

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: IE3 Three-Phase		Product code : 12868147	
Frame	: 90L	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 ²	: 23.7 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0066 kgm ²		
Design	: N				
Output [kW]	1.5	1.5	1.5	1.5	1.5
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]	5.84/3.38	5.81/3.34	5.79/3.35	2.94	
L. R. Amperes [A]	40.3/23.3	43.0/24.7	45.8/26.5	25.0	
LRC [A]	6.9	7.4	7.9	8.5	
No load current [A]	3.28/1.90	3.83/2.20	4.15/2.40	2.00	
Rated speed [RPM]	1445	1450	1455	1755	
Slip [%]	3.67	3.33	3.00	2.50	
Rated torque [kgfm]	1.01	1.01	1.00	0.832	
Locked rotor torque [%]	260	290	310	340	
Breakdown torque [%]	300	320	350	409	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	21s (cold) 12s (hot)	19s (cold) 11s (hot)	18s (cold) 10s (hot)	19s (cold) 11s (hot)	
Noise level ²	49.0 dB(A)	49.0 dB(A)	49.0 dB(A)	51.0 dB(A)	
Efficiency (%)	25%				
	50%	84.0	82.0	81.0	82.5
	75%	85.3	84.0	84.0	85.5
	100%	85.3	85.3	85.3	86.5
Power Factor	25%				
	50%	0.59	0.55	0.50	0.53
	75%	0.72	0.68	0.63	0.65
	100%	0.79	0.76	0.73	0.74
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	16.9	16.9	16.9	15.3
	P2 (0,5;1,0)	15.5	15.5	15.5	14.1
	P3 (0,25;1,0)	15.1	15.1	15.1	13.7
	P4 (0,9;0,5)	8.6	8.6	8.6	7.8
	P5 (0,5;0,5)	6.6	6.6	6.6	5.9
	P6 (0,5;0,25)	4.9	4.9	4.9	4.4
	P7 (0,25;0,25)	3.7	3.7	3.7	3.4
Bearing type	: Drive end 6205 ZZ	Non drive end 6204 ZZ	Foundation loads		
Sealing	: Oil Seal	Lip Seal	Max. traction	: 85 kgf	
Lubrication interval	: -	-	Max. compression	: 109 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

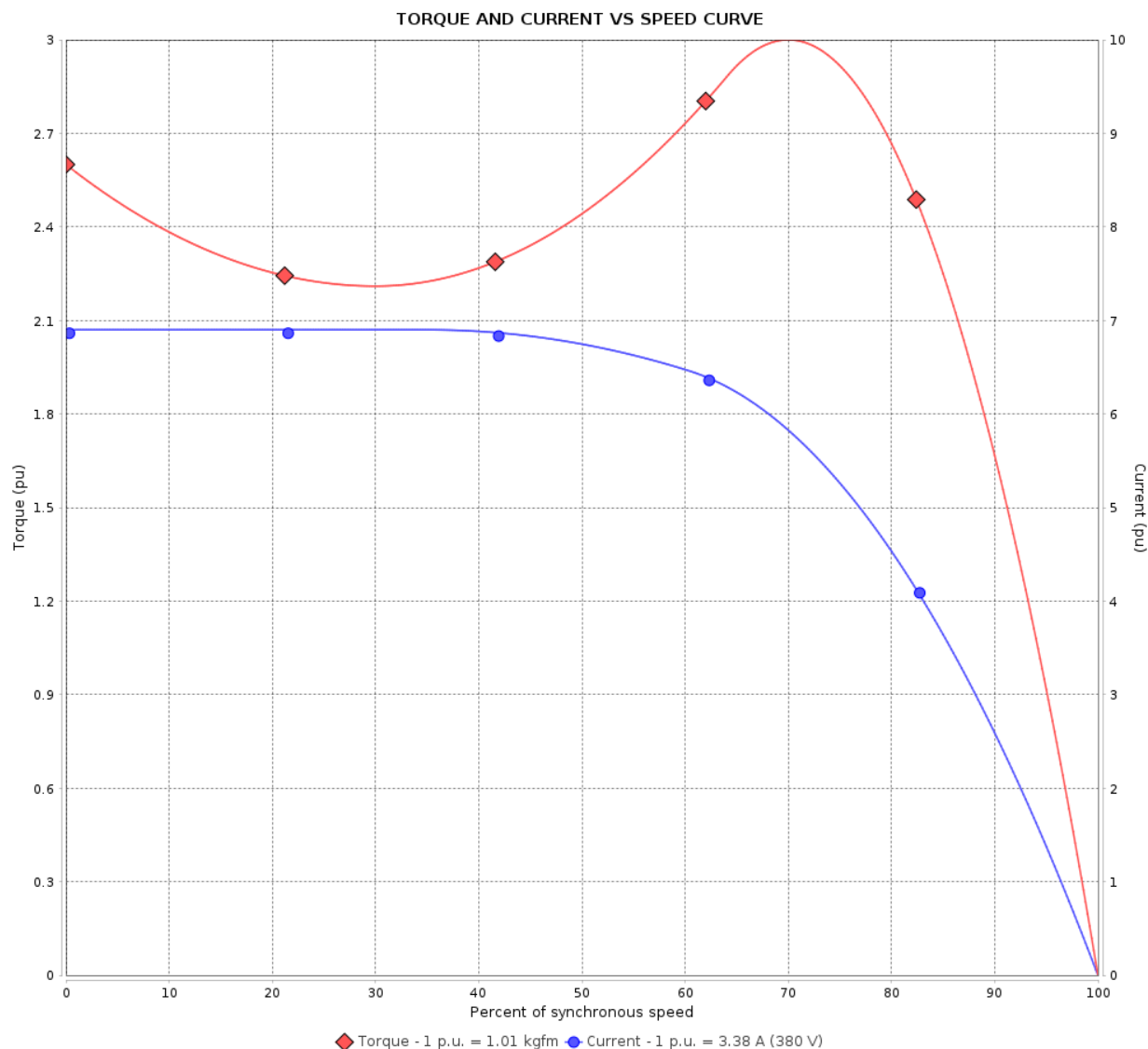
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12868147



Performance : 220/380 V 50 Hz 4P

Rated current	: 5.84/3.38 A	Moment of inertia (J)	: 0.0066 kgm ²
LRC	: 6.9	Duty cycle	: S1
Rated torque	: 1.01 kgfm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1445 rpm	Design	: N

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

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TORQUE AND CURRENT VS SPEED CURVE

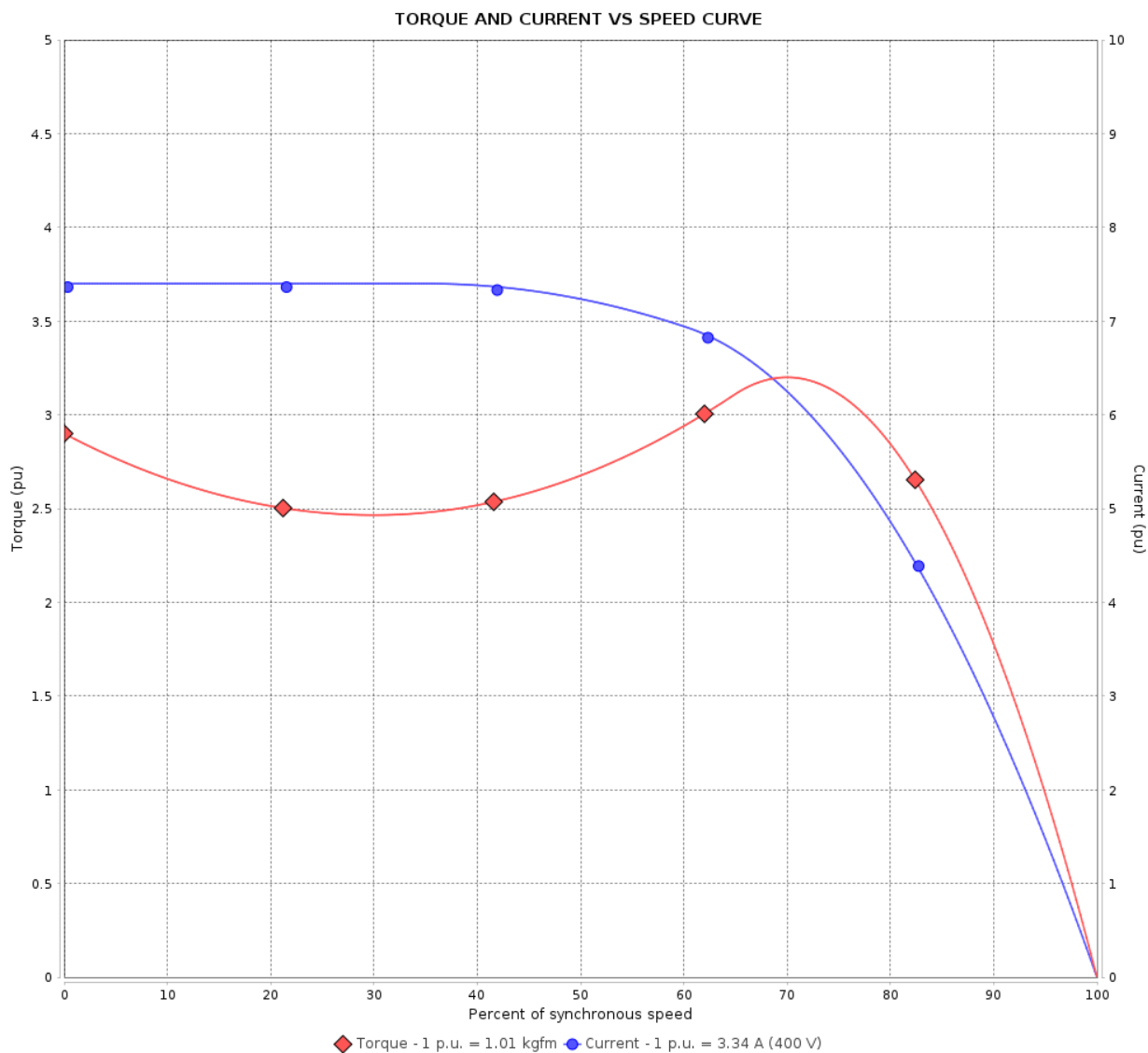


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12868147



Performance : 230/400 V 50 Hz 4P

Rated current	: 5.81/3.34 A	Moment of inertia (J)	: 0.0066 kgm ²
LRC	: 7.4	Duty cycle	: S1
Rated torque	: 1.01 kgfm	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1450 rpm	Design	: N

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

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TORQUE AND CURRENT VS SPEED CURVE

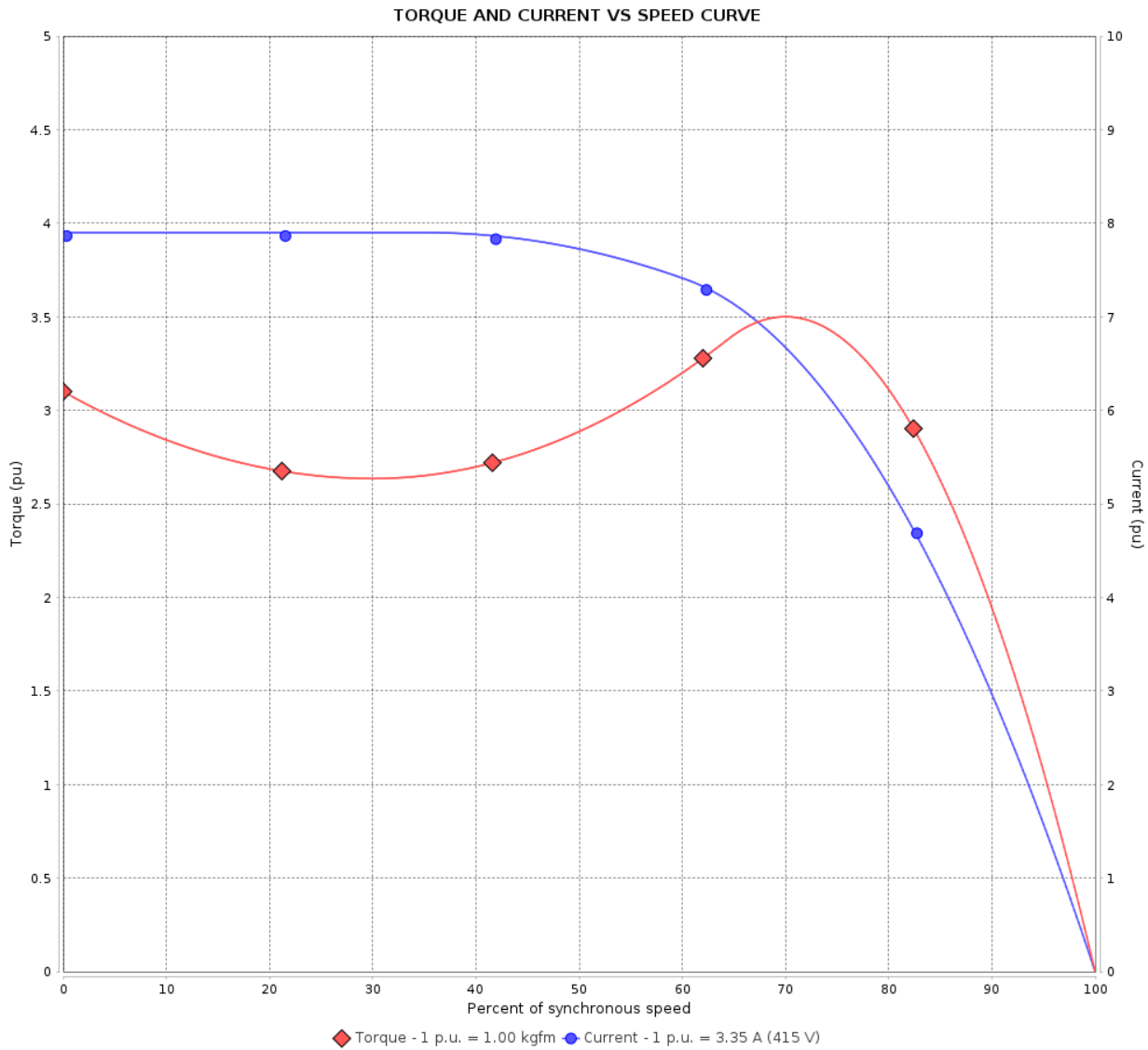
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12868147



Performance : 240/415 V 50 Hz 4P

Rated current	: 5.79/3.35 A	Moment of inertia (J)	: 0.0066 kgm ²
LRC	: 7.9	Duty cycle	: S1
Rated torque	: 1.00 kgfm	Insulation class	: F
Locked rotor torque	: 310 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 1455 rpm	Design	: N

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

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TORQUE AND CURRENT VS SPEED CURVE

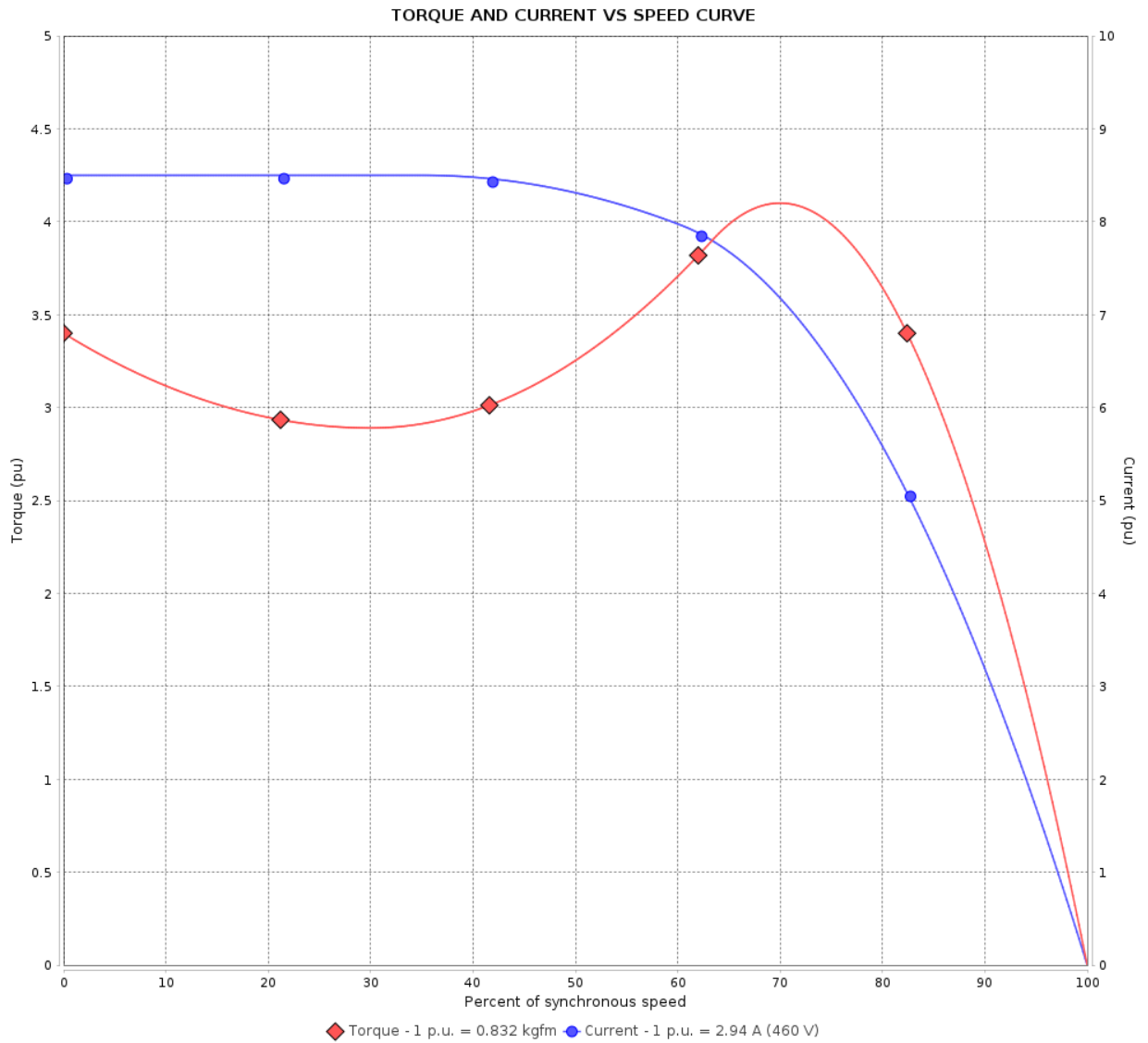


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12868147



Performance : 460 V 60 Hz 4P

Rated current	: 2.94 A	Moment of inertia (J)	: 0.0066 kgm ²
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 0.832 kgfm	Insulation class	: F
Locked rotor torque	: 340 %	Service factor	: 1.00
Breakdown torque	: 409 %	Temperature rise	: 80 K
Rated speed	: 1755 rpm	Design	: N

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

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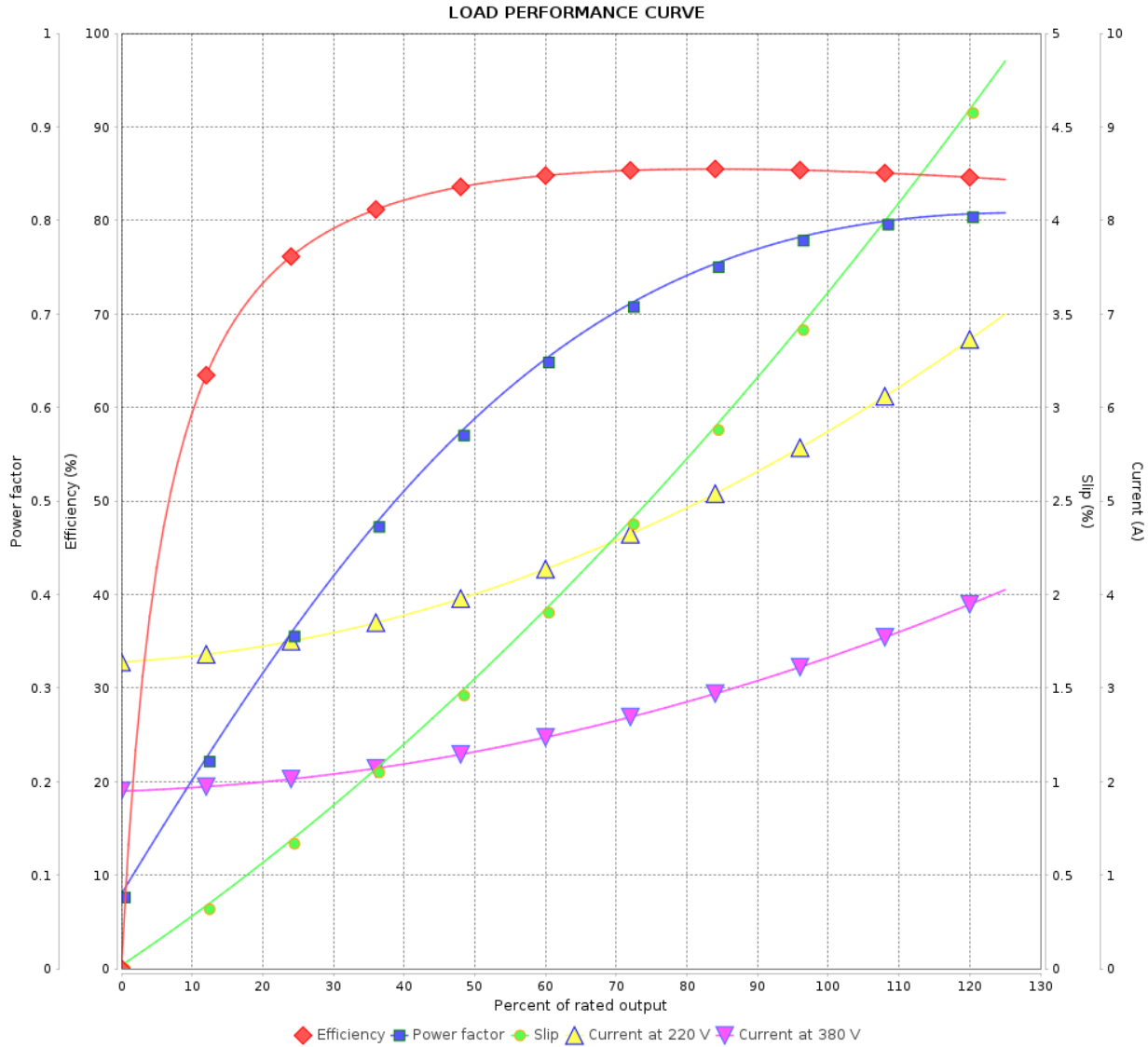
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

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Performance : 220/380 V 50 Hz 4P

Rated current : 5.84/3.38 A
 LRC : 6.9
 Rated torque : 1.01 kgfm
 Locked rotor torque : 260 %
 Breakdown torque : 300 %
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.0066 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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LOAD PERFORMANCE CURVE

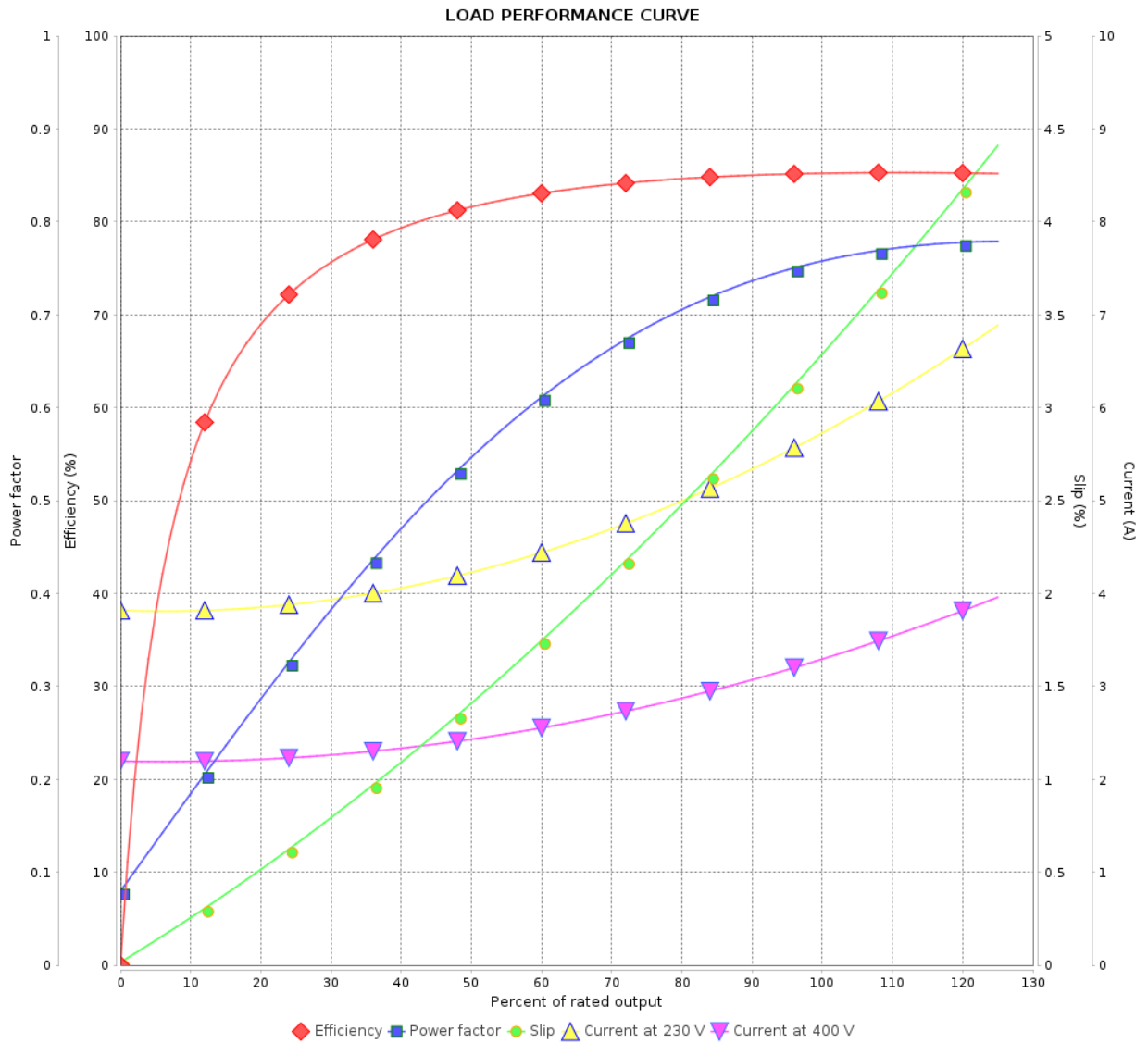
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12868147



Performance : 230/400 V 50 Hz 4P

Rated current : 5.81/3.34 A
 LRC : 7.4
 Rated torque : 1.01 kgfm
 Locked rotor torque : 290 %
 Breakdown torque : 320 %
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.0066 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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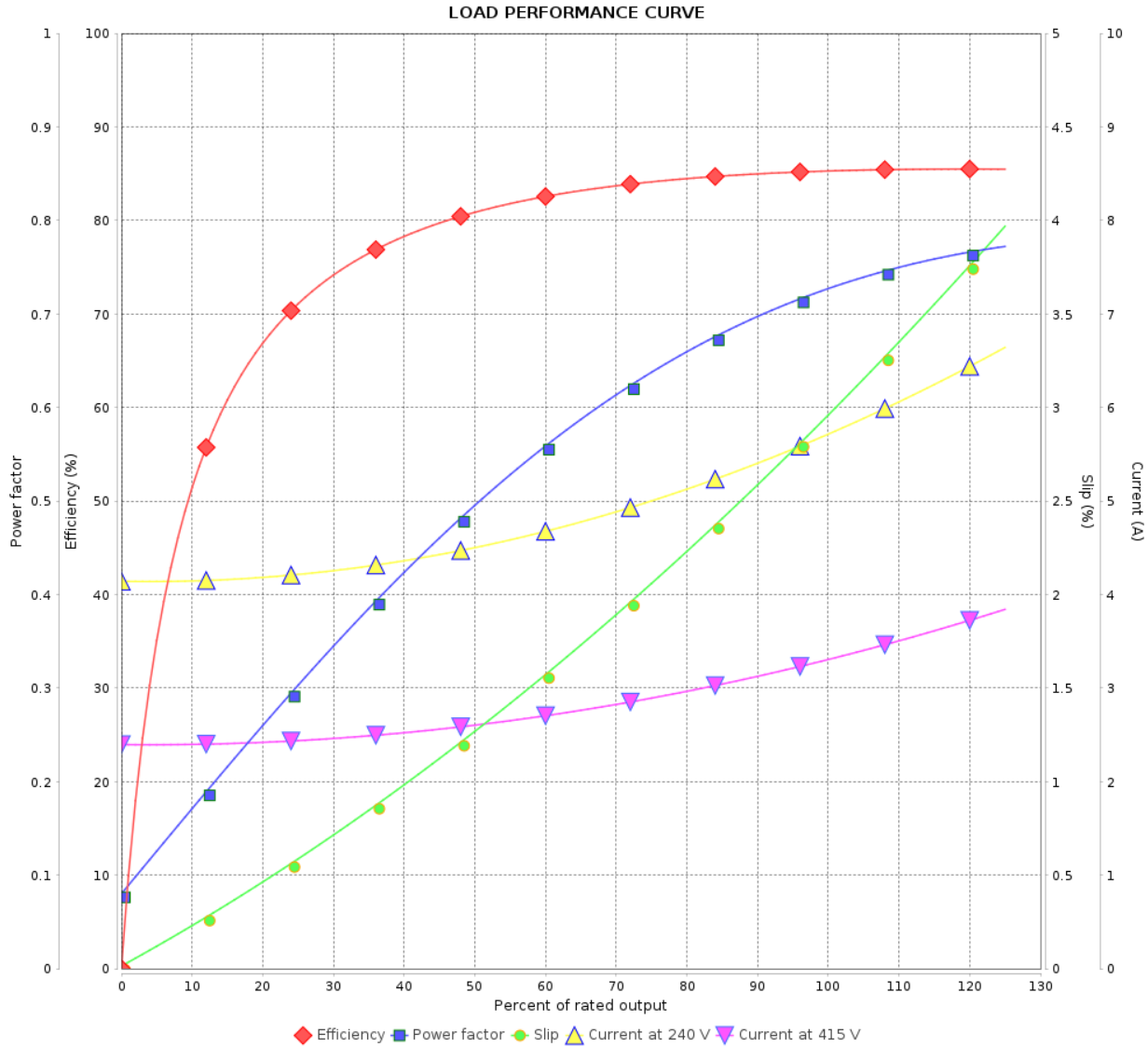
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 Service factor : 1.00
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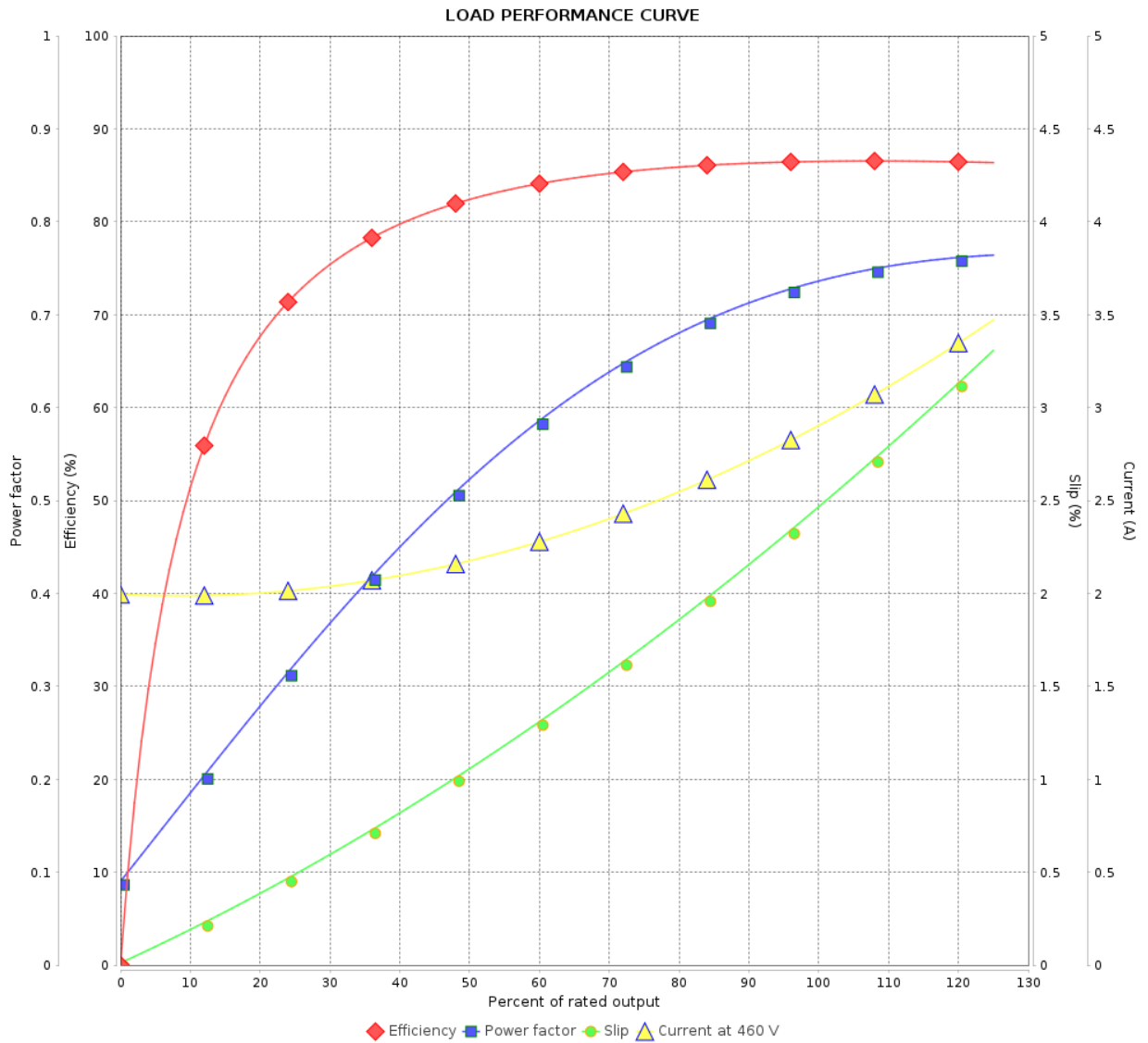
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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THERMAL LIMIT CURVE

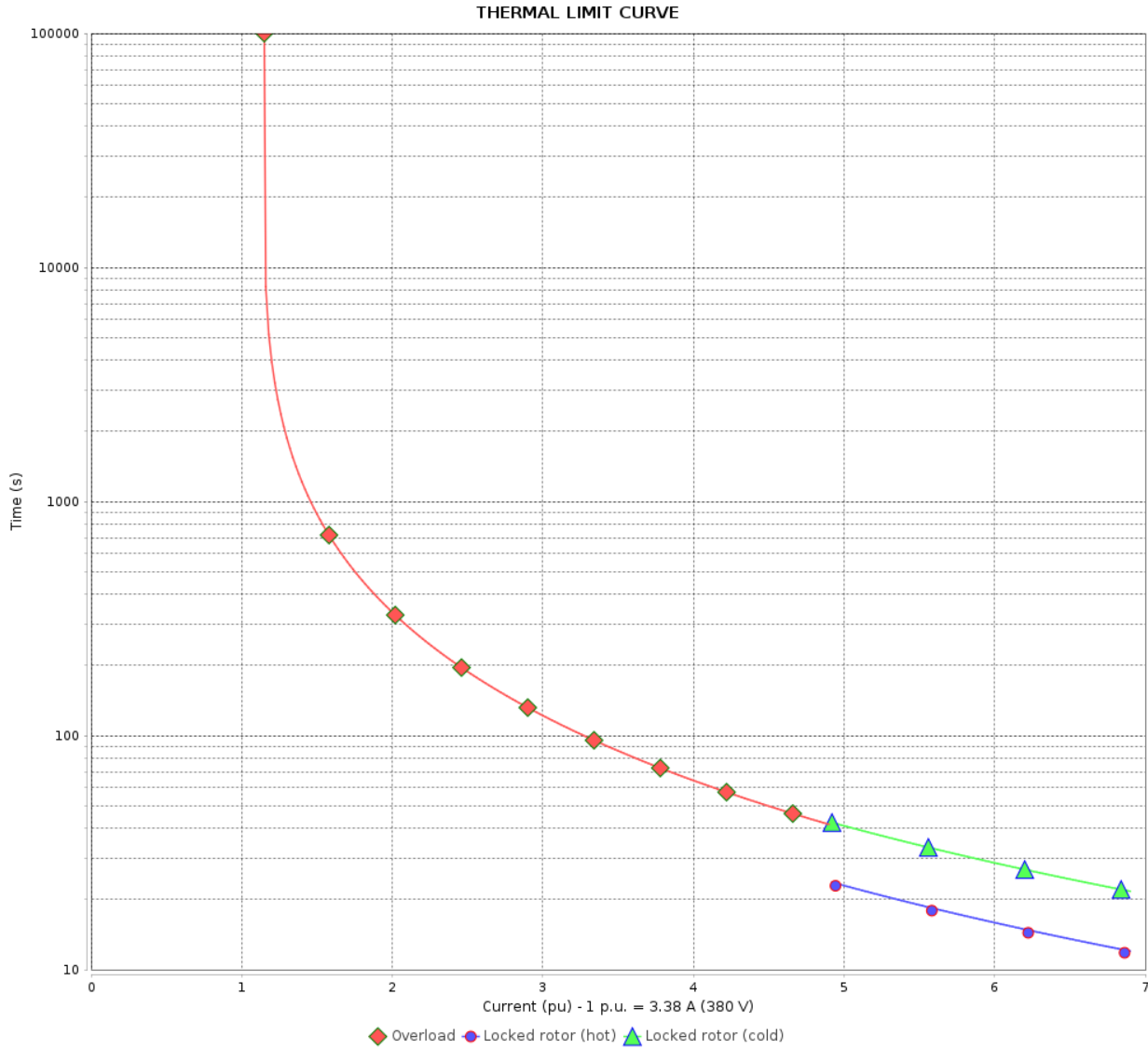
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 Breakdown torque : 300 %
 Rated speed : 1445 rpm

Moment of inertia (J) : 0.0066 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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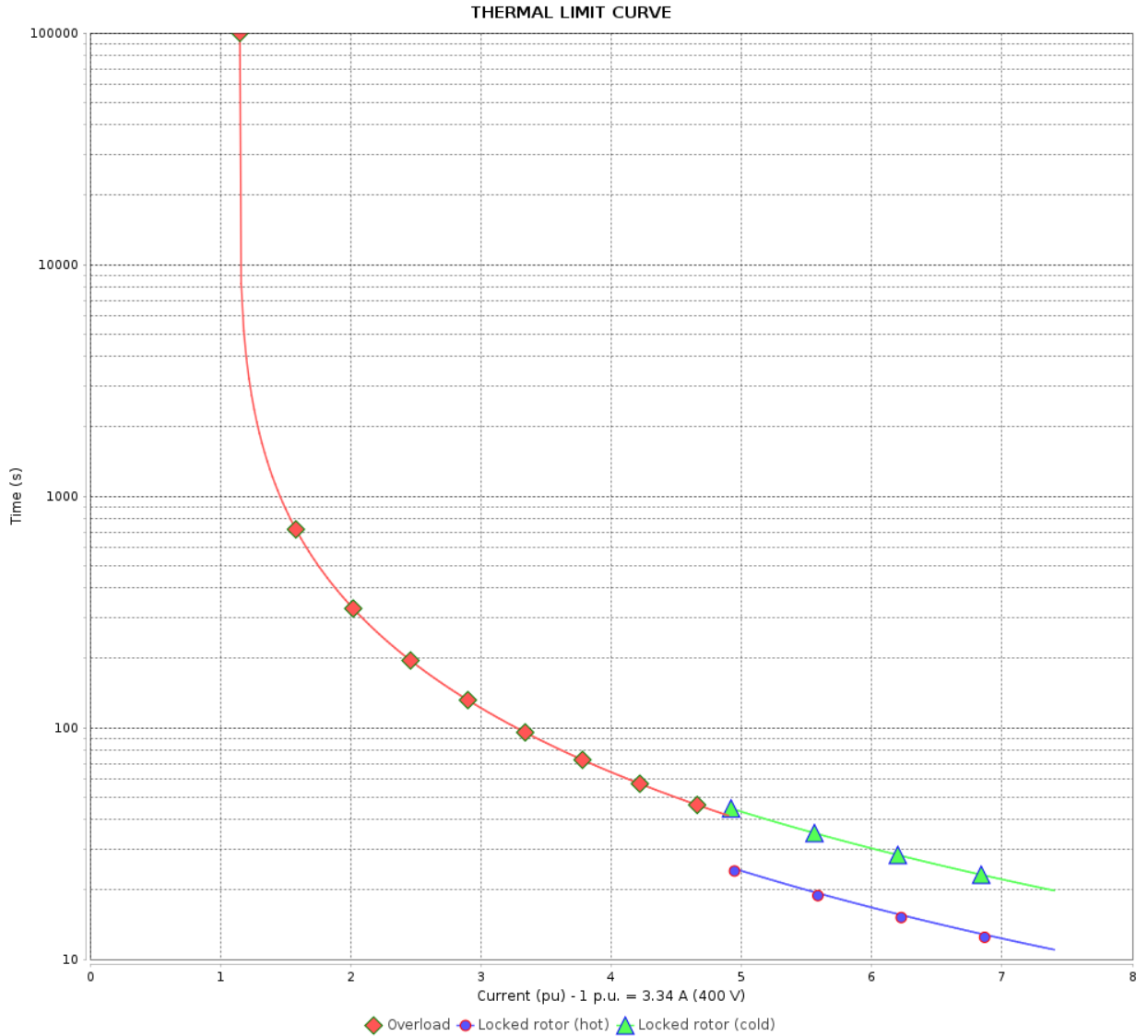
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Heating constant

Cooling constant

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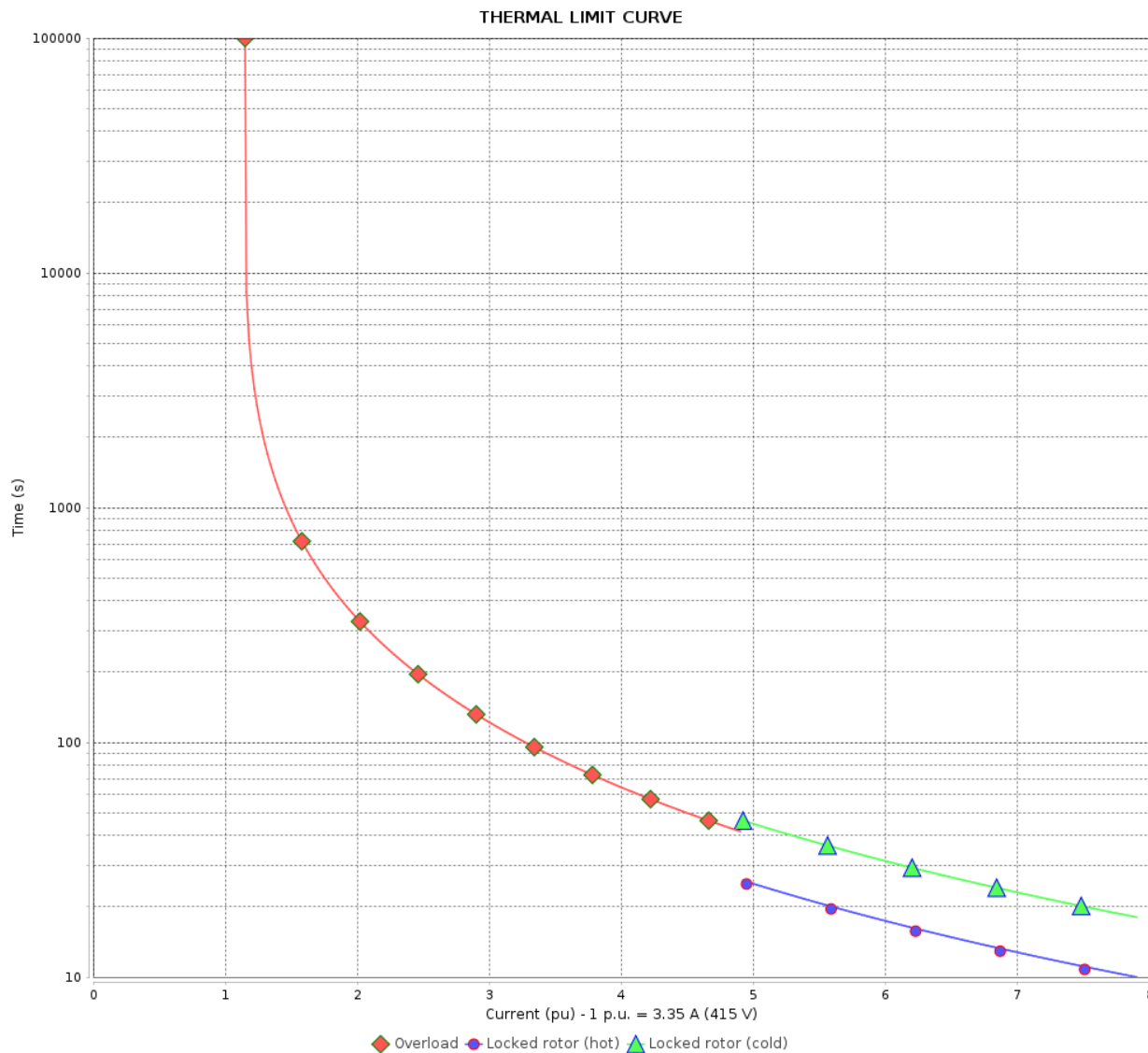
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant
 Cooling constant

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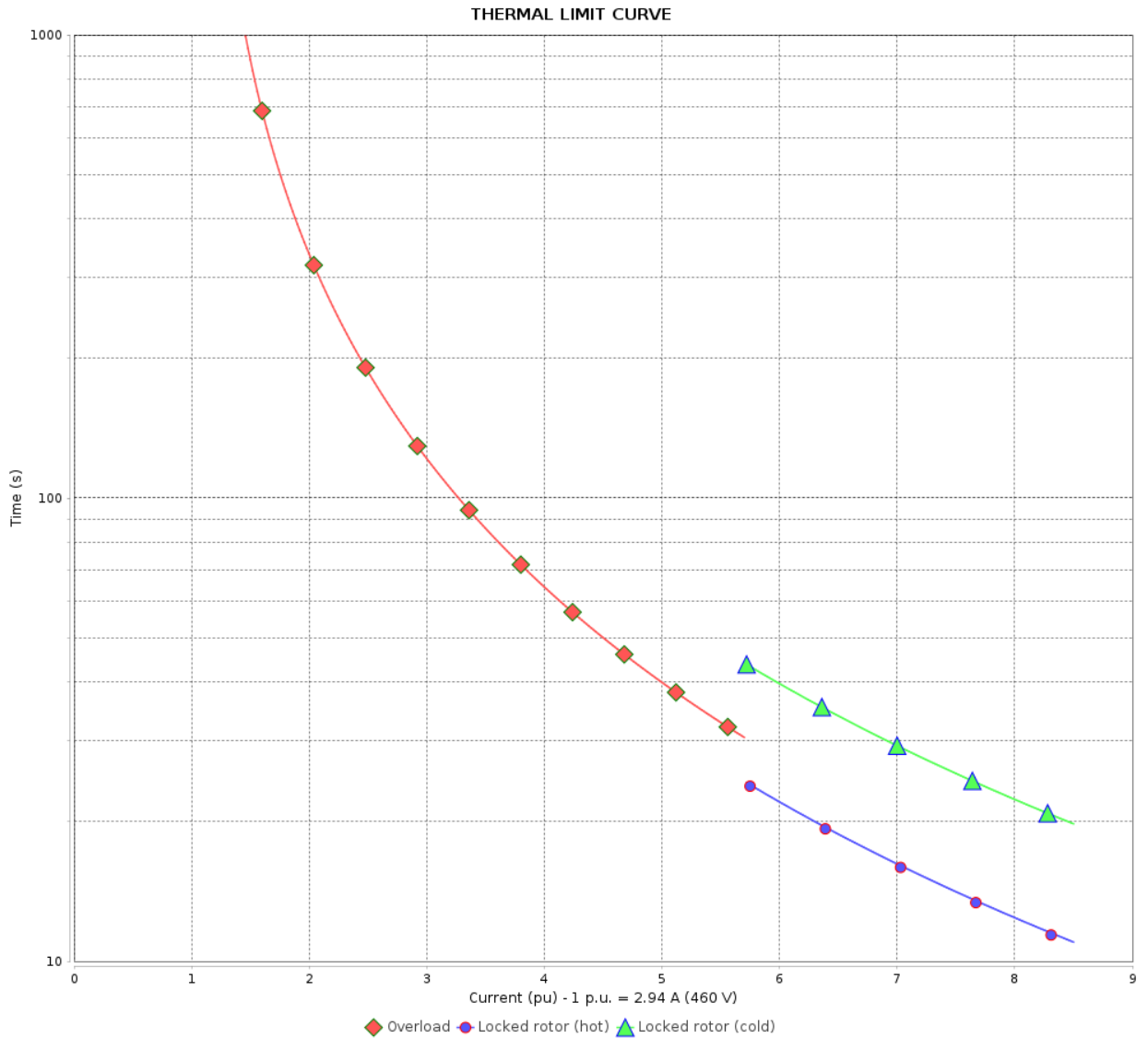
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 Breakdown torque : 409 %
 Rated speed : 1755 rpm

Moment of inertia (J) : 0.0066 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

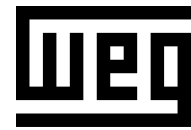
Heating constant

Cooling constant

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VFD OPERATION CURVE

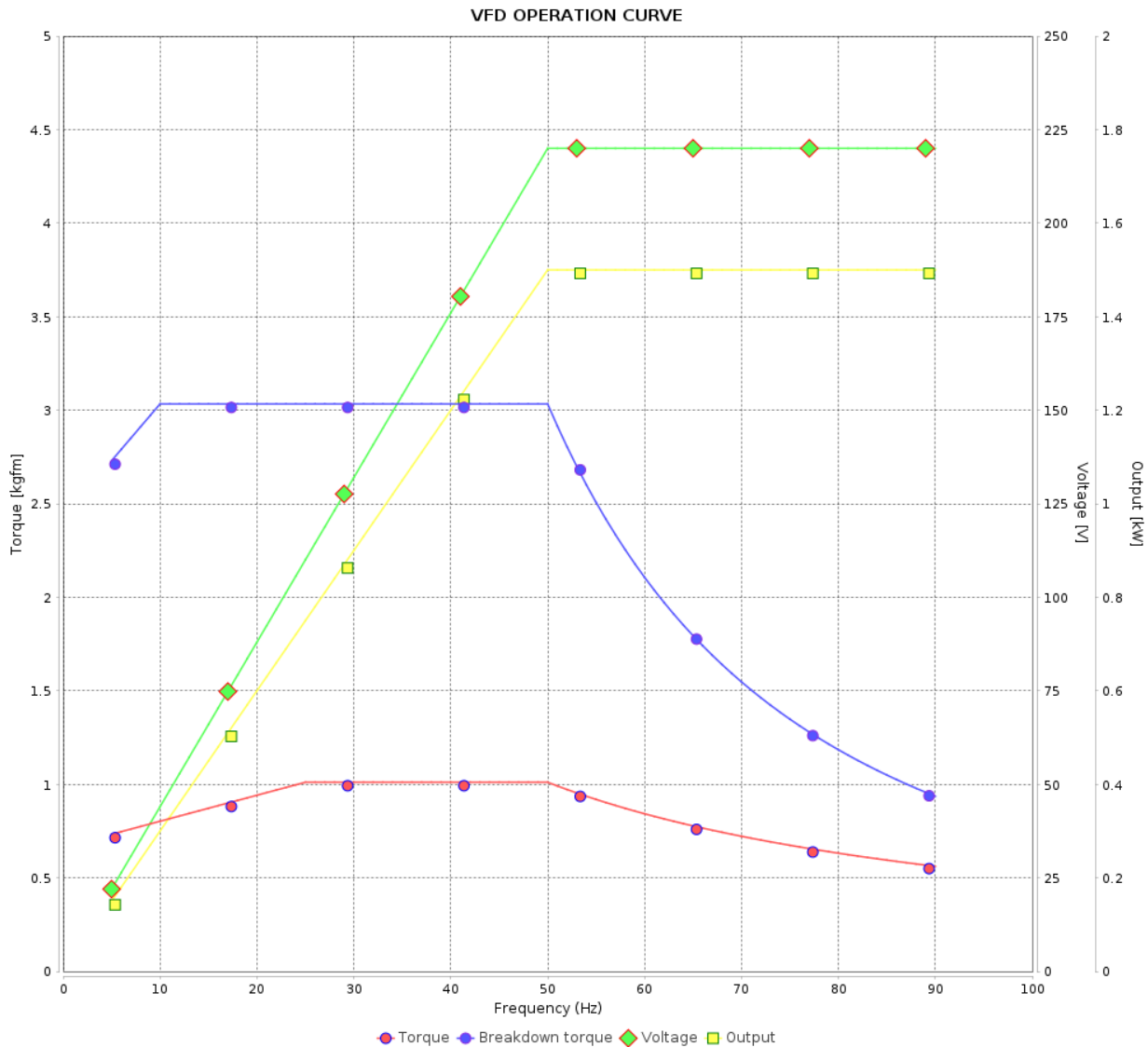
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 Breakdown torque : 300 %
 Rated speed : 1445 rpm

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 Service factor : 1.00
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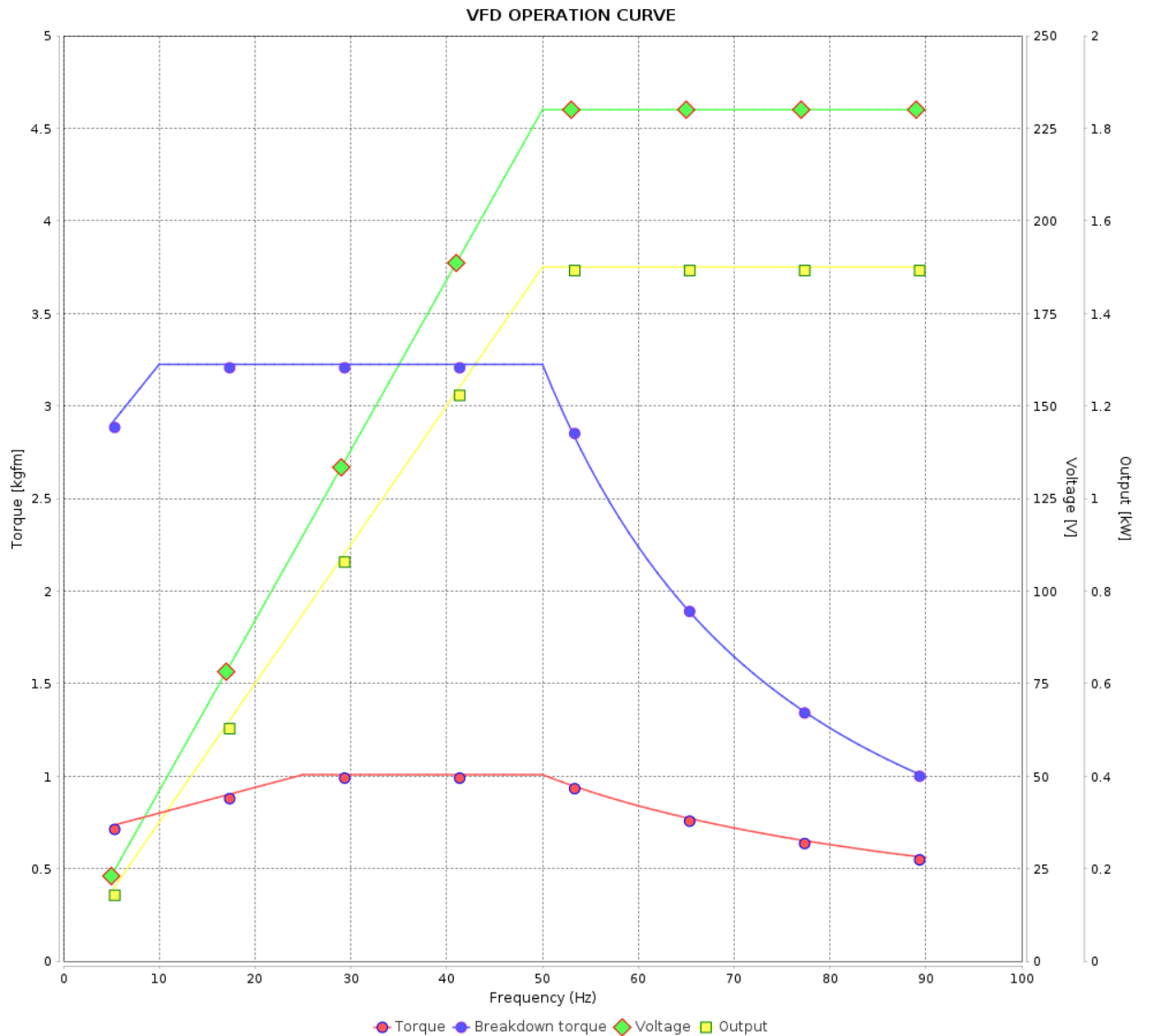
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Performance : 230/400 V 50 Hz 4P

Rated current : 5.81/3.34 A
 LRC : 7.4
 Rated torque : 1.01 kgfm
 Locked rotor torque : 290 %
 Breakdown torque : 320 %
 Rated speed : 1450 rpm

Moment of inertia (J) : 0.0066 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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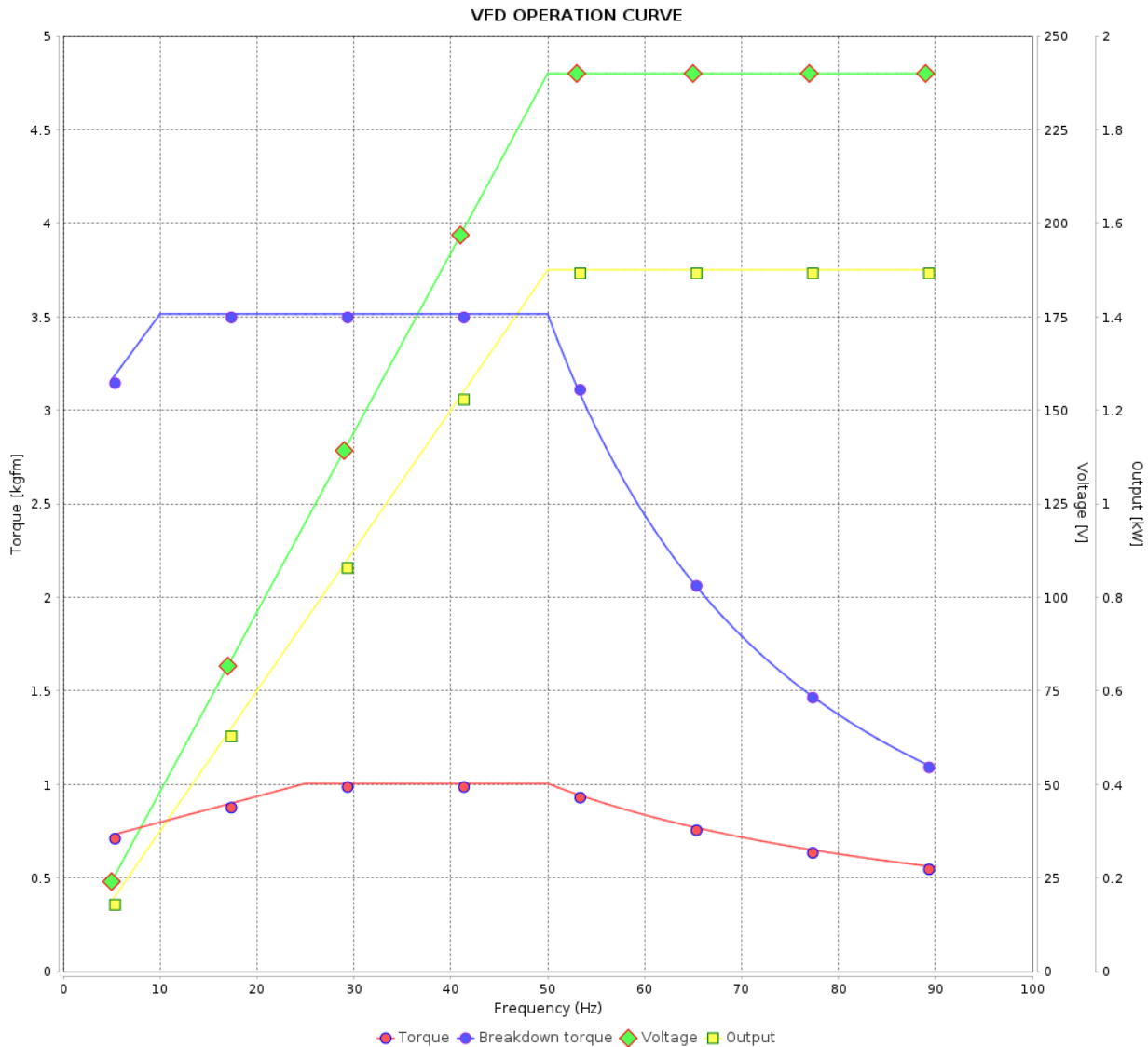
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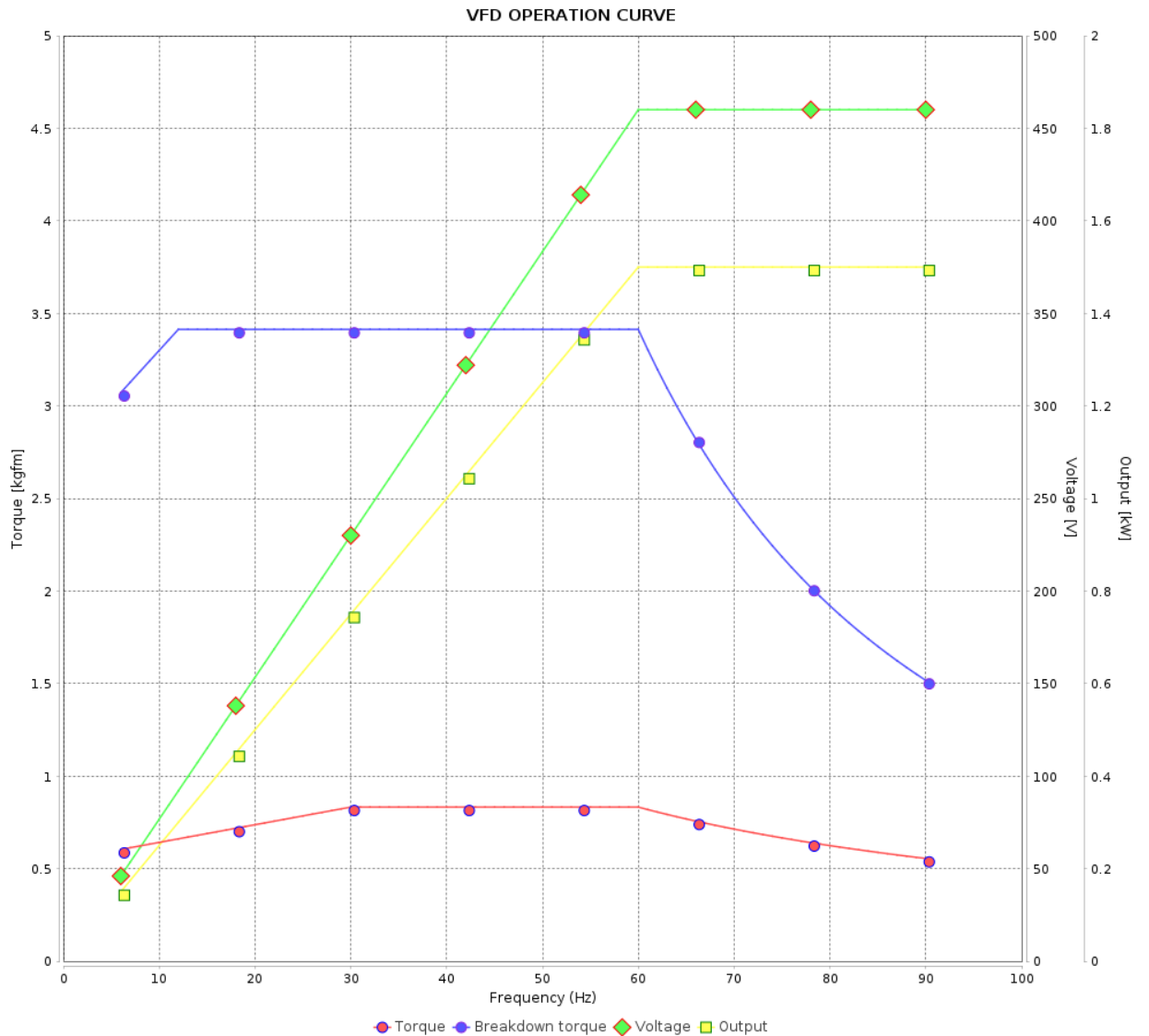
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