

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: IE3 Three-Phase		Product code : 13233632	
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	: 657 kg		
Protection degree	: IP55	Moment of inertia (J)	: 2.09 kgm ²		
Design	: N				
Output [kW]	75	75	75	75	
Poles	4	4	4	4	
Frequency [Hz]	50	50	50	60	
Rated voltage [V]	380/660	400/690	415	460	
Rated current [A]	141/81.2	135/78.3	134	119	
L. R. Amperes [A]	987/568	1013/587	1072	952	
LRC [A]	7.0	7.5	8.0	8.0	
No load current [A]	44.0/25.3	47.0/27.2	50.0	44.0	
Rated speed [RPM]	1485	1487	1488	1789	
Slip [%]	1.00	0.87	0.80	0.61	
Rated torque [kgfm]	49.2	49.1	49.1	40.8	
Locked rotor torque [%]	190	220	229	240	
Breakdown torque [%]	229	260	280	290	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	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)	
Noise level ²	69.0 dB(A)	69.0 dB(A)	69.0 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	: WSeal	WSeal	Max. traction	: 707 kgf	
Lubrication interval	: 13000 h	13000 h	Max. compression	: 1364 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.		
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	16/12/2022			1 / 19	

DATA SHEET

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Notes

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	16/12/2022		2 / 19	

DATA SHEET



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Thermal protection

ID	Application	Type	Quantity	Sensing Temperature
1	Winding	Thermistor - 2 wires	1 x Phase	155 °C

Rev.	Changes Summary	Performed	Checked	Date
Performed by				Page 3 / 19
Checked by				
Date	16/12/2022			
				Revision

TORQUE AND CURRENT VS SPEED CURVE

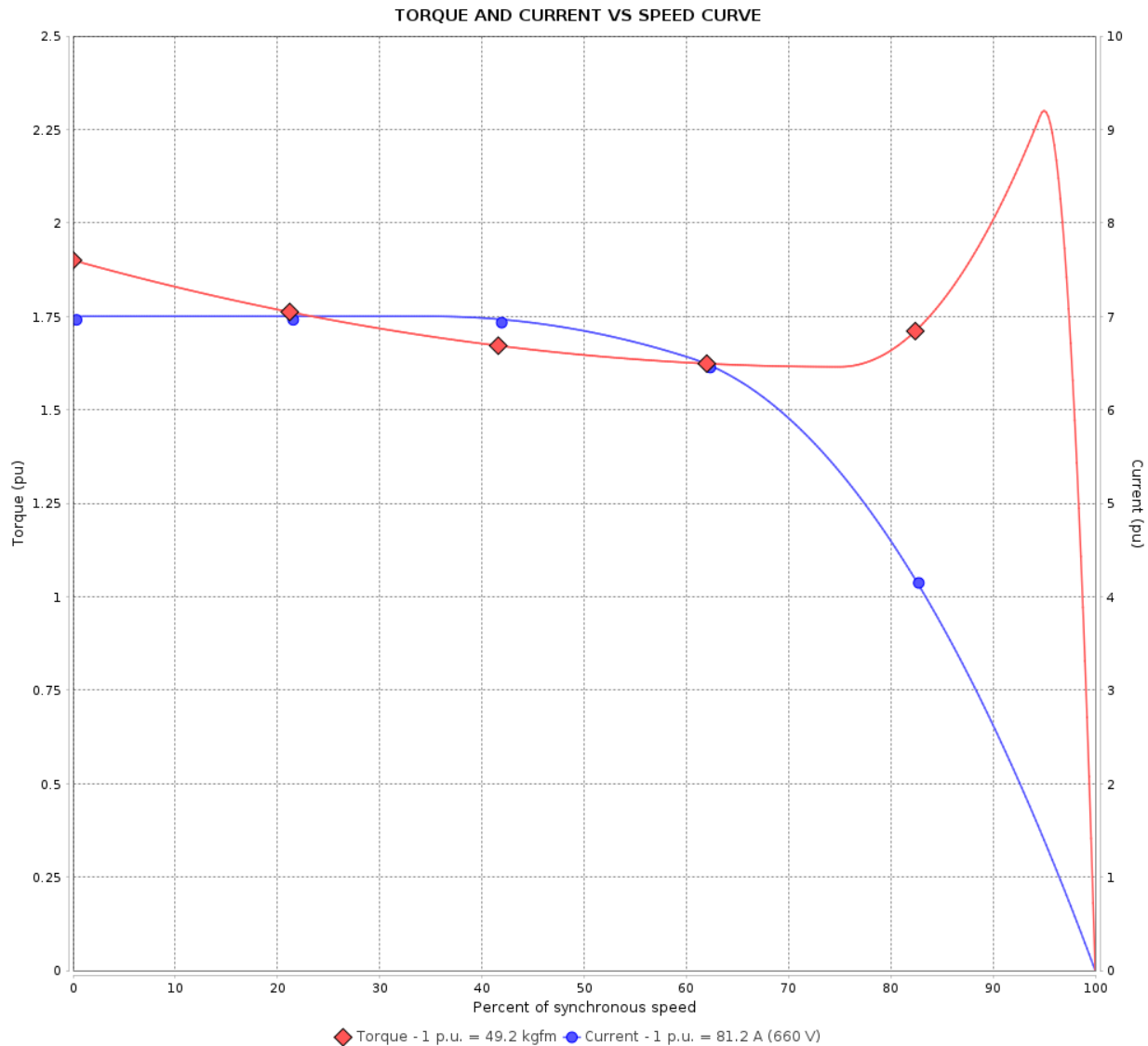
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13233632



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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 19	Revision
Checked by				
Date	16/12/2022			

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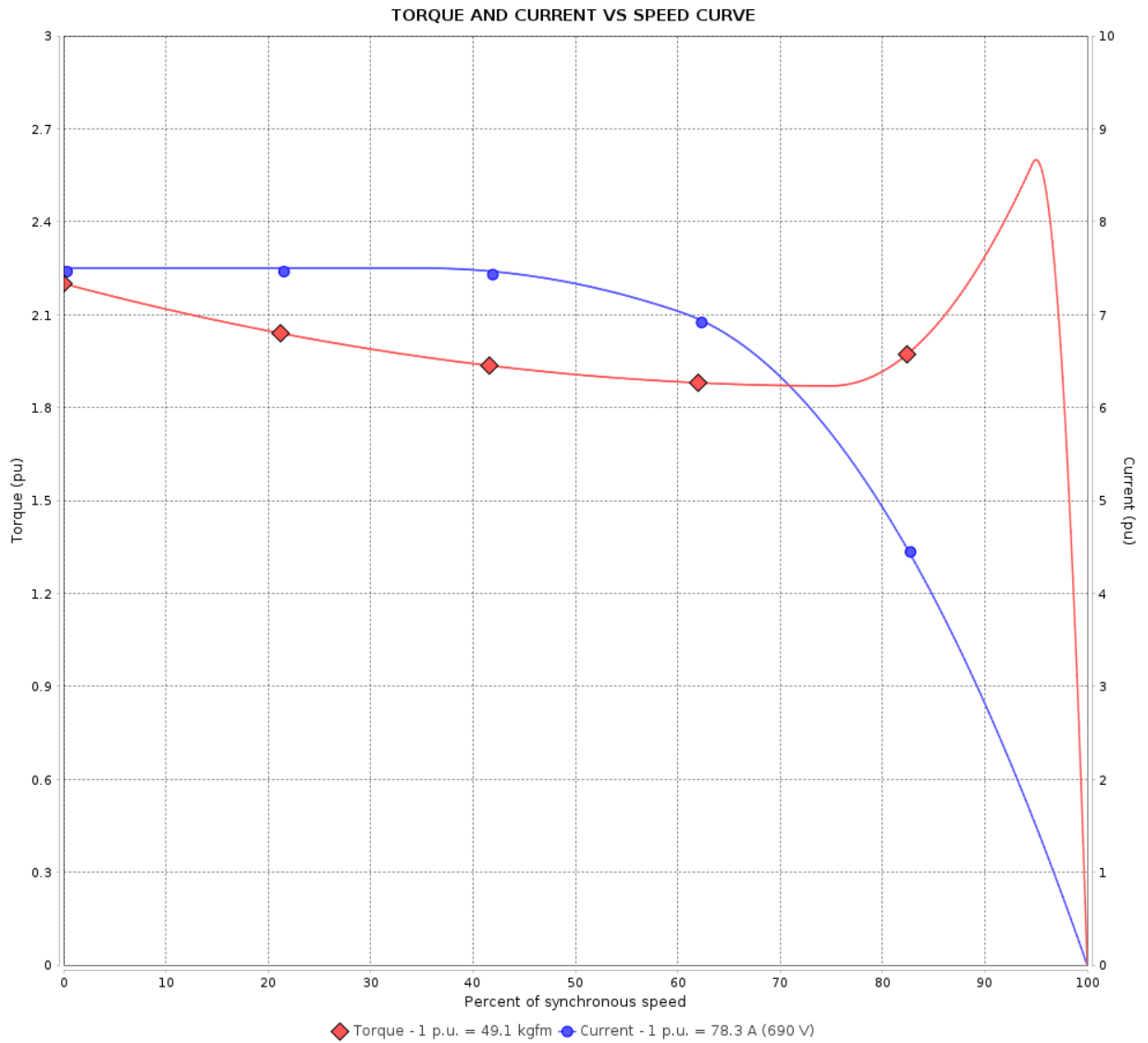
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

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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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	16/12/2022			

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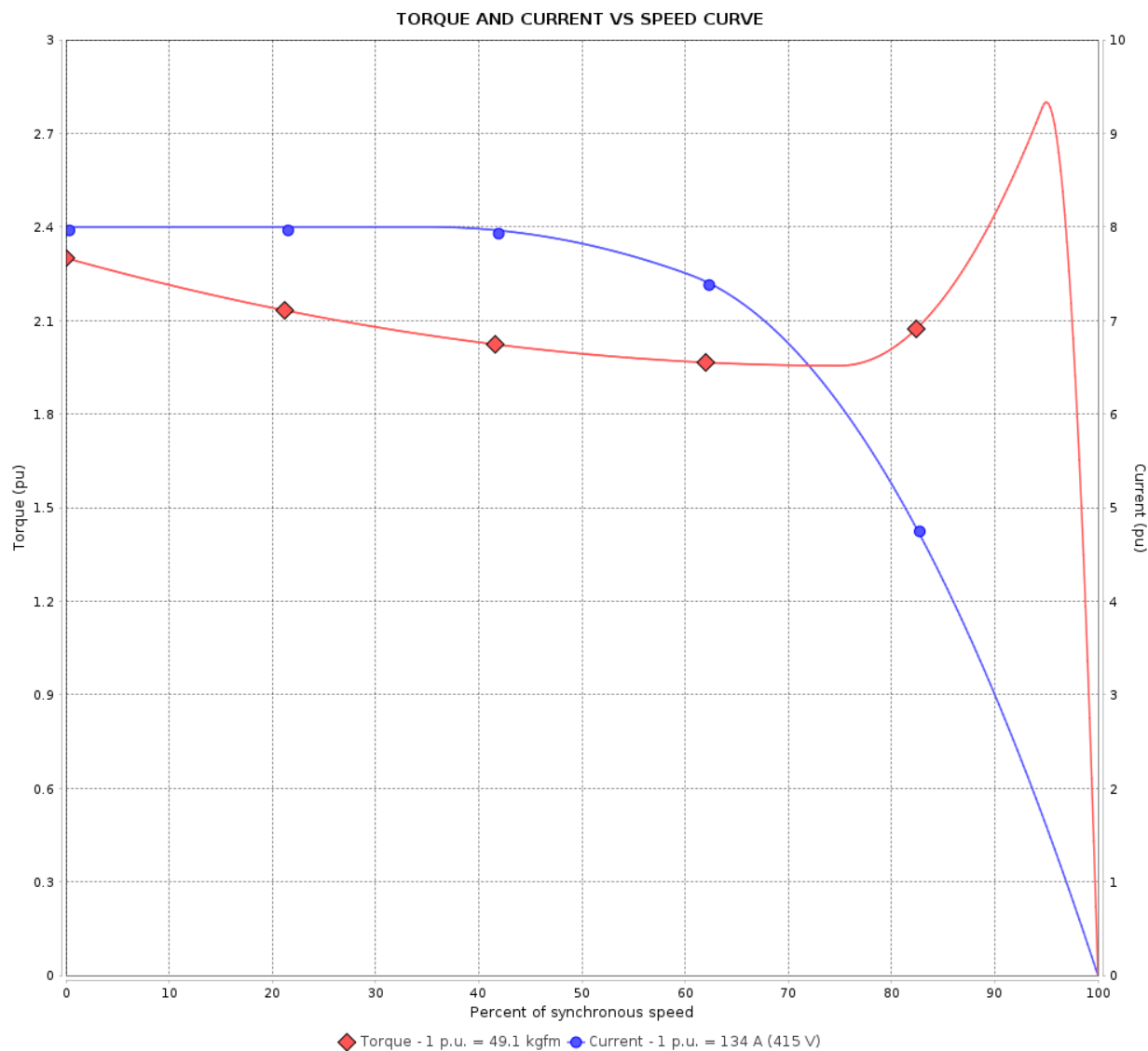
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Performance : 415 V 50 Hz 4P

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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 19	Revision
Checked by				
Date	16/12/2022			

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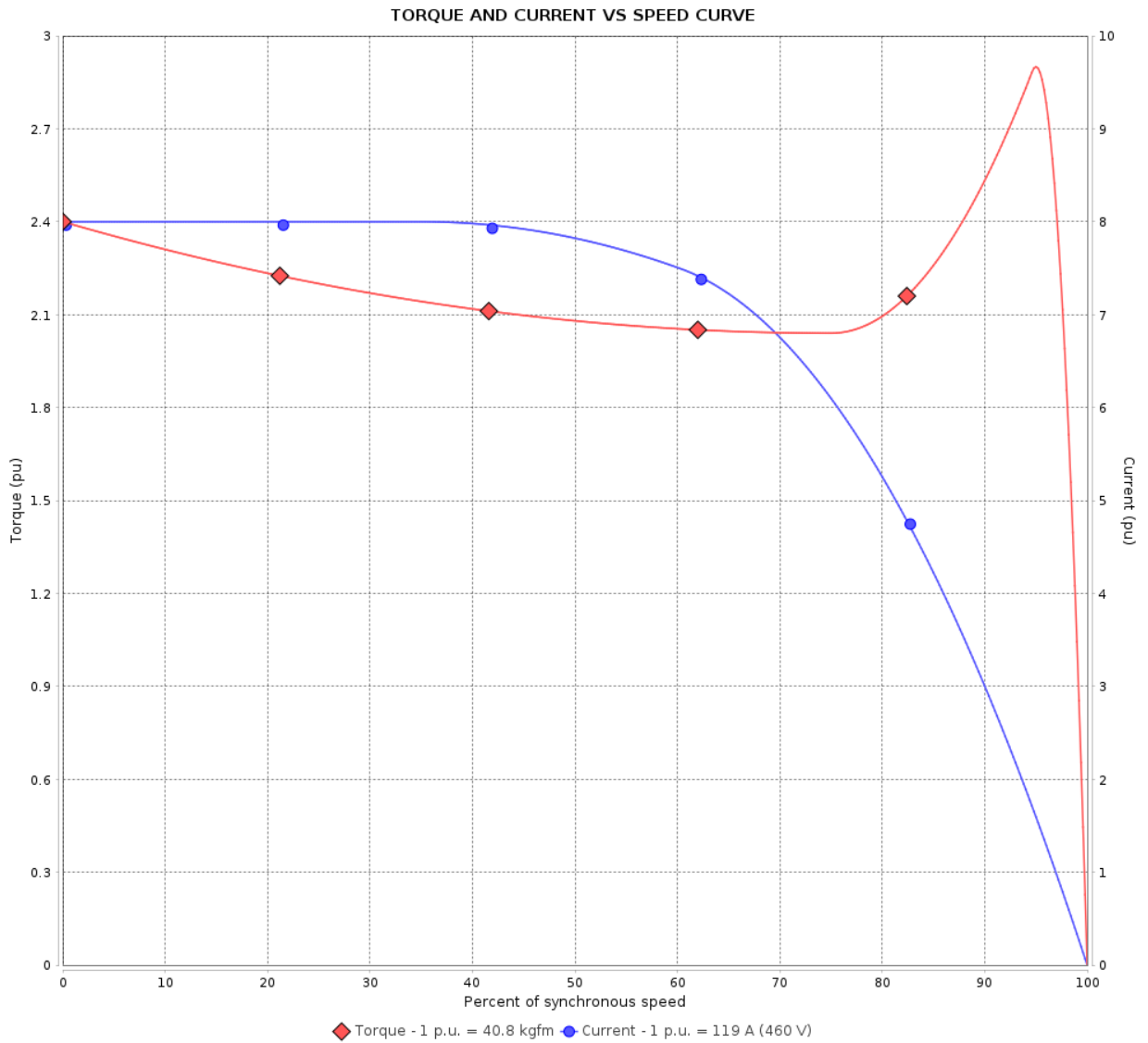
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13233632



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)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 7 / 19	Revision
Checked by				
Date	16/12/2022			

LOAD PERFORMANCE CURVE

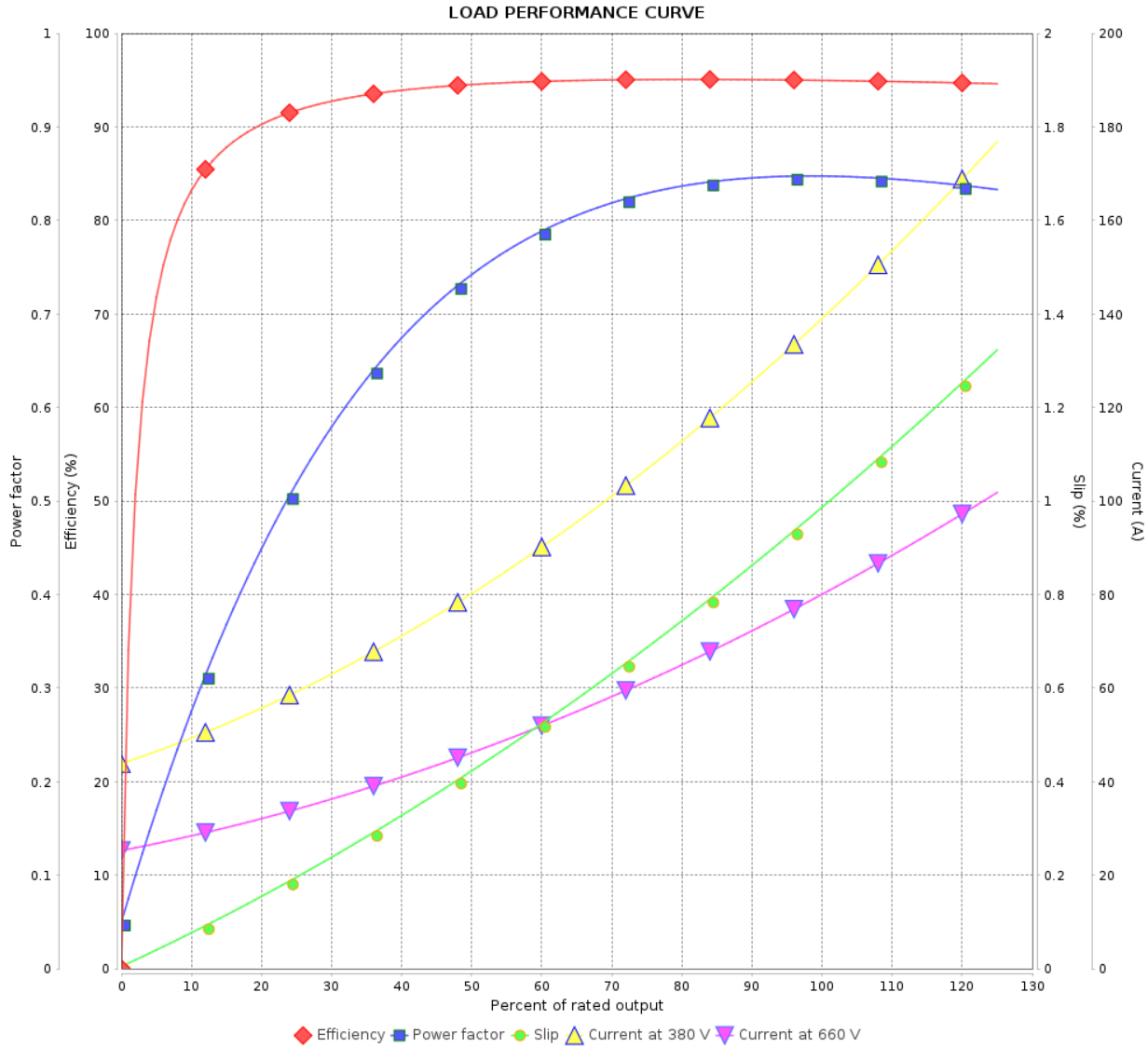
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Moment of inertia (J) : 2.09 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 8 / 19	Revision
Checked by				
Date	16/12/2022			

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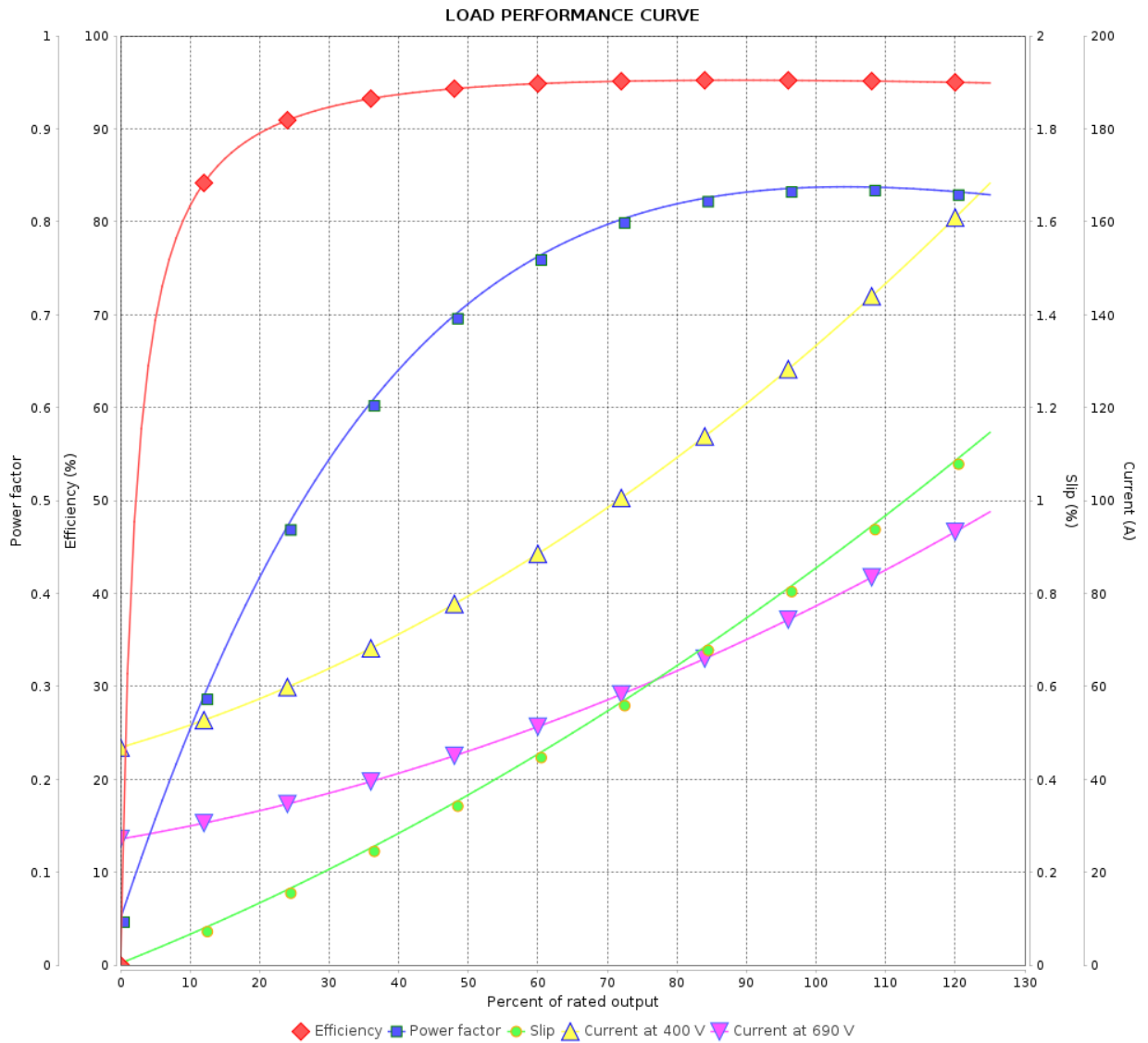
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Moment of inertia (J) : 2.09 kgm²
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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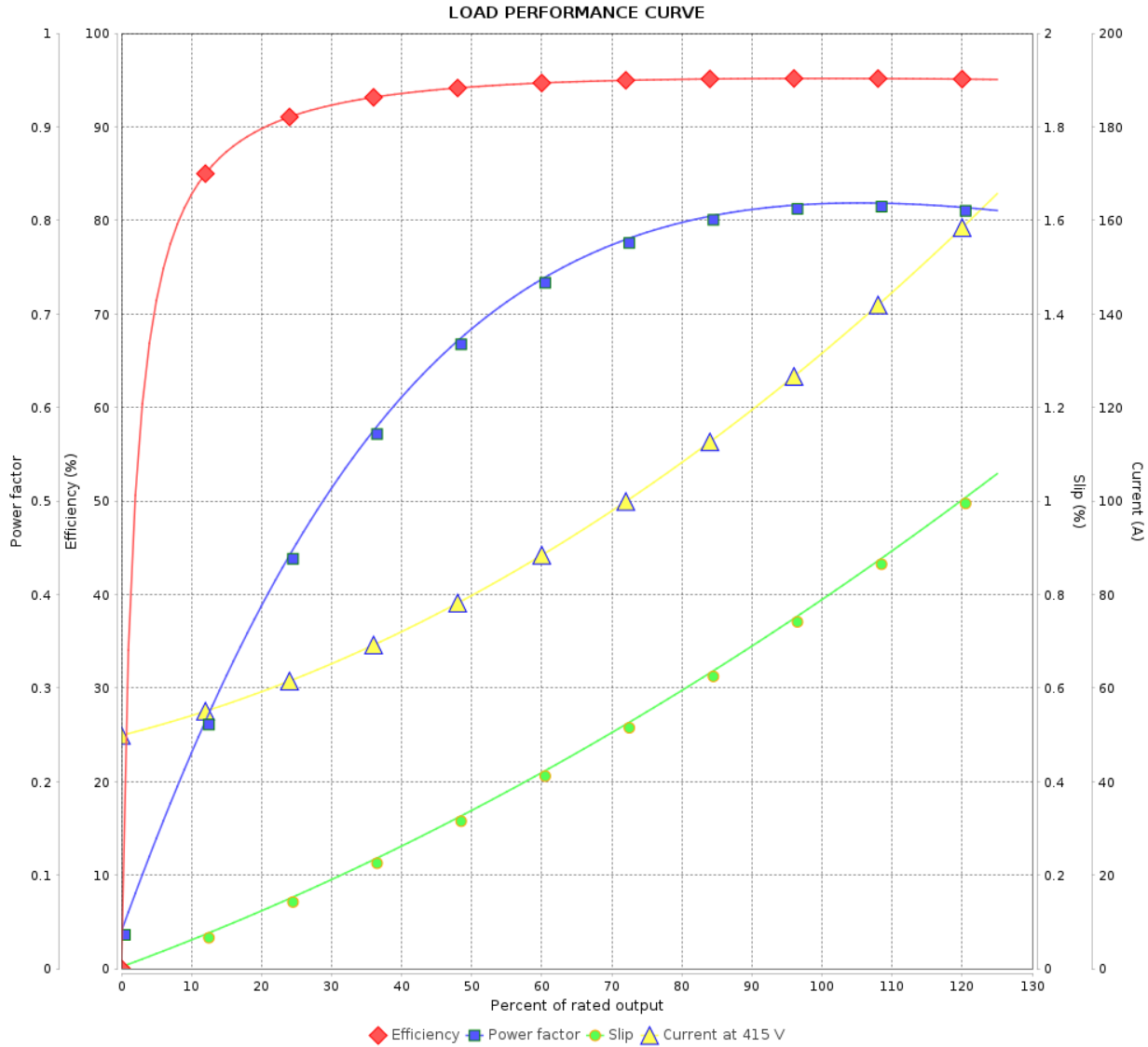
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Rated speed	: 1488 rpm	Design	: N

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		10 / 19		
Date	16/12/2022			

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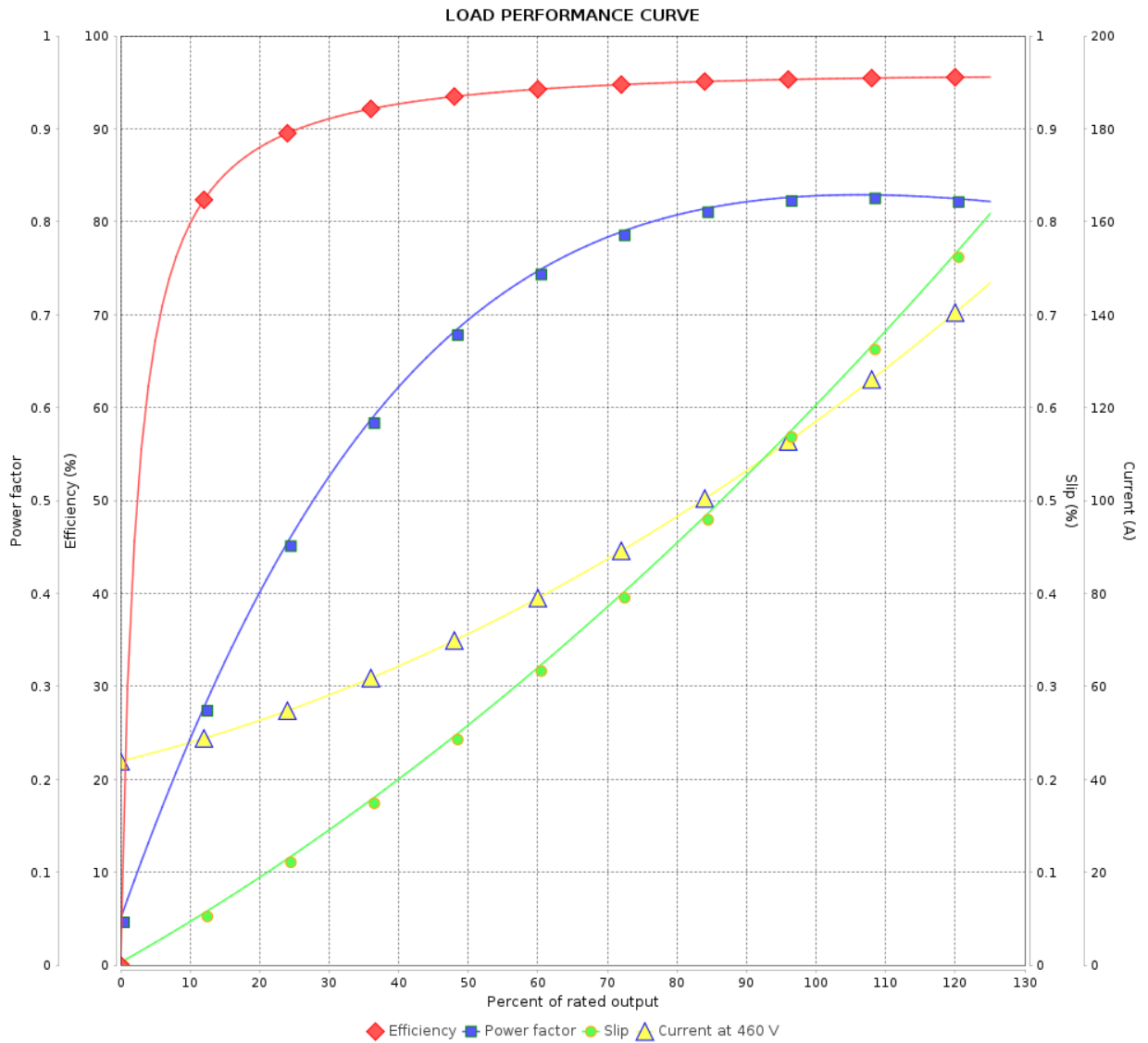
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 / 19		
Date		16/12/2022		

THERMAL LIMIT CURVE

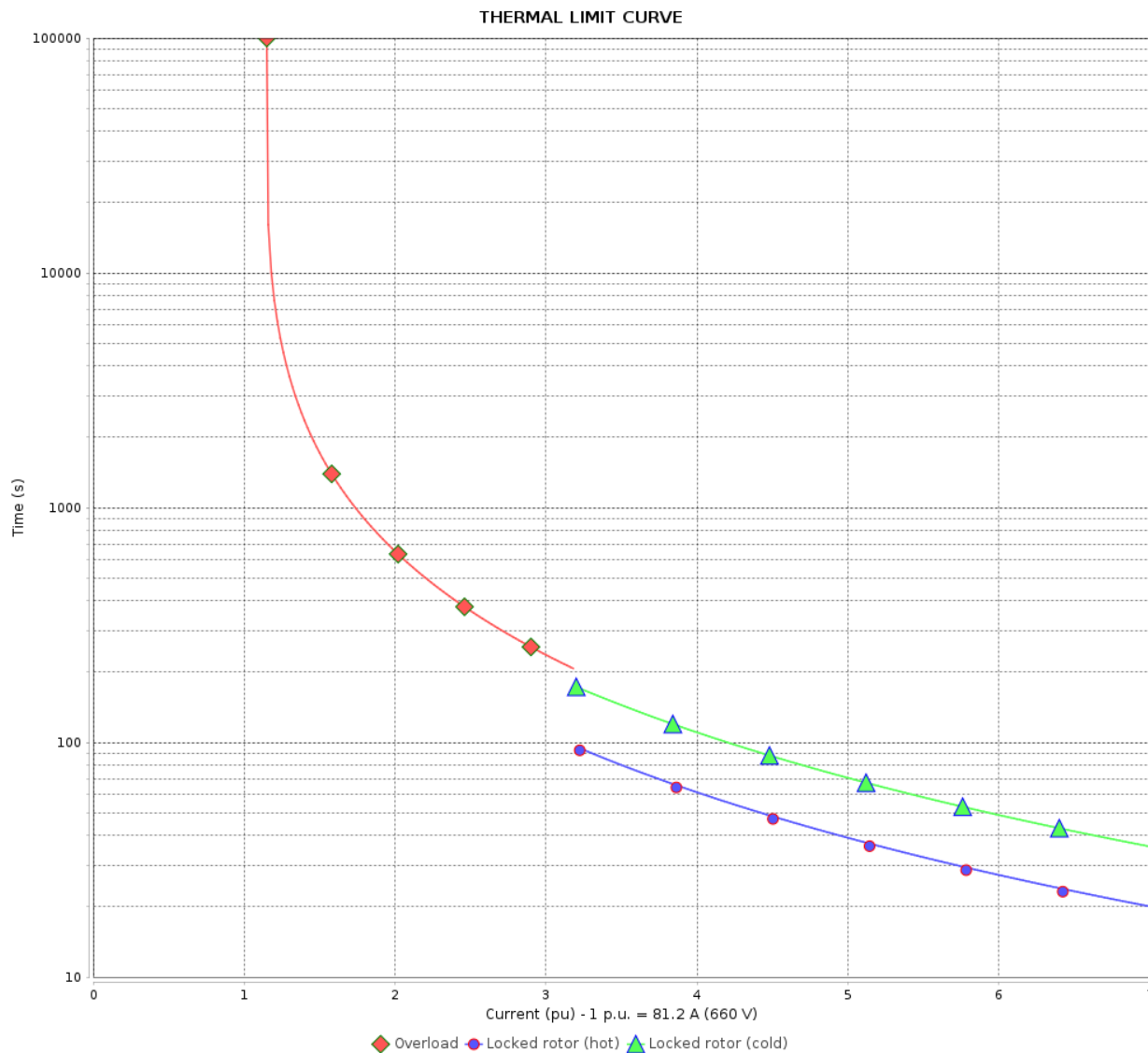
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Heating constant
 Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		12 / 19		

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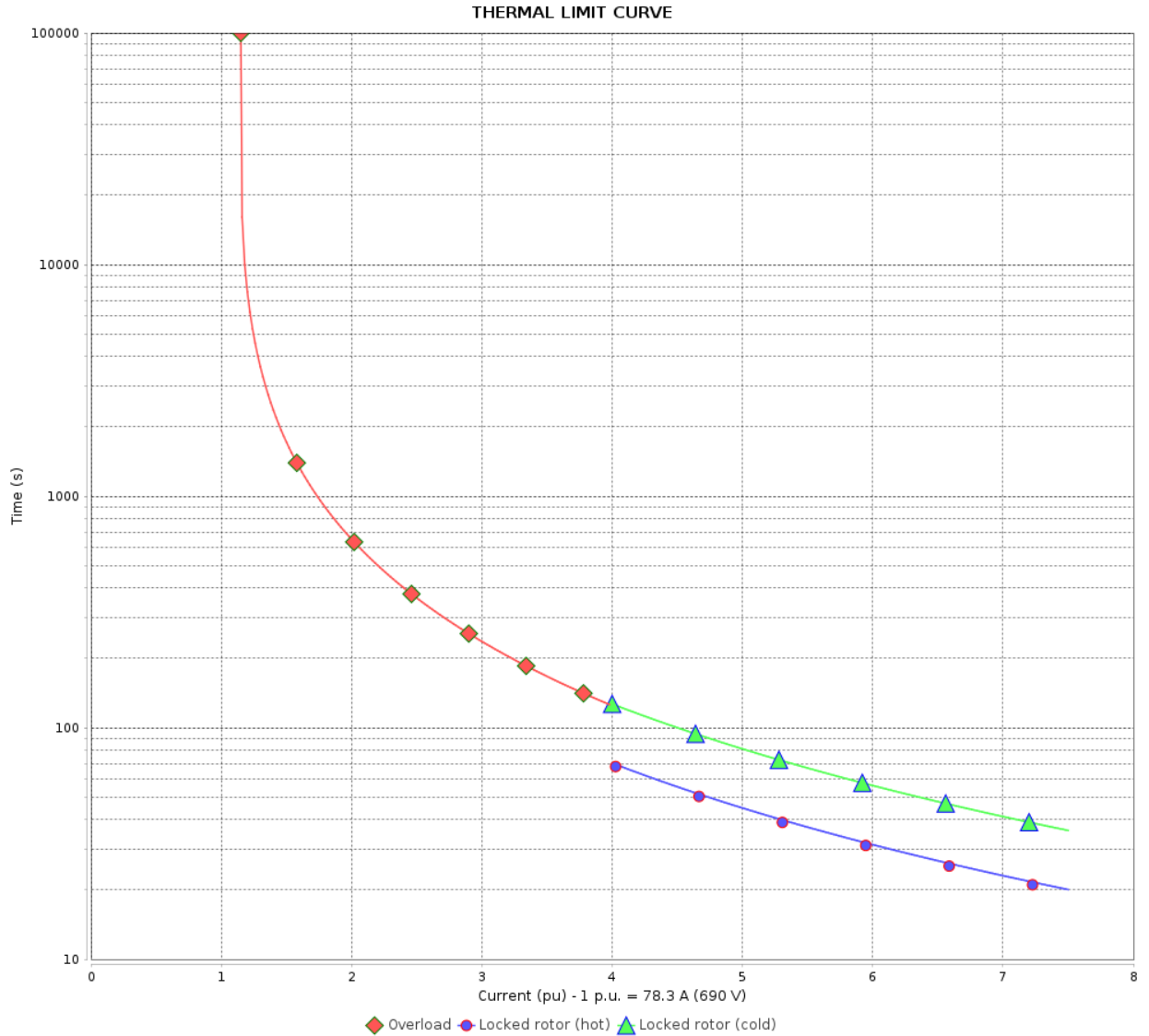
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 19		
Date		16/12/2022		

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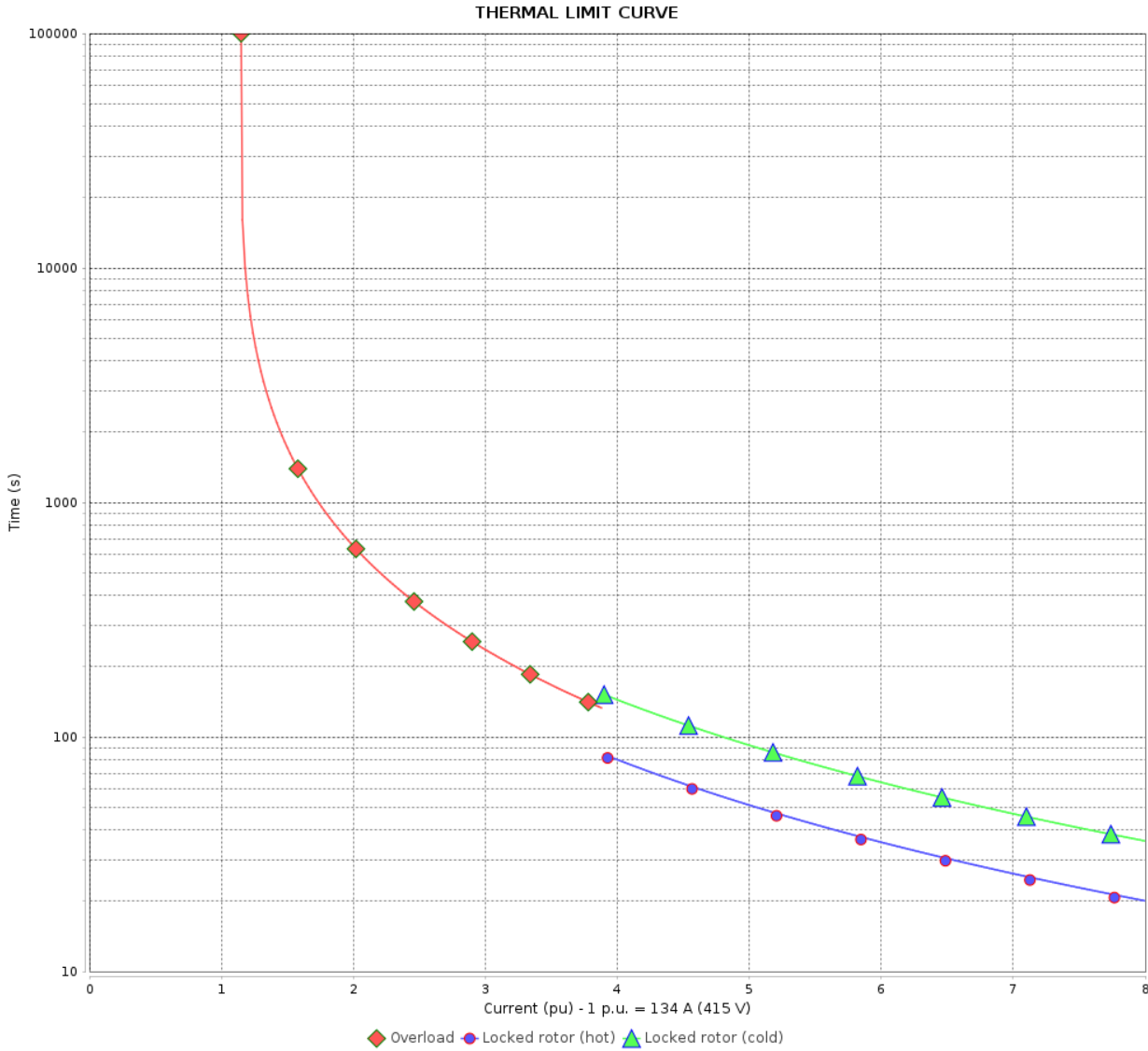
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 14 / 19	Revision
Checked by				
Date	16/12/2022			

THERMAL LIMIT CURVE

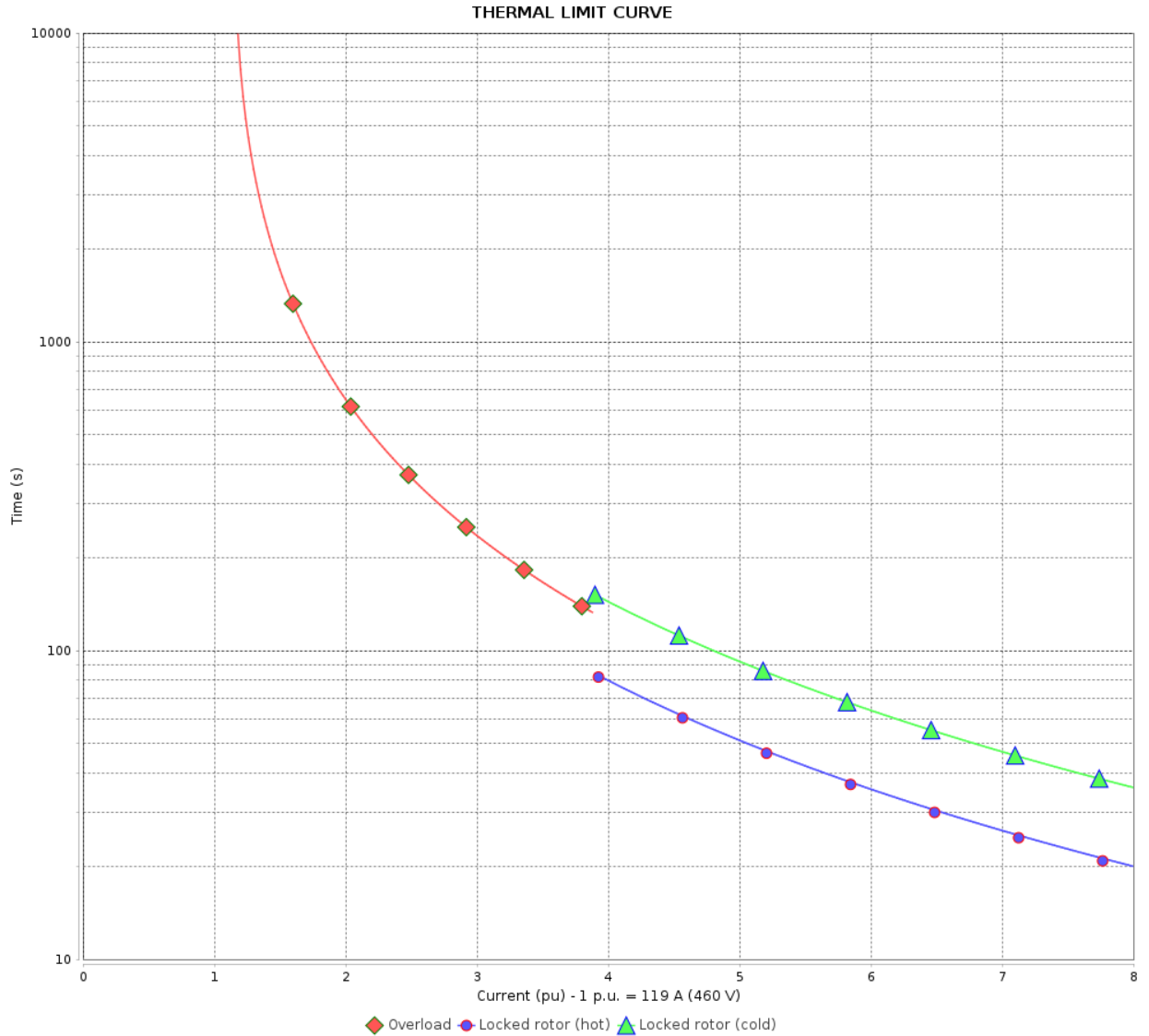
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Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		15 / 19		

VFD OPERATION CURVE

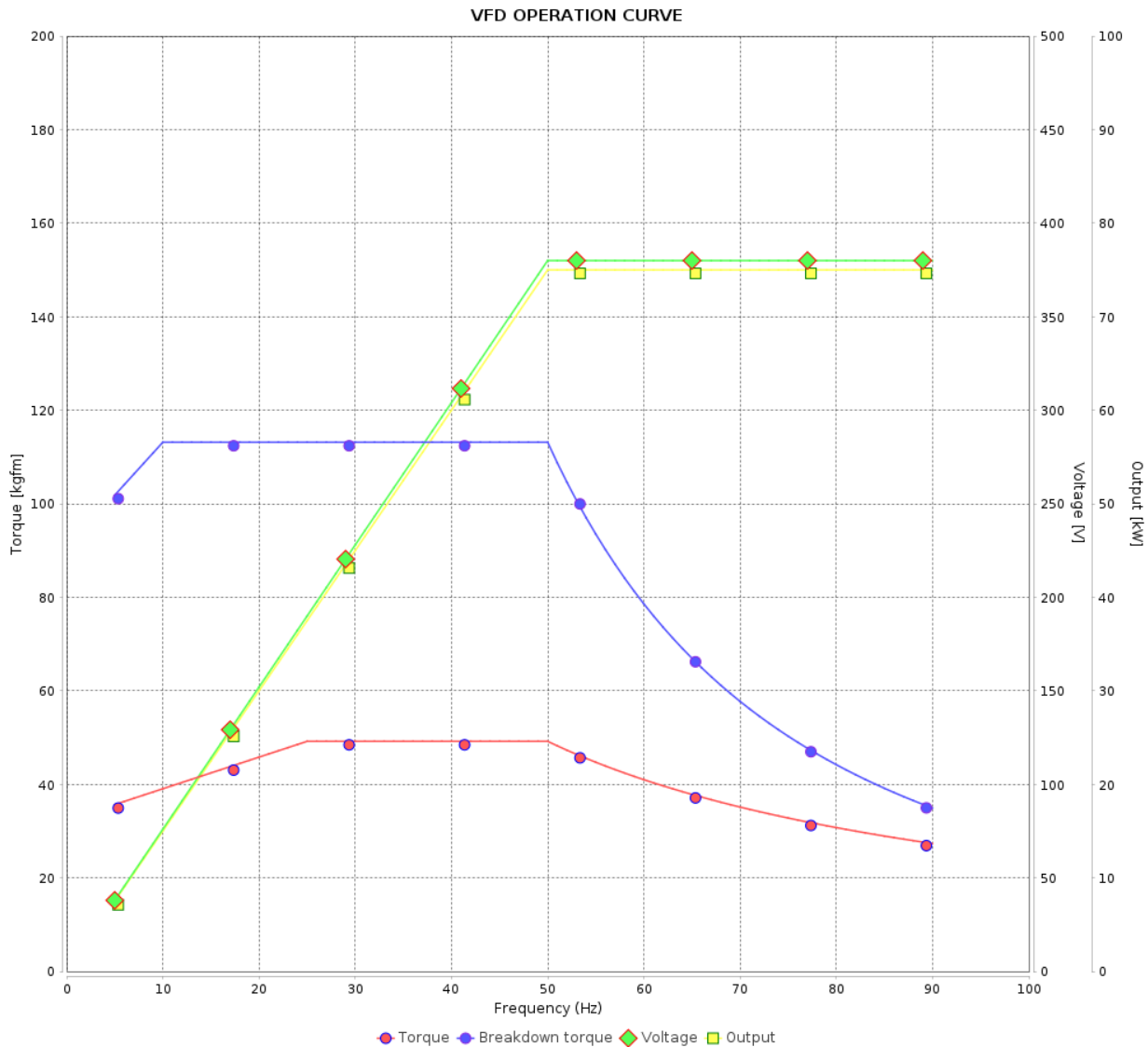
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Performed by			Page	Revision
Checked by				
Date				

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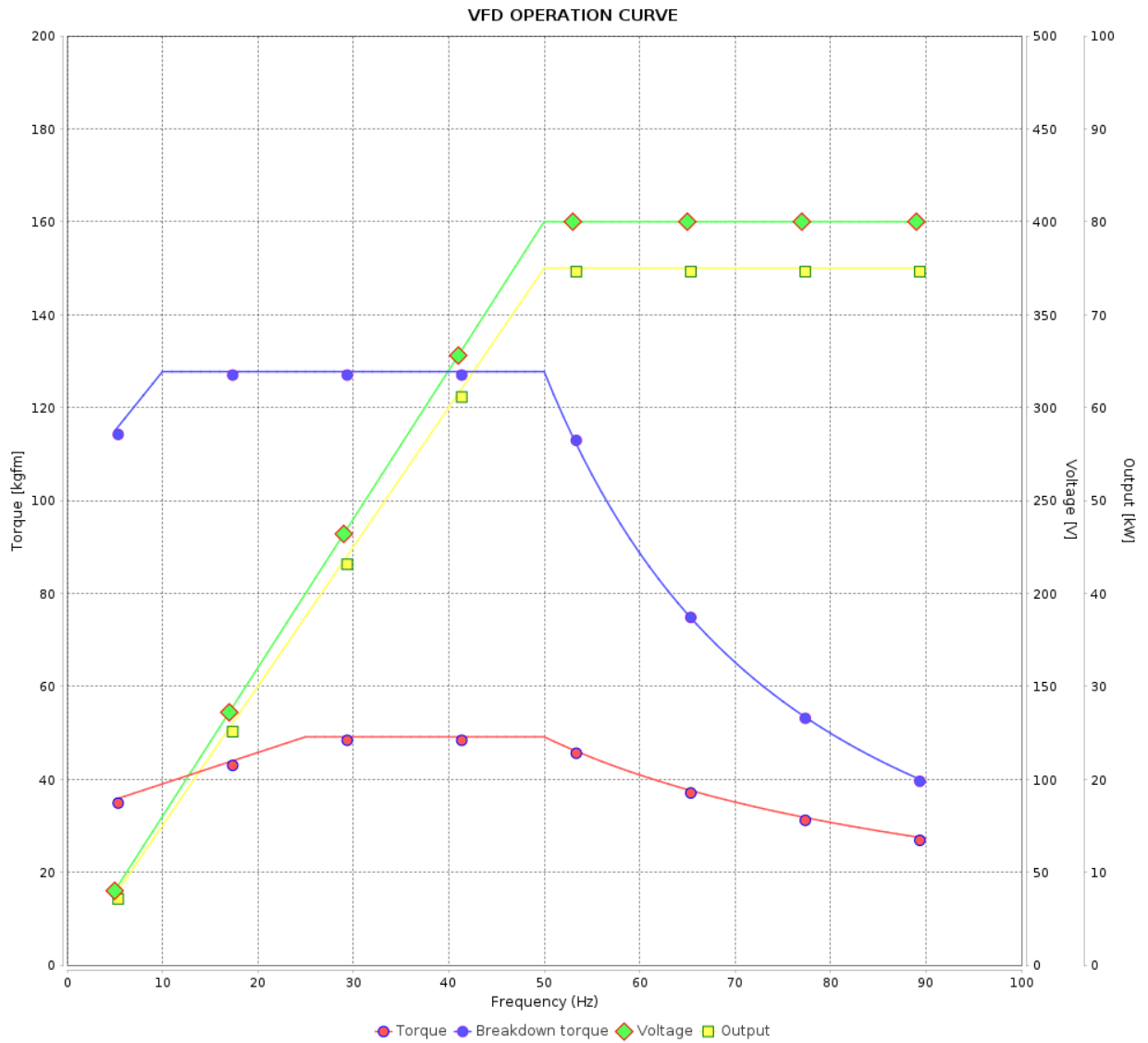
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		17 / 19		
Date		16/12/2022		

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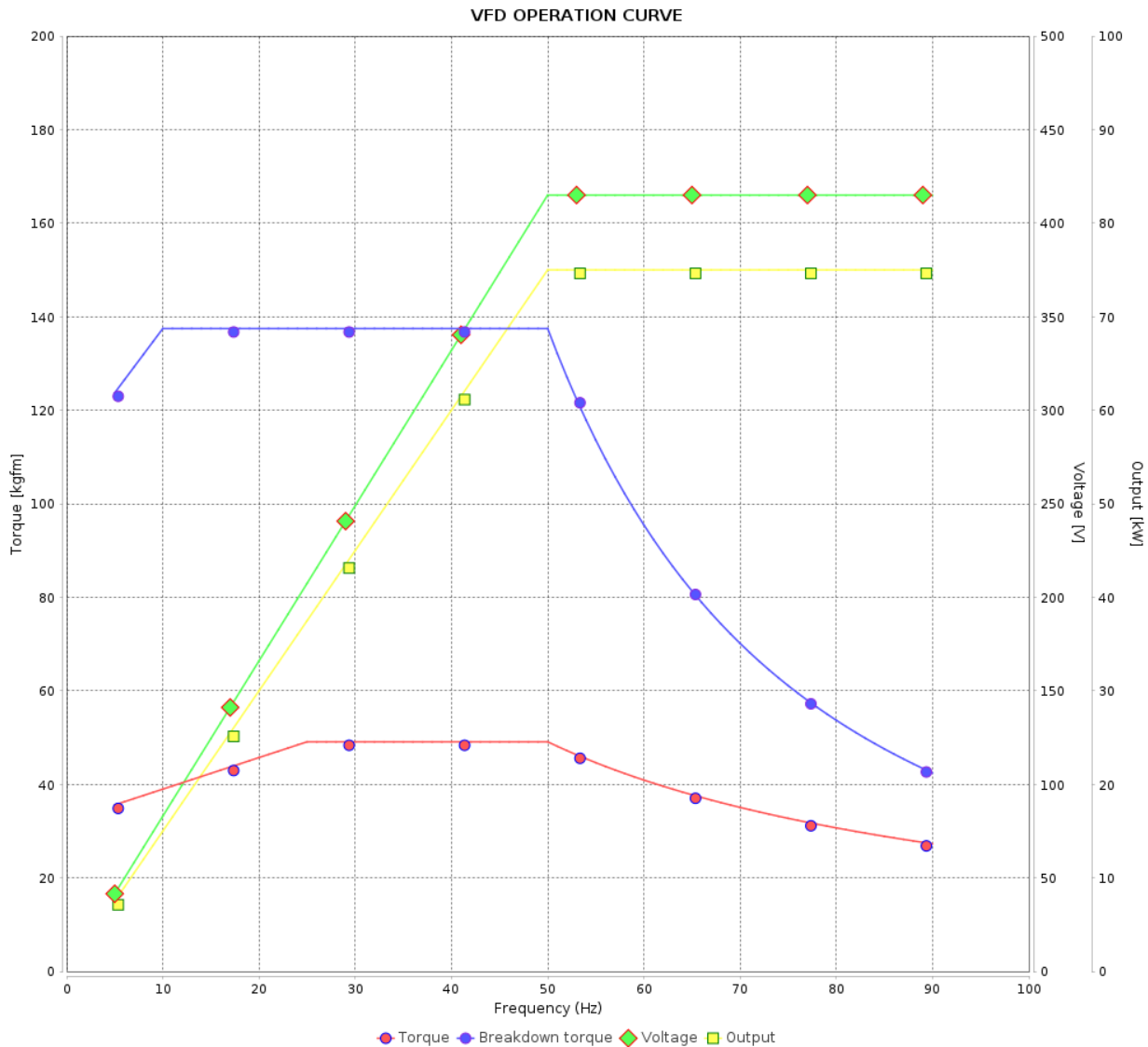
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 18 / 19	Revision
Checked by				
Date	16/12/2022			

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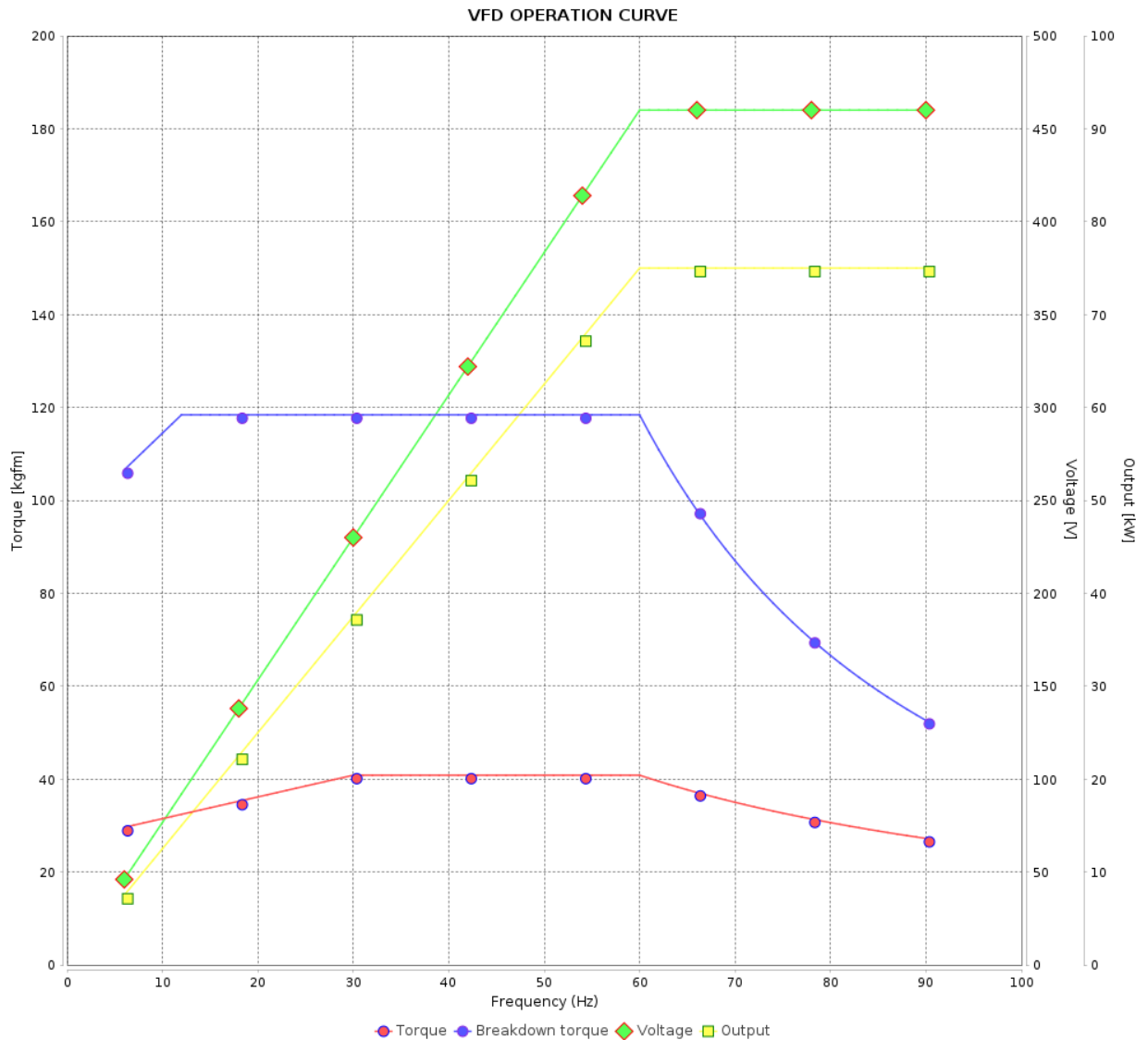
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