

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: W22		Product code : 12862395	
Frame	: 180M	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	: 180 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0968 kgm ²		
Design	: N				
Output [kW]	22	22	22	22	22
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]	41.4/23.8	39.8/23.1	39.3	35.6	35.6
L. R. Amperes [A]	344/198	330/192	326	313	313
LRC [A]	8.3	8.3	8.3	8.8	8.8
No load current [A]	14.0/8.06	15.0/8.70	17.0	14.5	14.5
Rated speed [RPM]	2955	2960	2965	3565	3565
Slip [%]	1.50	1.33	1.17	0.97	0.97
Rated torque [kgfm]	7.25	7.24	7.23	6.85	6.85
Locked rotor torque [%]	290	320	340	380	380
Breakdown torque [%]	290	320	340	370	370
Service factor	1.00	1.00	1.00	1.25	1.25
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	16s (cold) 9s (hot)	16s (cold) 9s (hot)	16s (cold) 9s (hot)	16s (cold) 9s (hot)	16s (cold) 9s (hot)
Noise level ²	67.0 dB(A)	67.0 dB(A)	67.0 dB(A)	72.0 dB(A)	72.0 dB(A)
Efficiency (%)	25%	0.000	0.000	0.000	0.000
	50%	92.2	92.0	91.5	91.6
	75%	92.7	92.7	92.5	92.2
	100%	92.7	92.7	92.7	92.4
Power Factor	25%	0.00	0.00	0.00	0.00
	50%	0.74	0.69	0.66	0.68
	75%	0.83	0.80	0.78	0.79
	100%	0.87	0.86	0.84	0.84
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	7.6	7.6	7.6	7.9
	P2 (0,5;1,0)	6.3	6.3	6.3	6.6
	P3 (0,25;1,0)	5.7	5.7	5.7	6.0
	P4 (0,9;0,5)	3.7	3.7	3.7	3.9
	P5 (0,5;0,5)	2.4	2.4	2.4	2.5
	P6 (0,5;0,25)	1.5	1.5	1.5	1.6
	P7 (0,25;0,25)	1.0	1.0	1.0	1.1
Bearing type	: Drive end 6311 ZZ C3 Non drive end 6211 ZZ C3	Foundation loads			
Sealing	: V'Ring V'Ring	Max. traction : 228 kgf			
Lubrication interval	: 0 h 0 h	Max. compression : 408 kgf			
Lubricant amount	: 0 g 0 g				
Lubricant type	: Mobil Polyrex EM				
This revision replaces and cancel the previous one, which must be eliminated.		These are average values based on tests with sinusoidal power supply, subject to the tolerances stipulated in IEC 60034-1.			
(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.					
Rev.	Changes Summary		Performed	Checked	Date
Performed by					
Checked by				Page	Revision
Date	17/04/2023			1 / 19	

DATA SHEET

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Notes

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	17/04/2023		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	17/04/2023			
			Revision	

TORQUE AND CURRENT VS SPEED CURVE

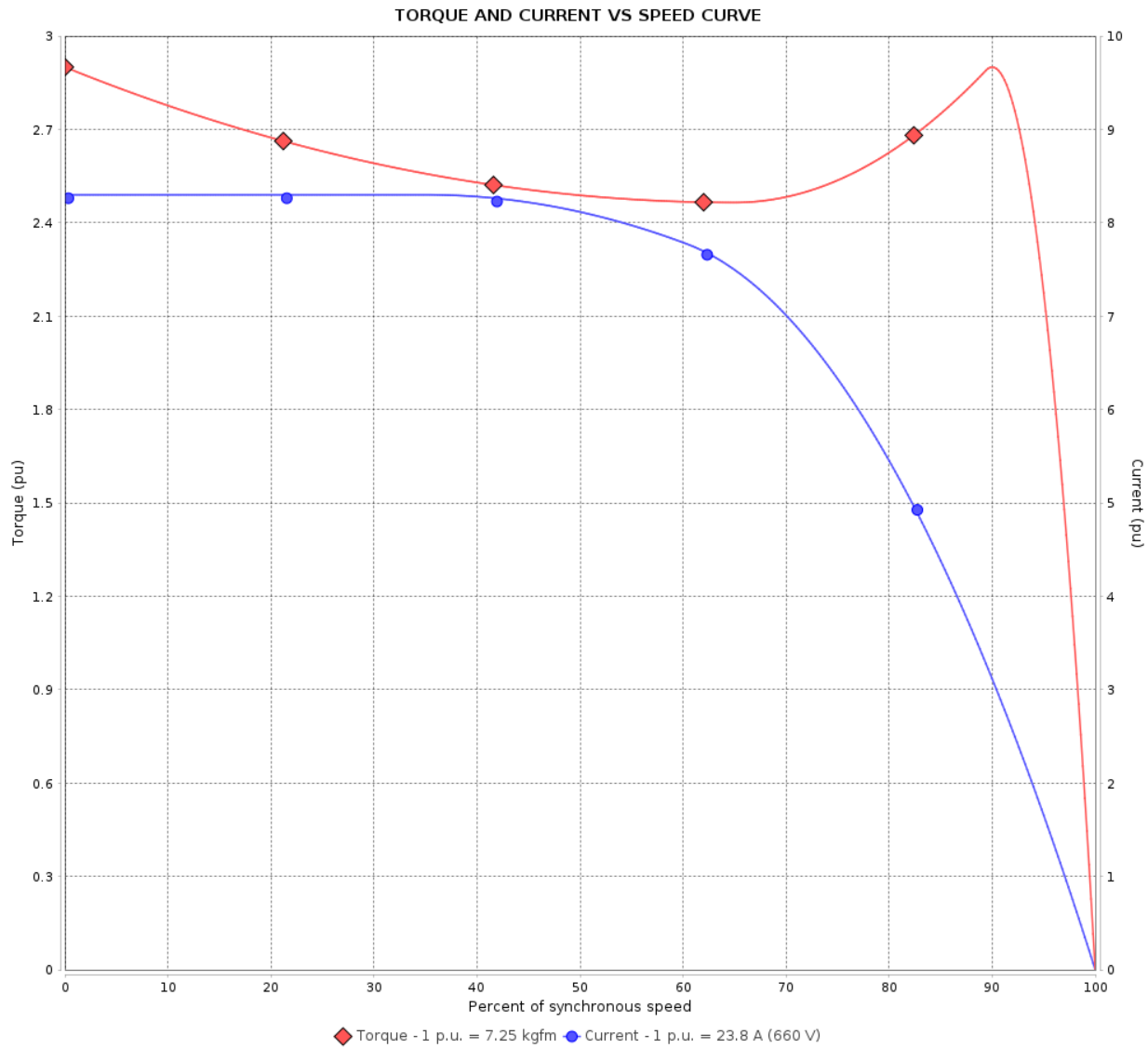
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22

Product code : 12862395



Performance : 380/660 V 50 Hz 2P

Rated current	: 41.4/23.8 A	Moment of inertia (J)	: 0.0968 kgm ²
LRC	: 8.3	Duty cycle	: S1
Rated torque	: 7.25 kgfm	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 2955 rpm	Design	: N

Locked rotor time : 16s (cold) 9s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 19	Revision
Checked by				
Date	17/04/2023			

TORQUE AND CURRENT VS SPEED CURVE

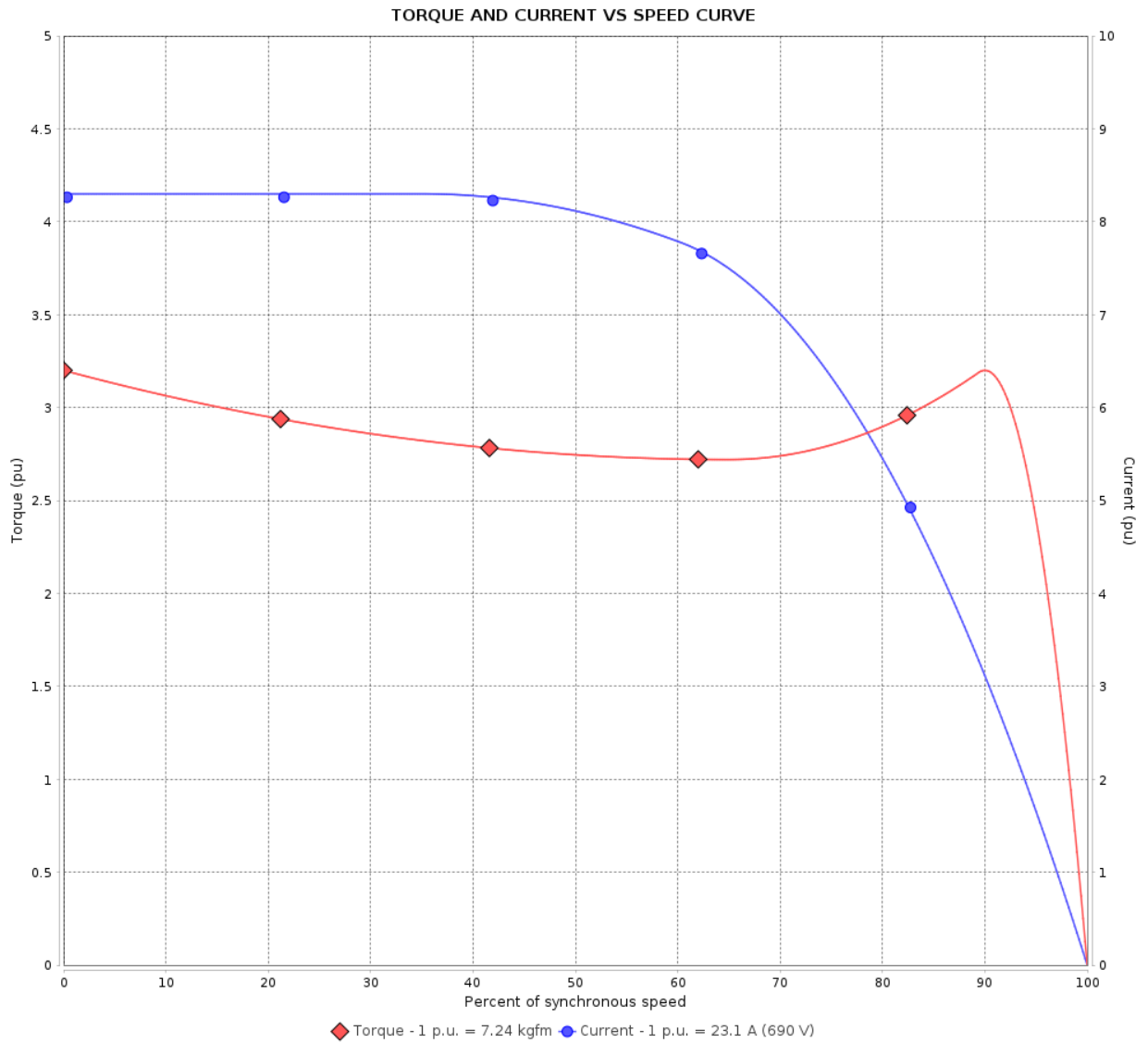


Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22

Product code : 12862395



Performance : 400/690 V 50 Hz 2P

Rated current	: 39.8/23.1 A	Moment of inertia (J)	: 0.0968 kgm ²
LRC	: 8.3	Duty cycle	: S1
Rated torque	: 7.24 kgfm	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 2960 rpm	Design	: N

Locked rotor time : 16s (cold) 9s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	17/04/2023			
			5 / 19	

TORQUE AND CURRENT VS SPEED CURVE

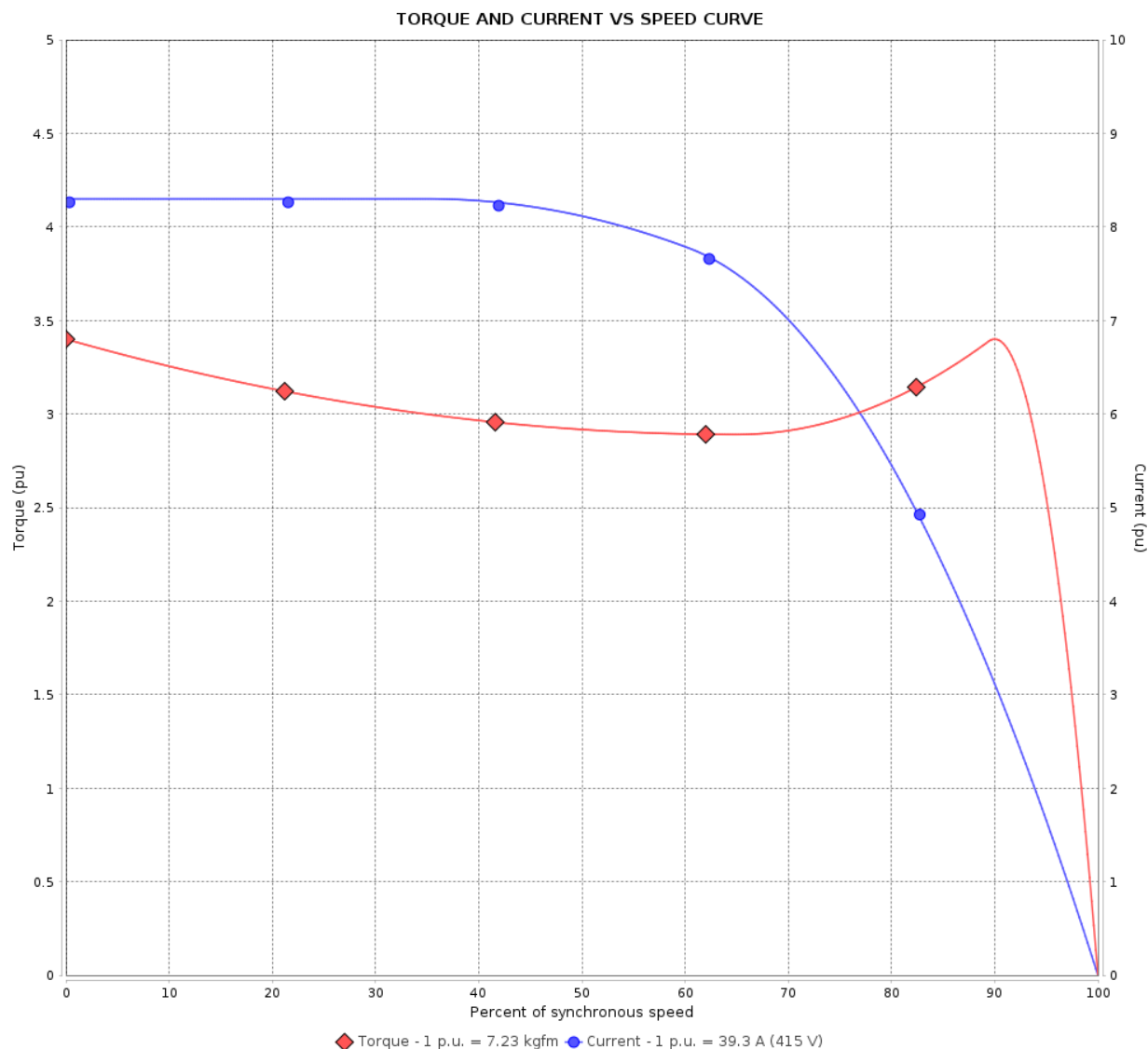
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

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Product code : 12862395



Performance : 415 V 50 Hz 2P

Rated current	: 39.3 A	Moment of inertia (J)	: 0.0968 kgm ²
LRC	: 8.3	Duty cycle	: S1
Rated torque	: 7.23 kgfm	Insulation class	: F
Locked rotor torque	: 340 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: N

Locked rotor time : 16s (cold) 9s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 19	Revision
Checked by				
Date	17/04/2023			

TORQUE AND CURRENT VS SPEED CURVE

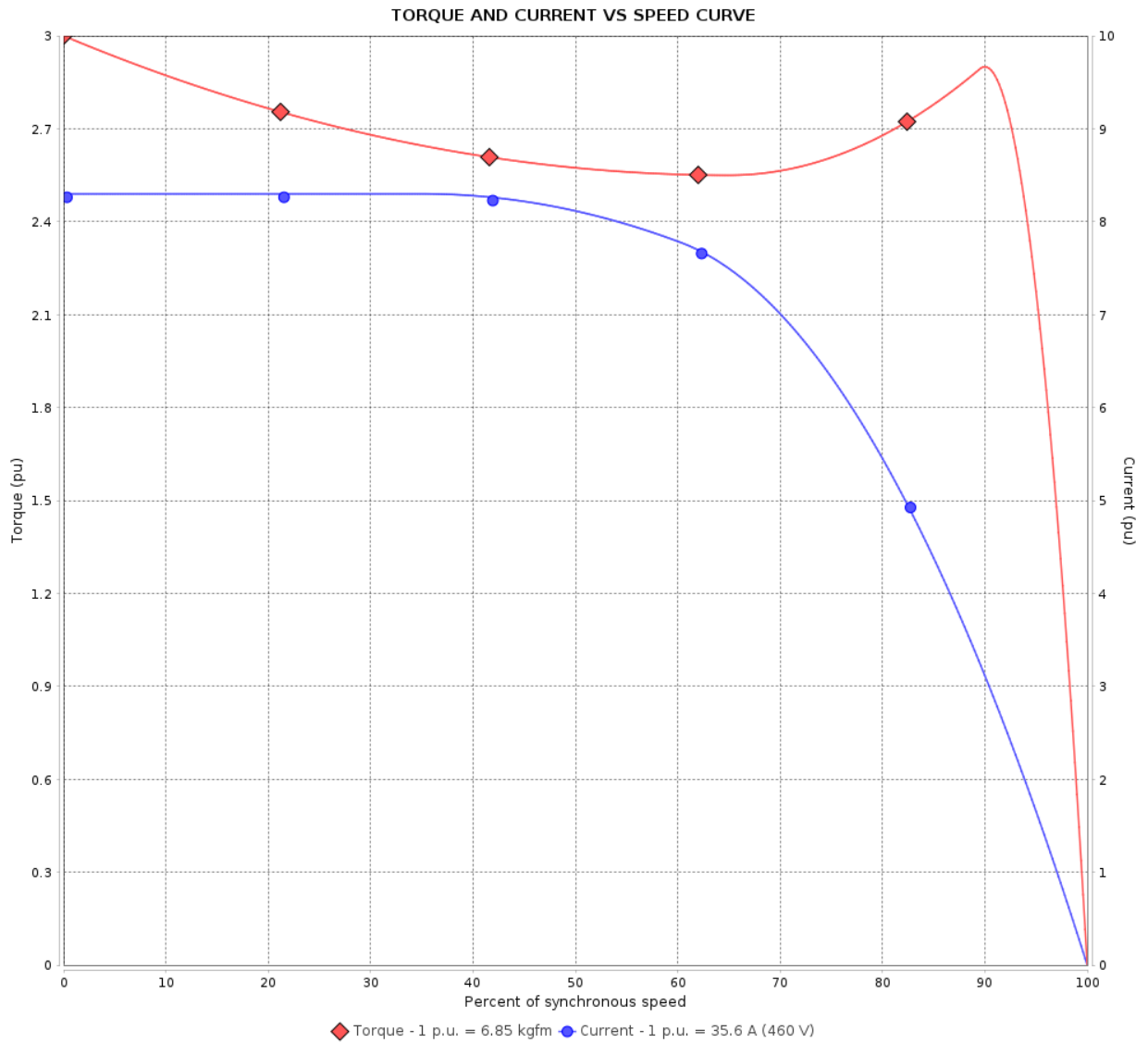
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22

Product code : 12862395



Performance : 460 V 60 Hz 2P

Rated current	: 35.6 A	Moment of inertia (J)	: 0.0968 kgm ²
LRC	: 8.8	Duty cycle	: S1
Rated torque	: 6.85 kgfm	Insulation class	: F
Locked rotor torque	: 380 %	Service factor	: 1.25
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 3565 rpm	Design	: N

Locked rotor time : 16s (cold) 9s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	17/04/2023			
			7 / 19	

LOAD PERFORMANCE CURVE

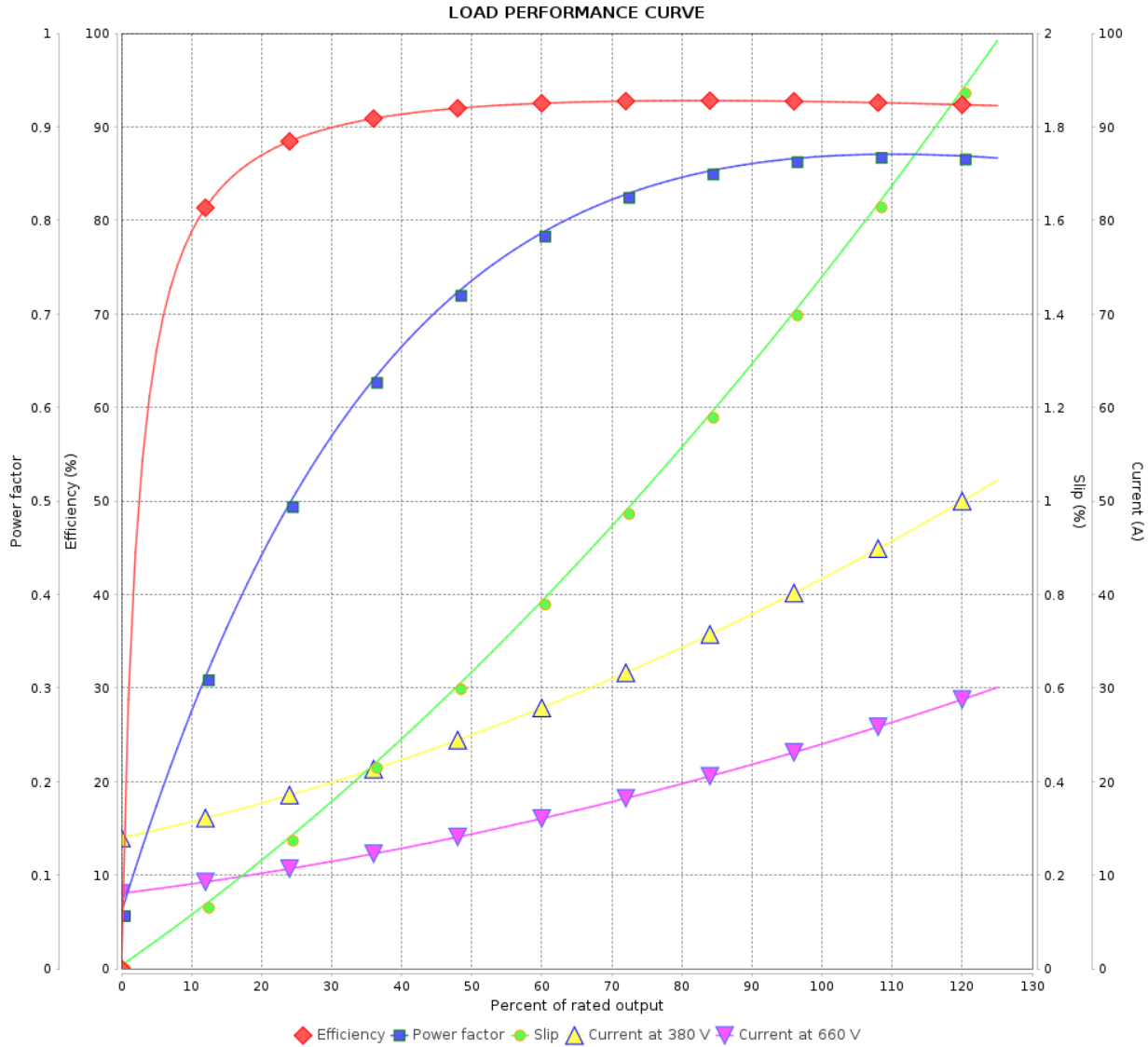
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Performance : 380/660 V 50 Hz 2P

Rated current : 41.4/23.8 A
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 Rated torque : 7.25 kgfm
 Locked rotor torque : 290 %
 Breakdown torque : 290 %
 Rated speed : 2955 rpm

Moment of inertia (J) : 0.0968 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	Revision
Checked by				
Date				

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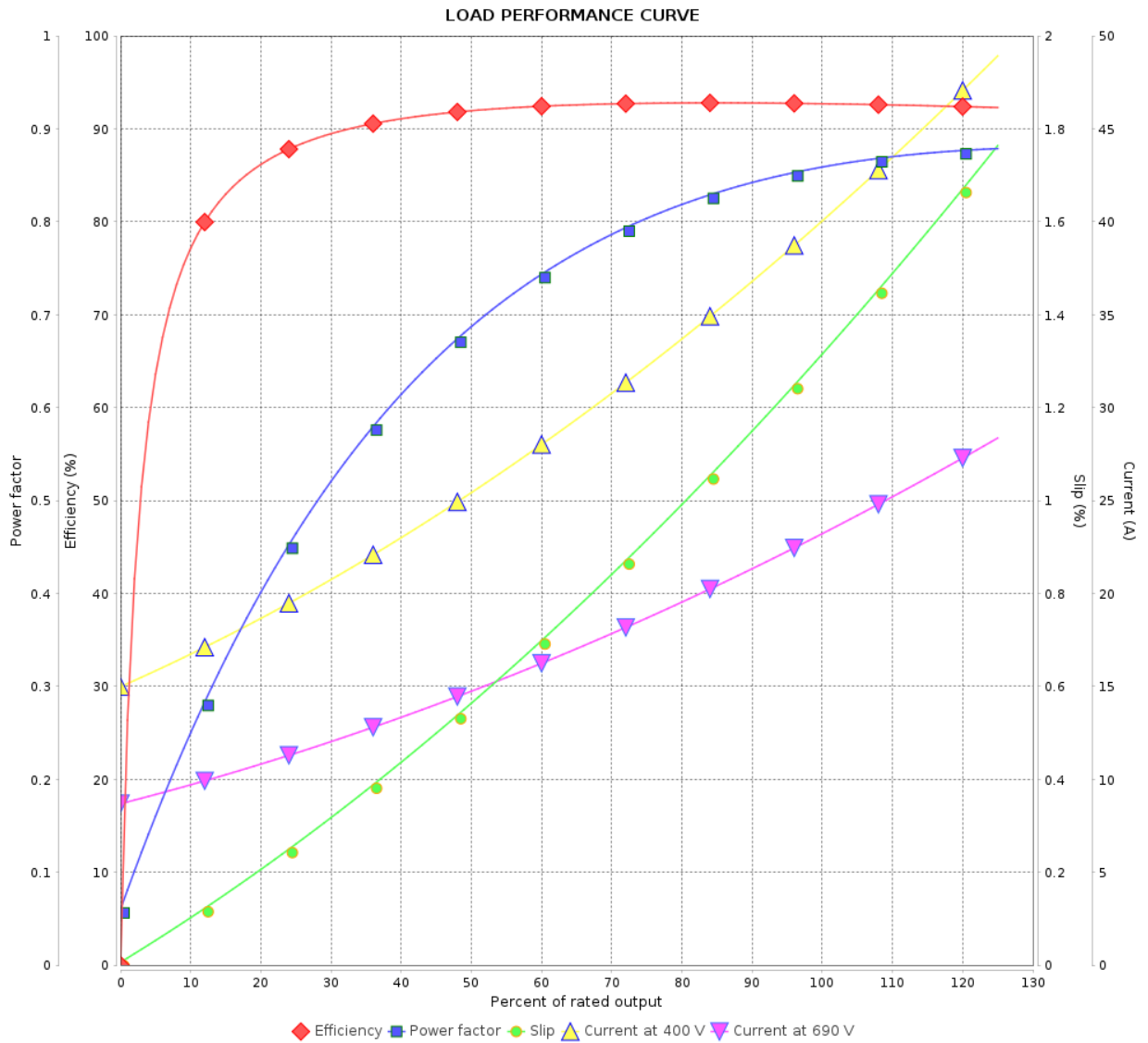
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 Insulation class : F
 Service factor : 1.00
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

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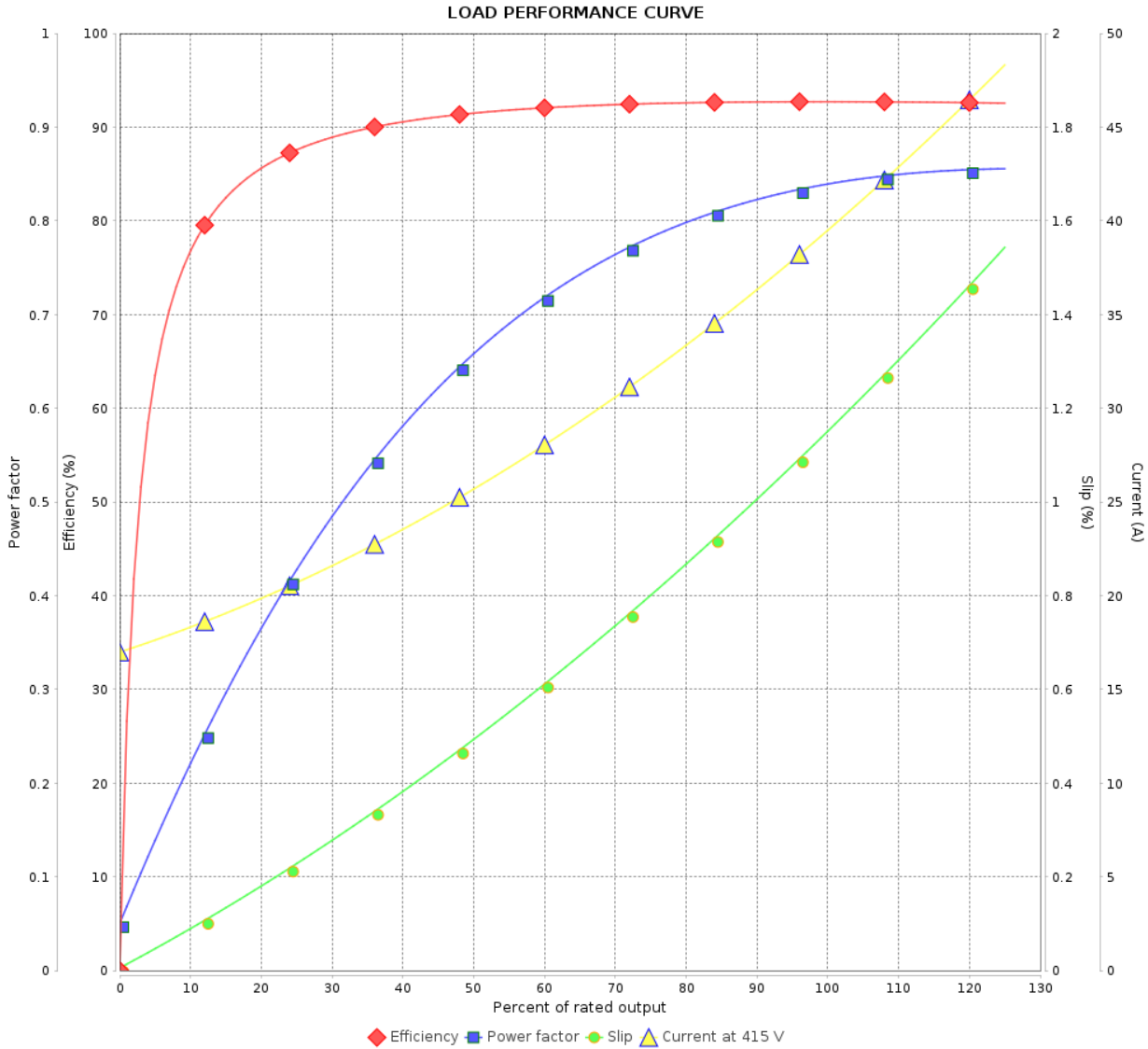
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Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 2965 rpm	Design	: N

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 10 / 19	Revision
Checked by				
Date	17/04/2023			

LOAD PERFORMANCE CURVE

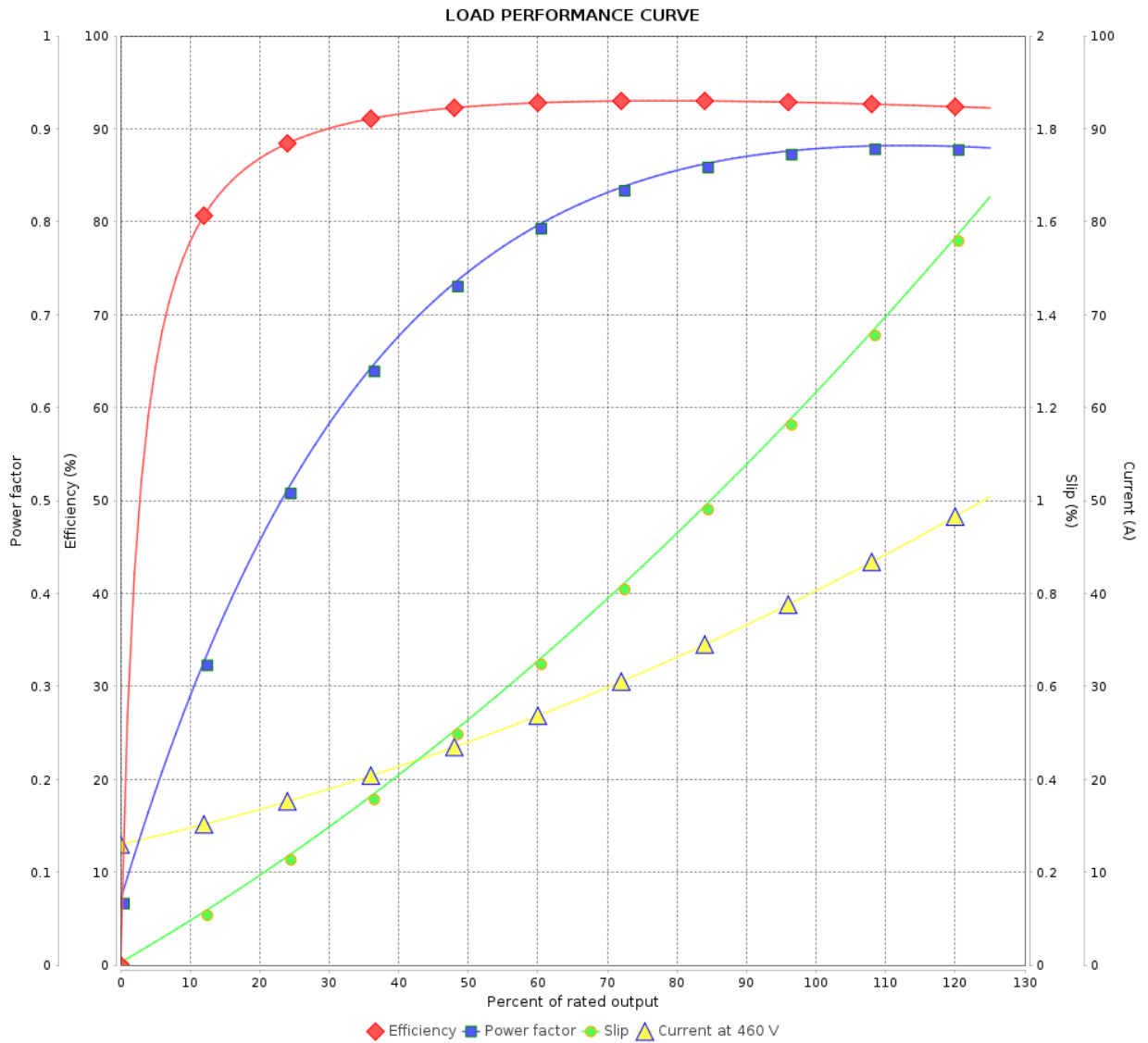
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		11 / 19		
Date		17/04/2023		

THERMAL LIMIT CURVE

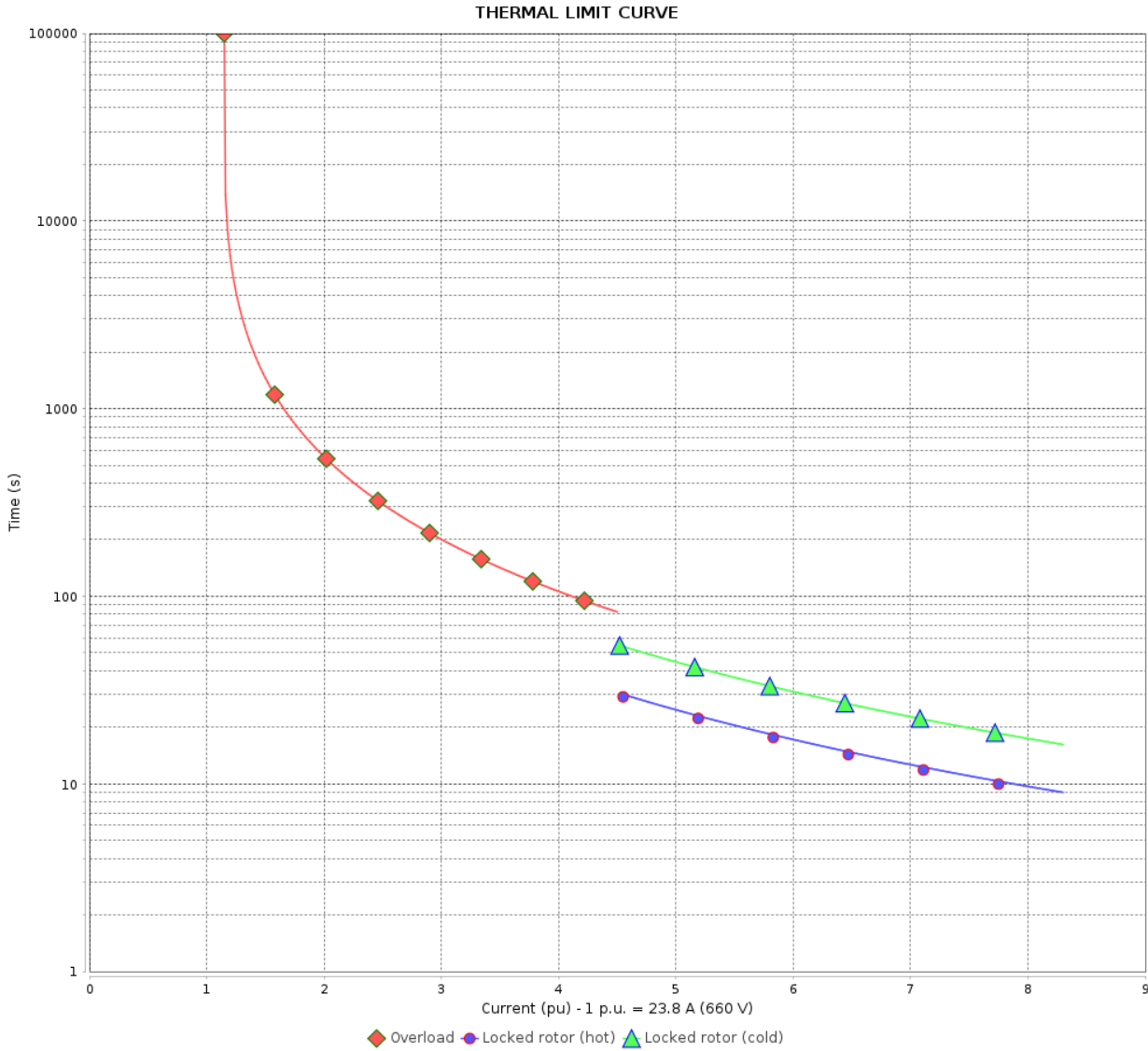
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Moment of inertia (J) : 0.0968 kgm²
 Duty cycle : S1
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 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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

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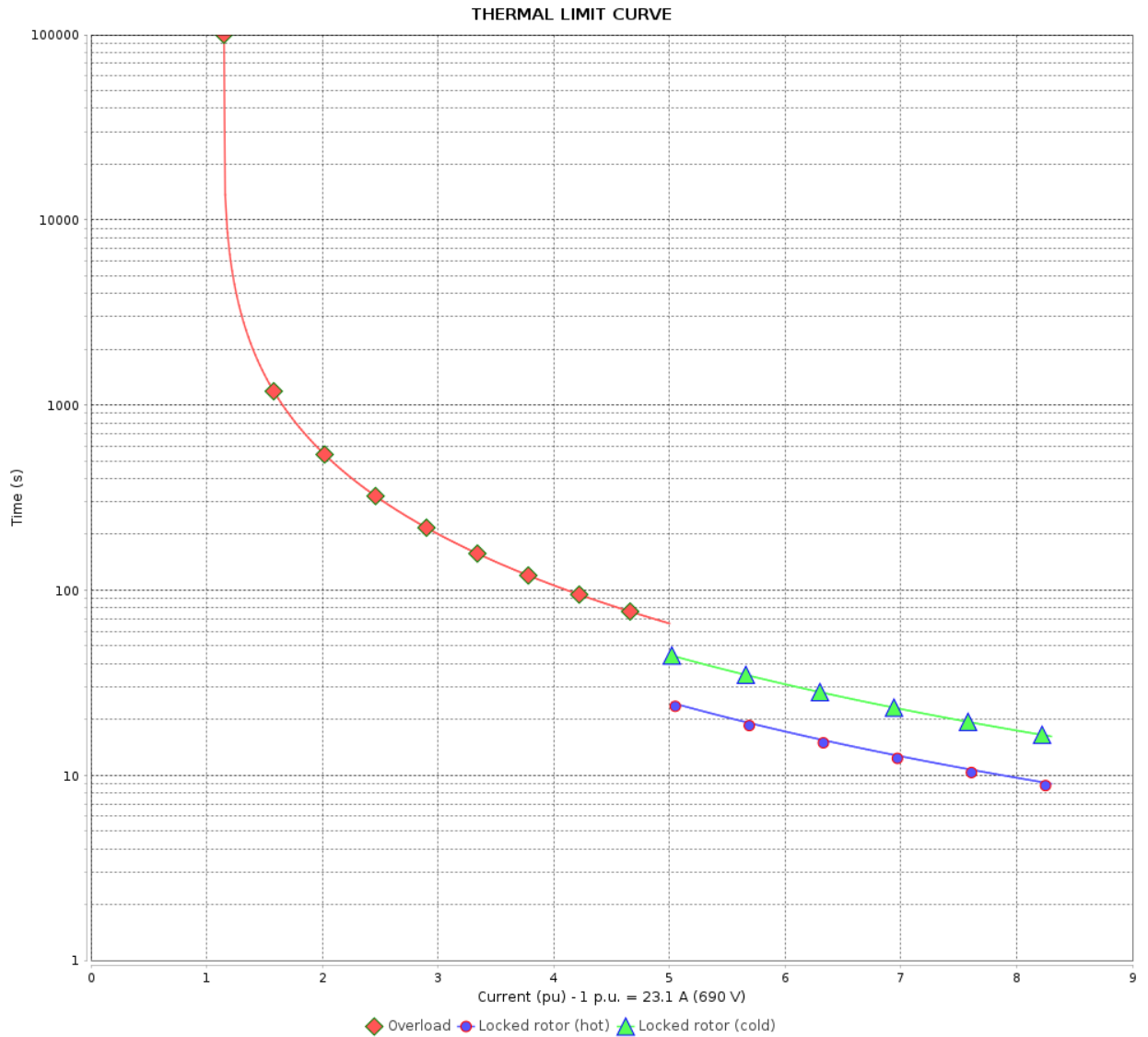
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 Duty cycle : S1
 Insulation class : F
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 Temperature rise : 80 K
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		13 / 19		
Date		17/04/2023		

THERMAL LIMIT CURVE

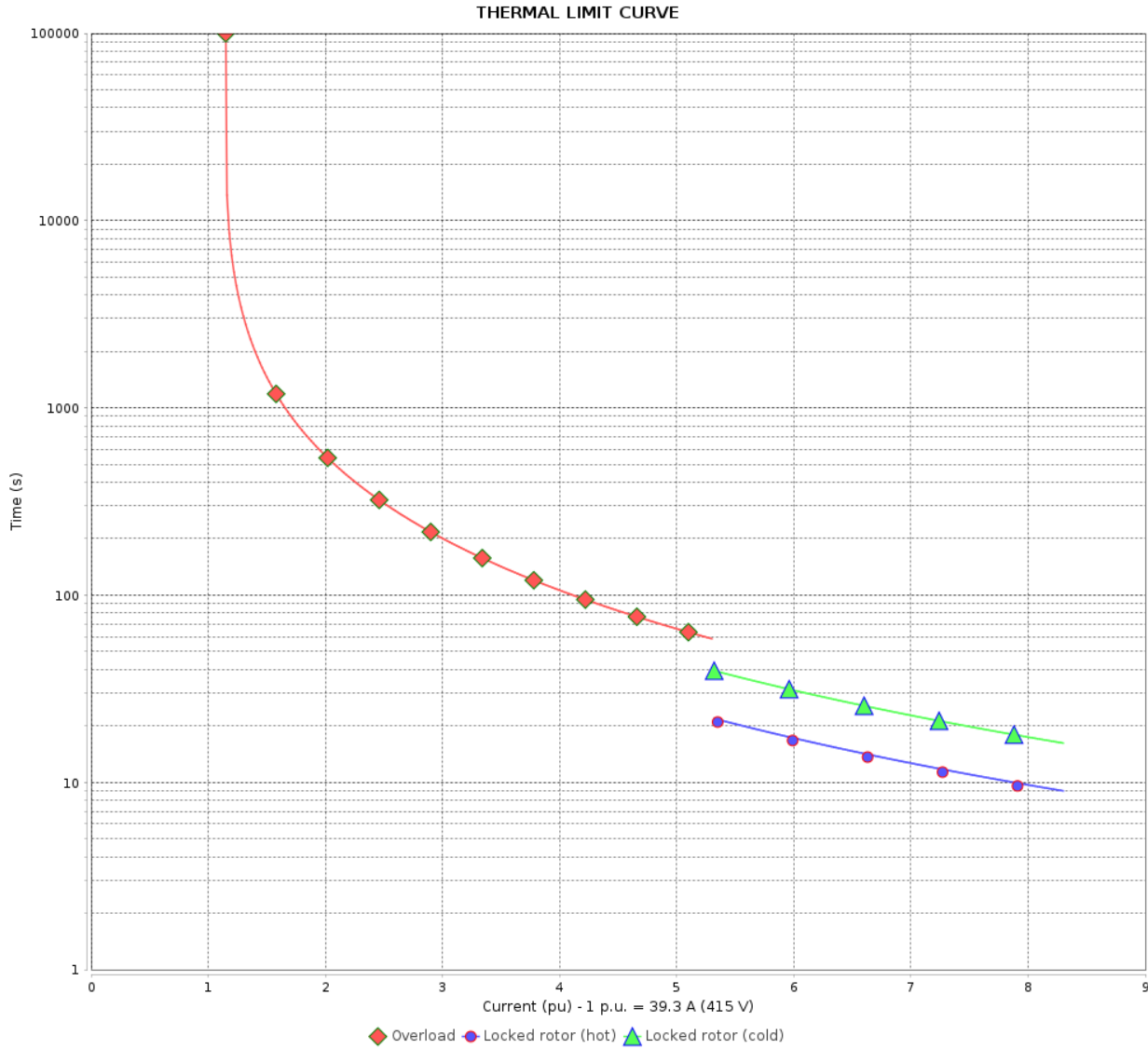
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 14 / 19	Revision
Checked by				
Date	17/04/2023			

THERMAL LIMIT CURVE

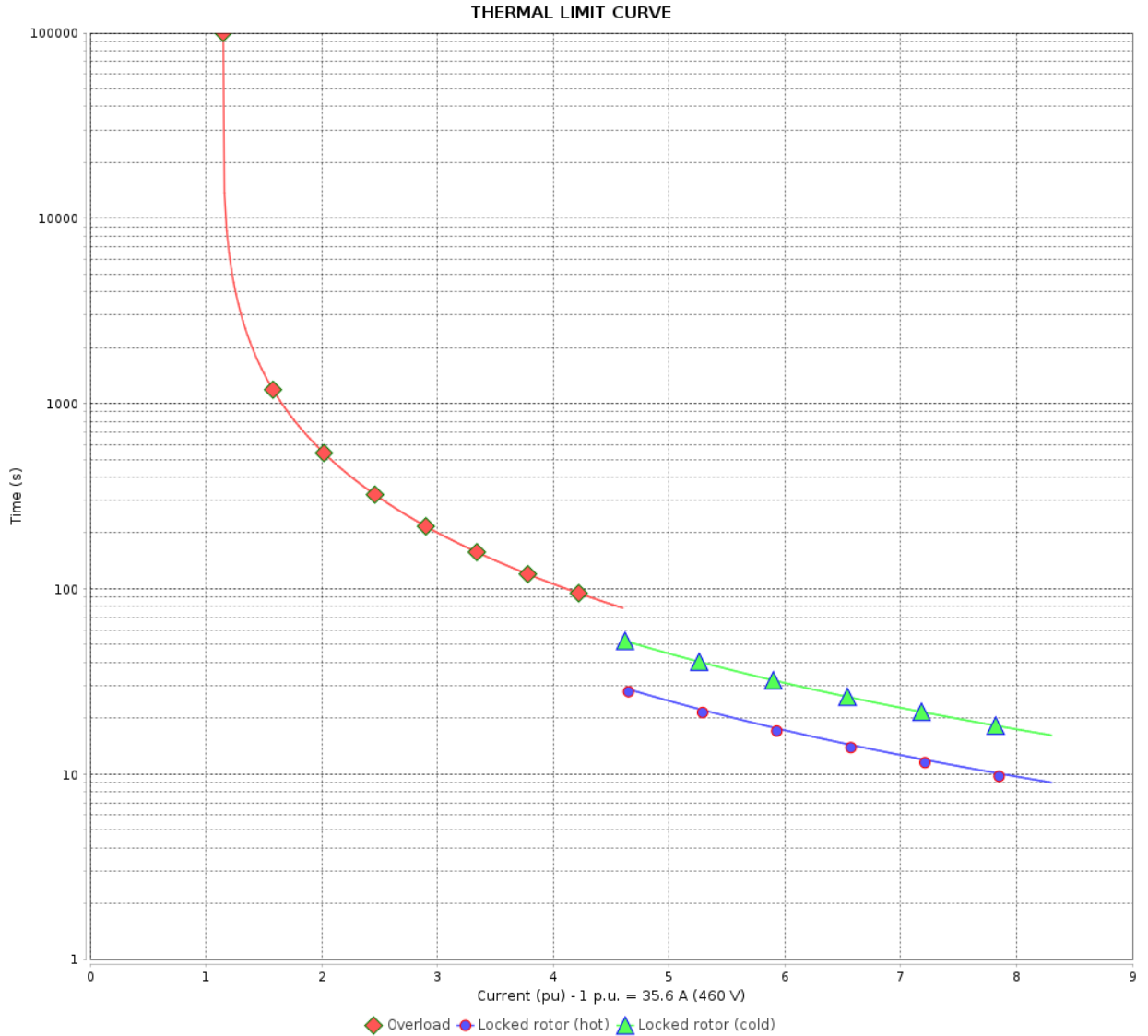
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Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by				
Date				
		Page	Revision	
		15 / 19		

VFD OPERATION CURVE

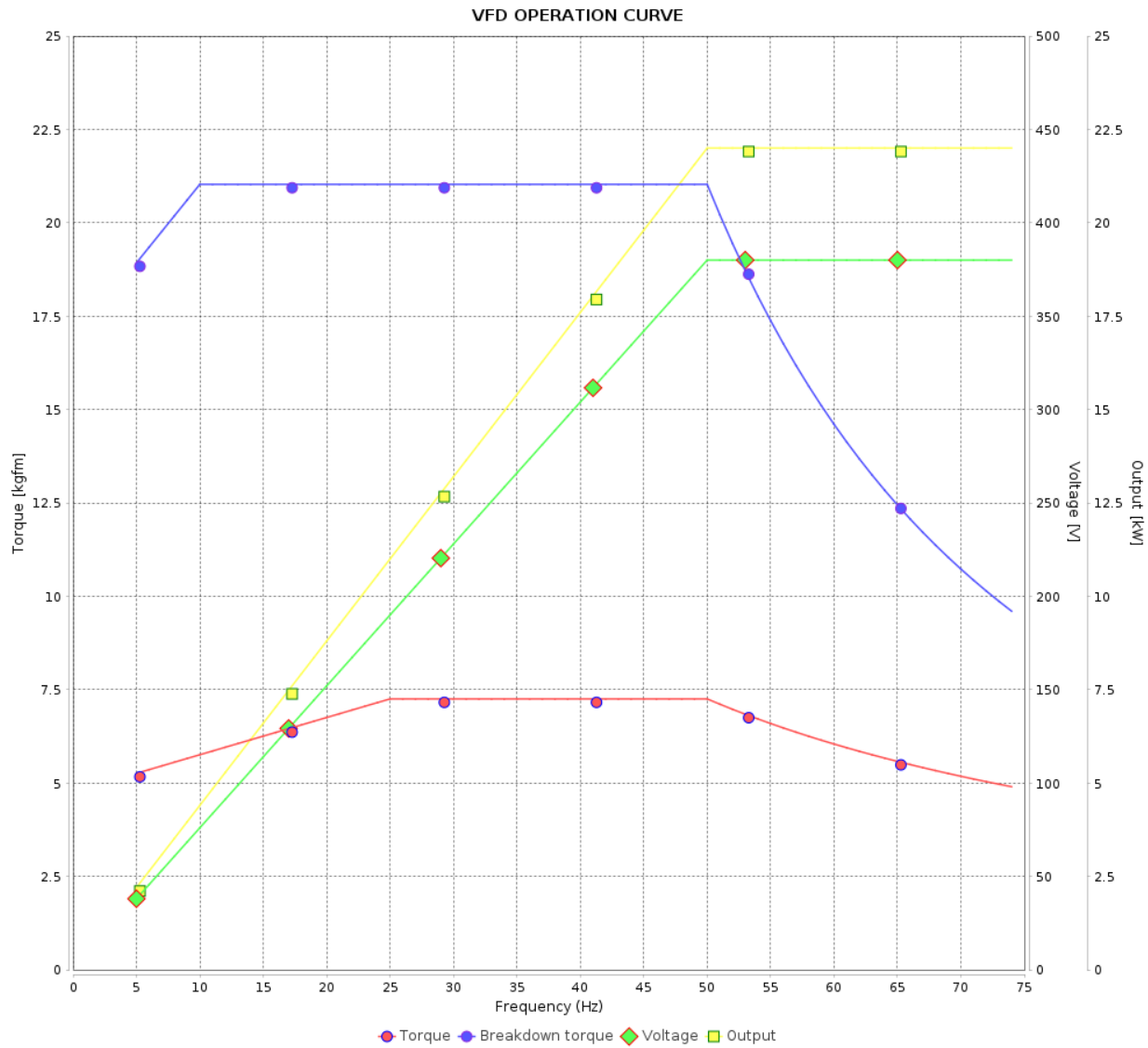
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Performed by			Page	Revision
Checked by				
Date				

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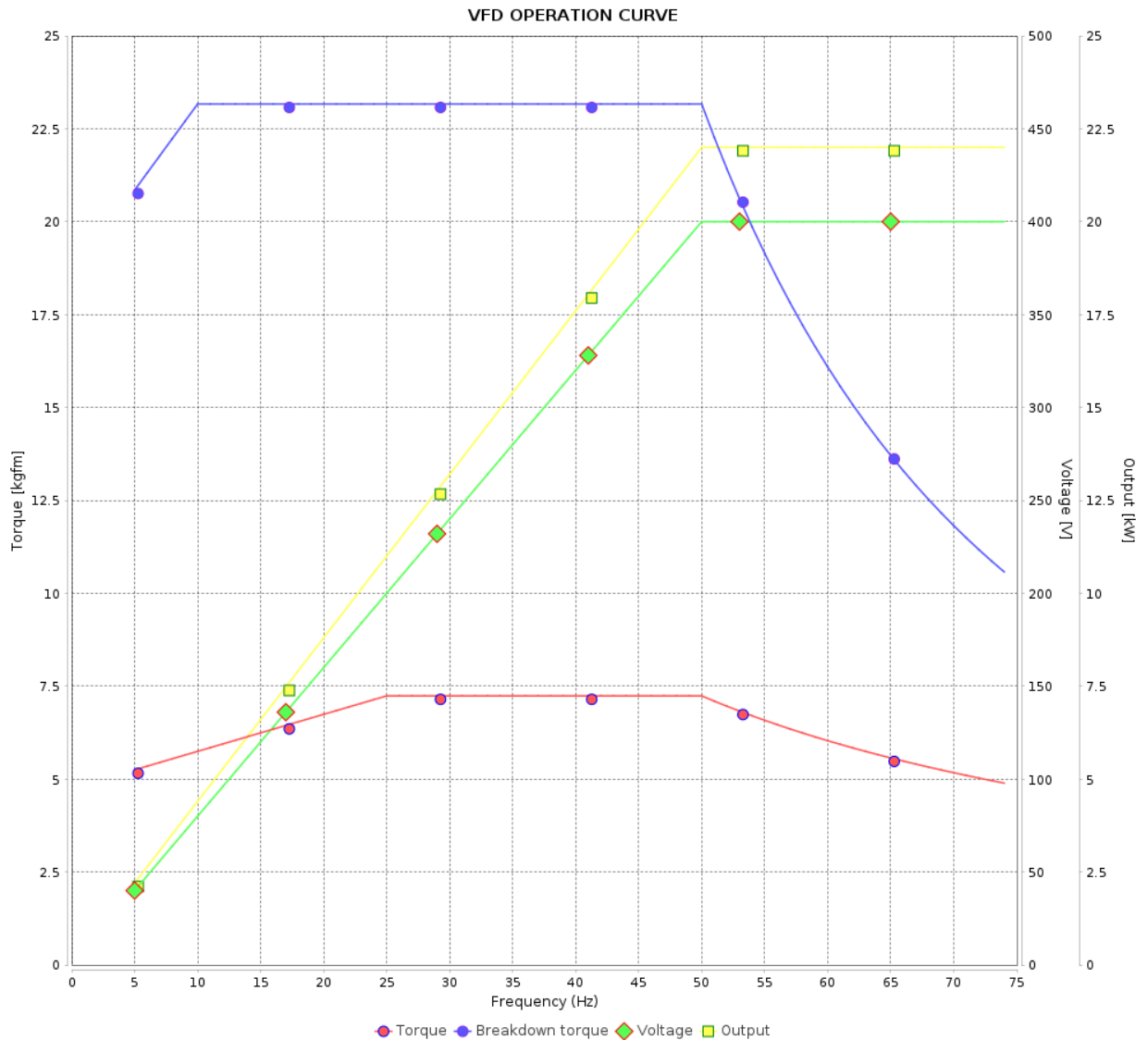
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 17 / 19	Revision
Checked by				
Date	17/04/2023			

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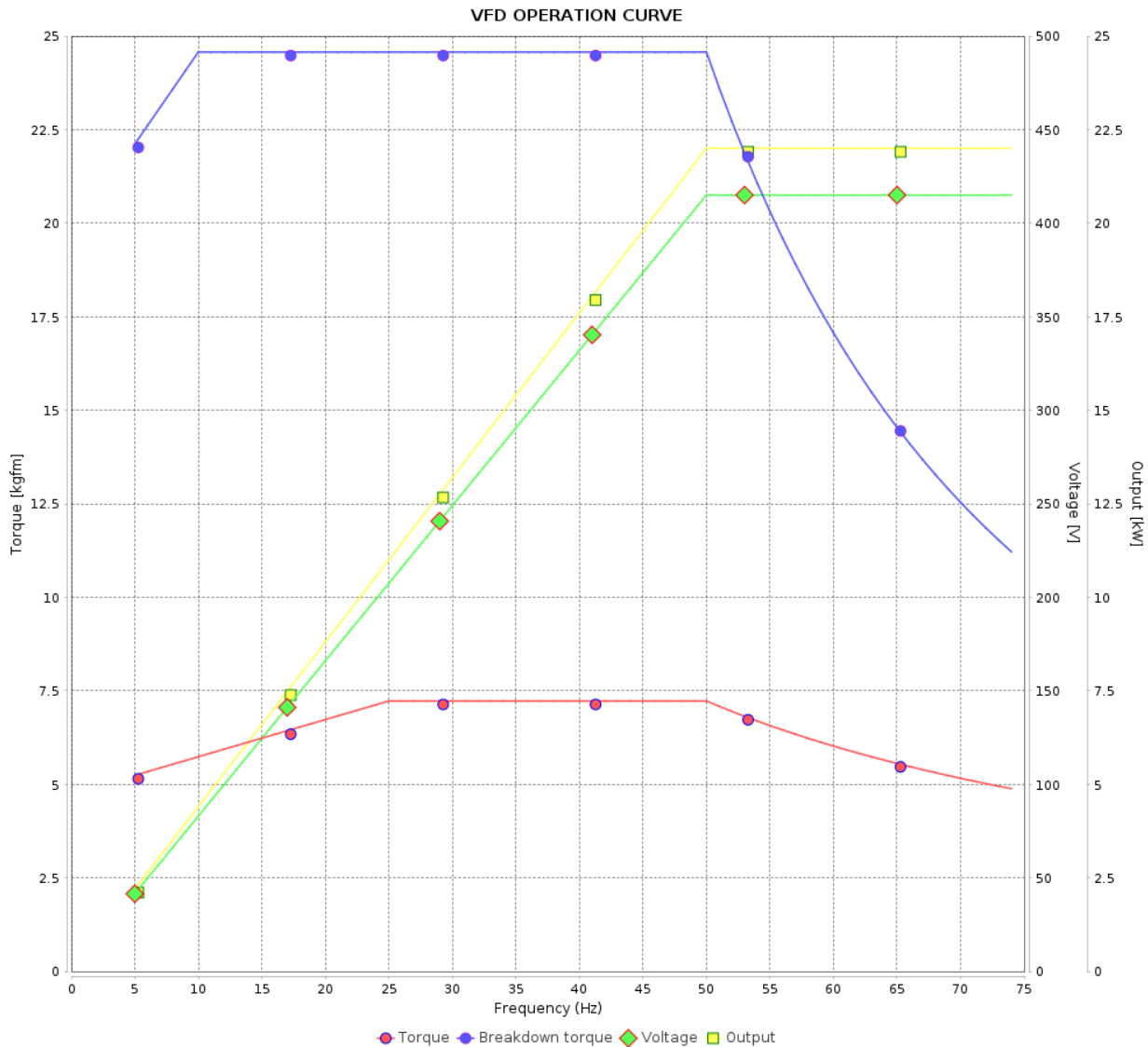
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 18 / 19	Revision
Checked by				
Date	17/04/2023			

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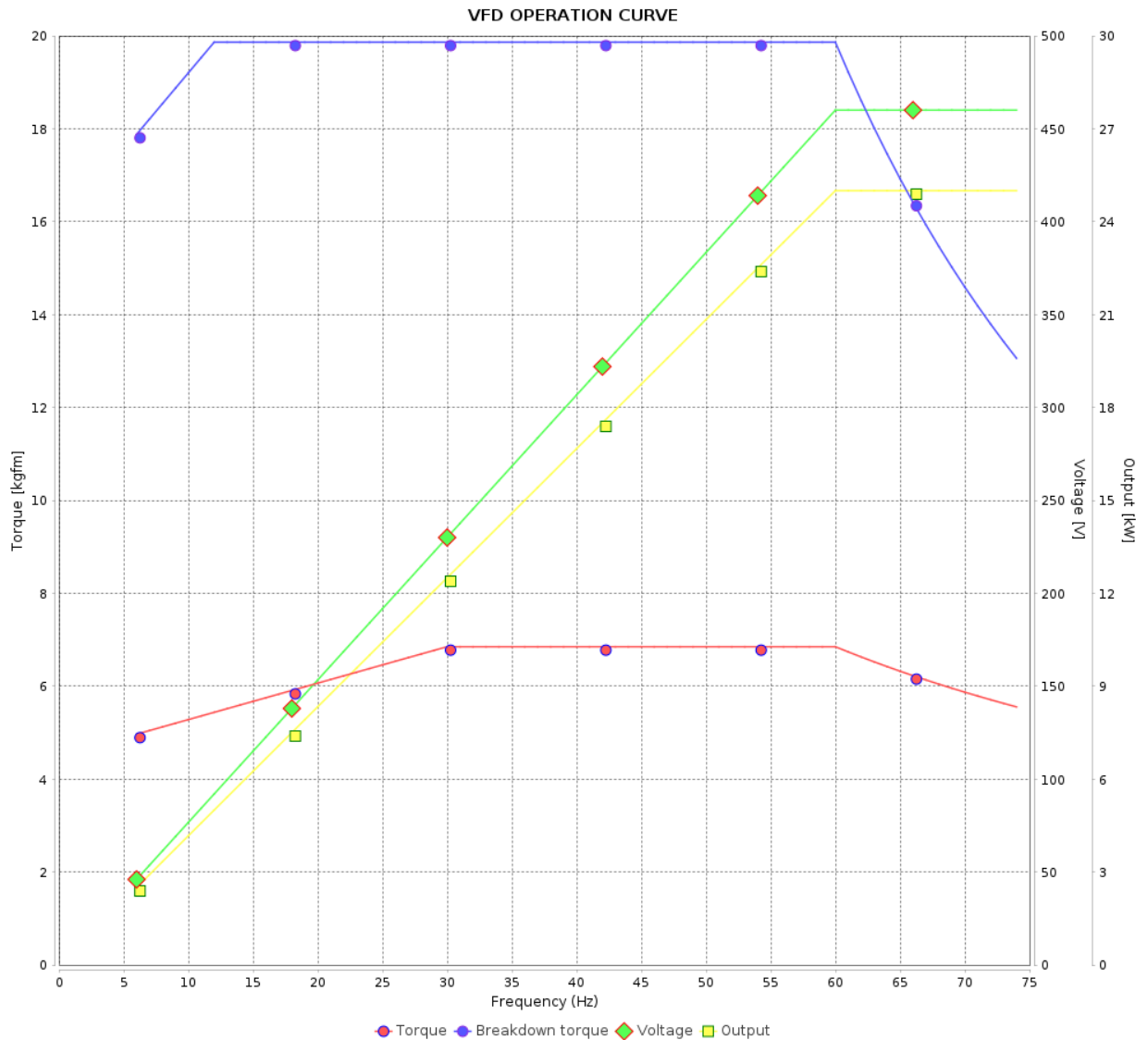
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Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		19 / 19		
Date		17/04/2023		