

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: W22 IE3 Three-Phase		Product code : 12863155	
Frame	: 180L	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	: 188 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.2846 kgm ²		
Design	: N				
Output [kW]	11	11	11	11	
Poles	8	8	8	8	
Frequency [Hz]	50	50	50	60	
Rated voltage [V]	380/660	400/690	415	460	
Rated current [A]	24.5/14.1	23.6/13.7	23.3	20.3	
L. R. Amperes [A]	147/84.6	153/88.9	163	154	
LRC [A]	6.0	6.5	7.0	7.6	
No load current [A]	11.5/6.62	12.5/7.25	13.5	11.2	
Rated speed [RPM]	725	730	730	885	
Slip [%]	3.33	2.67	2.67	1.67	
Rated torque [kgfm]	14.8	14.7	14.7	12.1	
Locked rotor torque [%]	200	229	250	260	
Breakdown torque [%]	240	270	300	340	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	25s (cold) 14s (hot)	23s (cold) 13s (hot)	23s (cold) 13s (hot)	28s (cold) 16s (hot)	
Noise level ²	52.0 dB(A)	52.0 dB(A)	52.0 dB(A)	54.0 dB(A)	
Efficiency (%)	25%				
	50%	88.5	88.6	88.0	88.0
	75%	88.6	88.6	88.6	89.5
	100%	88.6	88.6	88.6	89.5
Power Factor	25%				
	50%	0.59	0.55	0.52	0.55
	75%	0.71	0.68	0.65	0.68
	100%	0.77	0.76	0.74	0.76
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	12.4	12.4	12.4	11.3
	P2 (0,5;1,0)	11.0	11.0	11.0	10.1
	P3 (0,25;1,0)	10.9	10.9	10.9	9.9
	P4 (0,9;0,5)	5.8	5.8	5.8	5.3
	P5 (0,5;0,5)	4.3	4.3	4.3	3.9
	P6 (0,5;0,25)	2.9	2.9	2.9	2.6
	P7 (0,25;0,25)	2.1	2.1	2.1	1.9
Bearing type	: Drive end 6311 ZZ C3 Non drive end 6211 ZZ C3	Foundation loads			
Sealing	: V'Ring V'Ring	Max. traction : 496 kgf			
Lubrication interval	: - -	Max. compression : 684 kgf			
Lubricant amount	: - -				
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	28/12/2023			1 / 19	

DATA SHEET

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Notes

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	28/12/2023		2 / 19	

DATA SHEET



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Customer : Astraprom d.o.o.

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	28/12/2023			
			Revision	

TORQUE AND CURRENT VS SPEED CURVE

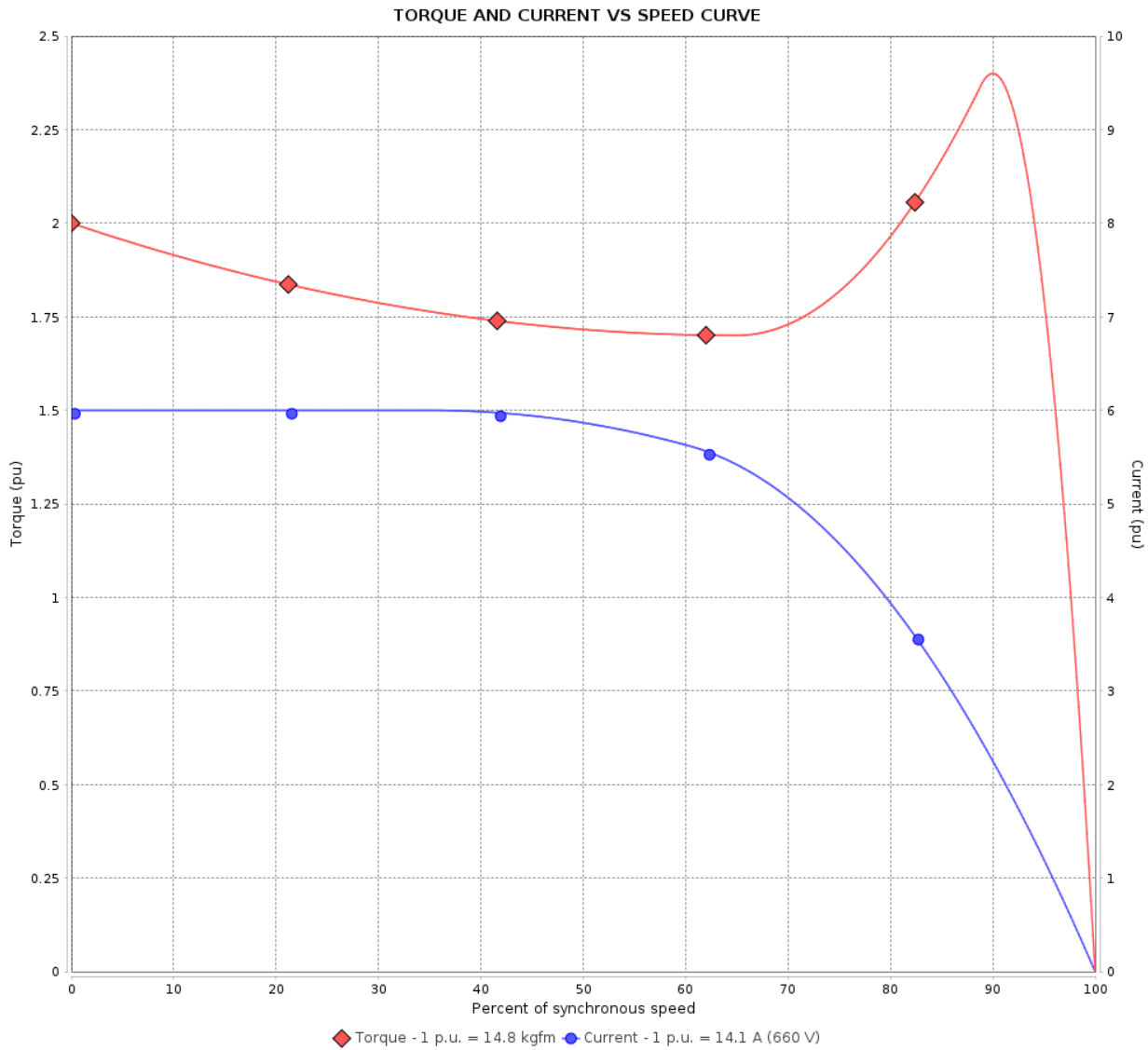
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12863155



Performance : 380/660 V 50 Hz 8P

Rated current	: 24.5/14.1 A	Moment of inertia (J)	: 0.2846 kgm ²
LRC	: 6.0	Duty cycle	: S1
Rated torque	: 14.8 kgfm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 725 rpm	Design	: N

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

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 19	Revision
Checked by				
Date	28/12/2023			

TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

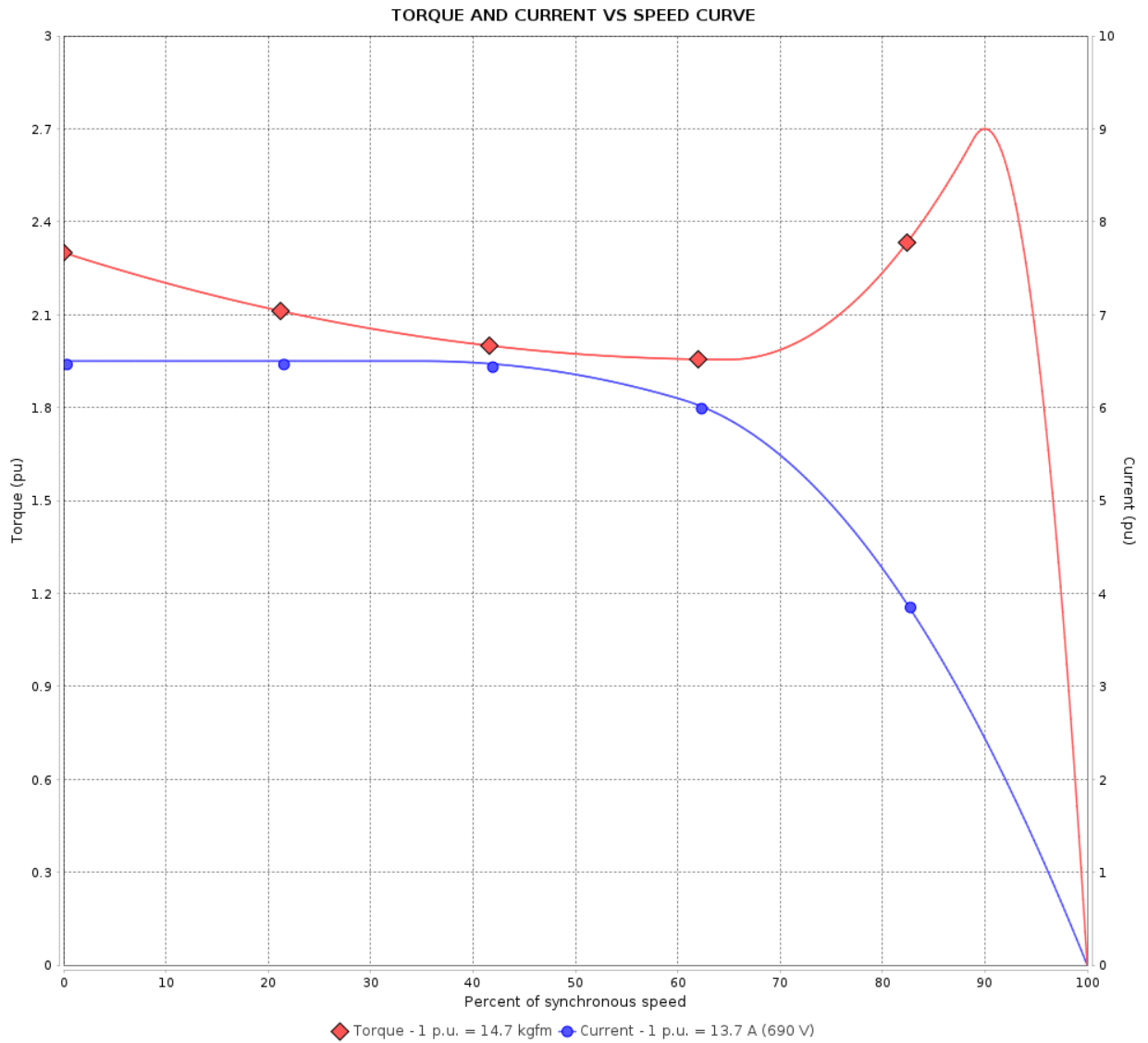


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12863155



Performance : 400/690 V 50 Hz 8P

Rated current : 23.6/13.7 A
 LRC : 6.5
 Rated torque : 14.7 kgfm
 Locked rotor torque : 229 %
 Breakdown torque : 270 %
 Rated speed : 730 rpm

Moment of inertia (J) : 0.2846 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Locked rotor time : 23s (cold) 13s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 5 / 19	Revision
Checked by				
Date	28/12/2023			

TORQUE AND CURRENT VS SPEED CURVE

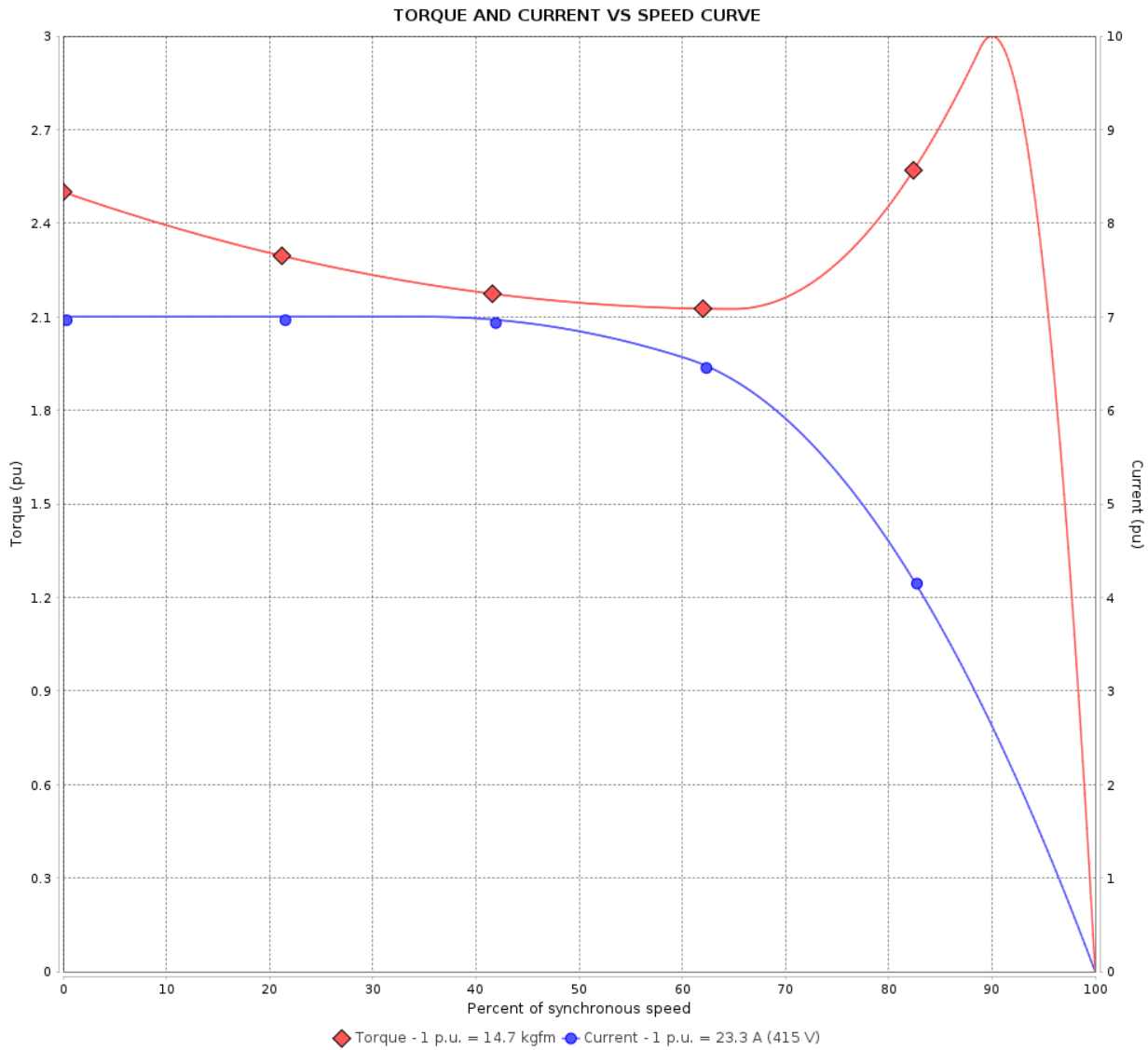
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12863155



Performance : 415 V 50 Hz 8P

Rated current	: 23.3 A	Moment of inertia (J)	: 0.2846 kgm ²
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 14.7 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: N

Locked rotor time : 23s (cold) 13s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 19	Revision
Checked by				
Date	28/12/2023			

TORQUE AND CURRENT VS SPEED CURVE



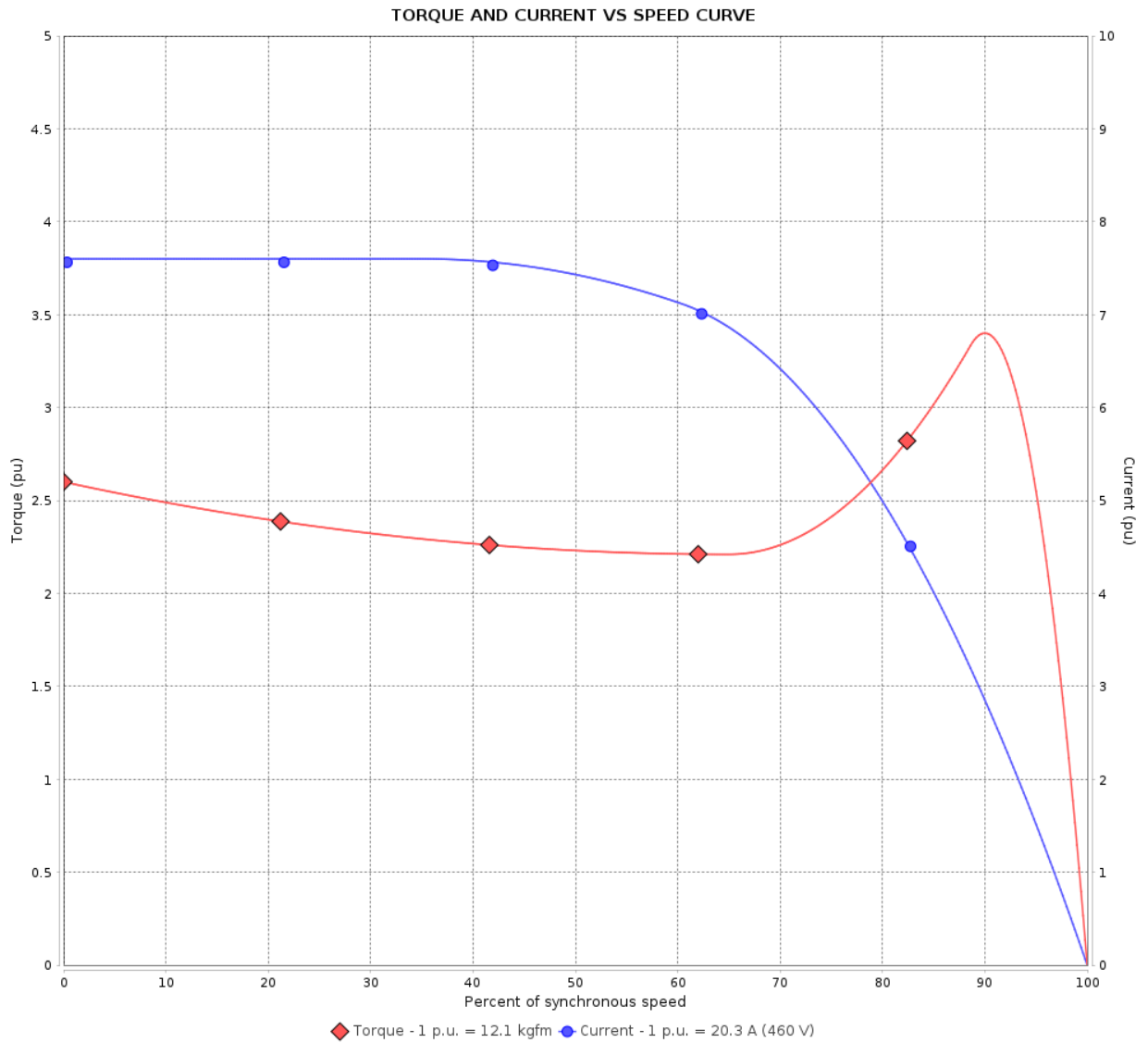
Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12863155



Performance : 460 V 60 Hz 8P

Rated current	: 20.3 A	Moment of inertia (J)	: 0.2846 kgm ²
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 12.1 kgfm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 885 rpm	Design	: N

Locked rotor time : 28s (cold) 16s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 7 / 19	Revision
Checked by				
Date	28/12/2023			

LOAD PERFORMANCE CURVE

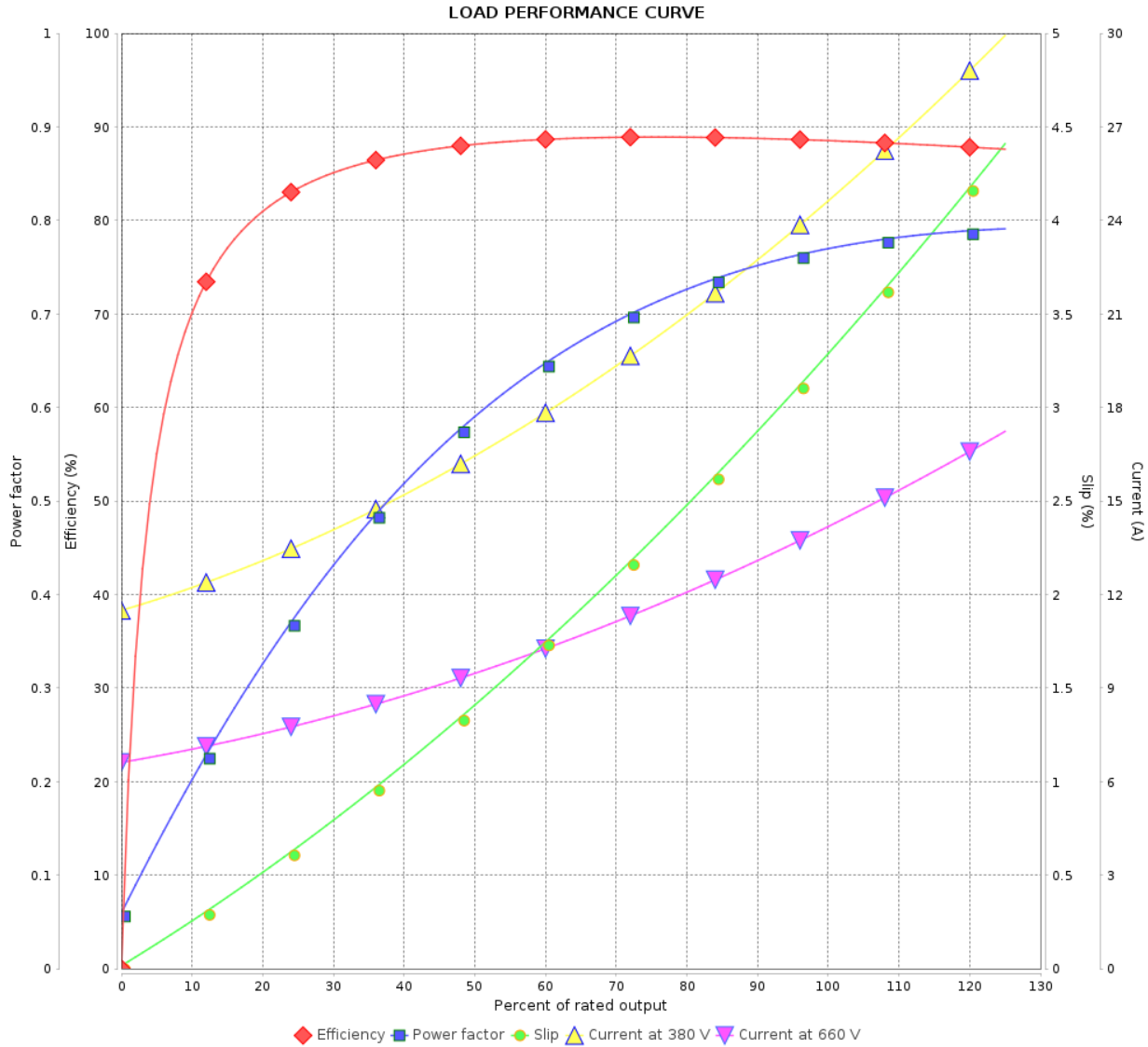
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Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12863155



Performance : 380/660 V 50 Hz 8P

Rated current : 24.5/14.1 A
 LRC : 6.0
 Rated torque : 14.8 kgfm
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 725 rpm

Moment of inertia (J) : 0.2846 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				

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

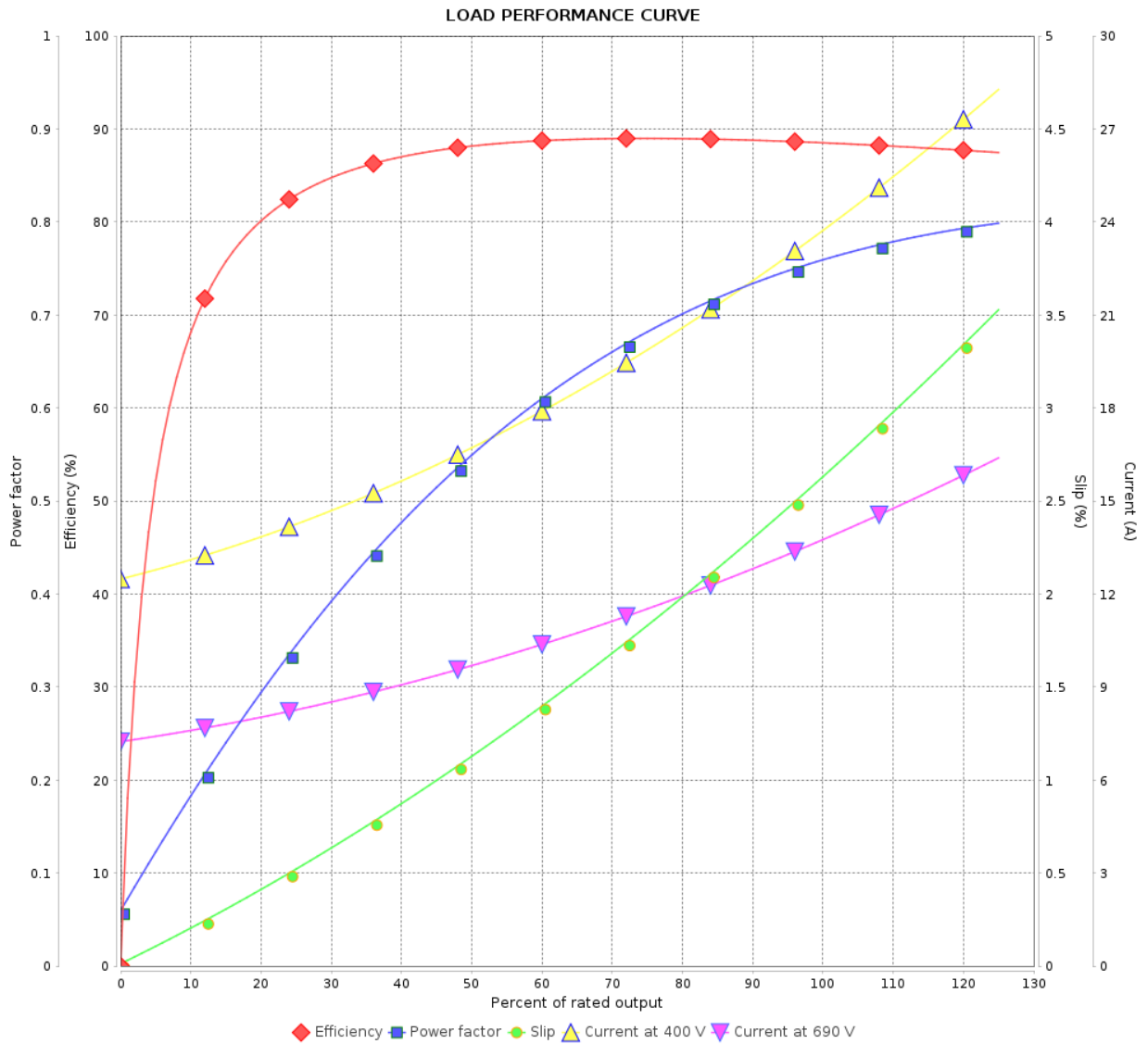


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 Breakdown torque : 270 %
 Rated speed : 730 rpm

Moment of inertia (J) : 0.2846 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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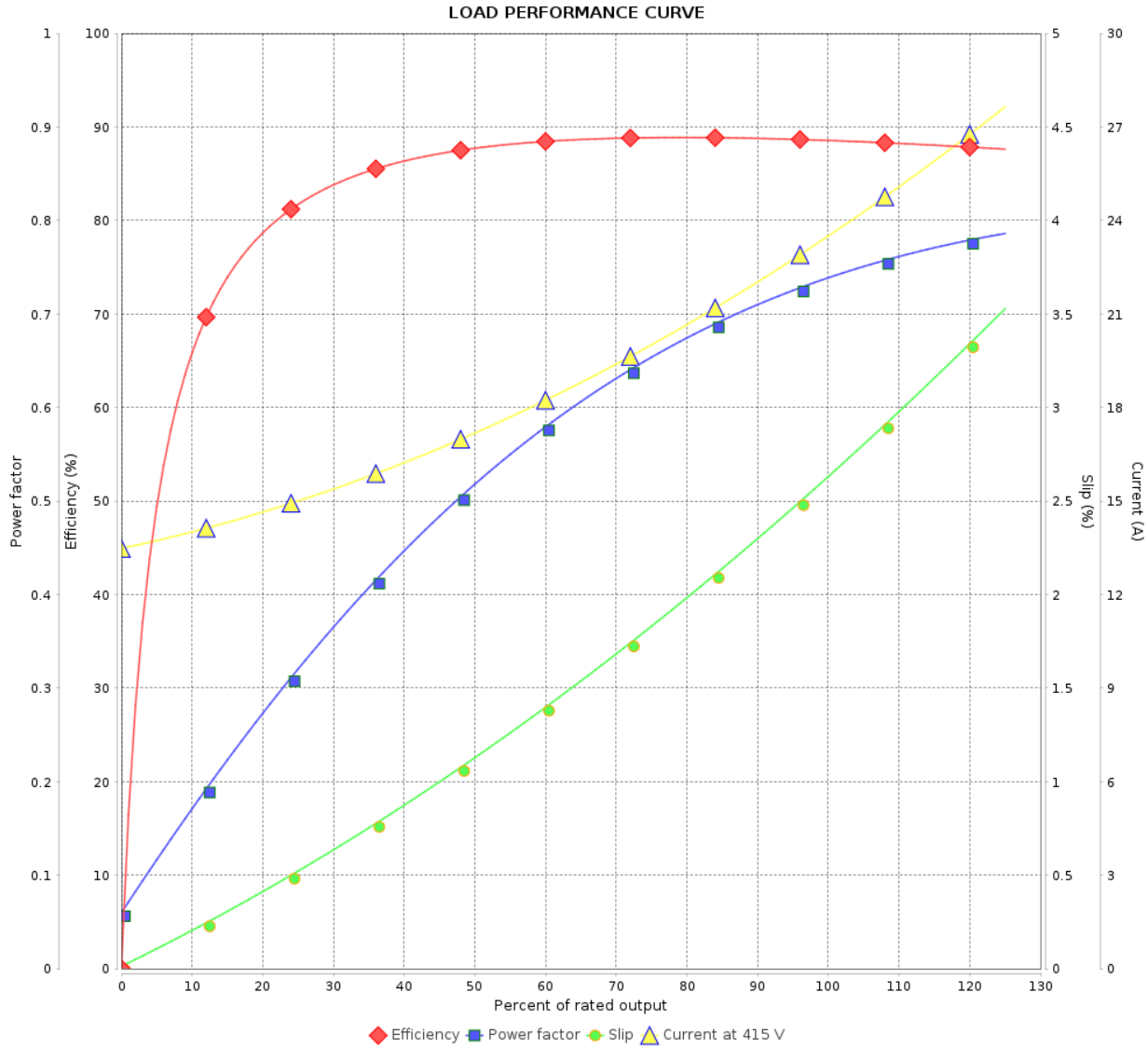
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Performance : 415 V 50 Hz 8P

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LRC	: 7.0	Duty cycle	: S1
Rated torque	: 14.7 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: N

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 10 / 19	Revision
Checked by				
Date	28/12/2023			

LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage

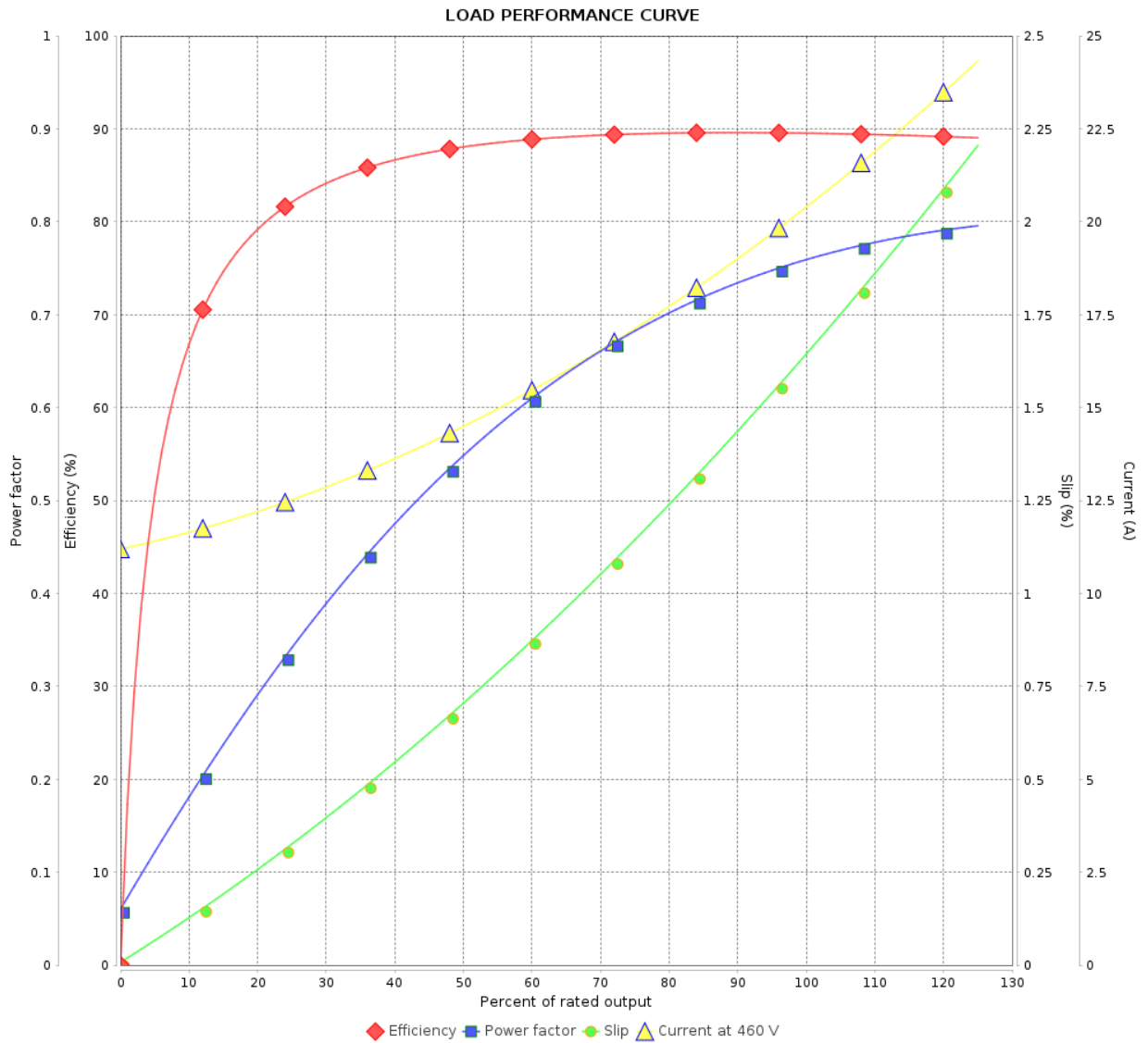


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 Rated speed : 885 rpm

Moment of inertia (J) : 0.2846 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		11 / 19		
Date		28/12/2023		

THERMAL LIMIT CURVE

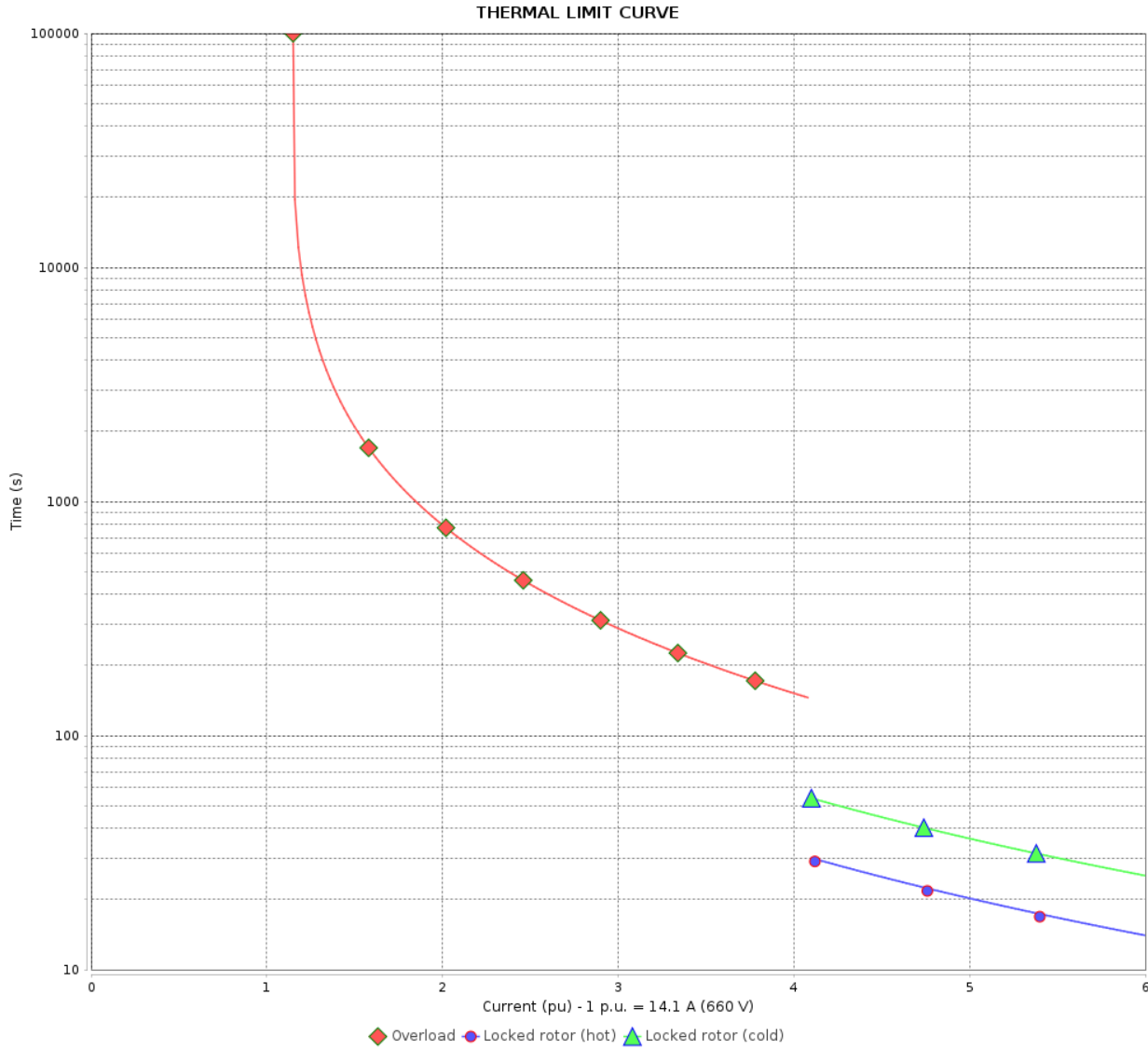
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Moment of inertia (J) : 0.2846 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant

Cooling constant

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

THERMAL LIMIT CURVE

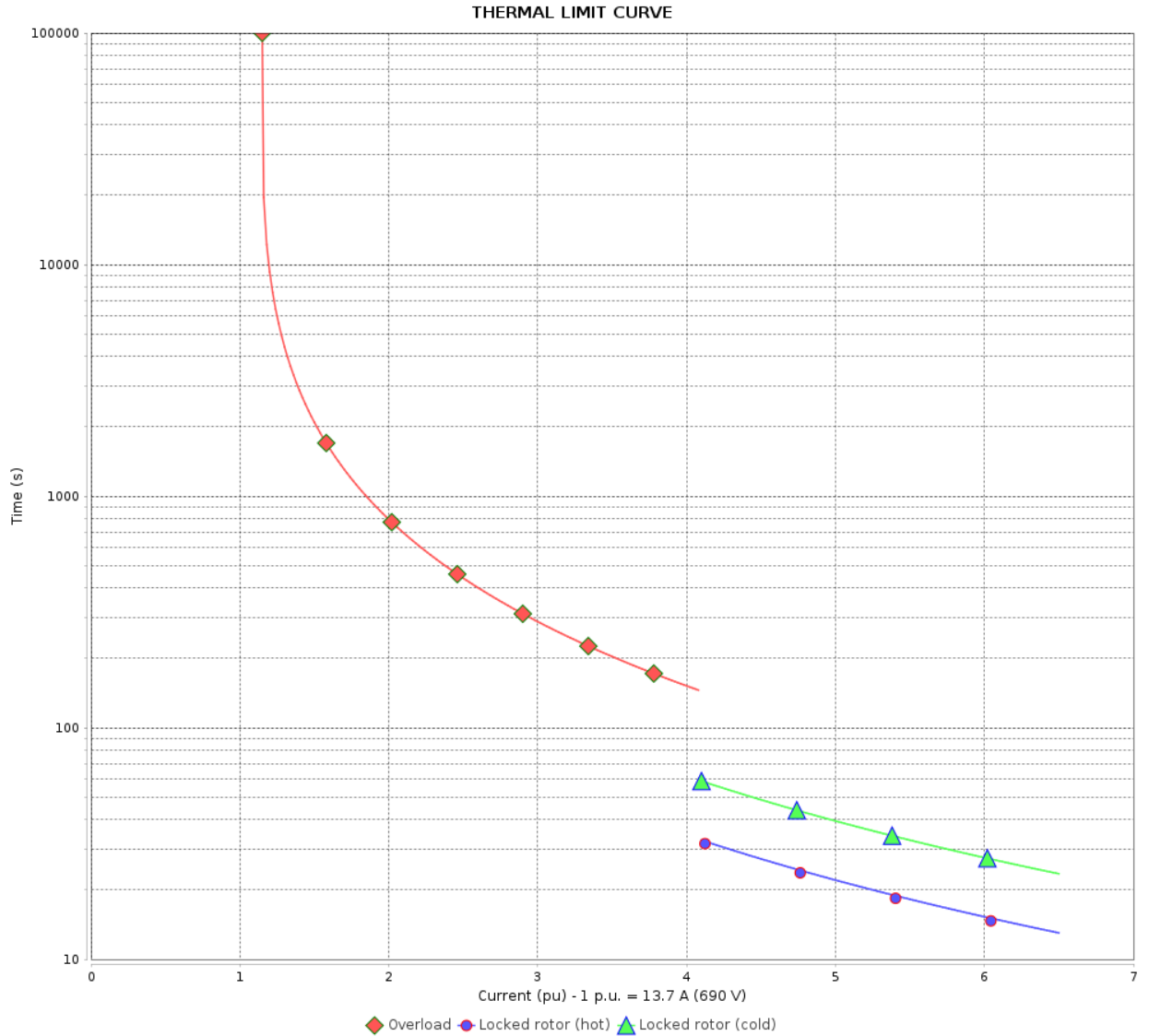
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 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

Heating constant
 Cooling constant

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

THERMAL LIMIT CURVE

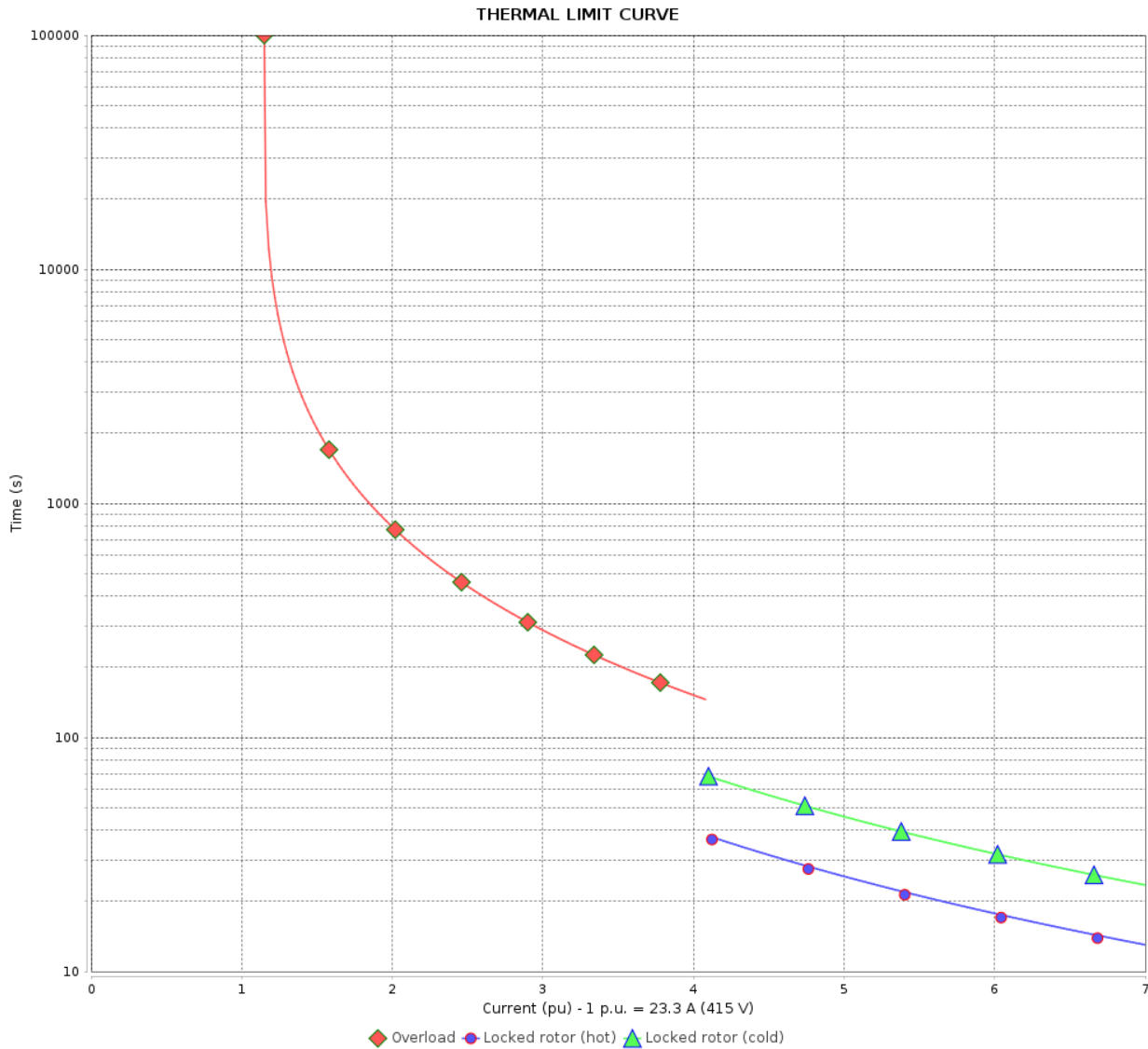
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LRC	: 7.0	Duty cycle	: S1
Rated torque	: 14.7 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: N

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 14 / 19	Revision
Checked by				
Date	28/12/2023			

THERMAL LIMIT CURVE

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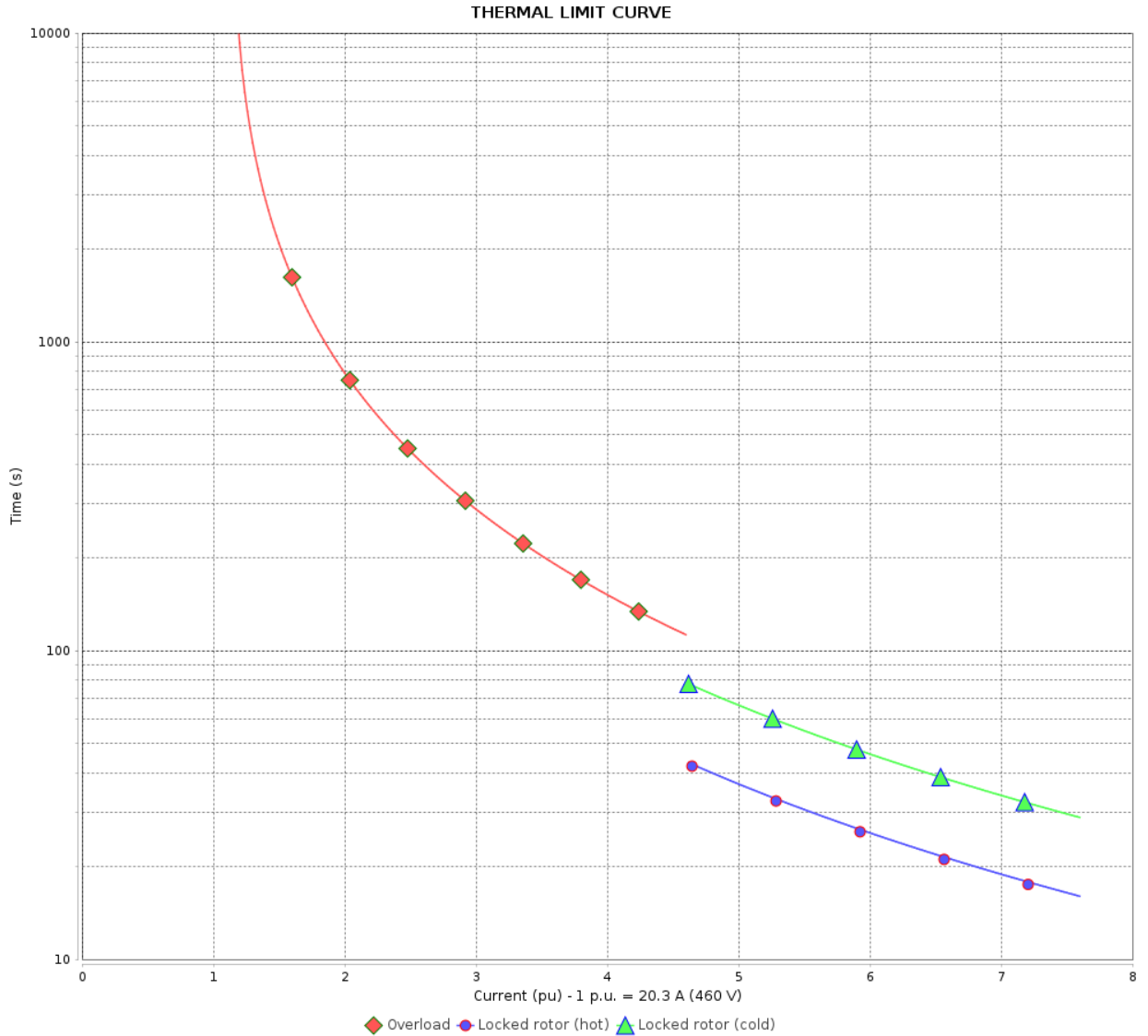


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Performance : 460 V 60 Hz 8P

Rated current : 20.3 A
 LRC : 7.6
 Rated torque : 12.1 kgfm
 Locked rotor torque : 260 %
 Breakdown torque : 340 %
 Rated speed : 885 rpm

Moment of inertia (J) : 0.2846 kgm²
 Duty cycle : S1
 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				
Checked by				
Date				
		Page	Revision	
		15 / 19		

VFD OPERATION CURVE

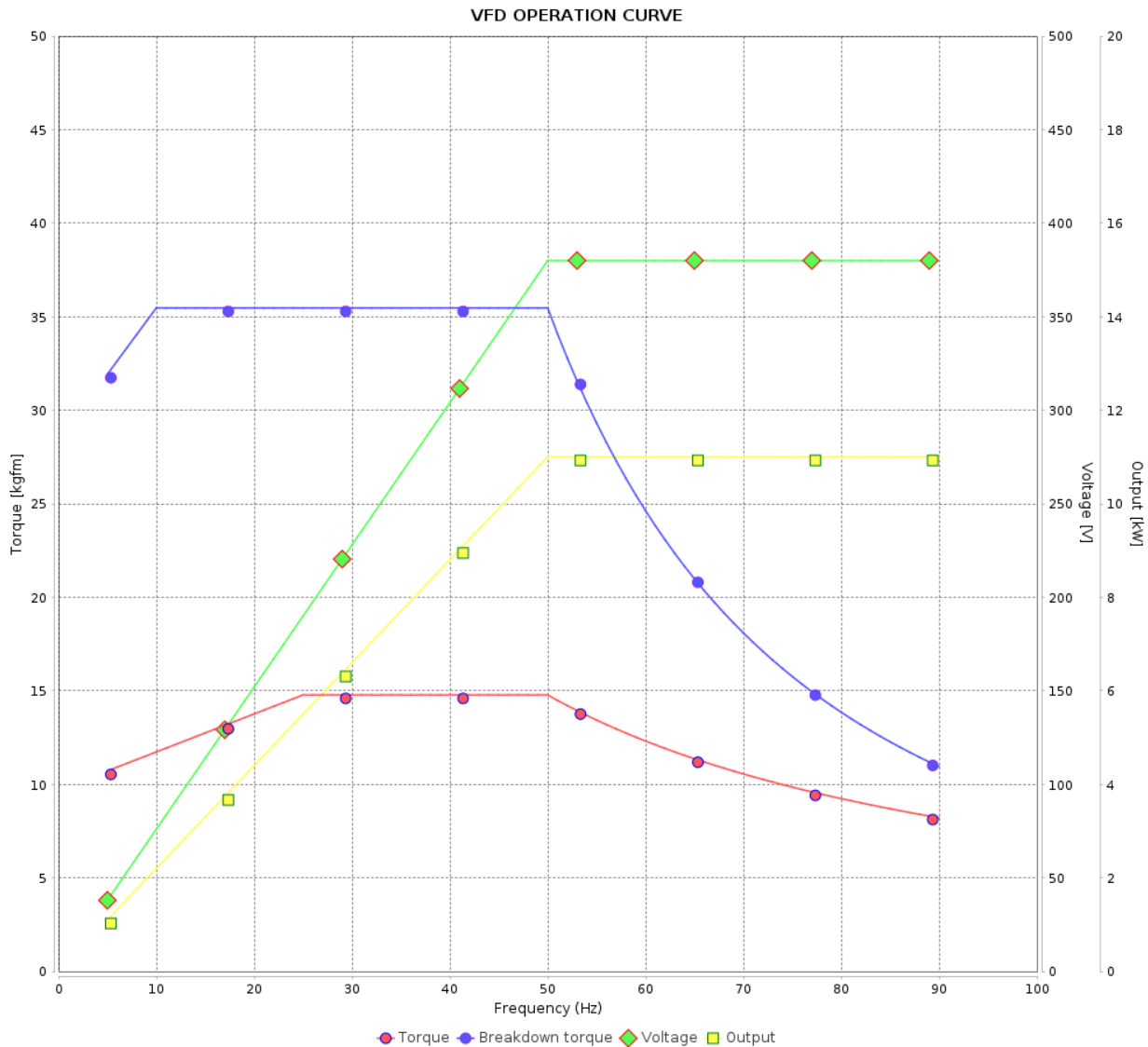
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 Rated torque : 14.8 kgfm
 Locked rotor torque : 200 %
 Breakdown torque : 240 %
 Rated speed : 725 rpm

Moment of inertia (J) : 0.2846 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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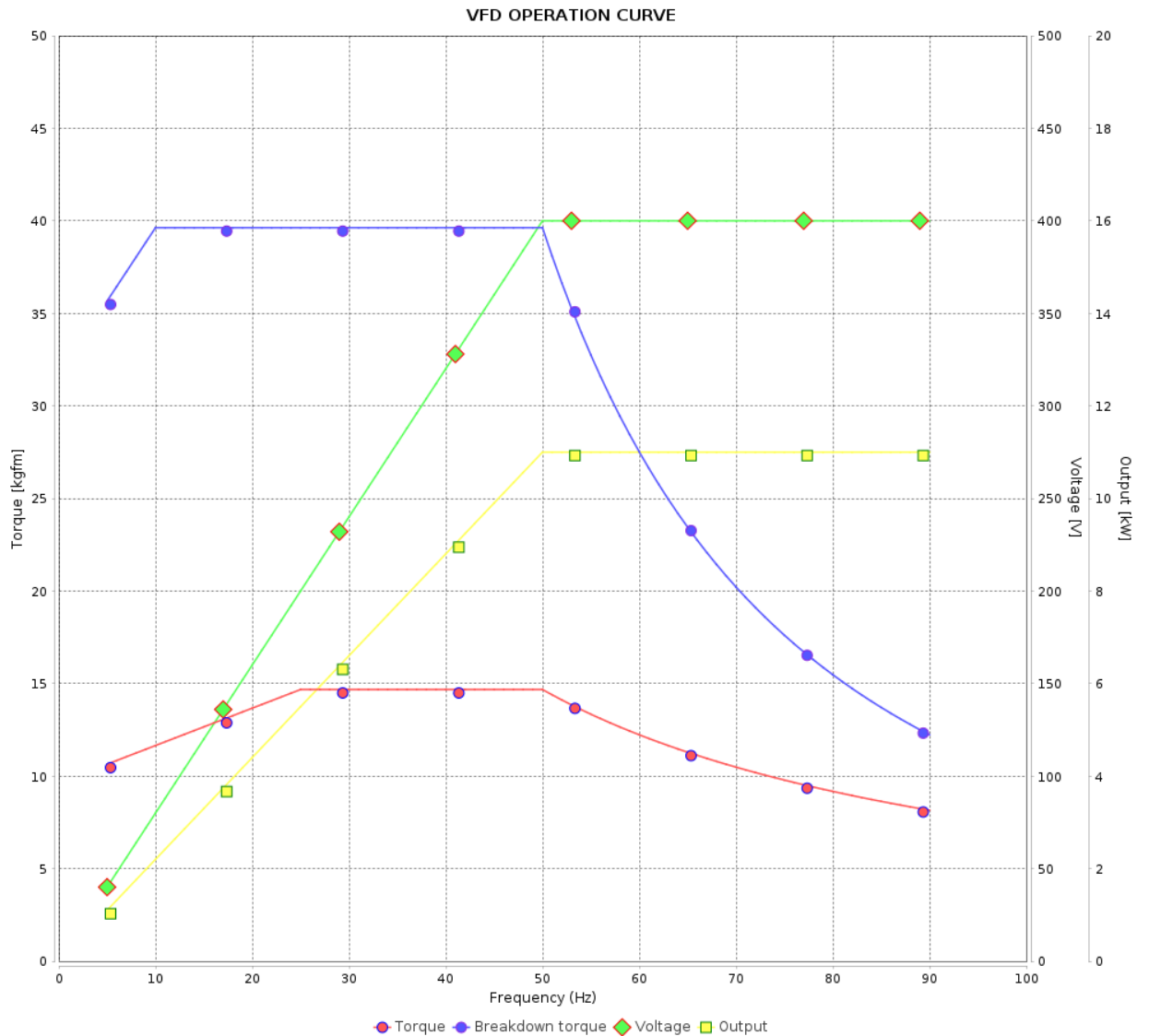
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Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date				

VFD OPERATION CURVE

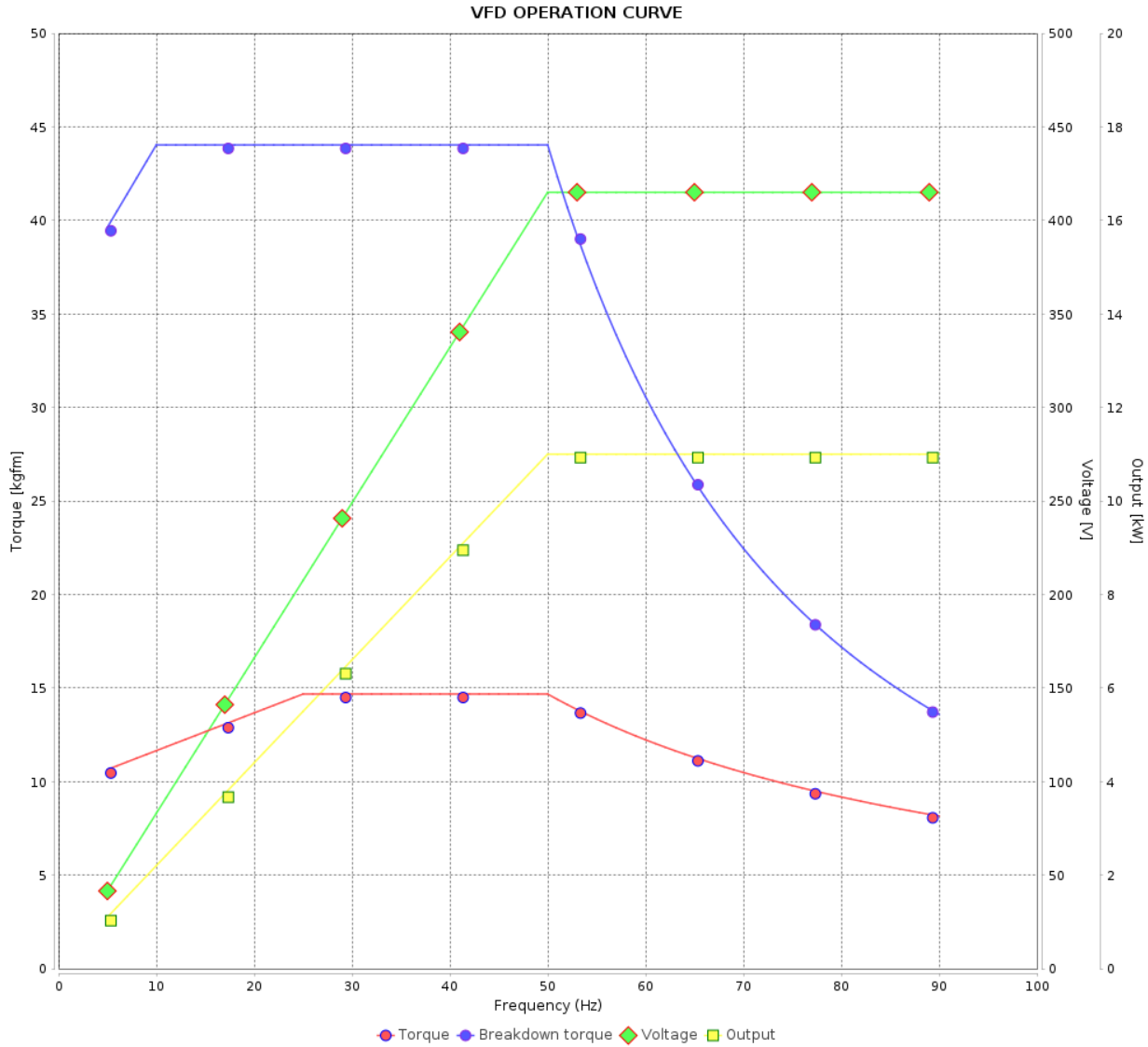
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Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 300 %	Temperature rise	: 80 K
Rated speed	: 730 rpm	Design	: N

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

VFD OPERATION CURVE

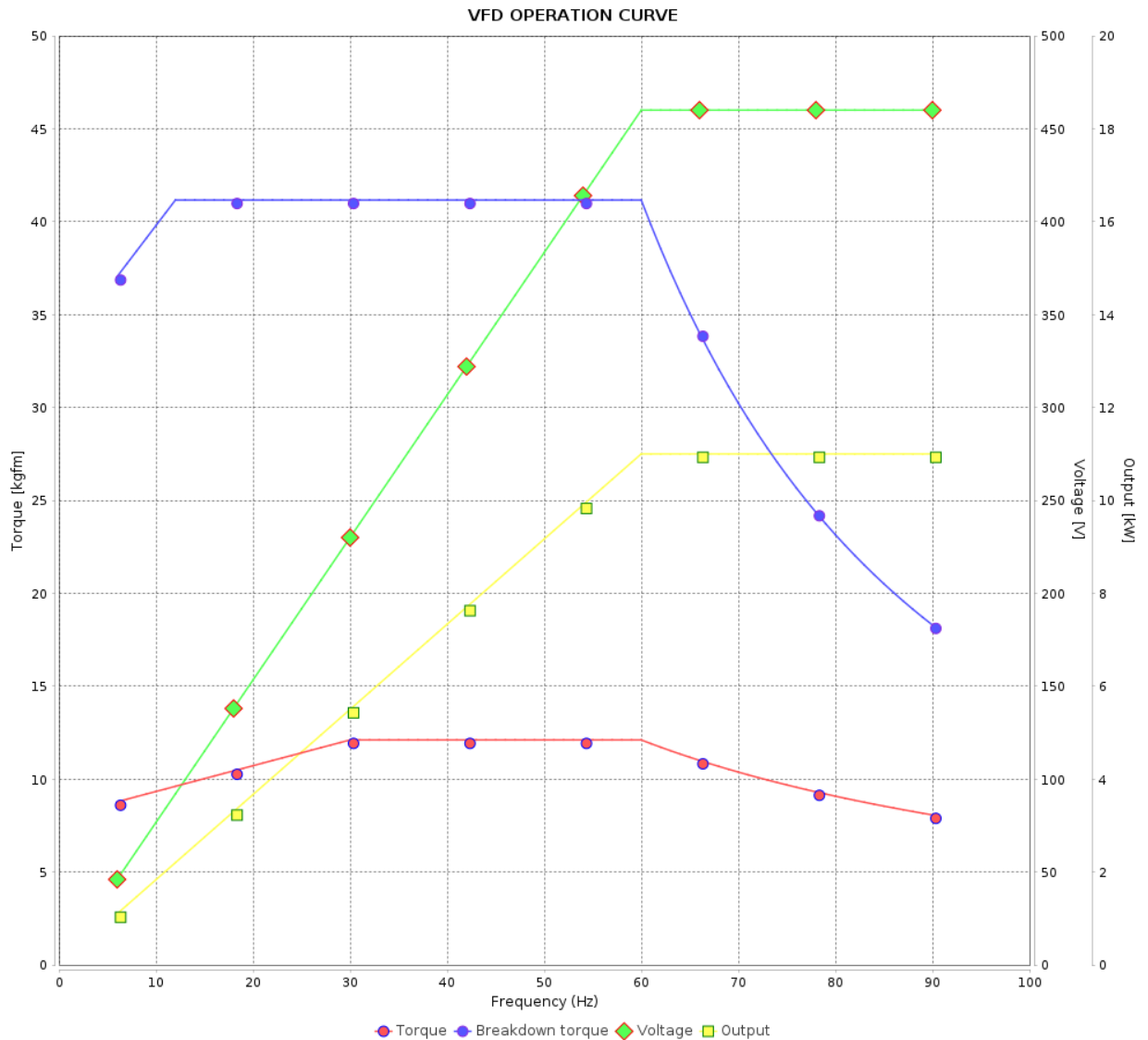
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Performed by			Page	Revision
Checked by				
Date				