

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.		
Product line		: W22 IE3 Three-Phase	Product code : 12862409	
Frame	: 250S/M	Cooling method	: IC411 - TEFC	
Insulation class	: F	Mounting	: B3T	
Duty cycle	: S1	Rotation <sup>1</sup>	: Both (CW and CCW)	
Ambient temperature	: -20°C to +40°C	Starting method	: Direct On Line	
Altitude	: 1000 m.a.s.l.	Approx. weight <sup>3</sup>	: 469 kg	
Protection degree	: IP55	Moment of inertia (J)	: 0.3736 kgm <sup>2</sup>	
Design	: N			
Output [kW]	55	55	55	
Poles	2	2	2	
Frequency [Hz]	50	50	60	
Rated voltage [V]	380/660	400/690	460	
Rated current [A]	101/58.0	97.9/56.7	85.8	
L. R. Amperes [A]	755/435	783/454	763	
LRC [A]	7.5	8.0	8.9	
No load current [A]	32.0/18.4	35.0/20.3	32.0	
Rated speed [RPM]	2963	2968	3572	
Slip [%]	1.23	1.07	0.78	
Rated torque [Nm]	177	177	147	
Locked rotor torque [%]	260	280	350	
Breakdown torque [%]	290	330	370	
Service factor	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	
Locked rotor time	16s (cold) 9s (hot)	16s (cold) 9s (hot)	18s (cold) 10s (hot)	
Noise level <sup>2</sup>	74.0 dB(A)	74.0 dB(A)	79.0 dB(A)	
Efficiency (%)	25%			
	50%	93.5	93.3	
	75%	94.0	94.0	
	100%	94.3	94.3	
Power Factor	25%			
	50%	0.78	0.75	
	75%	0.85	0.83	
	100%	0.88	0.86	
Losses at normative operating points (speed;torque), in percentage of rated output power				
Losses (%)	P1 (0,9;1,0)	5.7	5.7	6.5
	P2 (0,5;1,0)	4.7	4.7	5.3
	P3 (0,25;1,0)	4.6	4.6	5.1
	P4 (0,9;0,5)	2.9	2.9	3.2
	P5 (0,5;0,5)	1.8	1.8	2.0
	P6 (0,5;0,25)	1.1	1.1	1.3
	P7 (0,25;0,25)	0.7	0.7	0.8
Bearing type	: Drive end : 6314 C3	Non drive end : 6314 C3	Foundation loads	
Sealing	: WSeal	WSeal	Max. traction : 3061 N	
Lubrication interval	: 5000 h	5000 h	Max. compression : 7664 N	
Lubricant amount	: 27 g	27 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.		
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## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

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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

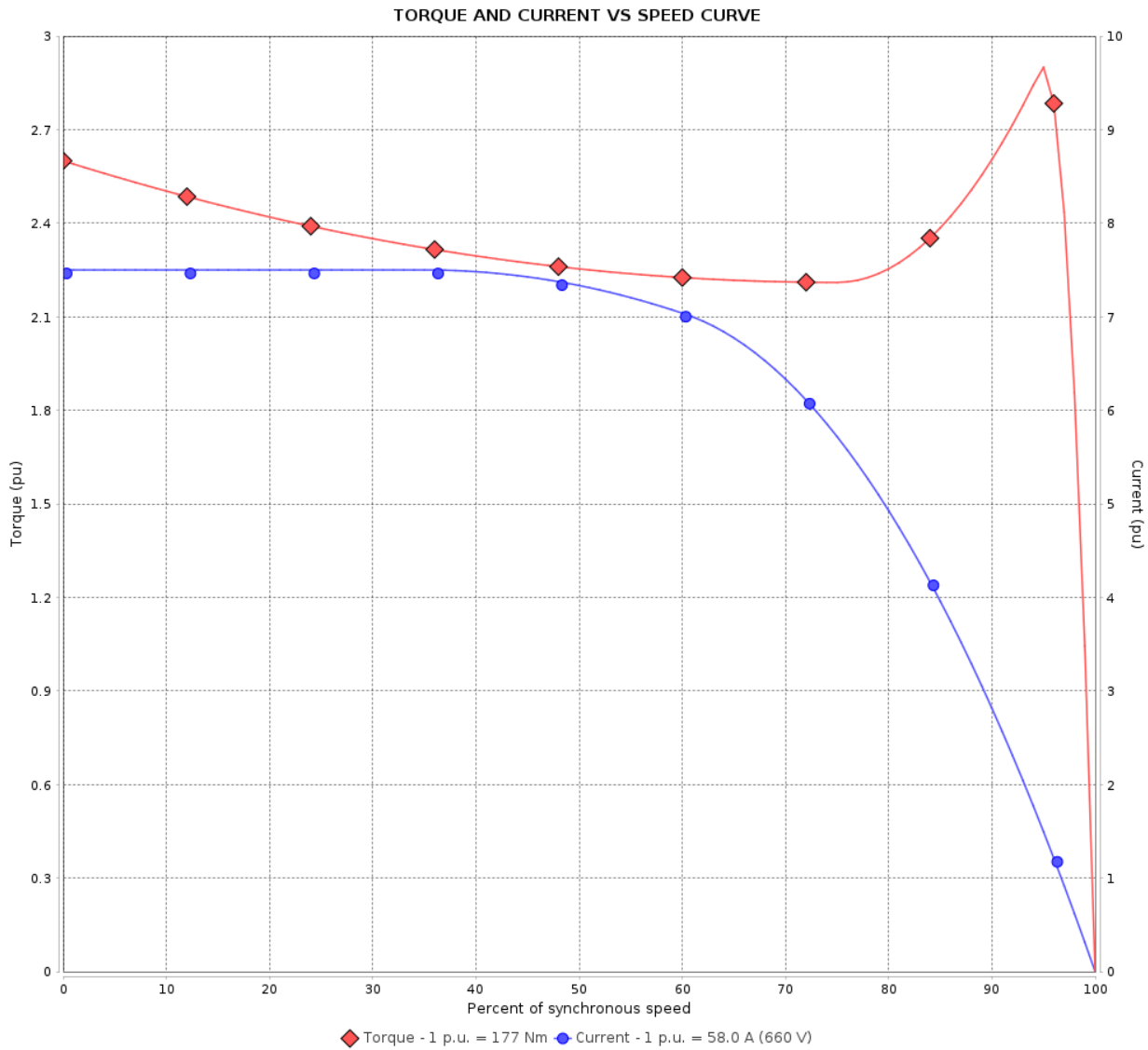
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862409



Performance : 380/660 V 50 Hz 2P

Rated current	: 101/58.0 A	Moment of inertia (J)	: 0.3736 kgm <sup>2</sup>
LRC	: 7.5	Duty cycle	: S1
Rated torque	: 177 Nm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 2963 rpm	Design	: N

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

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# TORQUE AND CURRENT VS SPEED CURVE

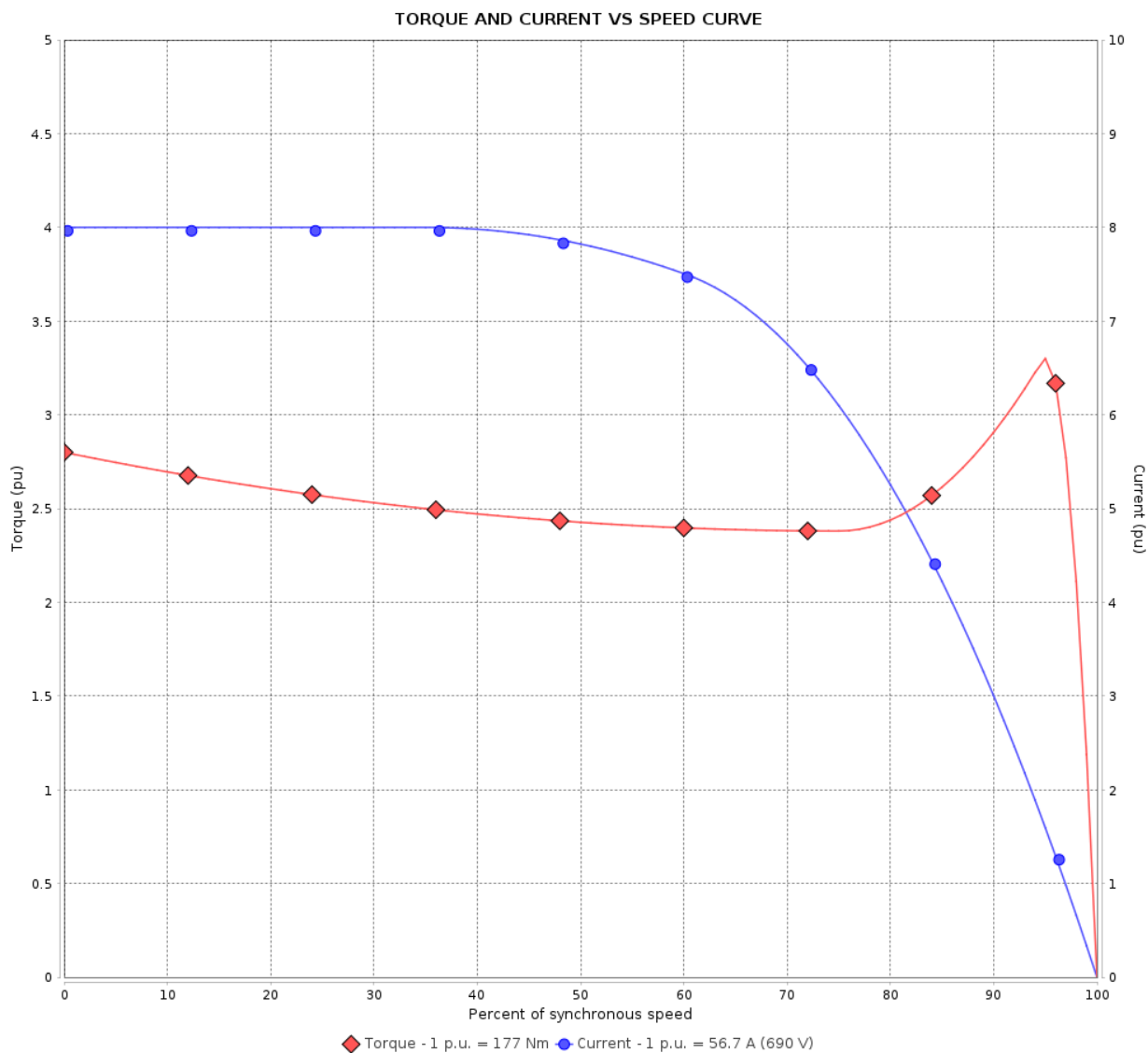


## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862409



Performance : 400/690 V 50 Hz 2P

Rated current	: 97.9/56.7 A	Moment of inertia (J)	: 0.3736 kgm <sup>2</sup>
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 177 Nm	Insulation class	: F
Locked rotor torque	: 280 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 2968 rpm	Design	: N

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

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

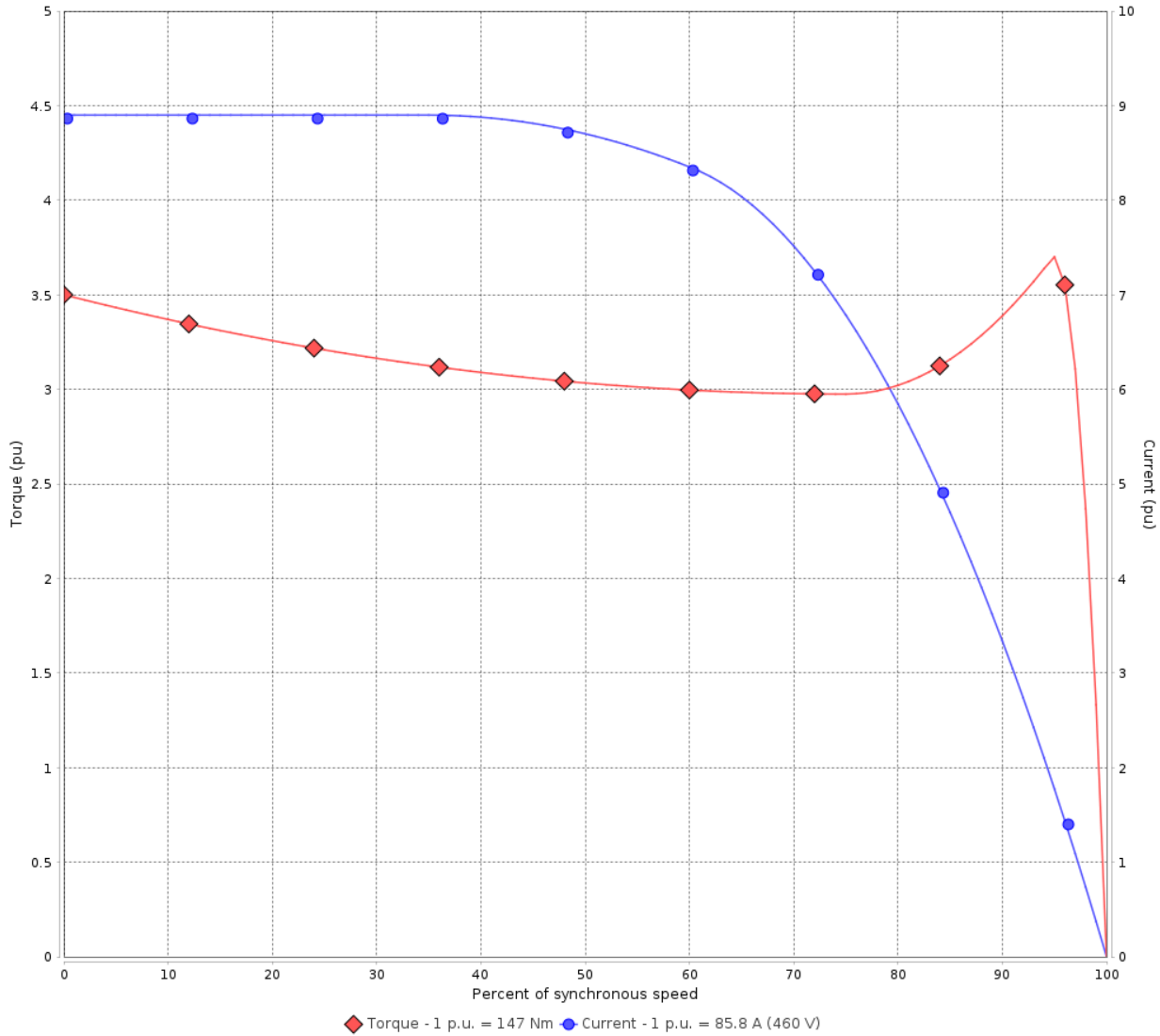


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862409

TORQUE AND CURRENT VS SPEED CURVE



Performance : 460 V 60 Hz 2P

Rated current	: 85.8 A	Moment of inertia (J)	: 0.3736 kgm <sup>2</sup>
LRC	: 8.9	Duty cycle	: S1
Rated torque	: 147 Nm	Insulation class	: F
Locked rotor torque	: 350 %	Service factor	: 1.00
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 3572 rpm	Design	: N

Locked rotor time : 18s (cold) 10s (hot)

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# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

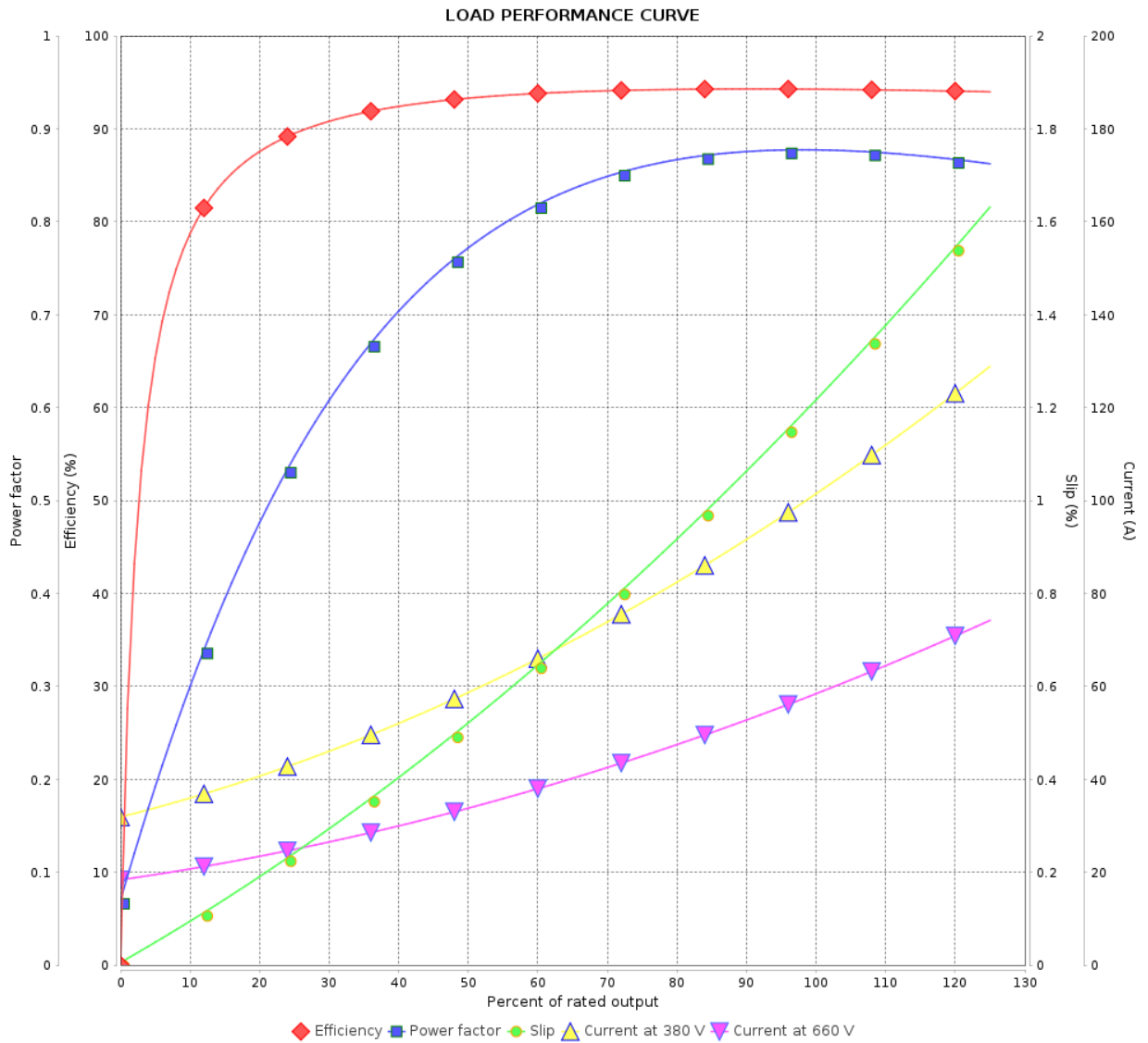


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12862409



Performance : 380/660 V 50 Hz 2P

Rated current : 101/58.0 A  
 LRC : 7.5  
 Rated torque : 177 Nm  
 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 2963 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

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# LOAD PERFORMANCE CURVE

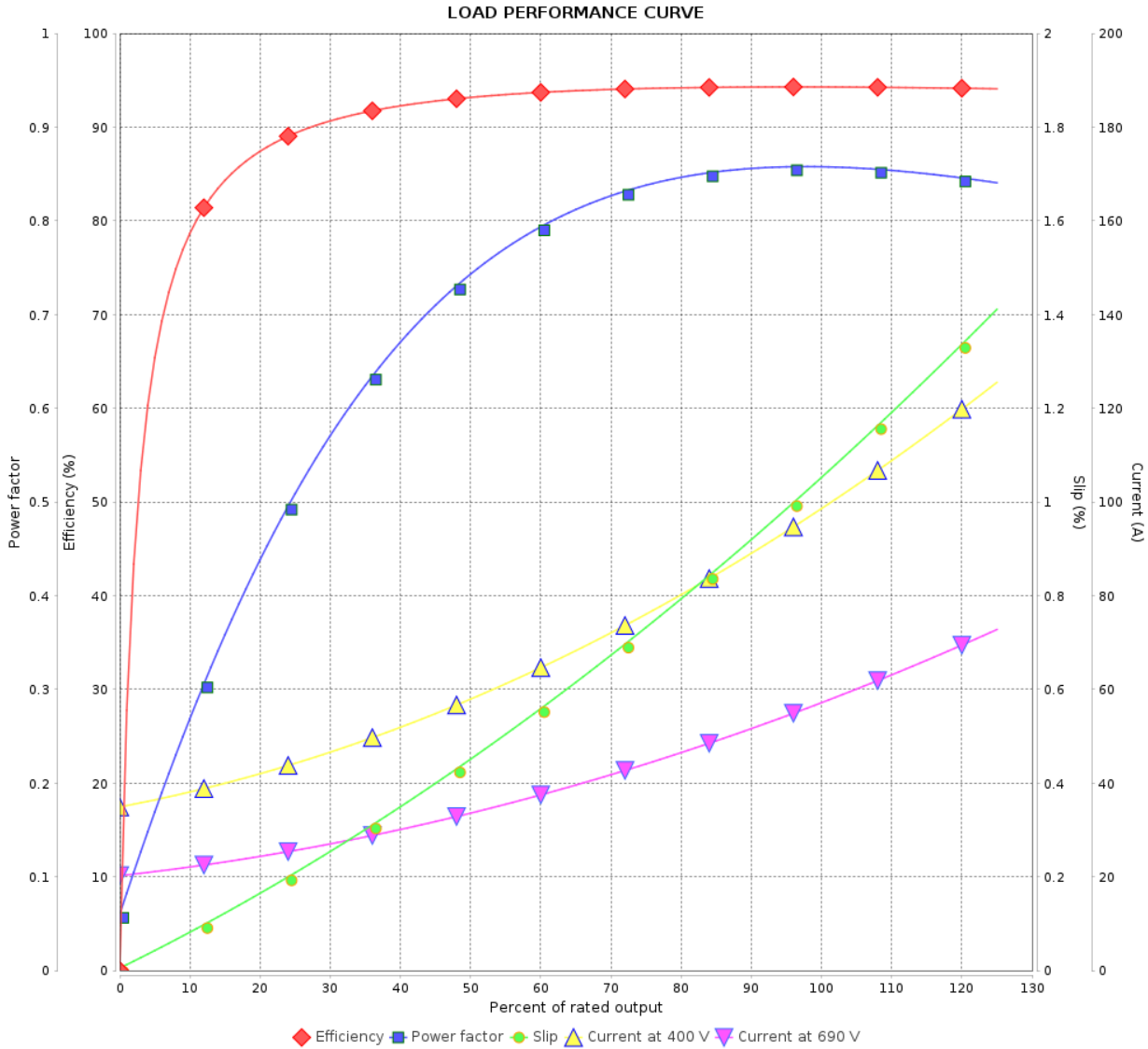
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Performance : 400/690 V 50 Hz 2P

Rated current : 97.9/56.7 A  
 LRC : 8.0  
 Rated torque : 177 Nm  
 Locked rotor torque : 280 %  
 Breakdown torque : 330 %  
 Rated speed : 2968 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

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# LOAD PERFORMANCE CURVE

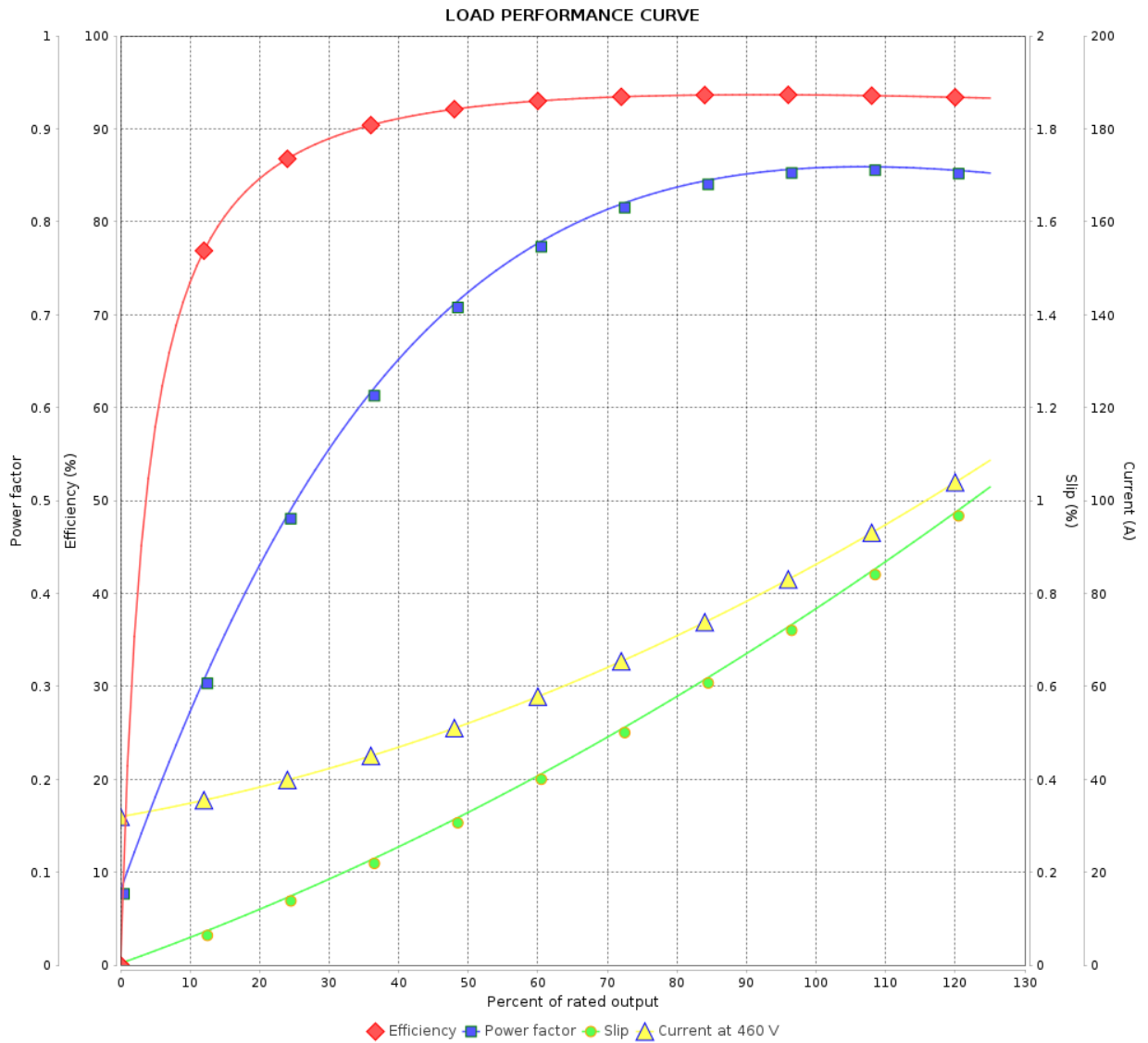
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Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12862409



Performance : 460 V 60 Hz 2P

Rated current : 85.8 A  
 LRC : 8.9  
 Rated torque : 147 Nm  
 Locked rotor torque : 350 %  
 Breakdown torque : 370 %  
 Rated speed : 3572 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

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# THERMAL LIMIT CURVE

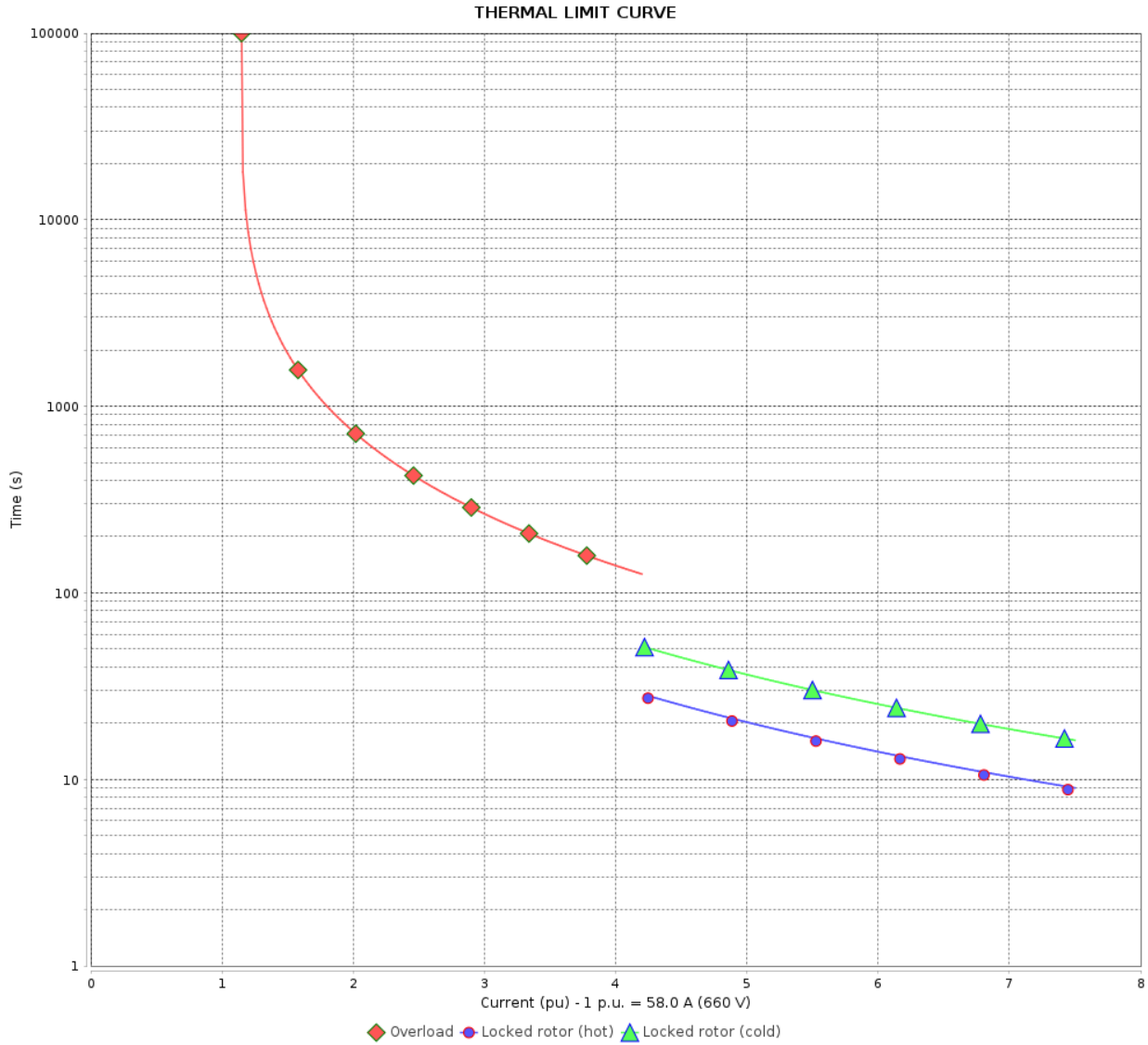
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 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 2963 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

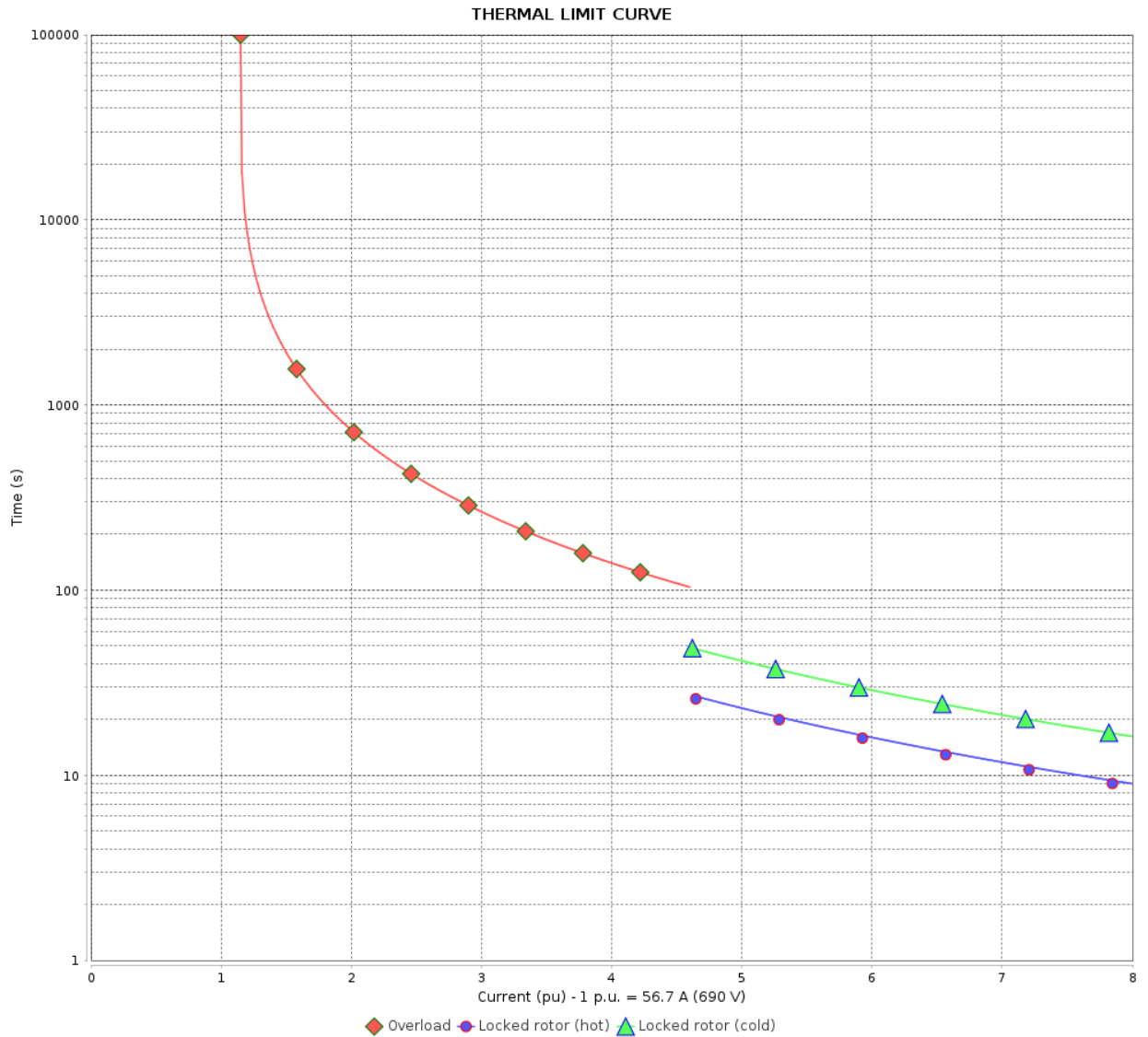
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 Locked rotor torque : 280 %  
 Breakdown torque : 330 %  
 Rated speed : 2968 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

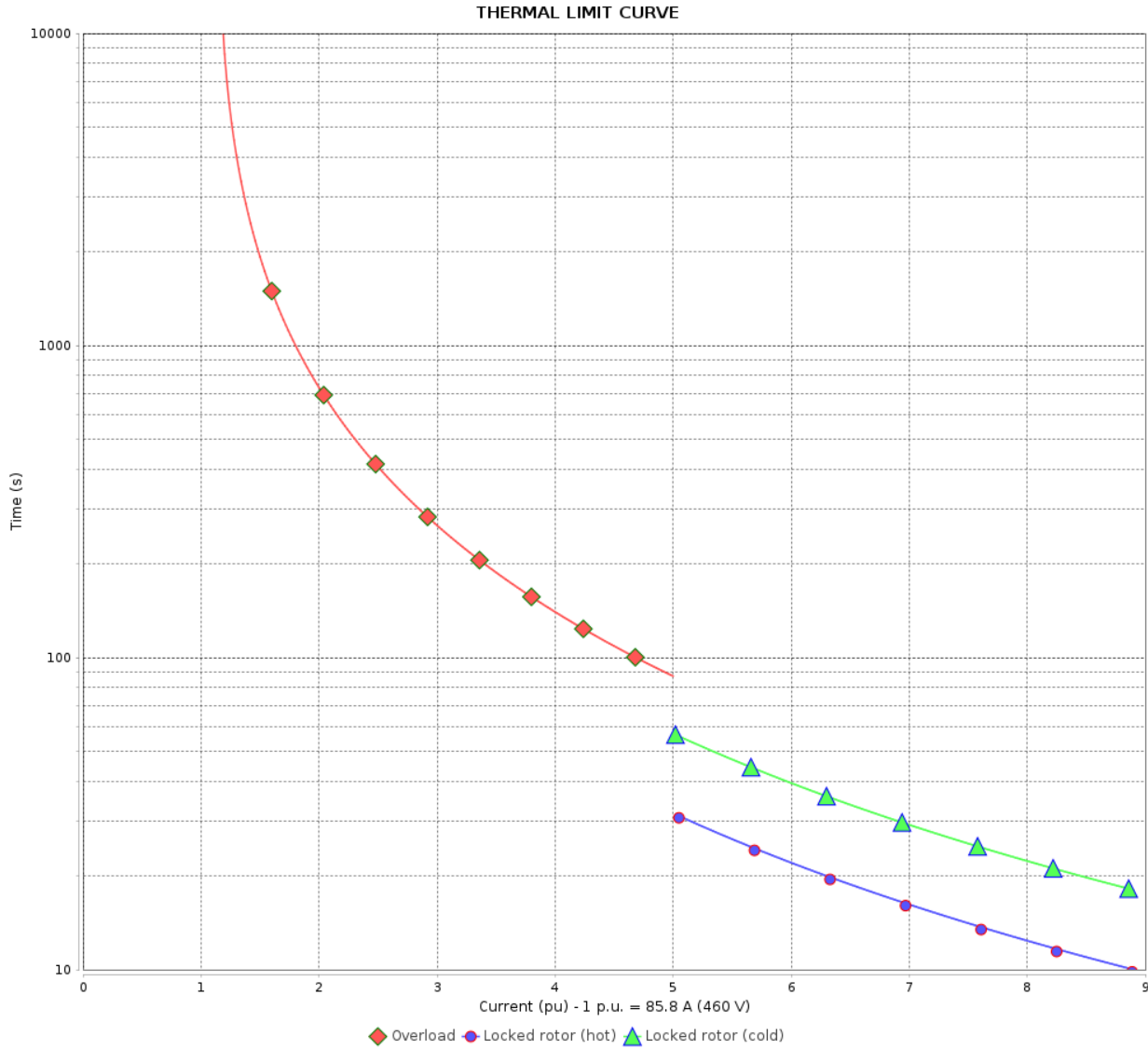
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Rated current	: 85.8 A	Moment of inertia (J)	: 0.3736 kgm <sup>2</sup>
LRC	: 8.9	Duty cycle	: S1
Rated torque	: 147 Nm	Insulation class	: F
Locked rotor torque	: 350 %	Service factor	: 1.00
Breakdown torque	: 370 %	Temperature rise	: 80 K
Rated speed	: 3572 rpm	Design	: N

Heating constant

Cooling constant

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# VFD OPERATION CURVE

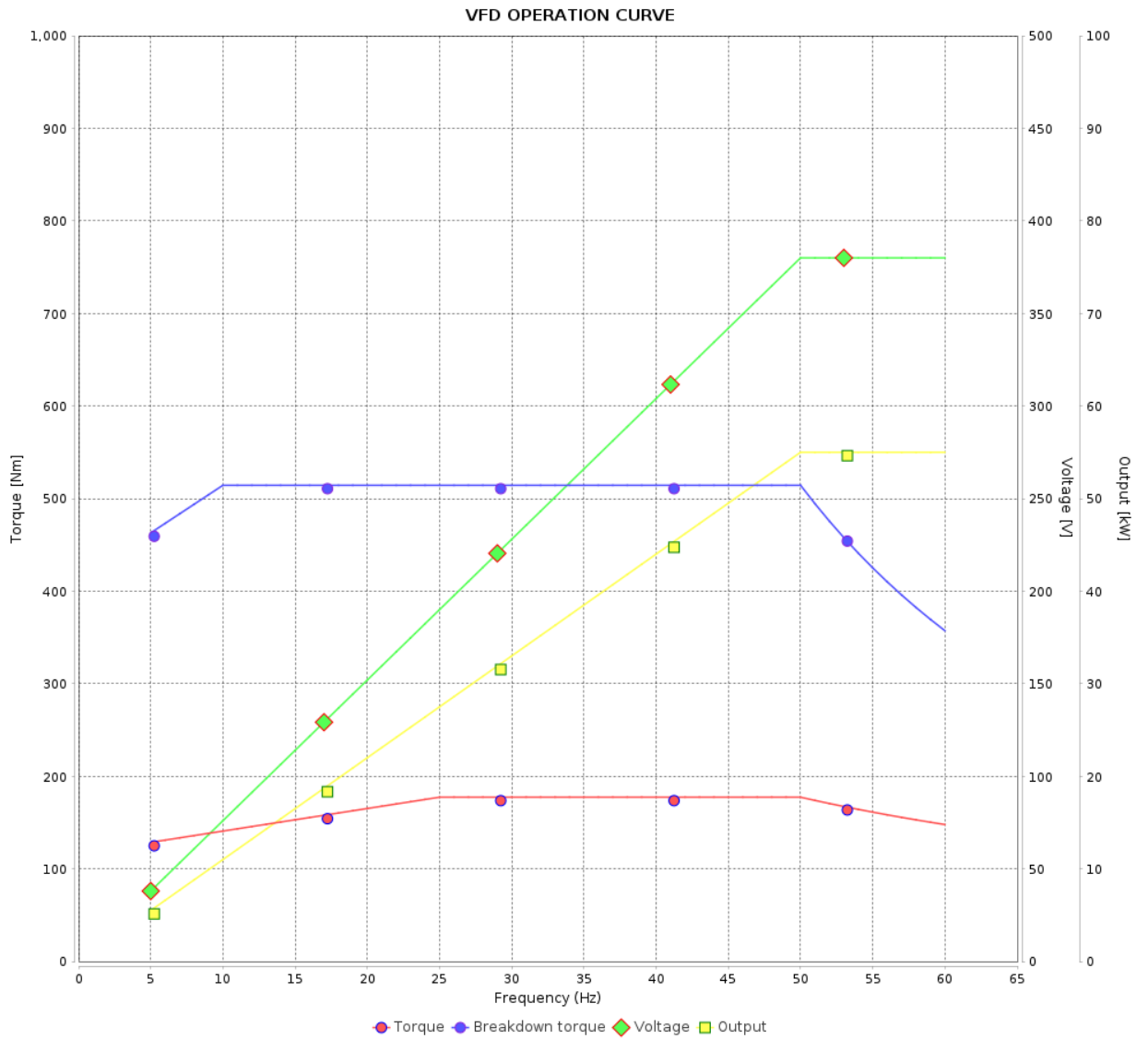
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 Rated torque : 177 Nm  
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 Breakdown torque : 290 %  
 Rated speed : 2963 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

Rev.	Changes Summary	Performed	Checked	Date
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# VFD OPERATION CURVE

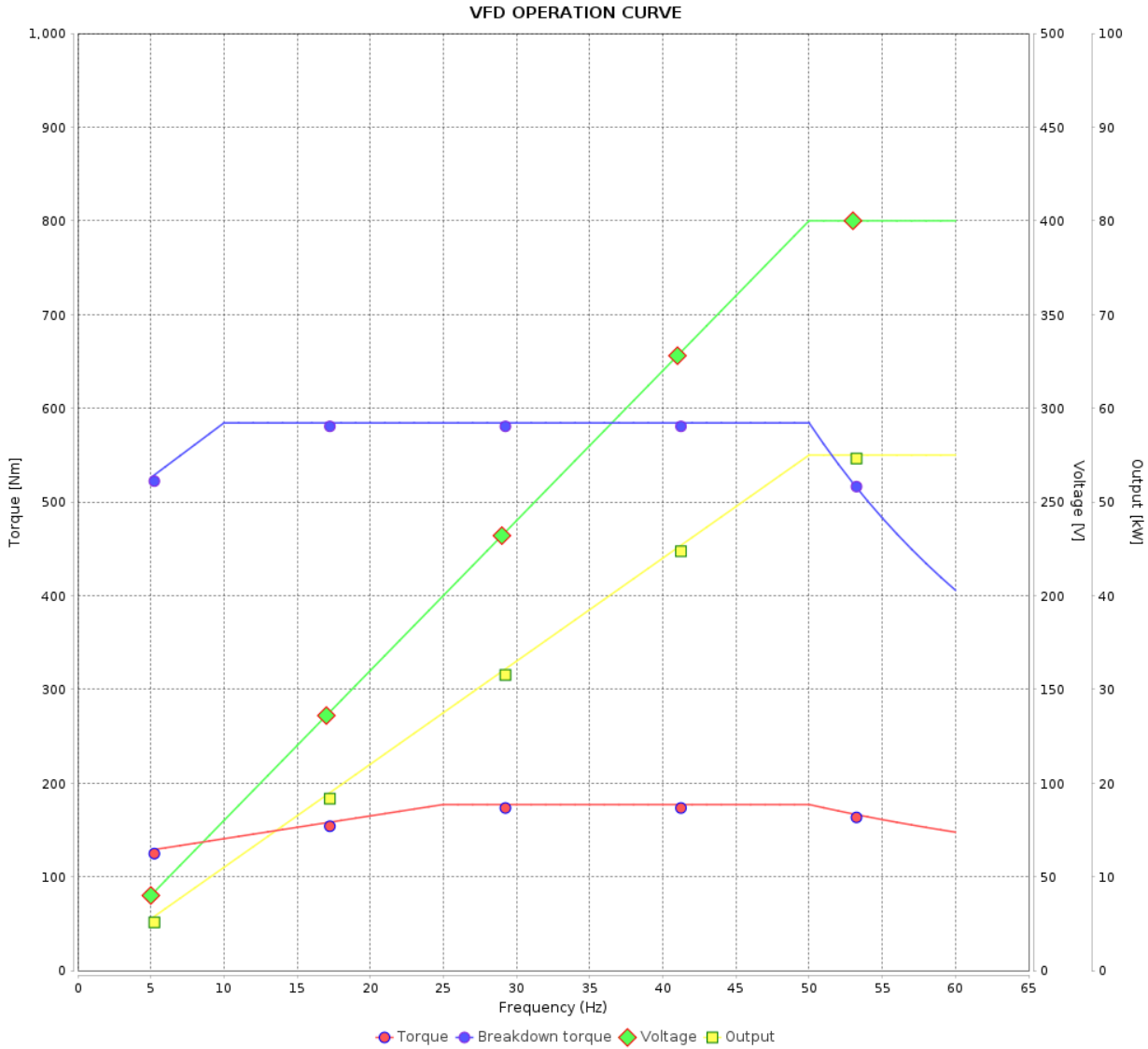
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 Breakdown torque : 330 %  
 Rated speed : 2968 rpm

Moment of inertia (J) : 0.3736 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

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# VFD OPERATION CURVE

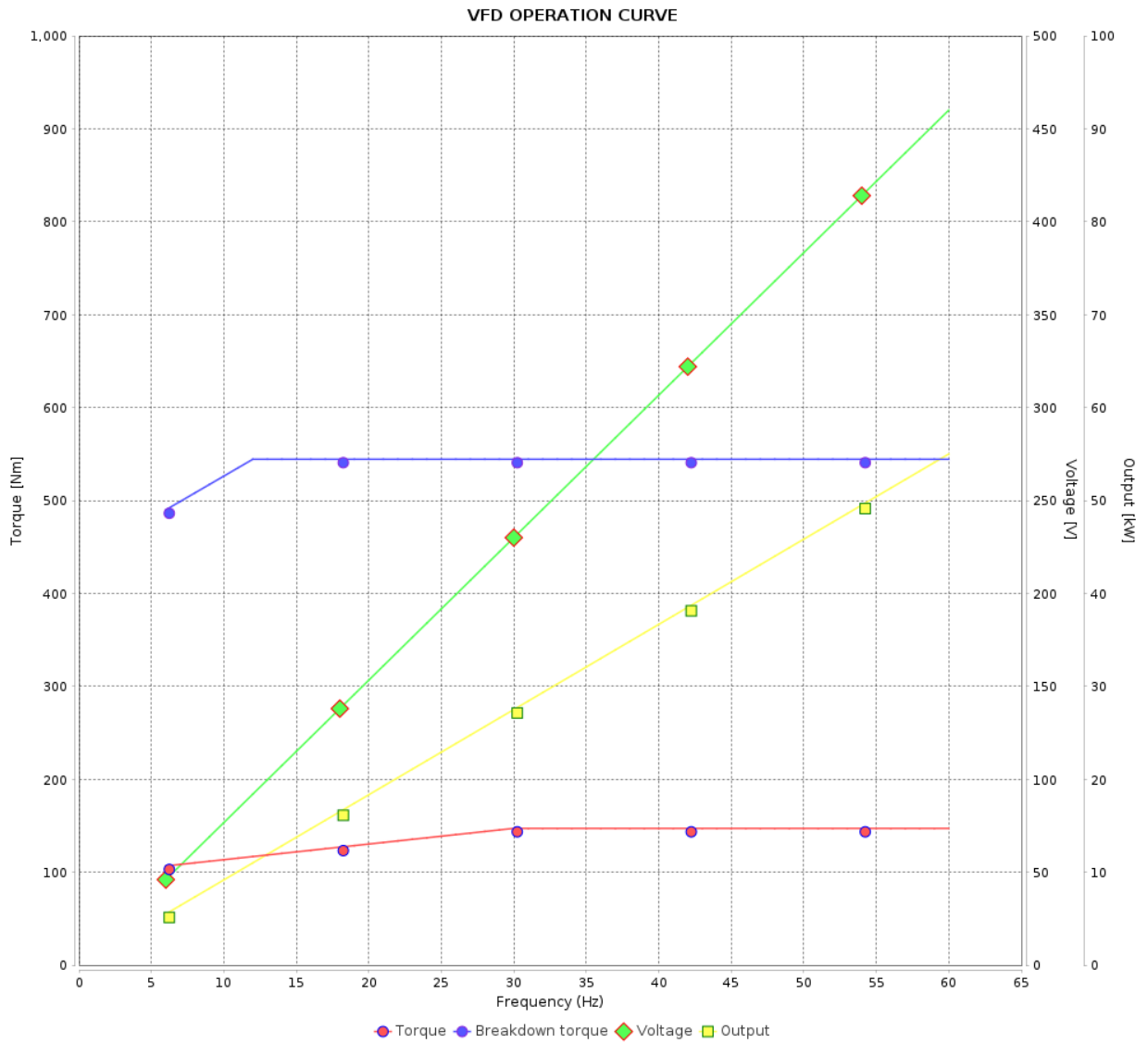
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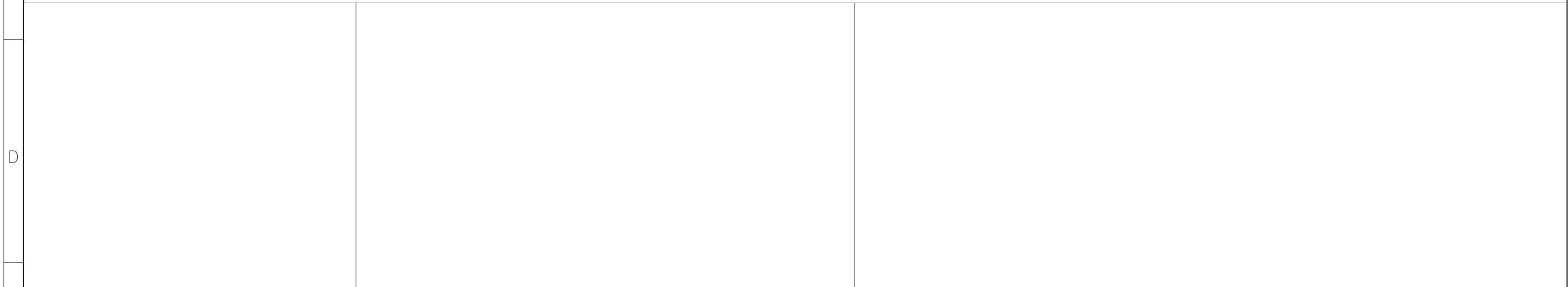
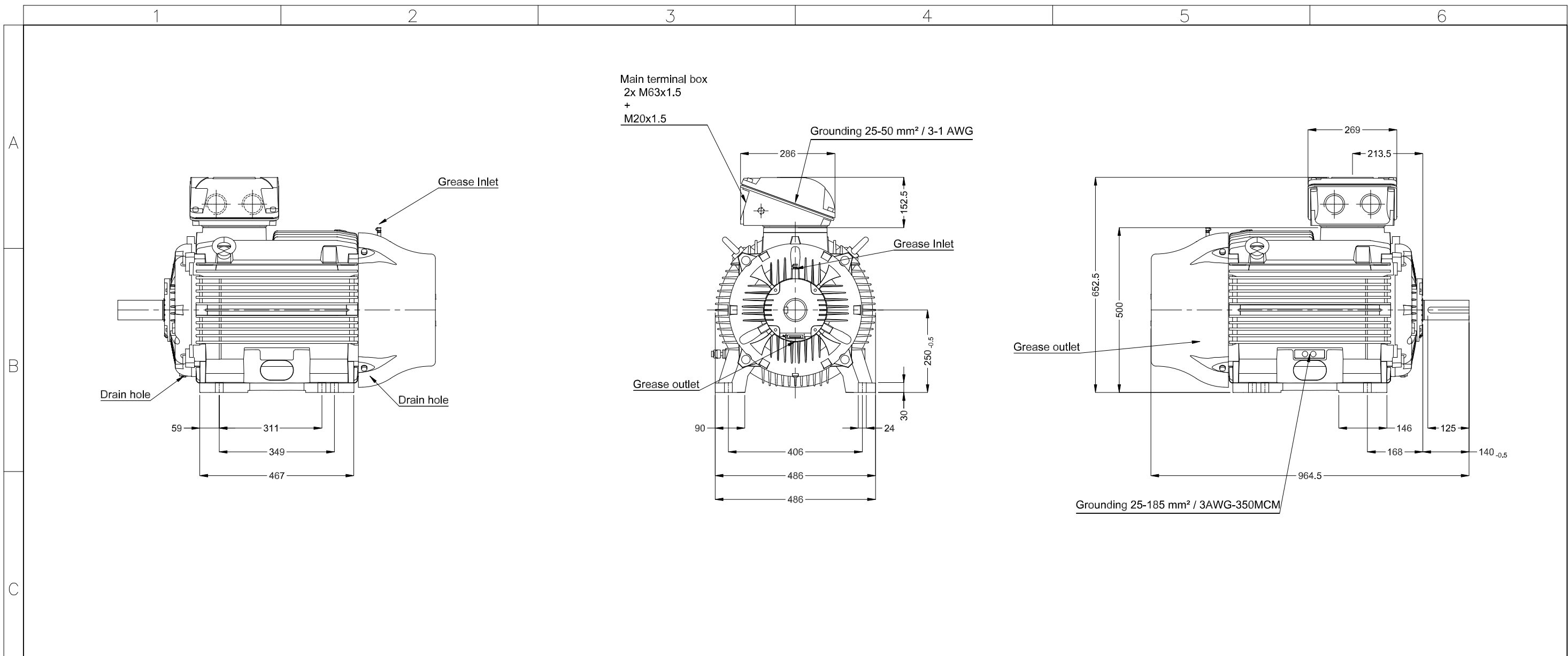


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		55 kW 02 Poles 50 Hz		A	
				Scale 1 : 12	
				HYBRISUSER 00	
ECM	LOC	SUMMARY OF MODIFICATIONS		EXECUTED	CHECKED
EXECUTED	HYBRISUSER	THREE PH. MOTOR W22 IE3		RELEASED	DATE
CHECKED		FRAME 250S/M IP55 TEFC		REL. DATE	VER
RELEASED				PREVIEW	
REL. DATE				WDD 00	
				SHEET 1 / 1	

Without vertical jackscrews  
 Color RAL 5009  
 Painting plan 203A  
 Mounting B3T

