

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: W22 IE3 Three-Phase		Product code : 12862808	
Frame	: 280S/M	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: B3T		
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	: 644 kg		
Protection degree	: IP55	Moment of inertia (J)	: 2.69 kgm ²		
Design	: N				
Output [kW]	55	55	55	55	55
Poles	6	6	6	6	6
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460	460
Rated current [A]	110/63.3	107/62.0	104	92.5	92.5
L. R. Amperes [A]	671/386	728/422	759	703	703
LRC [A]	6.1	6.8	7.3	7.6	7.6
No load current [A]	47.0/27.1	51.9/30.1	56.1	47.5	47.5
Rated speed [RPM]	987	988	989	1190	1190
Slip [%]	1.30	1.20	1.10	0.83	0.83
Rated torque [kgfm]	54.3	54.2	54.2	45.0	45.0
Locked rotor torque [%]	200	220	240	260	260
Breakdown torque [%]	229	250	270	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	41s (cold) 23s (hot)	36s (cold) 20s (hot)	34s (cold) 19s (hot)	46s (cold) 26s (hot)	46s (cold) 26s (hot)
Noise level ²	65.0 dB(A)	65.0 dB(A)	65.0 dB(A)	69.0 dB(A)	69.0 dB(A)
Efficiency (%)	25%				
	50%	94.0	93.5	93.0	93.0
	75%	94.2	94.2	94.0	94.5
	100%	94.2	94.3	94.3	94.5
Power Factor	25%				
	50%	0.67	0.62	0.60	0.60
	75%	0.76	0.74	0.71	0.73
	100%	0.81	0.79	0.78	0.79
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	5.9	5.8	5.8	5.6
	P2 (0,5;1,0)	4.7	4.7	4.7	4.5
	P3 (0,25;1,0)	4.4	4.4	4.4	4.2
	P4 (0,9;0,5)	3.1	3.0	3.0	2.9
	P5 (0,5;0,5)	2.0	2.0	2.0	1.9
	P6 (0,5;0,25)	1.4	1.4	1.4	1.3
	P7 (0,25;0,25)	1.0	0.9	0.9	0.9
Bearing type	: Drive end 6316 C3	Non drive end 6316 C3	Foundation loads		
Sealing	: WSeal	WSeal	Max. traction	: 820 kgf	
Lubrication interval	: 18000 h	18000 h	Max. compression	: 1464 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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Customer : Astraprom d.o.o.

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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

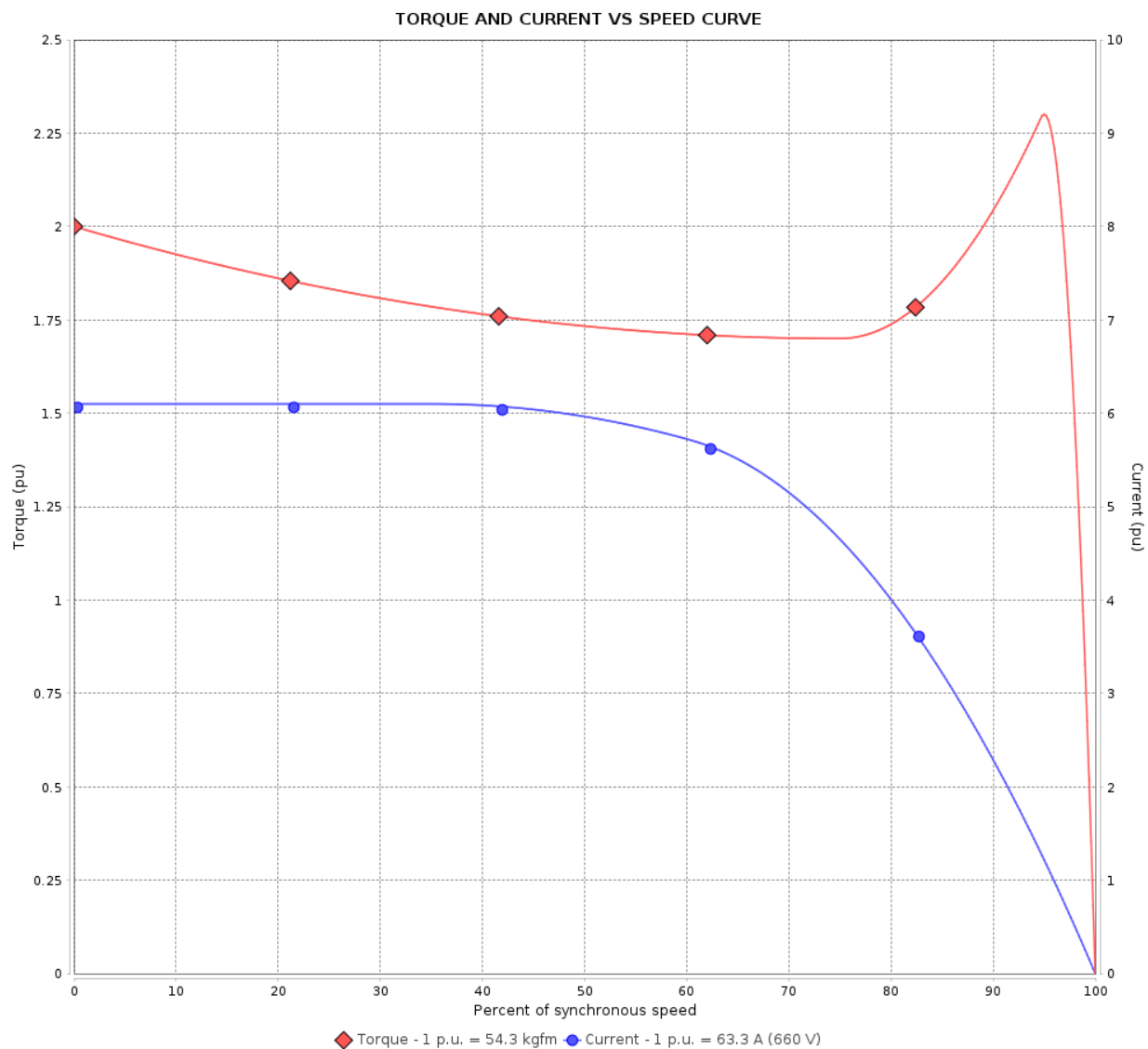
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862808



Performance : 380/660 V 50 Hz 6P

Rated current	: 110/63.3 A	Moment of inertia (J)	: 2.69 kgm ²
LRC	: 6.1	Duty cycle	: S1
Rated torque	: 54.3 kgfm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 987 rpm	Design	: N

Locked rotor time : 41s (cold) 23s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

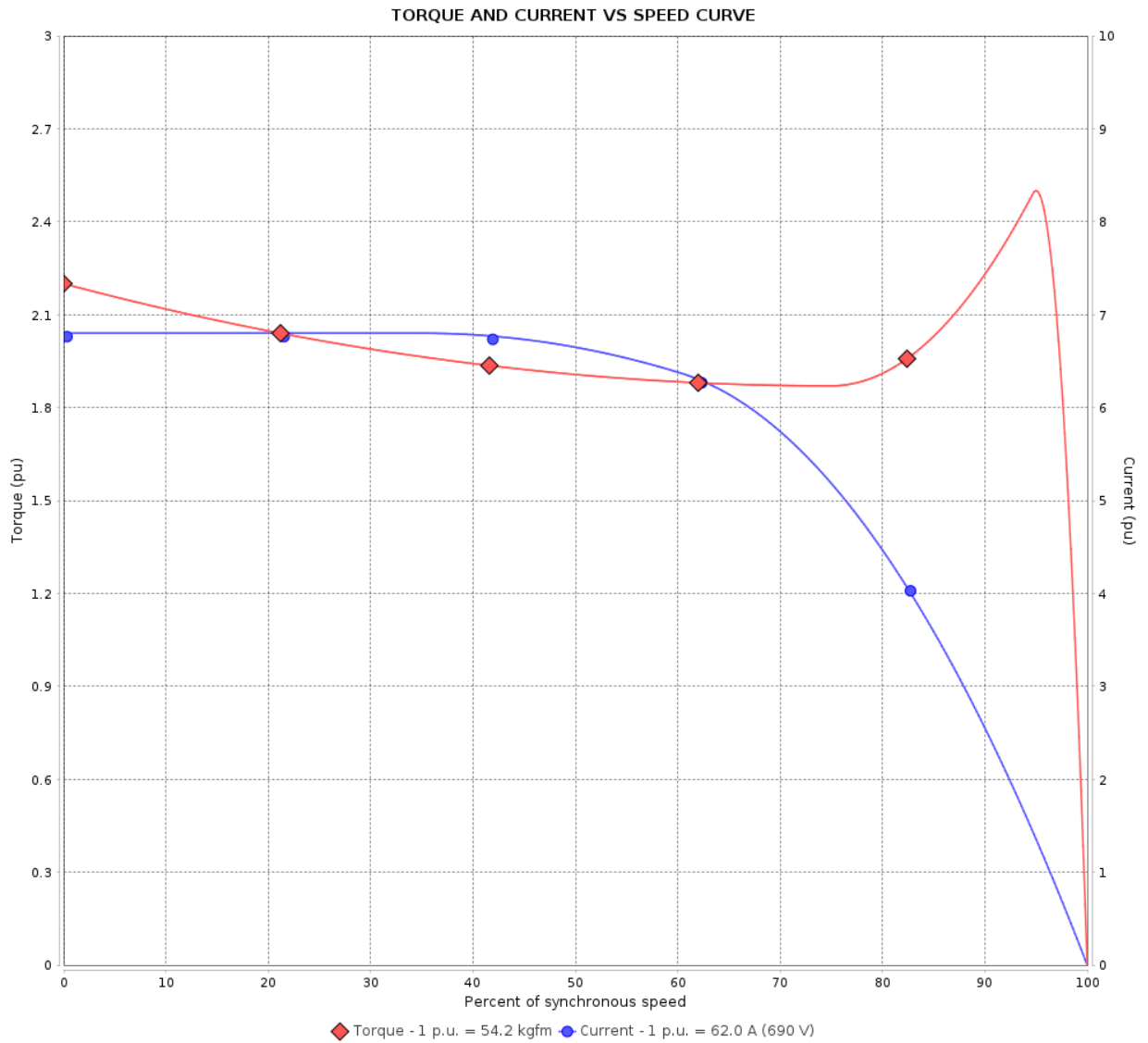


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12862808



Performance : 400/690 V 50 Hz 6P

Rated current : 107/62.0 A
 LRC : 6.8
 Rated torque : 54.2 kgfm
 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 988 rpm

Moment of inertia (J) : 2.69 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

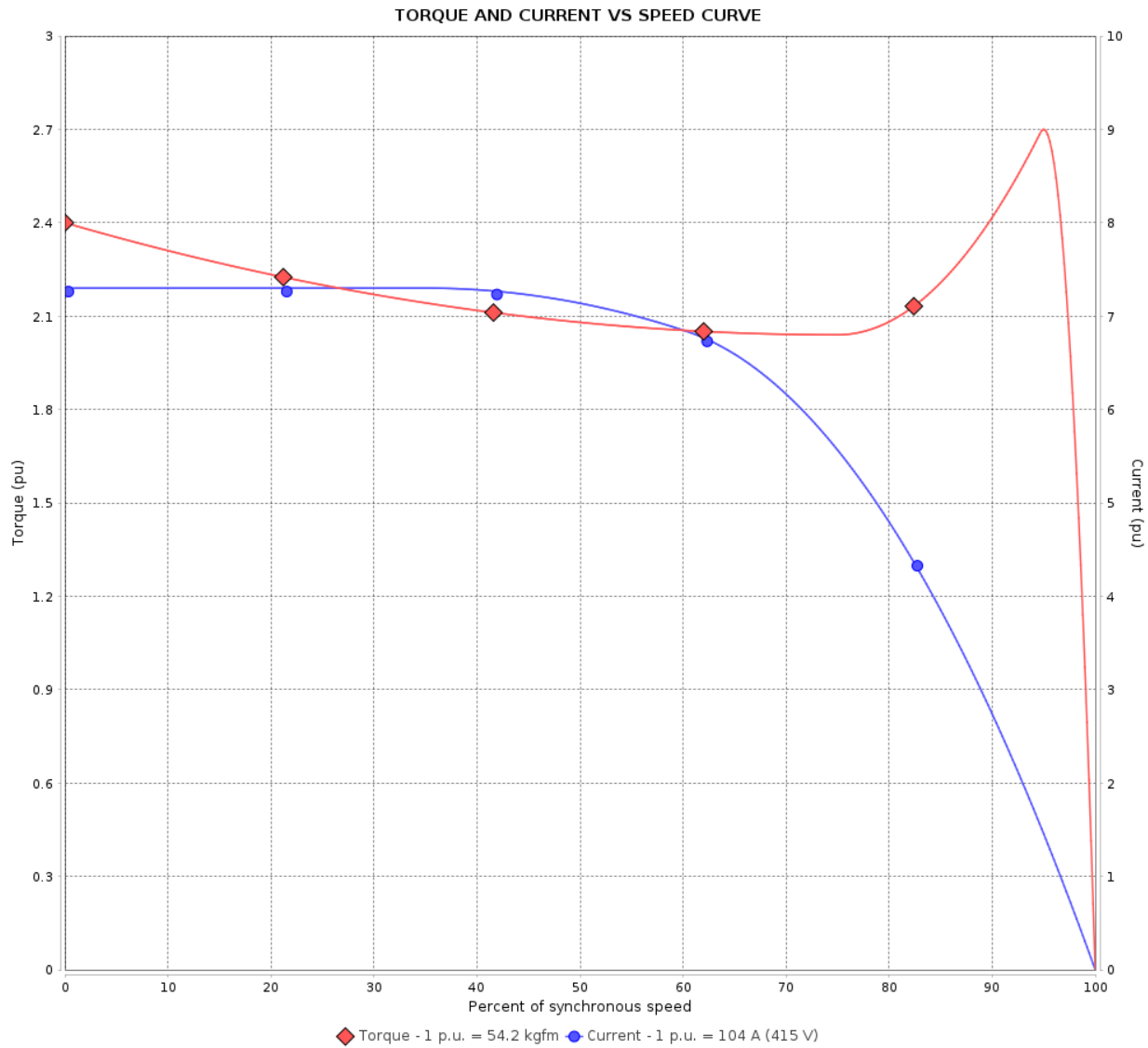
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862808



Performance : 415 V 50 Hz 6P

Rated current	: 104 A	Moment of inertia (J)	: 2.69 kgm ²
LRC	: 7.3	Duty cycle	: S1
Rated torque	: 54.2 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 989 rpm	Design	: N

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

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TORQUE AND CURRENT VS SPEED CURVE

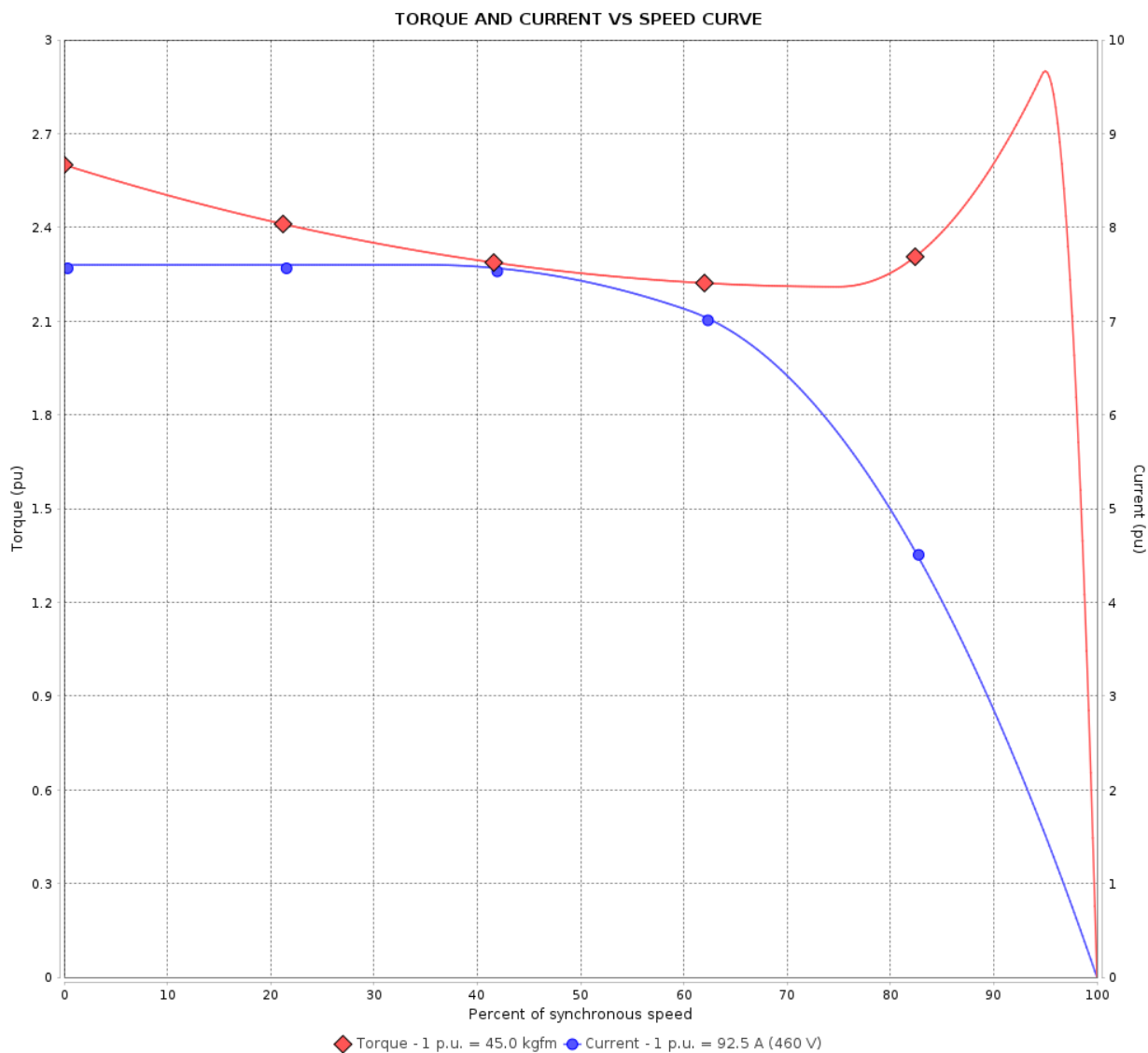


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862808



Performance : 460 V 60 Hz 6P

Rated current	: 92.5 A	Moment of inertia (J)	: 2.69 kgm ²
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 45.0 kgfm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 1190 rpm	Design	: N

Locked rotor time : 46s (cold) 26s (hot)

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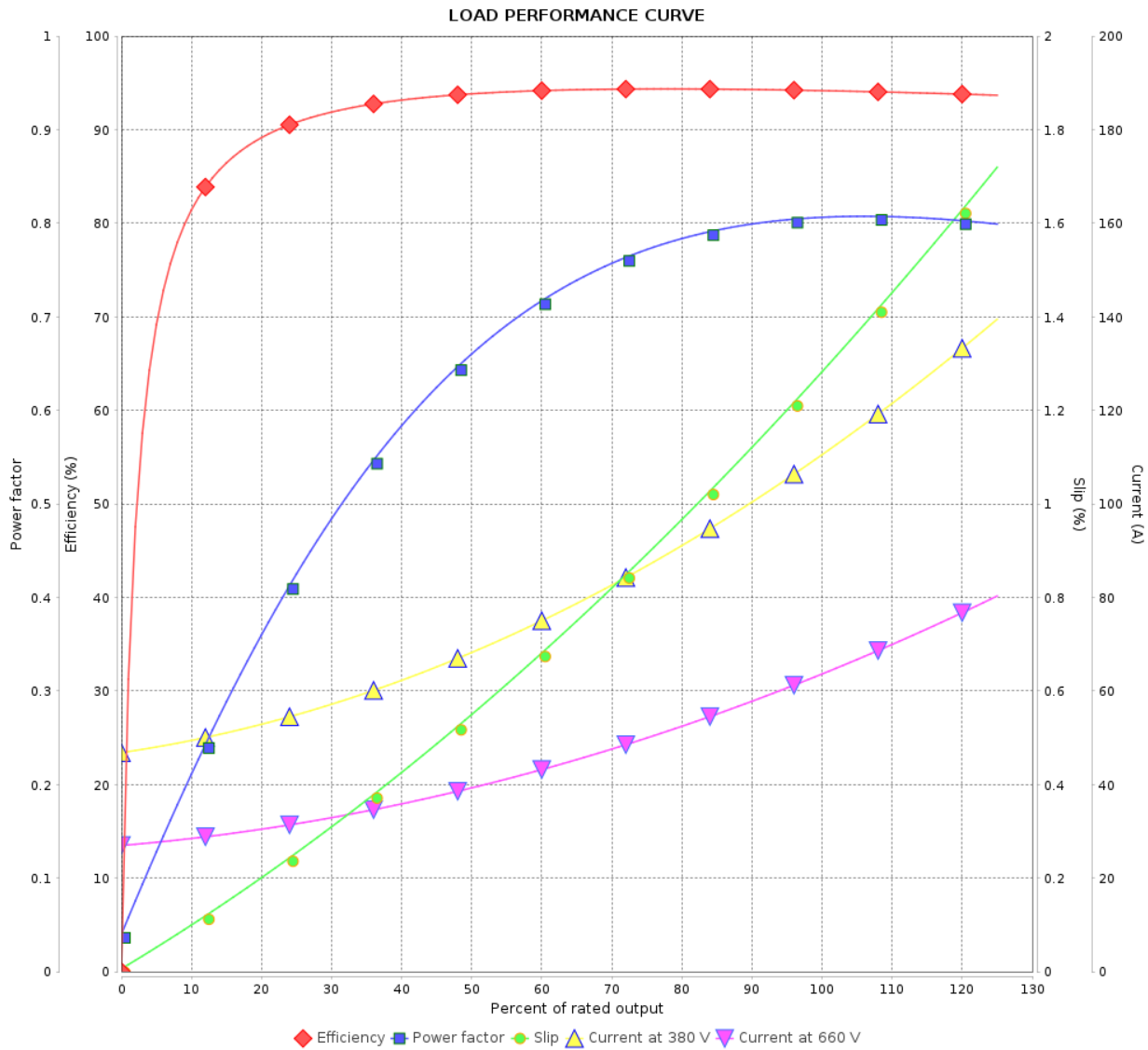
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

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Performance : 380/660 V 50 Hz 6P

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 Locked rotor torque : 200 %
 Breakdown torque : 229 %
 Rated speed : 987 rpm

Moment of inertia (J) : 2.69 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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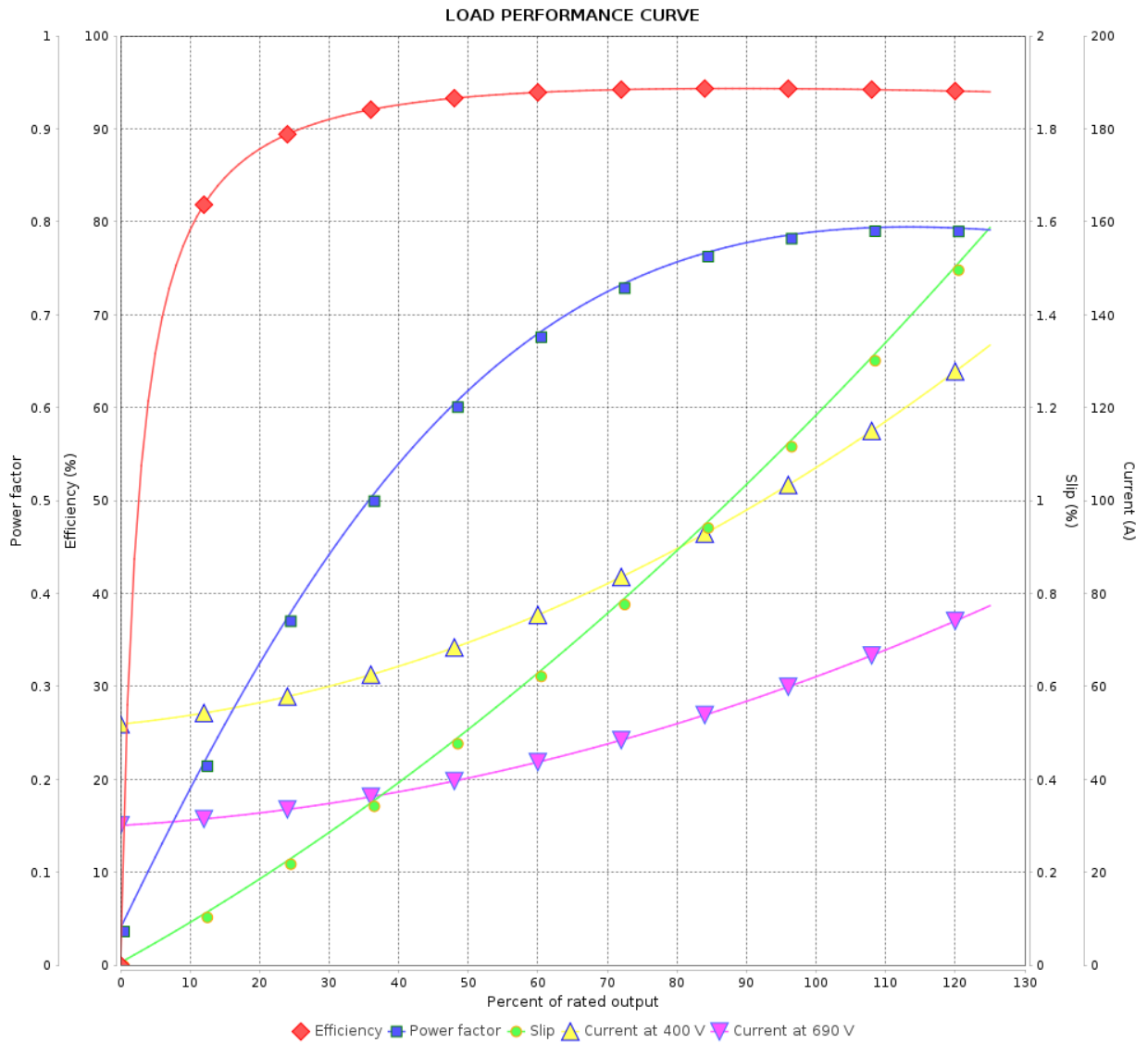
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 Locked rotor torque : 220 %
 Breakdown torque : 250 %
 Rated speed : 988 rpm

Moment of inertia (J) : 2.69 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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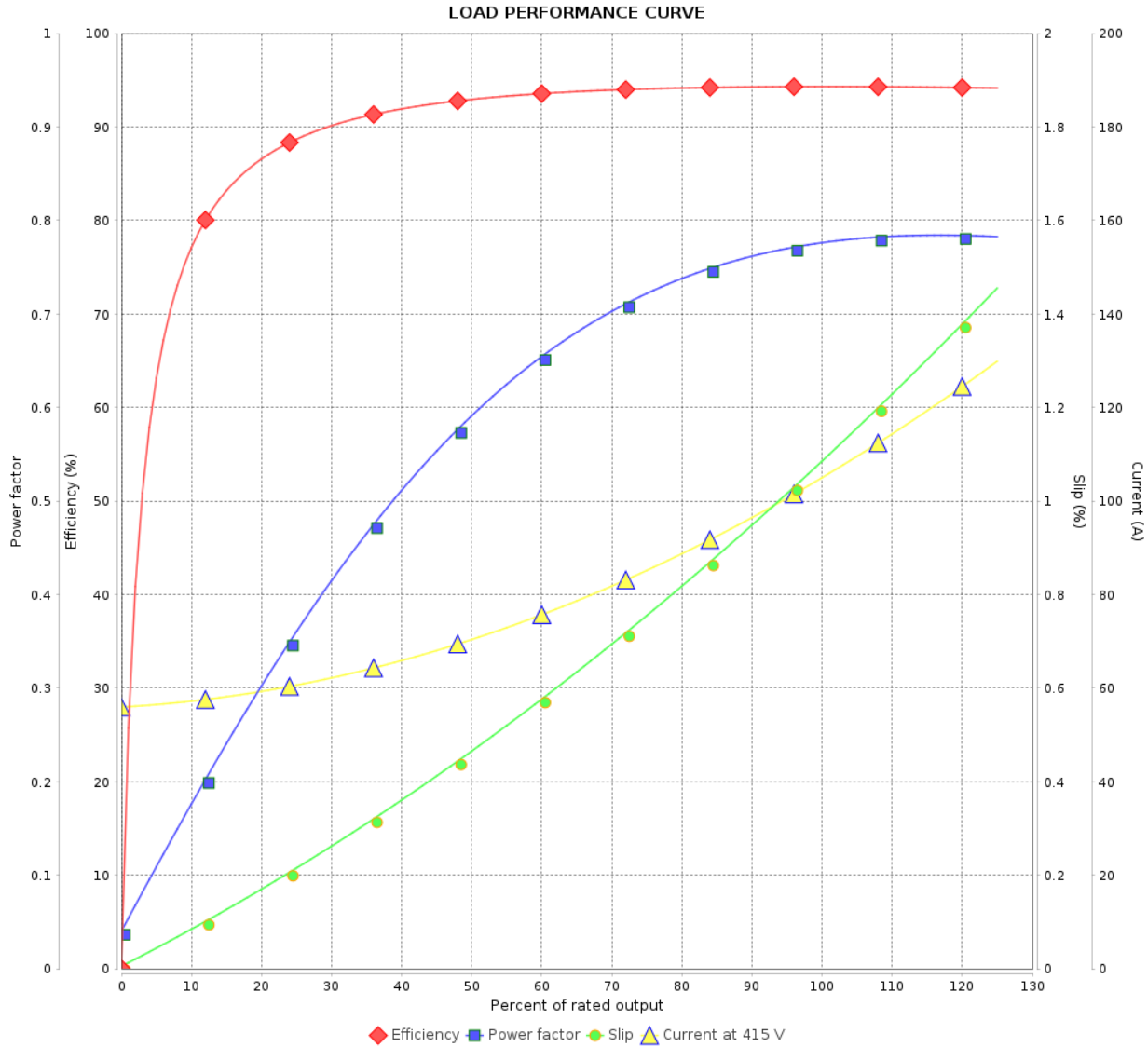
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Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 989 rpm	Design	: N

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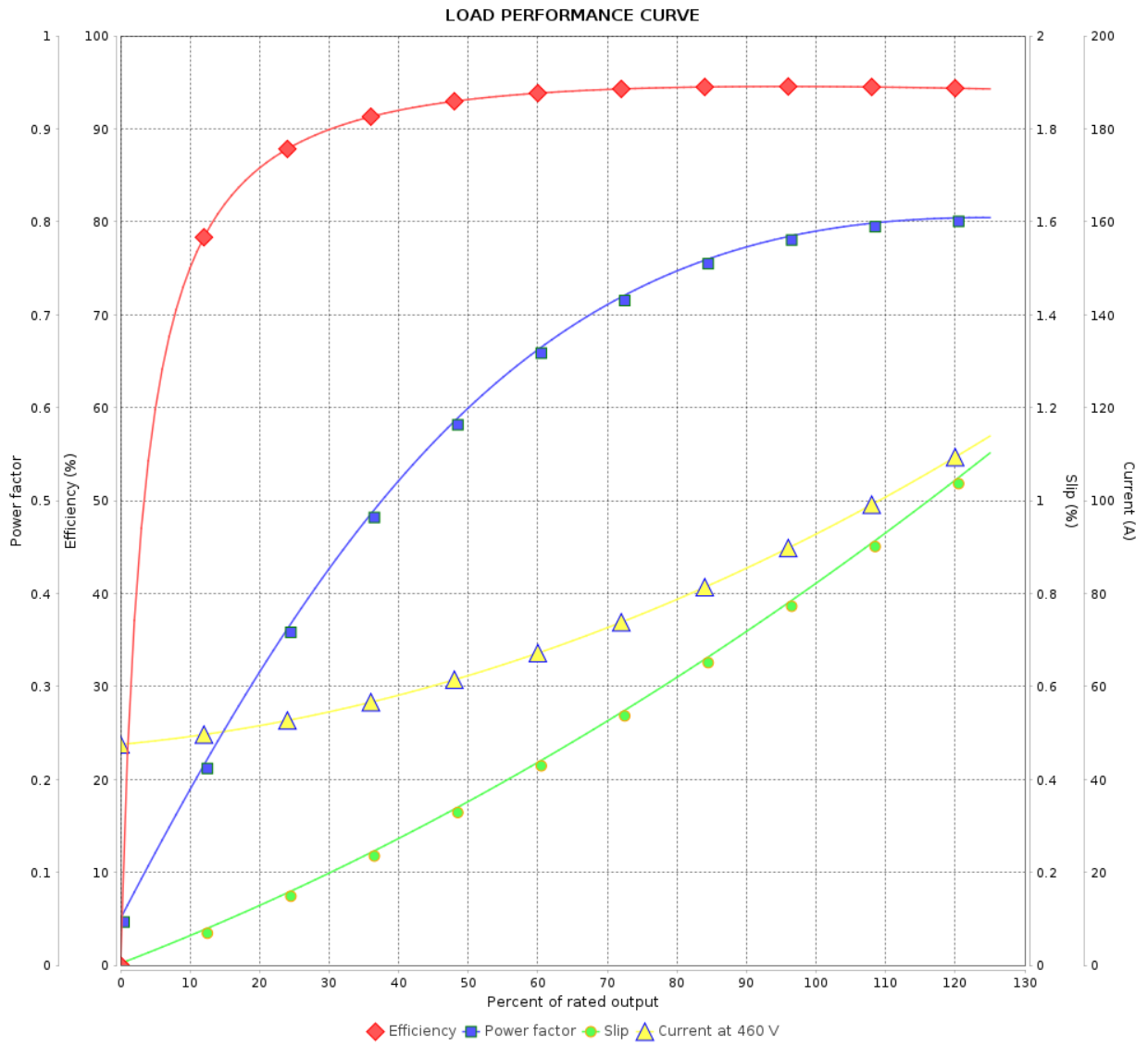


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THERMAL LIMIT CURVE

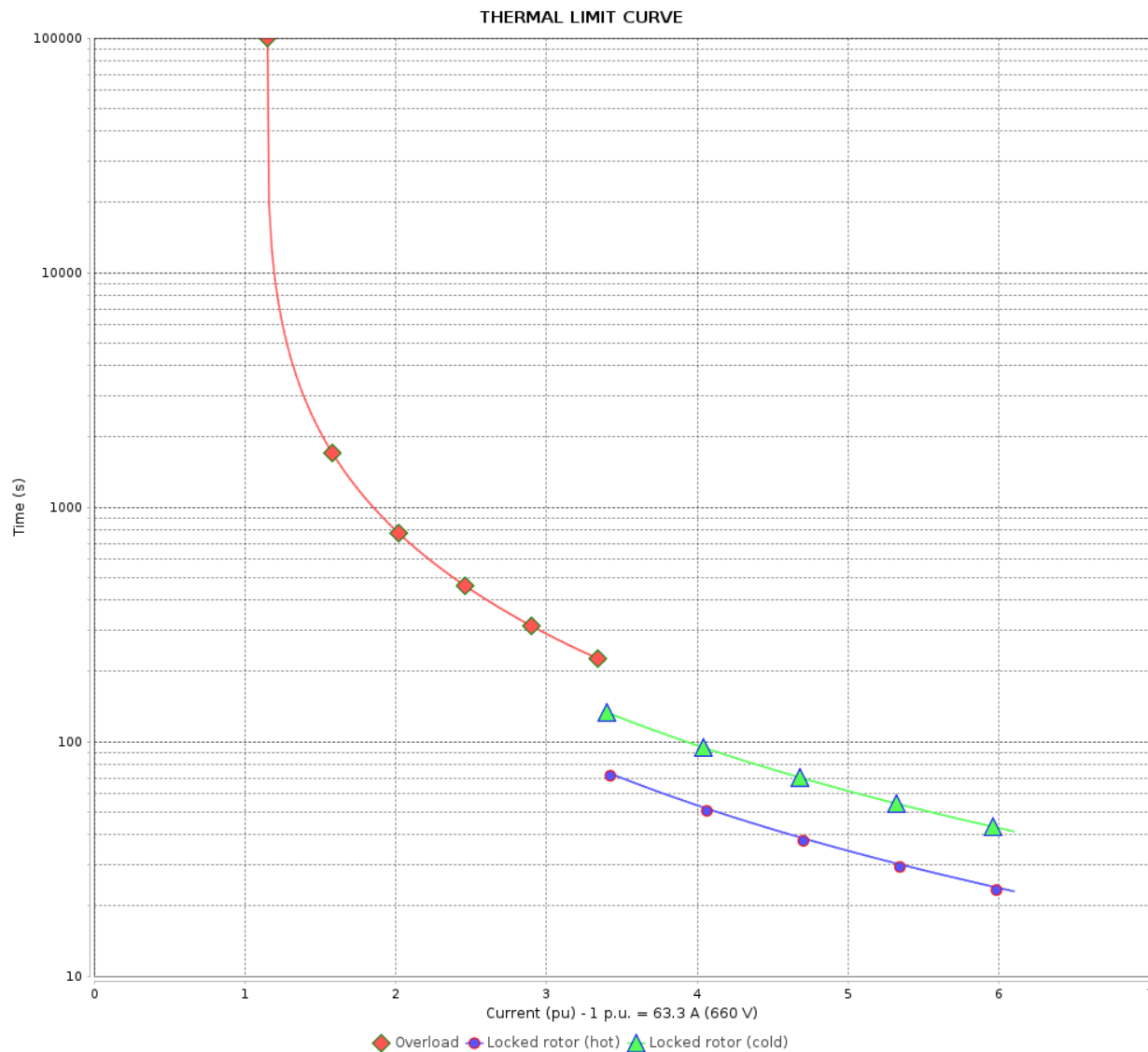
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Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 987 rpm	Design	: N

Heating constant
Cooling constant

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THERMAL LIMIT CURVE

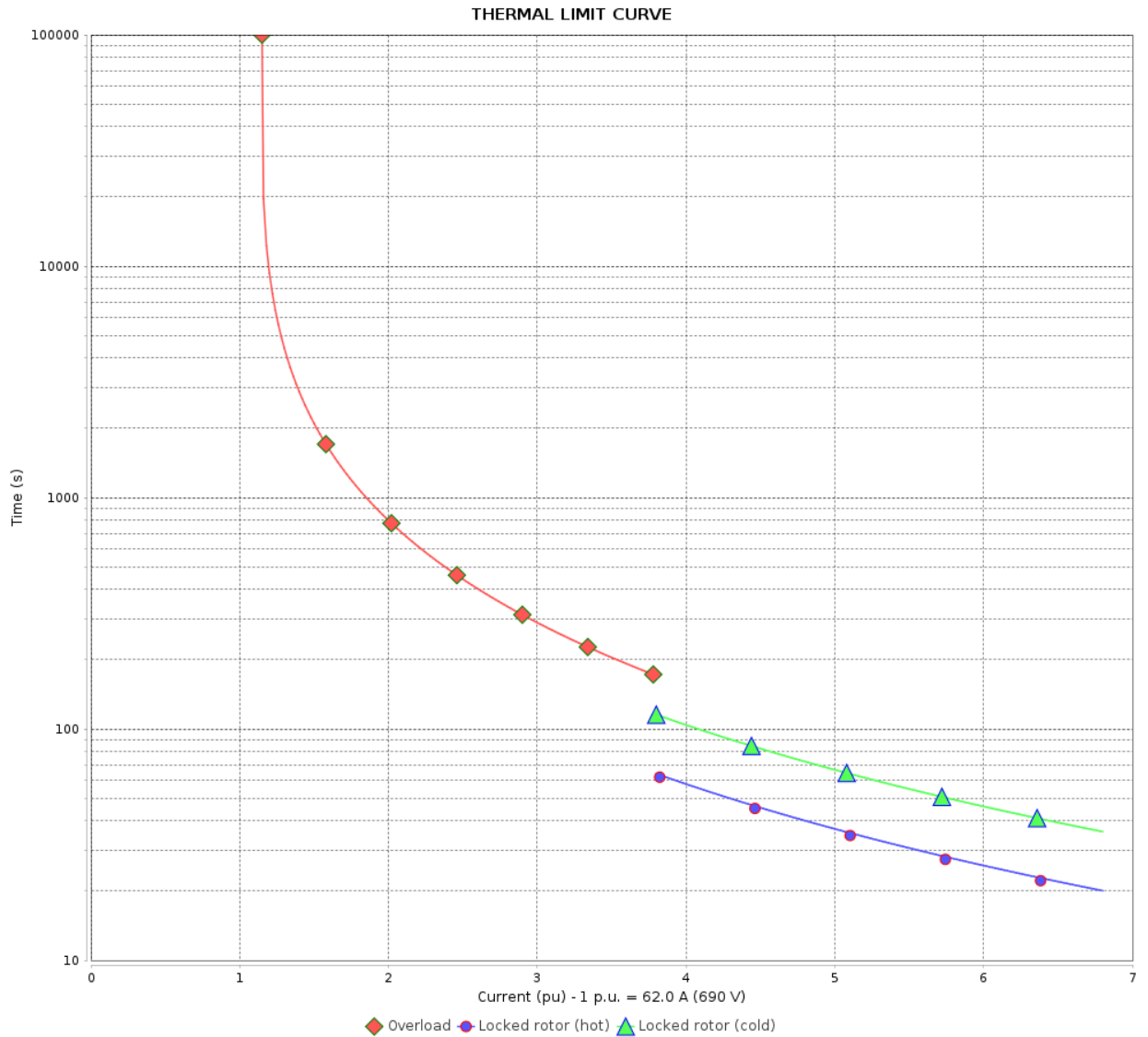
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant
 Cooling constant

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THERMAL LIMIT CURVE

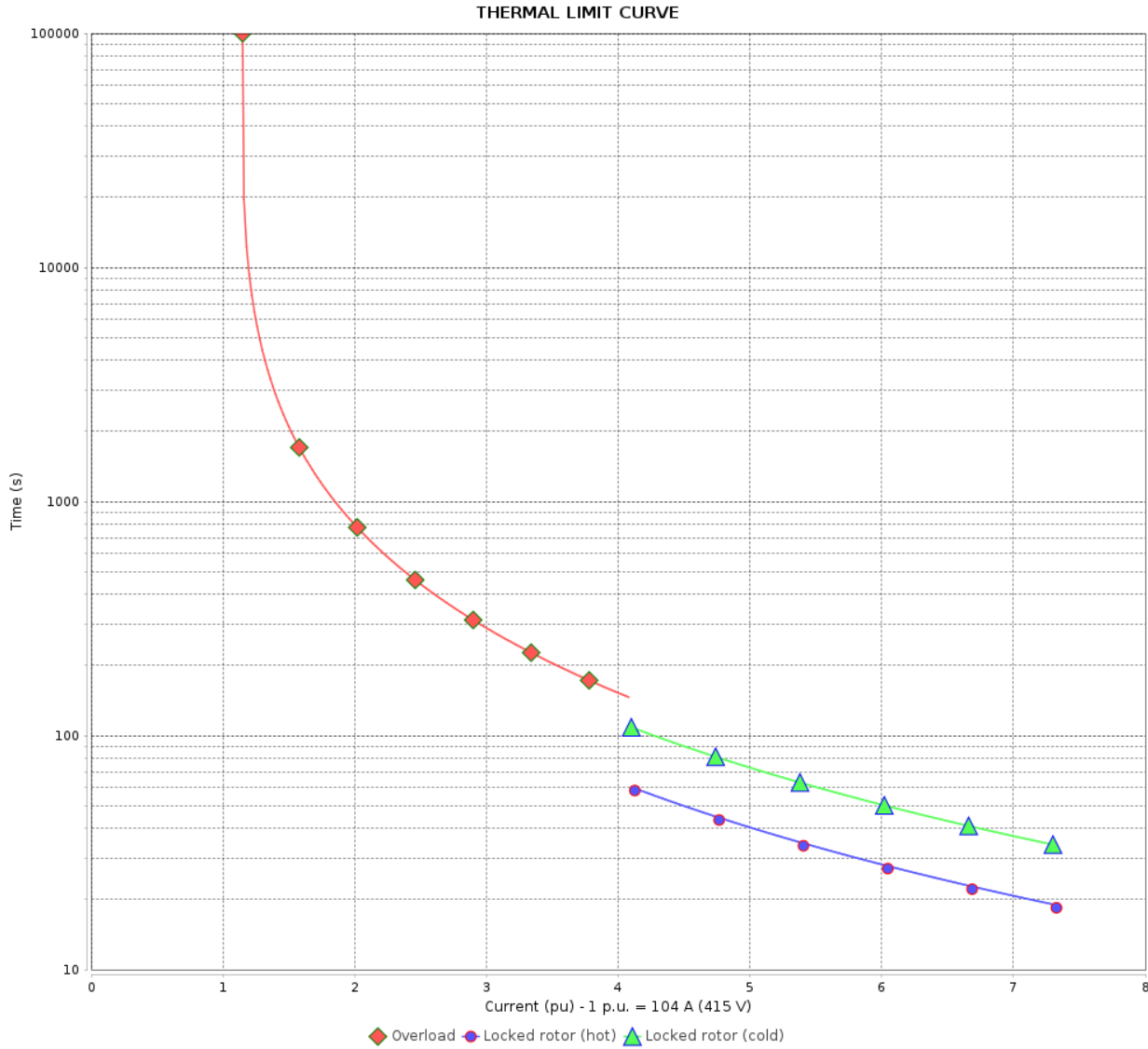
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Breakdown torque	: 270 %	Temperature rise	: 80 K
Rated speed	: 989 rpm	Design	: N

Heating constant

Cooling constant

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THERMAL LIMIT CURVE

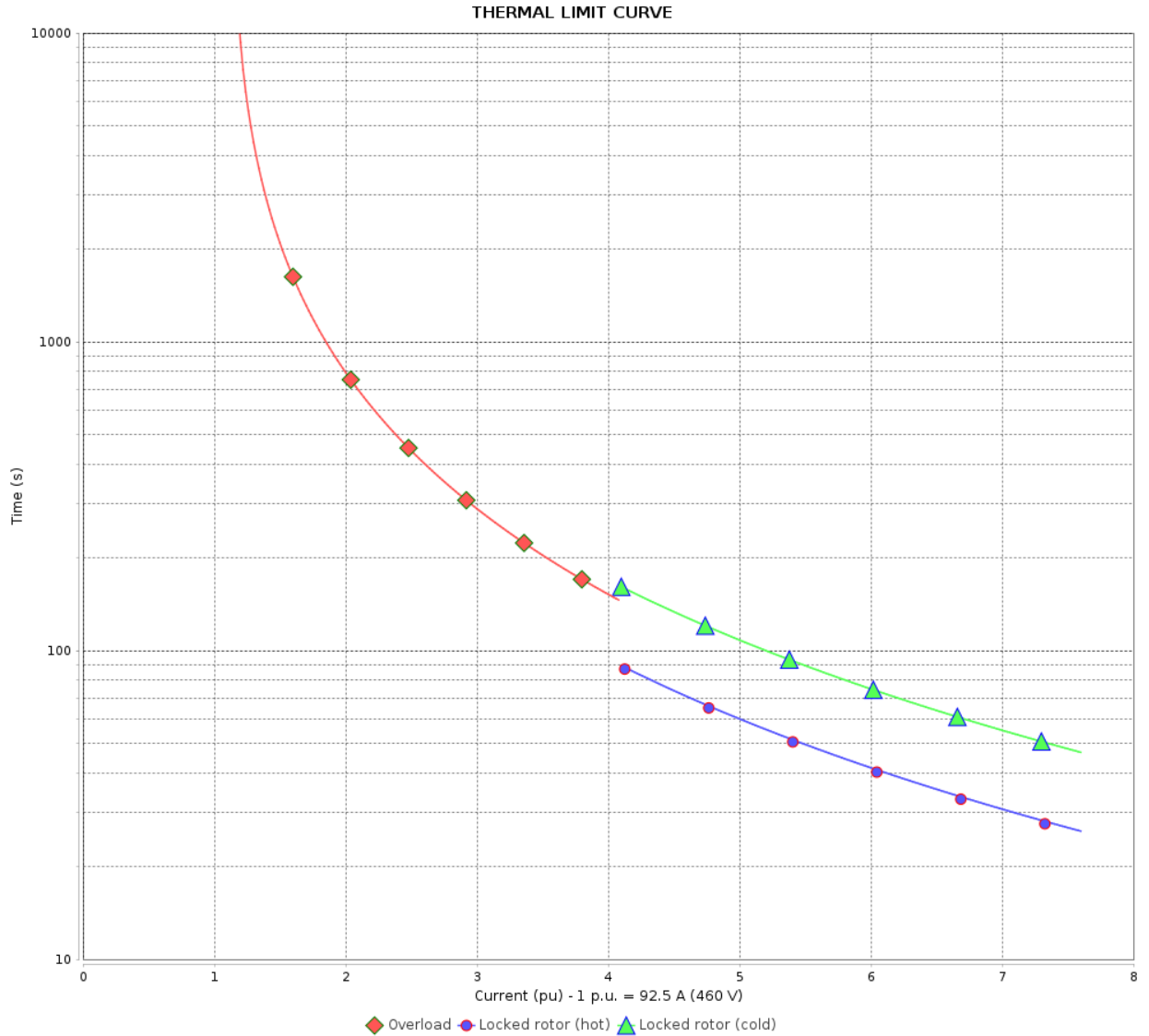
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 Service factor : 1.00
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VFD OPERATION CURVE

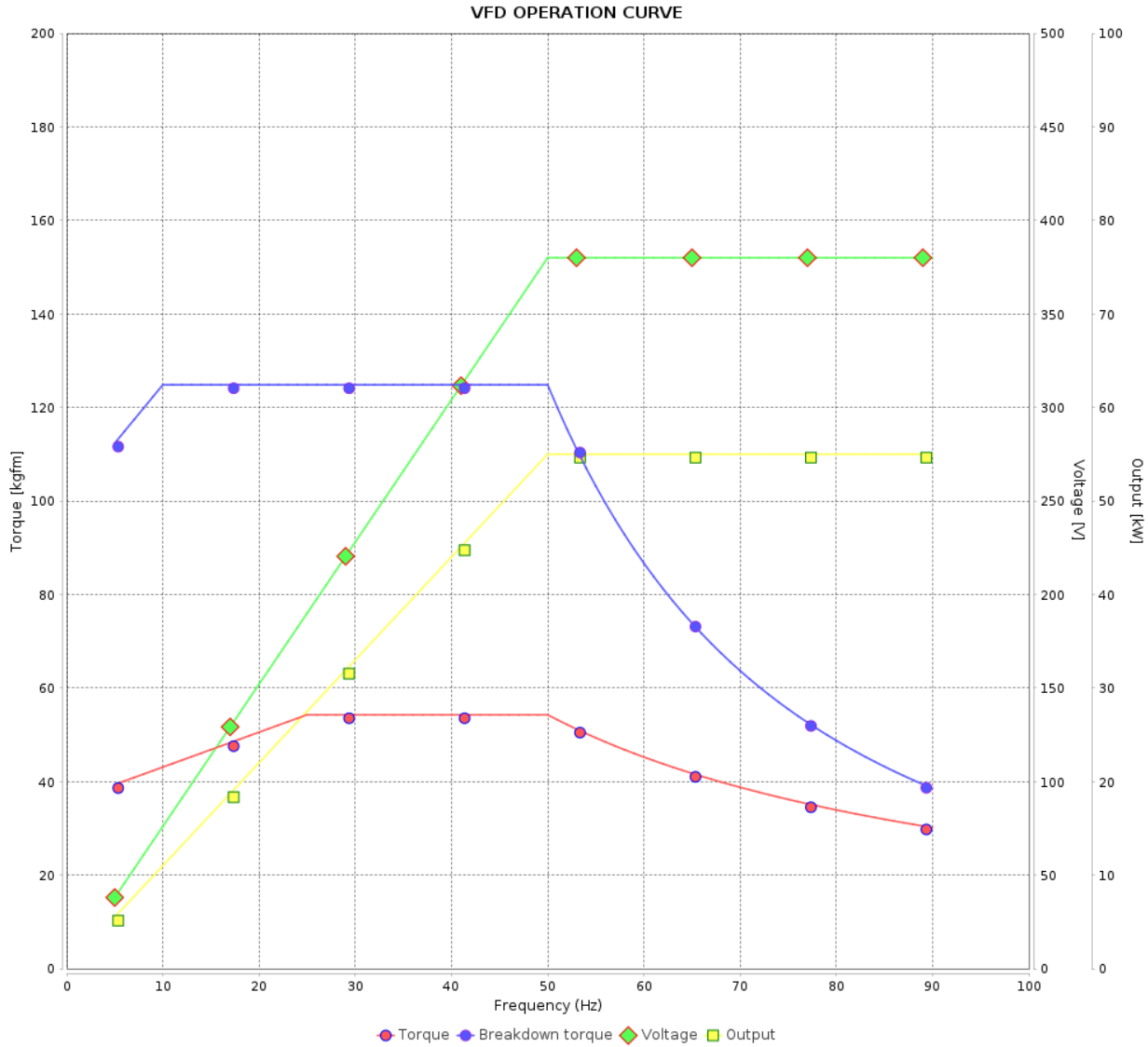
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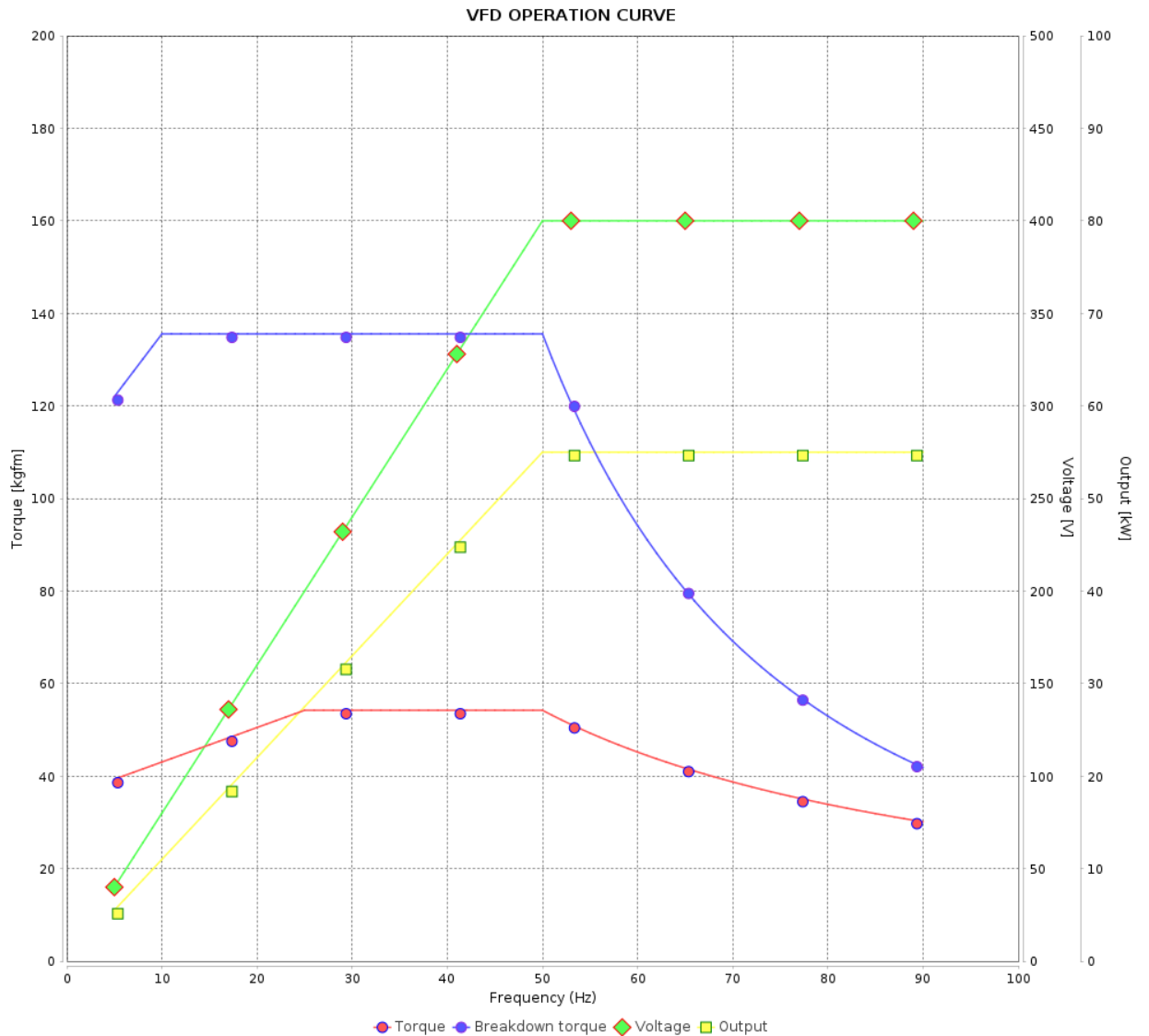
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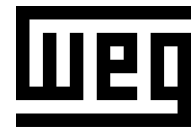
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VFD OPERATION CURVE

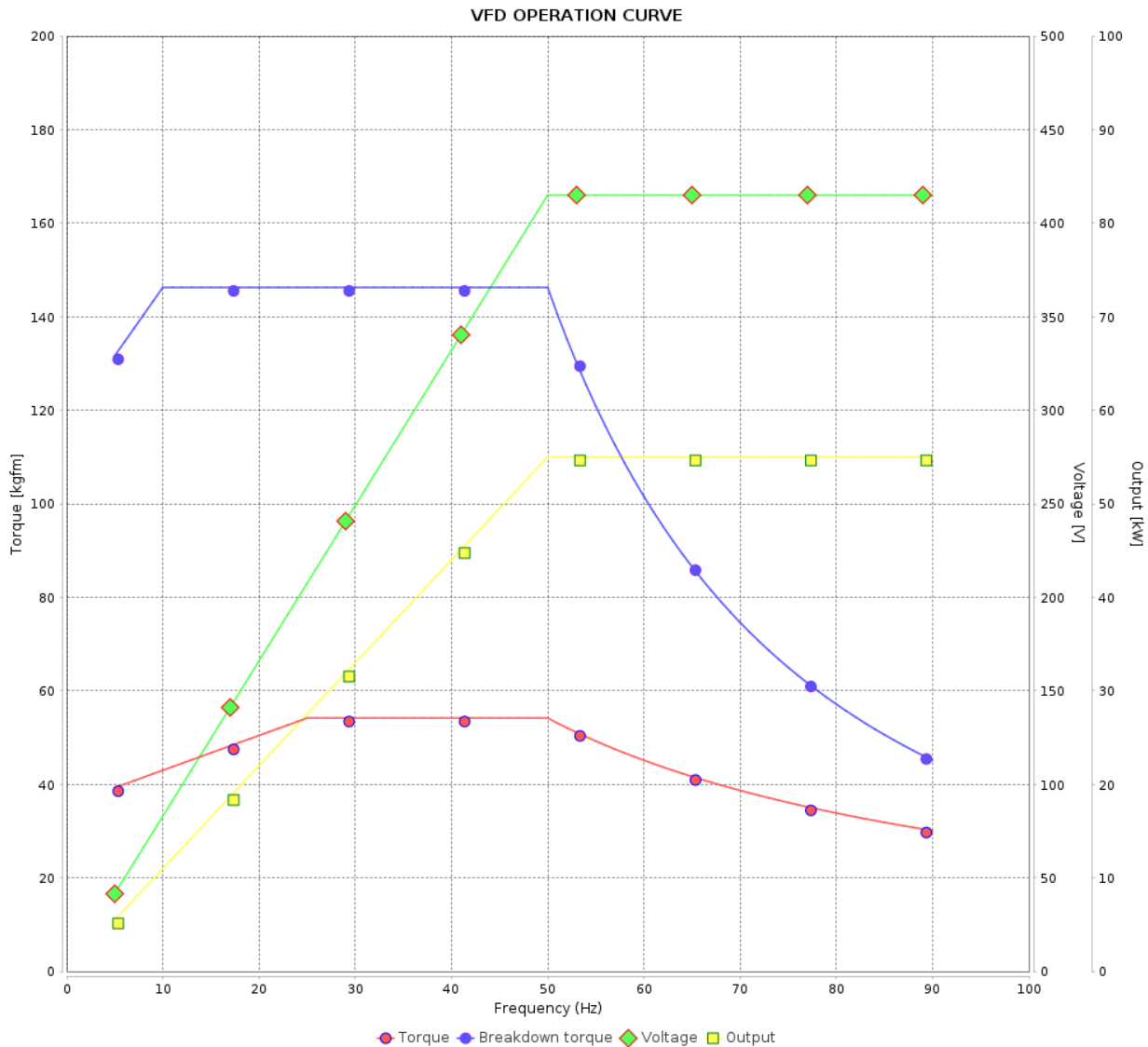
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VFD OPERATION CURVE

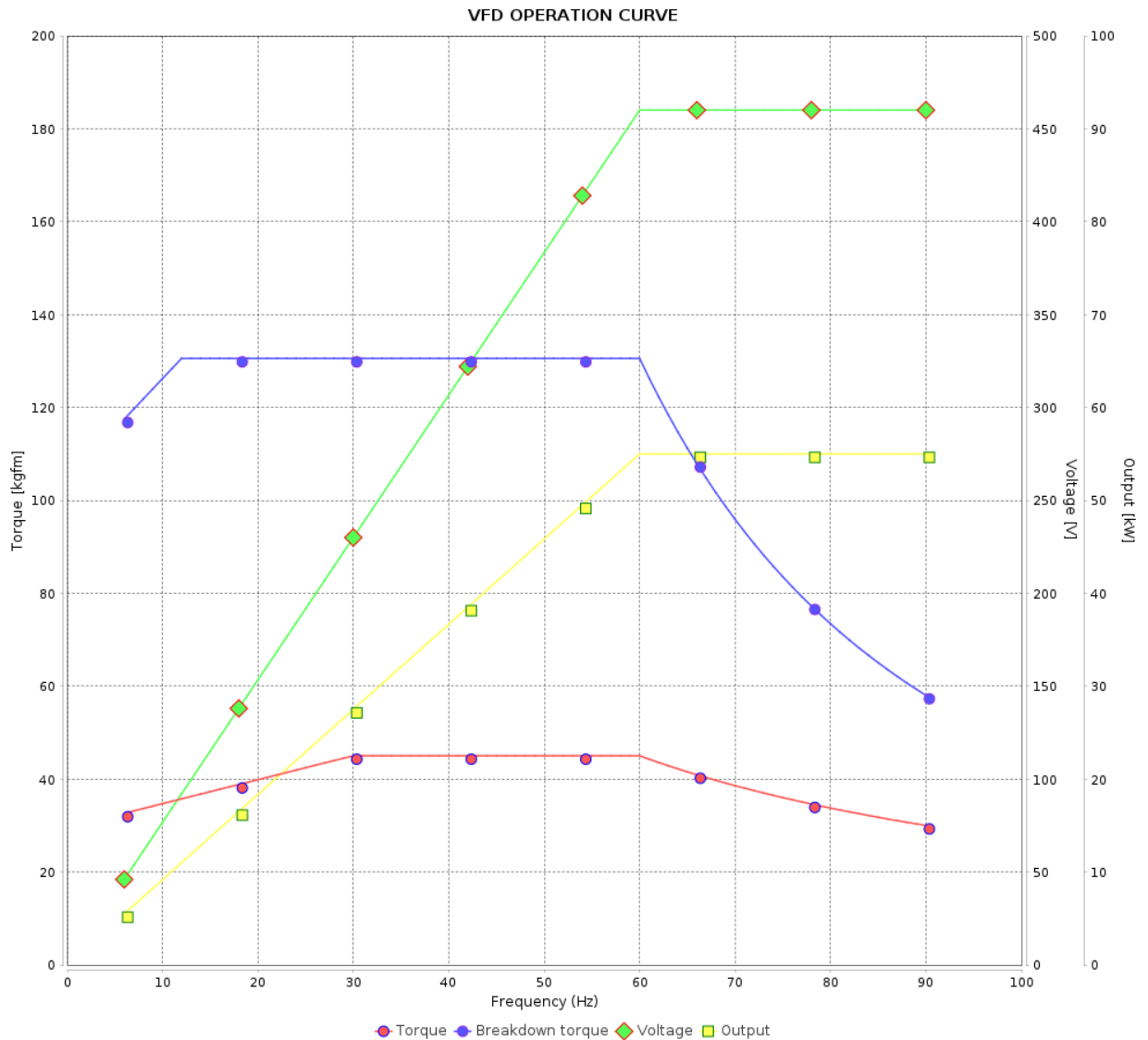
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