

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: IE3 Three-Phase		Product code : 12862551	
Frame	: 280S/M	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	: 665 kg		
Protection degree	: IP55	Moment of inertia (J)	: 2.09 kgm ²		
Design	: N				
Output [kW]	75	75	75	75	75
Poles	4	4	4	4	4
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460	460
Rated current [A]	141/81.2	135/78.3	134	119	119
L. R. Amperes [A]	987/568	1013/587	1072	952	952
LRC [A]	7.0	7.5	8.0	8.0	8.0
No load current [A]	44.0/25.3	47.0/27.2	50.0	44.0	44.0
Rated speed [RPM]	1485	1487	1488	1789	1789
Slip [%]	1.00	0.87	0.80	0.61	0.61
Rated torque [kgfm]	49.2	49.1	49.1	40.8	40.8
Locked rotor torque [%]	190	220	229	240	240
Breakdown torque [%]	229	260	280	290	290
Service factor	1.00	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)	36s (cold) 20s (hot)
Noise level ²	69.0 dB(A)	69.0 dB(A)	69.0 dB(A)	73.0 dB(A)	73.0 dB(A)
Efficiency (%)	25%				
	50%	94.7	94.5	94.4	93.8
	75%	94.9	95.1	94.9	94.7
	100%	95.0	95.2	95.2	95.4
Power Factor	25%				
	50%	0.75	0.72	0.69	0.70
	75%	0.82	0.80	0.78	0.79
	100%	0.85	0.84	0.82	0.83
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	4.9	4.7	4.7	4.5
	P2 (0,5;1,0)	3.8	3.7	3.7	3.5
	P3 (0,25;1,0)	3.5	3.3	3.3	3.2
	P4 (0,9;0,5)	2.5	2.4	2.4	2.3
	P5 (0,5;0,5)	1.5	1.5	1.5	1.4
	P6 (0,5;0,25)	1.0	1.0	1.0	0.9
	P7 (0,25;0,25)	0.6	0.6	0.6	0.6
Bearing type	: Drive end 6316 C3	Non drive end 6316 C3	Foundation loads		
Sealing	: Oil Seal	Oil Seal	Max. traction	: 703 kgf	
Lubrication interval	: 13000 h	13000 h	Max. compression	: 1369 kgf	
Lubricant amount	: 34 g	34 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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Notes

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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

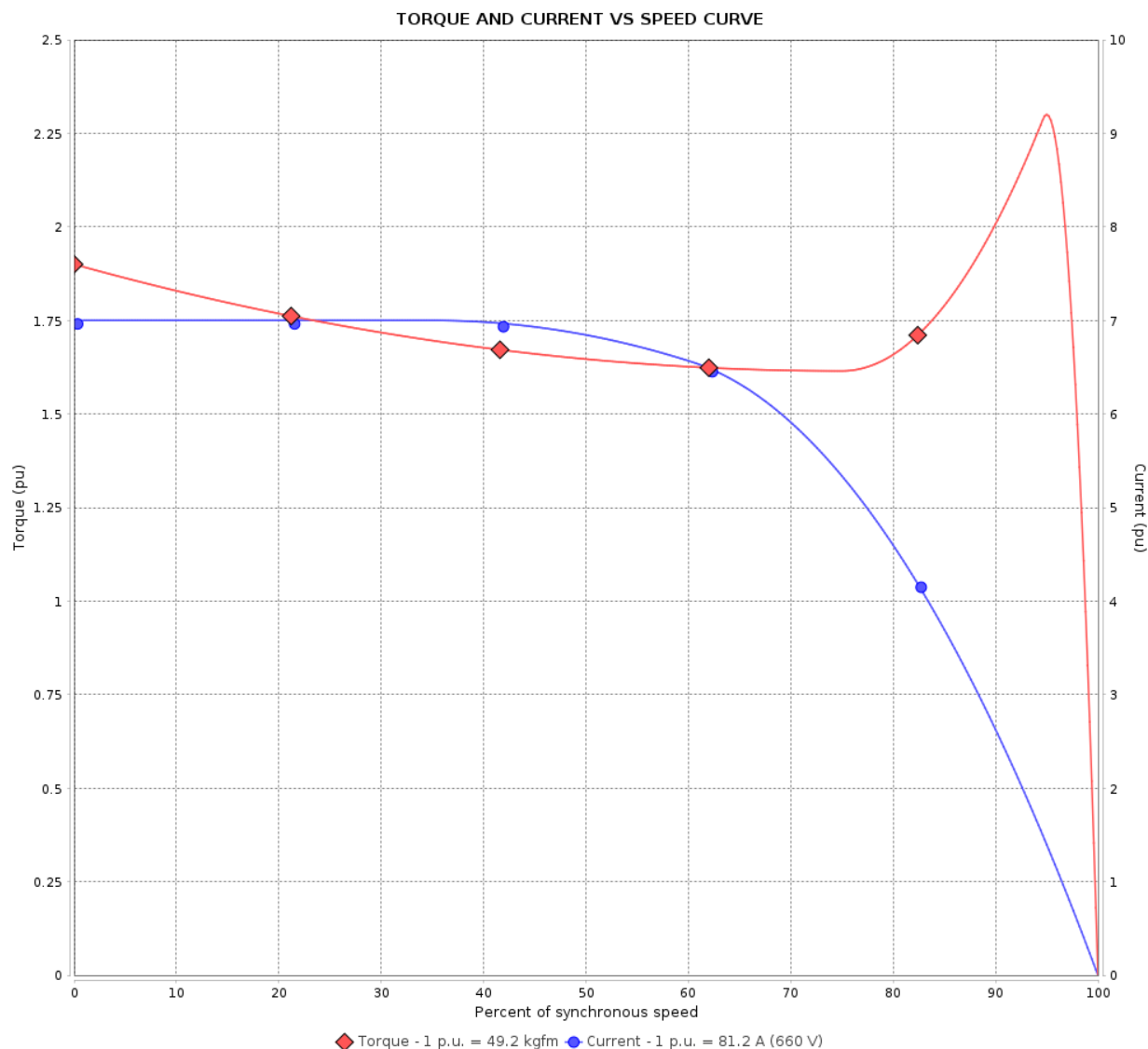
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12862551



Performance : 380/660 V 50 Hz 4P

Rated current	: 141/81.2 A	Moment of inertia (J)	: 2.09 kgm ²
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 49.2 kgfm	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 1485 rpm	Design	: N

Locked rotor time : 36s (cold) 20s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

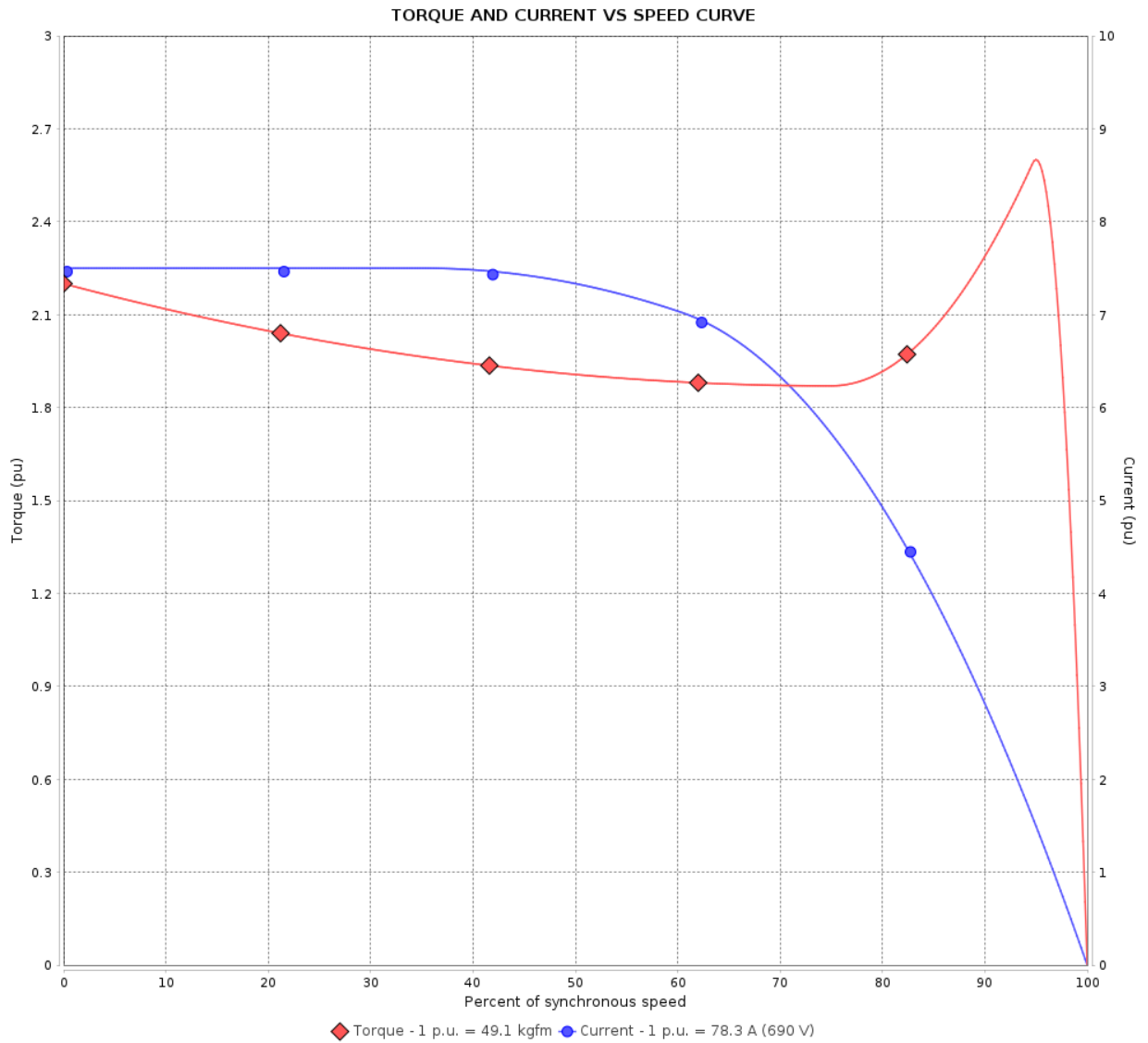


Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code :

12862551



Performance : 400/690 V 50 Hz 4P

Rated current : 135/78.3 A
 LRC : 7.5
 Rated torque : 49.1 kgfm
 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 1487 rpm

Moment of inertia (J) : 2.09 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Locked rotor time : 36s (cold) 20s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

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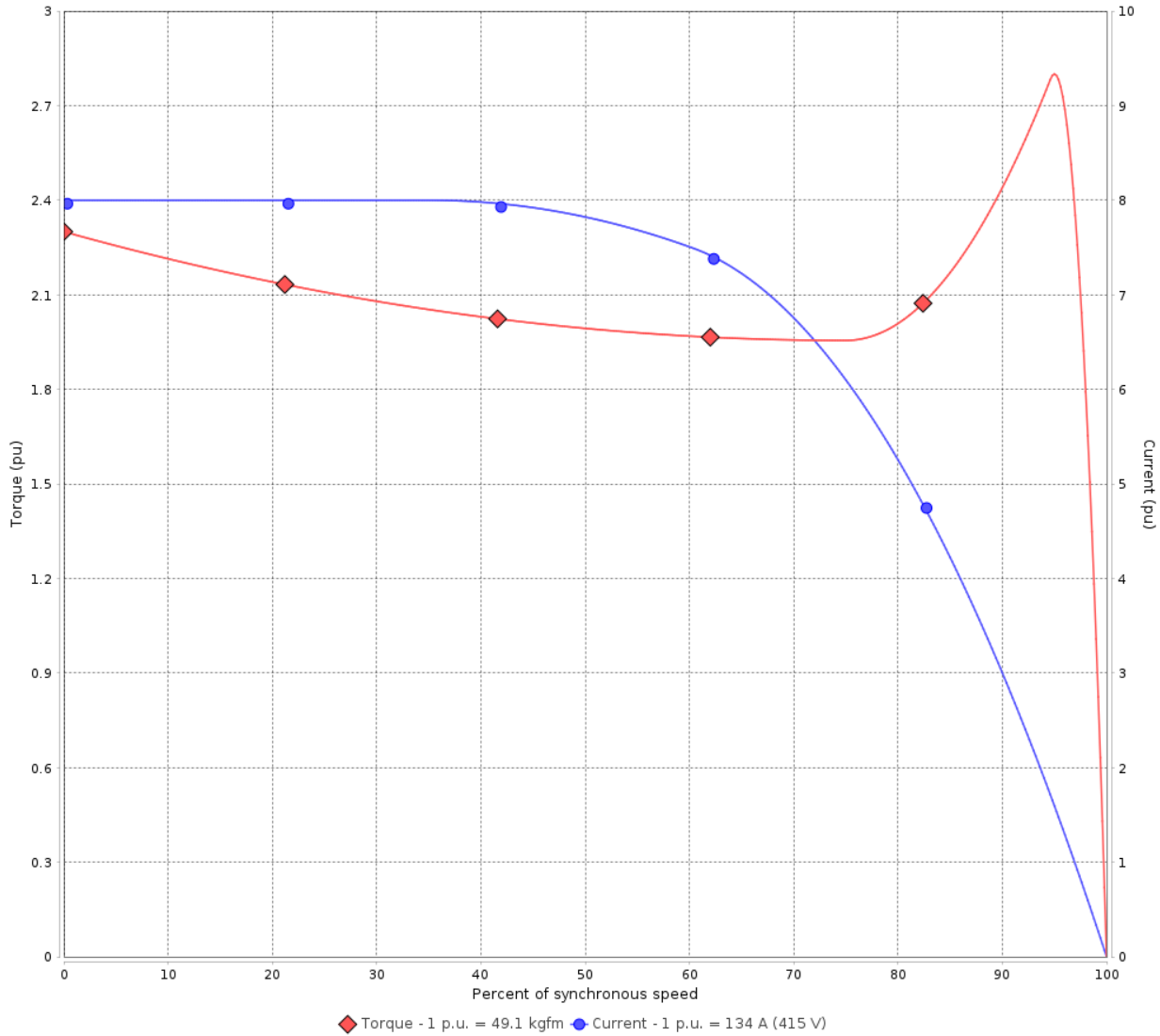


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Product code : 12862551

TORQUE AND CURRENT VS SPEED CURVE



Performance : 415 V 50 Hz 4P

Rated current	: 134 A	Moment of inertia (J)	: 2.09 kgm ²
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 49.1 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1488 rpm	Design	: N

Locked rotor time : 36s (cold) 20s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

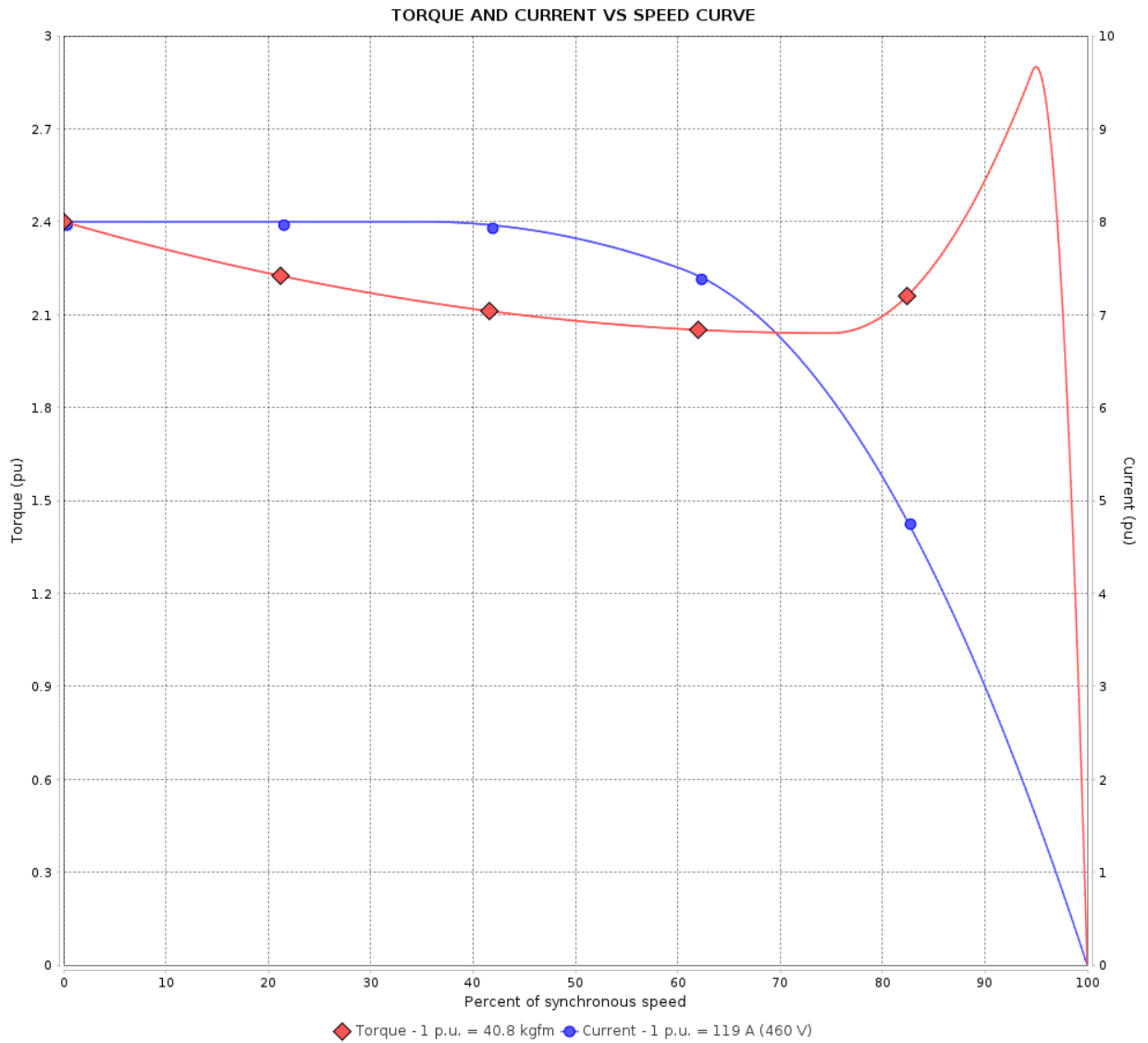
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 12862551



Performance : 460 V 60 Hz 4P

Rated current	: 119 A	Moment of inertia (J)	: 2.09 kgm ²
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 40.8 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1789 rpm	Design	: N

Locked rotor time : 36s (cold) 20s (hot)

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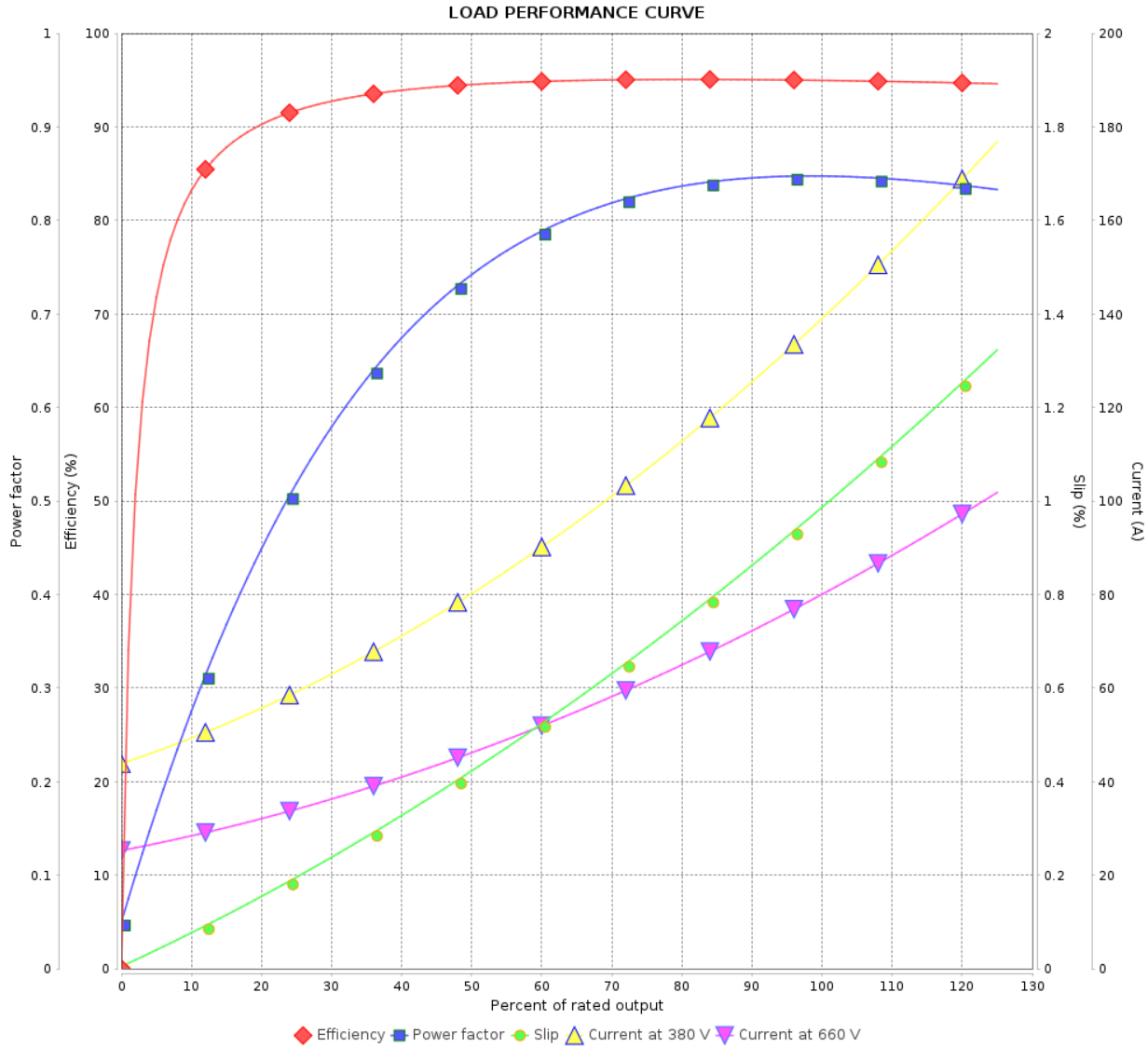
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Performance : 380/660 V 50 Hz 4P

Rated current : 141/81.2 A
 LRC : 7.0
 Rated torque : 49.2 kgfm
 Locked rotor torque : 190 %
 Breakdown torque : 229 %
 Rated speed : 1485 rpm

Moment of inertia (J) : 2.09 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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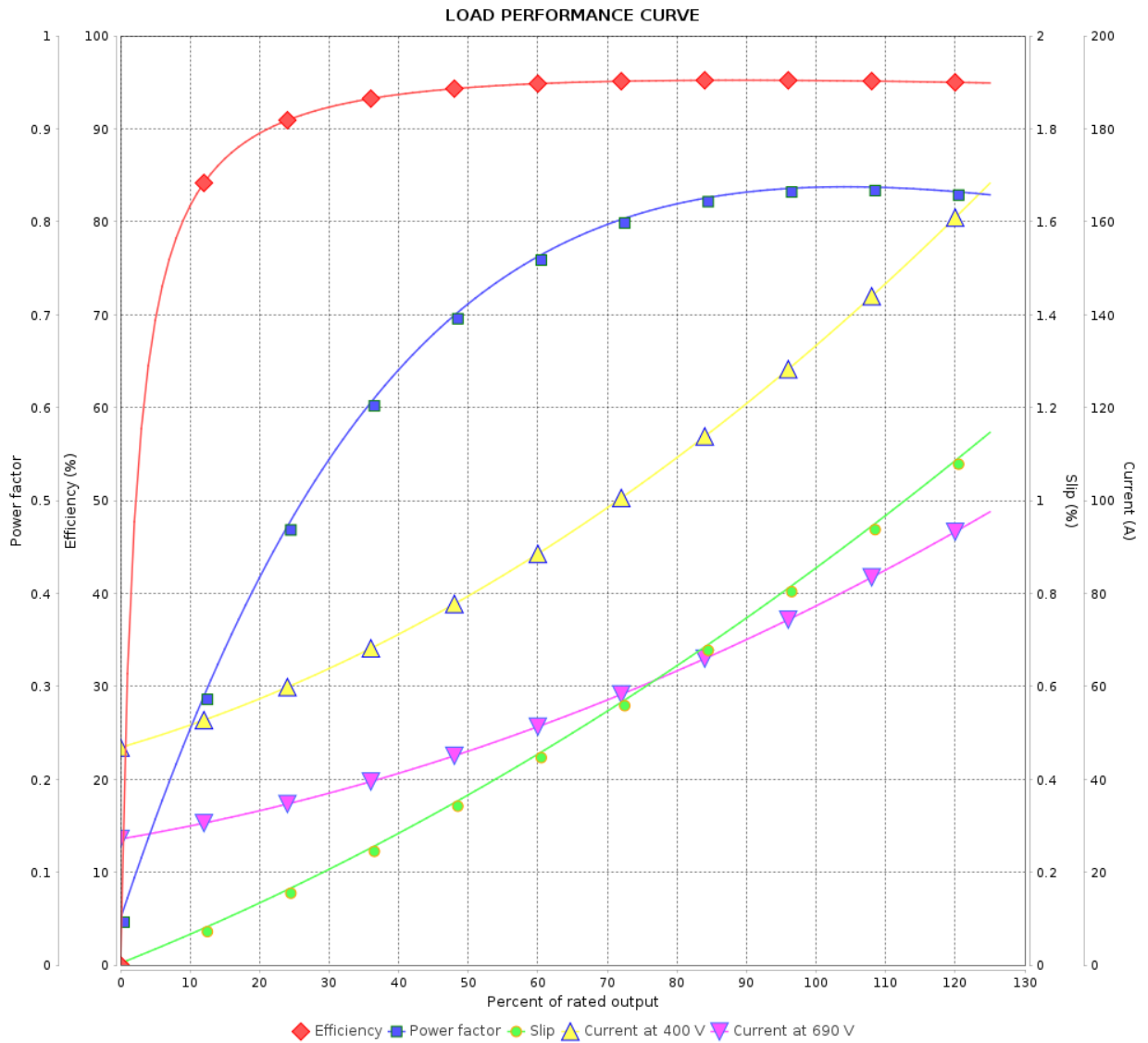
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Performance : 400/690 V 50 Hz 4P

Rated current : 135/78.3 A
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 Locked rotor torque : 220 %
 Breakdown torque : 260 %
 Rated speed : 1487 rpm

Moment of inertia (J) : 2.09 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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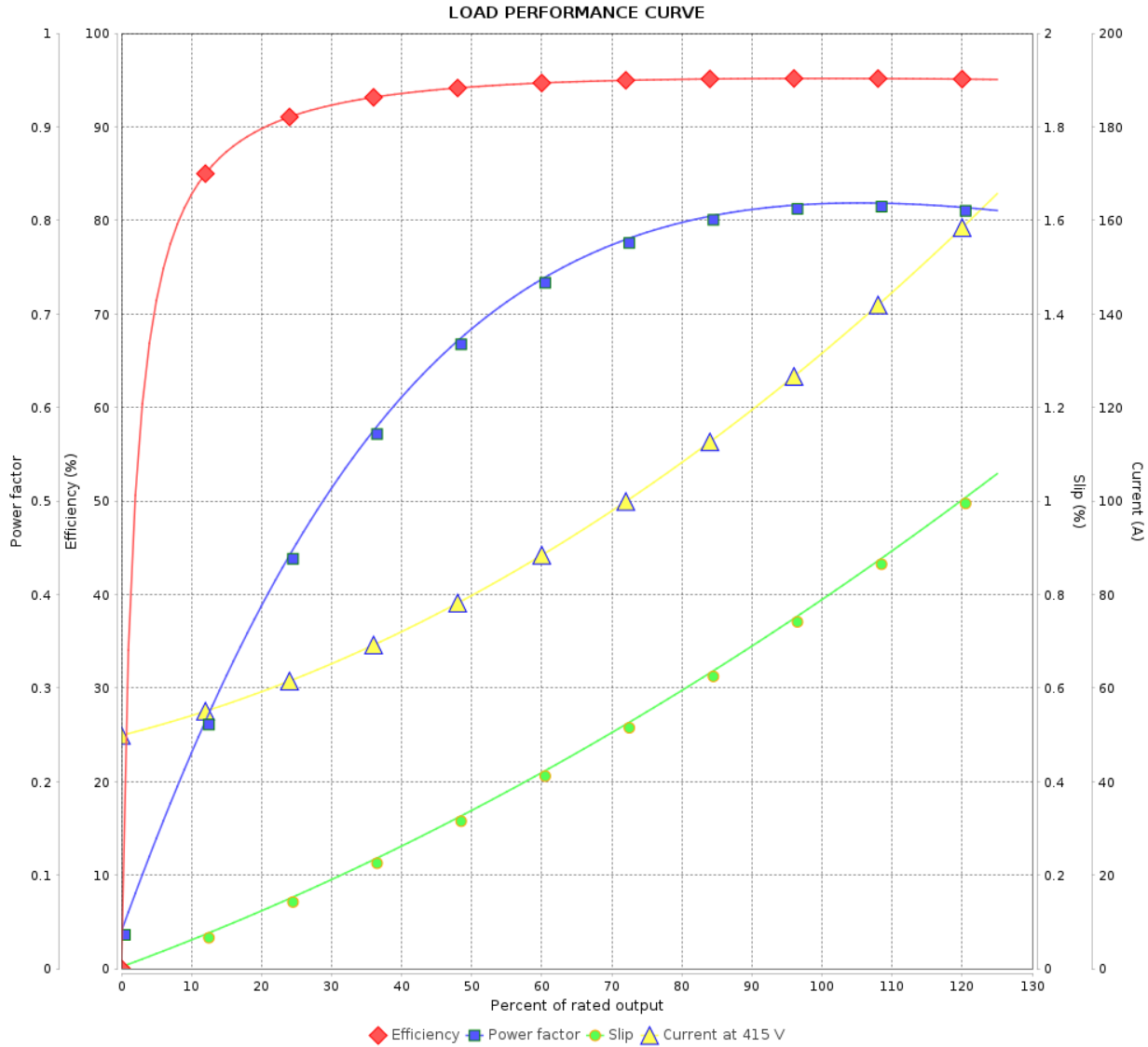
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Performance : 415 V 50 Hz 4P

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LRC	: 8.0	Duty cycle	: S1
Rated torque	: 49.1 kgfm	Insulation class	: F
Locked rotor torque	: 229 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1488 rpm	Design	: N

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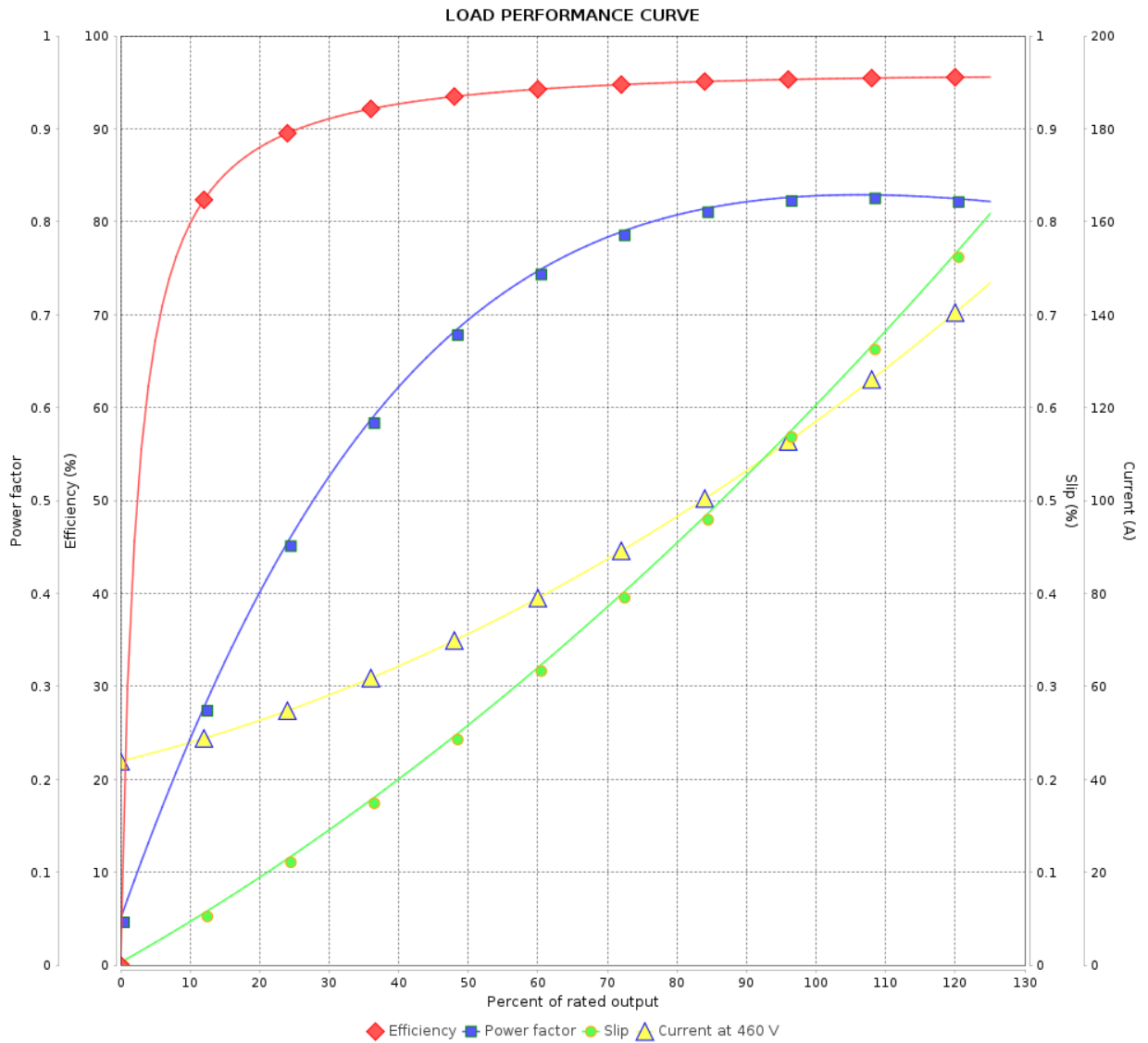
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 Service factor : 1.00
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 Design : N

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THERMAL LIMIT CURVE

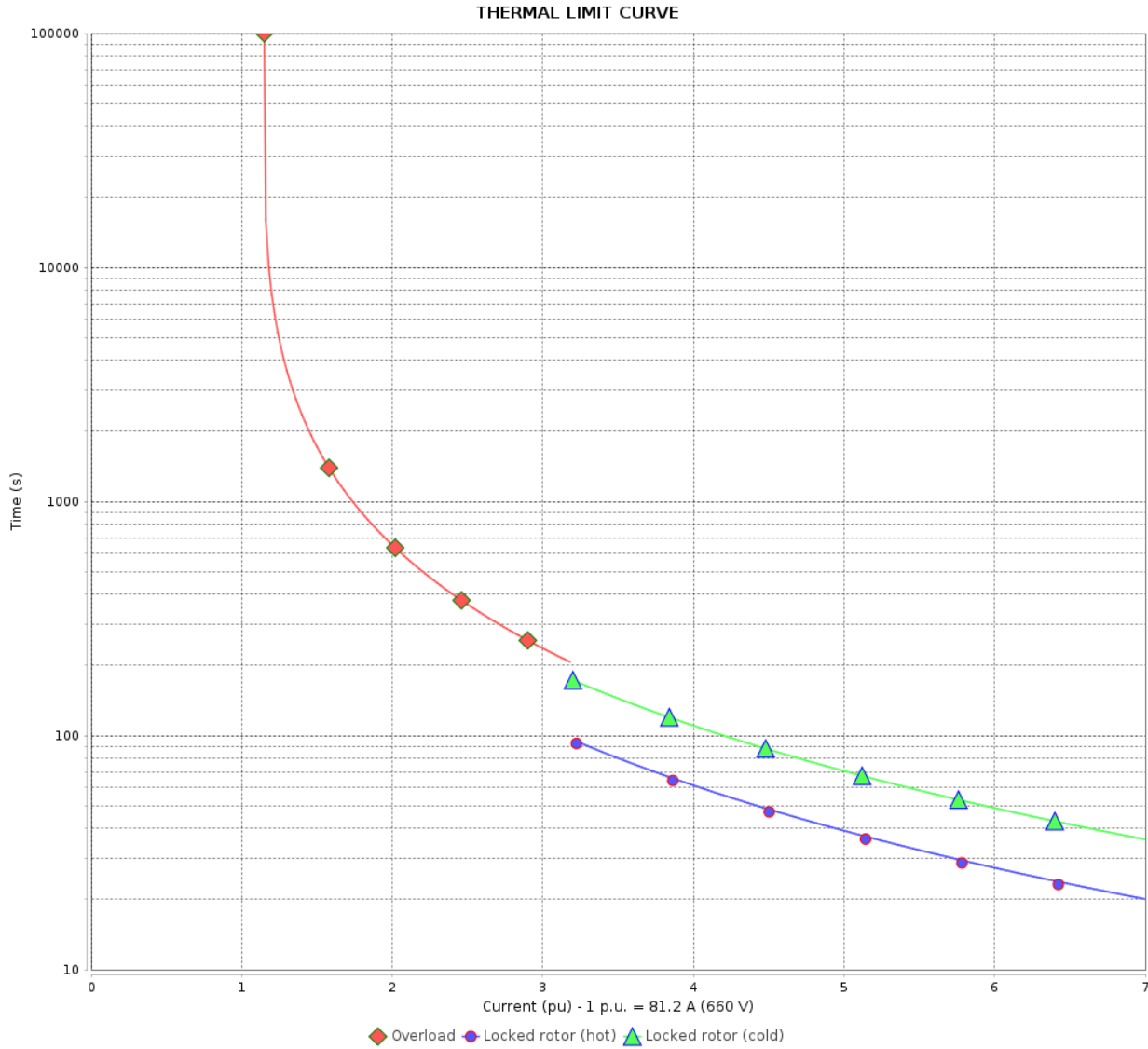
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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THERMAL LIMIT CURVE

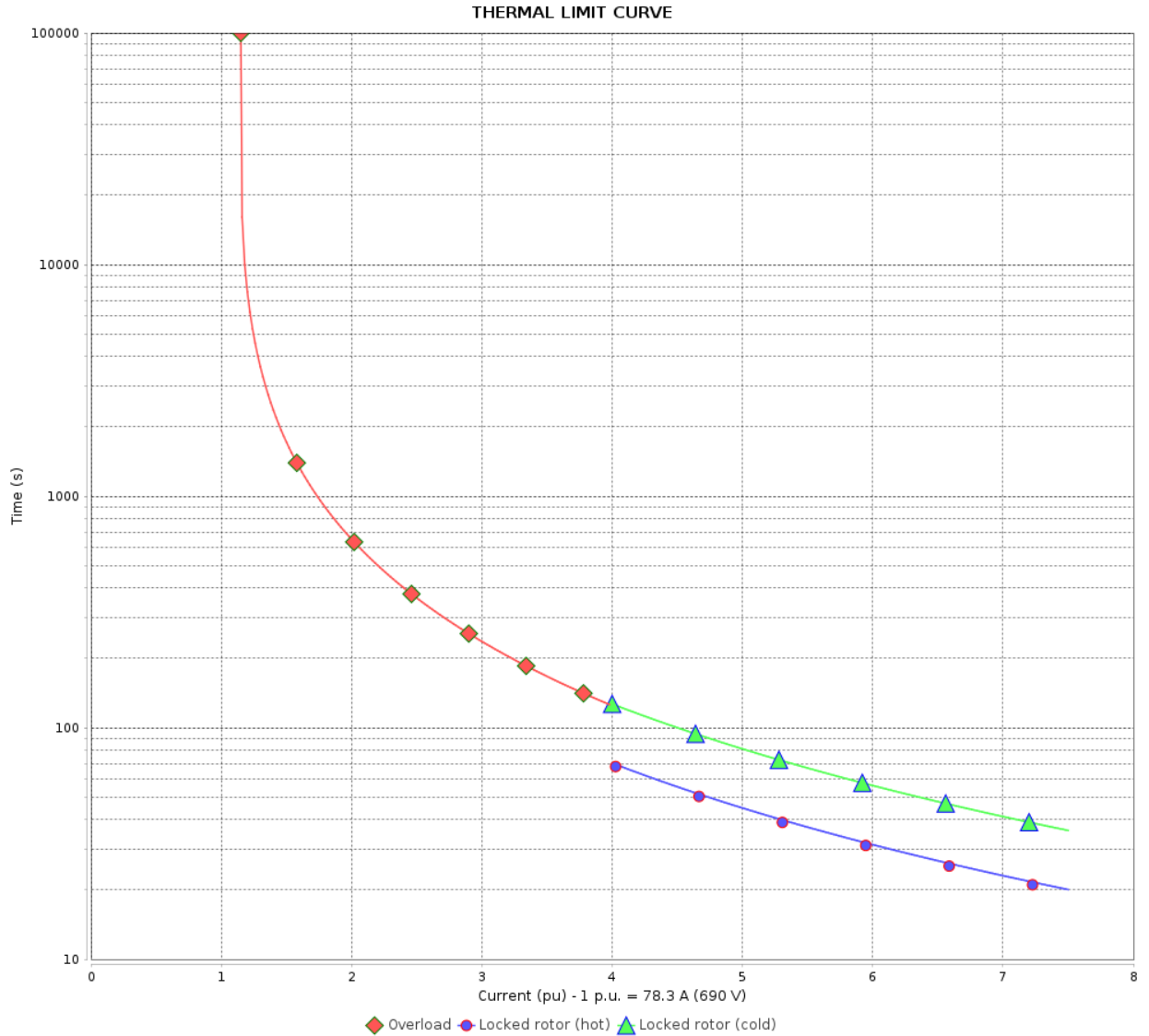
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant
 Cooling constant

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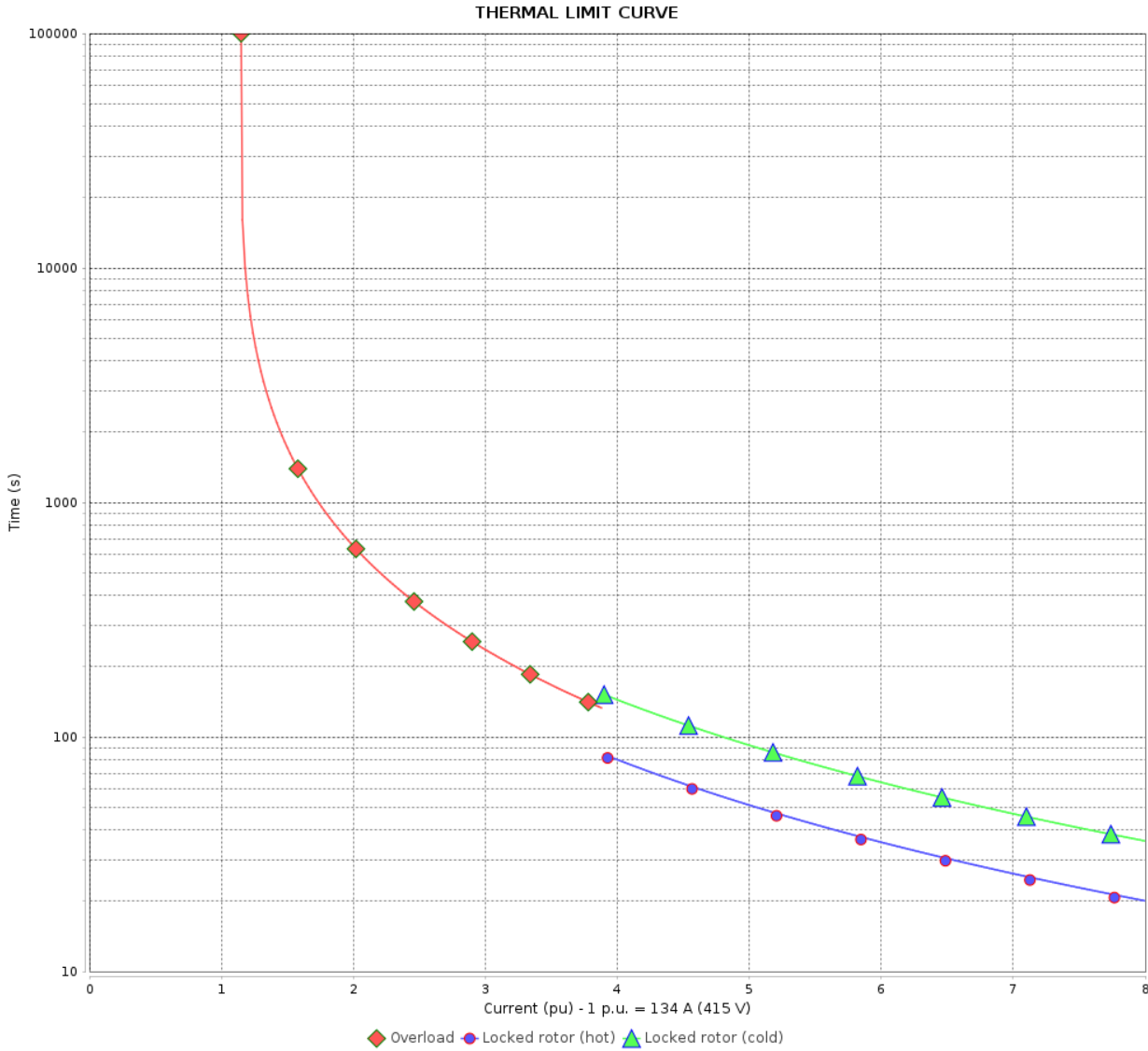
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Performance : 415 V 50 Hz 4P

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Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1488 rpm	Design	: N

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Cooling constant

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THERMAL LIMIT CURVE

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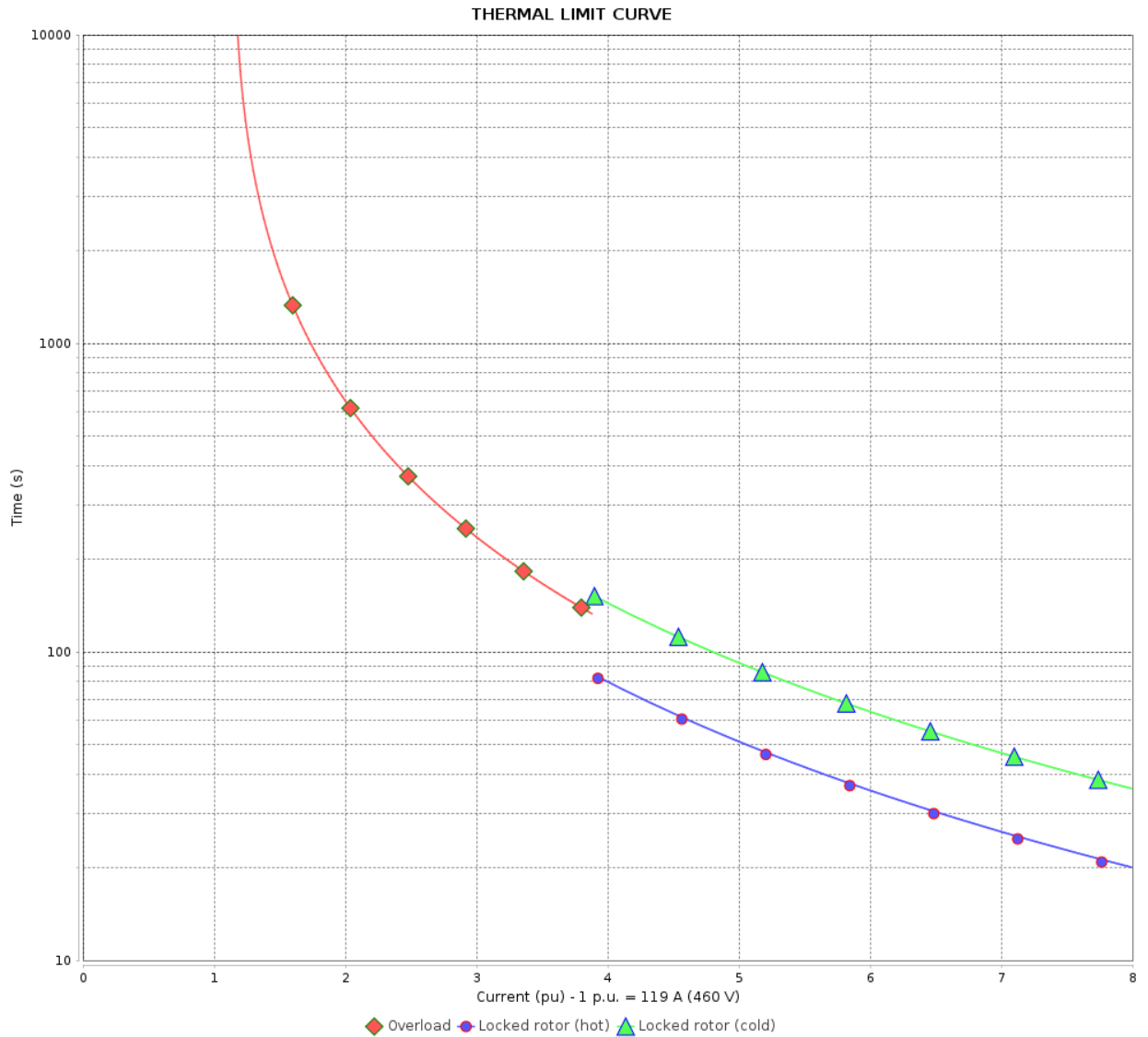


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VFD OPERATION CURVE

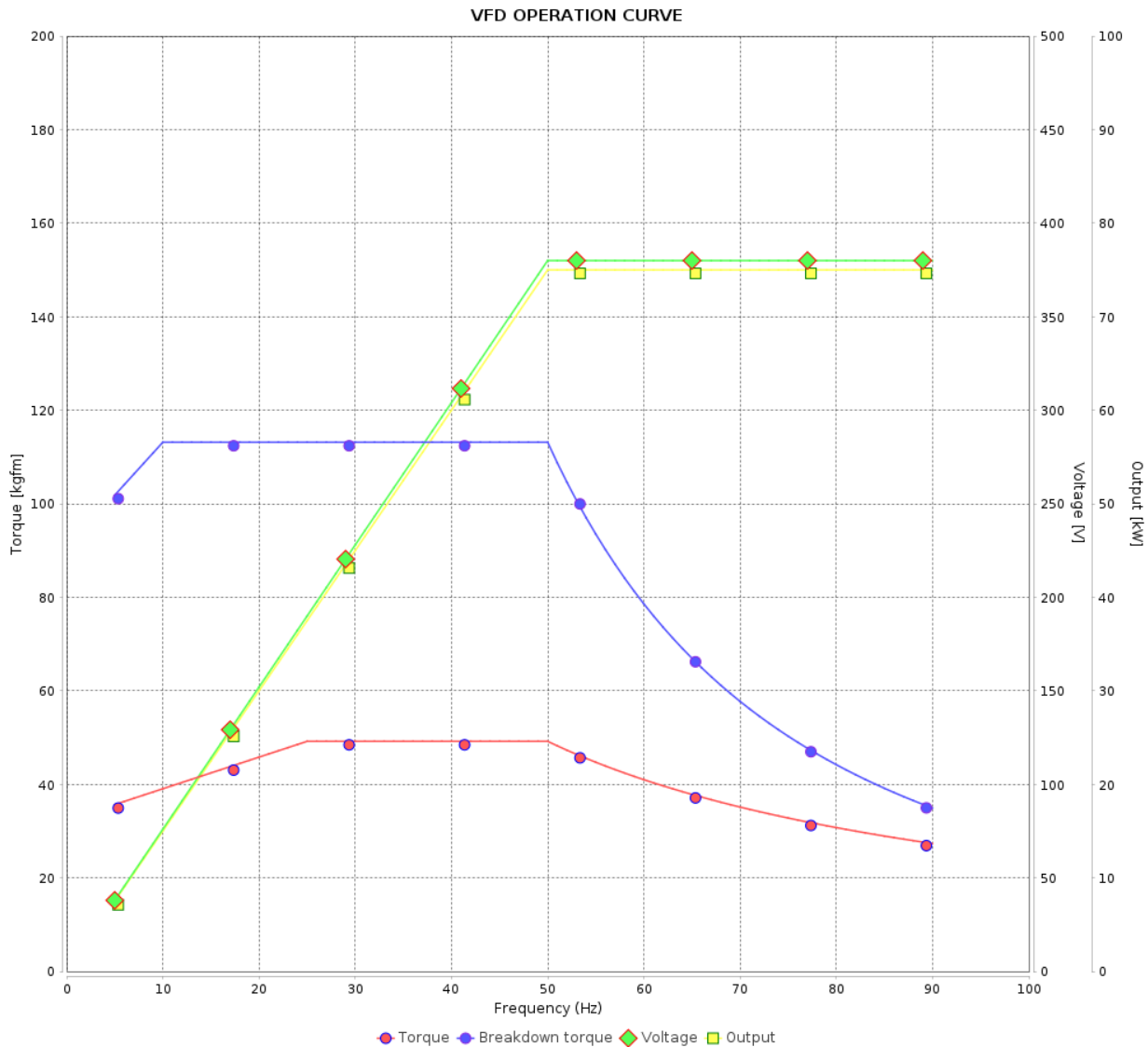
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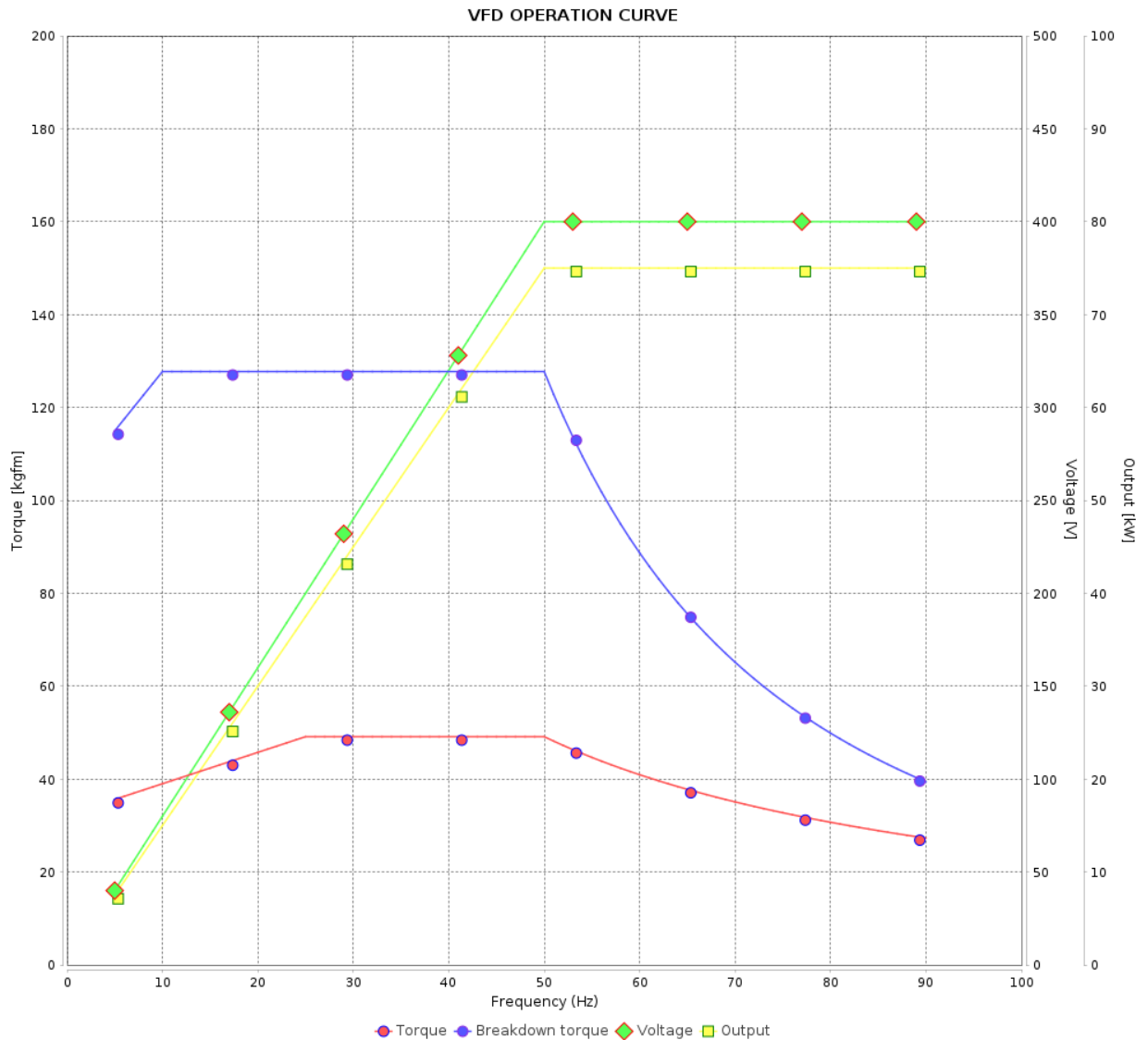
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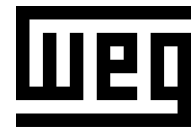
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VFD OPERATION CURVE

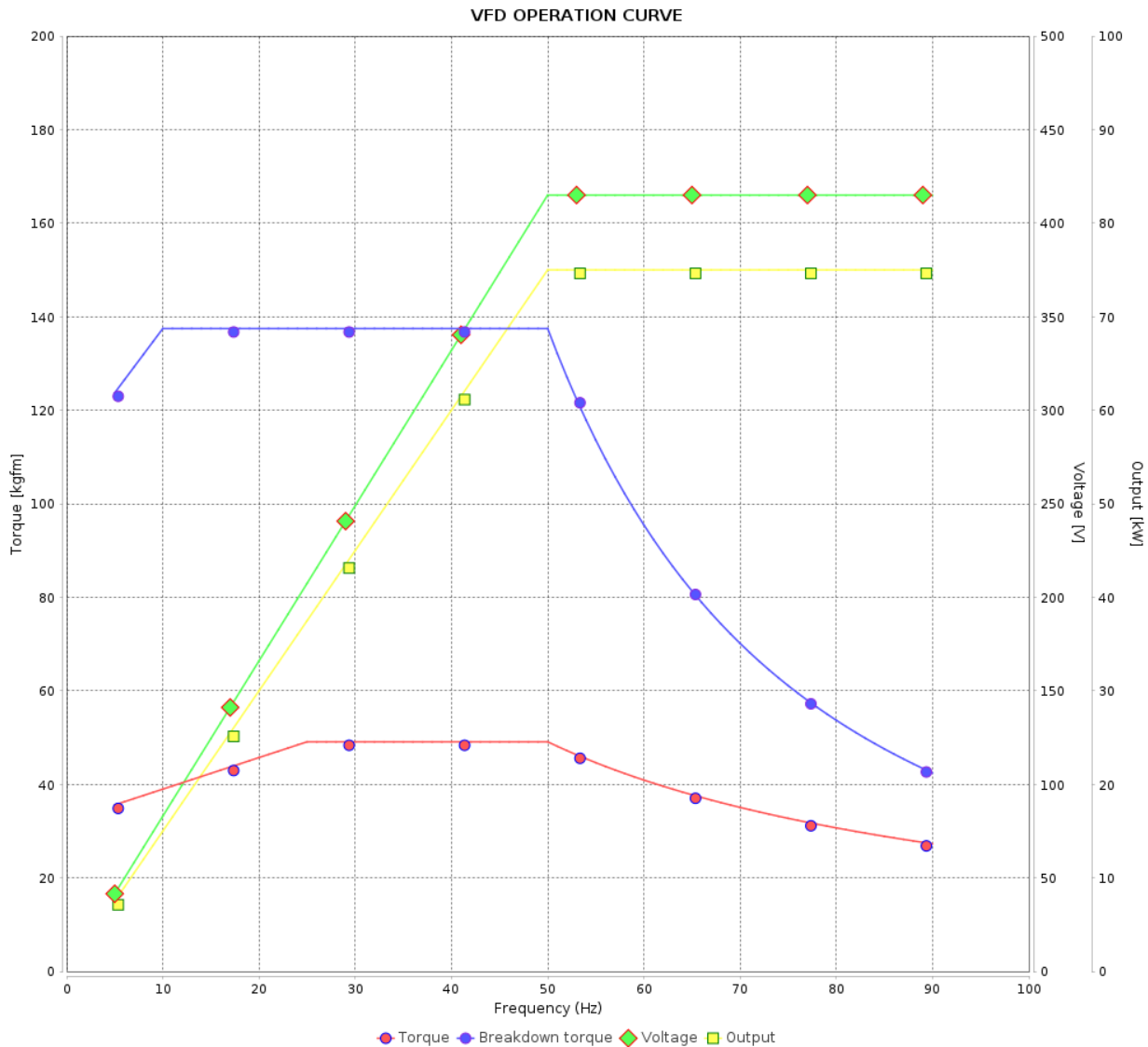
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Rated speed	: 1488 rpm	Design	: N

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VFD OPERATION CURVE

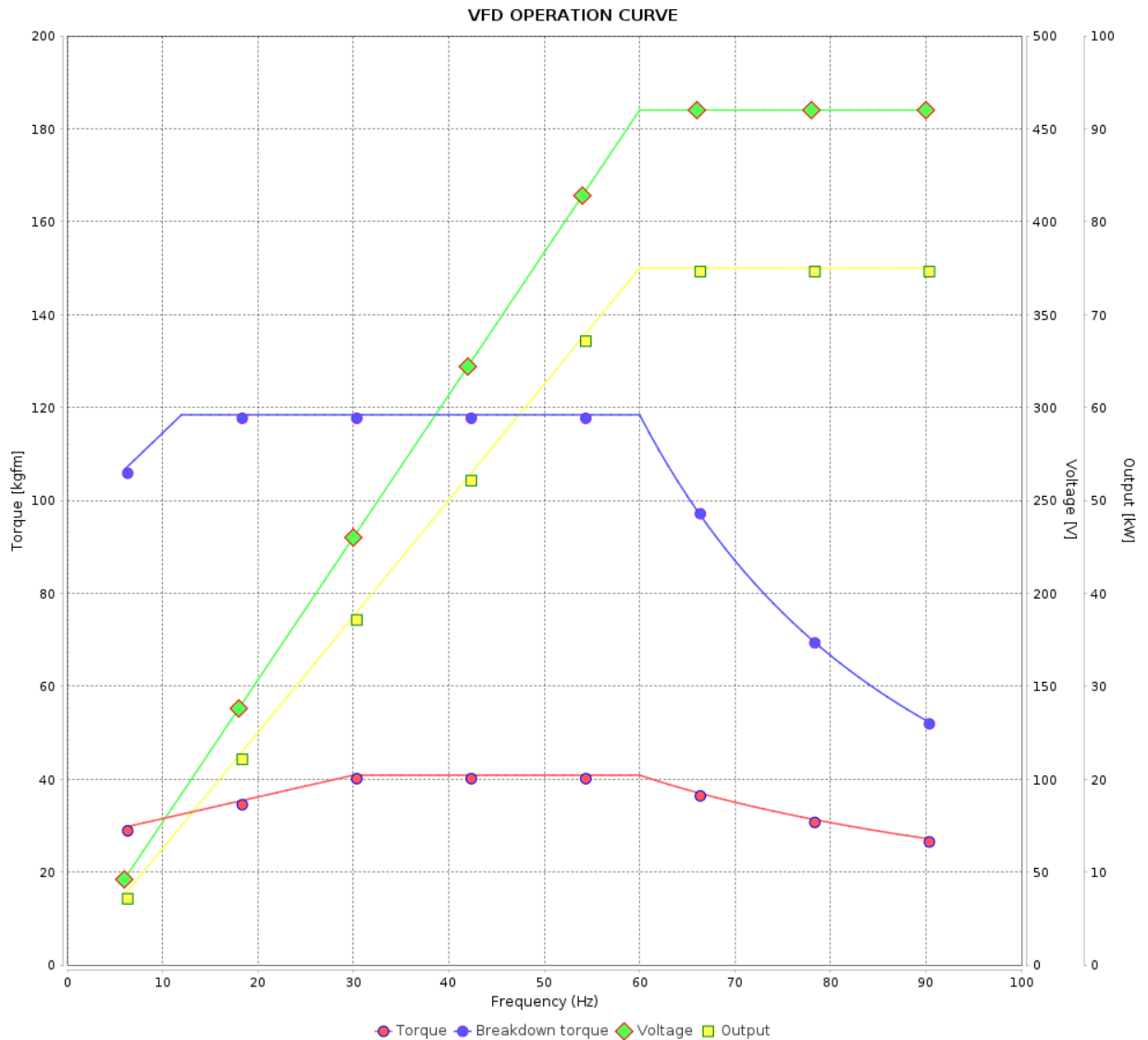
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