

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: W22 IE3 Three-Phase		Product code : 12867356	
Frame	: 112M	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 ²	: 40.6 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0081 kgm ²		
Design	: N				
Output [kW]	4	4	4	4	4
Poles	2	2	2	2	2
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460	460
Rated current [A]	8.01/4.61	7.87/4.56	7.77	6.92	6.92
L. R. Amperes [A]	59.3/34.1	60.6/35.1	62.2	60.9	60.9
LRC [A]	7.4	7.7	8.0	8.8	8.8
No load current [A]	3.40/1.96	3.80/2.20	4.20	3.70	3.70
Rated speed [RPM]	2890	2910	2920	3525	3525
Slip [%]	3.67	3.00	2.67	2.08	2.08
Rated torque [kgfm]	1.35	1.34	1.33	1.11	1.11
Locked rotor torque [%]	229	250	280	300	300
Breakdown torque [%]	310	350	380	430	430
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	19s (cold) 0s (hot)	18s (cold) 0s (hot)	18s (cold) 0s (hot)	21s (cold) 0s (hot)	21s (cold) 0s (hot)
Noise level ²	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	66.0 dB(A)	66.0 dB(A)
Efficiency (%)	25%				
	50%	87.5	87.0	86.0	85.5
	75%	88.2	88.4	88.0	87.5
	100%	88.2	88.4	88.4	88.5
Power Factor	25%				
	50%	0.70	0.65	0.60	0.63
	75%	0.80	0.77	0.72	0.72
	100%	0.86	0.83	0.81	0.82
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	13.2	13.0	13.0	12.9
	P2 (0,5;1,0)	11.8	11.6	11.6	11.4
	P3 (0,25;1,0)	10.8	10.6	10.6	10.5
	P4 (0,9;0,5)	6.6	6.4	6.4	6.4
	P5 (0,5;0,5)	4.7	4.6	4.6	4.5
	P6 (0,5;0,25)	3.2	3.1	3.1	3.1
	P7 (0,25;0,25)	2.3	2.2	2.2	2.2
Bearing type	: Drive end 6207 ZZ	Non drive end 6206 ZZ	Foundation loads		
Sealing	: V'Ring	V'Ring	Max. traction	: 79 kgf	
Lubrication interval	: -	-	Max. compression	: 120 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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Three Phase Induction Motor - Squirrel Cage

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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

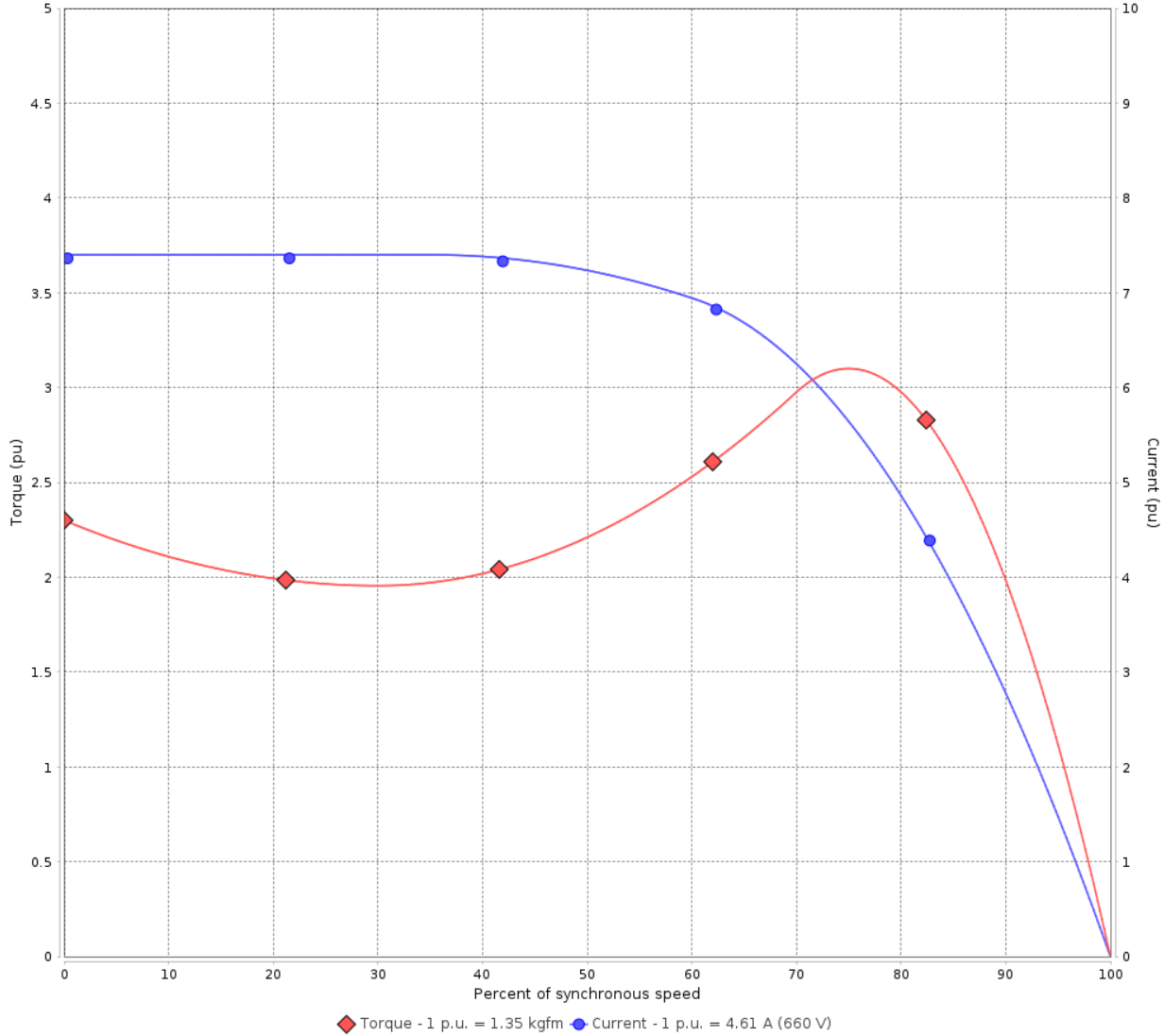


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12867356

TORQUE AND CURRENT VS SPEED CURVE



Performance : 380/660 V 50 Hz 2P

Rated current : 8.01/4.61 A
 LRC : 7.4
 Rated torque : 1.35 kgfm
 Locked rotor torque : 229 %
 Breakdown torque : 310 %
 Rated speed : 2890 rpm

Moment of inertia (J) : 0.0081 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Locked rotor time : 19s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

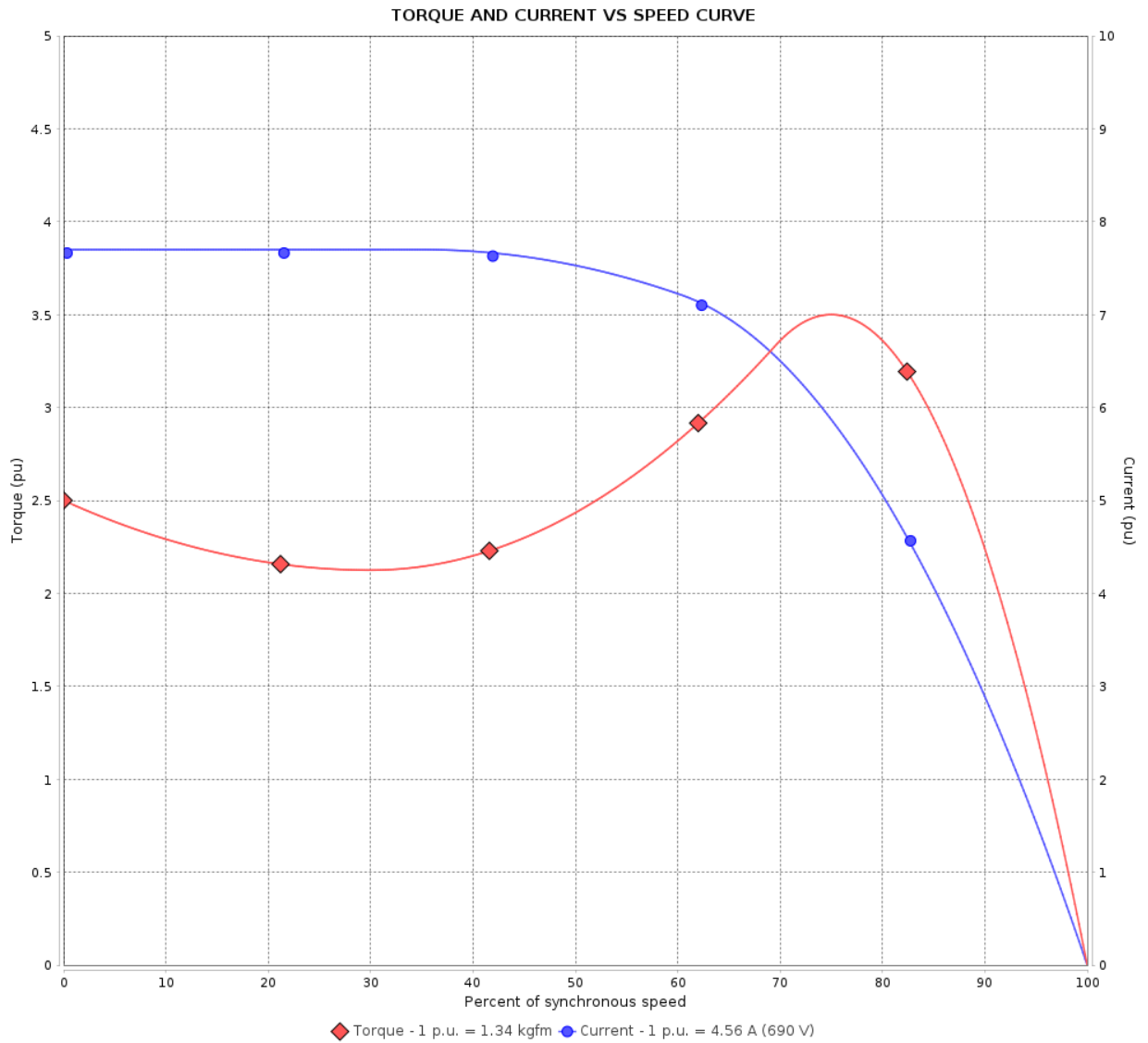


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12867356



Performance : 400/690 V 50 Hz 2P

Rated current	: 7.87/4.56 A	Moment of inertia (J)	: 0.0081 kgm ²
LRC	: 7.7	Duty cycle	: S1
Rated torque	: 1.34 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 2910 rpm	Design	: N

Locked rotor time : 18s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

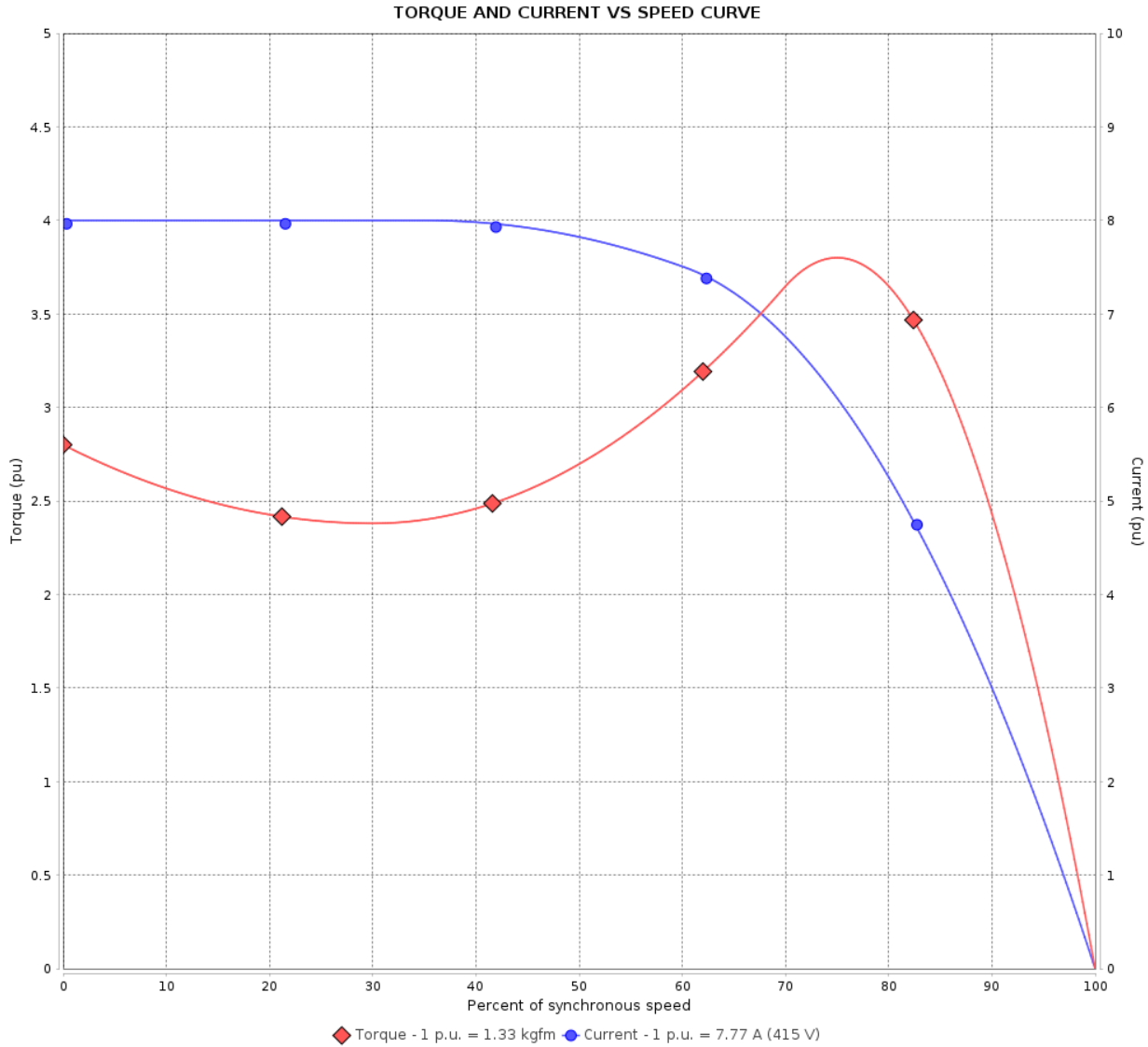
Three Phase Induction Motor - Squirrel Cage



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Product line : W22 IE3 Three-Phase

Product code : 12867356



Performance : 415 V 50 Hz 2P

Rated current	: 7.77 A	Moment of inertia (J)	: 0.0081 kgm ²
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 1.33 kgfm	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2920 rpm	Design	: N

Locked rotor time : 18s (cold) 0s (hot)

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TORQUE AND CURRENT VS SPEED CURVE

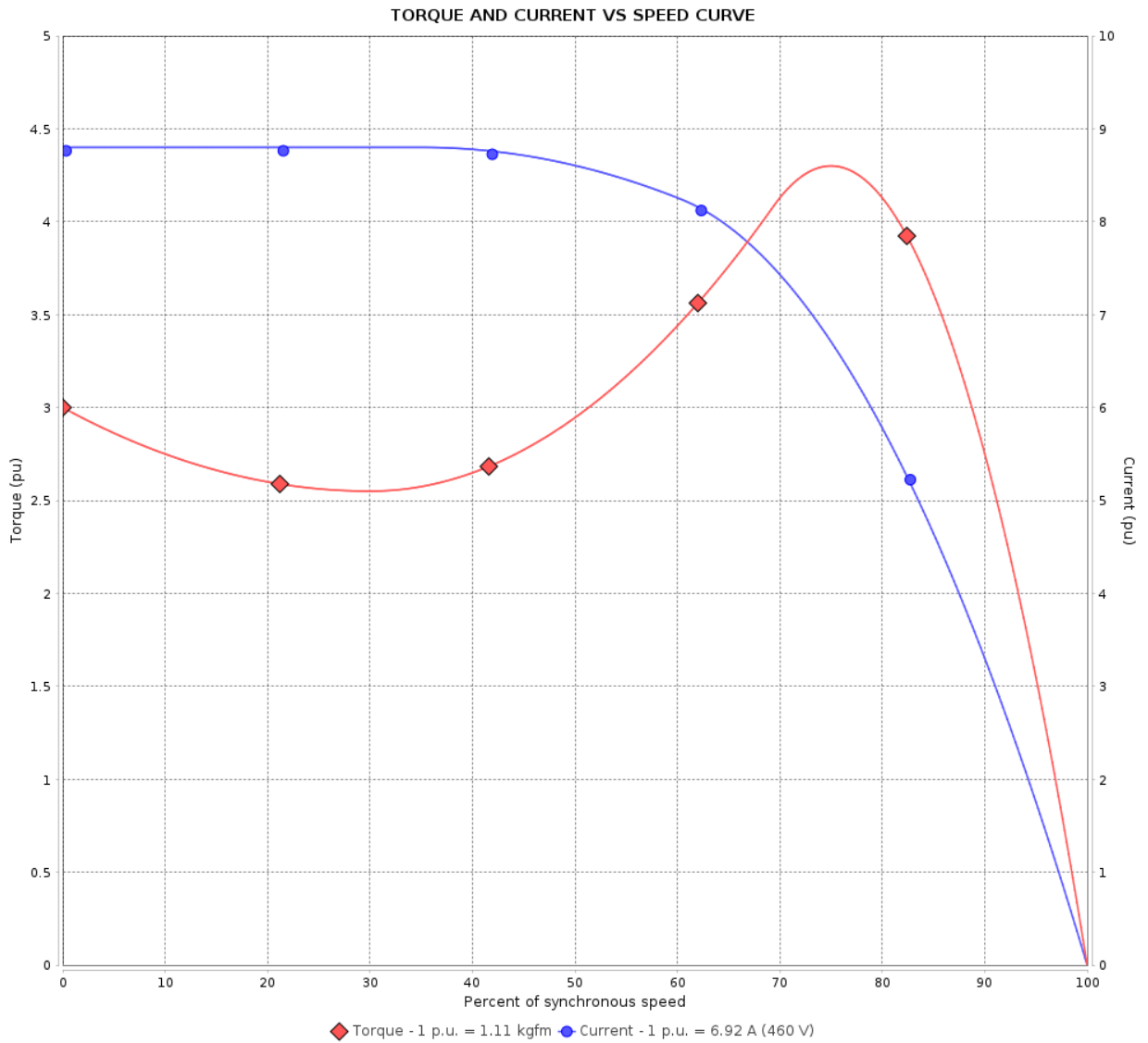
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12867356



Performance : 460 V 60 Hz 2P

Rated current	: 6.92 A	Moment of inertia (J)	: 0.0081 kgm ²
LRC	: 8.8	Duty cycle	: S1
Rated torque	: 1.11 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 3525 rpm	Design	: N

Locked rotor time : 21s (cold) 0s (hot)

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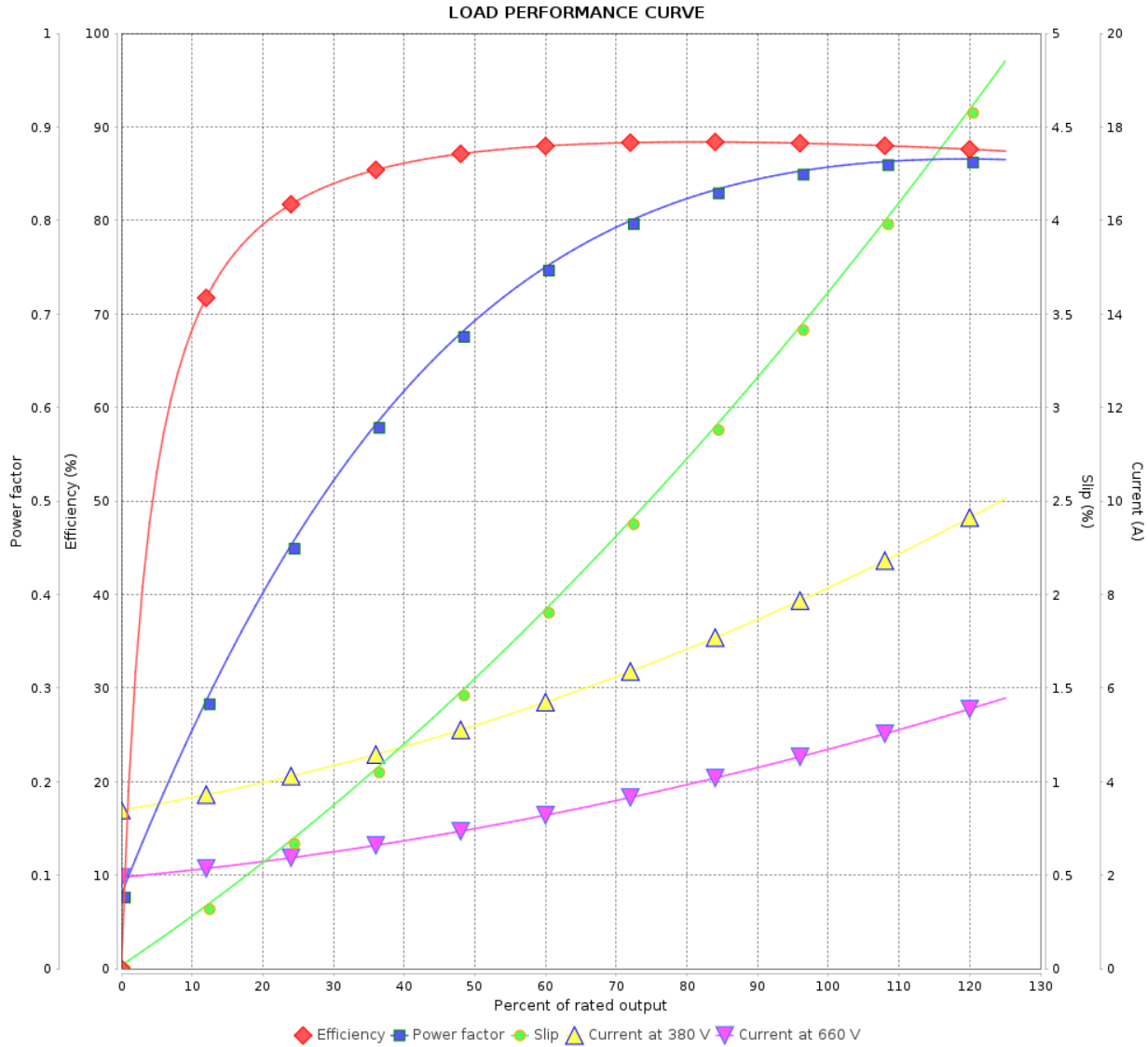
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Performance : 380/660 V 50 Hz 2P

Rated current : 8.01/4.61 A
 LRC : 7.4
 Rated torque : 1.35 kgfm
 Locked rotor torque : 229 %
 Breakdown torque : 310 %
 Rated speed : 2890 rpm

Moment of inertia (J) : 0.0081 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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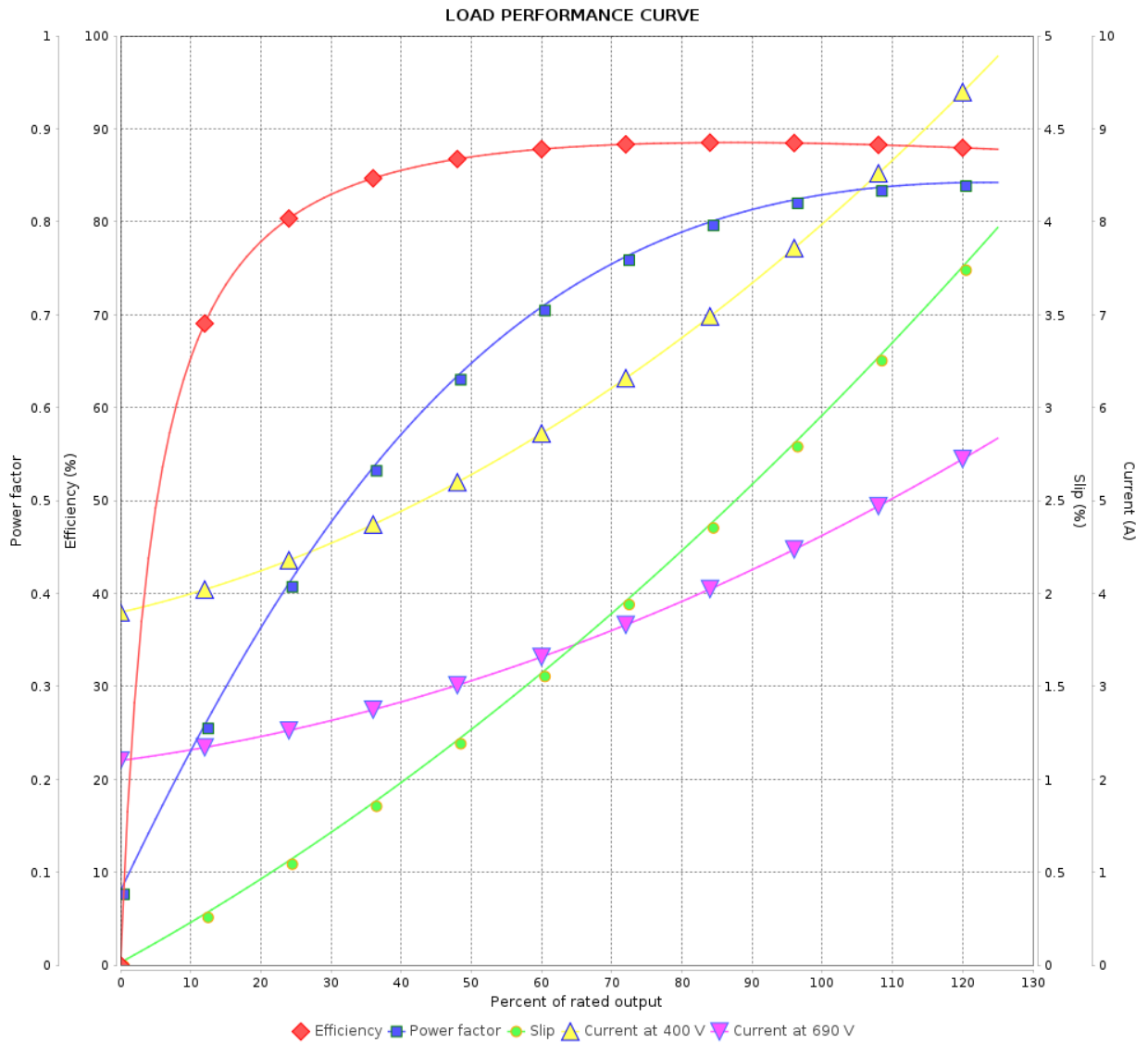


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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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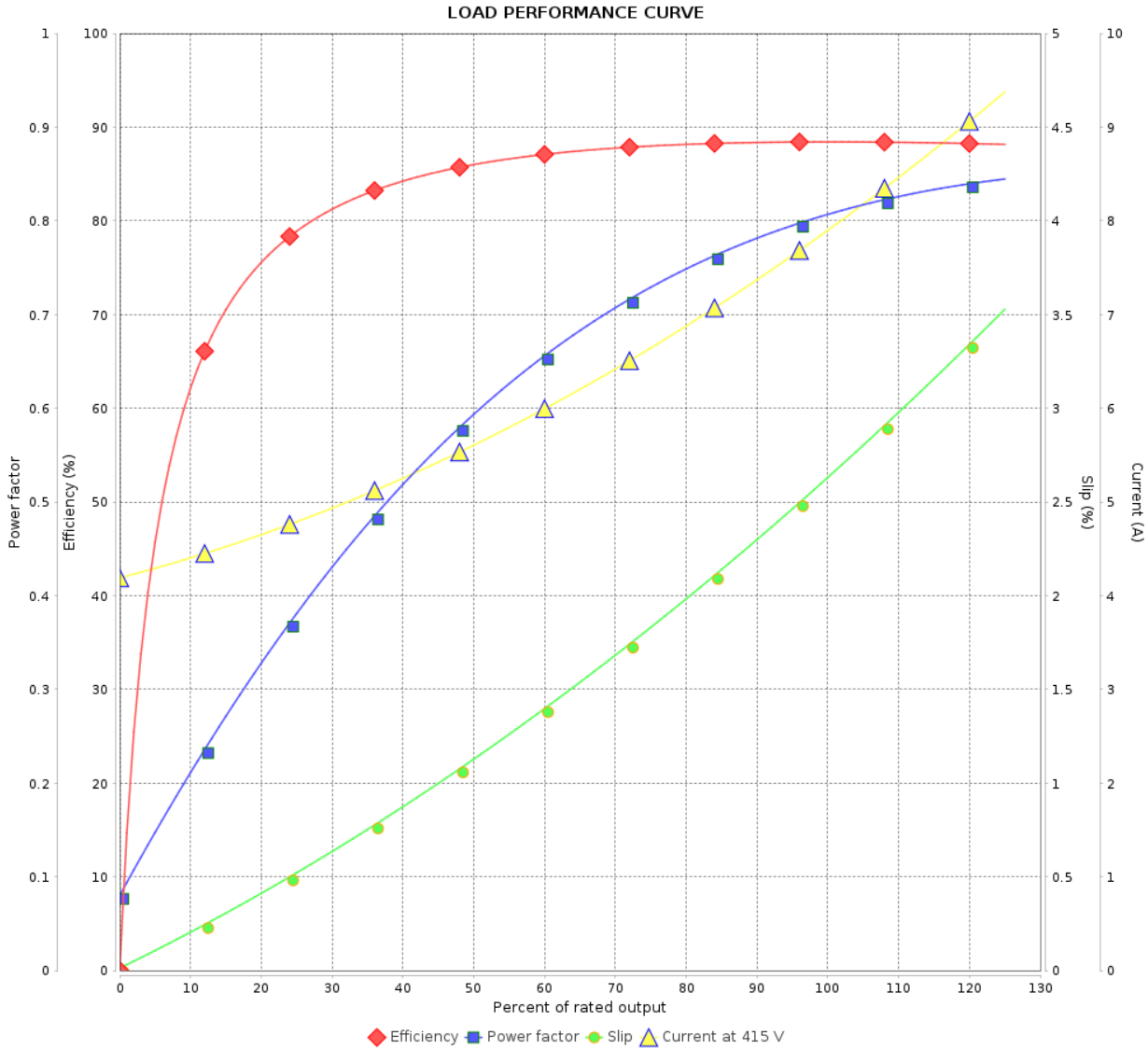
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Performance : 415 V 50 Hz 2P

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 Locked rotor torque : 280 %
 Breakdown torque : 380 %
 Rated speed : 2920 rpm

Moment of inertia (J) : 0.0081 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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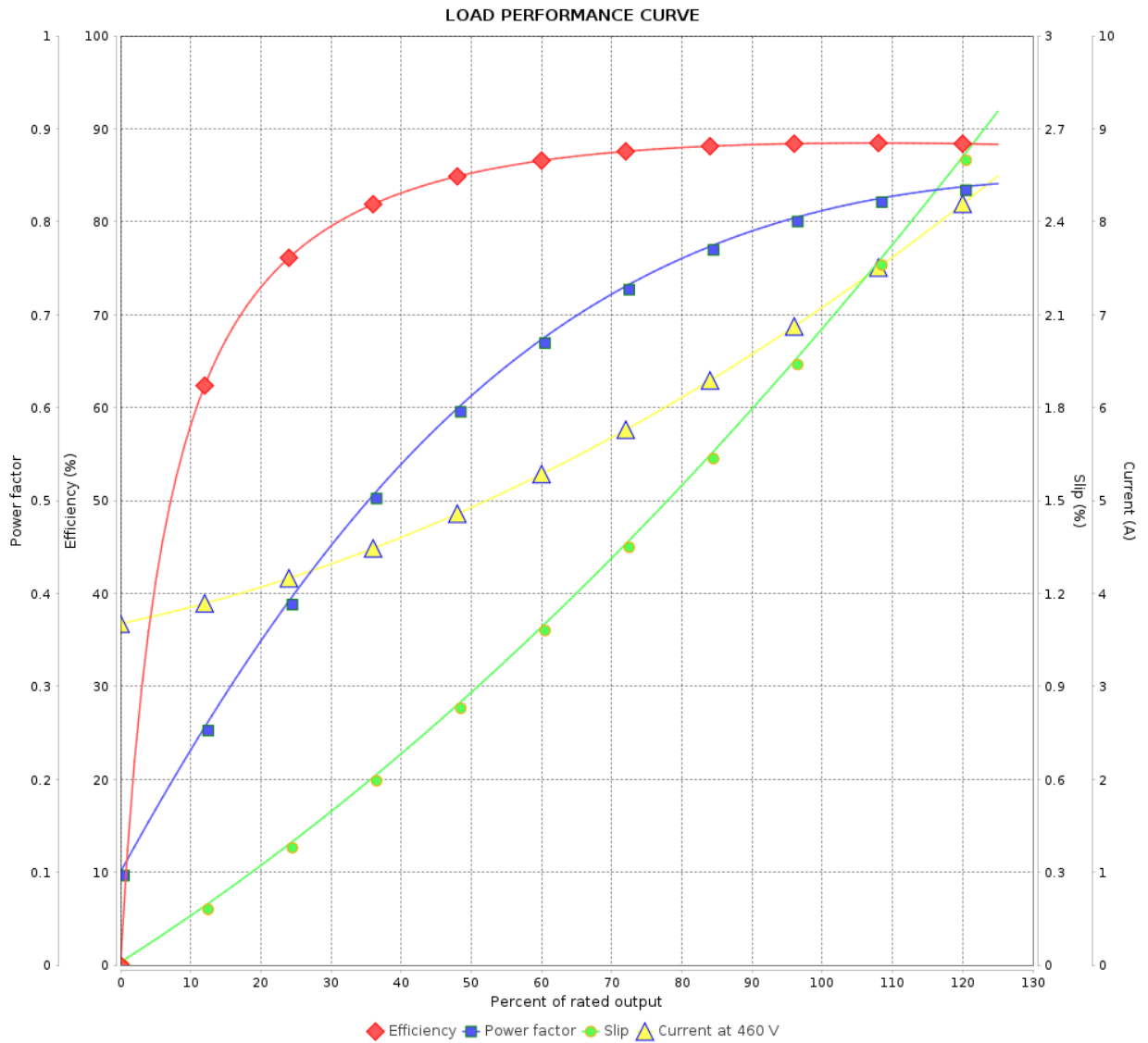


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Product code :

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Performance : 460 V 60 Hz 2P

Rated current : 6.92 A
 LRC : 8.8
 Rated torque : 1.11 kgfm
 Locked rotor torque : 300 %
 Breakdown torque : 430 %
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.0081 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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THERMAL LIMIT CURVE

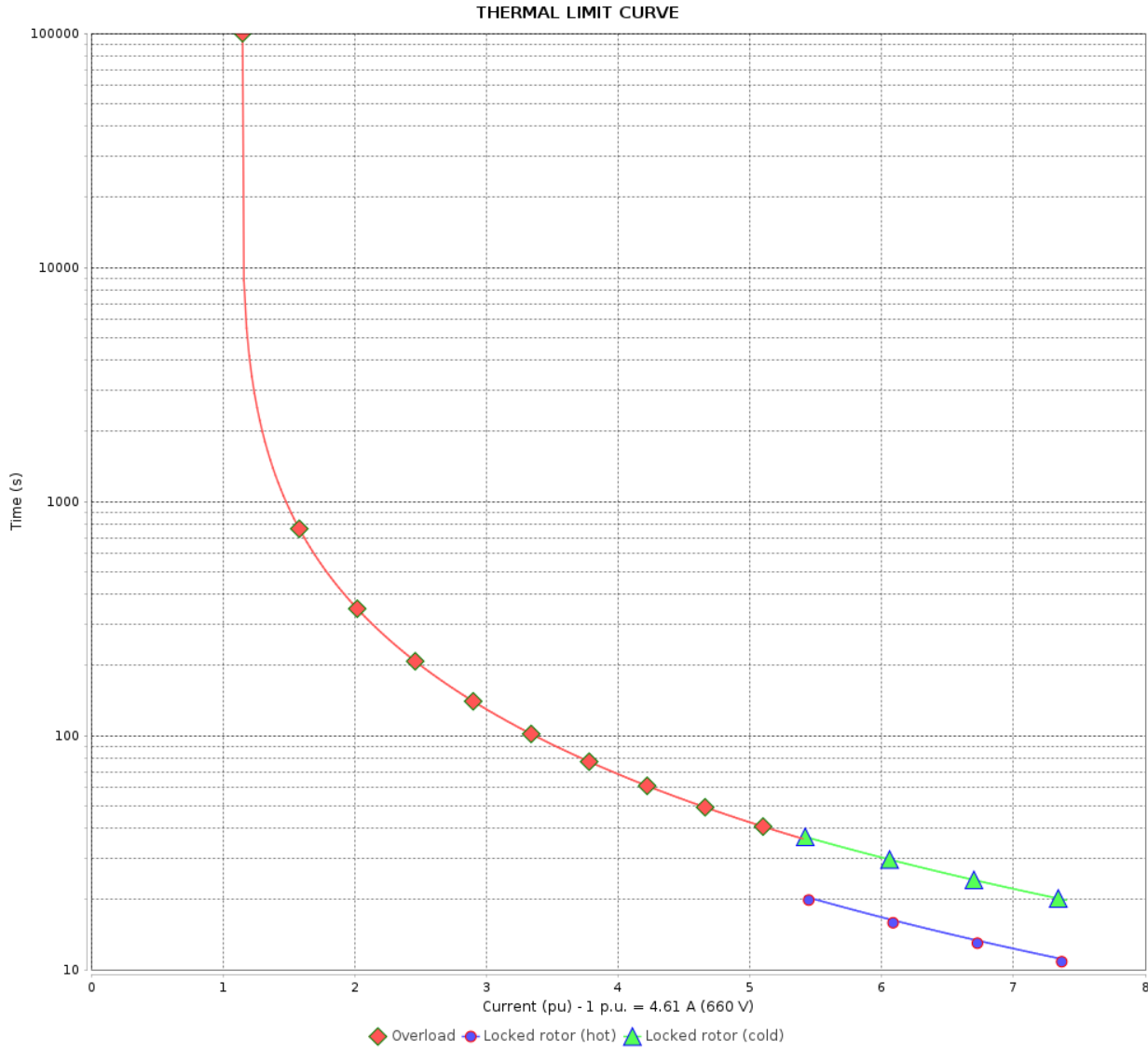
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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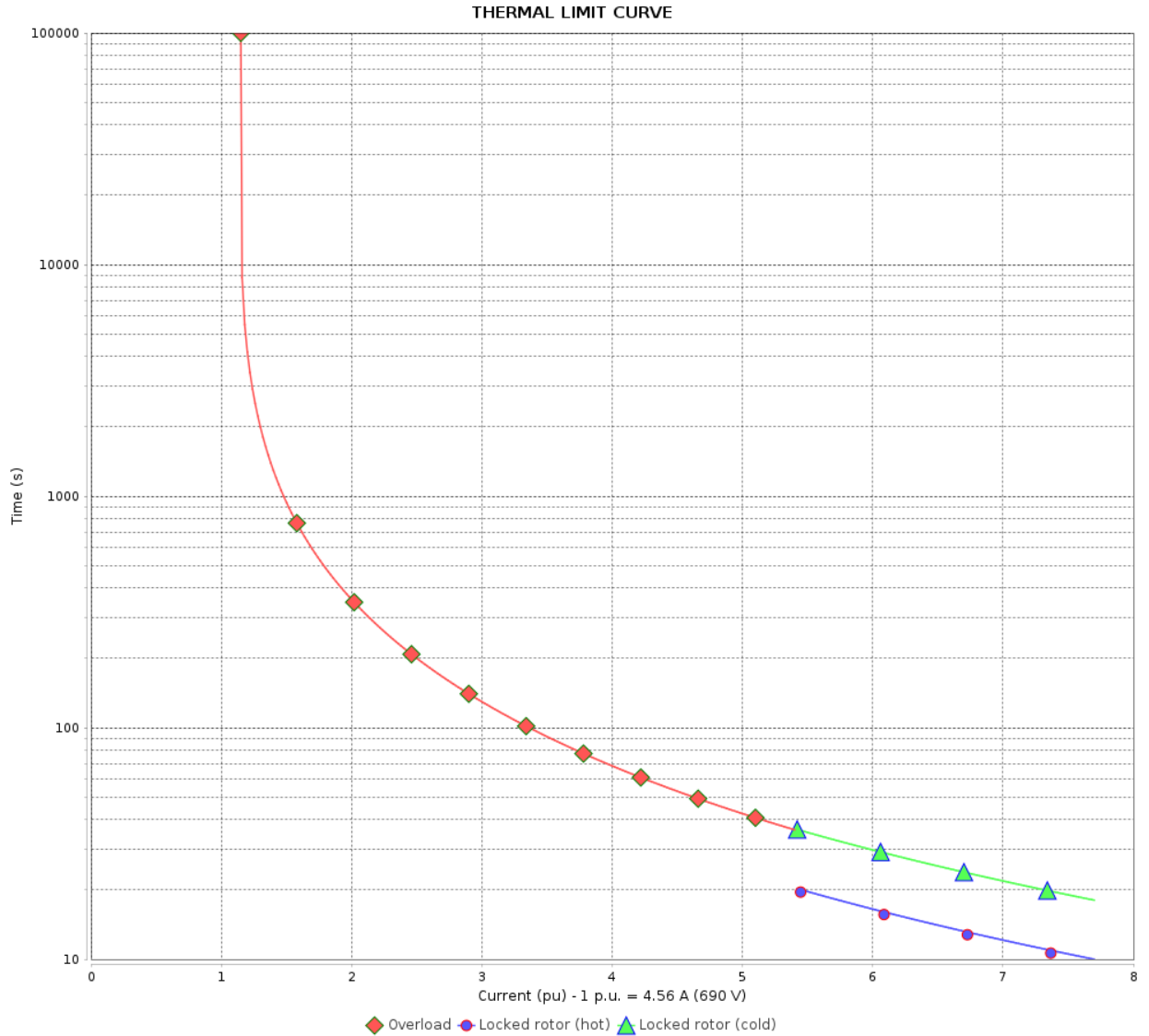


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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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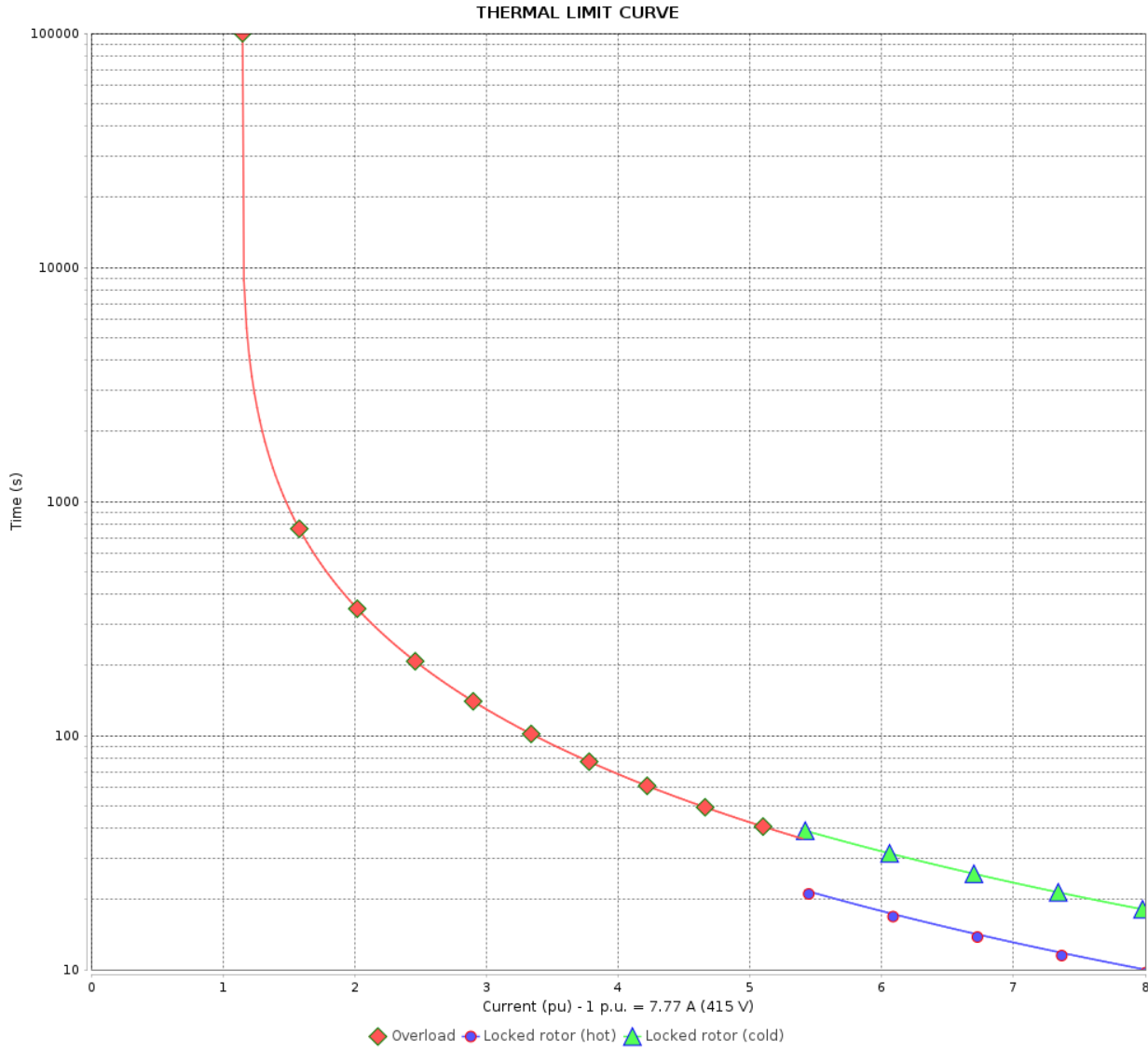
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LRC	: 8.0	Duty cycle	: S1
Rated torque	: 1.33 kgfm	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2920 rpm	Design	: N

Heating constant

Cooling constant

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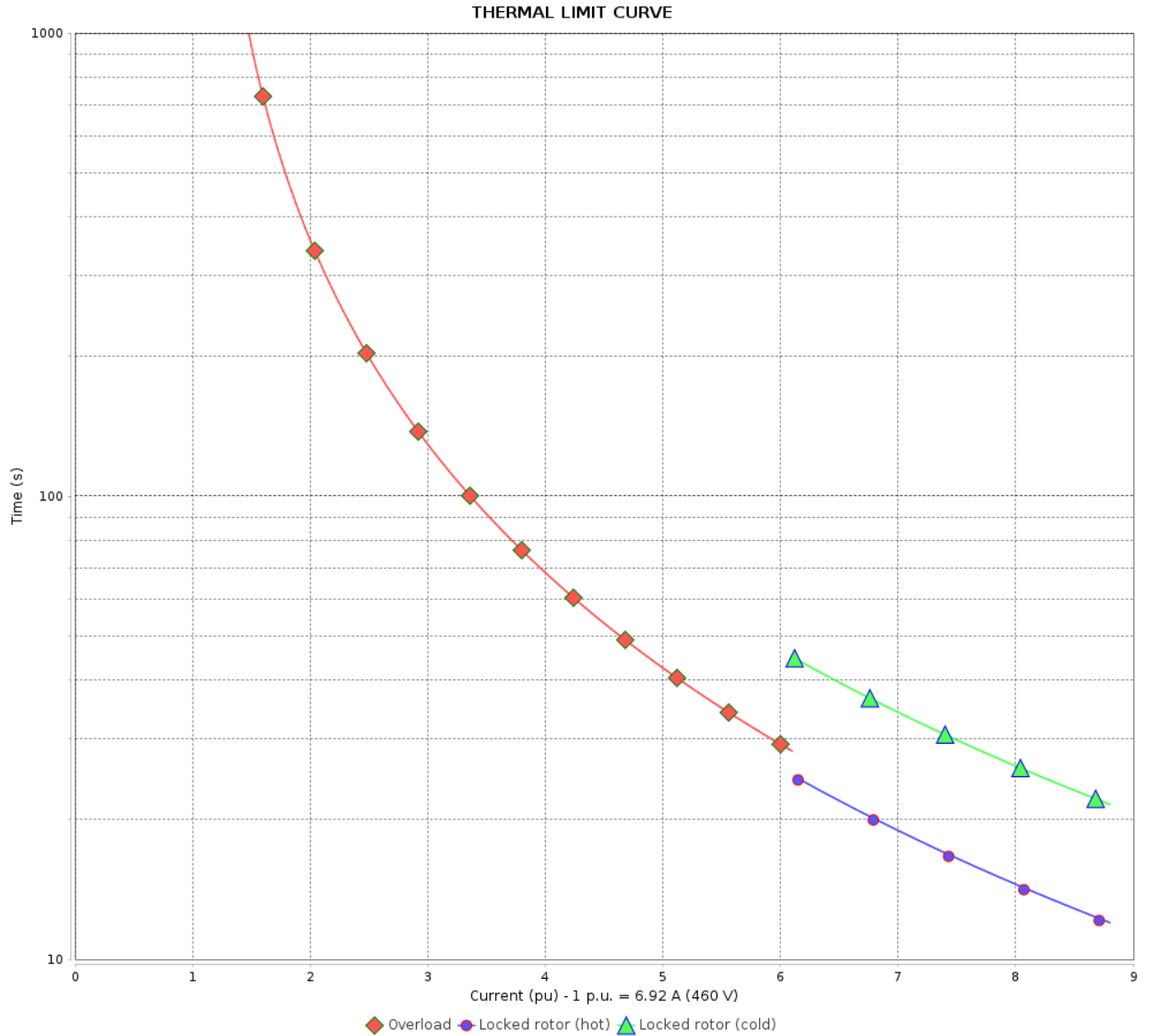
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Performance : 460 V 60 Hz 2P

Rated current : 6.92 A
 LRC : 8.8
 Rated torque : 1.11 kgfm
 Locked rotor torque : 300 %
 Breakdown torque : 430 %
 Rated speed : 3525 rpm

Moment of inertia (J) : 0.0081 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

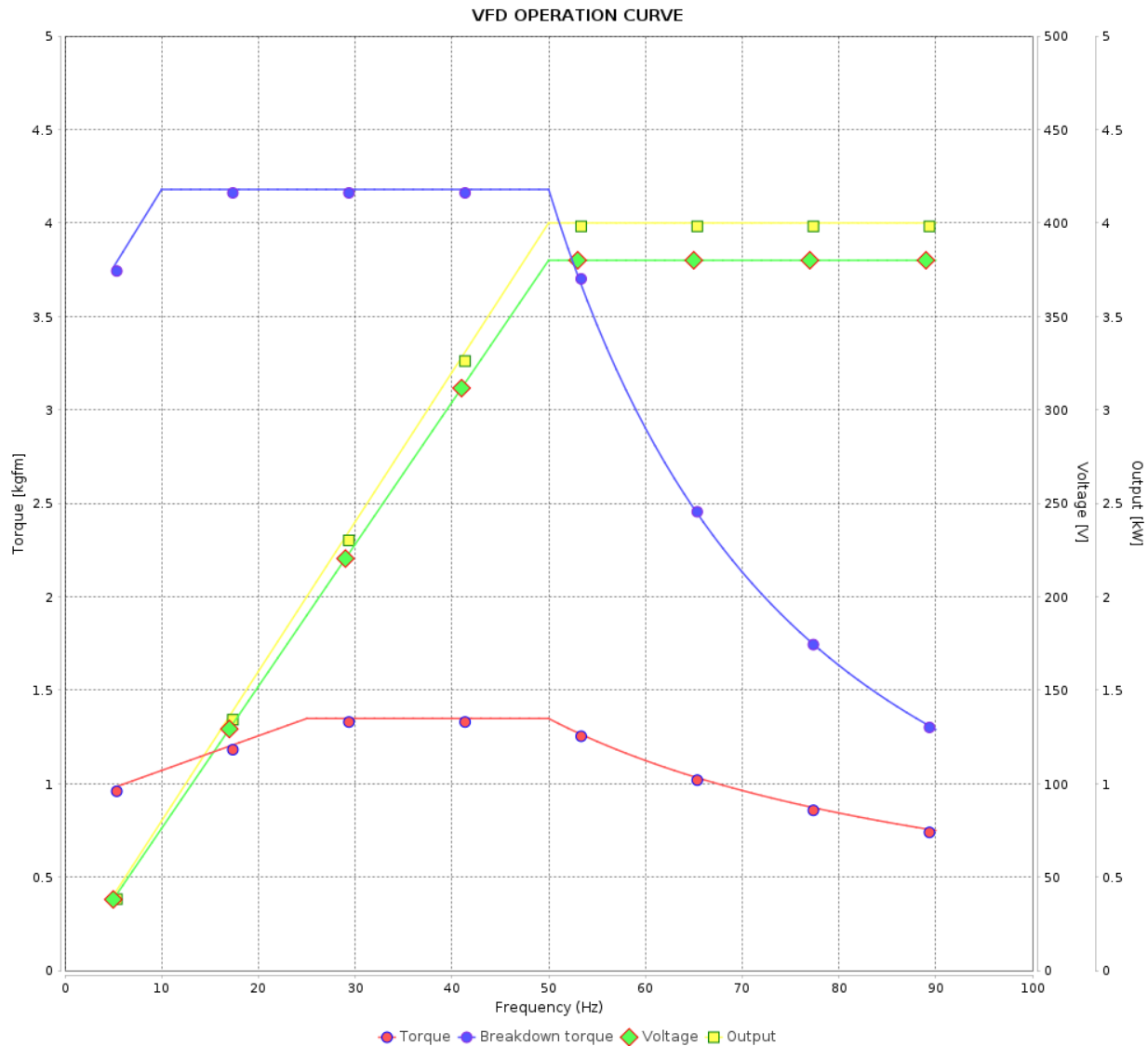
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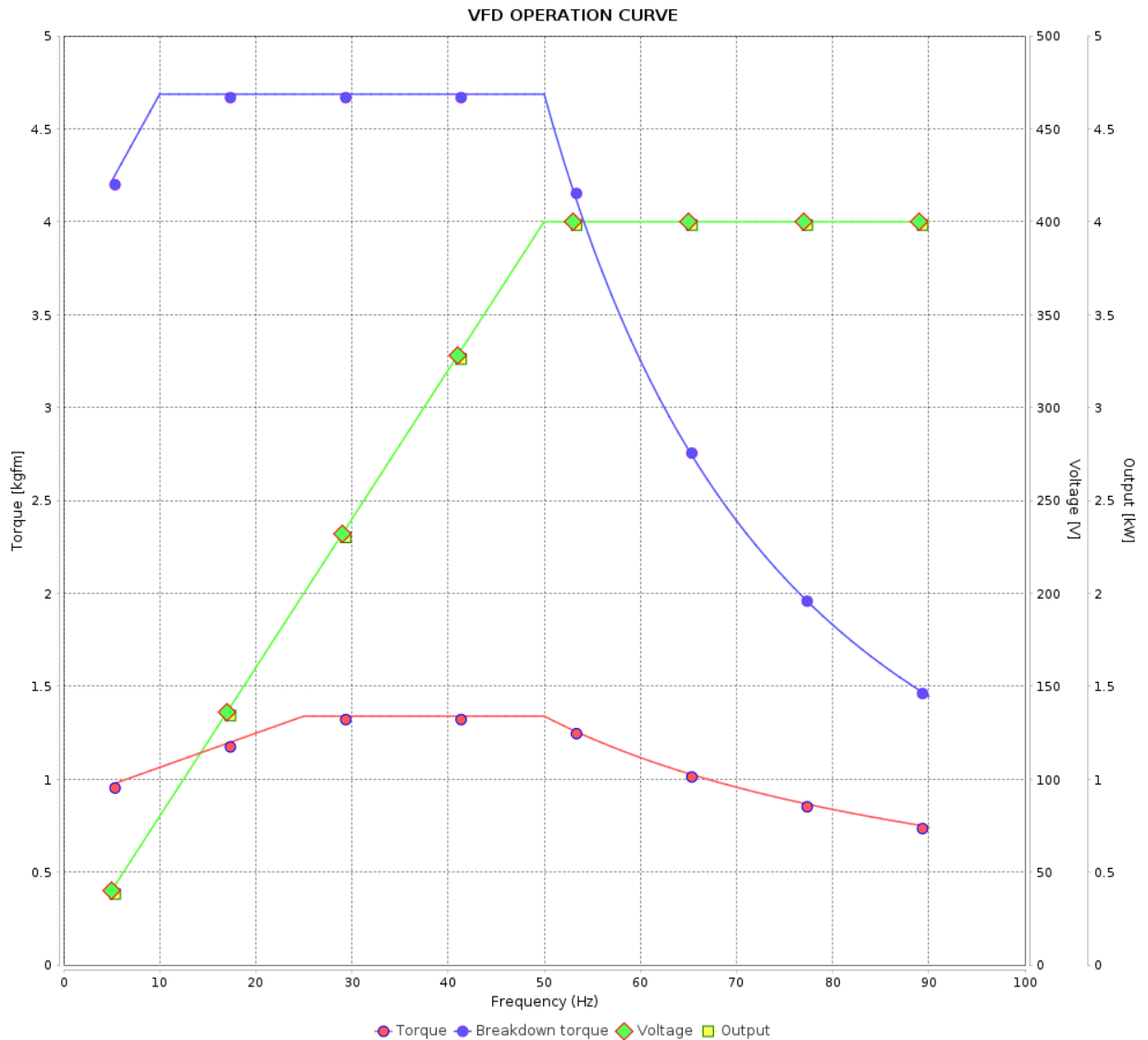
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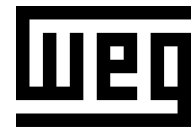
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VFD OPERATION CURVE

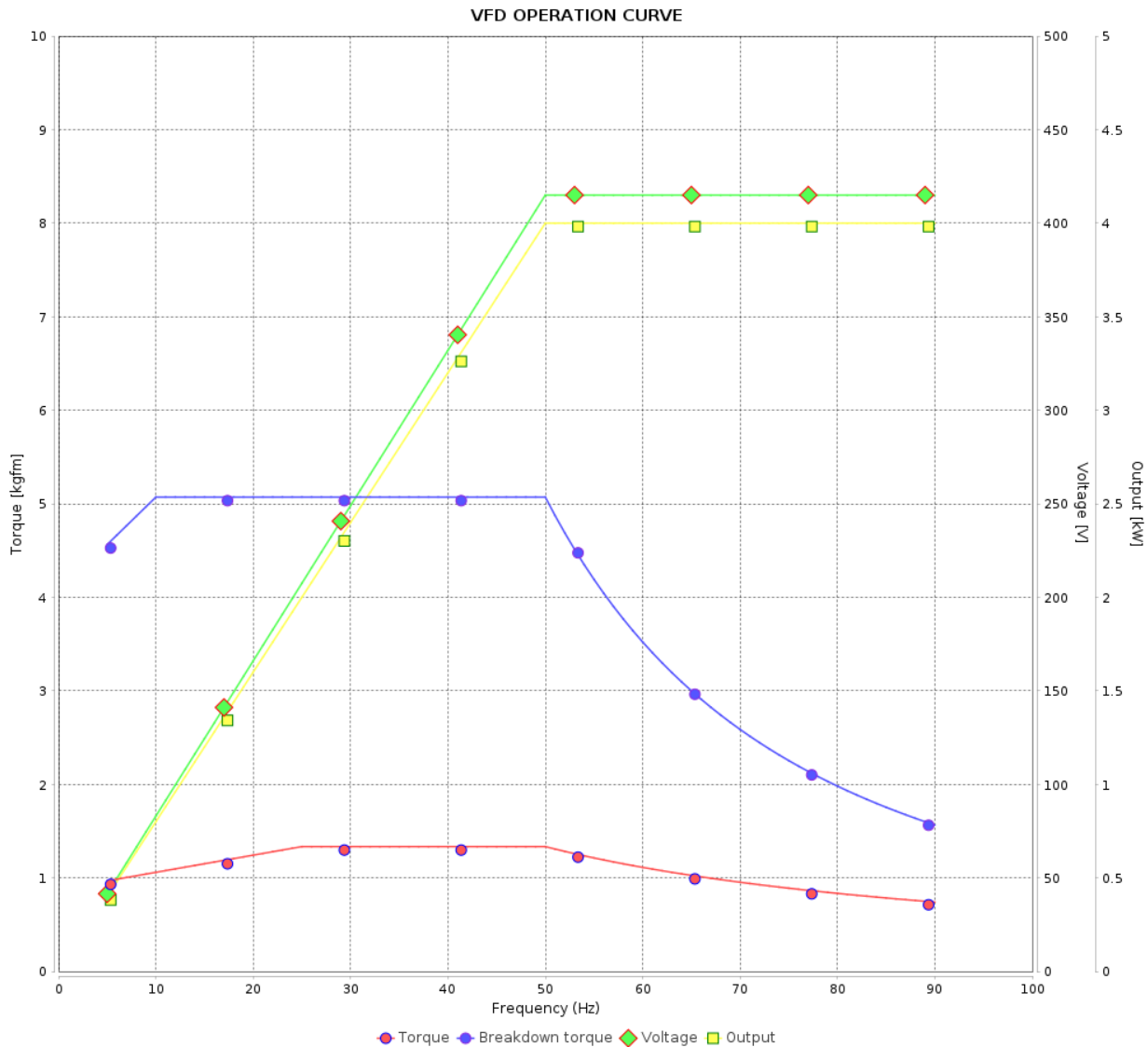
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VFD OPERATION CURVE

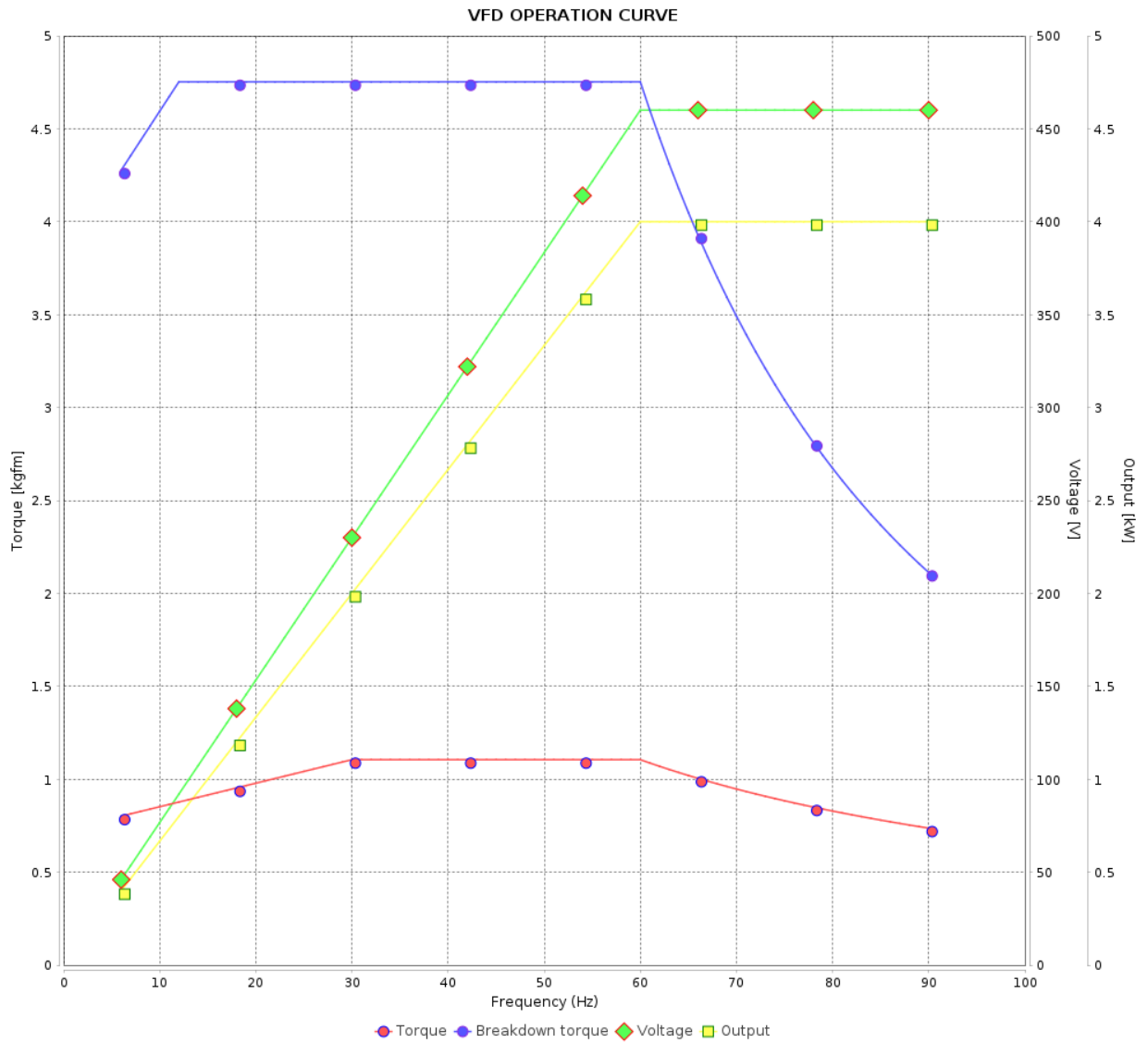
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