

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: Multimounting IE3 Three-Phase		Product code : 13097818	
Frame	: 90S/L	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 ²	: 20.7 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0026 kgm ²		
Design	: N				
Output [kW]	2.2	2.2	2.2	2.2	2.2
Poles	2	2	2	2	2
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	220/380	230/400	240/415	460	
Rated current [A]	7.81/4.52	7.70/4.43	7.56/4.37	3.85	
L. R. Amperes [A]	58.6/33.9	57.8/33.2	56.7/32.8	32.3	
LRC [A]	7.5	7.5	7.5	8.4	
No load current [A]	2.94/1.70	3.30/1.90	3.63/2.10	1.70	
Rated speed [RPM]	2855	2870	2880	3480	
Slip [%]	4.83	4.33	4.00	3.33	
Rated torque [kgfm]	0.751	0.747	0.744	0.616	
Locked rotor torque [%]	300	340	380	430	
Breakdown torque [%]	310	350	380	459	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	21s (cold) 12s (hot)	21s (cold) 12s (hot)	21s (cold) 12s (hot)	25s (cold) 14s (hot)	
Noise level ²	62.0 dB(A)	62.0 dB(A)	62.0 dB(A)	68.0 dB(A)	
Efficiency (%)	25%				
	50%	86.5	86.0	85.3	84.0
	75%	86.4	86.5	86.4	85.5
	100%	85.9	86.3	86.5	86.5
Power Factor	25%				
	50%	0.70	0.65	0.61	0.64
	75%	0.81	0.77	0.74	0.76
	100%	0.86	0.83	0.81	0.83
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	16.1	15.6	15.4	15.4
	P2 (0,5;1,0)	14.3	13.8	13.6	13.6
	P3 (0,25;1,0)	12.9	12.5	12.3	12.3
	P4 (0,9;0,5)	7.0	6.7	6.6	6.6
	P5 (0,5;0,5)	4.8	4.7	4.6	4.6
	P6 (0,5;0,25)	2.9	2.8	2.7	2.7
	P7 (0,25;0,25)	2.0	2.0	1.9	1.9
Bearing type	: Drive end 6205 ZZ	Non drive end 6204 ZZ	Foundation loads		
Sealing	: Oil Seal	Oil Seal	Max. traction	: 70 kgf	
Lubrication interval	: -	-	Max. compression	: 91 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.		
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	24/10/2023			1 / 19	

DATA SHEET

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Notes

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	24/10/2023		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	24/10/2023			
			Revision	

TORQUE AND CURRENT VS SPEED CURVE

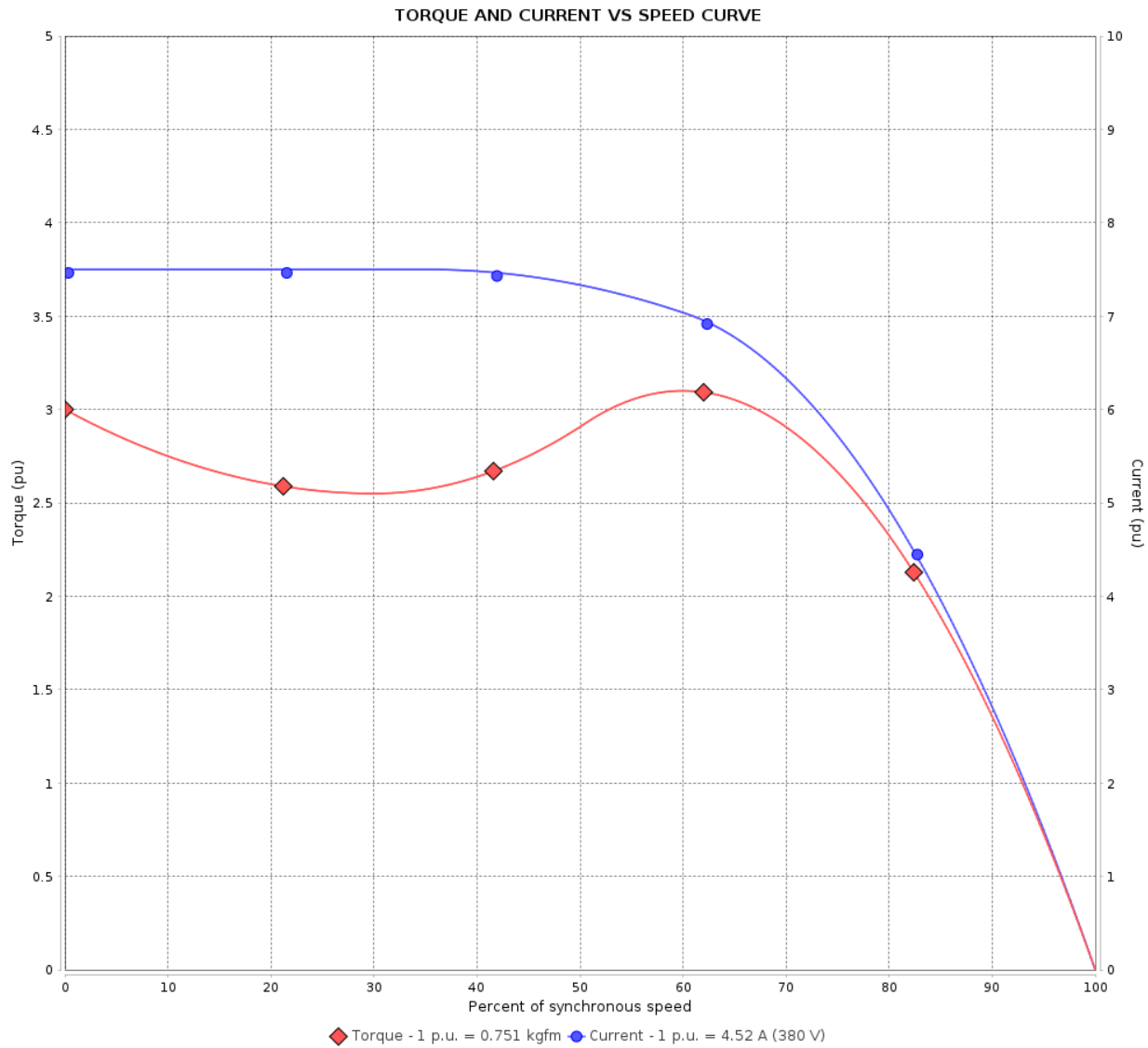
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13097818



Performance : 220/380 V 50 Hz 2P

Rated current	: 7.81/4.52 A	Moment of inertia (J)	: 0.0026 kgm ²
LRC	: 7.5	Duty cycle	: S1
Rated torque	: 0.751 kgfm	Insulation class	: F
Locked rotor torque	: 300 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 2855 rpm	Design	: N

Locked rotor time : 21s (cold) 12s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 19	Revision
Checked by				
Date	24/10/2023			

TORQUE AND CURRENT VS SPEED CURVE



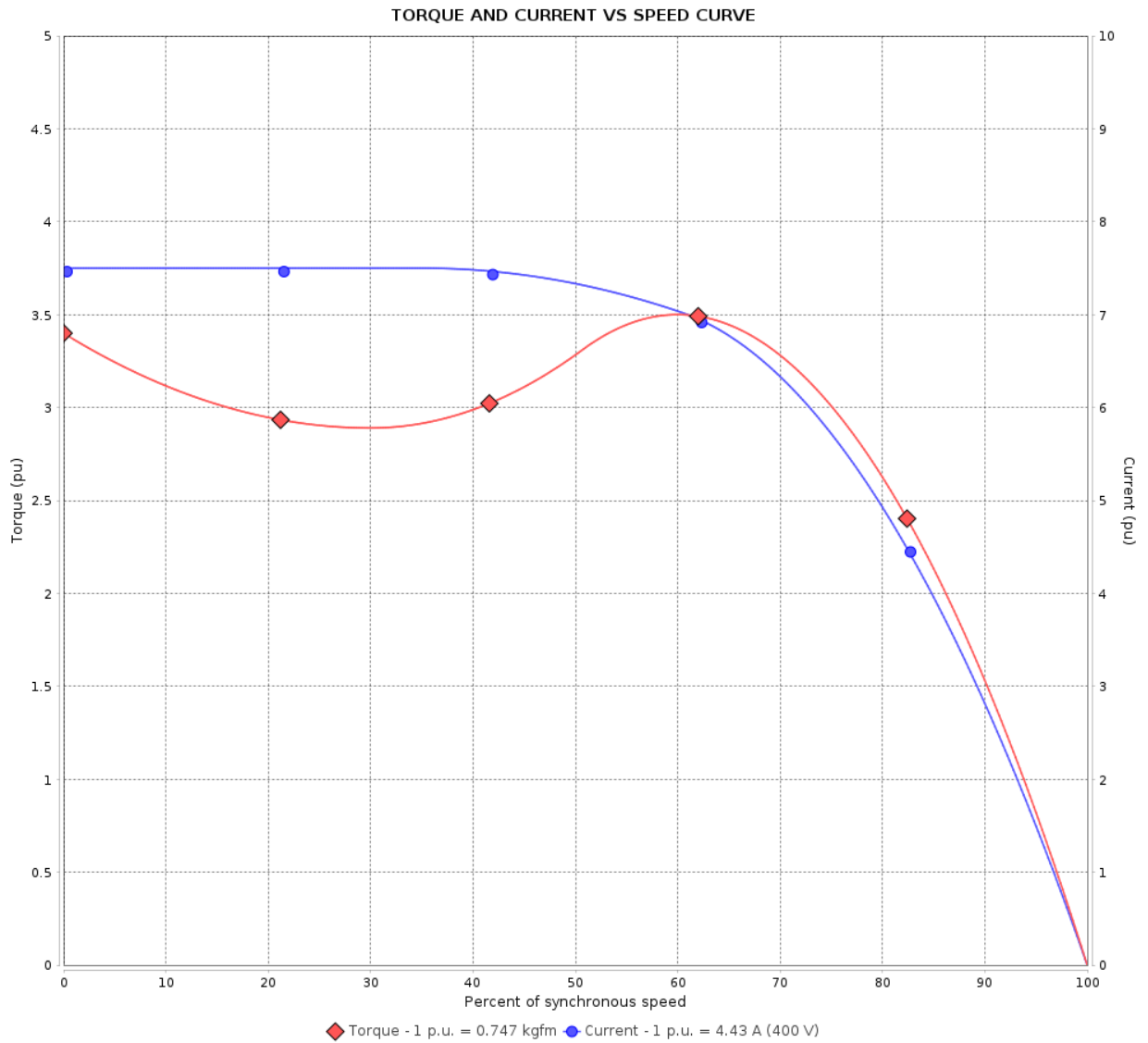
Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code :

13097818



Performance : 230/400 V 50 Hz 2P

Rated current : 7.70/4.43 A
 LRC : 7.5
 Rated torque : 0.747 kgfm
 Locked rotor torque : 340 %
 Breakdown torque : 350 %
 Rated speed : 2870 rpm

Moment of inertia (J) : 0.0026 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Locked rotor time : 21s (cold) 12s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	24/10/2023			

TORQUE AND CURRENT VS SPEED CURVE

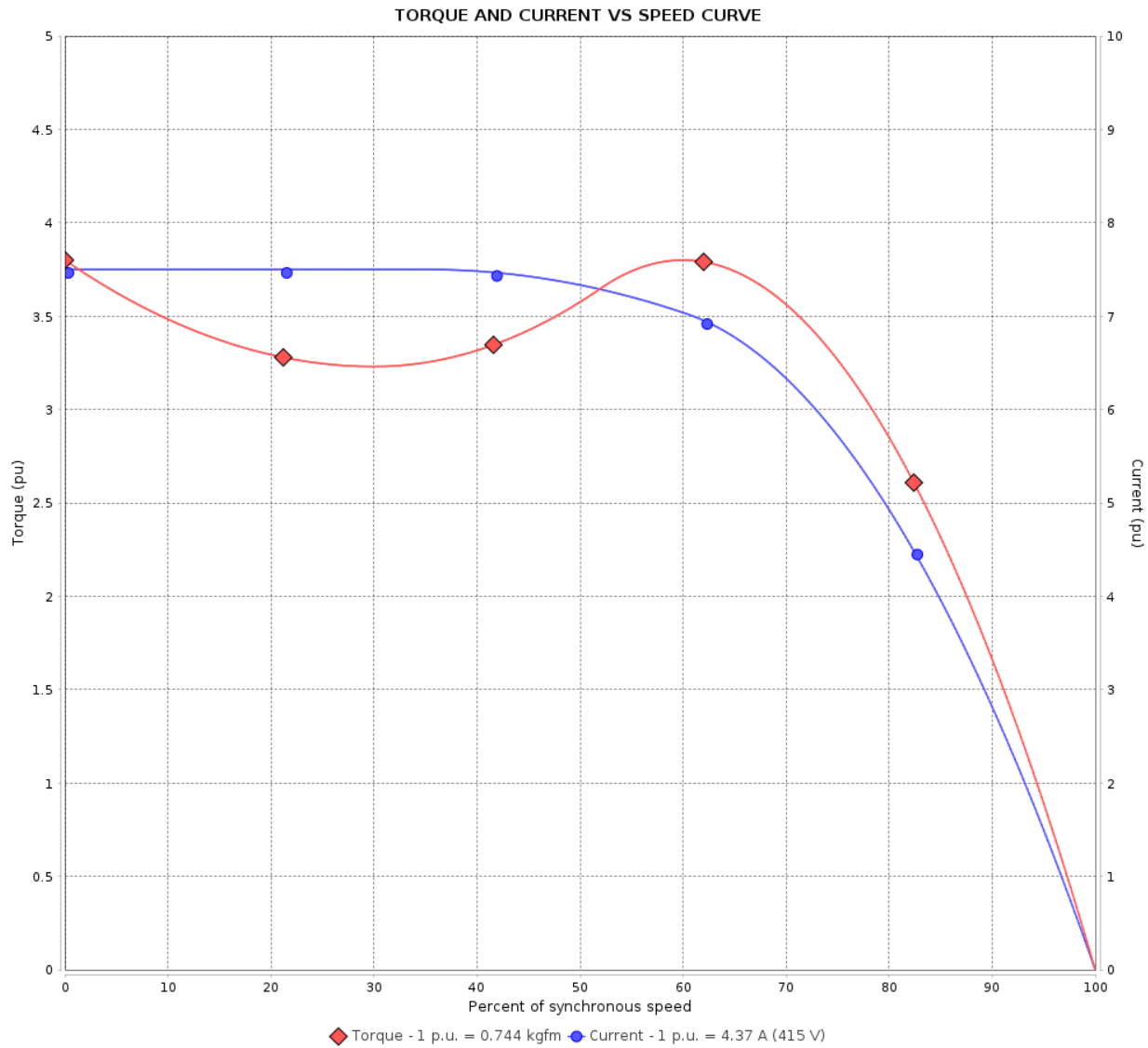
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13097818



Performance : 240/415 V 50 Hz 2P

Rated current	: 7.56/4.37 A	Moment of inertia (J)	: 0.0026 kgm ²
LRC	: 7.5	Duty cycle	: S1
Rated torque	: 0.744 kgfm	Insulation class	: F
Locked rotor torque	: 380 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 2880 rpm	Design	: N

Locked rotor time : 21s (cold) 12s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 19	Revision
Checked by				
Date	24/10/2023			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

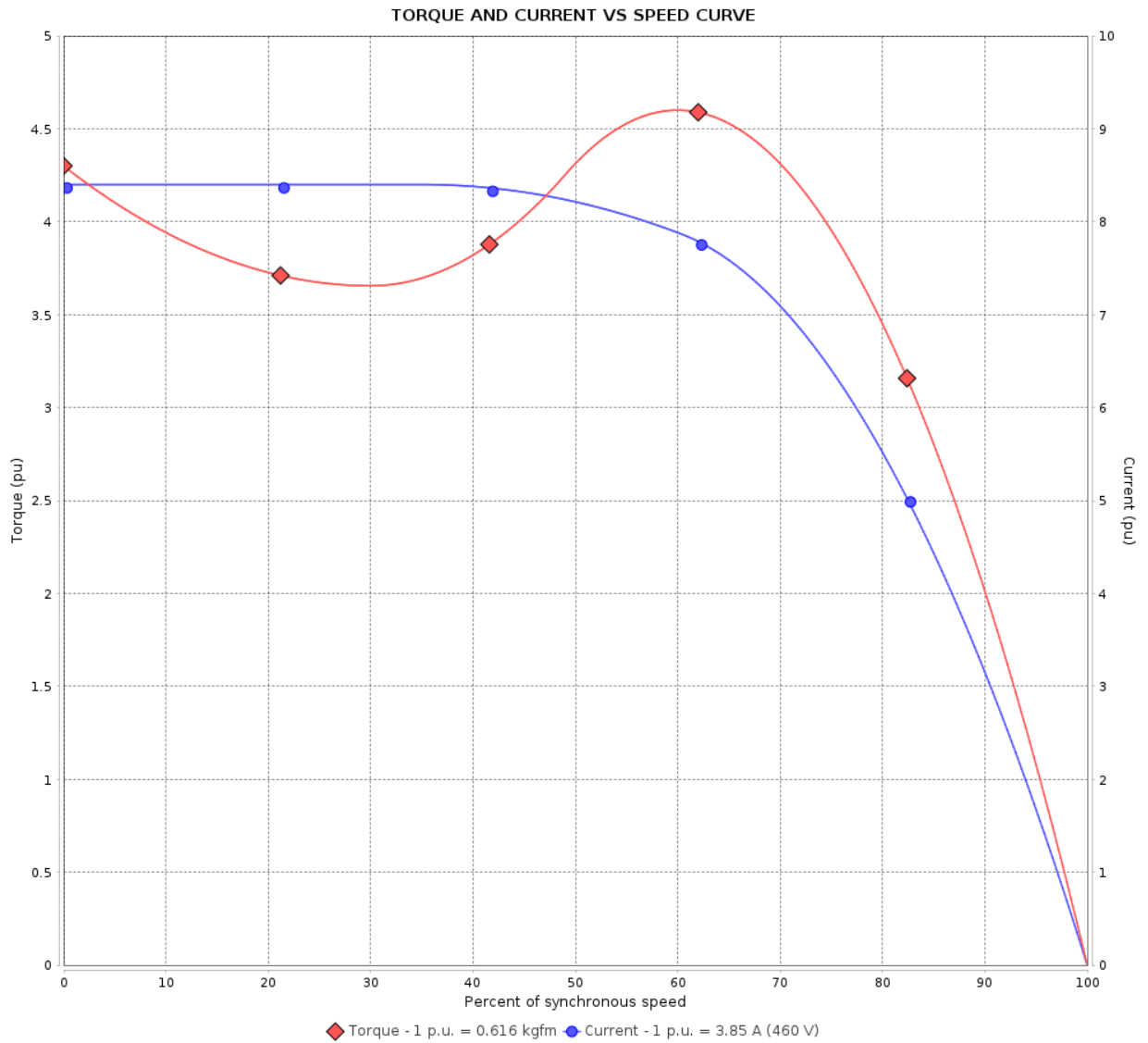


Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code :

13097818



Performance : 460 V 60 Hz 2P

Rated current	: 3.85 A	Moment of inertia (J)	: 0.0026 kgm ²
LRC	: 8.4	Duty cycle	: S1
Rated torque	: 0.616 kgfm	Insulation class	: F
Locked rotor torque	: 430 %	Service factor	: 1.00
Breakdown torque	: 459 %	Temperature rise	: 80 K
Rated speed	: 3480 rpm	Design	: N

Locked rotor time : 25s (cold) 14s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 7 / 19	Revision
Checked by				
Date	24/10/2023			

LOAD PERFORMANCE CURVE

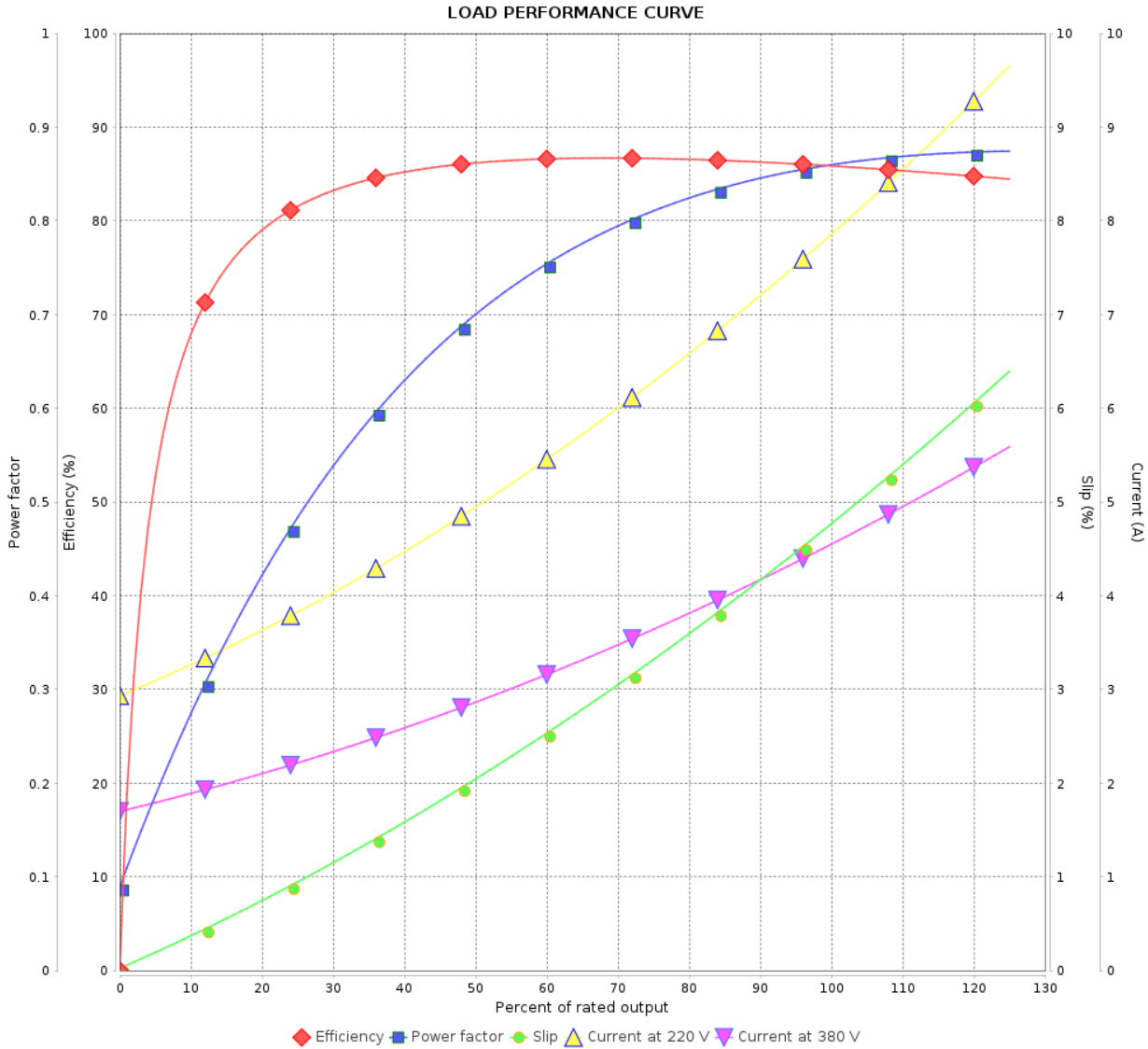
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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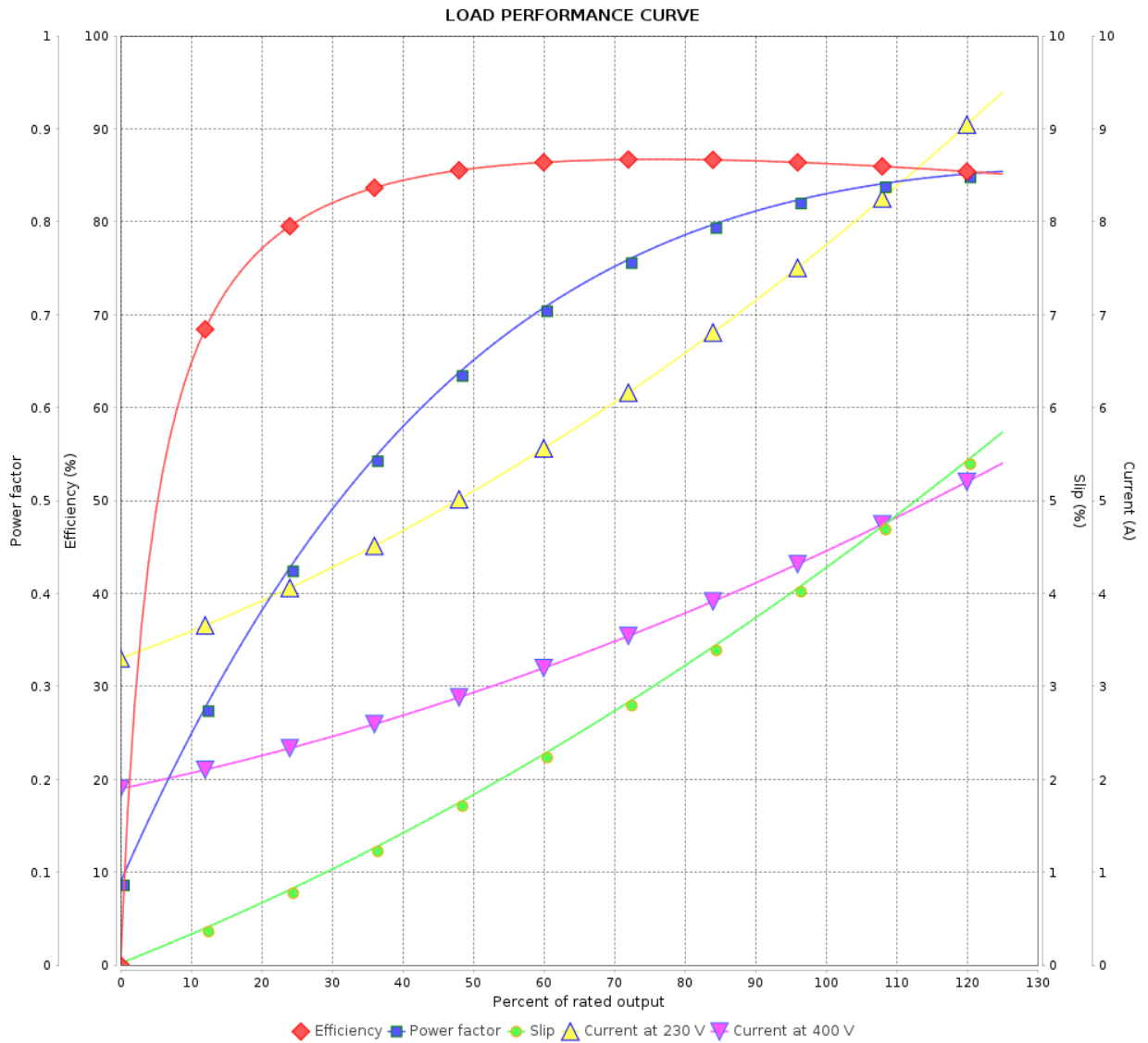


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Performance : 230/400 V 50 Hz 2P

Rated current : 7.70/4.43 A
 LRC : 7.5
 Rated torque : 0.747 kgfm
 Locked rotor torque : 340 %
 Breakdown torque : 350 %
 Rated speed : 2870 rpm

Moment of inertia (J) : 0.0026 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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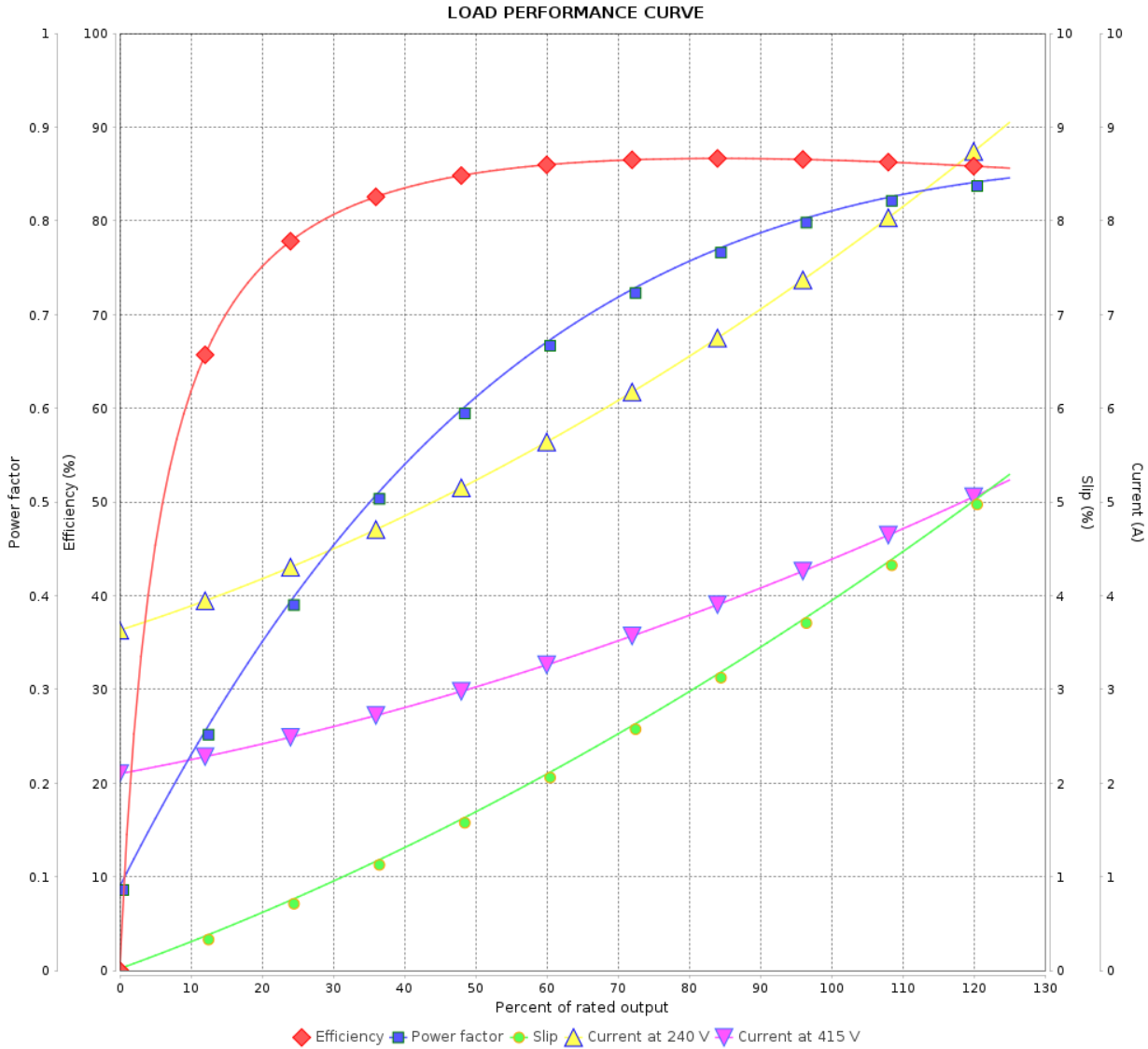
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Performed by			Page	Revision
Checked by				
Date				

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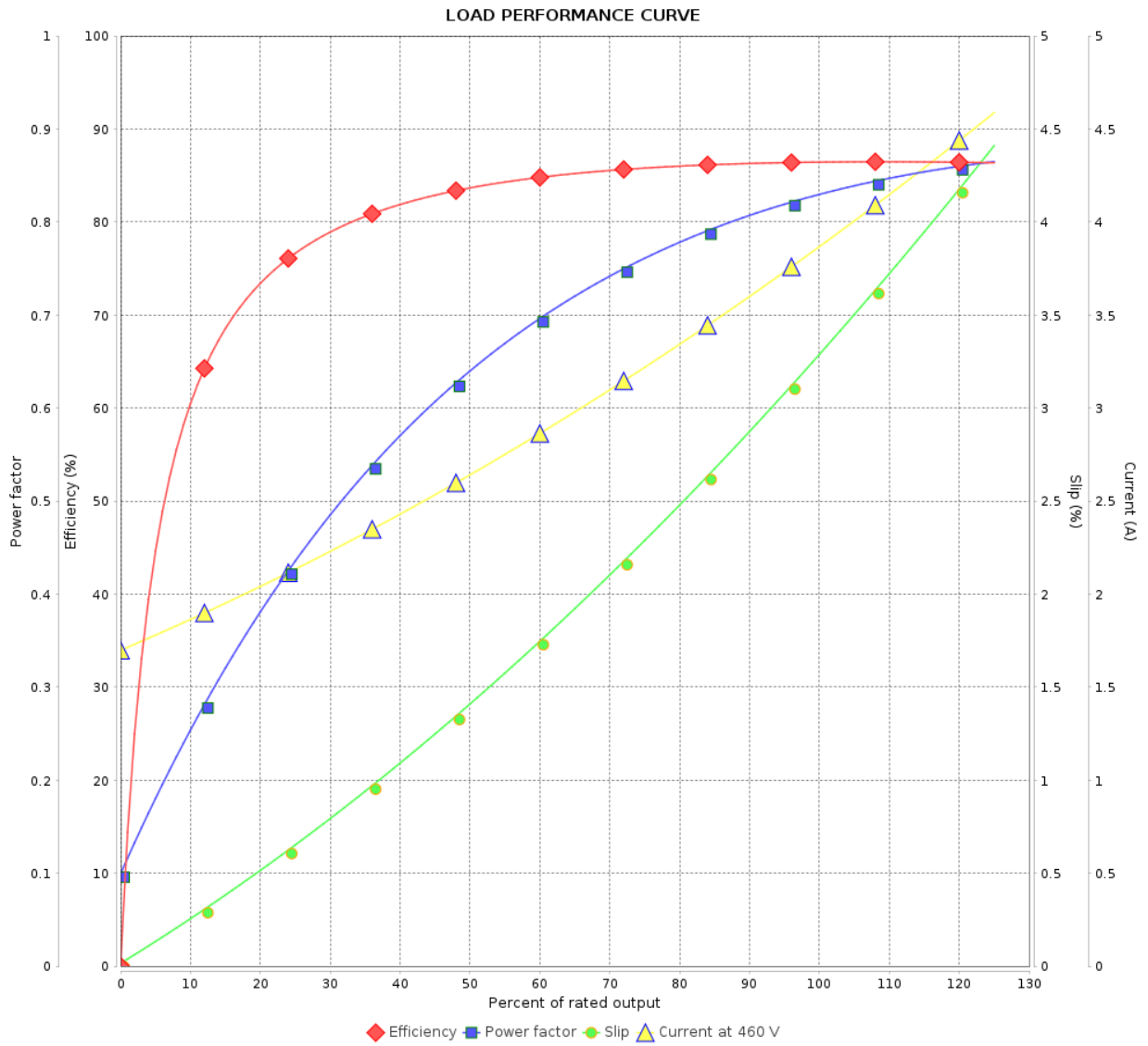


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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				
			11 / 19	

THERMAL LIMIT CURVE

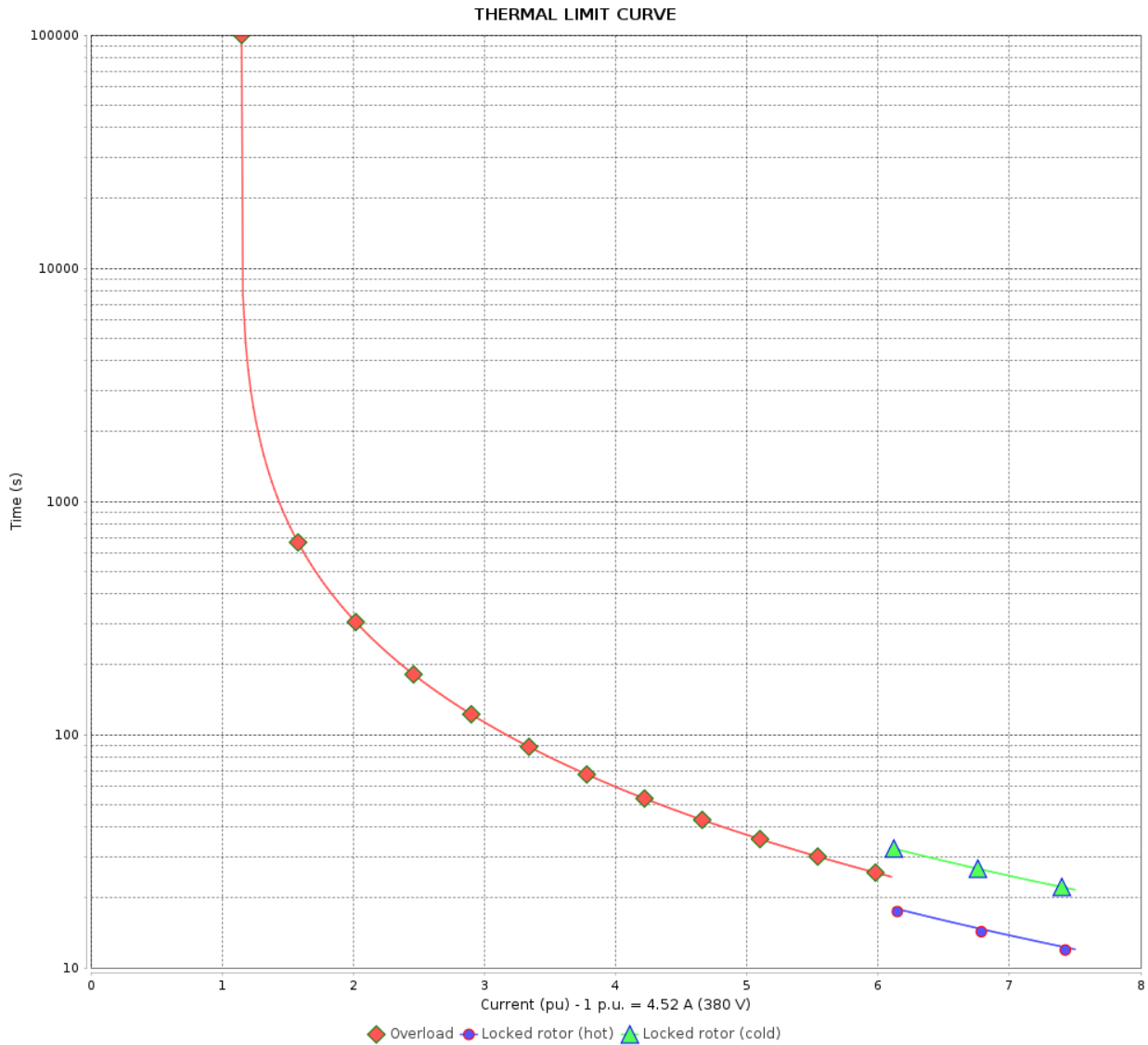
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 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by	24/10/2023	Page		Revision
Checked by		12 / 19		
Date				

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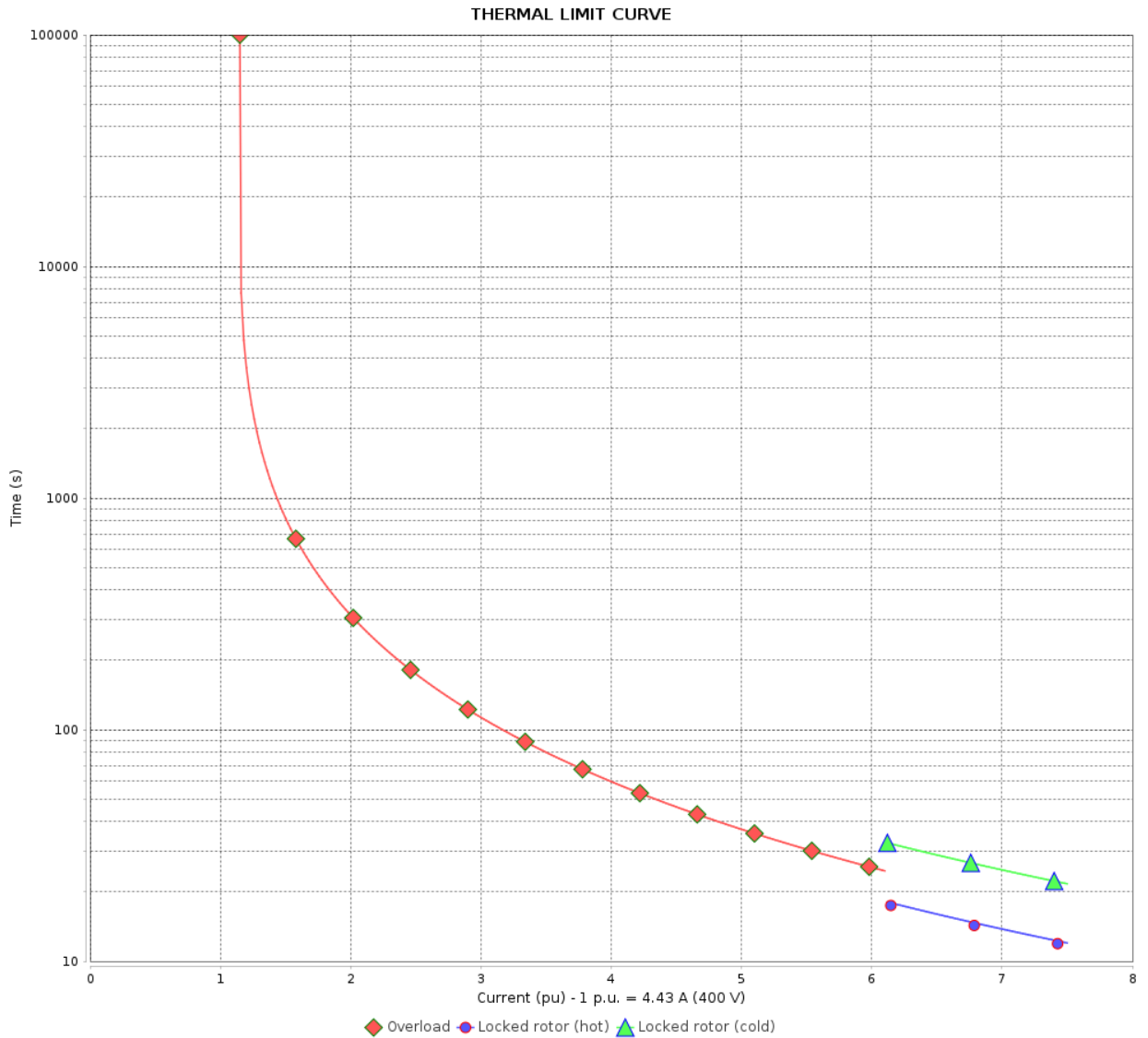
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Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		13 / 19		

THERMAL LIMIT CURVE

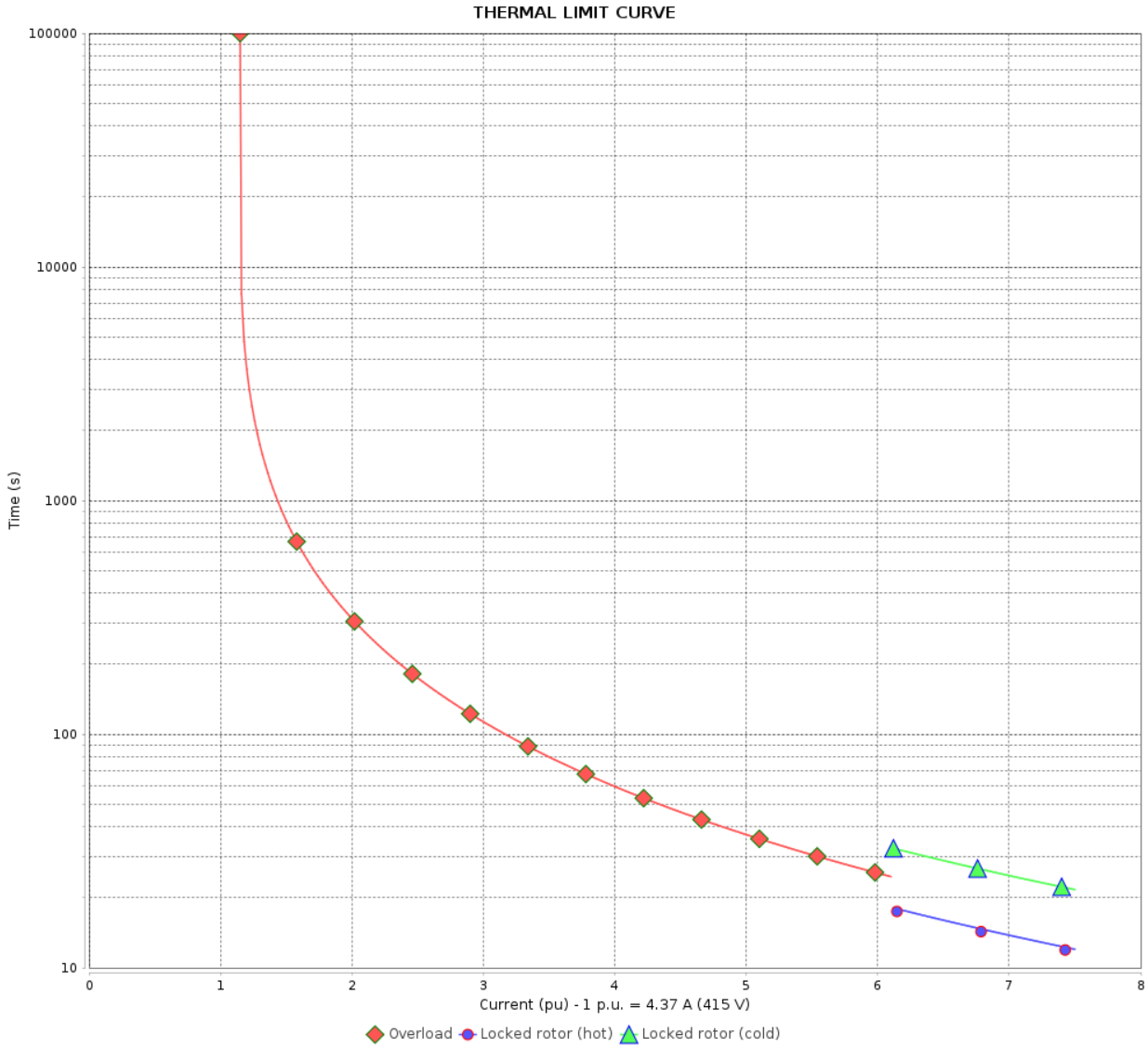
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Rev.	Changes Summary	Performed	Checked	Date
Performed by	24/10/2023	Page		Revision
Checked by		14 / 19		
Date				

THERMAL LIMIT CURVE

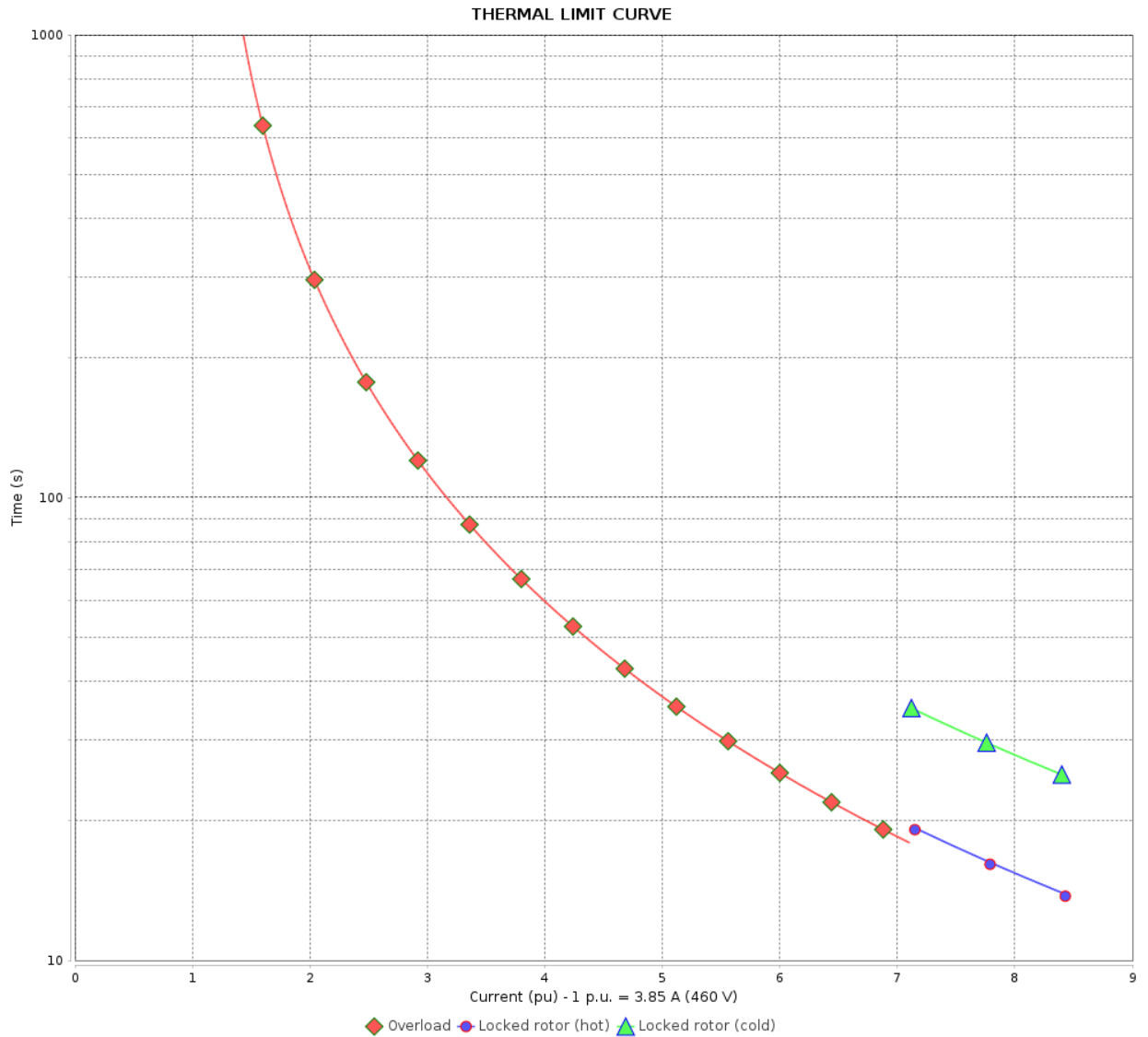
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	24/10/2023			

VFD OPERATION CURVE

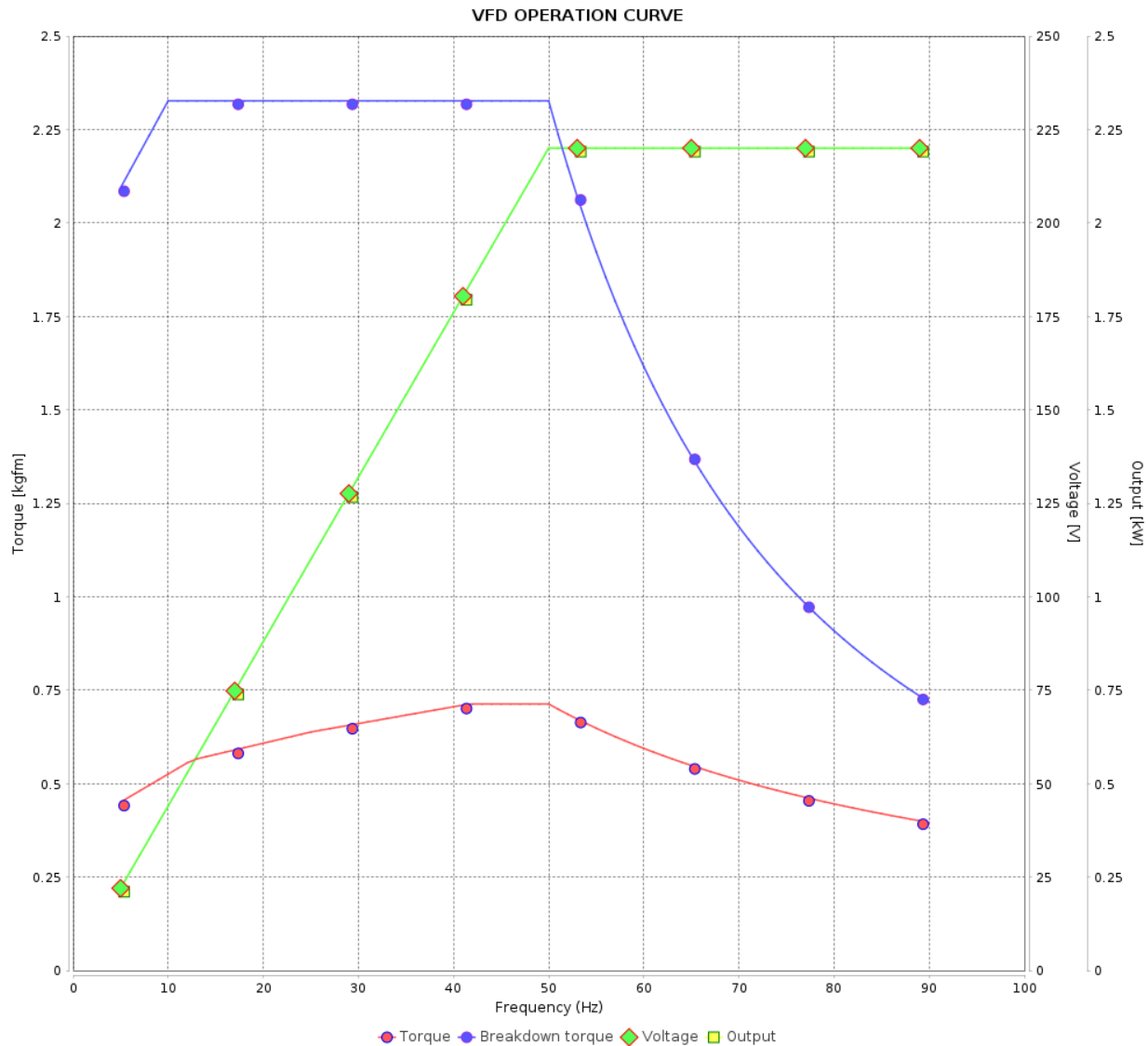
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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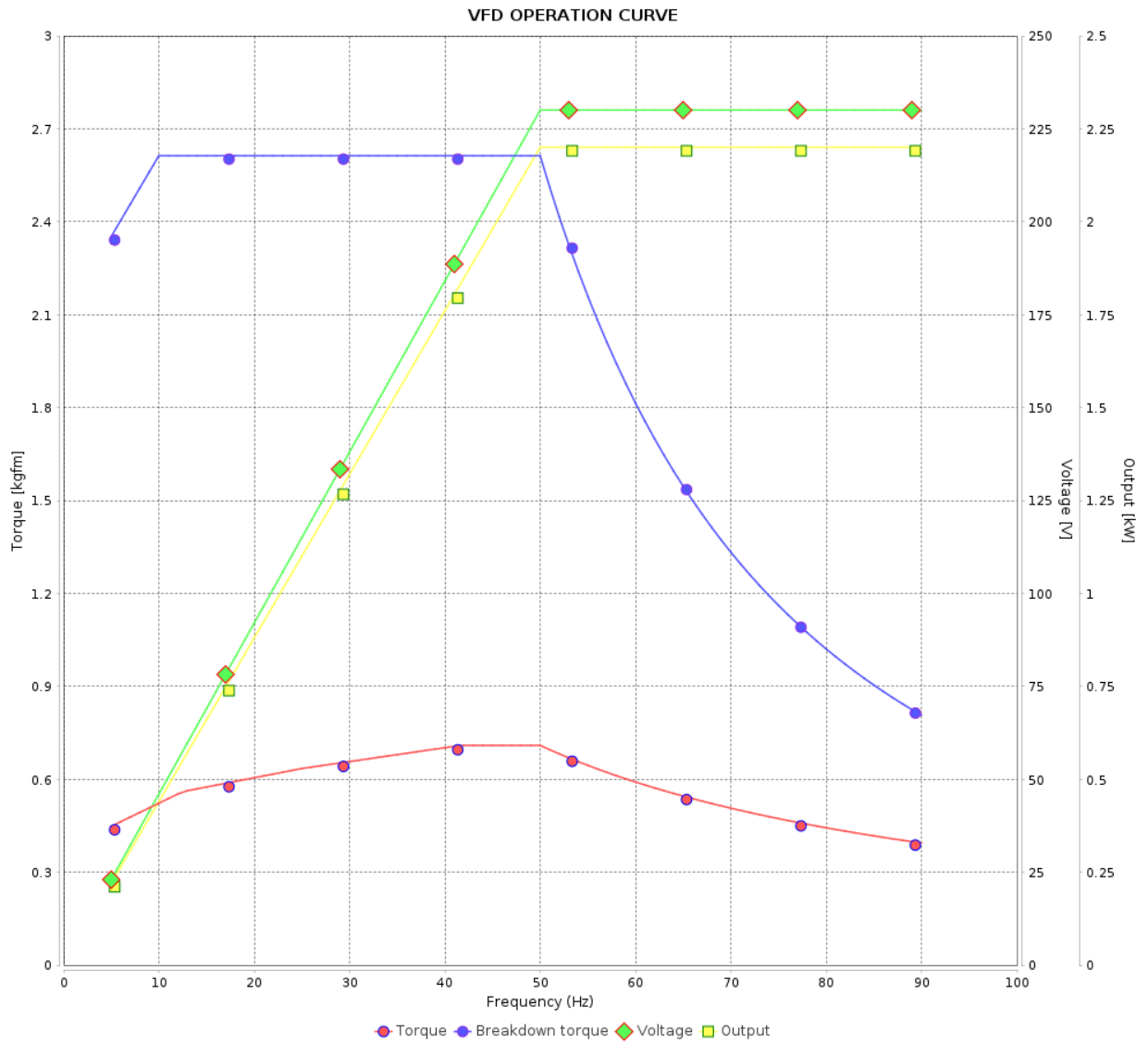
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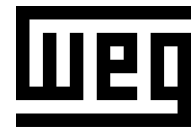
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Performed by			Page	Revision
Checked by				
Date				

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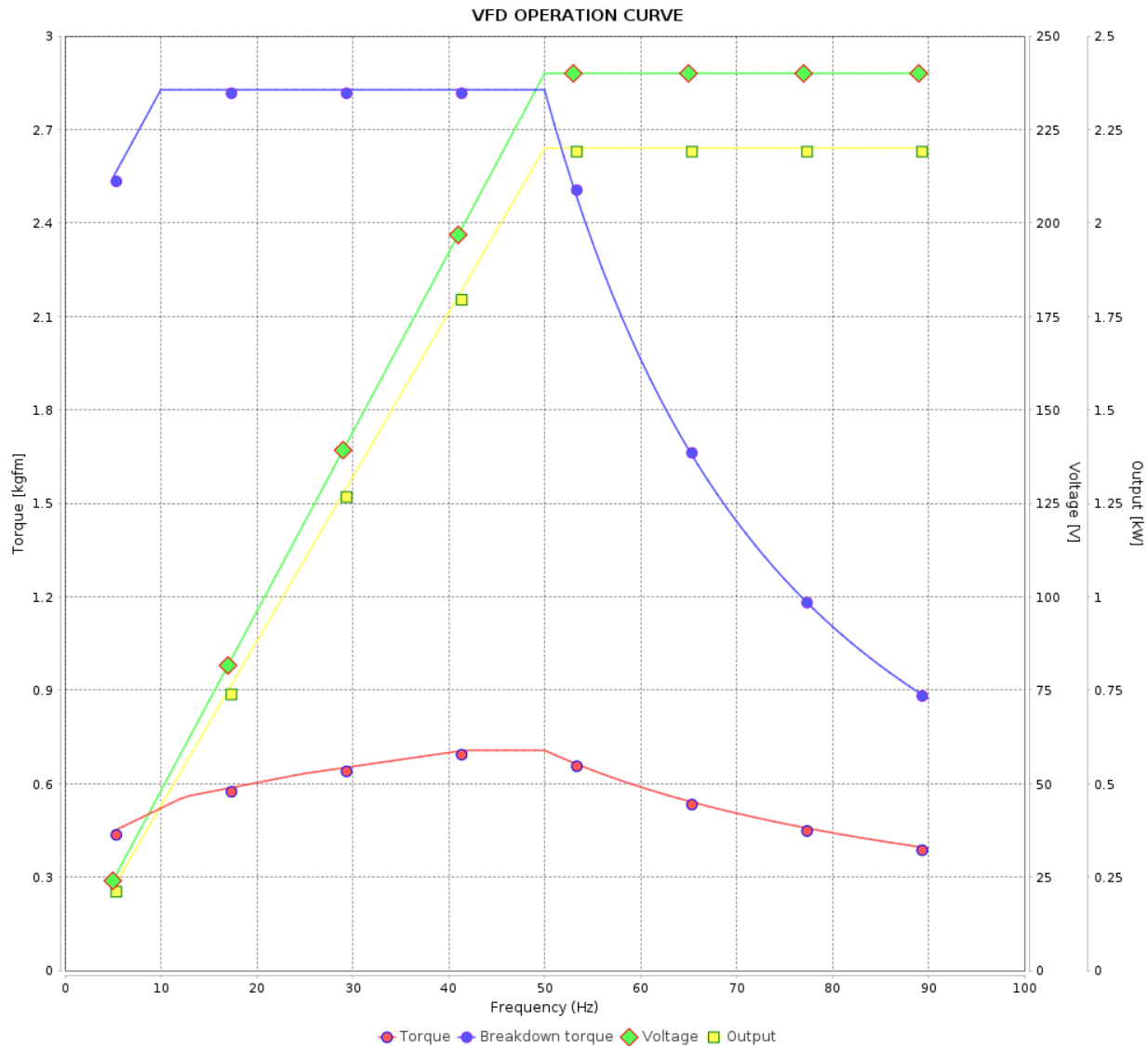
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Performed by			Page	Revision
Checked by				
Date				

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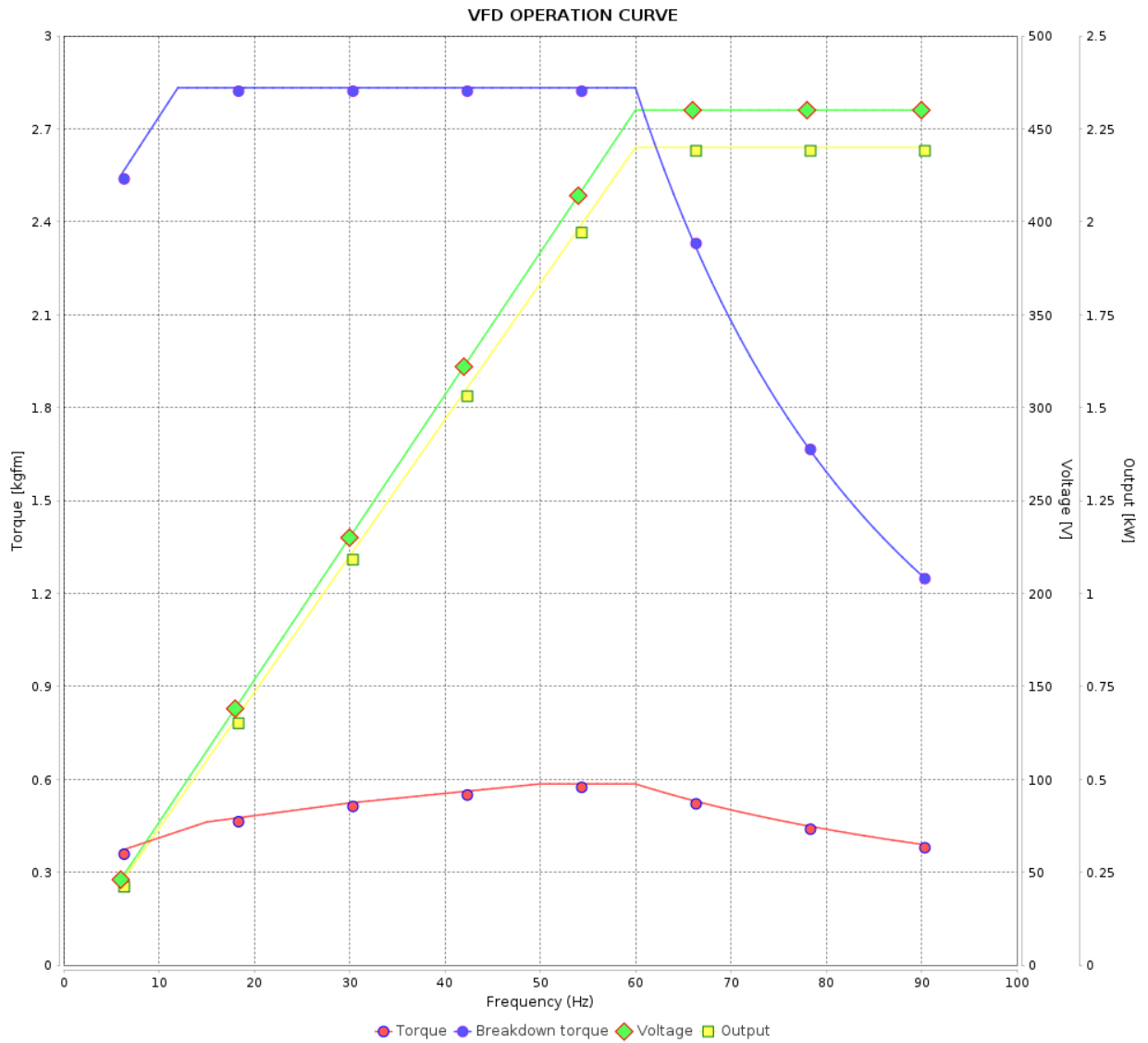
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 19 / 19	Revision
Checked by				
Date	24/10/2023			