

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: IE3 Three-Phase		Product code : 12840018	
Frame	: 160M/L	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	: 117 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.1263 kgm ²		
Design	: N				
Output [kW]	15	15	15	15	
Poles	4	4	4	4	
Frequency [Hz]	50	50	50	60	
Rated voltage [V]	380/660	400/690	415	460	
Rated current [A]	29.5/17.0	28.7/16.6	28.3	25.3	
L. R. Amperes [A]	195/112	204/118	212	205	
LRC [A]	6.6	7.1	7.5	8.1	
No load current [A]	12.7/7.31	14.0/8.12	15.4	12.9	
Rated speed [RPM]	1460	1465	1465	1770	
Slip [%]	2.67	2.33	2.33	1.67	
Rated torque [Nm]	98.2	97.8	97.8	81.0	
Locked rotor torque [%]	229	260	290	310	
Breakdown torque [%]	250	280	310	330	
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)	14s (cold) 8s (hot)	14s (cold) 8s (hot)	
Noise level ²	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	69.0 dB(A)	
Efficiency (%)	25%				
	50%	90.0	89.2	88.5	89.3
	75%	90.4	90.2	90.0	90.8
	100%	92.1	92.1	92.1	93.0
Power Factor	25%				
	50%	0.69	0.64	0.60	0.62
	75%	0.80	0.76	0.73	0.74
	100%	0.84	0.82	0.80	0.80
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	8.4	8.4	8.4	7.4
	P2 (0,5;1,0)	7.6	7.6	7.6	6.7
	P3 (0,25;1,0)	7.4	7.4	7.4	6.5
	P4 (0,9;0,5)	3.9	3.9	3.9	3.4
	P5 (0,5;0,5)	2.9	2.9	2.9	2.6
	P6 (0,5;0,25)	1.9	1.9	1.9	1.7
	P7 (0,25;0,25)	1.4	1.4	1.4	1.2
Bearing type	: Drive end 6309 ZZ C3 Non drive end 6209 ZZ C3	Foundation loads			
Sealing	: Oil Seal Oil Seal	Max. traction : 3633 N			
Lubrication interval	: - -	Max. compression : 4782 N			
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

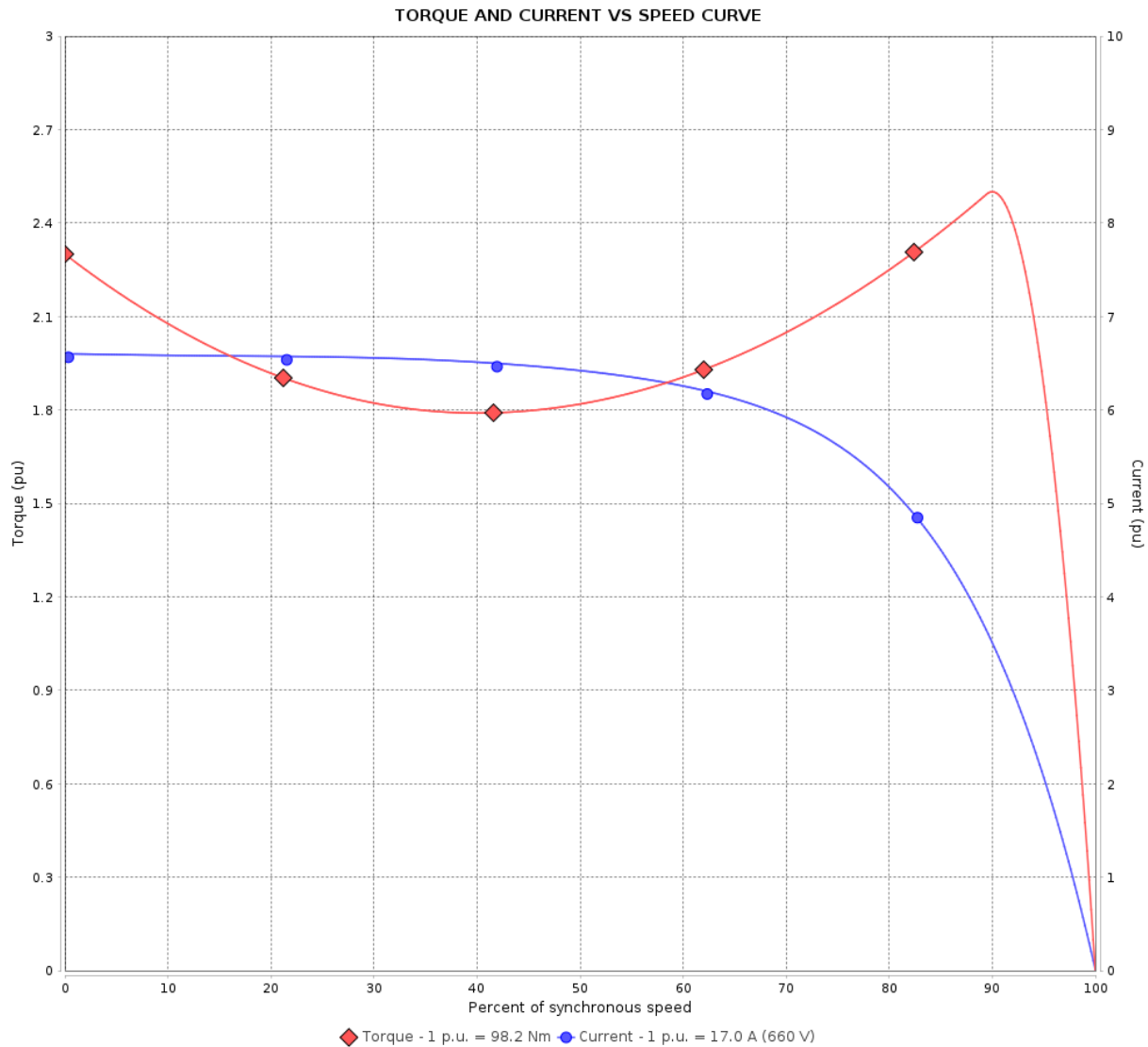
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12840018



Performance : 380/660 V 50 Hz 4P

Rated current	: 29.5/17.0 A	Moment of inertia (J)	: 0.1263 kgm ²
LRC	: 6.6	Duty cycle	: S1
Rated torque	: 98.2 Nm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 250 %	Temperature rise	: 80 K
Rated speed	: 1460 rpm	Design	: N

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

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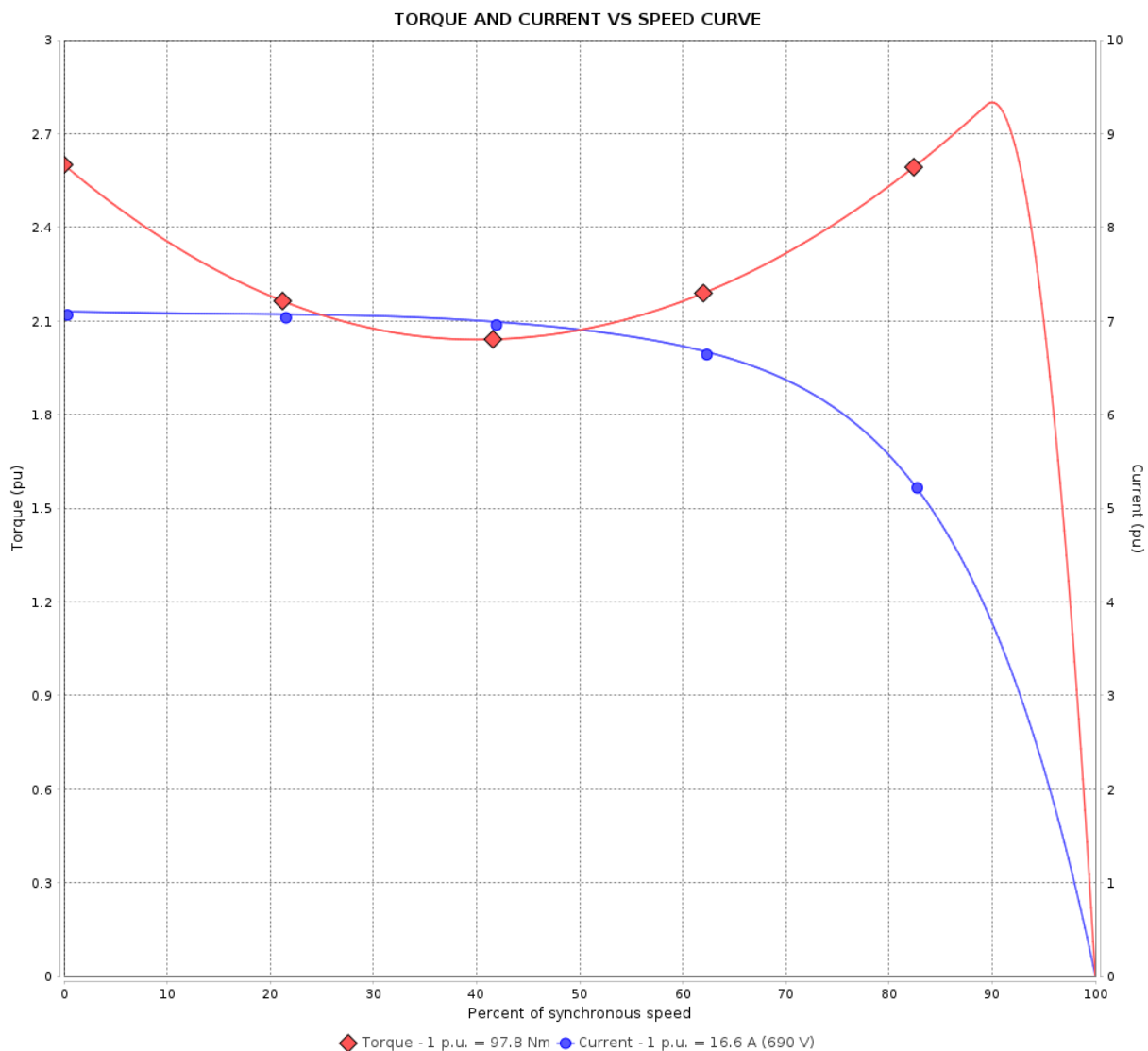


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

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Performance : 400/690 V 50 Hz 4P

Rated current	: 28.7/16.6 A	Moment of inertia (J)	: 0.1263 kgm ²
LRC	: 7.1	Duty cycle	: S1
Rated torque	: 97.8 Nm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: N

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

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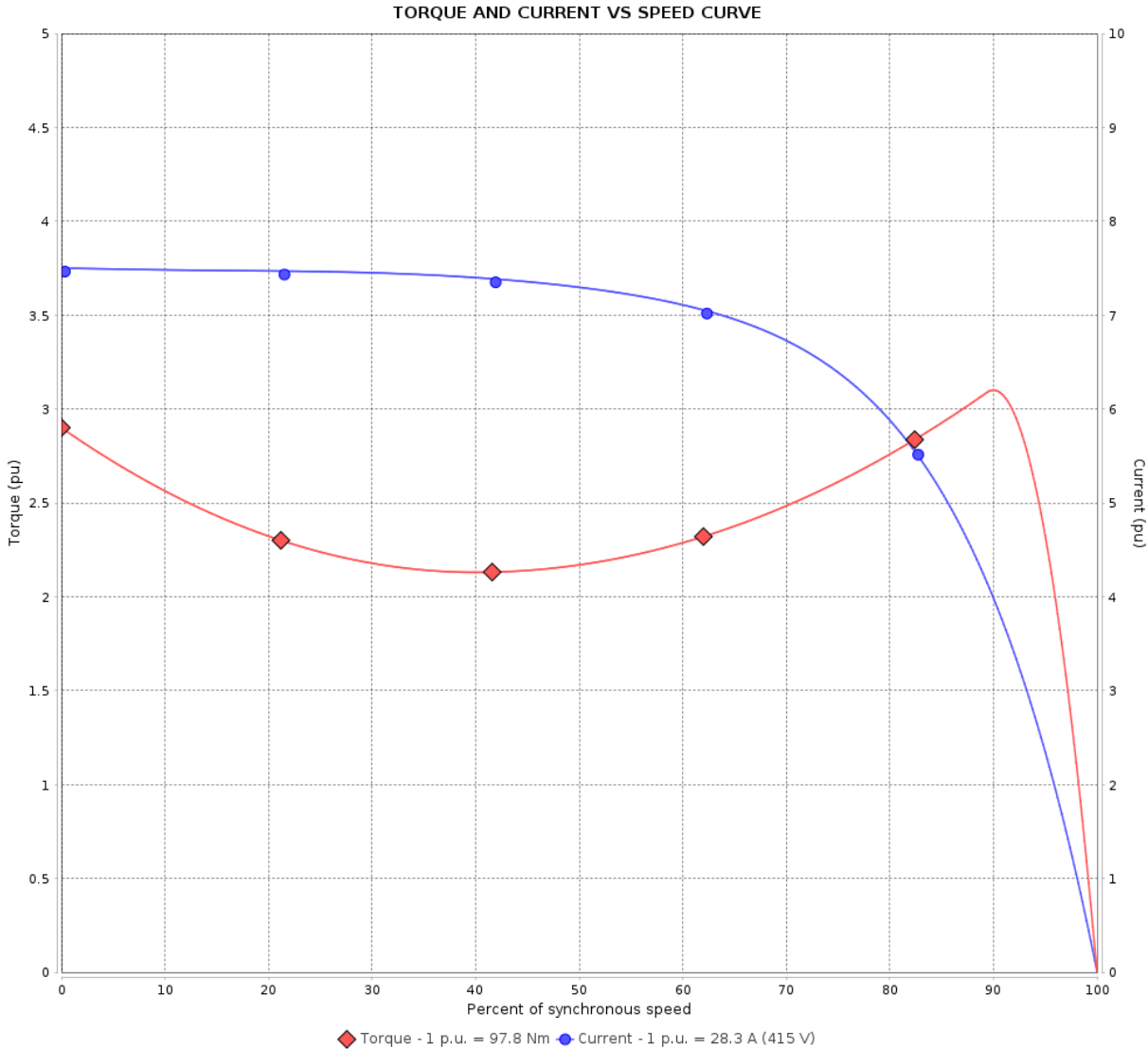
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Performance : 415 V 50 Hz 4P

Rated current	: 28.3 A	Moment of inertia (J)	: 0.1263 kgm ²
LRC	: 7.5	Duty cycle	: S1
Rated torque	: 97.8 Nm	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1465 rpm	Design	: N

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

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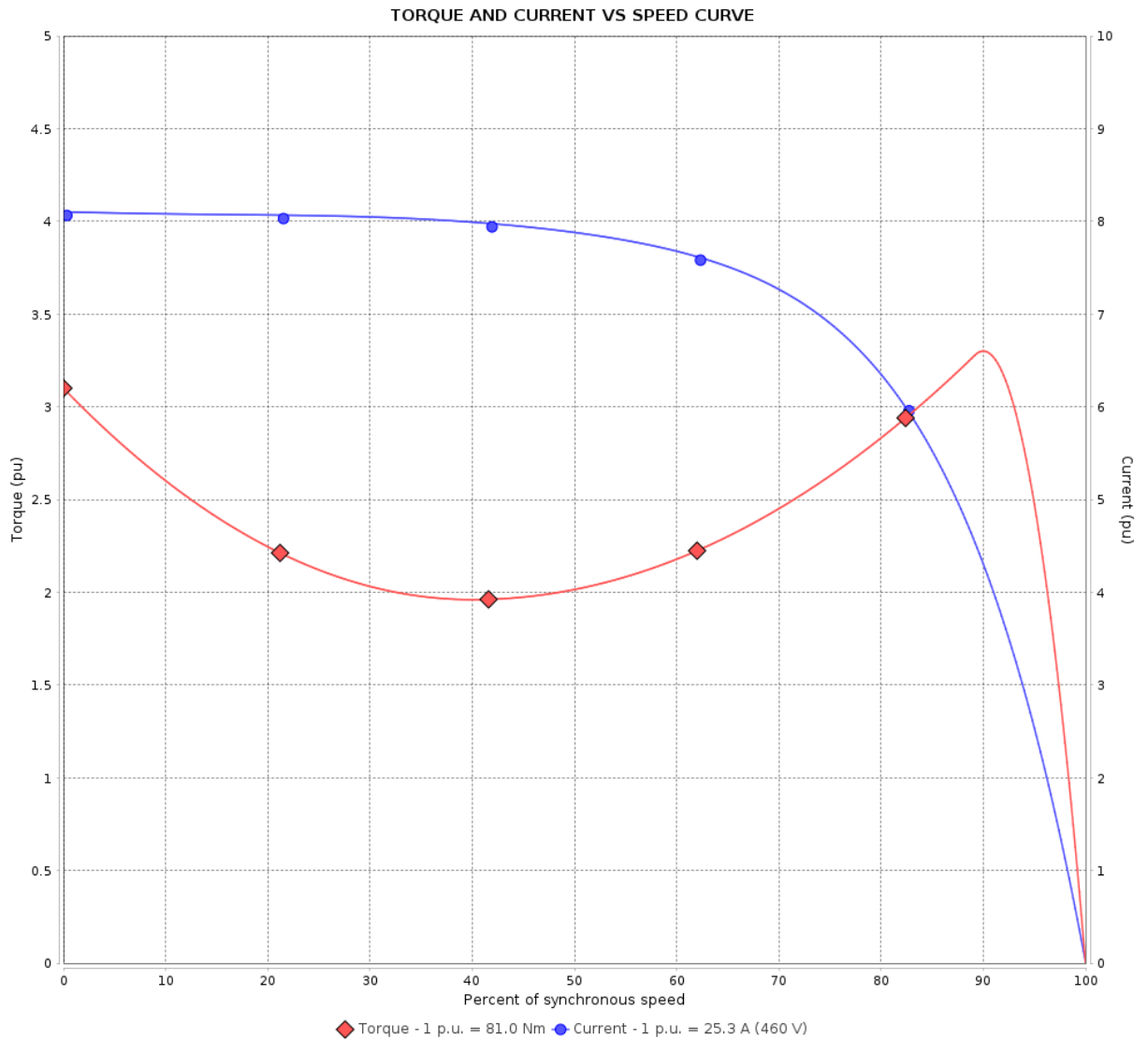


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12840018



Performance : 460 V 60 Hz 4P

Rated current	: 25.3 A	Moment of inertia (J)	: 0.1263 kgm ²
LRC	: 8.1	Duty cycle	: S1
Rated torque	: 81.0 Nm	Insulation class	: F
Locked rotor torque	: 310 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 1770 rpm	Design	: N

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

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LOAD PERFORMANCE CURVE

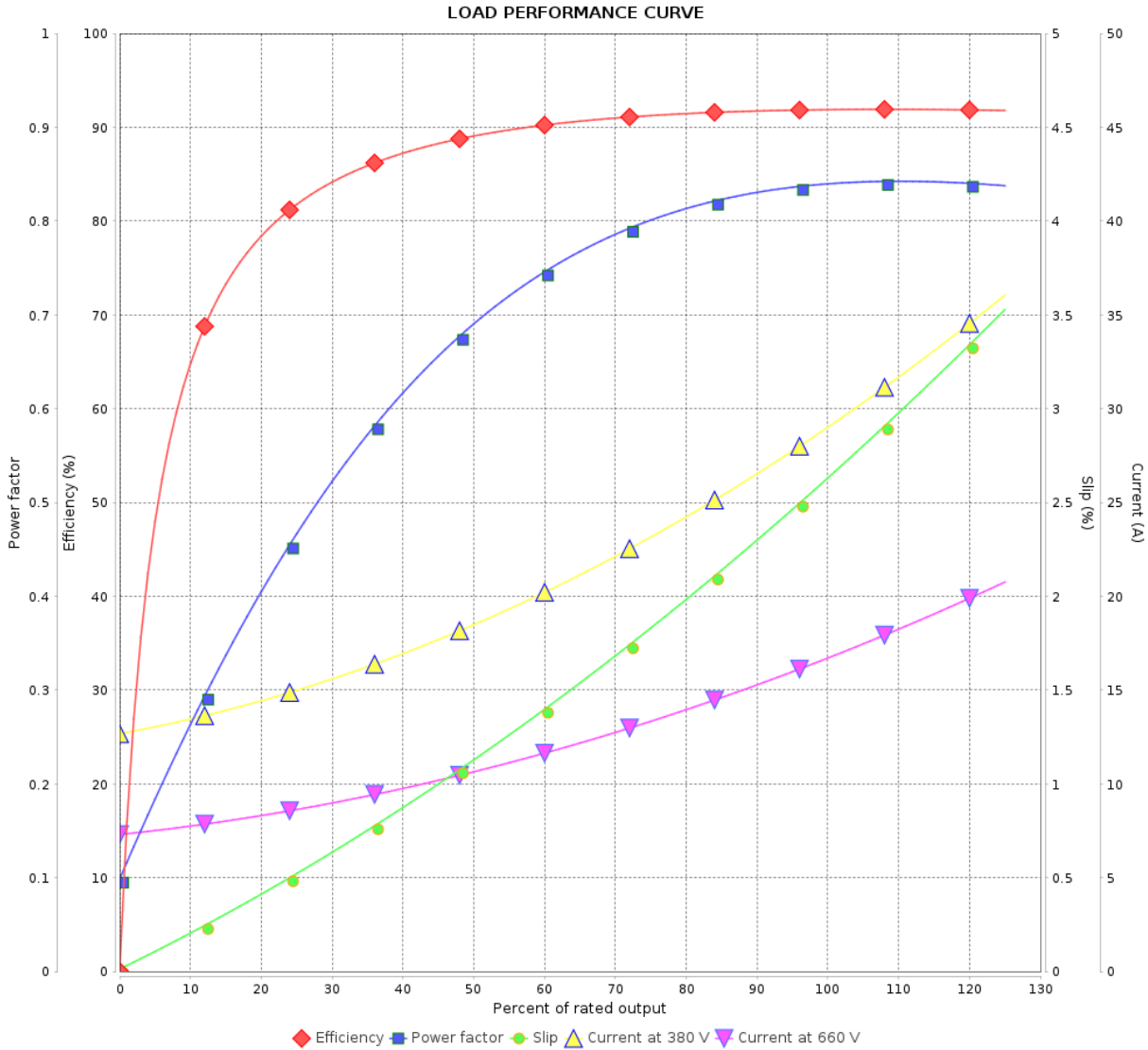
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Performance : 380/660 V 50 Hz 4P

Rated current : 29.5/17.0 A
 LRC : 6.6
 Rated torque : 98.2 Nm
 Locked rotor torque : 229 %
 Breakdown torque : 250 %
 Rated speed : 1460 rpm

Moment of inertia (J) : 0.1263 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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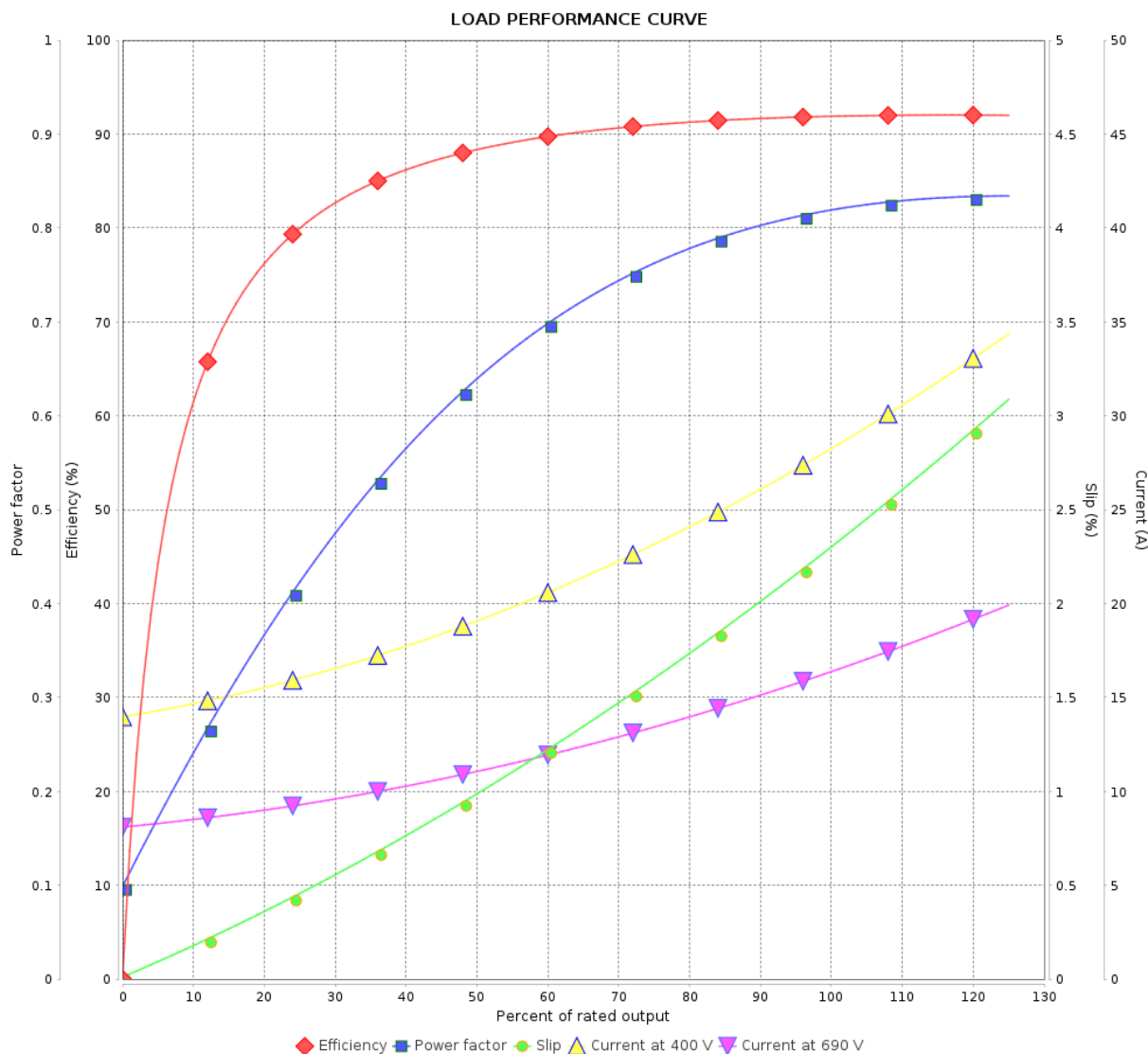
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 LRC : 7.1
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 Locked rotor torque : 260 %
 Breakdown torque : 280 %
 Rated speed : 1465 rpm

Moment of inertia (J) : 0.1263 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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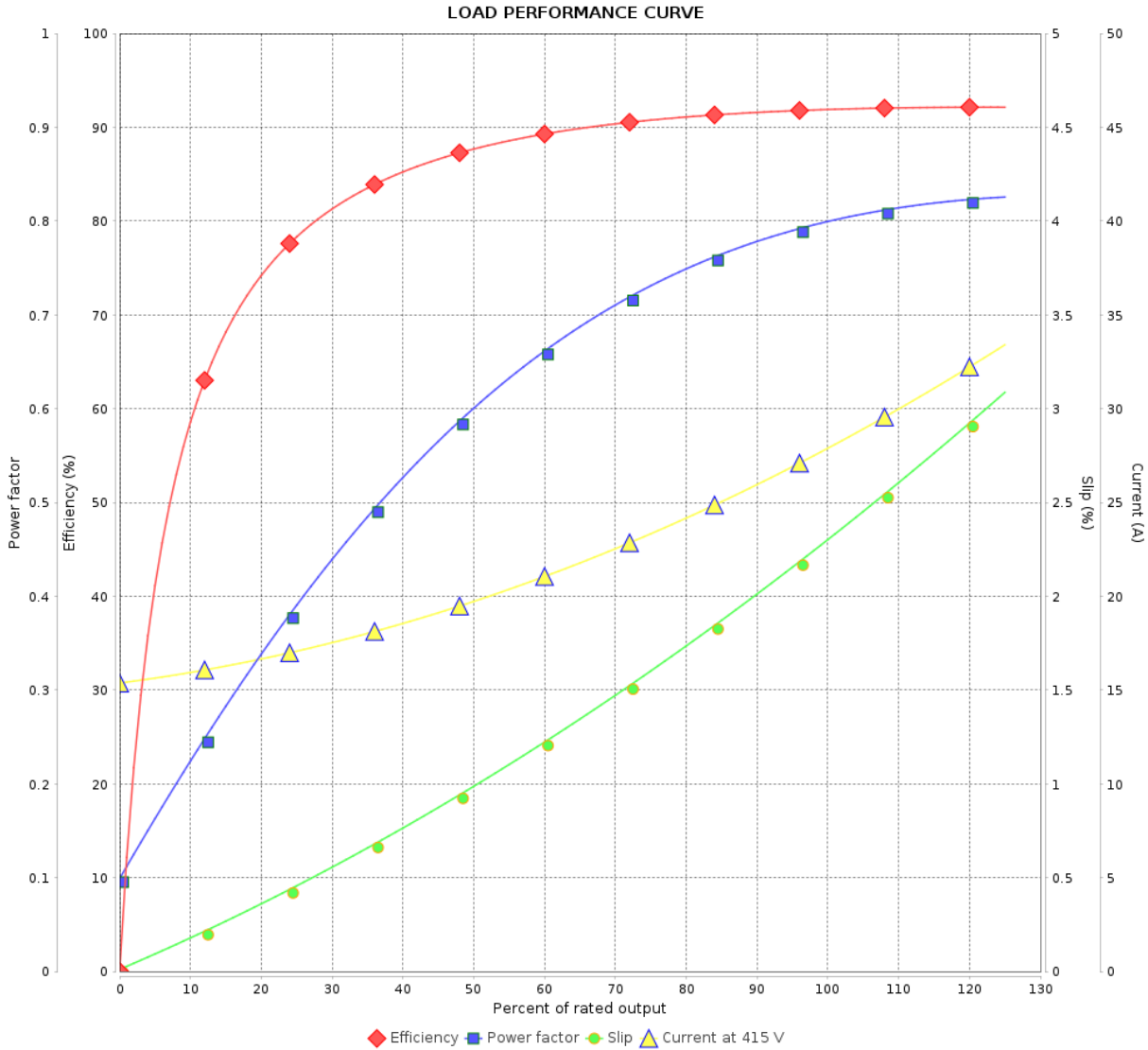
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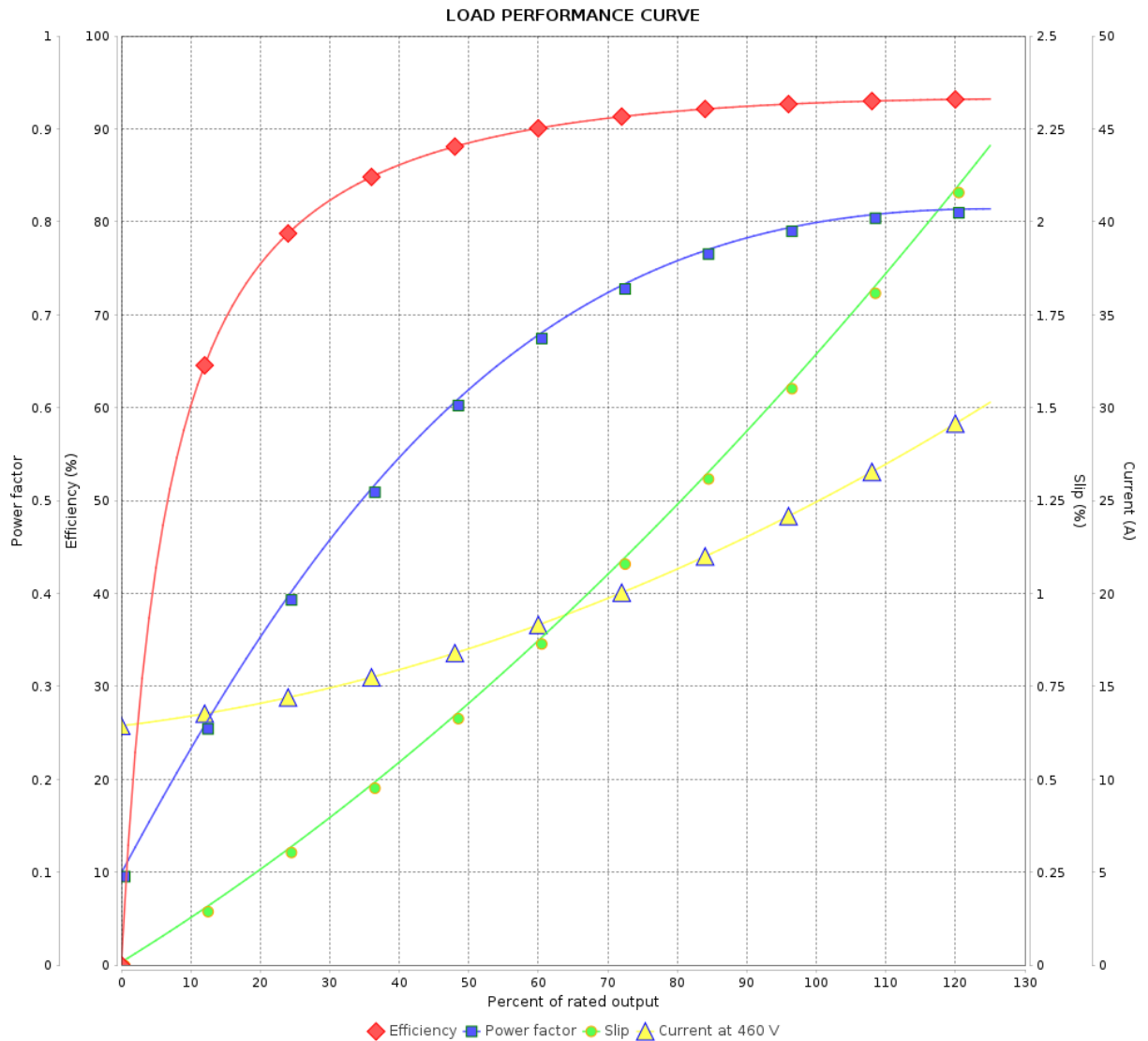
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THERMAL LIMIT CURVE

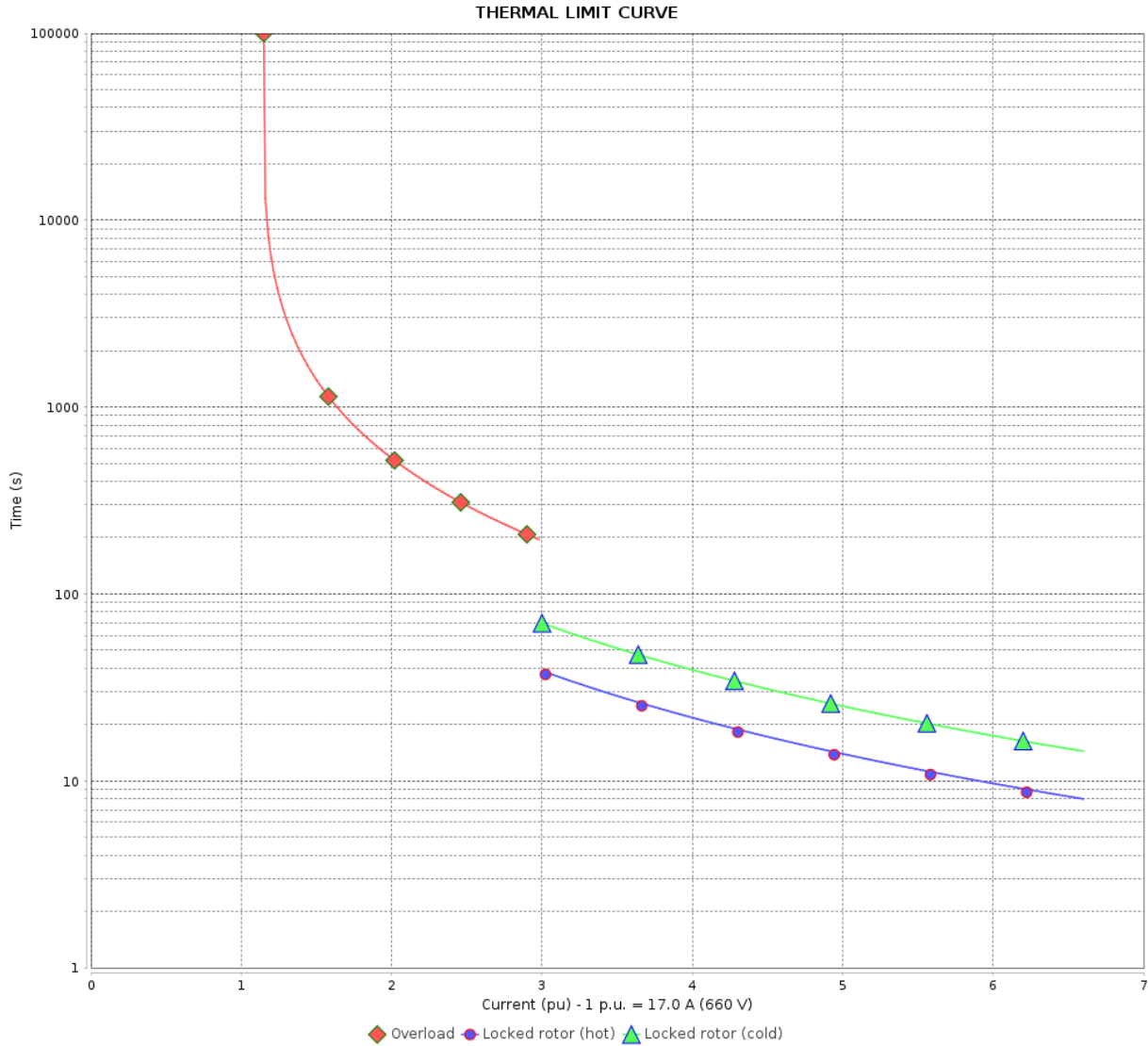
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Heating constant

Cooling constant

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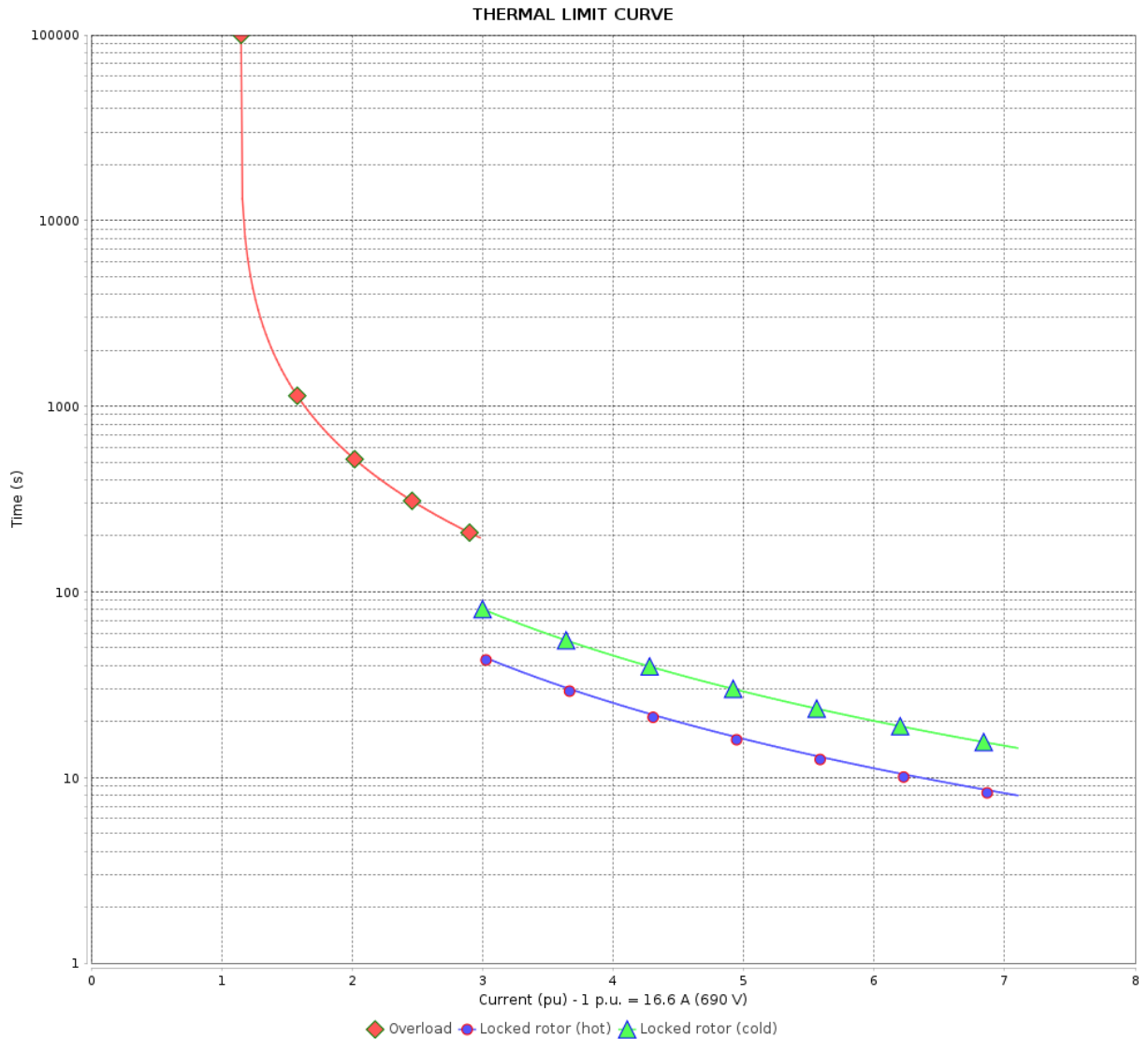
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 Cooling constant

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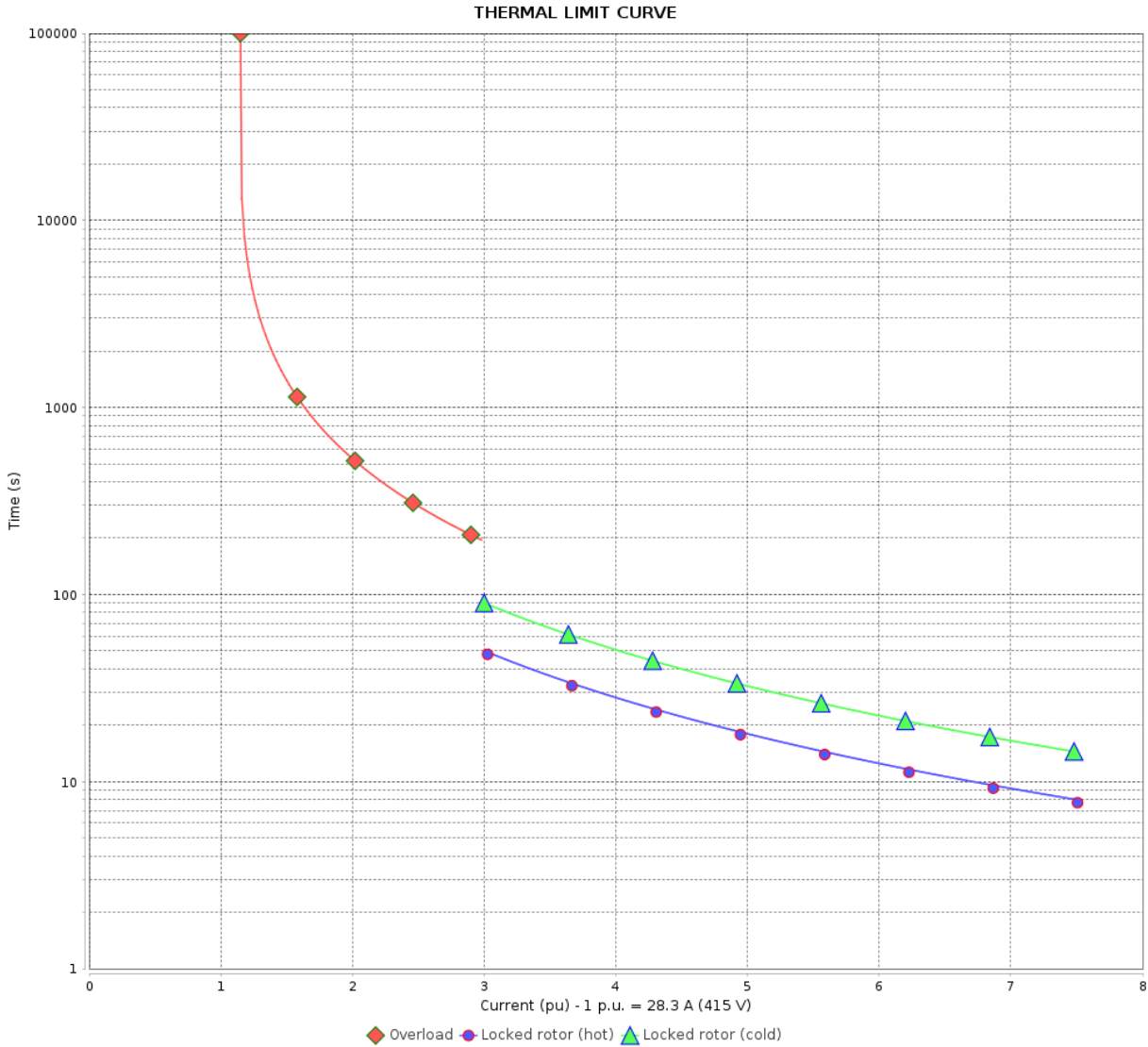
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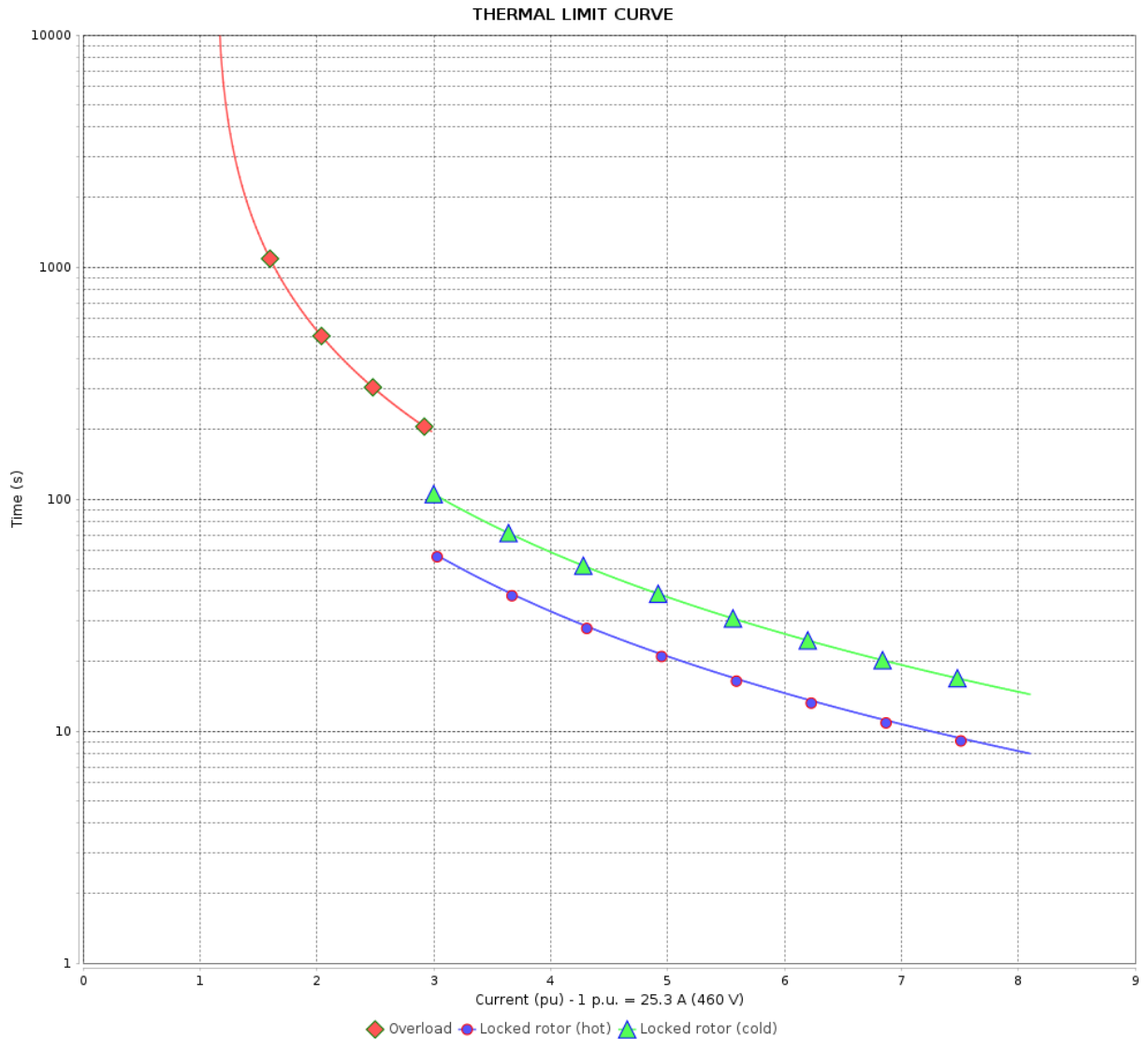
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VFD OPERATION CURVE

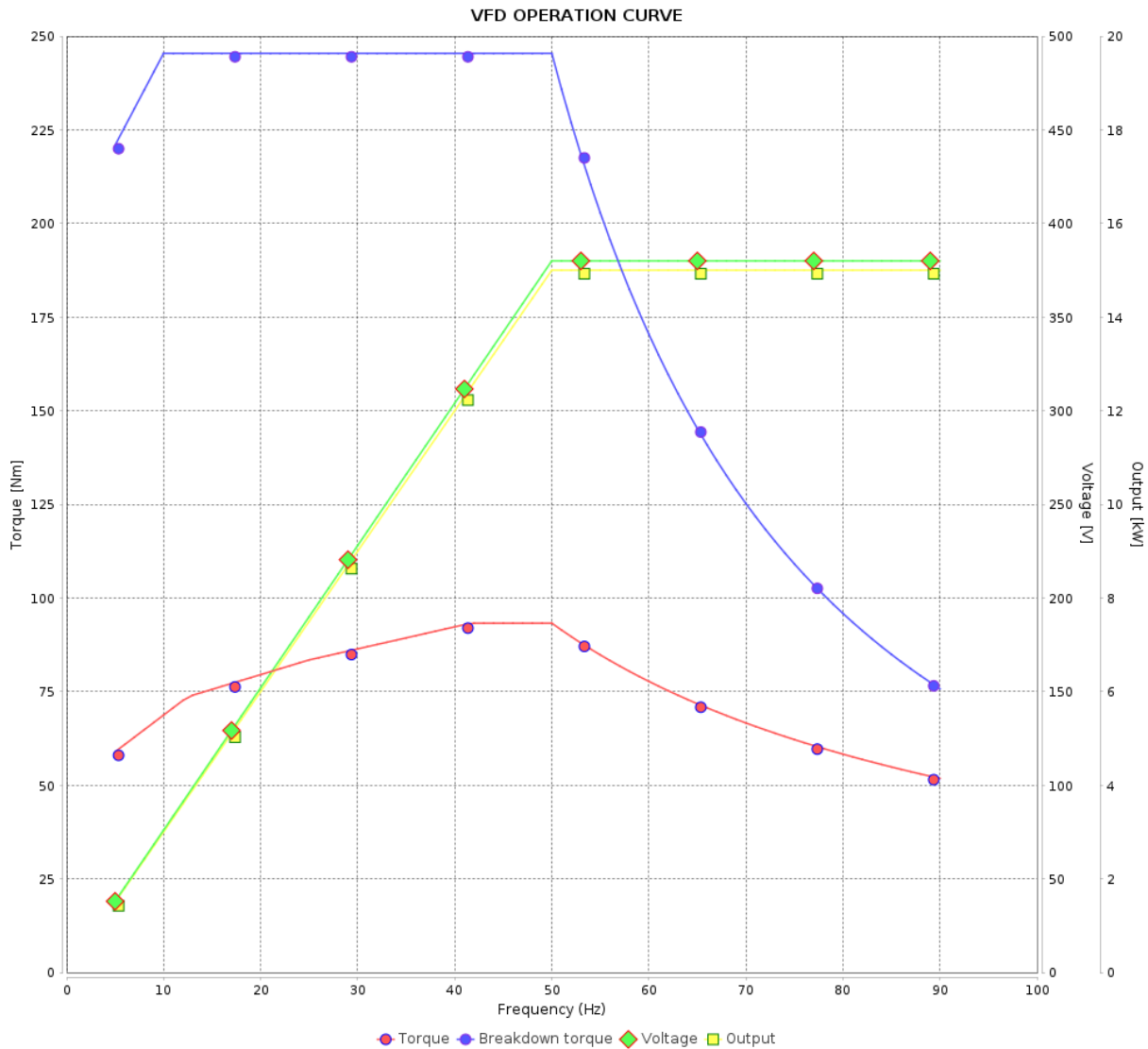
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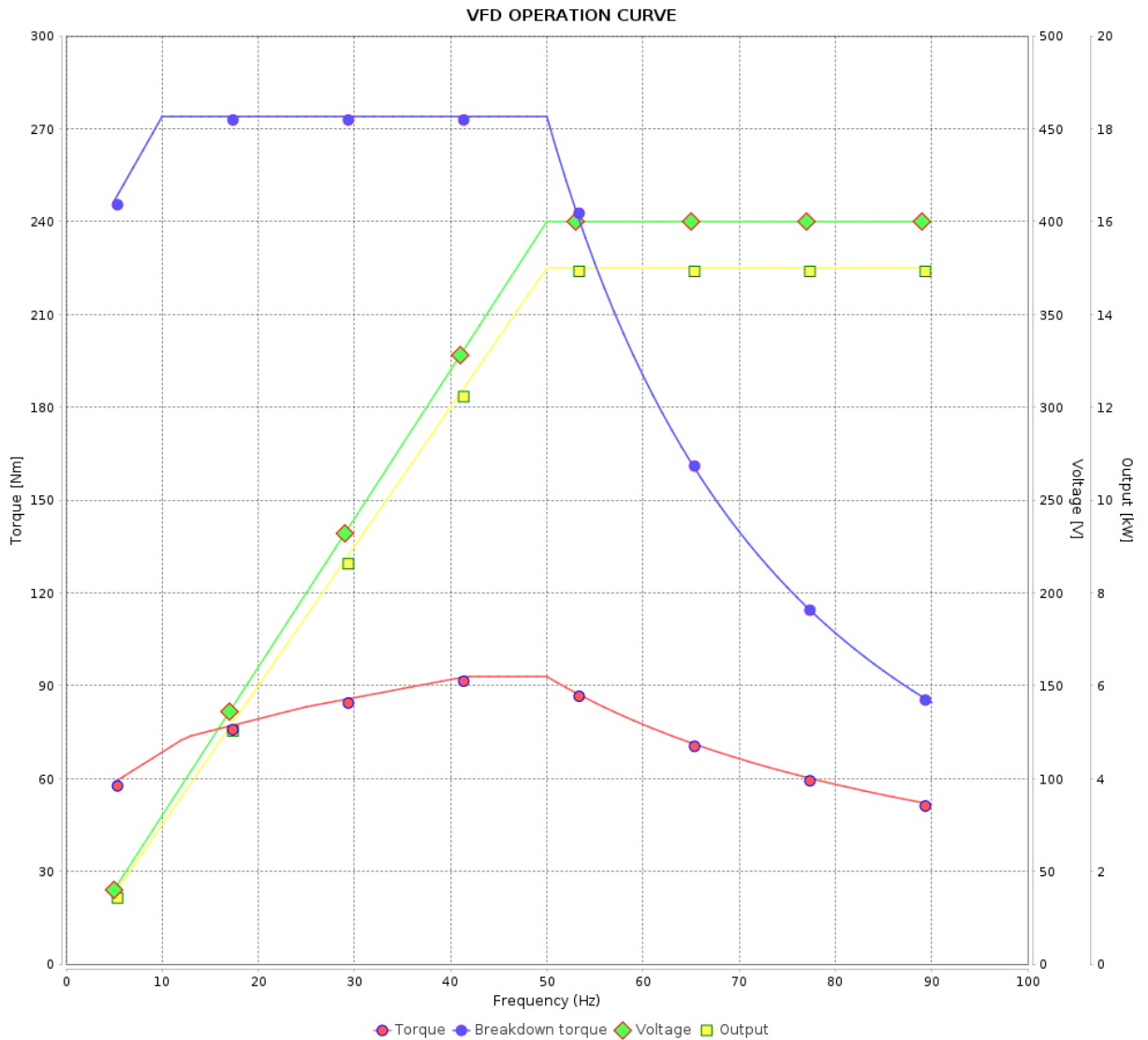
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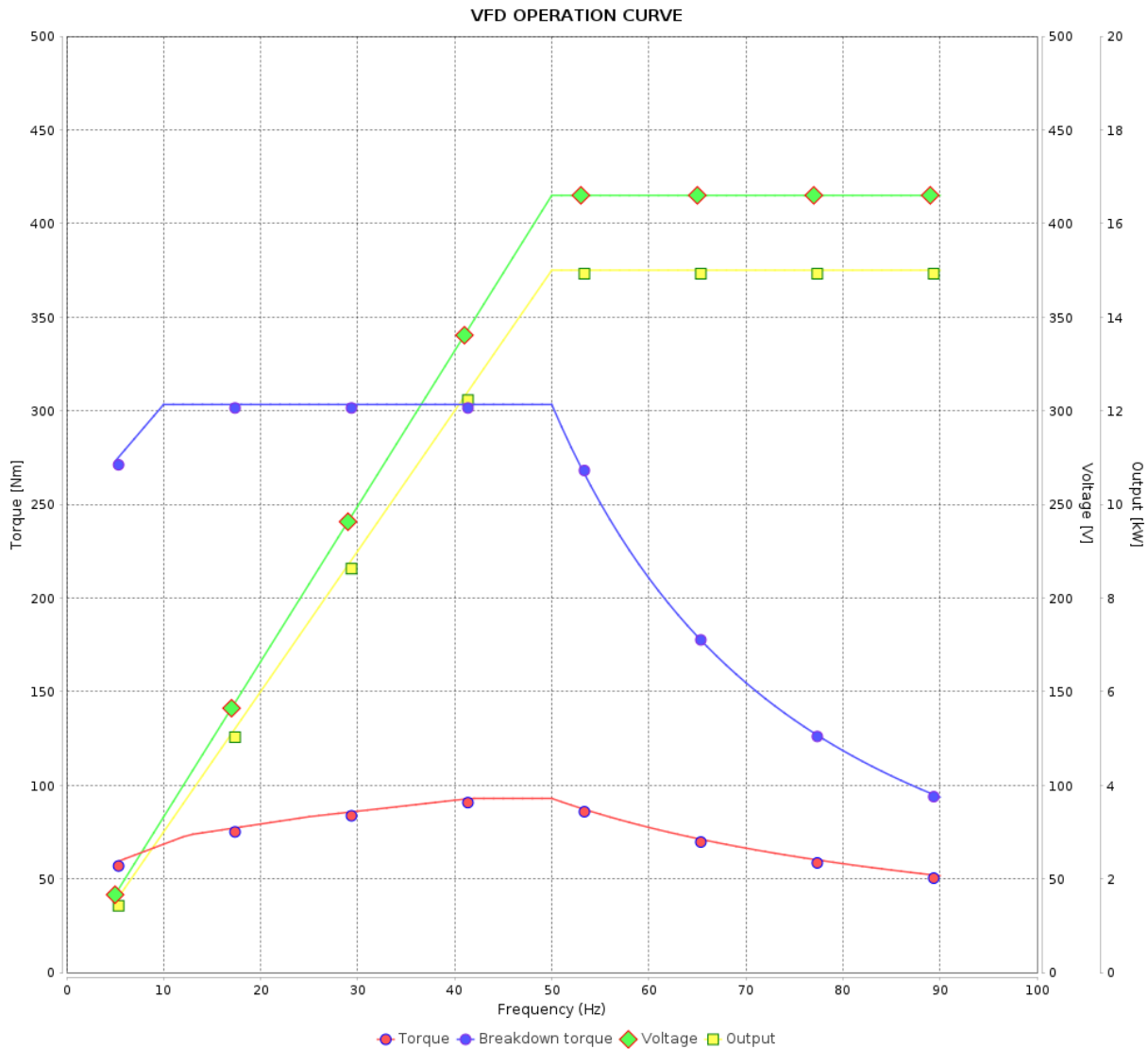
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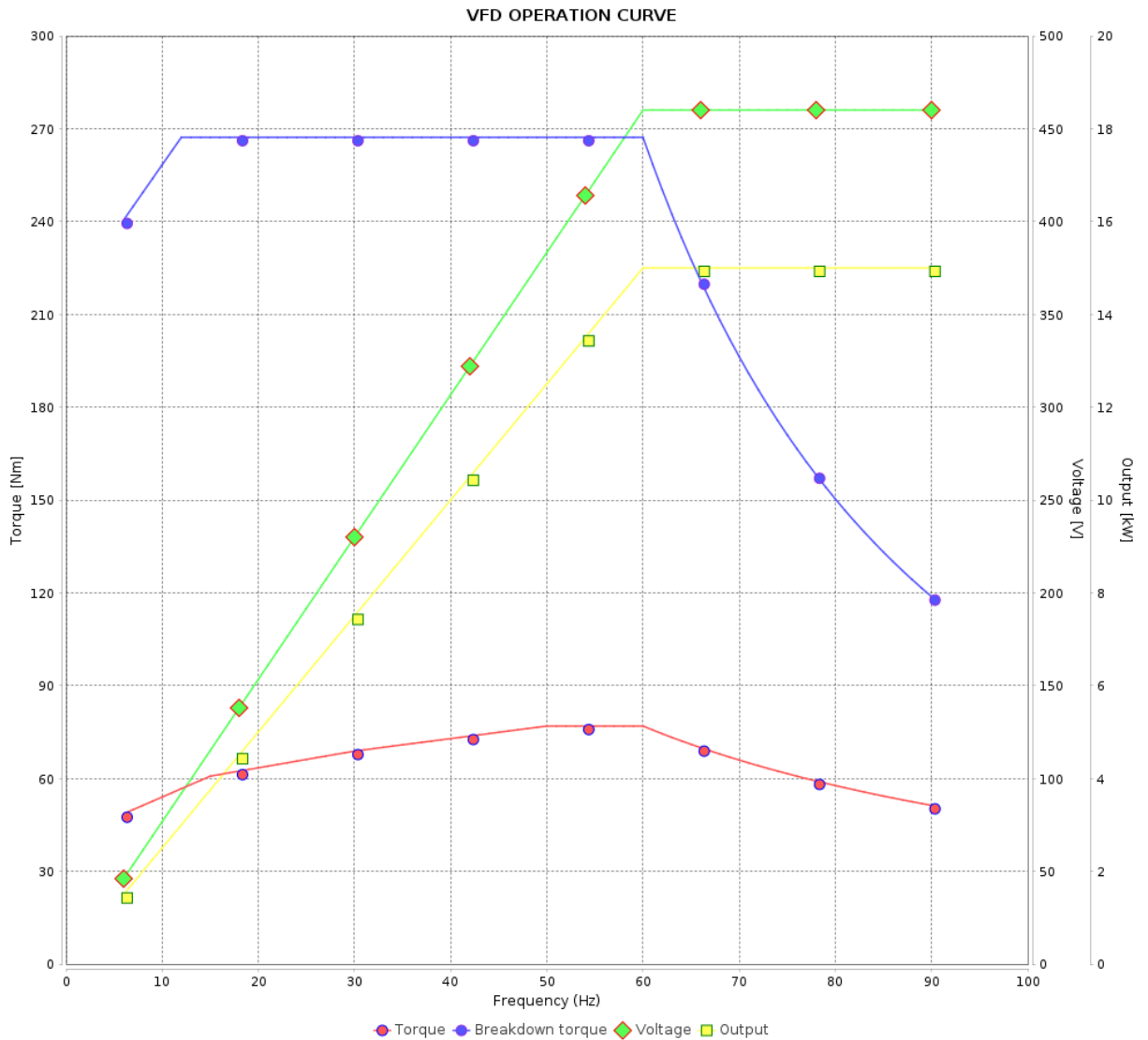
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