

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

Customer		: Astraprom d.o.o.			
Product line		: W22 IE3 Three-Phase		Product code : 12868136	
Frame	: 132M/L	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: B5T		
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>	: 88.4 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>		
Design	: N				
Output [kW]	5.5	5.5	5.5	5.5	5.5
Poles	6	6	6	6	6
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	380/660	400/690	415	460	460
Rated current [A]	12.7/7.29	12.9/7.47	13.0	10.8	10.8
L. R. Amperes [A]	88.6/51.0	94.1/54.5	98.6	86.7	86.7
LRC [A]	7.0	7.3	7.6	8.0	8.0
No load current [A]	6.50/3.74	7.20/4.17	7.80	6.70	6.70
Rated speed [RPM]	965	970	970	1175	1175
Slip [%]	3.50	3.00	3.00	2.08	2.08
Rated torque [kgfm]	5.55	5.52	5.52	4.56	4.56
Locked rotor torque [%]	190	220	260	250	250
Breakdown torque [%]	229	260	290	330	330
Service factor	1.00	1.00	1.00	1.00	1.00
Temperature rise	80 K	80 K	80 K	80 K	80 K
Locked rotor time	27s (cold) 0s (hot)	27s (cold) 0s (hot)	27s (cold) 0s (hot)	27s (cold) 0s (hot)	27s (cold) 0s (hot)
Noise level <sup>2</sup>	53.0 dB(A)	53.0 dB(A)	53.0 dB(A)	55.0 dB(A)	55.0 dB(A)
Efficiency (%)	25%	0.000	0.000	0.000	
	50%	87.4	86.5	85.8	85.5
	75%	87.9	87.9	87.7	88.5
	100%	88.0	88.0	88.0	91.0
Power Factor	25%	0.00	0.00	0.00	
	50%	0.55	0.50	0.47	0.48
	75%	0.68	0.64	0.60	0.61
	100%	0.75	0.70	0.67	0.70
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	13.4	13.4	13.4	9.7
	P2 (0,5;1,0)	12.1	12.1	12.1	8.8
	P3 (0,25;1,0)	11.5	11.5	11.5	8.4
	P4 (0,9;0,5)	6.4	6.4	6.4	4.6
	P5 (0,5;0,5)	4.9	4.9	4.9	3.6
	P6 (0,5;0,25)	3.4	3.4	3.4	2.5
	P7 (0,25;0,25)	2.7	2.7	2.7	2.0
Bearing type	: Drive end 6308 ZZ	Non drive end 6207 ZZ	Foundation loads		
Sealing	: Oil Seal	Lip Seal	Max. traction	: 234 kgf	
Lubrication interval	: -	-	Max. compression	: 322 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	22/11/2023			1 / 19	

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Notes

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
Date	22/11/2023		2 / 19	

# DATA SHEET



## Three Phase Induction Motor - Squirrel Cage

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	22/11/2023			
			Revision	

# TORQUE AND CURRENT VS SPEED CURVE

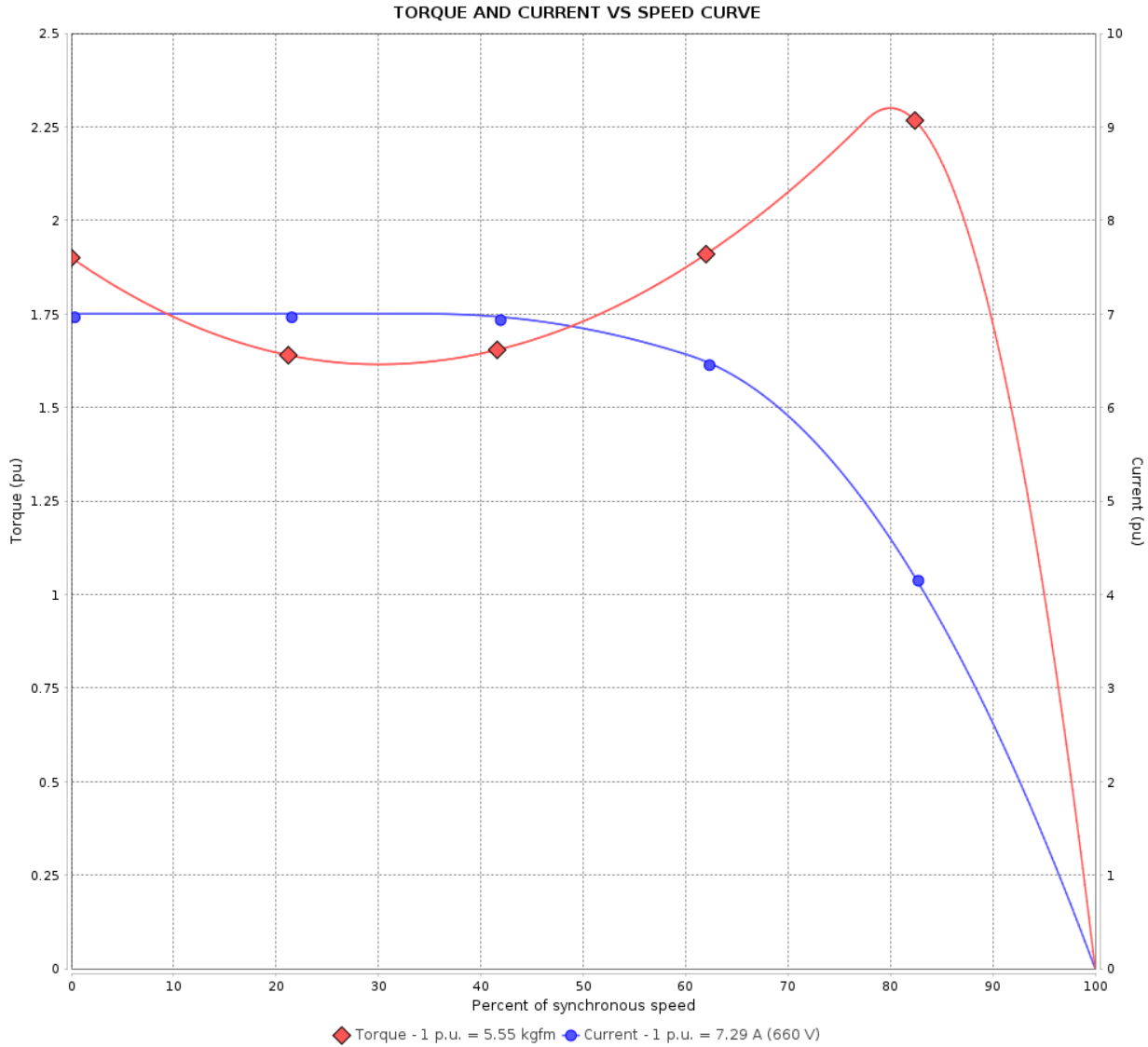
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 380/660 V 50 Hz 6P

Rated current	: 12.7/7.29 A	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 5.55 kgfm	Insulation class	: F
Locked rotor torque	: 190 %	Service factor	: 1.00
Breakdown torque	: 229 %	Temperature rise	: 80 K
Rated speed	: 965 rpm	Design	: N

Locked rotor time : 27s (cold) 0s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 4 / 19	Revision
Checked by				
Date	22/11/2023			

# TORQUE AND CURRENT VS SPEED CURVE

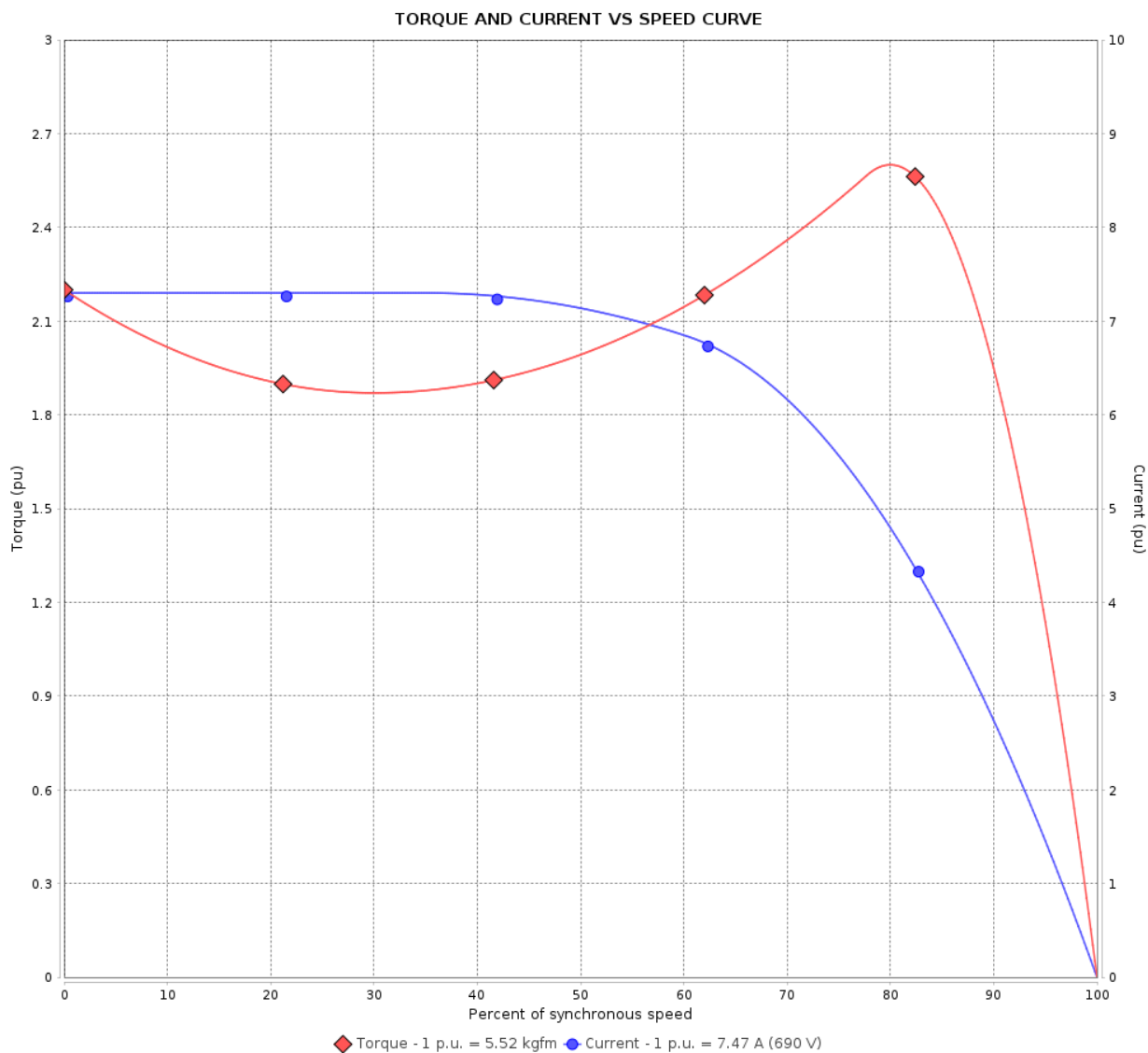


## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 400/690 V 50 Hz 6P

Rated current	: 12.9/7.47 A	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>
LRC	: 7.3	Duty cycle	: S1
Rated torque	: 5.52 kgfm	Insulation class	: F
Locked rotor torque	: 220 %	Service factor	: 1.00
Breakdown torque	: 260 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: N

Locked rotor time : 27s (cold) 0s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page	Revision
Checked by				
Date	22/11/2023			
			5 / 19	

# TORQUE AND CURRENT VS SPEED CURVE

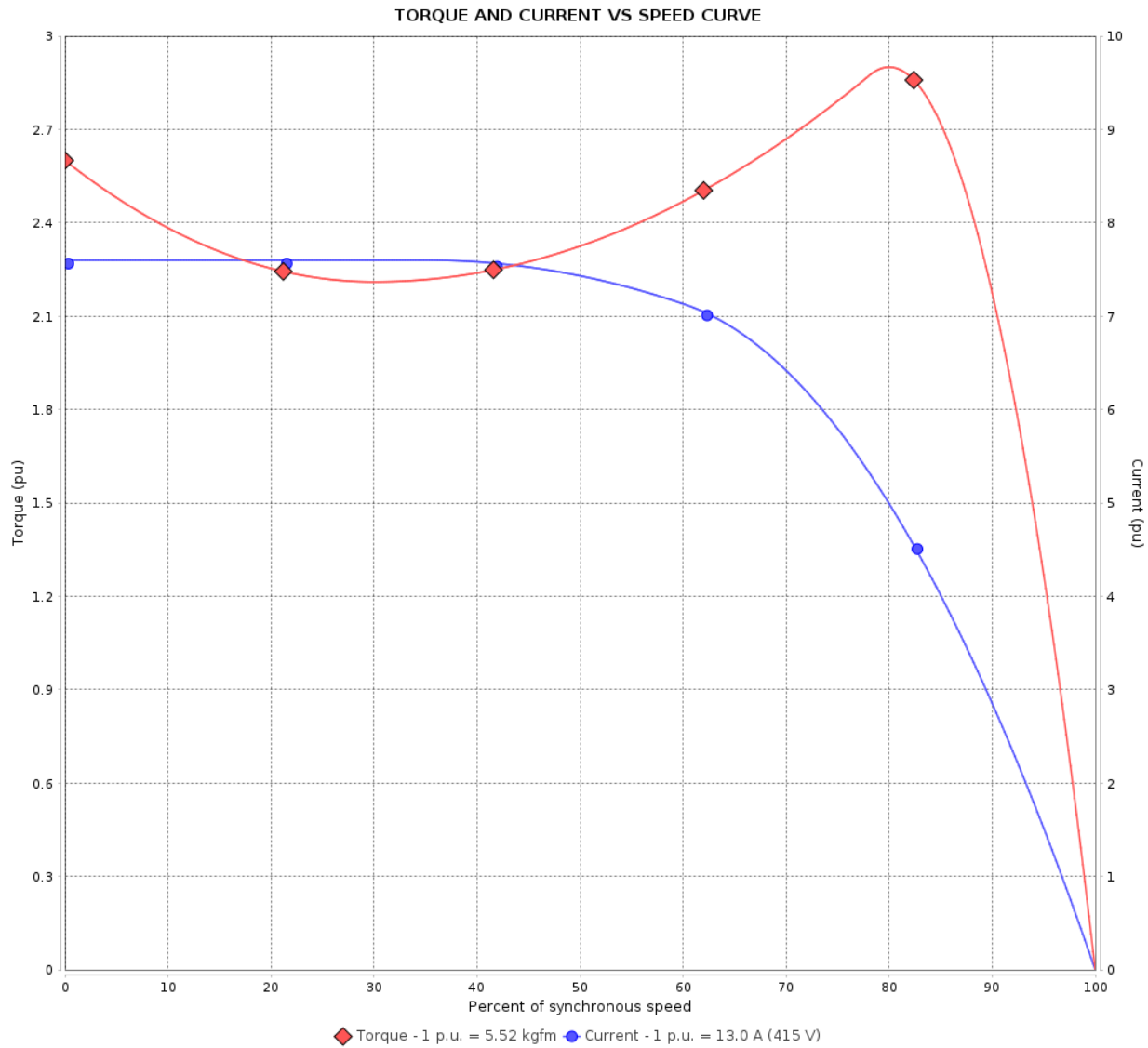
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 415 V 50 Hz 6P

Rated current	: 13.0 A	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 5.52 kgfm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: N

Locked rotor time : 27s (cold) 0s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 6 / 19	Revision
Checked by				
Date	22/11/2023			

# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

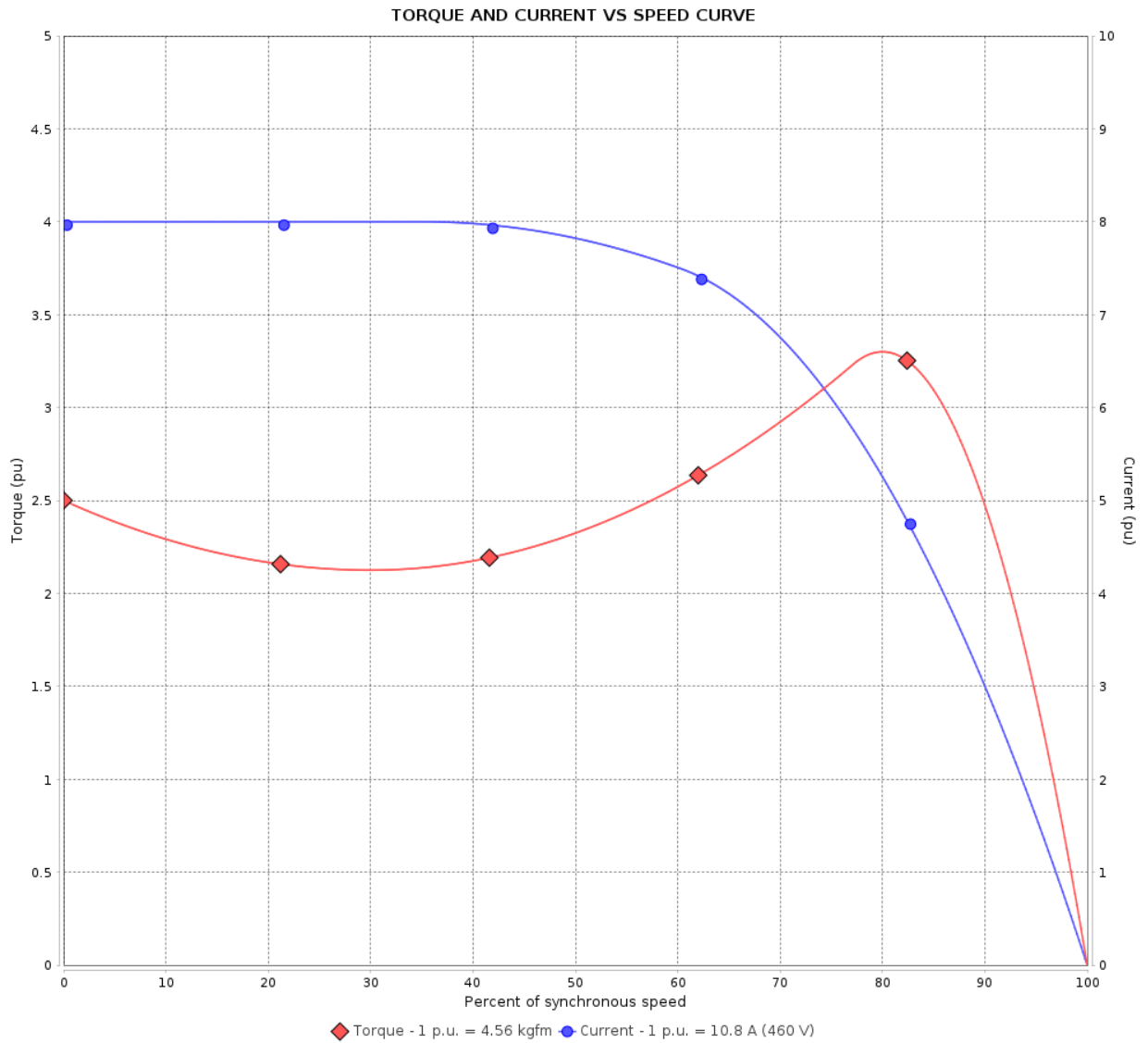


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12868136



Performance : 460 V 60 Hz 6P

Rated current	: 10.8 A	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>
LRC	: 8.0	Duty cycle	: S1
Rated torque	: 4.56 kgfm	Insulation class	: F
Locked rotor torque	: 250 %	Service factor	: 1.00
Breakdown torque	: 330 %	Temperature rise	: 80 K
Rated speed	: 1175 rpm	Design	: N

Locked rotor time : 27s (cold) 0s (hot)

Rev.	Changes Summary	Performed	Checked	Date
Performed by		Page		Revision
Checked by		7 / 19		
Date	22/11/2023			

# LOAD PERFORMANCE CURVE

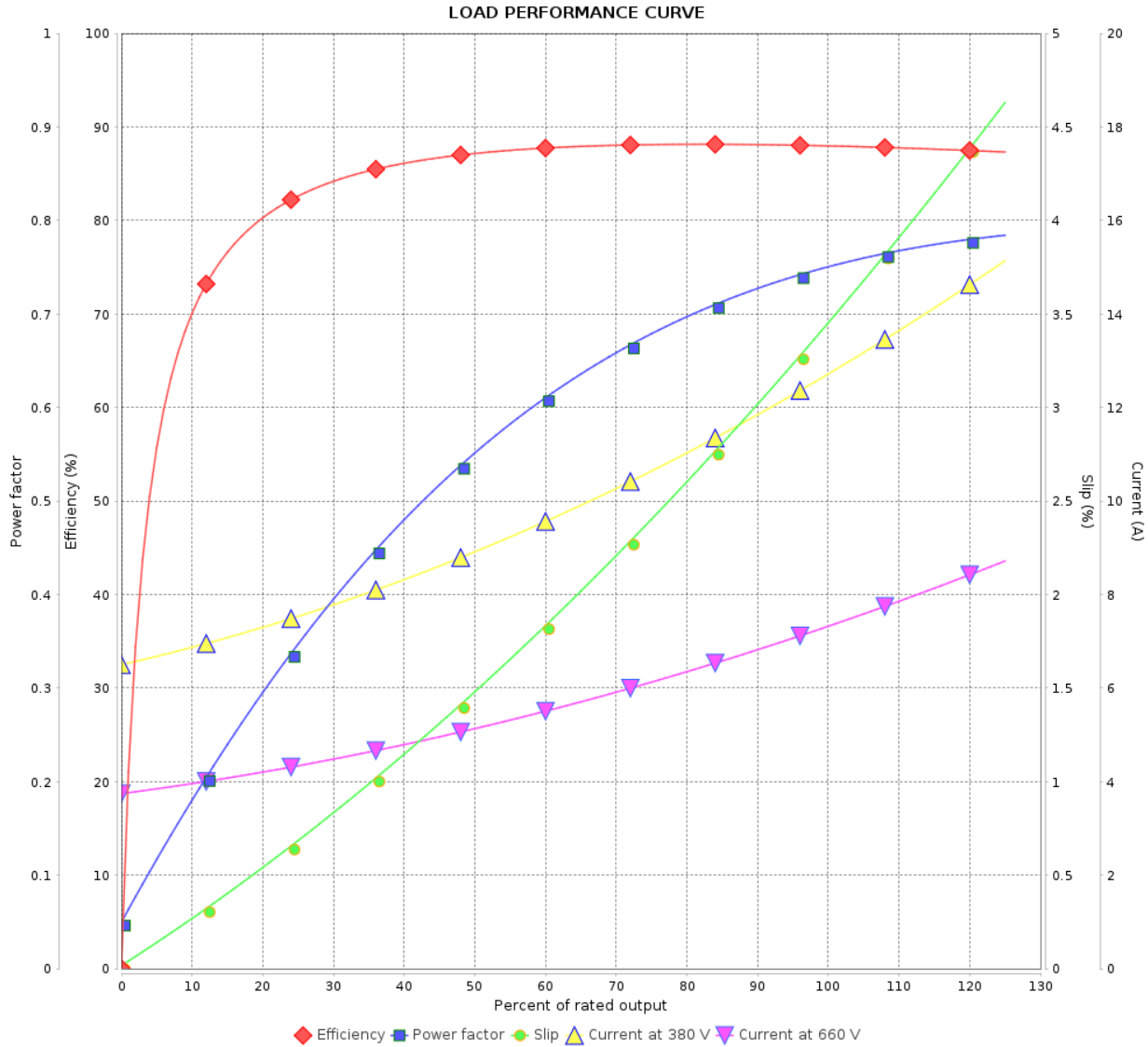
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 380/660 V 50 Hz 6P

Rated current : 12.7/7.29 A  
 LRC : 7.0  
 Rated torque : 5.55 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 229 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page 8 / 19	Revision
Checked by				
Date	22/11/2023			



# LOAD PERFORMANCE CURVE

## Three Phase Induction Motor - Squirrel Cage

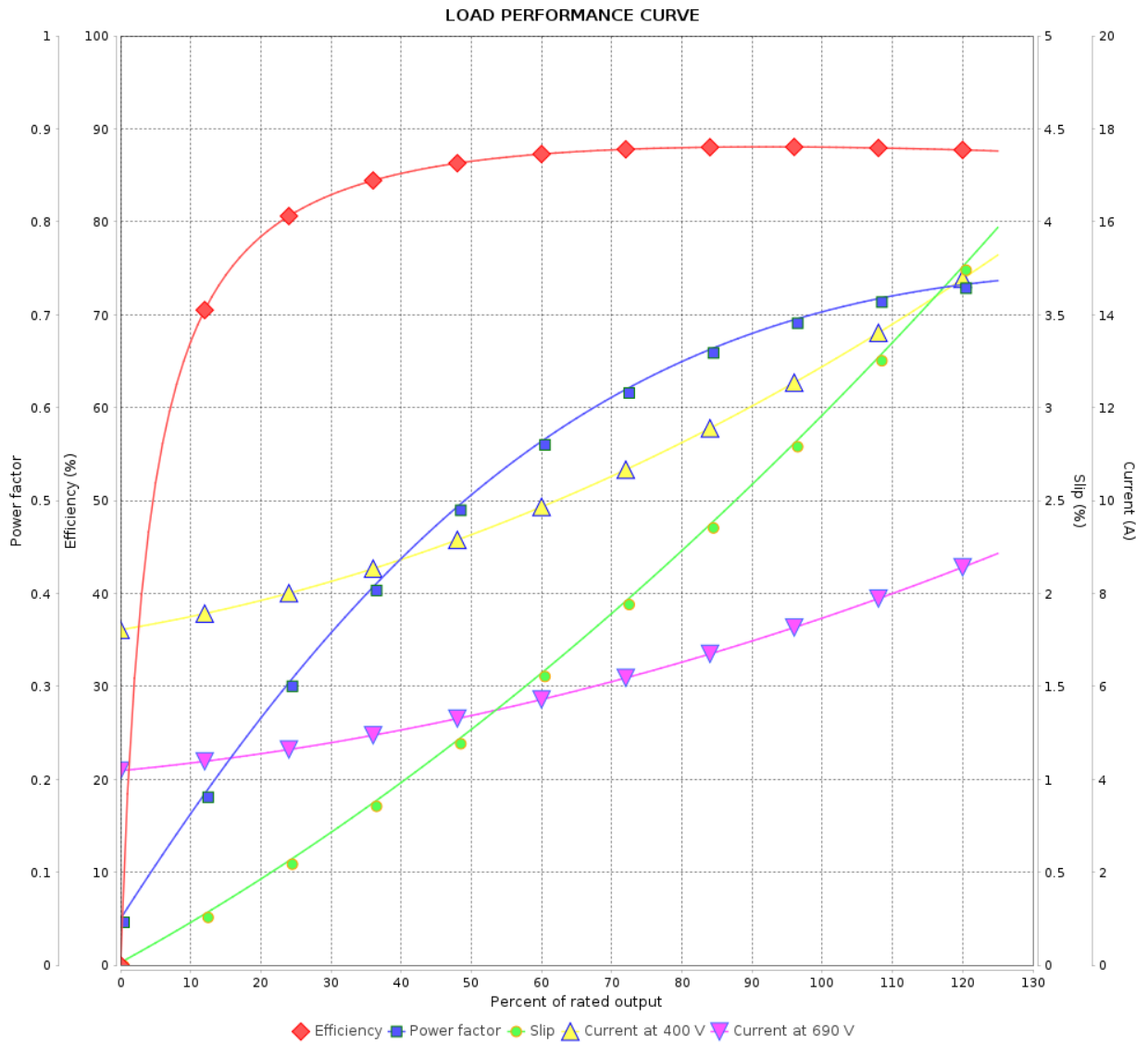


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12868136



Performance : 400/690 V 50 Hz 6P

Rated current : 12.9/7.47 A  
 LRC : 7.3  
 Rated torque : 5.52 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page	Revision
Checked by				
Date				

# LOAD PERFORMANCE CURVE

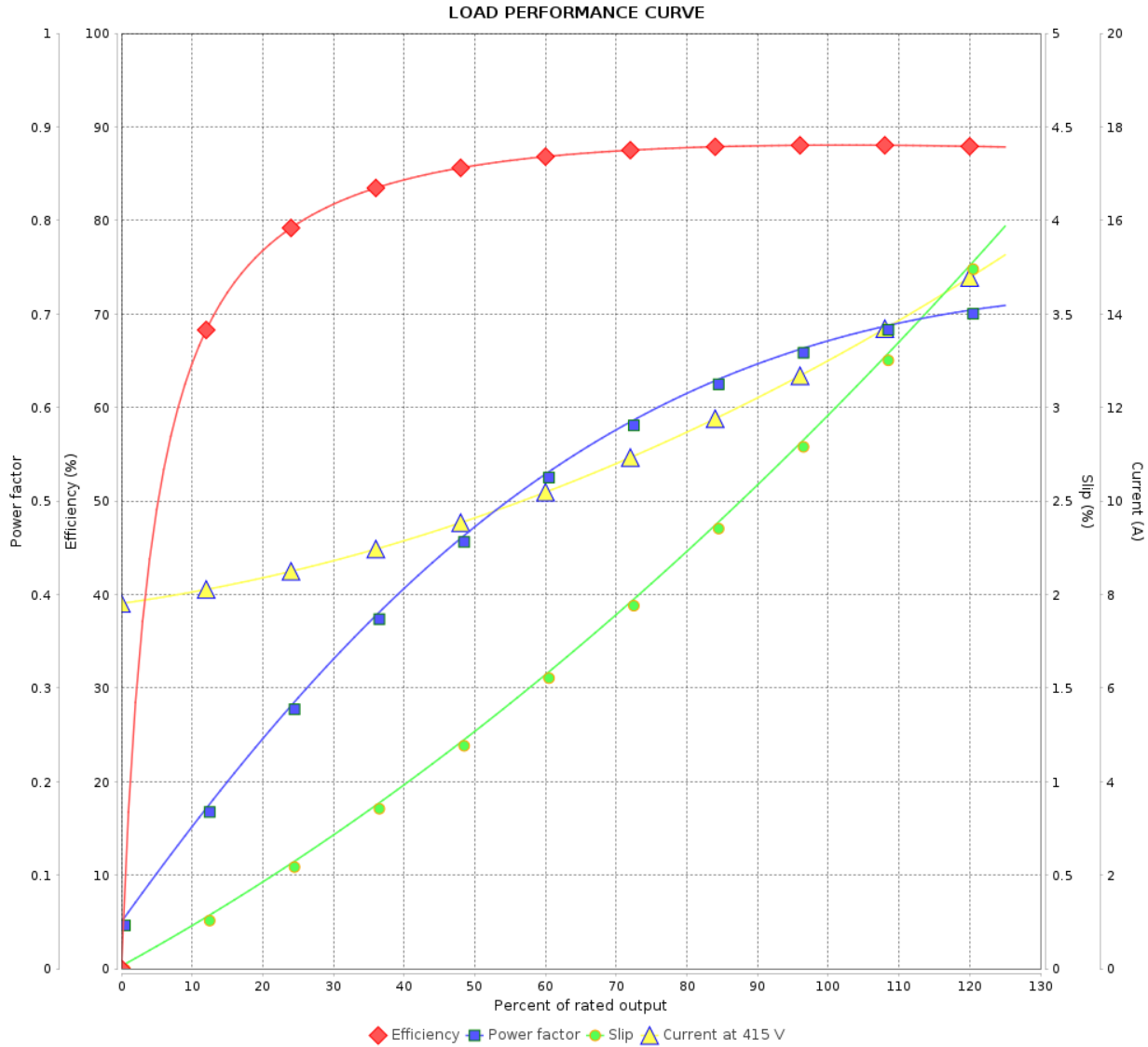
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 415 V 50 Hz 6P

Rated current : 13.0 A  
 LRC : 7.6  
 Rated torque : 5.52 kgfm  
 Locked rotor torque : 260 %  
 Breakdown torque : 290 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page 10 / 19	Revision
Checked by				
Date	22/11/2023			

# LOAD PERFORMANCE CURVE

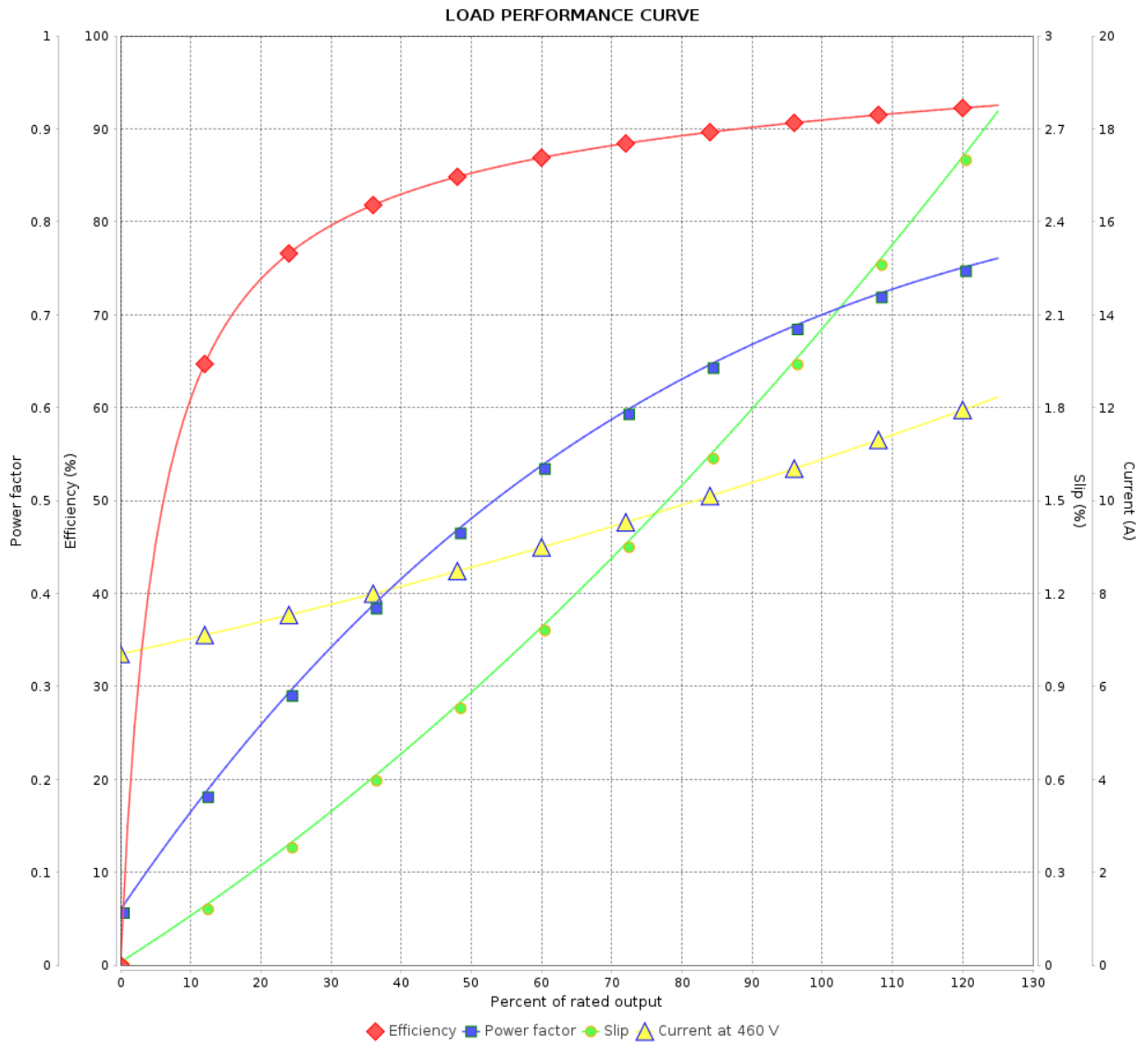
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 460 V 60 Hz 6P

Rated current : 10.8 A  
 LRC : 8.0  
 Rated torque : 4.56 kgfm  
 Locked rotor torque : 250 %  
 Breakdown torque : 330 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page 11 / 19	Revision
Checked by				
Date	22/11/2023			

# THERMAL LIMIT CURVE

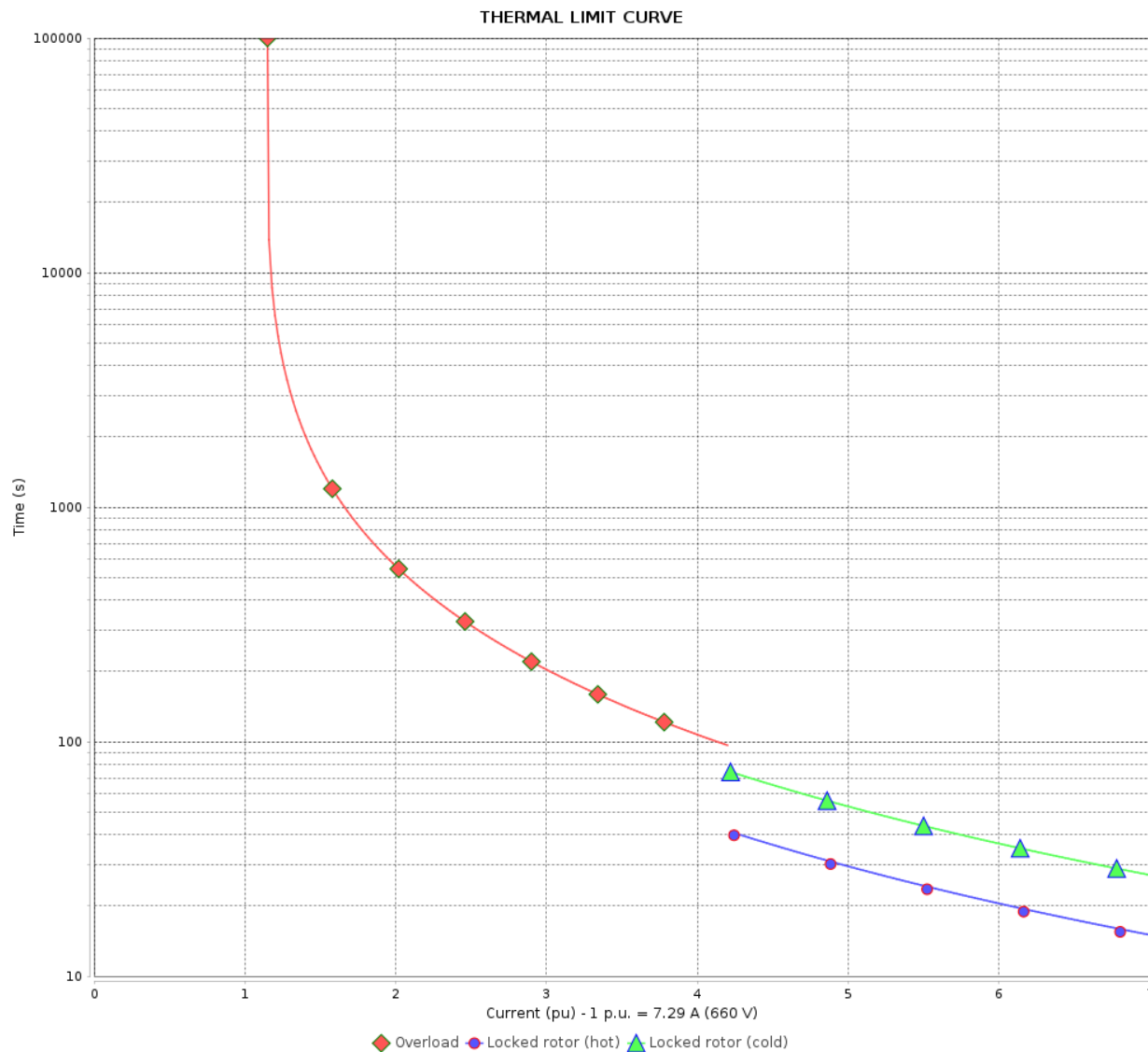
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 380/660 V 50 Hz 6P

Rated current : 12.7/7.29 A  
 LRC : 7.0  
 Rated torque : 5.55 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 229 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 0.0755 kgm<sup>2</sup>  
 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		Page		Revision
Checked by		12 / 19		
Date		22/11/2023		

# THERMAL LIMIT CURVE

## Three Phase Induction Motor - Squirrel Cage

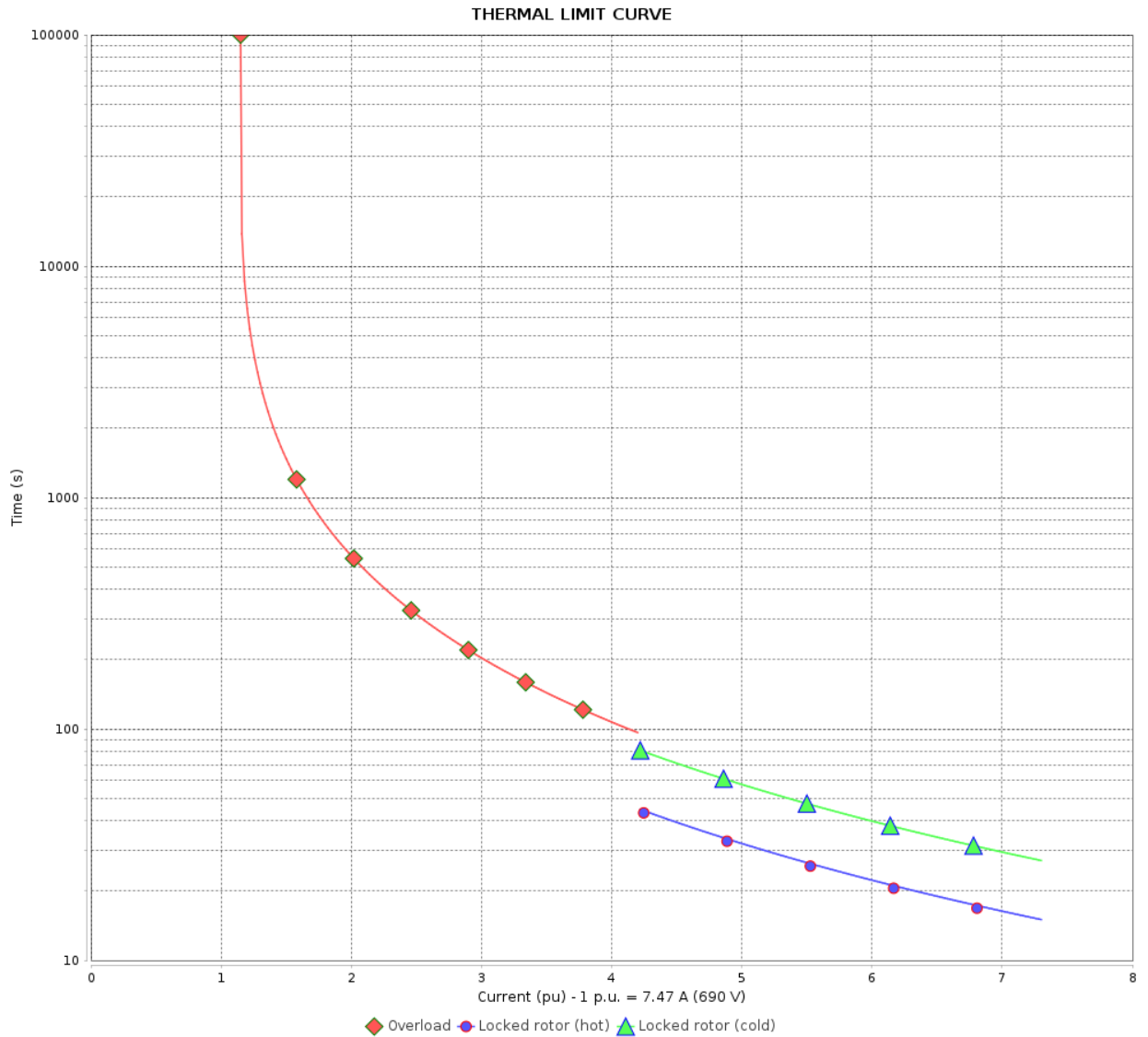


Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code :

12868136



Performance : 400/690 V 50 Hz 6P

Rated current : 12.9/7.47 A  
 LRC : 7.3  
 Rated torque : 5.52 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 0.0755 kgm<sup>2</sup>  
 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

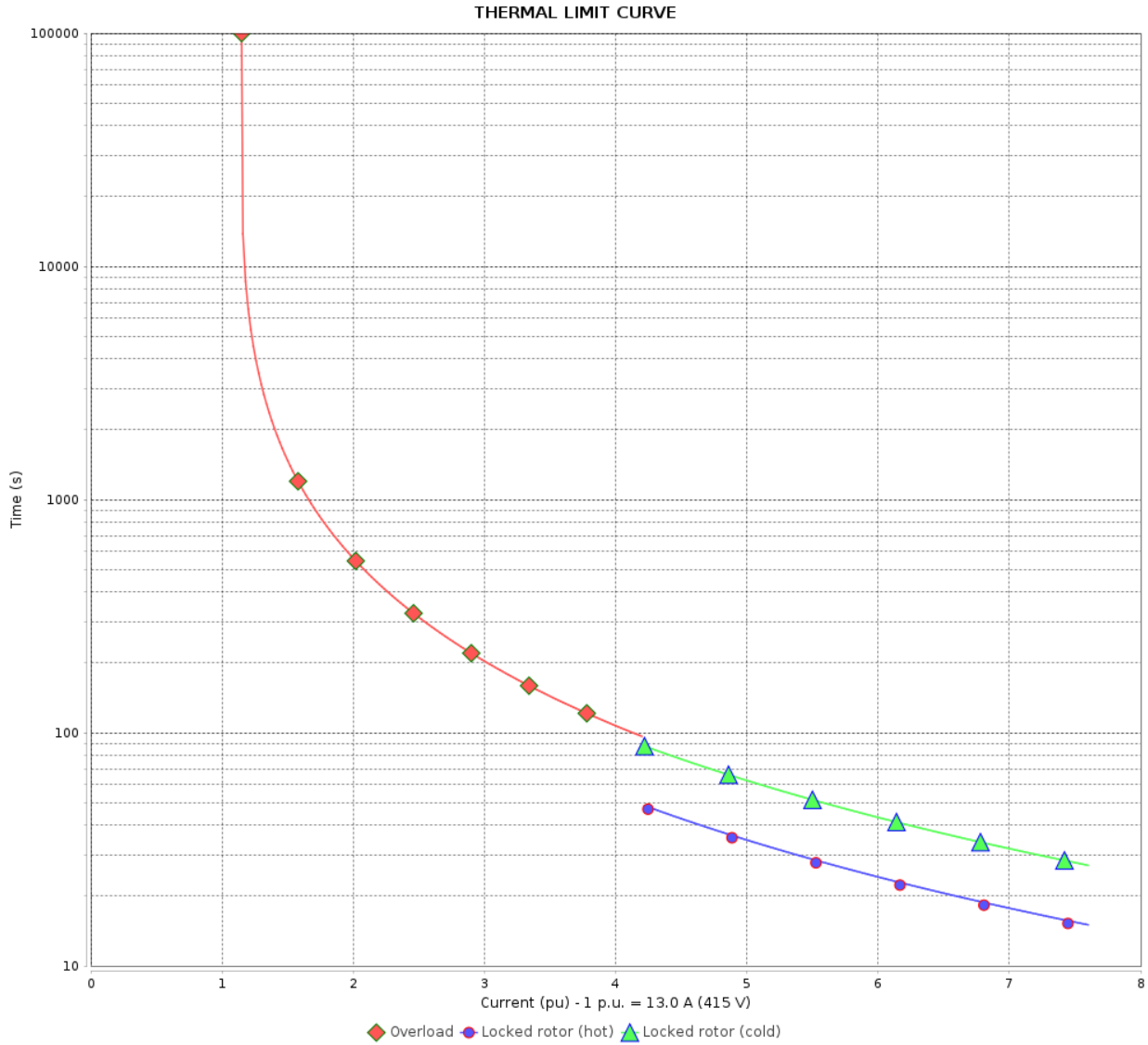
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 415 V 50 Hz 6P

Rated current	: 13.0 A	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 5.52 kgfm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: N

Heating constant

Cooling constant

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 14 / 19	Revision
Checked by				
Date	22/11/2023			

# THERMAL LIMIT CURVE

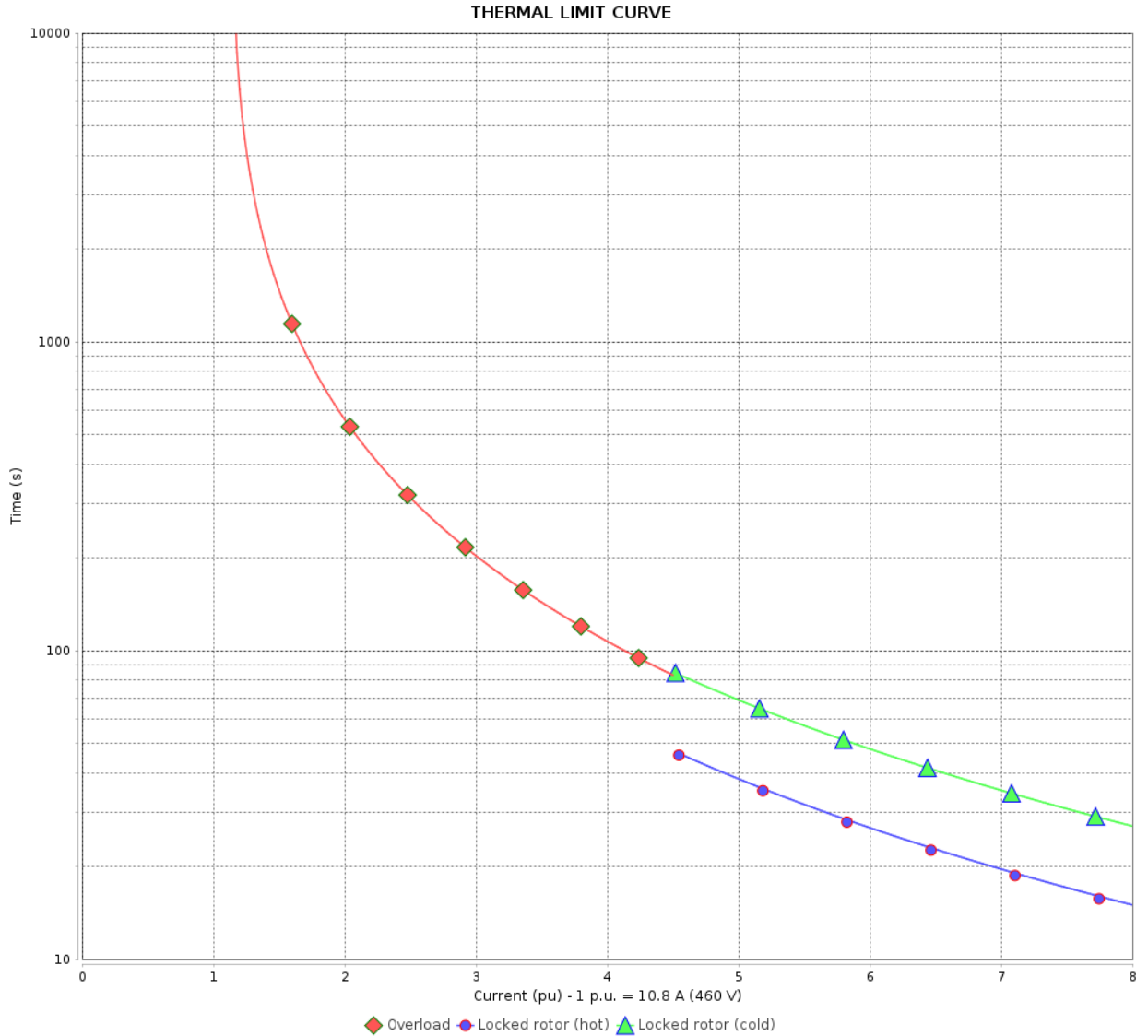
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 460 V 60 Hz 6P

Rated current : 10.8 A  
 LRC : 8.0  
 Rated torque : 4.56 kgfm  
 Locked rotor torque : 250 %  
 Breakdown torque : 330 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 0.0755 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

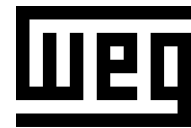
Heating constant

Cooling constant

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

# VFD OPERATION CURVE

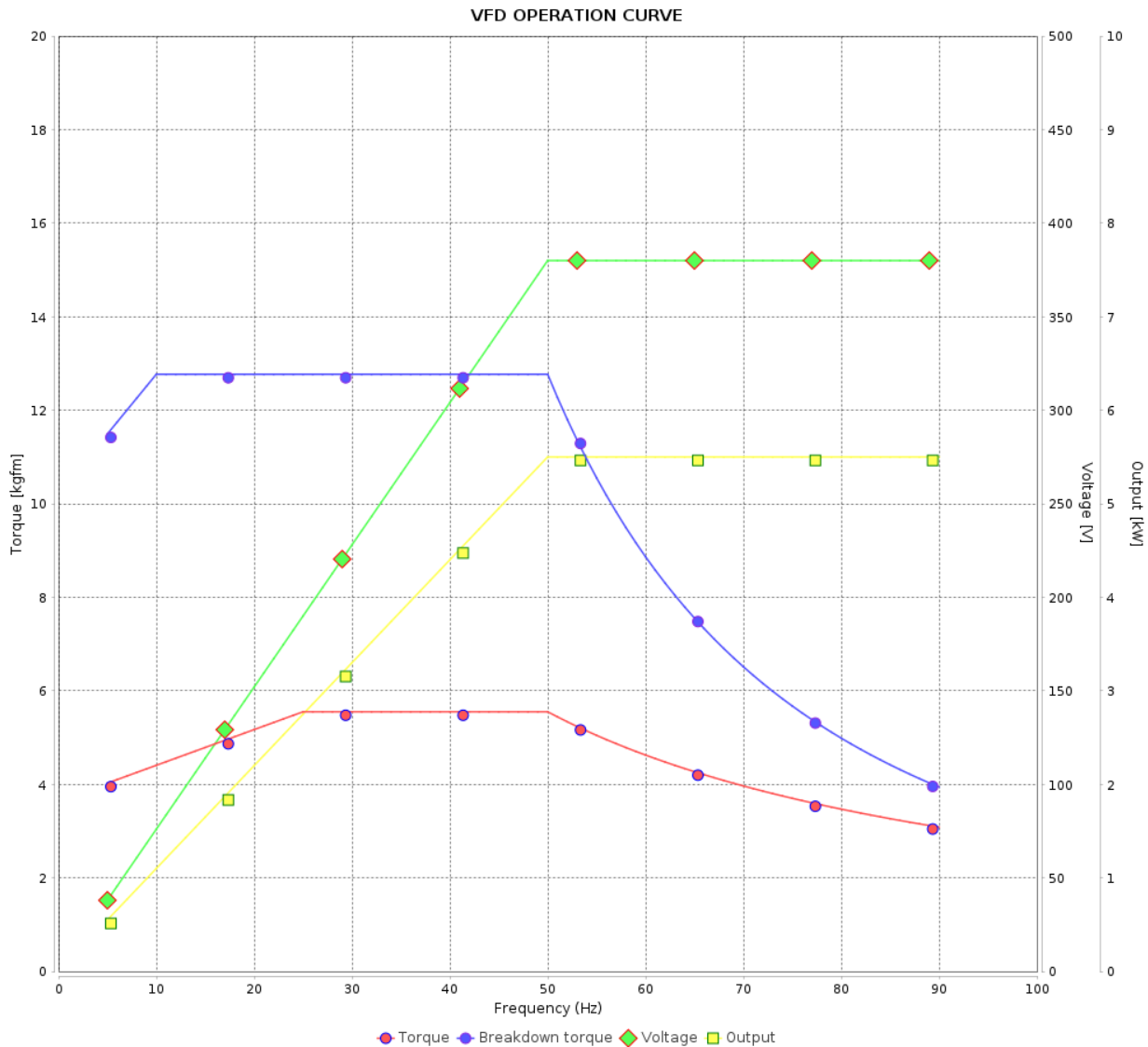
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 380/660 V 50 Hz 6P

Rated current : 12.7/7.29 A  
 LRC : 7.0  
 Rated torque : 5.55 kgfm  
 Locked rotor torque : 190 %  
 Breakdown torque : 229 %  
 Rated speed : 965 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page	Revision
Checked by				
Date				



# VFD OPERATION CURVE

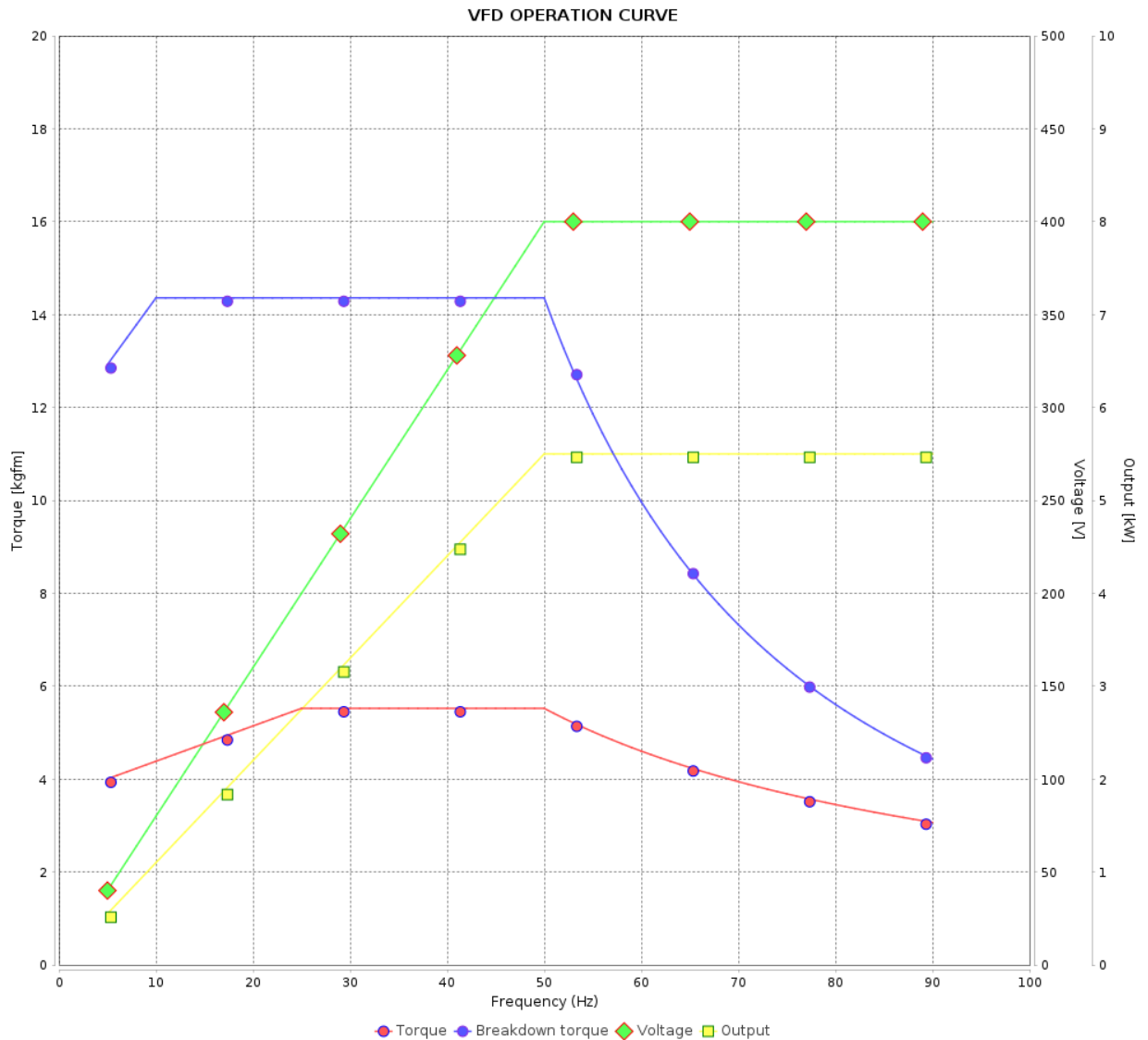
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 400/690 V 50 Hz 6P

Rated current : 12.9/7.47 A  
 LRC : 7.3  
 Rated torque : 5.52 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 260 %  
 Rated speed : 970 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page	Revision
Checked by				
Date				

# VFD OPERATION CURVE

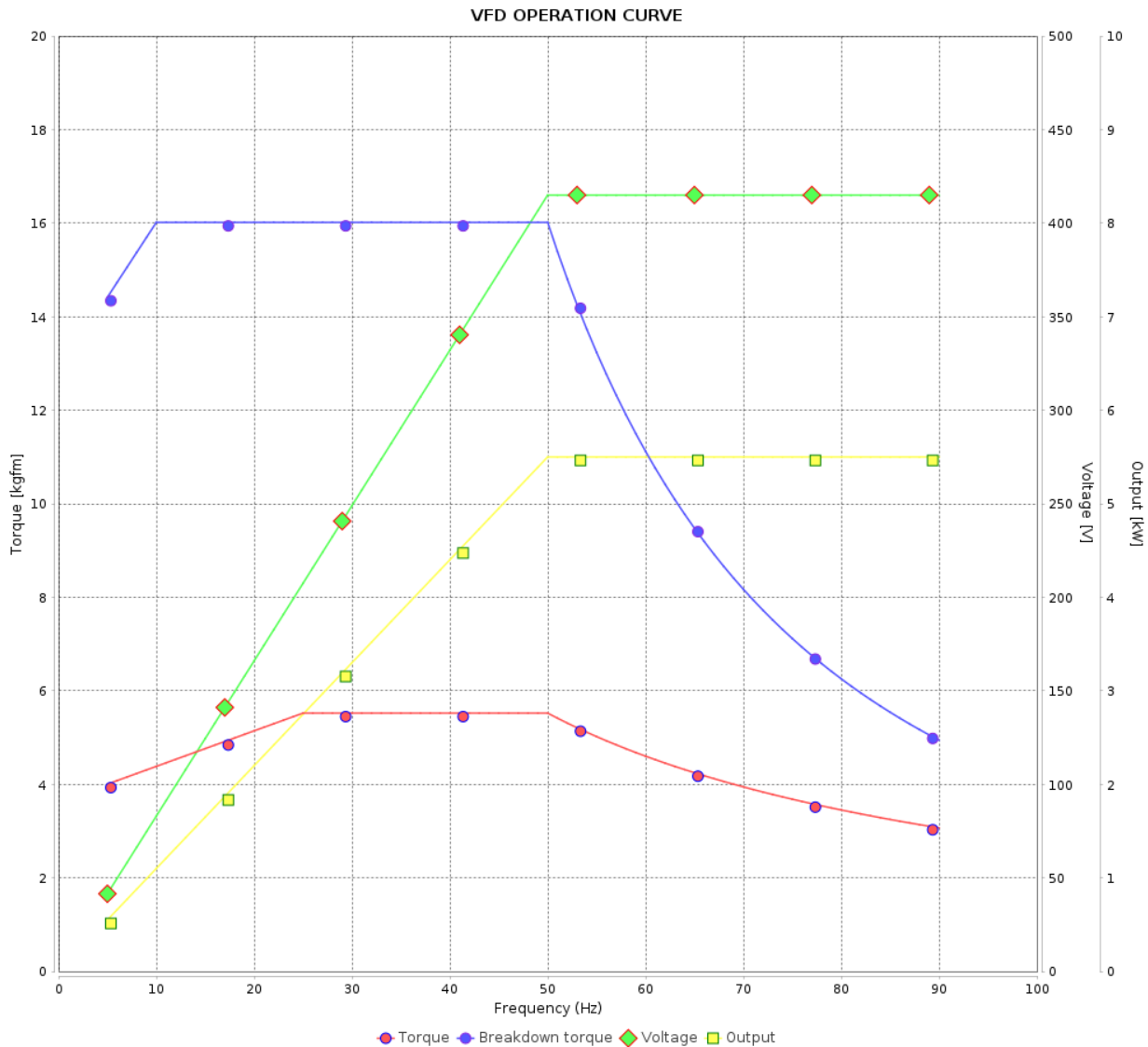
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 415 V 50 Hz 6P

Rated current	: 13.0 A	Moment of inertia (J)	: 0.0755 kgm <sup>2</sup>
LRC	: 7.6	Duty cycle	: S1
Rated torque	: 5.52 kgfm	Insulation class	: F
Locked rotor torque	: 260 %	Service factor	: 1.00
Breakdown torque	: 290 %	Temperature rise	: 80 K
Rated speed	: 970 rpm	Design	: N

Rev.	Changes Summary	Performed	Checked	Date
Performed by			Page 18 / 19	Revision
Checked by				
Date	22/11/2023			

# VFD OPERATION CURVE

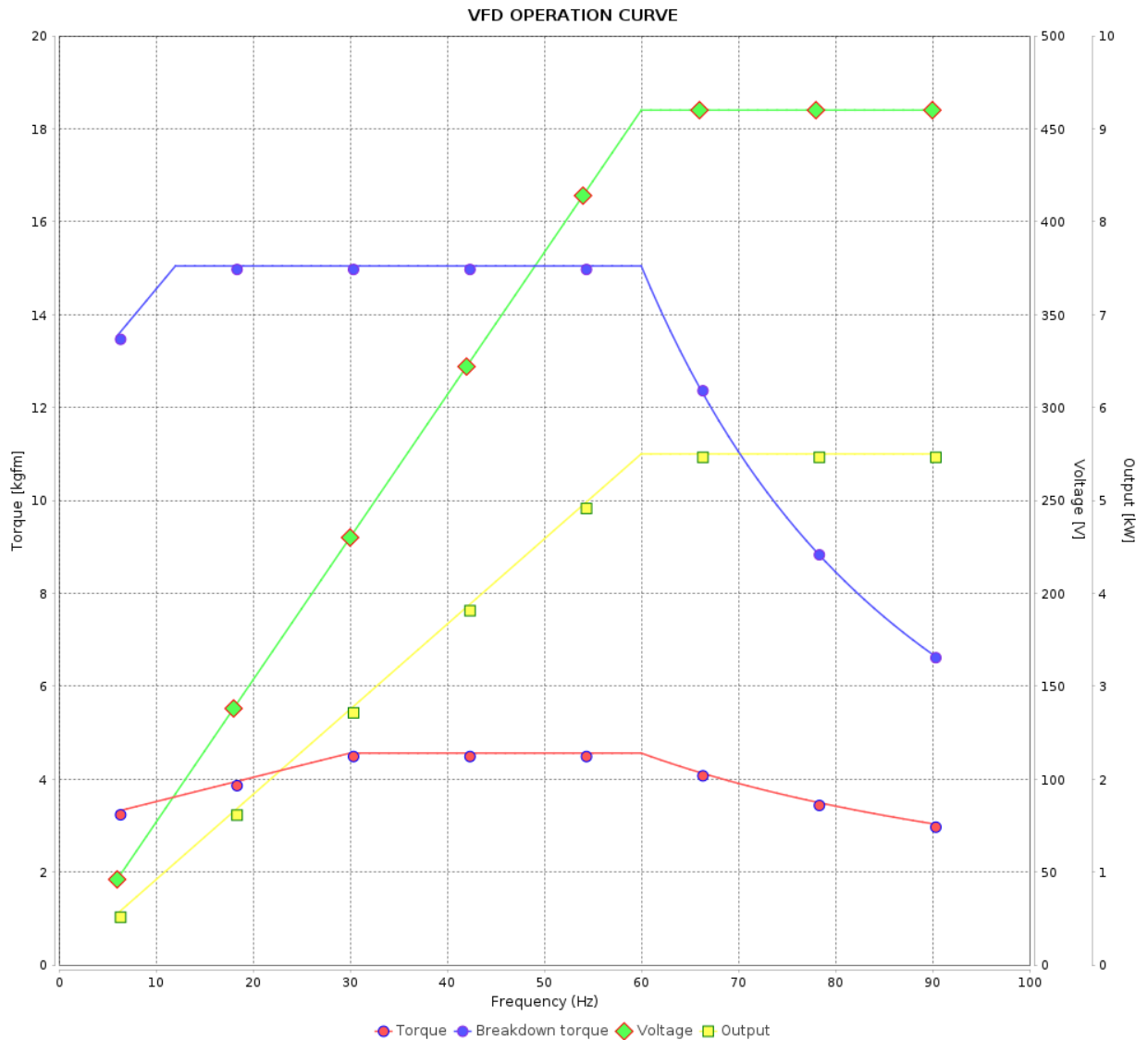
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : W22 IE3 Three-Phase

Product code : 12868136



Performance : 460 V 60 Hz 6P

Rated current : 10.8 A  
 LRC : 8.0  
 Rated torque : 4.56 kgfm  
 Locked rotor torque : 250 %  
 Breakdown torque : 330 %  
 Rated speed : 1175 rpm

Moment of inertia (J) : 0.0755 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
Performed by			Page 19 / 19	Revision
Checked by				
Date	22/11/2023			