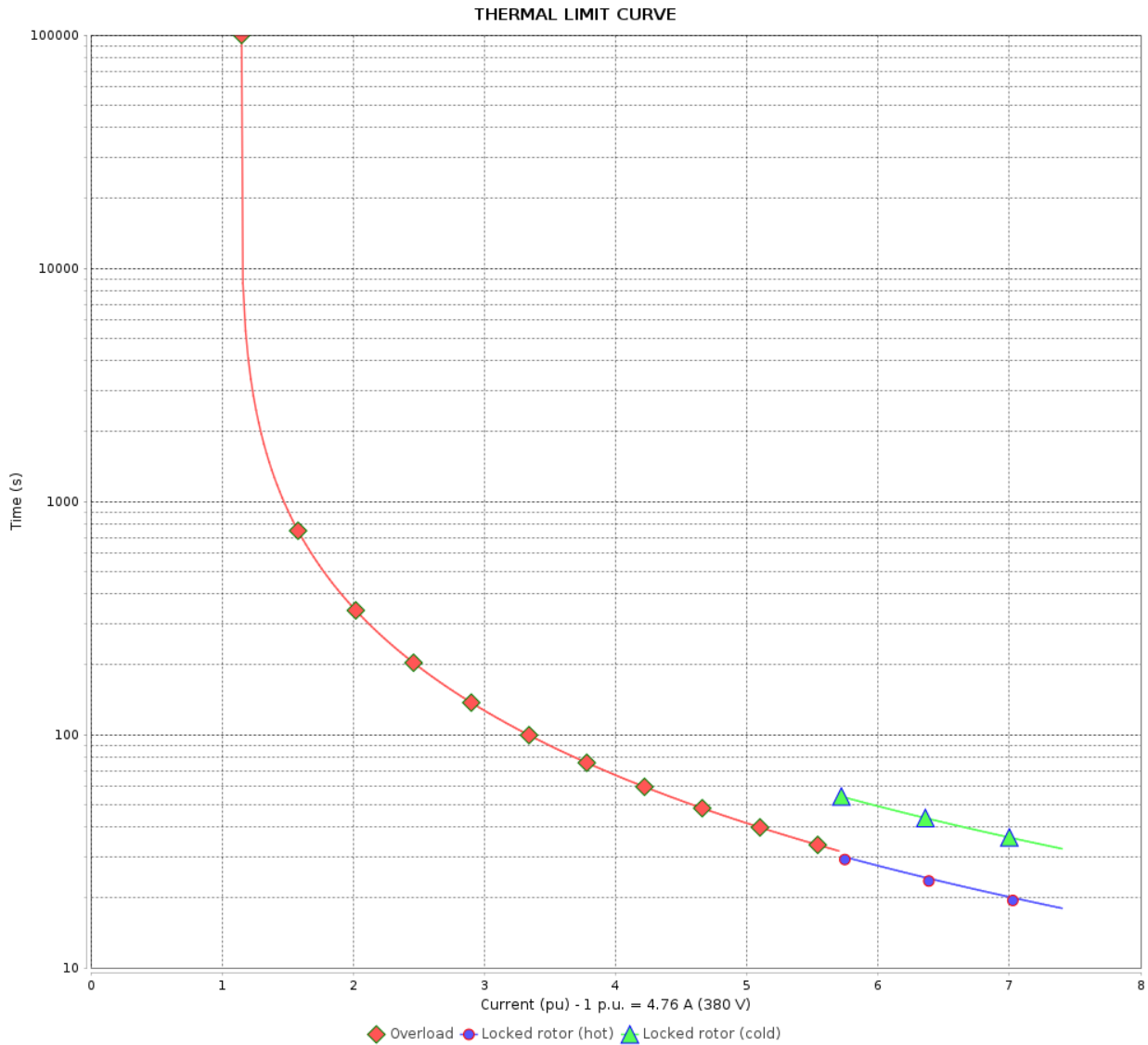
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Heating constant

Cooling constant

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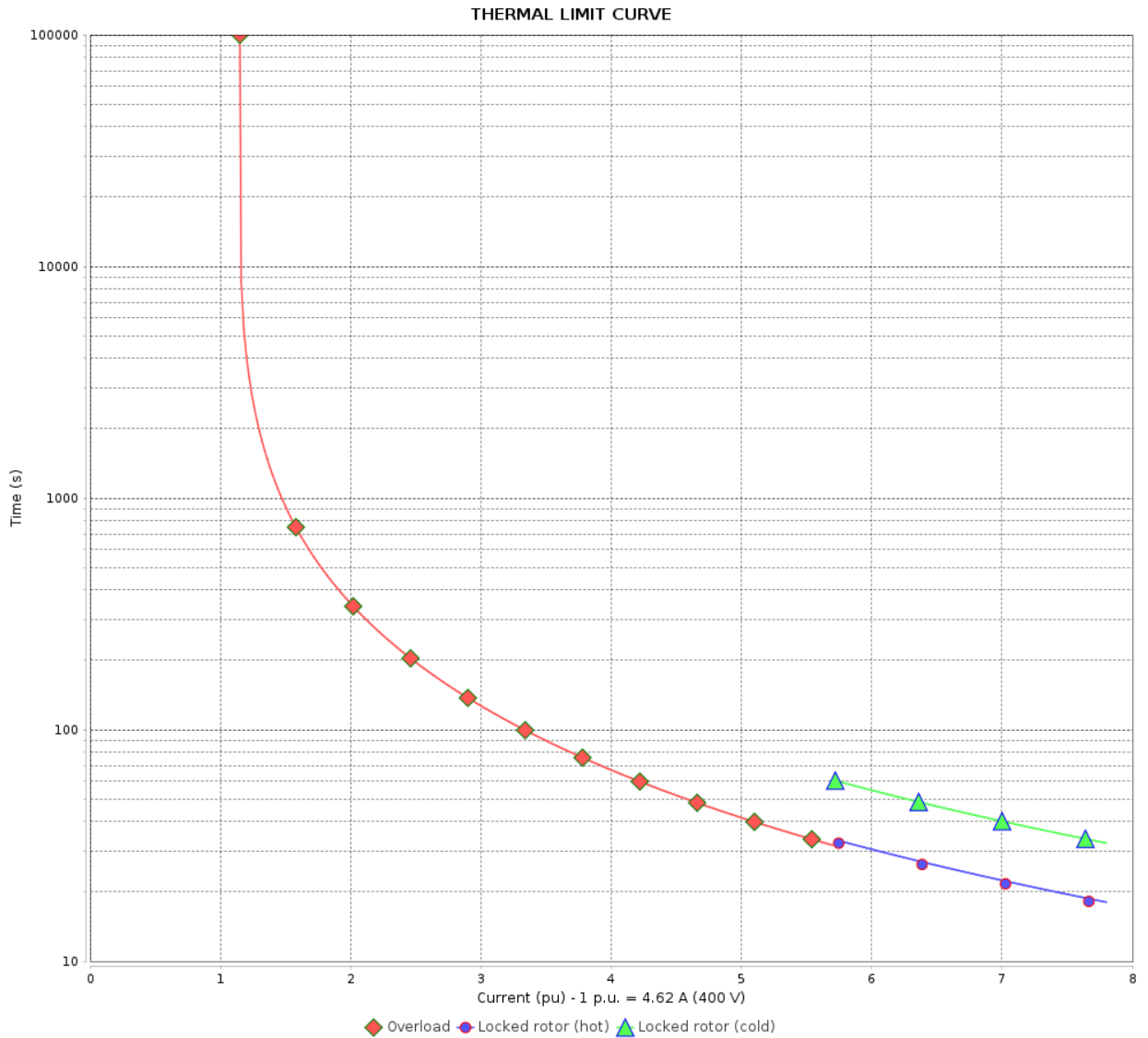
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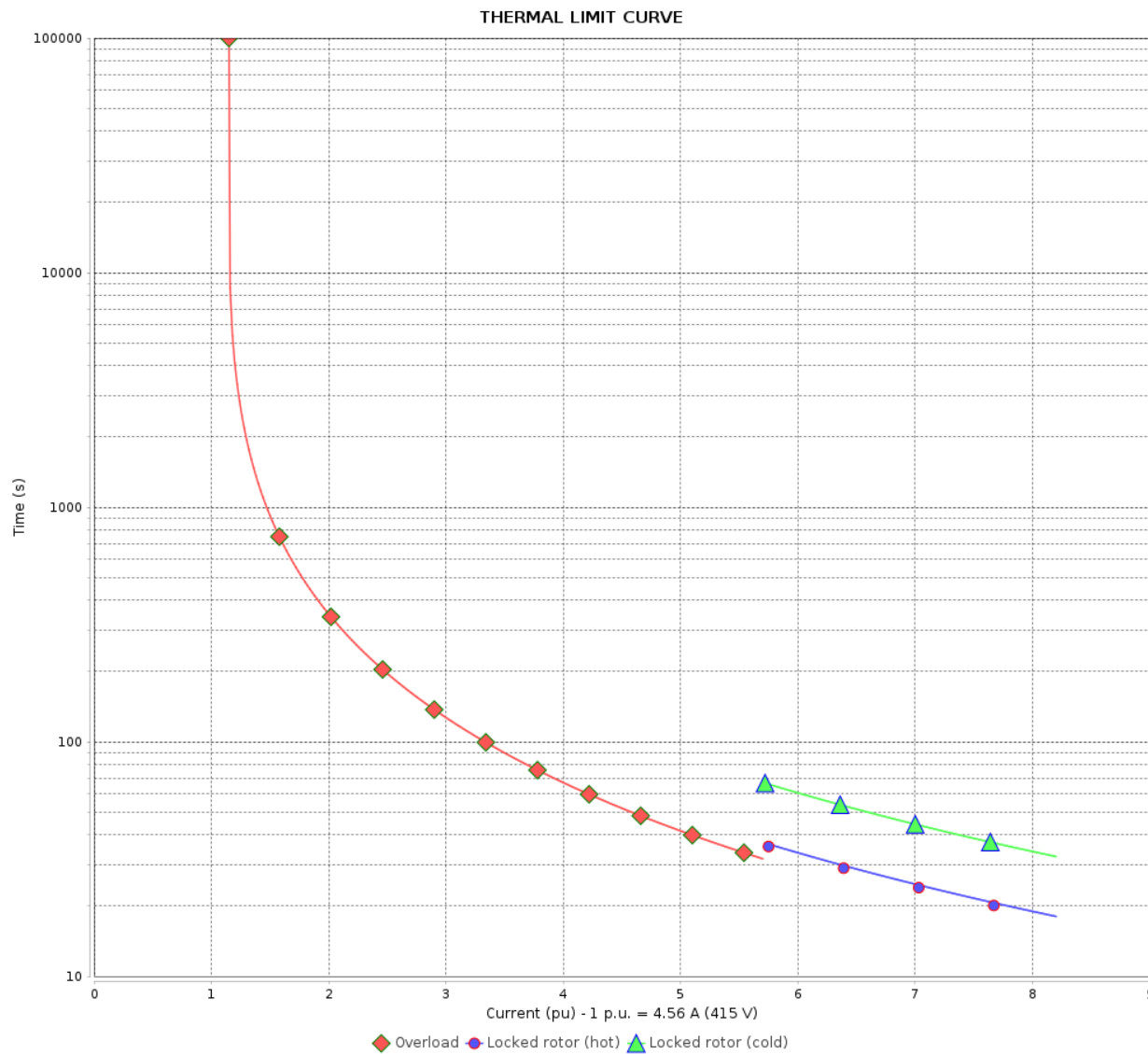
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 Service factor : 1.00
 Temperature rise : 80 K
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Heating constant
Cooling constant

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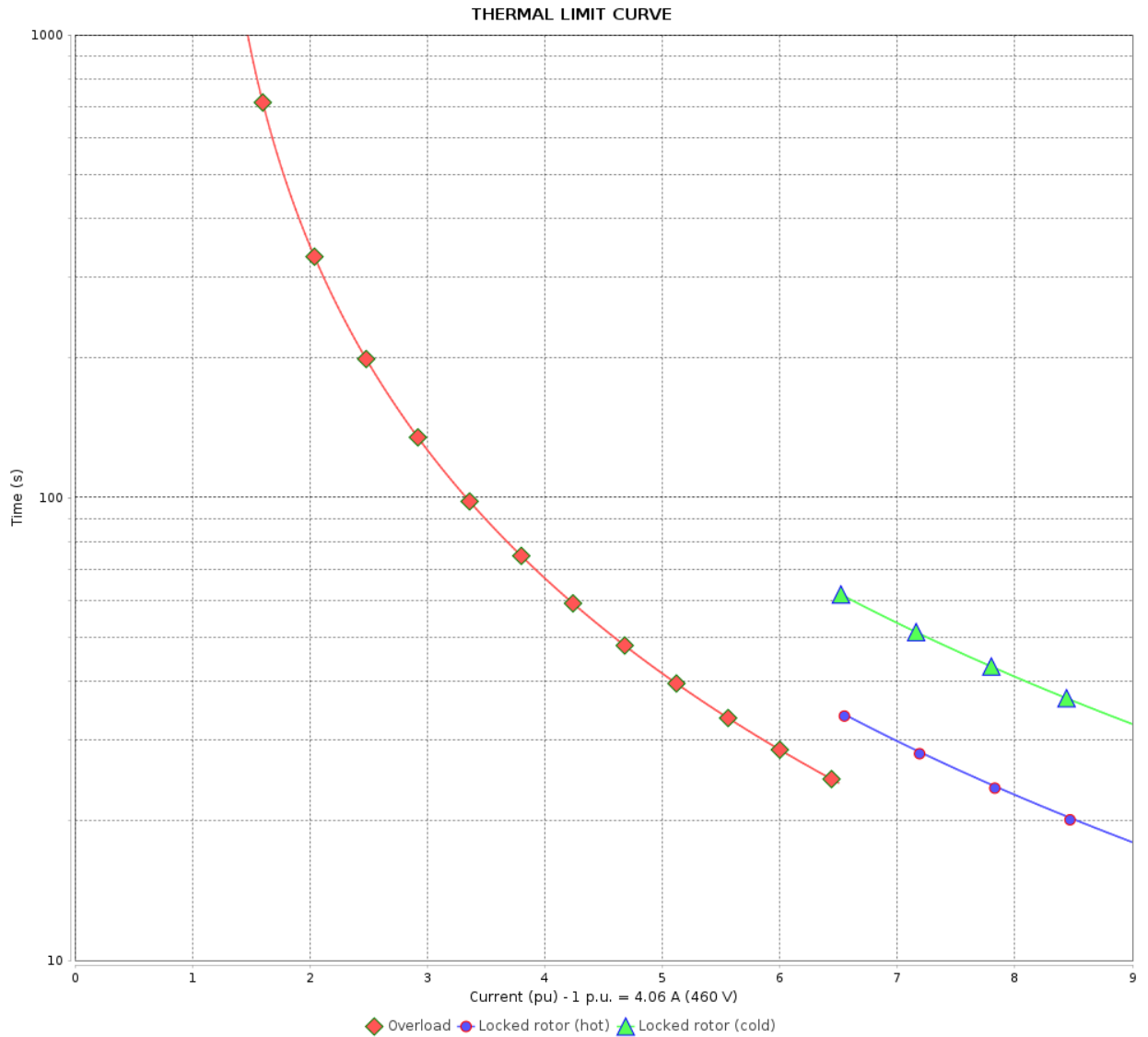
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VFD OPERATION CURVE

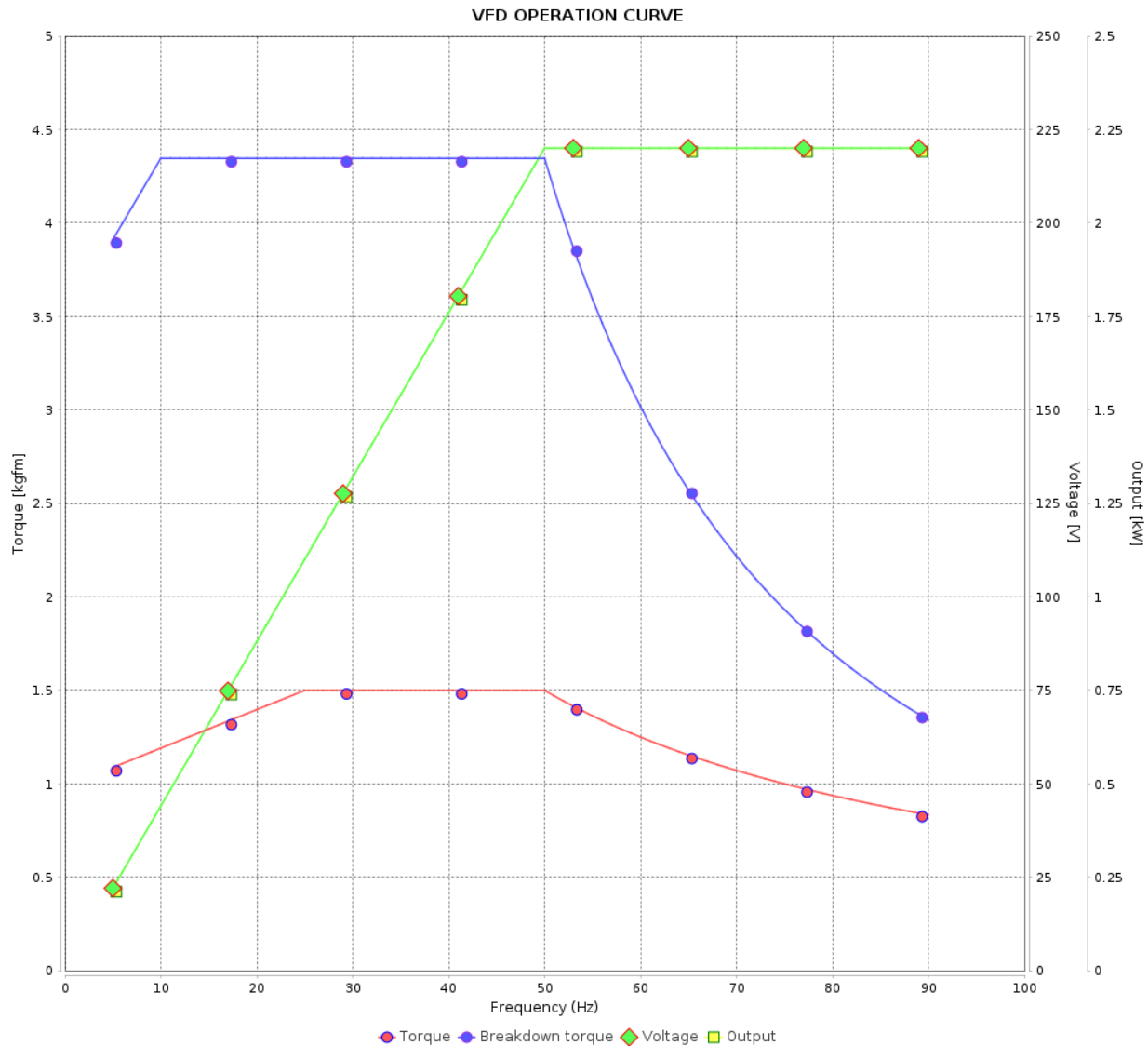
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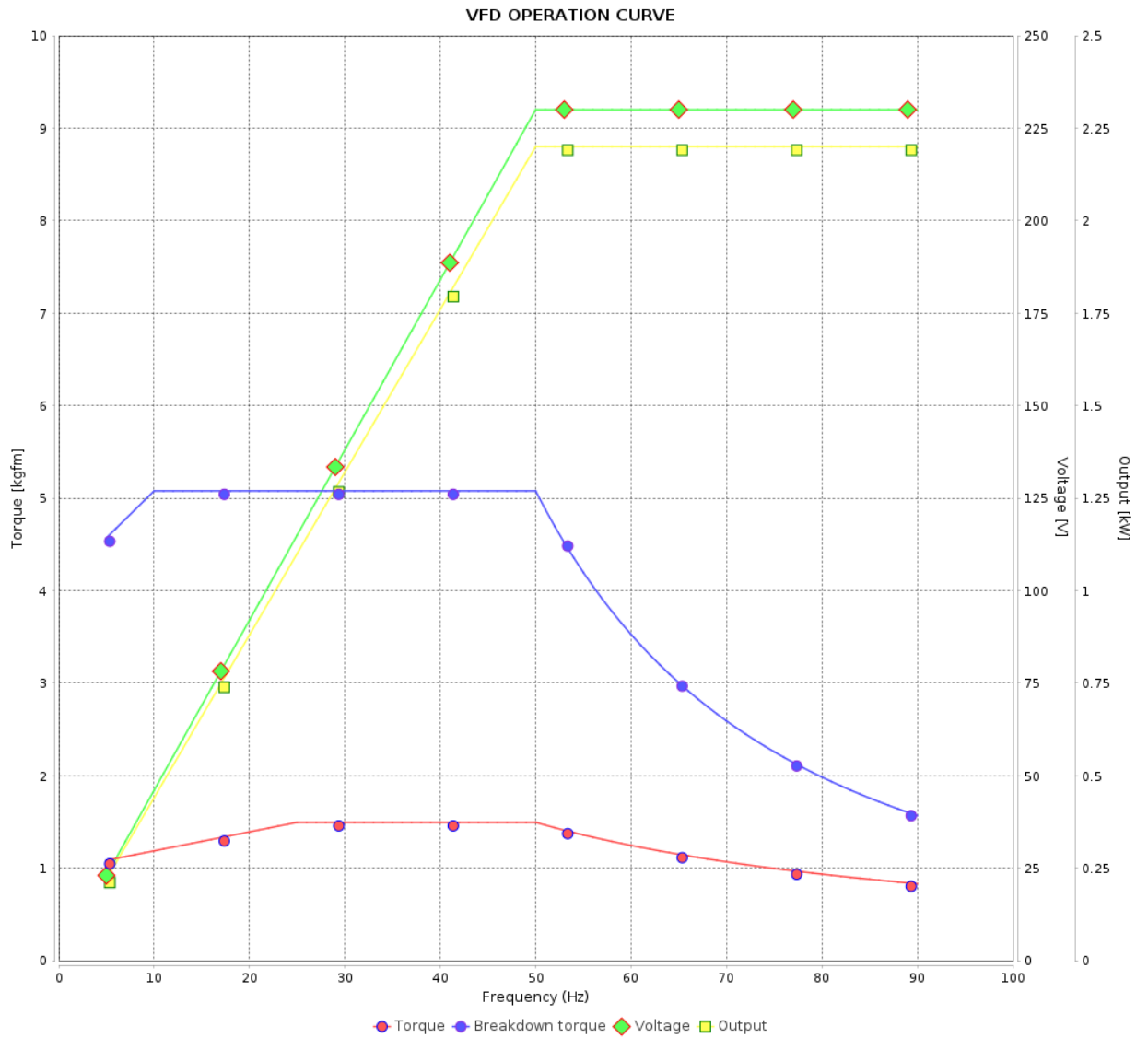
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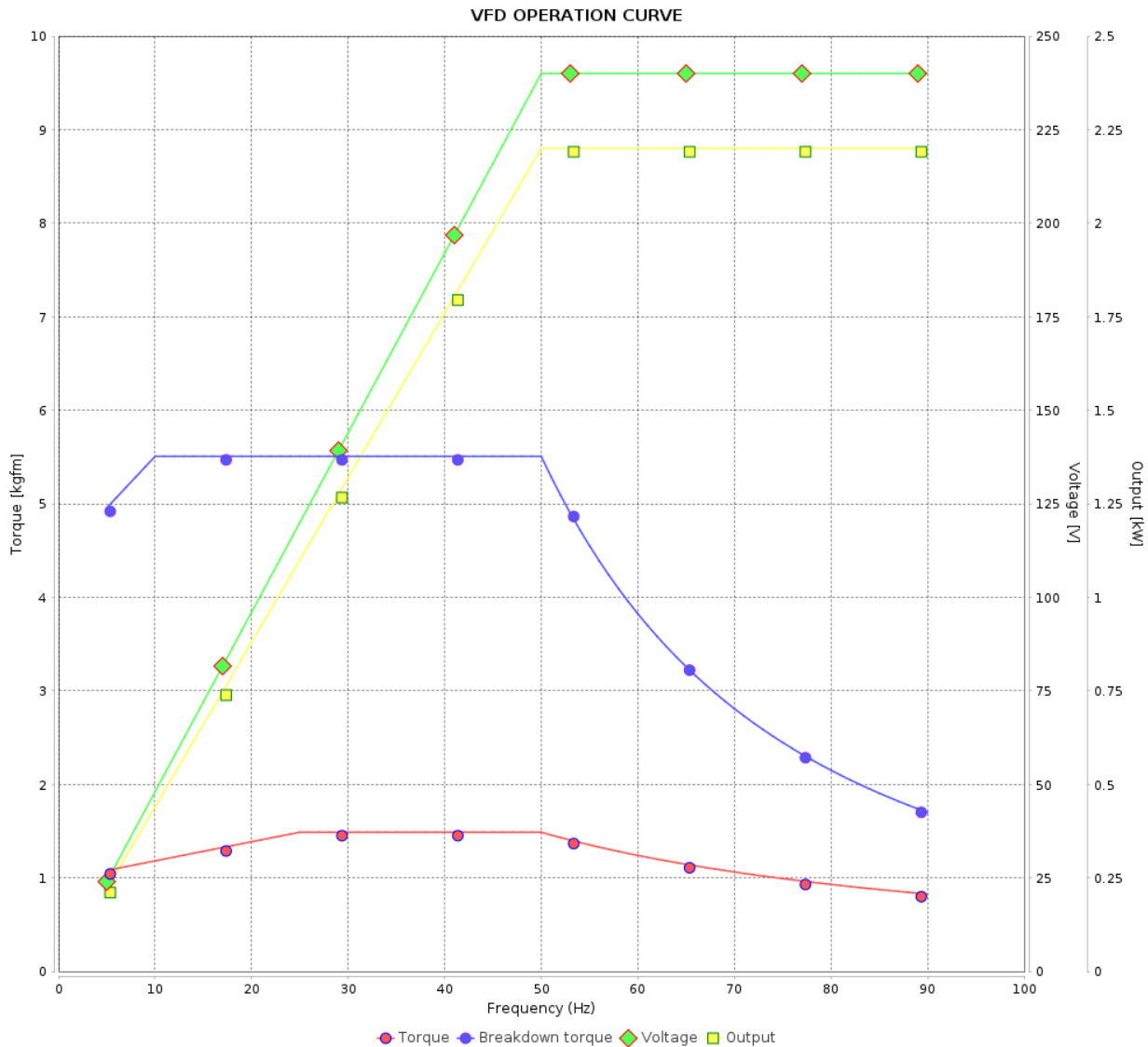
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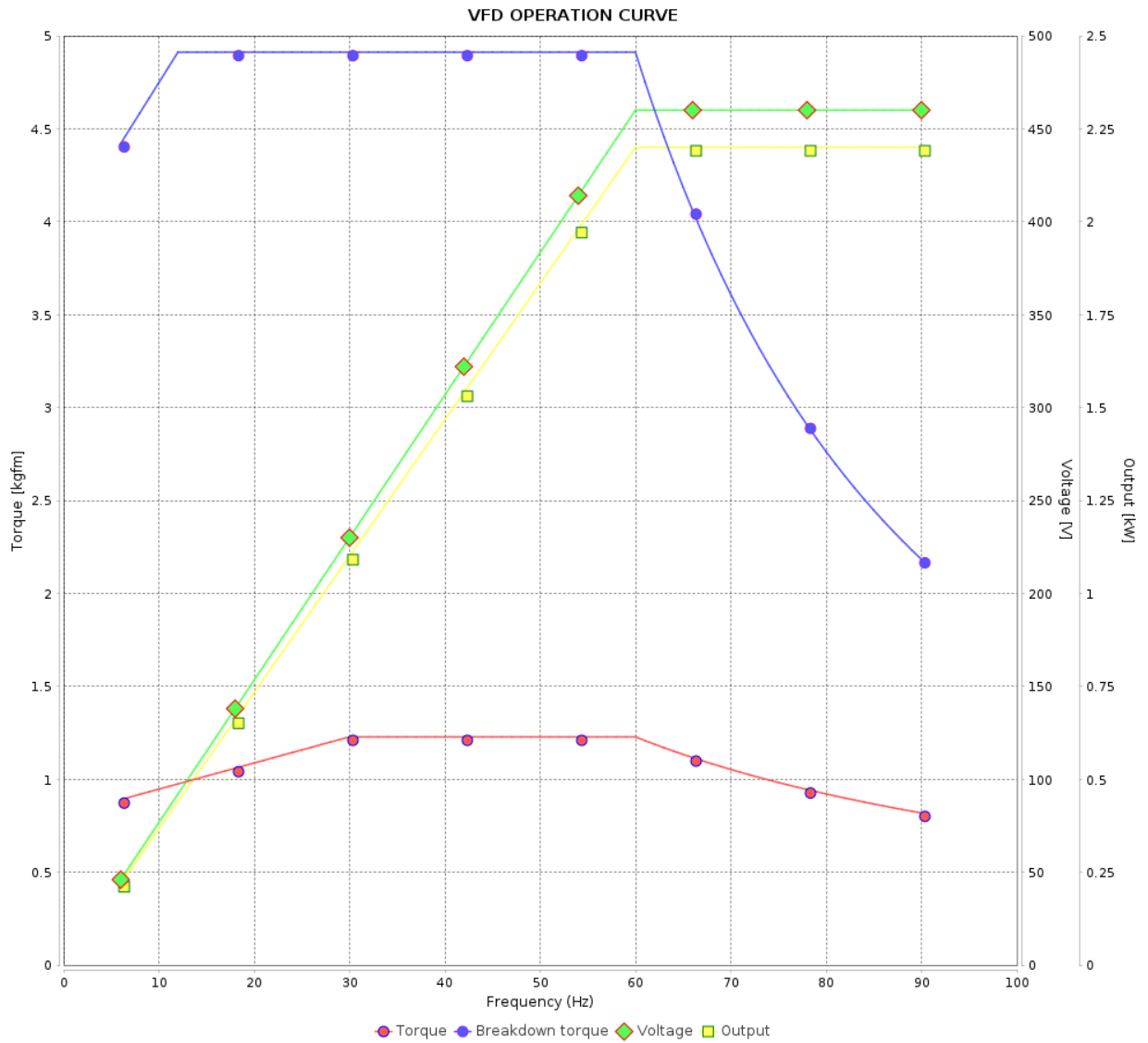
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