

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer :					
Product line : IE3 Three-Phase	Product code : 12883087				
Frame : 250S/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 : B3R(E) Rotation ¹ : Both (CW and CCW) Starting method : Direct On Line Approx. weight ² : 483 kg Moment of inertia (J) : 1.05 kgm ²				
Output [kW]	55	55	55	55	
Poles	4	4	4	4	
Frequency [Hz]	50	50	50	60	
Rated voltage [V]	380/660	400/690	415	460	
Rated current [A]	103/59.3	98.7/57.2	97.5	87.2	
L. R. Amperes [A]	742/427	760/441	799	741	
LRC [A]	7.2	7.7	8.2	8.5	
No load current [A]	36.0/20.7	39.0/22.6	42.0	37.0	
Rated speed [RPM]	1480	1482	1484	1785	
Slip [%]	1.33	1.20	1.07	0.83	
Rated torque [kgfm]	36.2	36.1	36.1	30.0	
Locked rotor torque [%]	240	270	300	310	
Breakdown torque [%]	270	300	330	340	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	28s (cold) 16s (hot)	28s (cold) 16s (hot)	27s (cold) 15s (hot)	34s (cold) 19s (hot)	
Noise level ²	64.0 dB(A)	64.0 dB(A)	64.0 dB(A)	68.0 dB(A)	
Efficiency (%)	25%				
	50%	94.5	94.3	94.0	94.1
	75%	94.6	94.6	94.6	95.0
	100%	94.6	94.6	94.6	95.4
Power Factor	25%				
	50%	0.73	0.69	0.60	0.67
	75%	0.82	0.80	0.78	0.78
	100%	0.86	0.85	0.83	0.83
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	5.5	5.5	5.5	4.6
	P2 (0,5;1,0)	4.6	4.6	4.6	3.9
	P3 (0,25;1,0)	4.6	4.6	4.6	3.9
	P4 (0,9;0,5)	2.5	2.5	2.5	2.1
	P5 (0,5;0,5)	1.7	1.7	1.7	1.5
	P6 (0,5;0,25)	1.1	1.1	1.1	0.9
	P7 (0,25;0,25)	0.7	0.7	0.7	0.6
Bearing type	Drive end : 6314 C3	Non drive end : 6314 C3	Foundation loads		
Sealing	: WSeal	: WSeal	Max. traction	: 763 kgf	
Lubrication interval	: 14000 h	: 14000 h	Max. compression	: 1246 kgf	
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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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

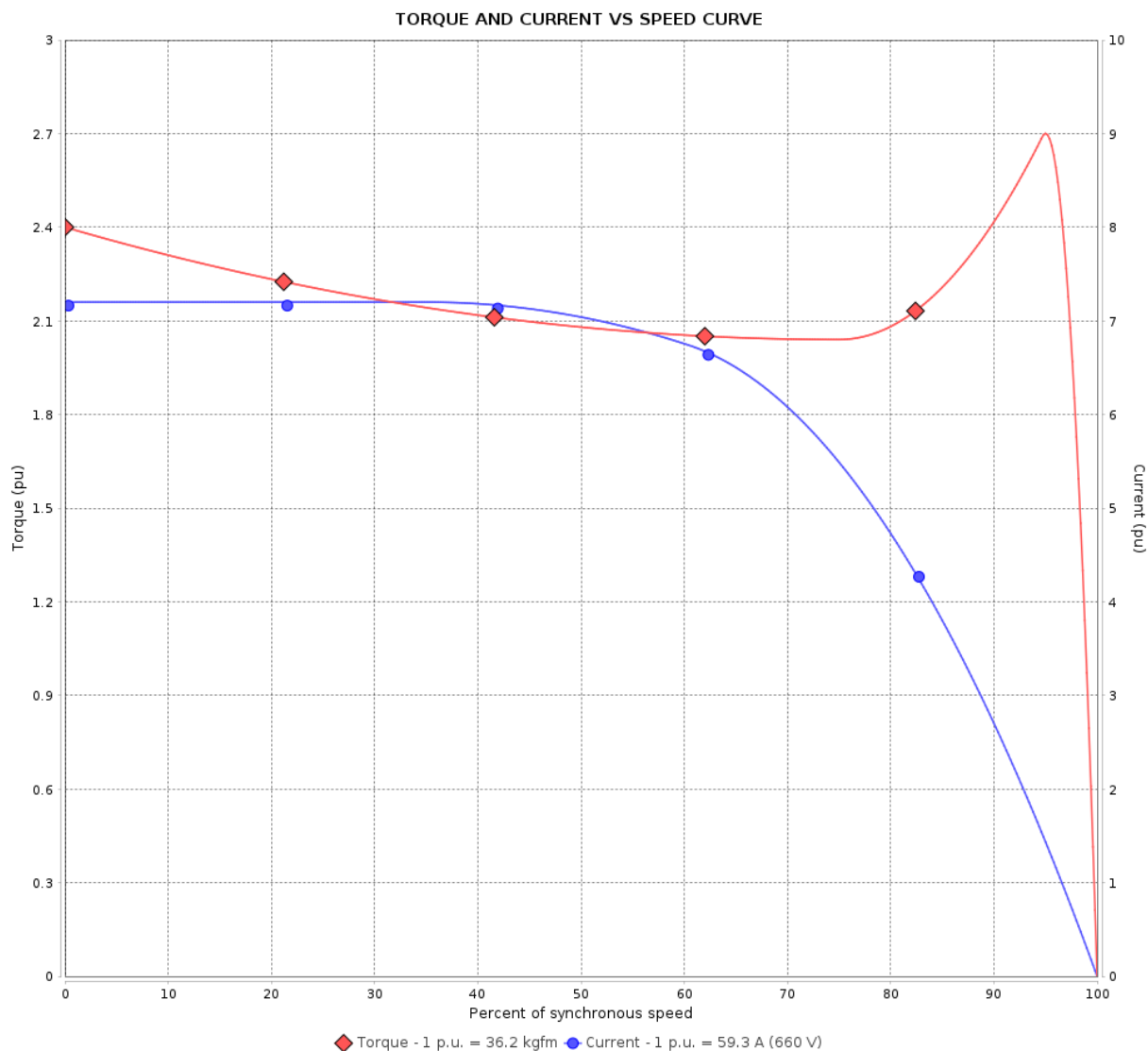
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE3 Three-Phase

Product code : 12883087



Performance : 380/660 V 50 Hz 4P

Rated current	: 103/59.3 A	Moment of inertia (J)	: 1.05 kgm ²
LRC	: 7.2	Duty cycle	: S1
Rated torque	: 36.2 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 1480 rpm	Design	: N

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

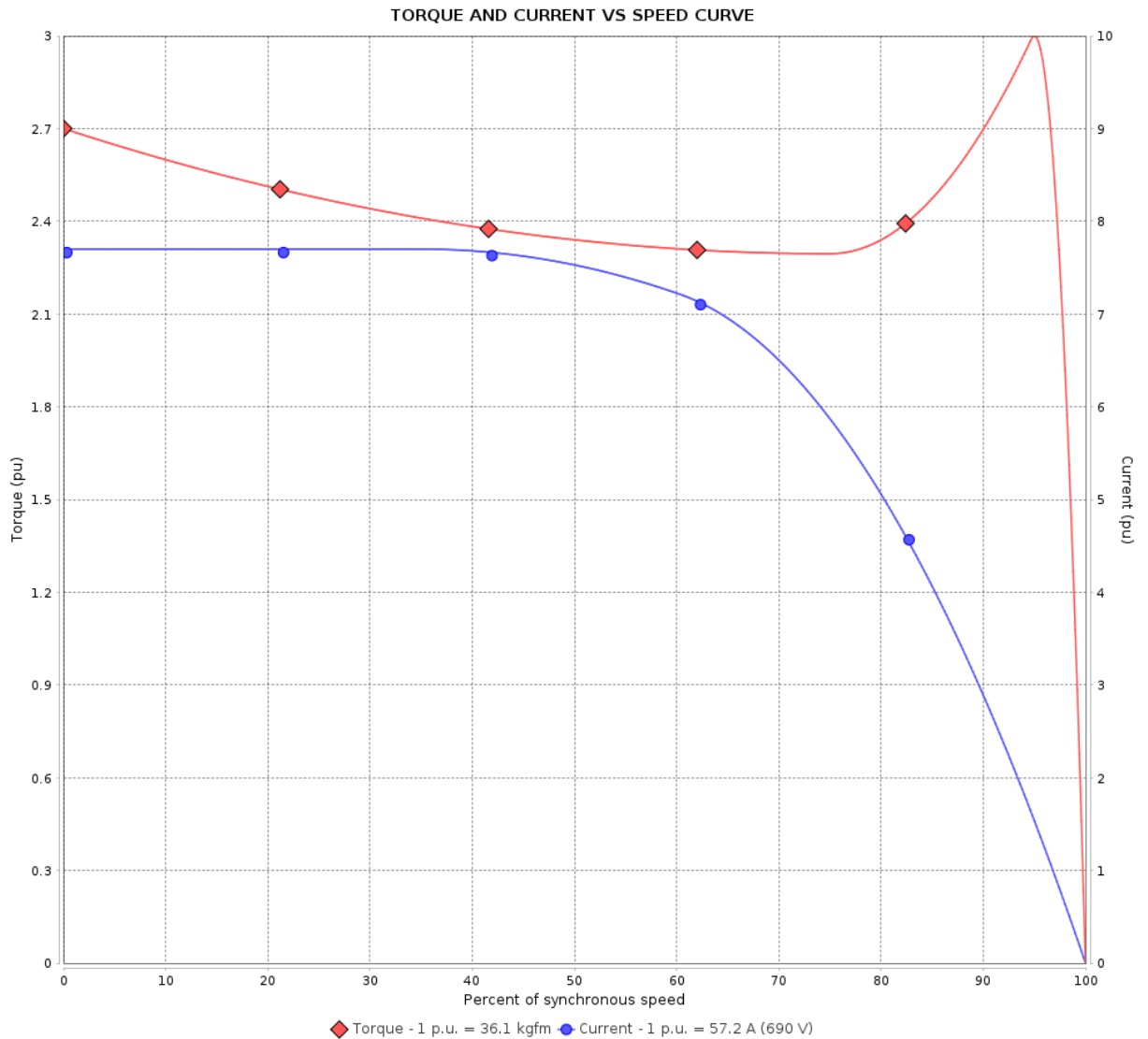
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE3 Three-Phase

Product code : 12883087



Performance : 400/690 V 50 Hz 4P

Rated current	: 98.7/57.2 A	Moment of inertia (J)	: 1.05 kgm ²
LRC	: 7.7	Duty cycle	: S1
Rated torque	: 36.1 kgfm	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 1482 rpm	Design	: N

Locked rotor time : 28s (cold) 16s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

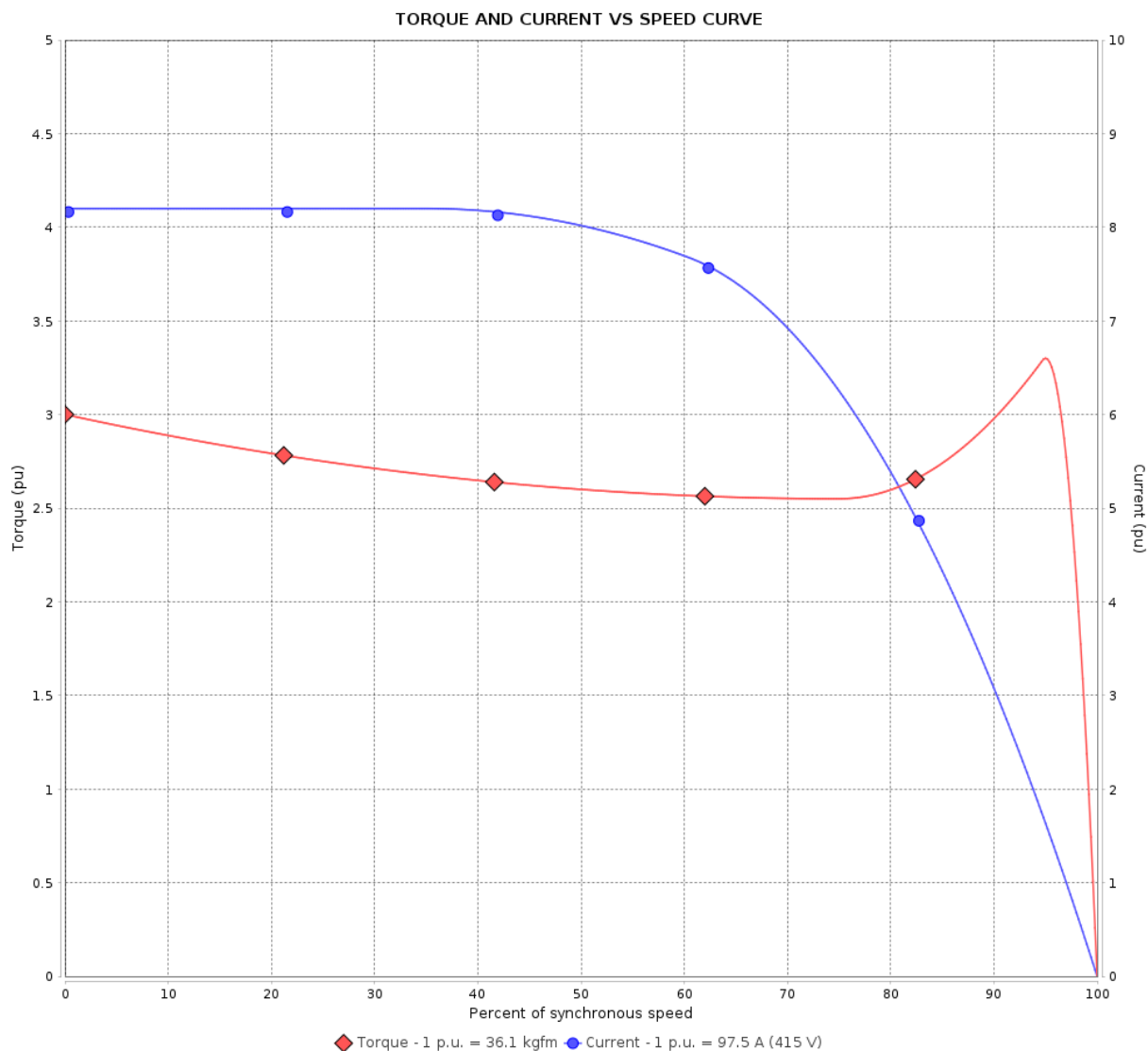
Three Phase Induction Motor - Squirrel Cage



Customer :

Product line : IE3 Three-Phase

Product code : 12883087



Performance : 415 V 50 Hz 4P

Rated current	: 97.5 A	Moment of inertia (J)	: 1.05 kgm ²
LRC	: 8.2	Duty cycle	: S1
Rated torque	: 36.1 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 1484 rpm	Design	: N

Locked rotor time : 27s (cold) 15s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

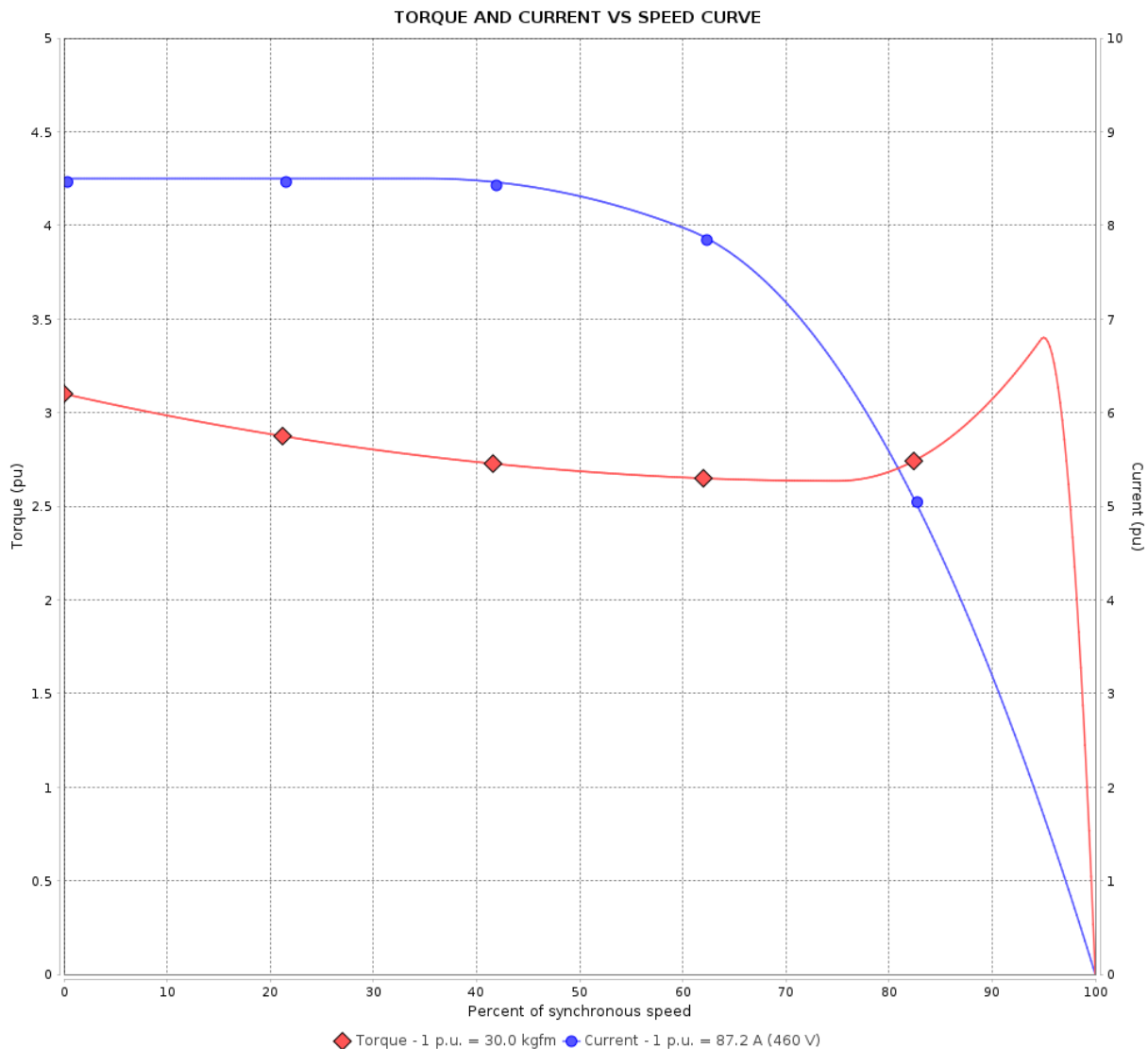


Three Phase Induction Motor - Squirrel Cage

Customer : _____

Product line : IE3 Three-Phase

Product code : 12883087



Performance : 460 V 60 Hz 4P

Rated current	: 87.2 A	Moment of inertia (J)	: 1.05 kgm ²
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 30.0 kgfm	Insulation class	: F
Locked rotor torque	: 310 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1785 rpm	Design	: N

Locked rotor time : 34s (cold) 19s (hot)

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LOAD PERFORMANCE CURVE

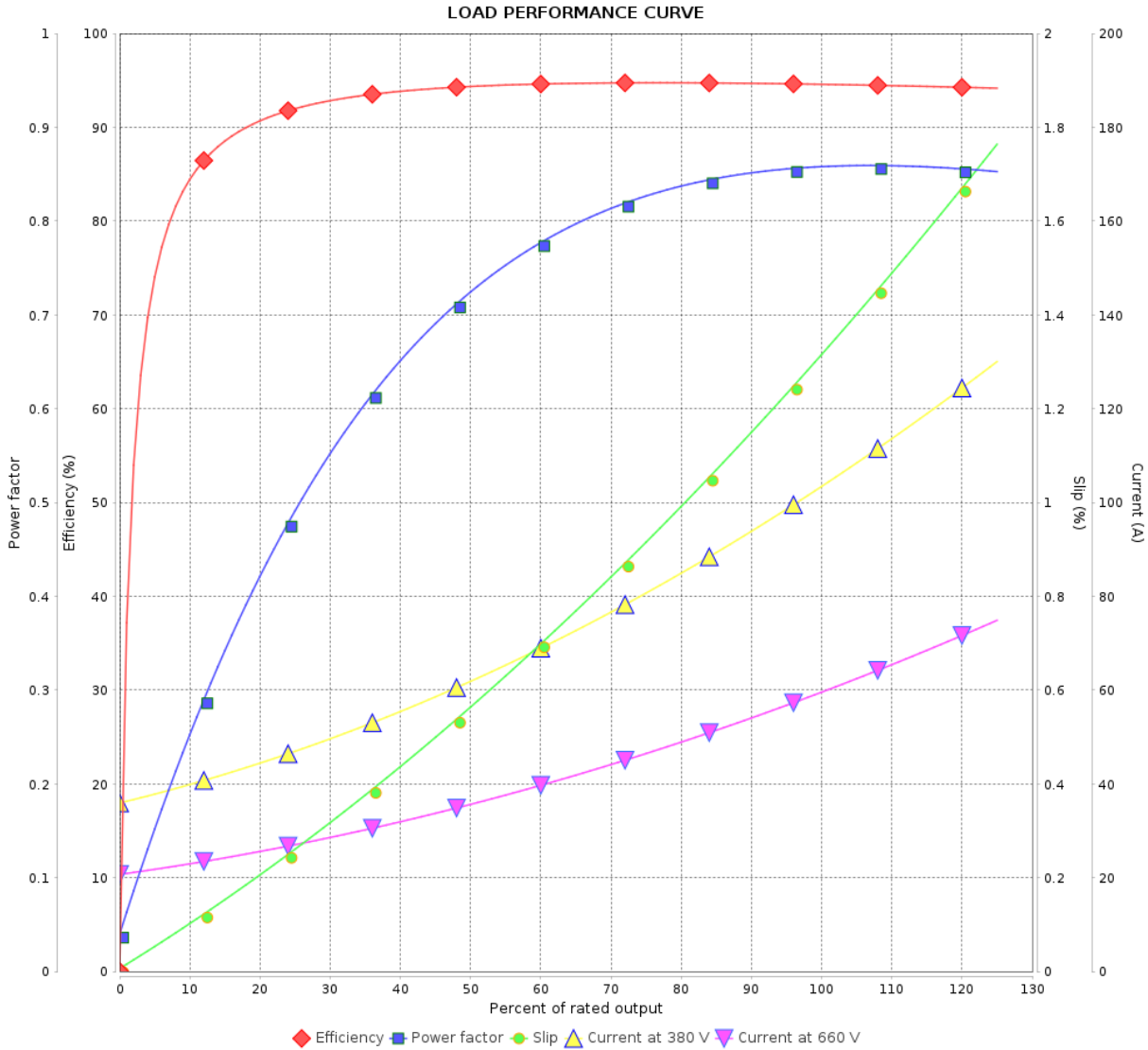
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Performance : 380/660 V 50 Hz 4P

Rated current : 103/59.3 A
 LRC : 7.2
 Rated torque : 36.2 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 270 %
 Rated speed : 1480 rpm

Moment of inertia (J) : 1.05 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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LOAD PERFORMANCE CURVE

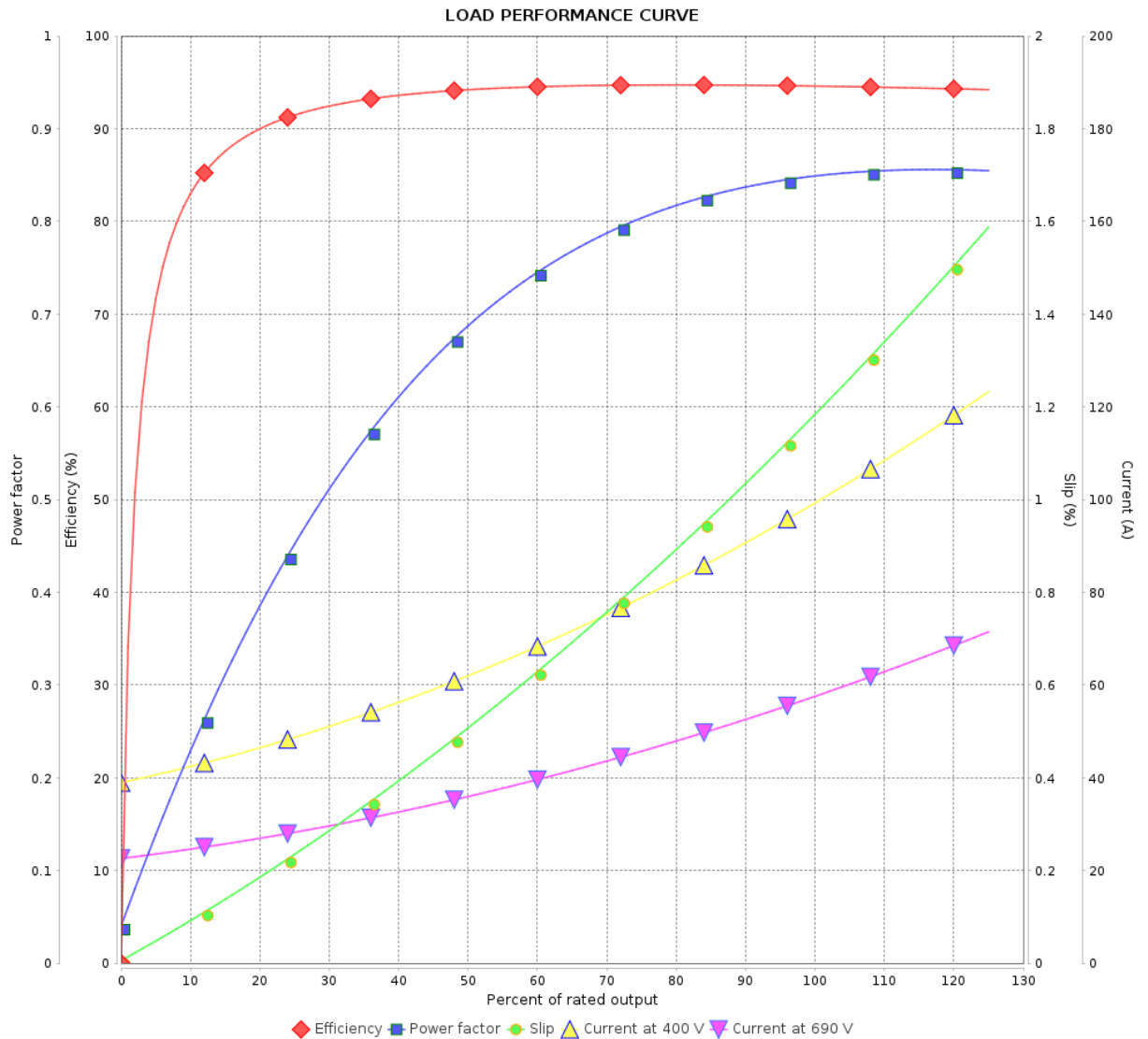
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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LOAD PERFORMANCE CURVE

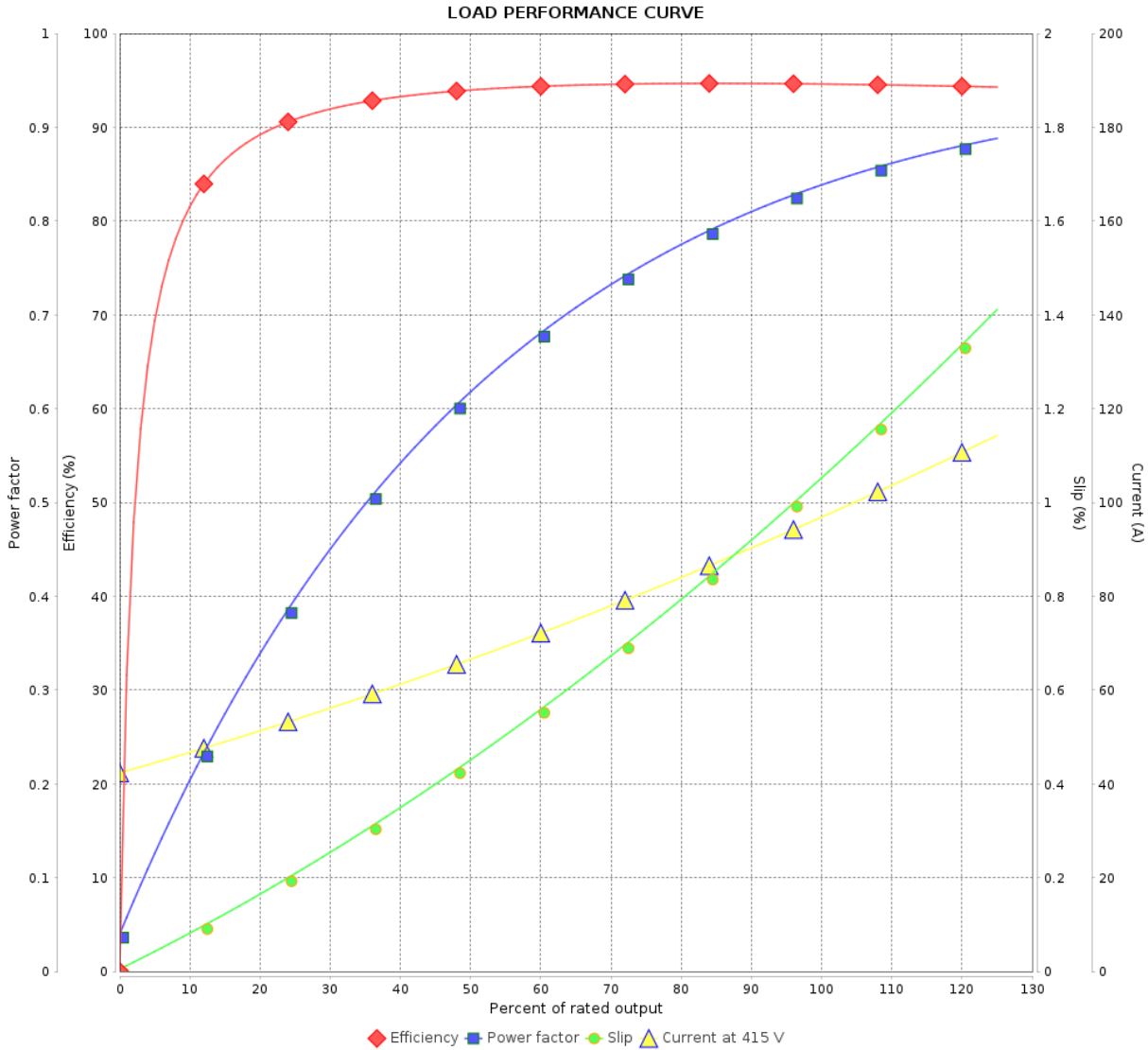
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Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 1484 rpm	Design	: N

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LOAD PERFORMANCE CURVE

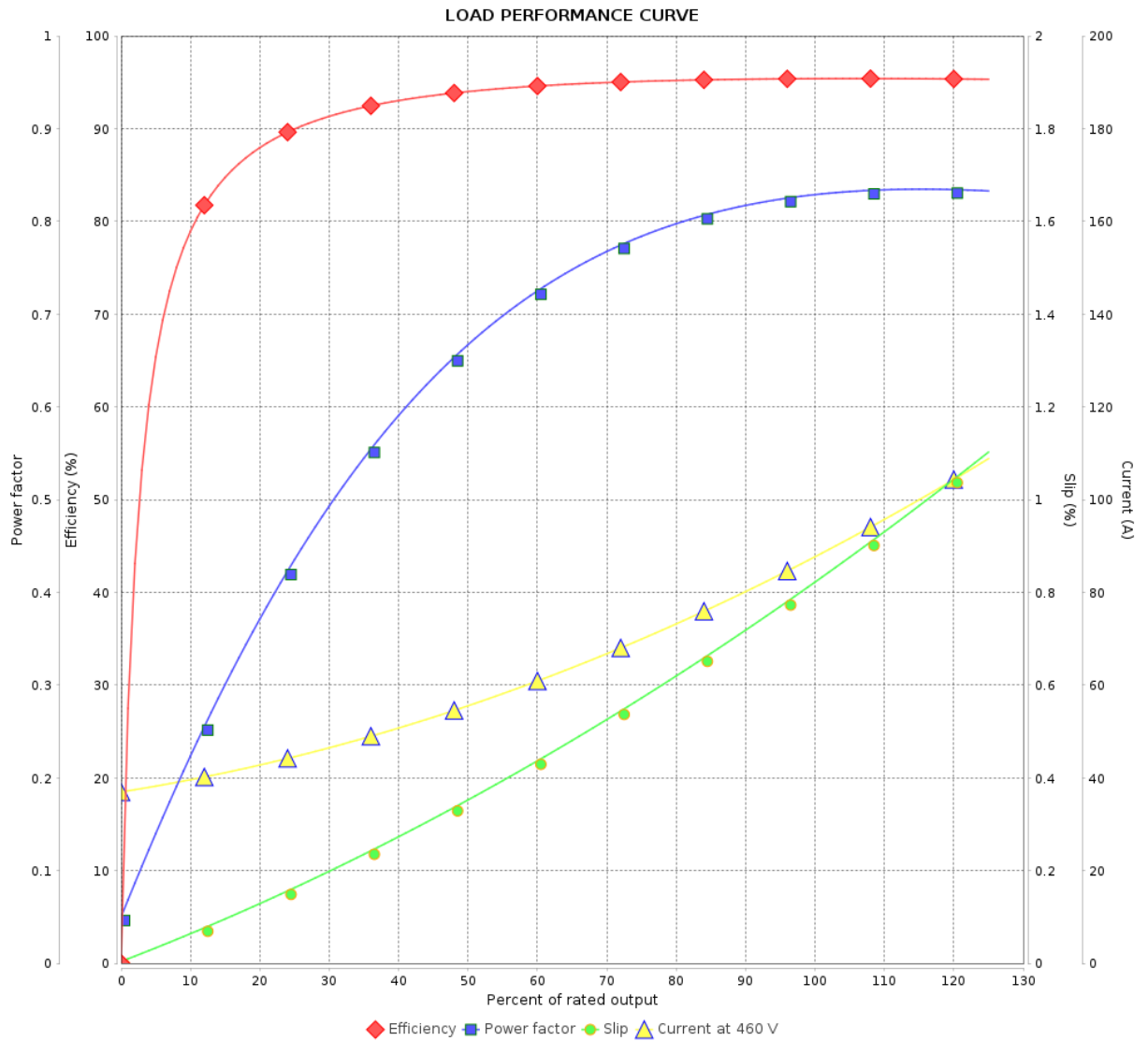
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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THERMAL LIMIT CURVE

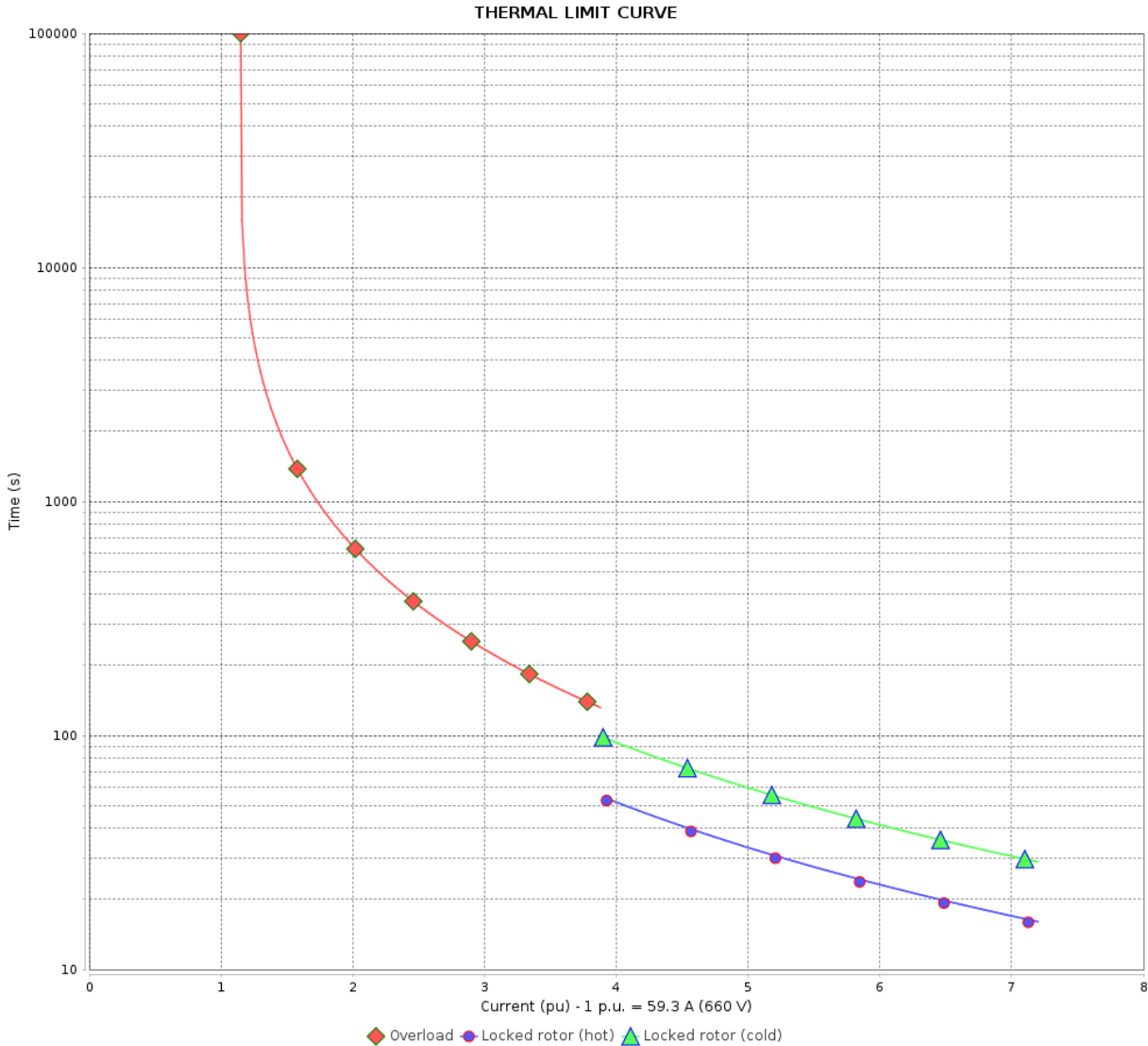
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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THERMAL LIMIT CURVE

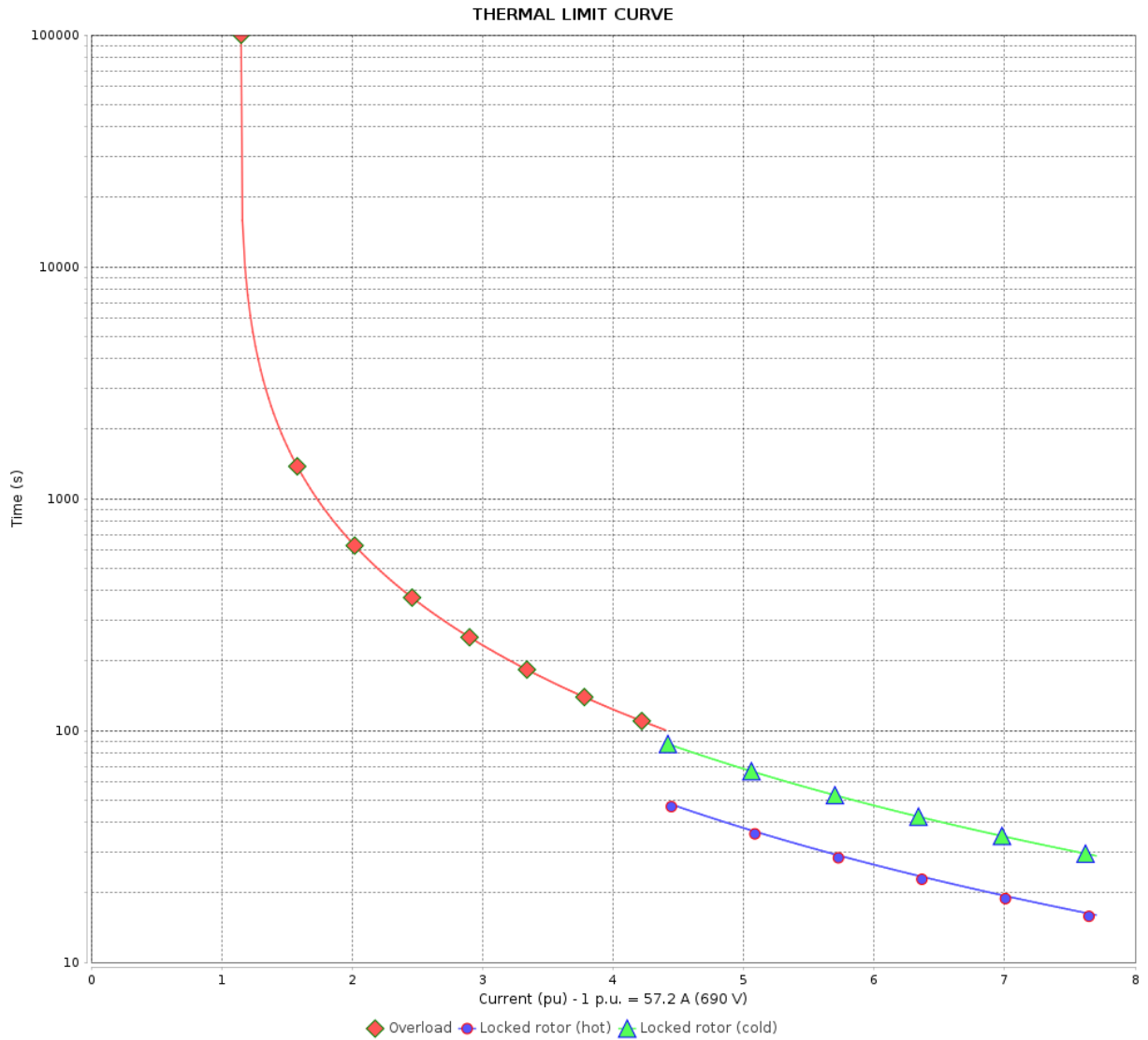
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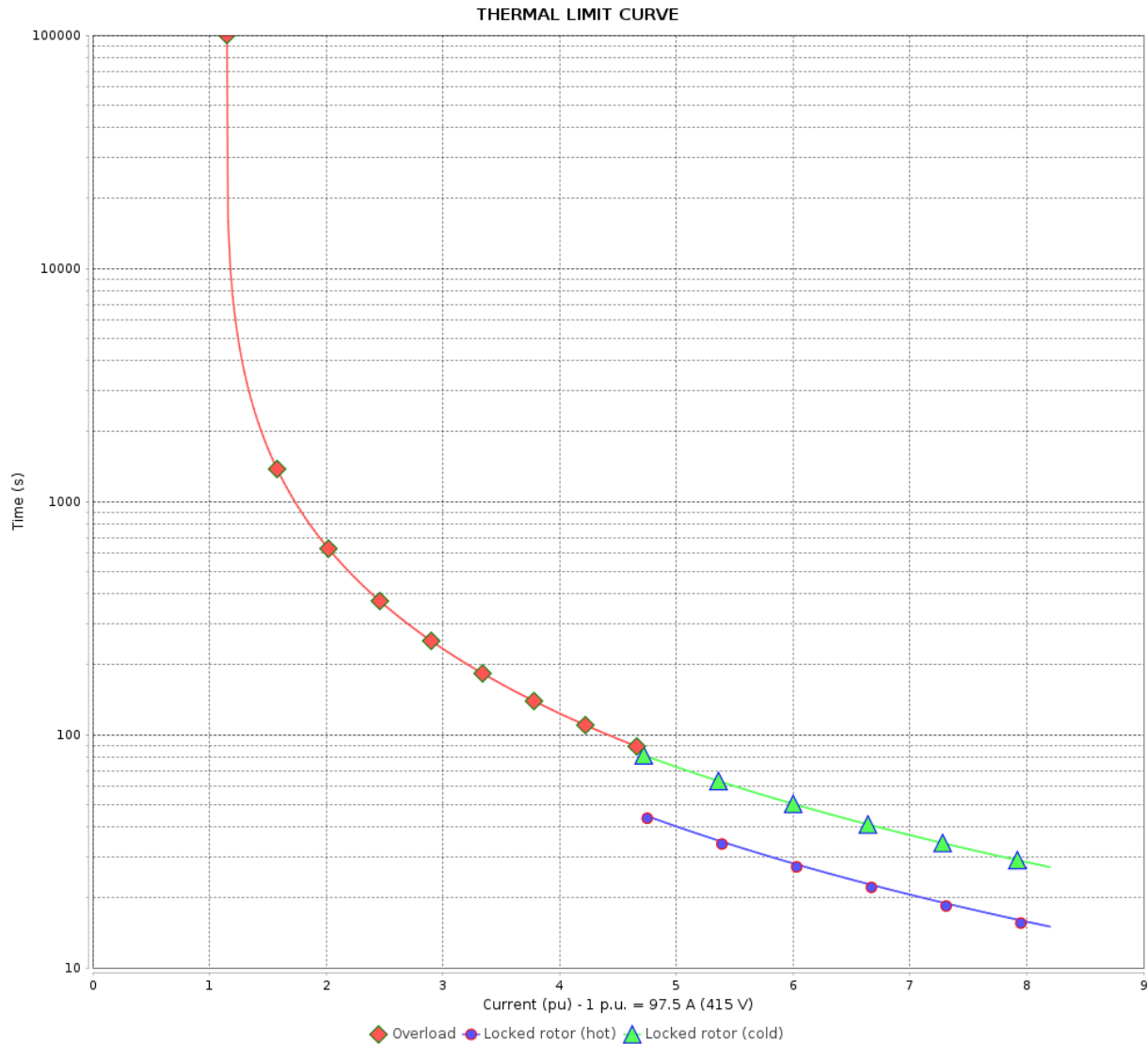
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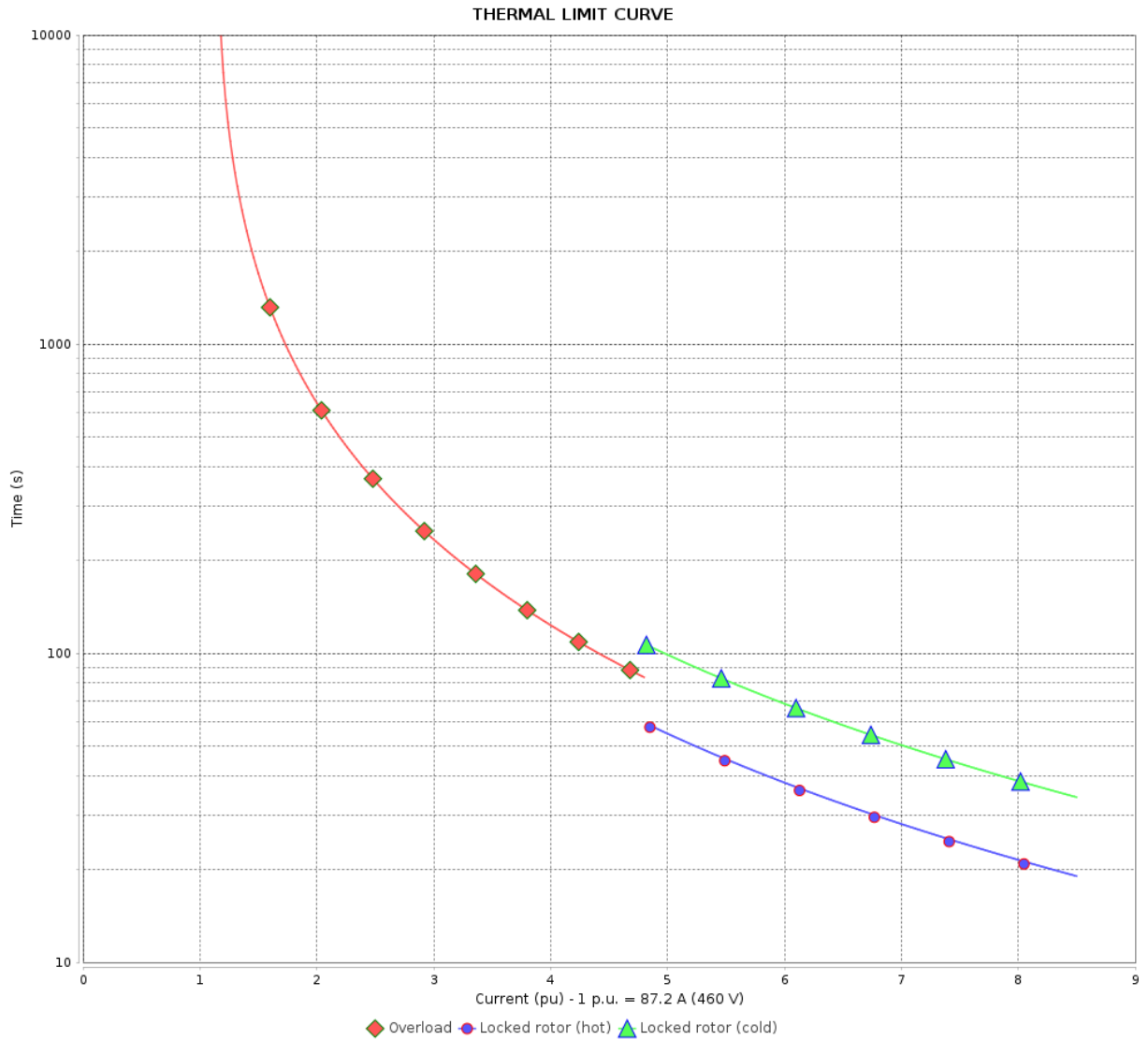
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 Duty cycle : S1
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 Design : N

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Cooling constant

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VFD OPERATION CURVE

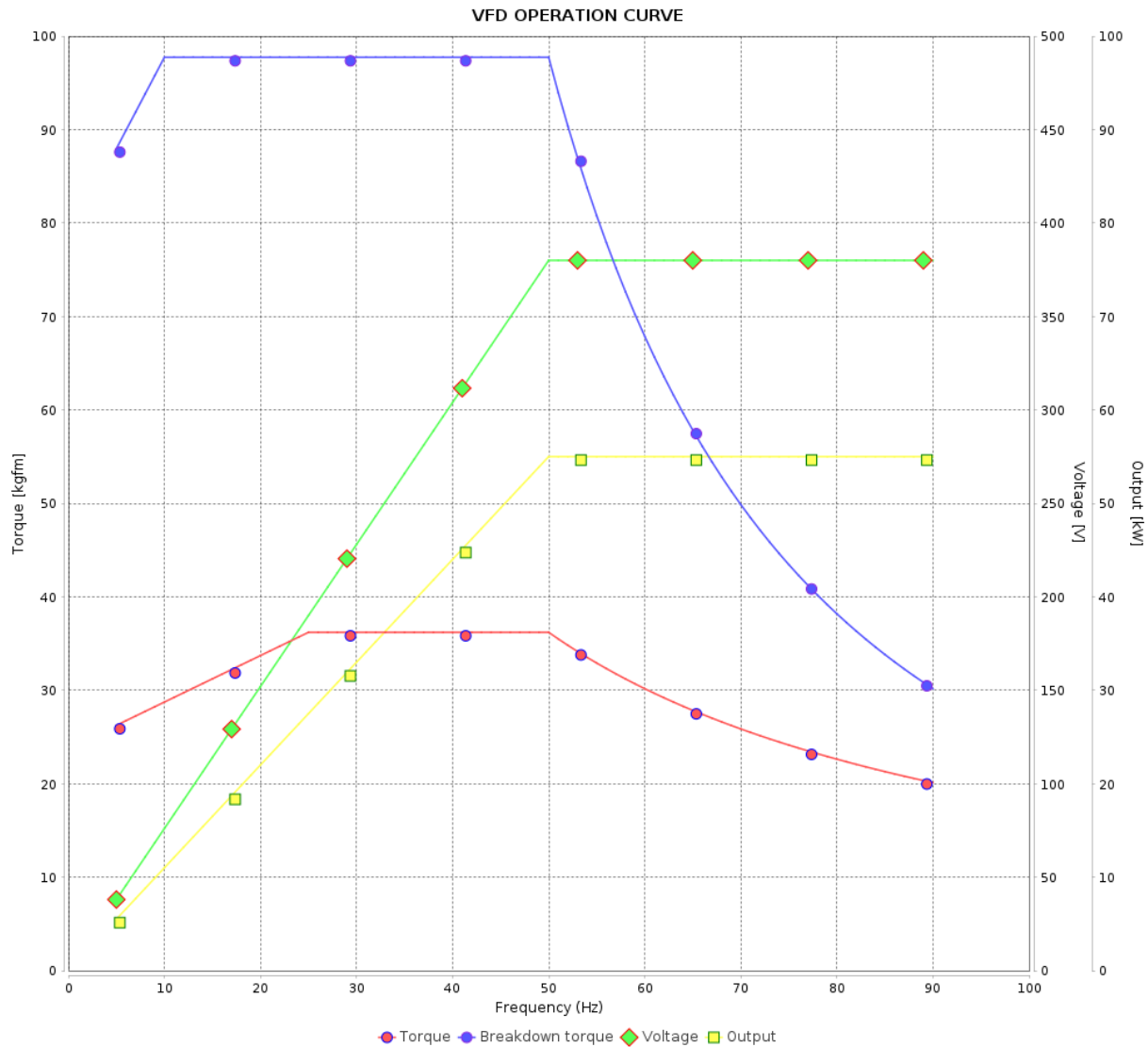
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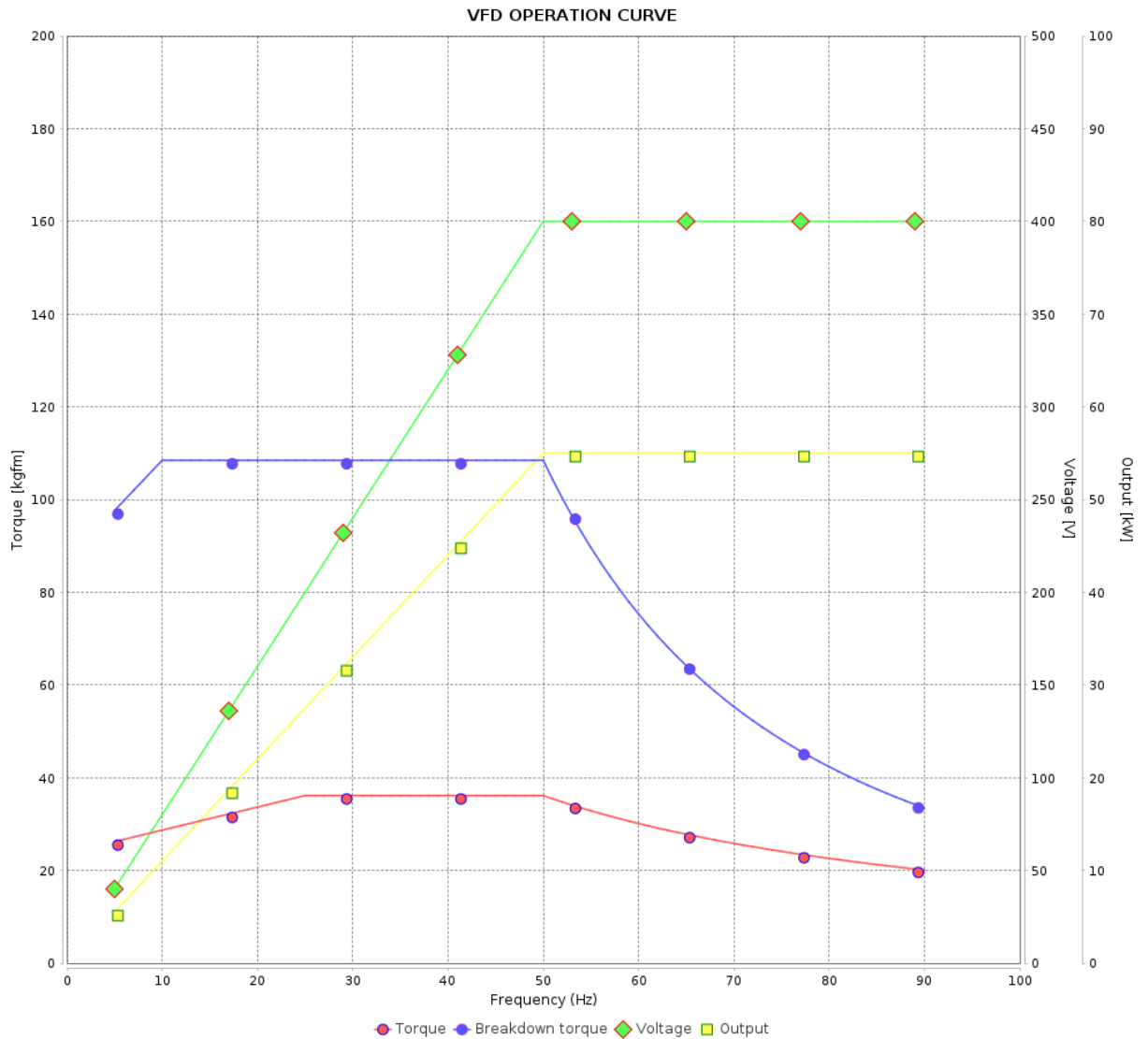
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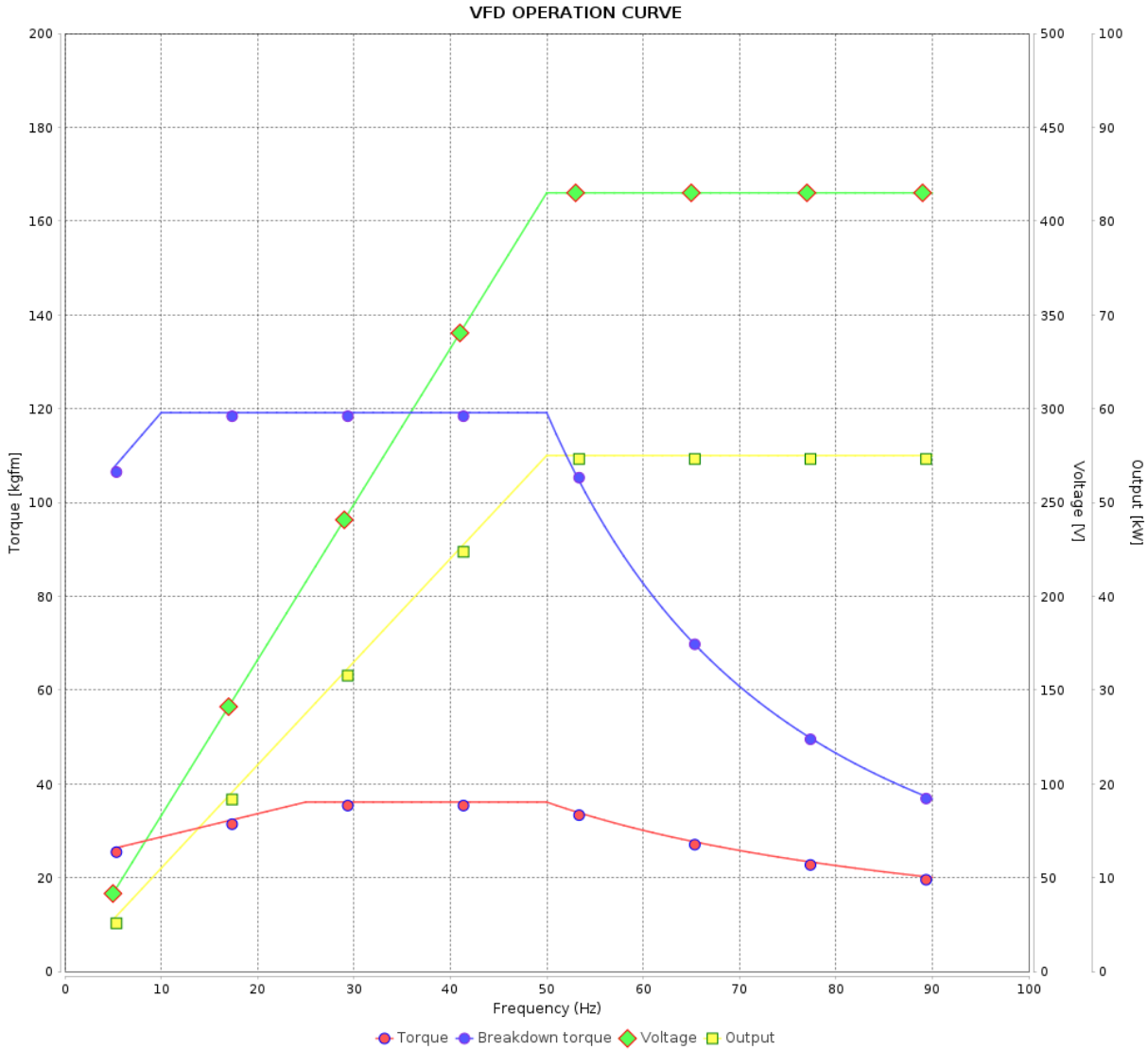
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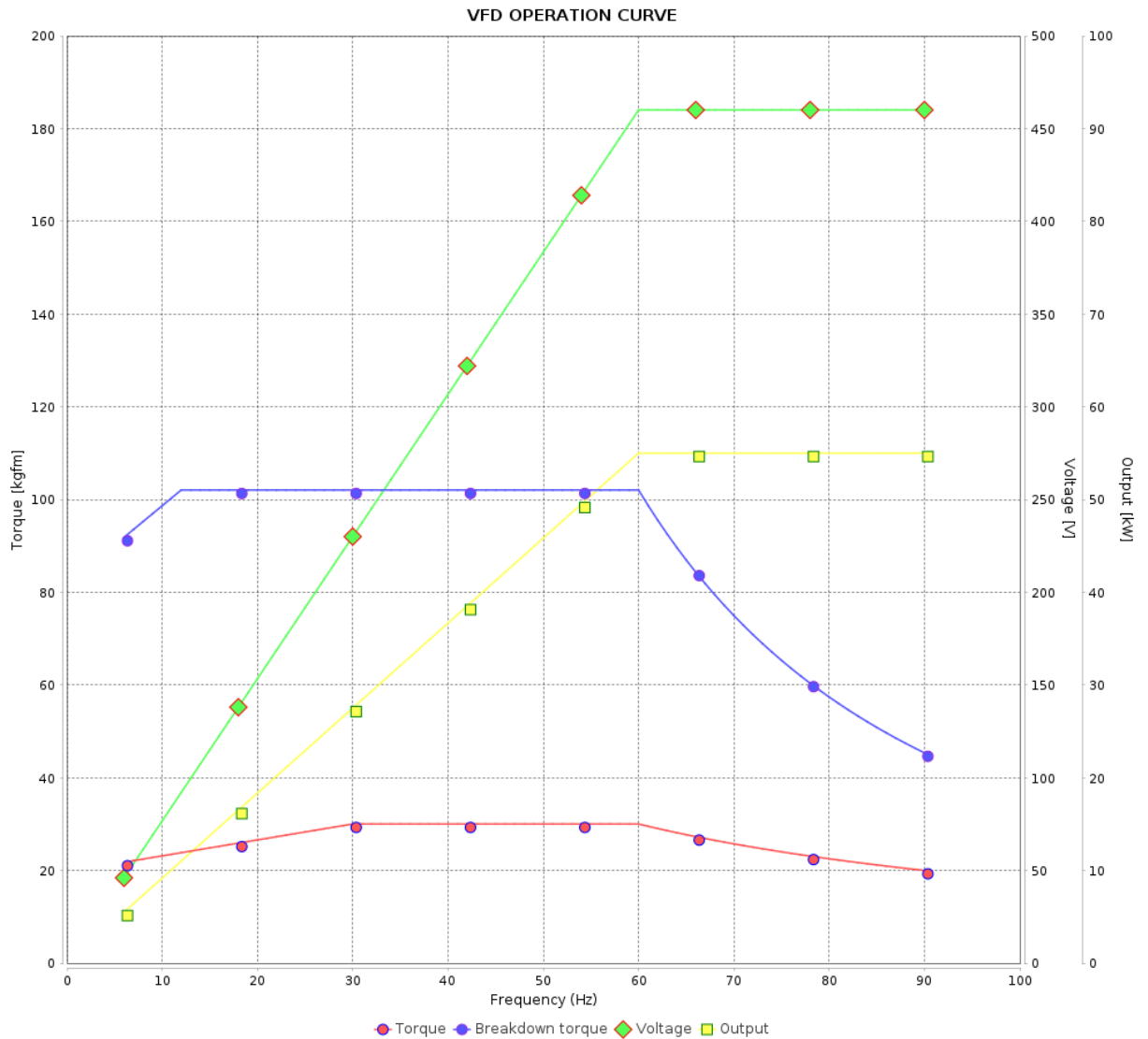
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