

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: IE3 Three-Phase		Product code : 13760749	
Frame	: 80	Cooling method	: IC411 - TEFC		
Insulation class	: F	Mounting	: B14T		
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>	: 12.7 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>		
Design	: N				
Output [kW]	0.75	0.75	0.75	0.75	0.75
Poles	4	4	4	4	4
Frequency [Hz]	50	50	50	50	60
Rated voltage [V]	220/380	230/400	240/415	460	
Rated current [A]	2.95/1.71	2.85/1.64	2.80/1.62	1.48	
L. R. Amperes [A]	19.8/11.5	20.0/11.5	20.4/11.8	12.3	
LRC [A]	6.7	7.0	7.3	8.3	
No load current [A]	1.55/0.900	1.79/1.03	1.97/1.14	0.930	
Rated speed [RPM]	1425	1430	1435	1740	
Slip [%]	5.00	4.67	4.33	3.33	
Rated torque [kgfm]	0.513	0.509	0.507	0.420	
Locked rotor torque [%]	290	320	340	380	
Breakdown torque [%]	310	340	360	430	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	32s (cold) 18s (hot)	32s (cold) 18s (hot)	32s (cold) 18s (hot)	36s (cold) 20s (hot)	
Noise level <sup>2</sup>	44.0 dB(A)	44.0 dB(A)	44.0 dB(A)	48.0 dB(A)	
Efficiency (%)	25%				
	50%	80.8	80.0	79.1	78.5
	75%	82.0	82.0	81.8	80.0
	100%	82.5	82.5	82.5	83.5
Power Factor	25%				
	50%	0.62	0.59	0.53	0.55
	75%	0.75	0.71	0.67	0.68
	100%	0.81	0.80	0.78	0.76
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	21.2	21.2	21.2	19.8
	P2 (0,5;1,0)	20.0	20.0	20.0	18.6
	P3 (0,25;1,0)	18.6	18.6	18.6	17.3
	P4 (0,9;0,5)	10.2	10.2	10.2	9.5
	P5 (0,5;0,5)	7.4	7.4	7.4	6.9
	P6 (0,5;0,25)	5.1	5.1	5.1	4.7
	P7 (0,25;0,25)	3.6	3.6	3.6	3.4
Bearing type	: Drive end 6204 ZZ	Non drive end 6203 ZZ	Foundation loads		
Sealing	: Oil Seal	Oil Seal	Max. traction	: 51 kgf	
Lubrication interval	: -	-	Max. compression	: 64 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.		
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## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

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## 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

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# TORQUE AND CURRENT VS SPEED CURVE

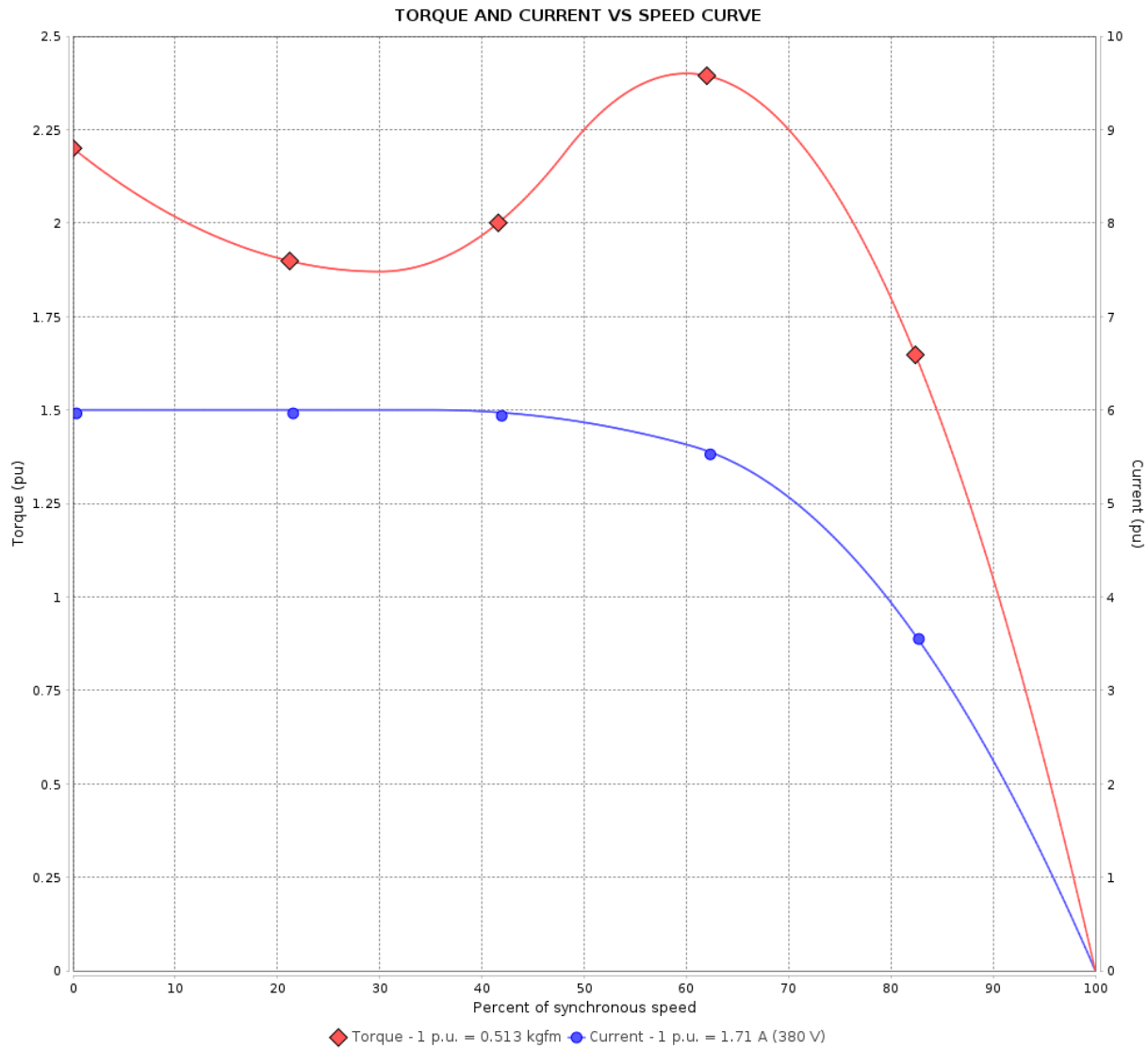
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 220/380 V 50 Hz 4P

Rated current	: 2.95/1.71 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 6.7	Duty cycle	: S1
Rated torque	: 0.513 kgfm	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1425 rpm	Design	: N

Locked rotor time : 32s (cold) 18s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

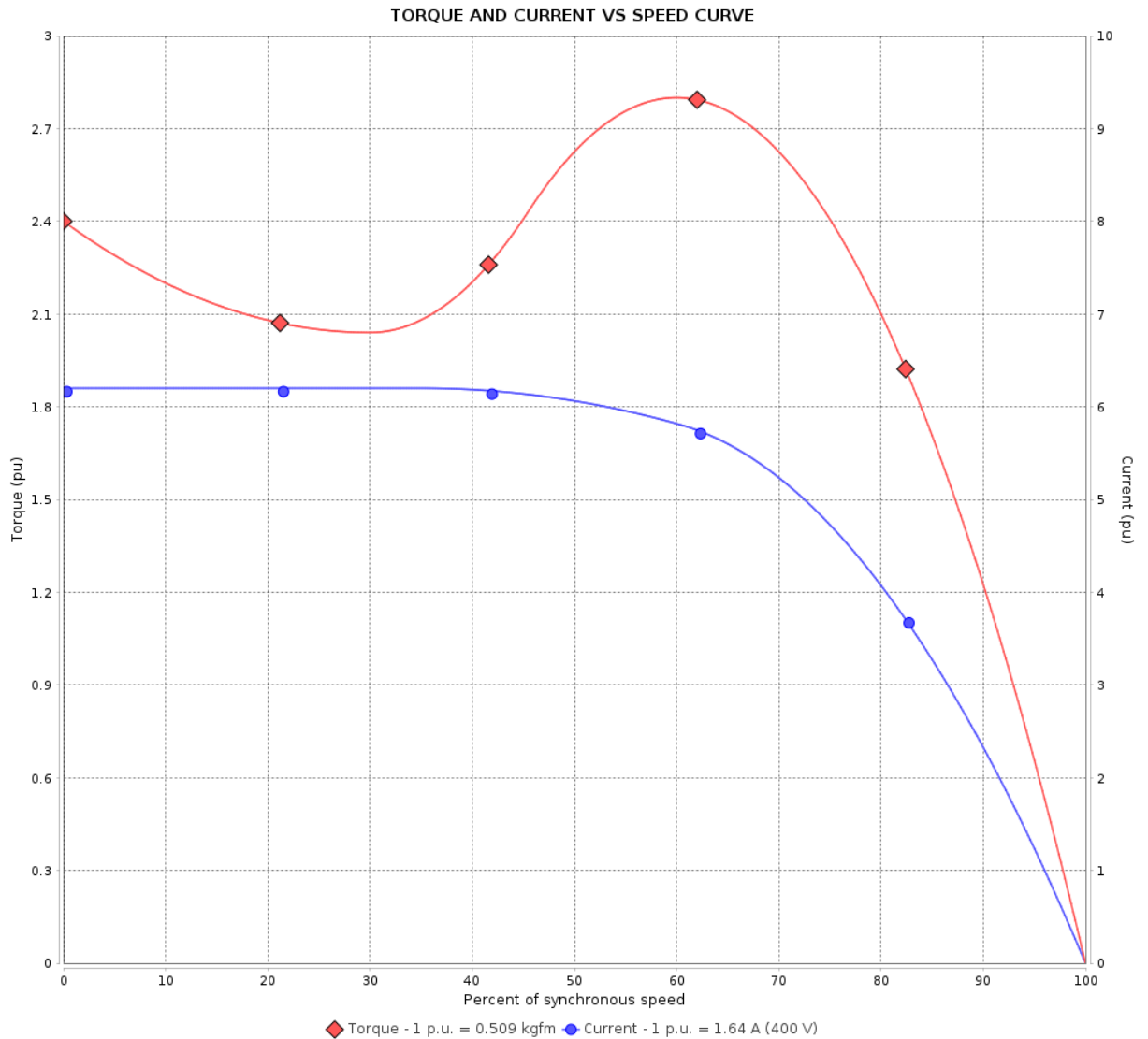


## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 230/400 V 50 Hz 4P

Rated current	: 2.85/1.64 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 7.0	Duty cycle	: S1
Rated torque	: 0.509 kgfm	Insulation class	: F
Locked rotor torque	: 320 %	Service factor	: 1.00
Breakdown torque	: 340 %	Temperature rise	: 80 K
Rated speed	: 1430 rpm	Design	: N

Locked rotor time : 32s (cold) 18s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

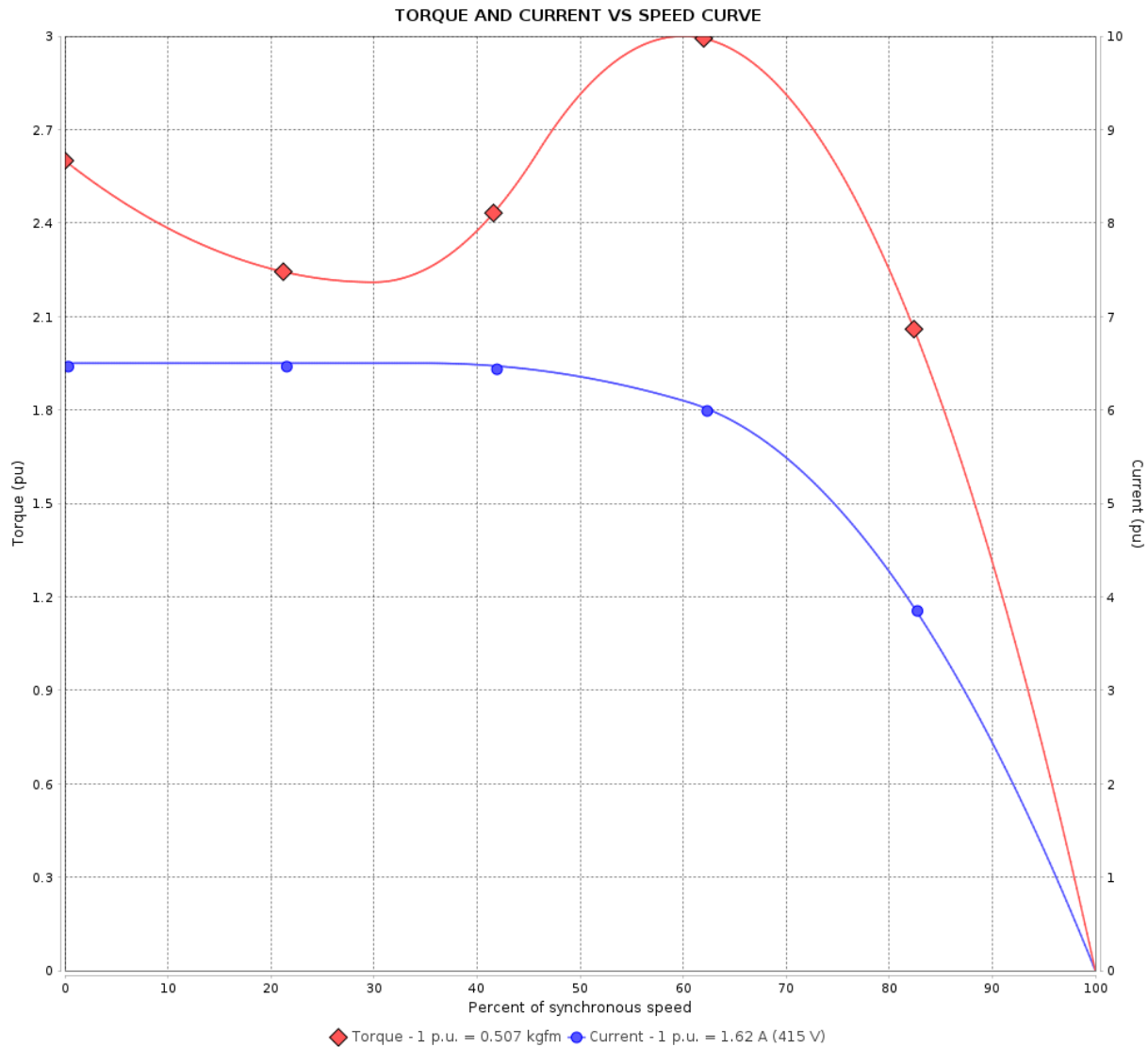
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 240/415 V 50 Hz 4P

Rated current	: 2.80/1.62 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 7.3	Duty cycle	: S1
Rated torque	: 0.507 kgfm	Insulation class	: F
Locked rotor torque	: 340 %	Service factor	: 1.00
Breakdown torque	: 360 %	Temperature rise	: 80 K
Rated speed	: 1435 rpm	Design	: N

Locked rotor time : 32s (cold) 18s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

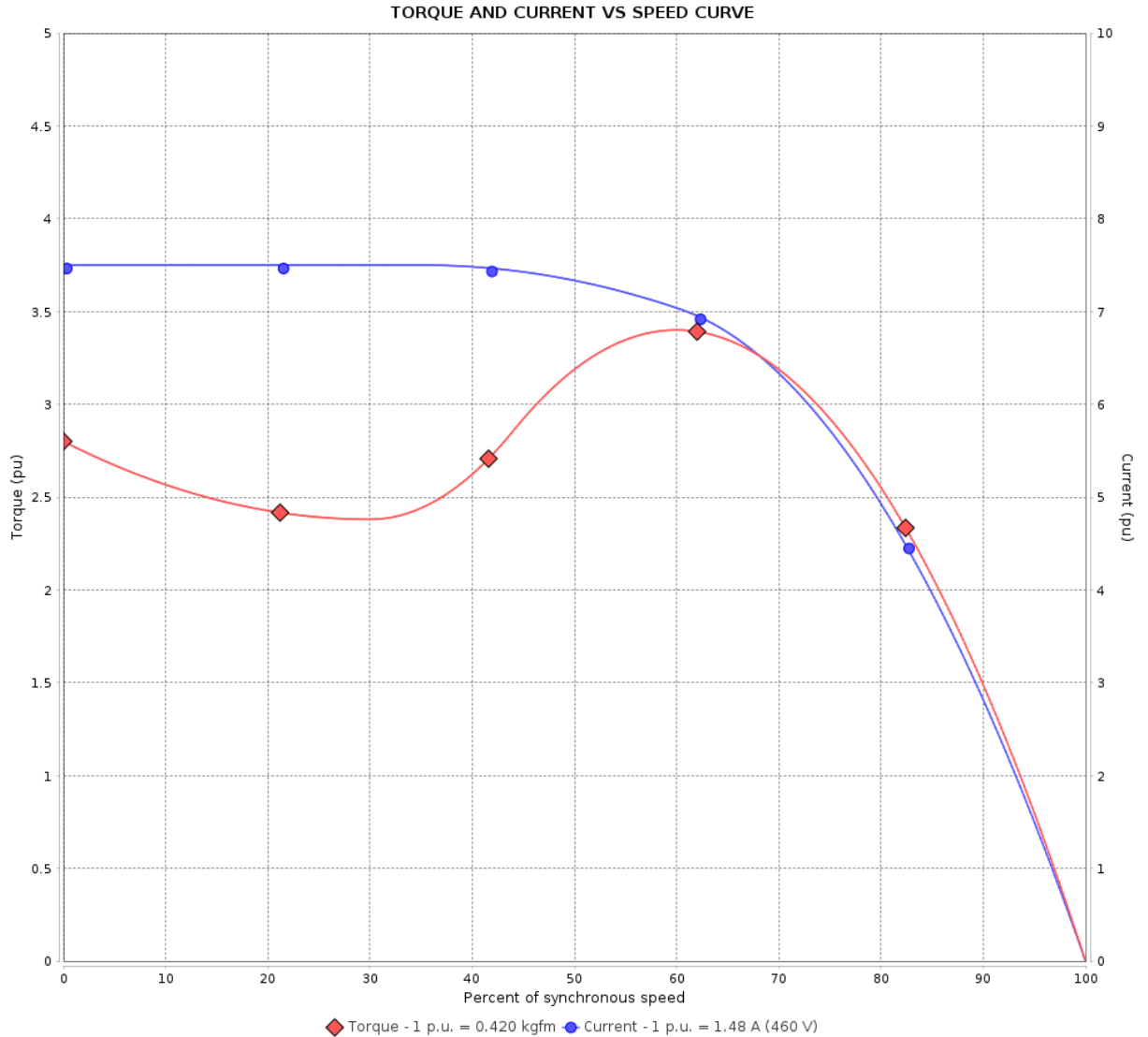


## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 460 V 60 Hz 4P

Rated current	: 1.48 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 8.3	Duty cycle	: S1
Rated torque	: 0.420 kgfm	Insulation class	: F
Locked rotor torque	: 380 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 1740 rpm	Design	: N

Locked rotor time : 36s (cold) 20s (hot)

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# LOAD PERFORMANCE CURVE

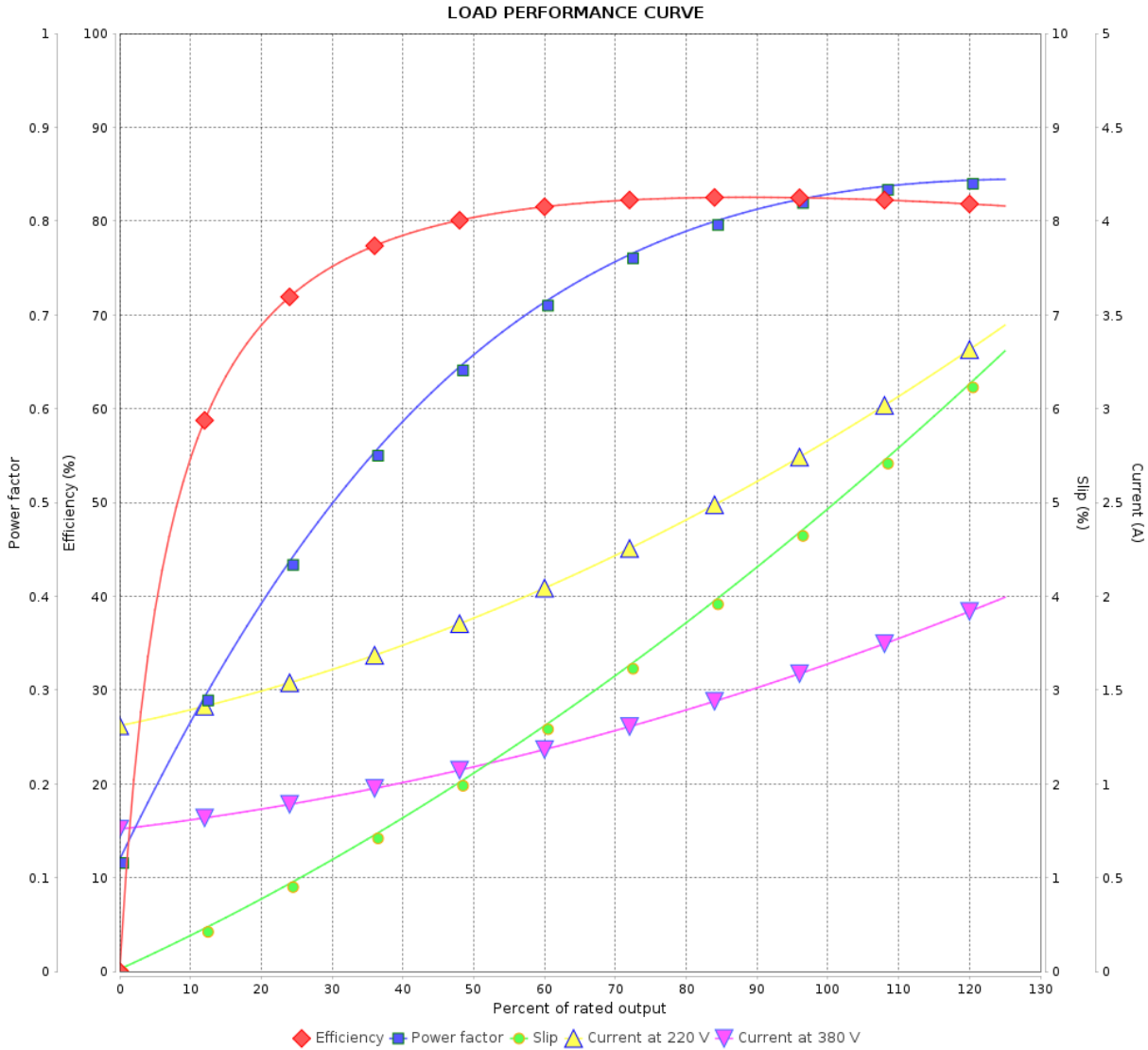
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 220/380 V 50 Hz 4P

Rated current : 2.95/1.71 A  
 LRC : 6.7  
 Rated torque : 0.513 kgfm  
 Locked rotor torque : 290 %  
 Breakdown torque : 310 %  
 Rated speed : 1425 rpm

Moment of inertia (J) : 0.0032 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

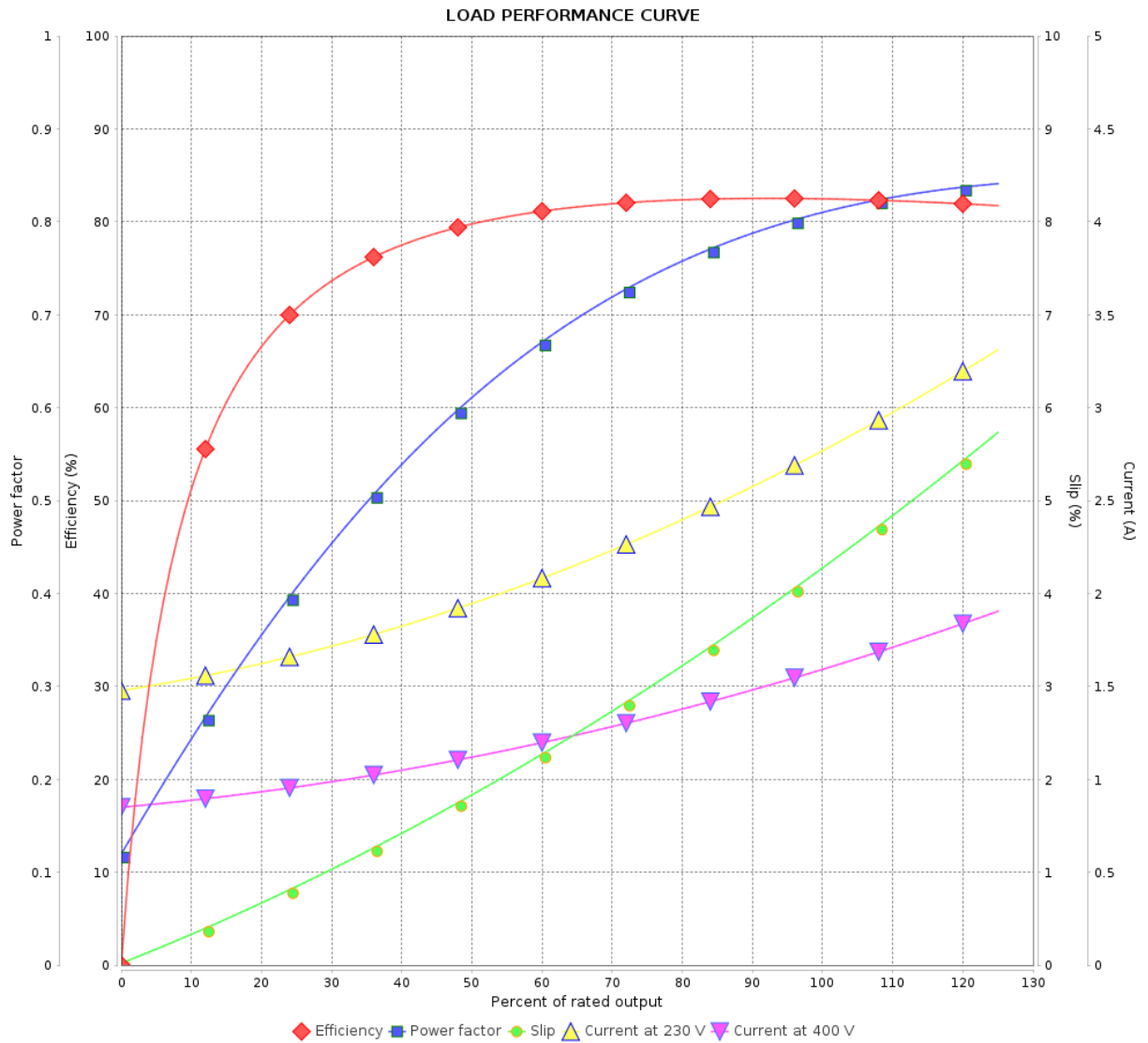
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 230/400 V 50 Hz 4P

Rated current : 2.85/1.64 A  
 LRC : 7.0  
 Rated torque : 0.509 kgfm  
 Locked rotor torque : 320 %  
 Breakdown torque : 340 %  
 Rated speed : 1430 rpm

Moment of inertia (J) : 0.0032 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

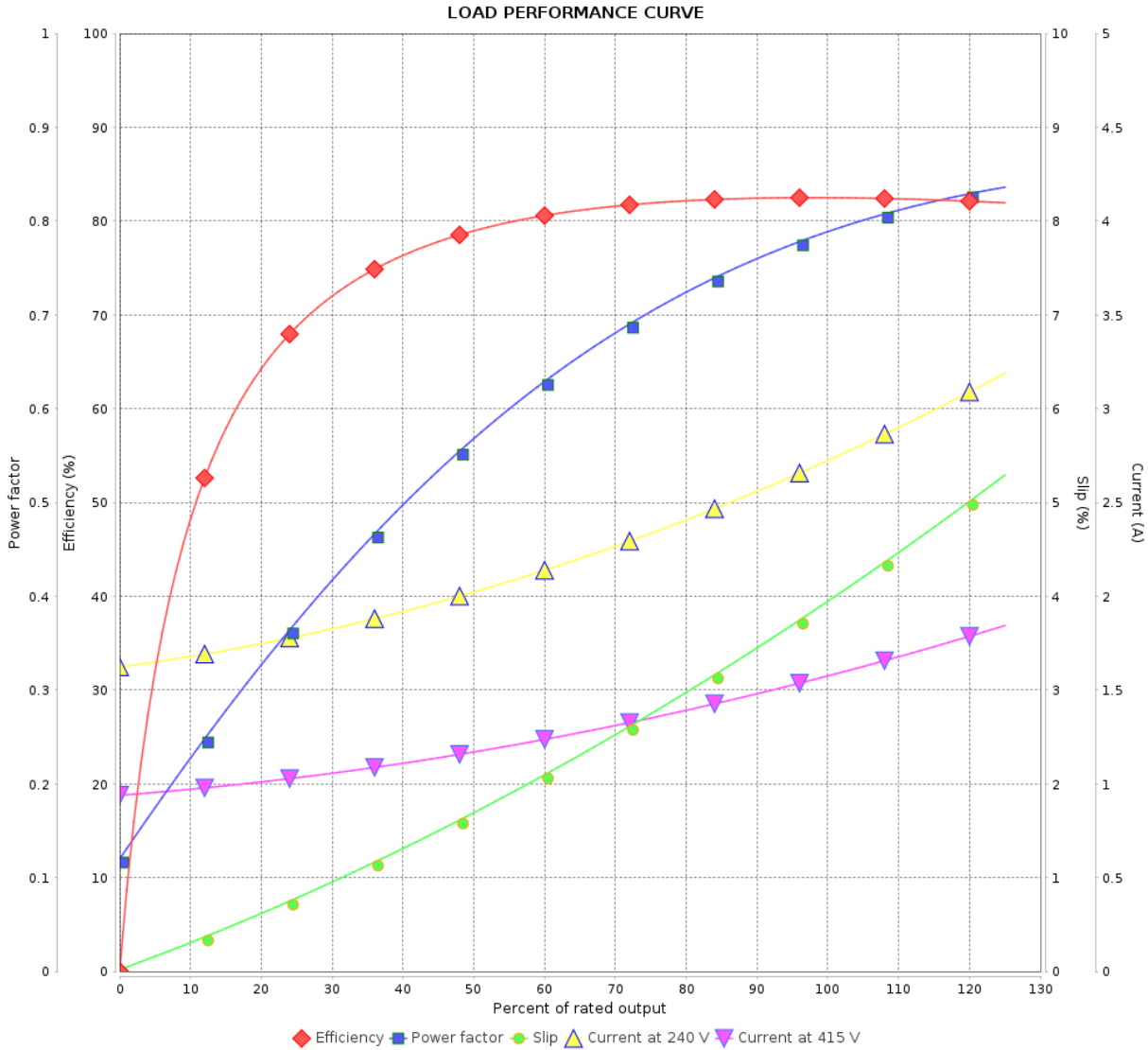
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 240/415 V 50 Hz 4P

Rated current : 2.80/1.62 A  
 LRC : 7.3  
 Rated torque : 0.507 kgfm  
 Locked rotor torque : 340 %  
 Breakdown torque : 360 %  
 Rated speed : 1435 rpm

Moment of inertia (J) : 0.0032 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

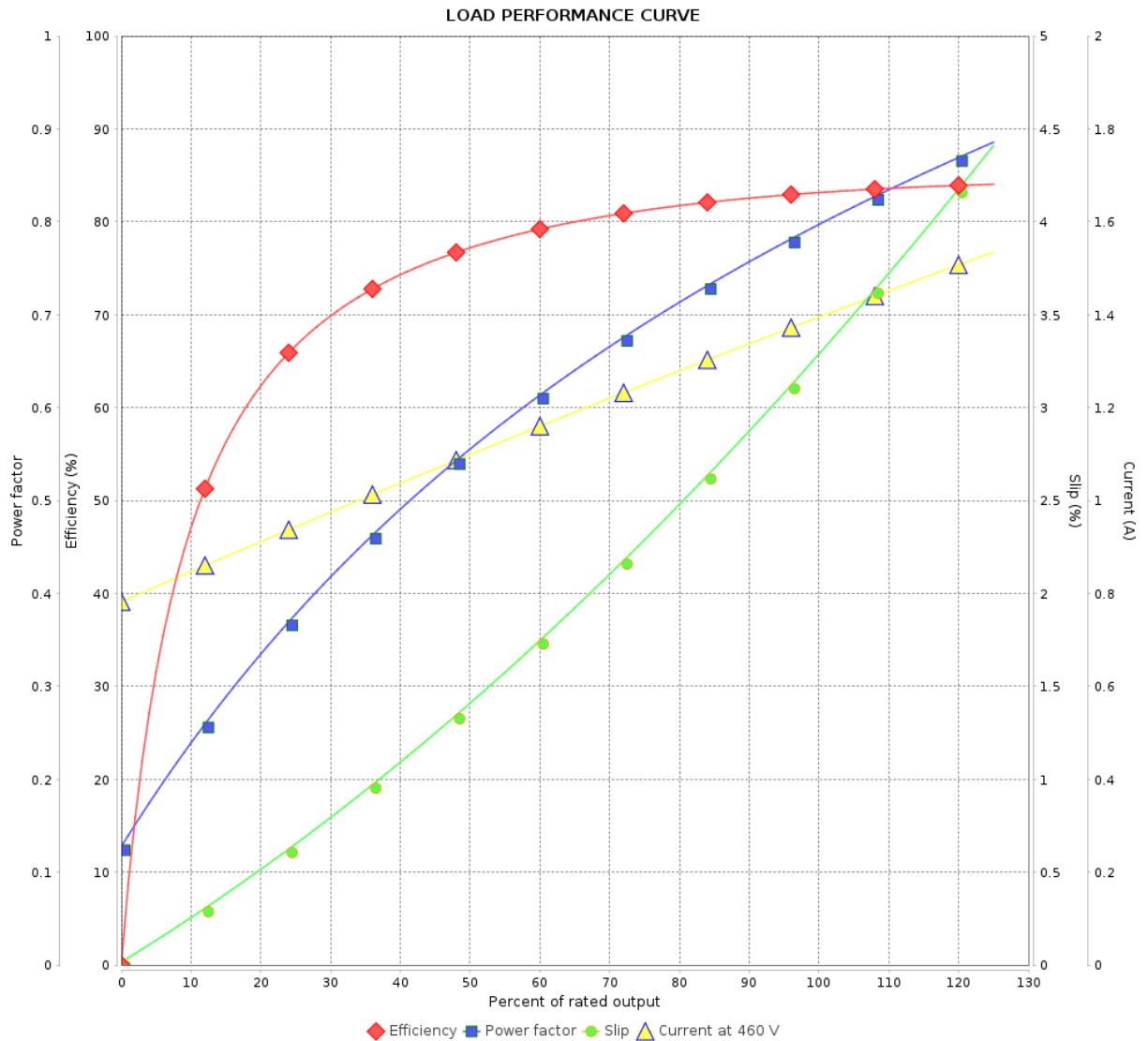
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 460 V 60 Hz 4P

Rated current : 1.48 A  
 LRC : 8.3  
 Rated torque : 0.420 kgfm  
 Locked rotor torque : 380 %  
 Breakdown torque : 430 %  
 Rated speed : 1740 rpm

Moment of inertia (J) : 0.0032 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

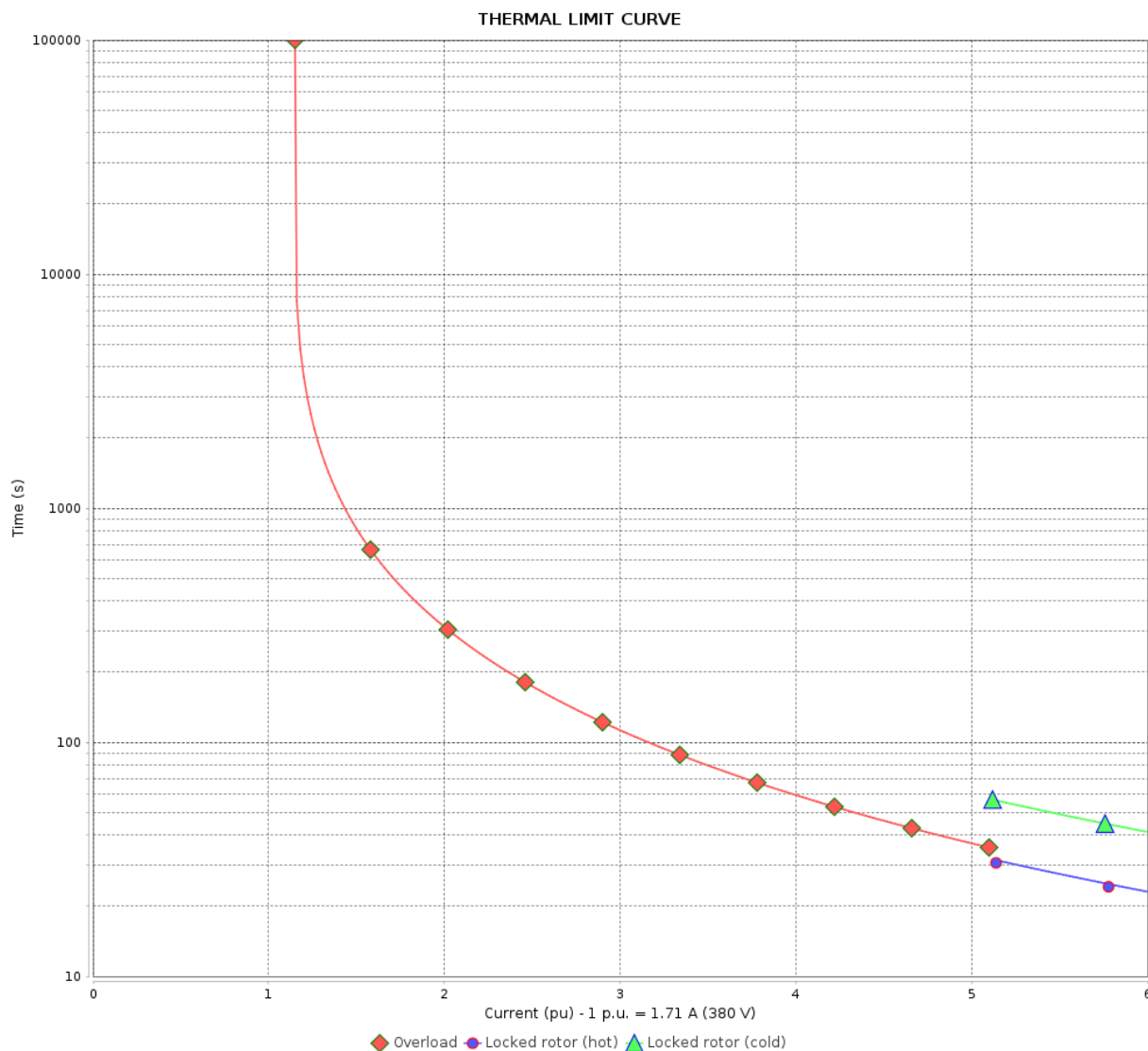
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 220/380 V 50 Hz 4P

Rated current	: 2.95/1.71 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 6.7	Duty cycle	: S1
Rated torque	: 0.513 kgfm	Insulation class	: F
Locked rotor torque	: 290 %	Service factor	: 1.00
Breakdown torque	: 310 %	Temperature rise	: 80 K
Rated speed	: 1425 rpm	Design	: N

Heating constant  
Cooling constant

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# THERMAL LIMIT CURVE

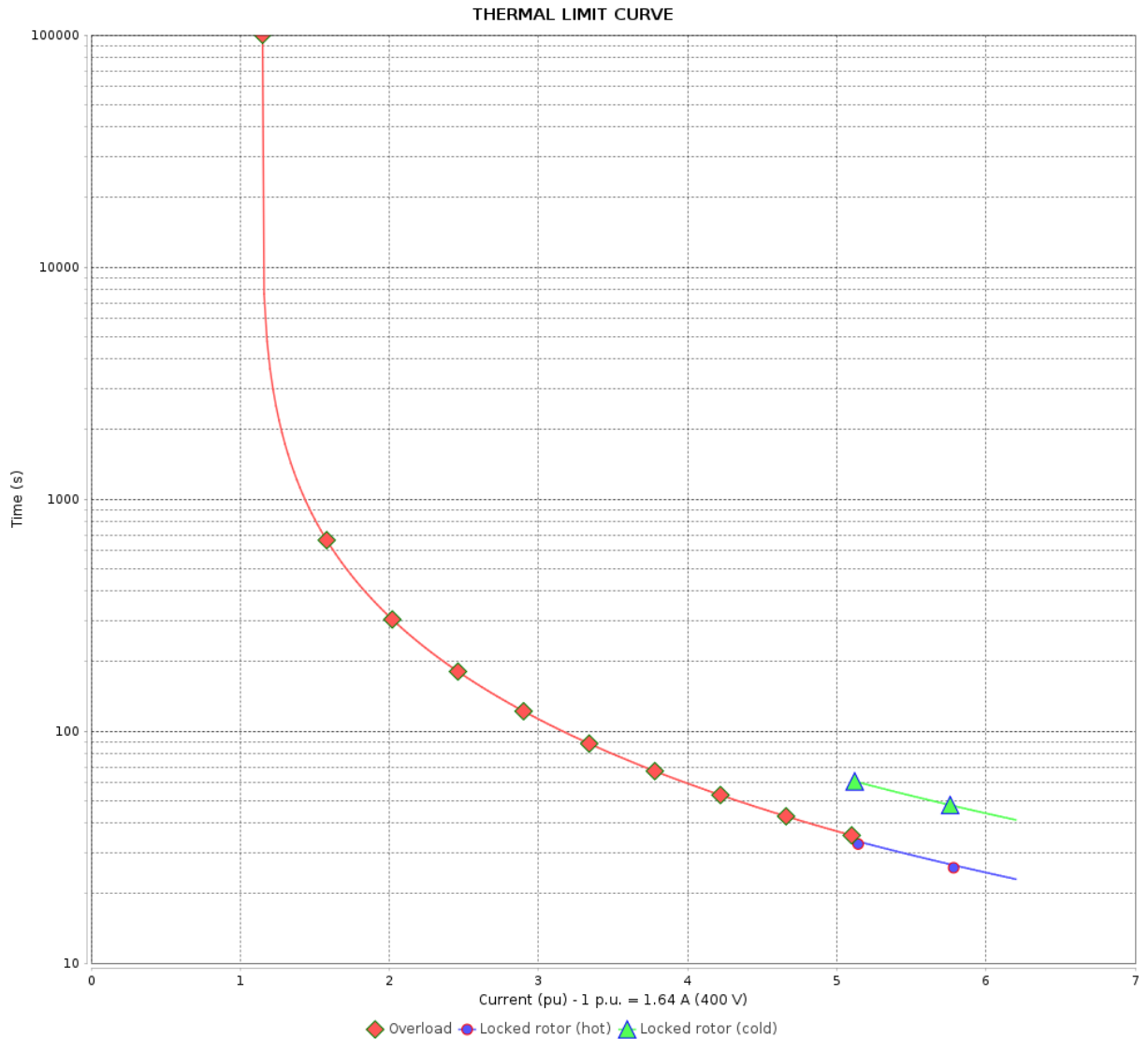
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 230/400 V 50 Hz 4P

Rated current : 2.85/1.64 A  
 LRC : 7.0  
 Rated torque : 0.509 kgfm  
 Locked rotor torque : 320 %  
 Breakdown torque : 340 %  
 Rated speed : 1430 rpm

Moment of inertia (J) : 0.0032 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

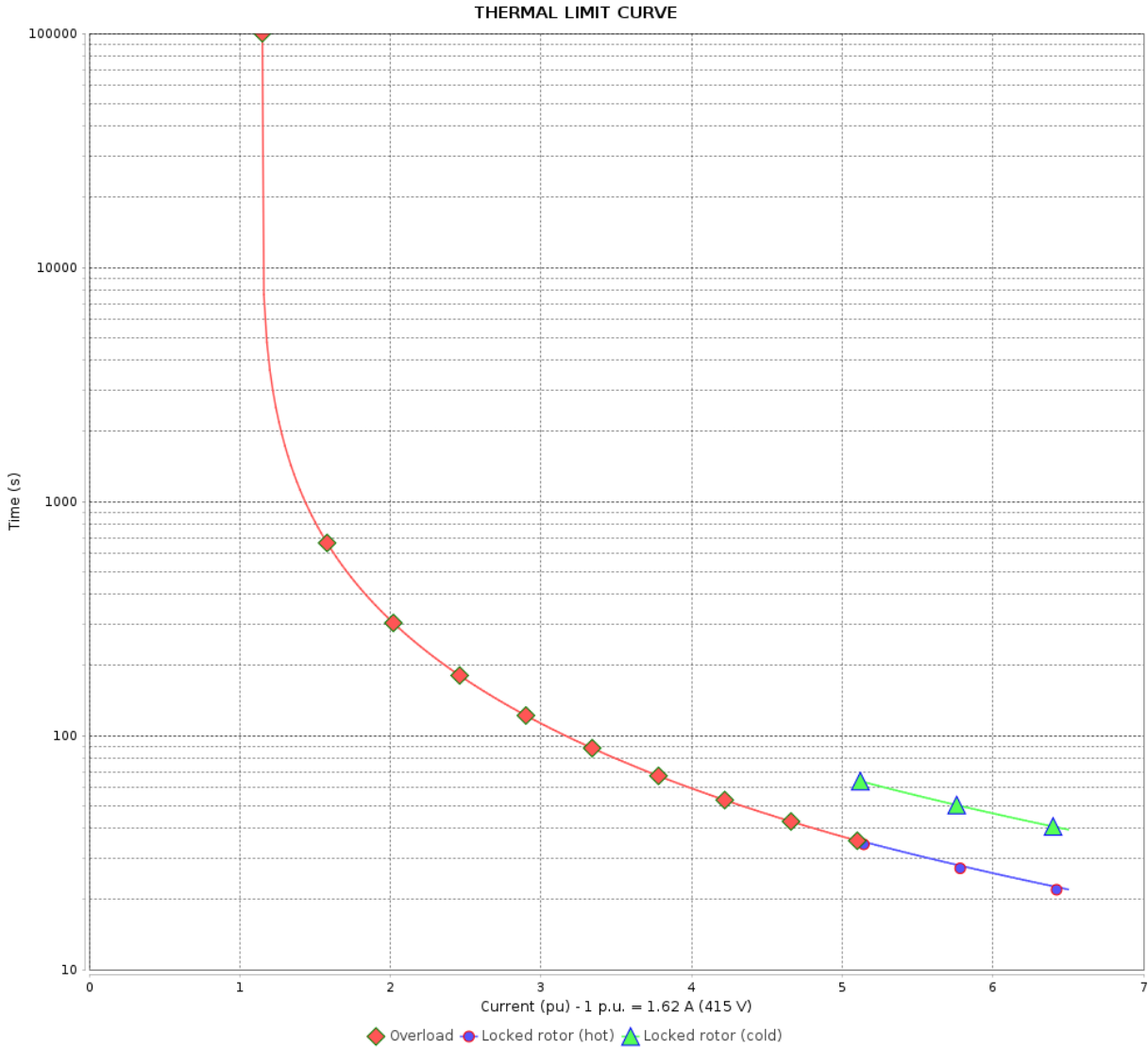
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 240/415 V 50 Hz 4P

Rated current : 2.80/1.62 A  
 LRC : 7.3  
 Rated torque : 0.507 kgfm  
 Locked rotor torque : 340 %  
 Breakdown torque : 360 %  
 Rated speed : 1435 rpm

Moment of inertia (J) : 0.0032 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

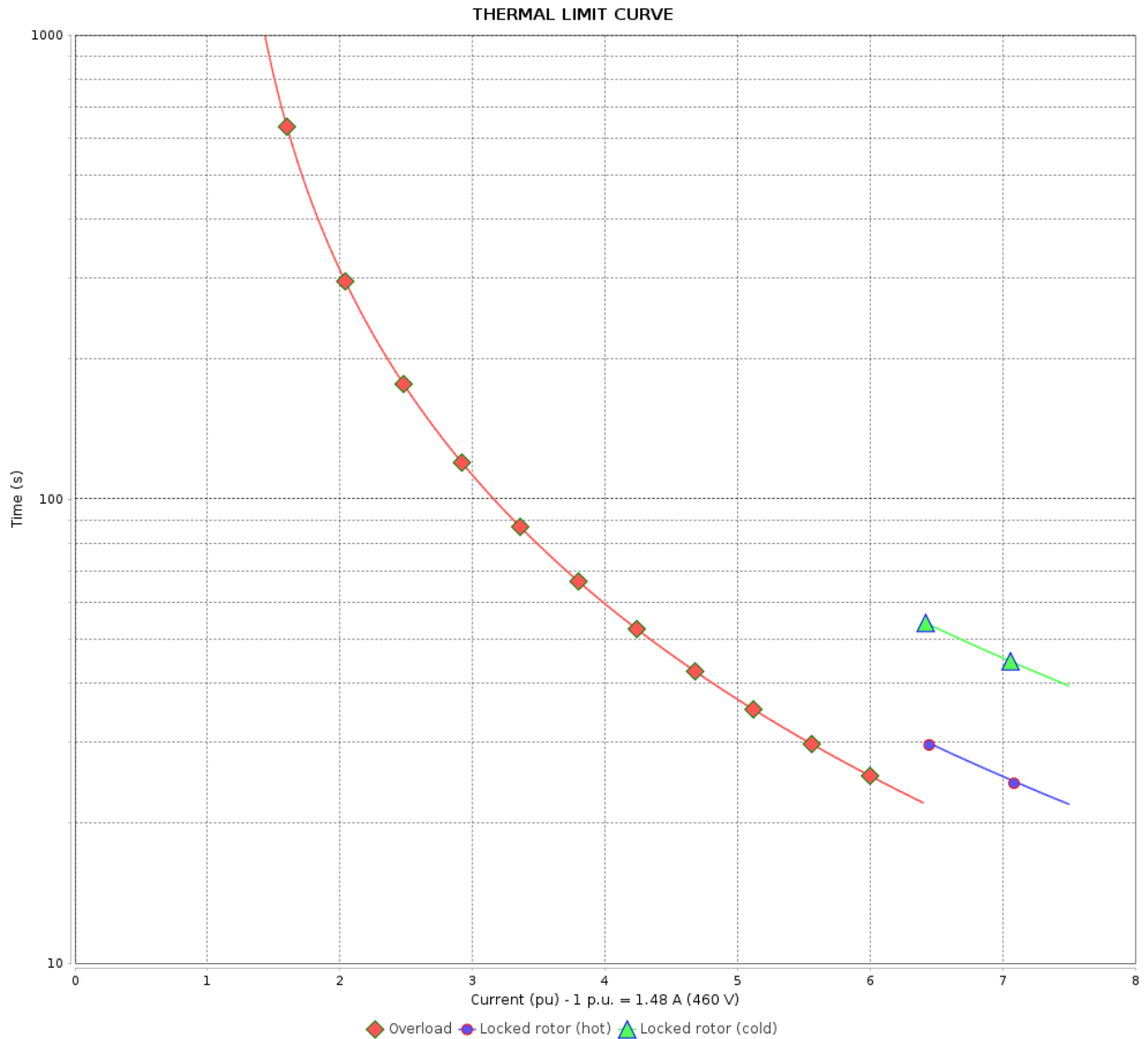
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 460 V 60 Hz 4P

Rated current	: 1.48 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 8.3	Duty cycle	: S1
Rated torque	: 0.420 kgfm	Insulation class	: F
Locked rotor torque	: 380 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 1740 rpm	Design	: N

Heating constant

Cooling constant

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# VFD OPERATION CURVE

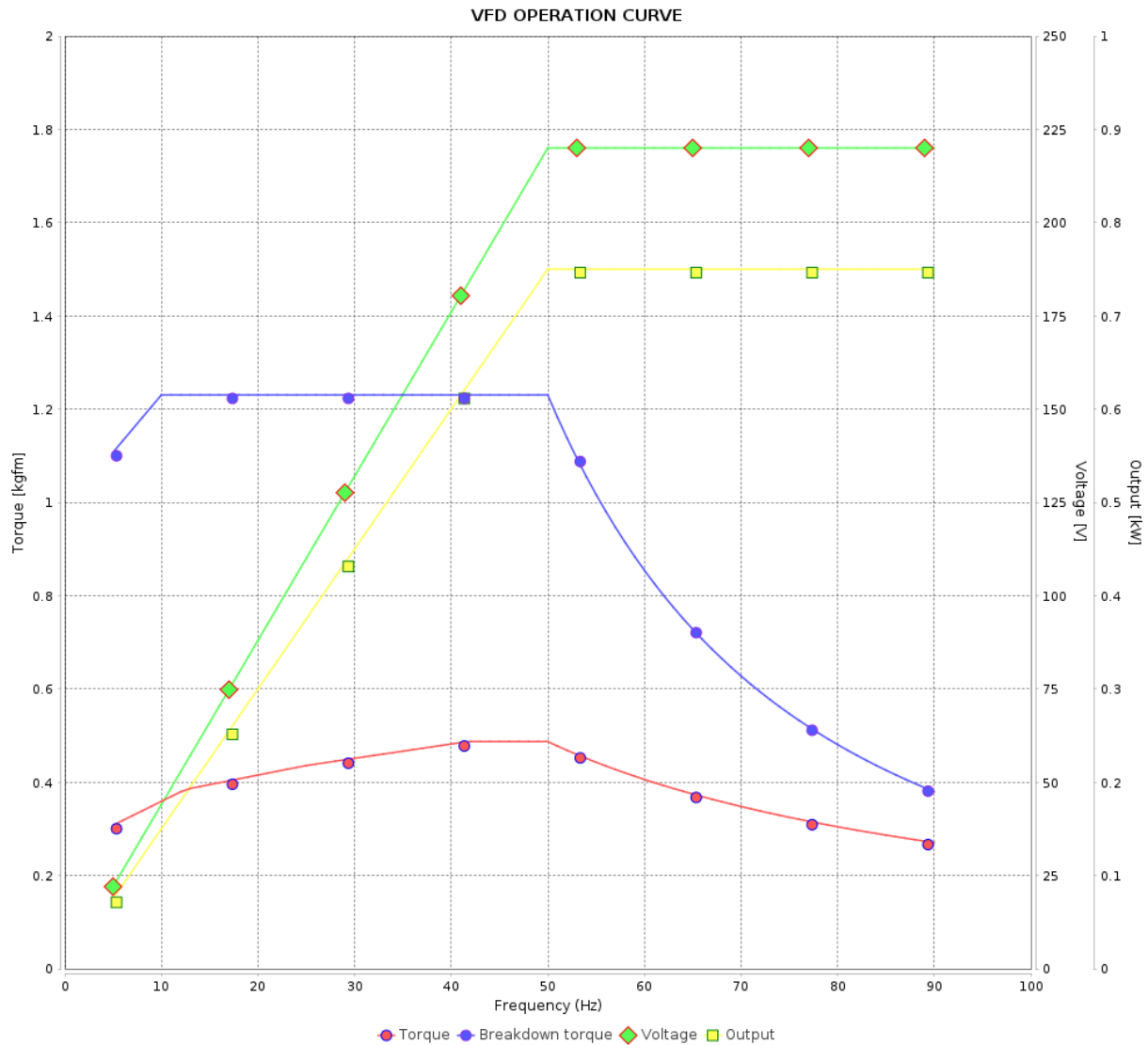
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Customer : Astraprom d.o.o.

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Performance : 220/380 V 50 Hz 4P

Rated current : 2.95/1.71 A  
 LRC : 6.7  
 Rated torque : 0.513 kgfm  
 Locked rotor torque : 290 %  
 Breakdown torque : 310 %  
 Rated speed : 1425 rpm

Moment of inertia (J) : 0.0032 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

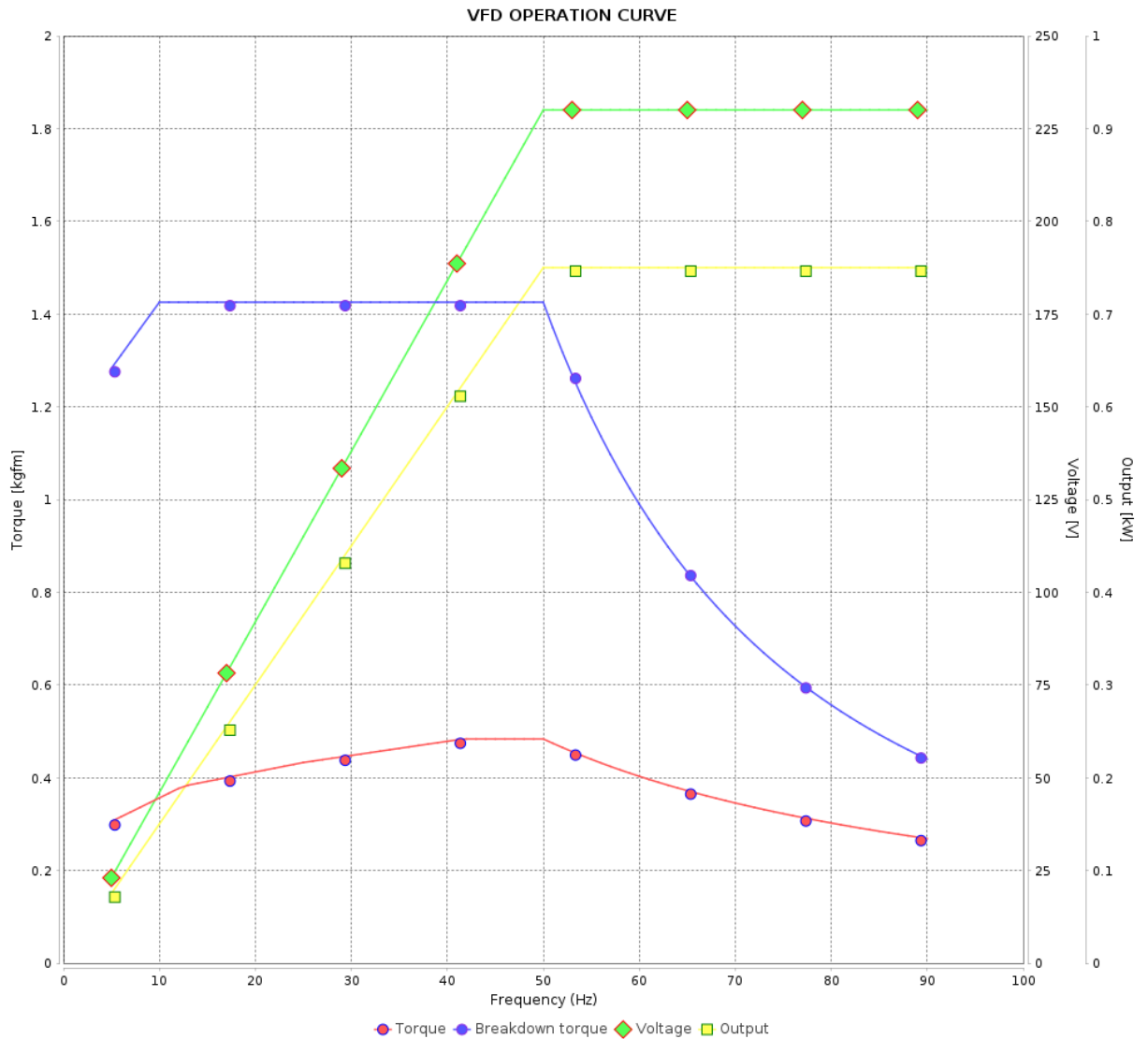
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 230/400 V 50 Hz 4P

Rated current : 2.85/1.64 A  
 LRC : 7.0  
 Rated torque : 0.509 kgfm  
 Locked rotor torque : 320 %  
 Breakdown torque : 340 %  
 Rated speed : 1430 rpm

Moment of inertia (J) : 0.0032 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

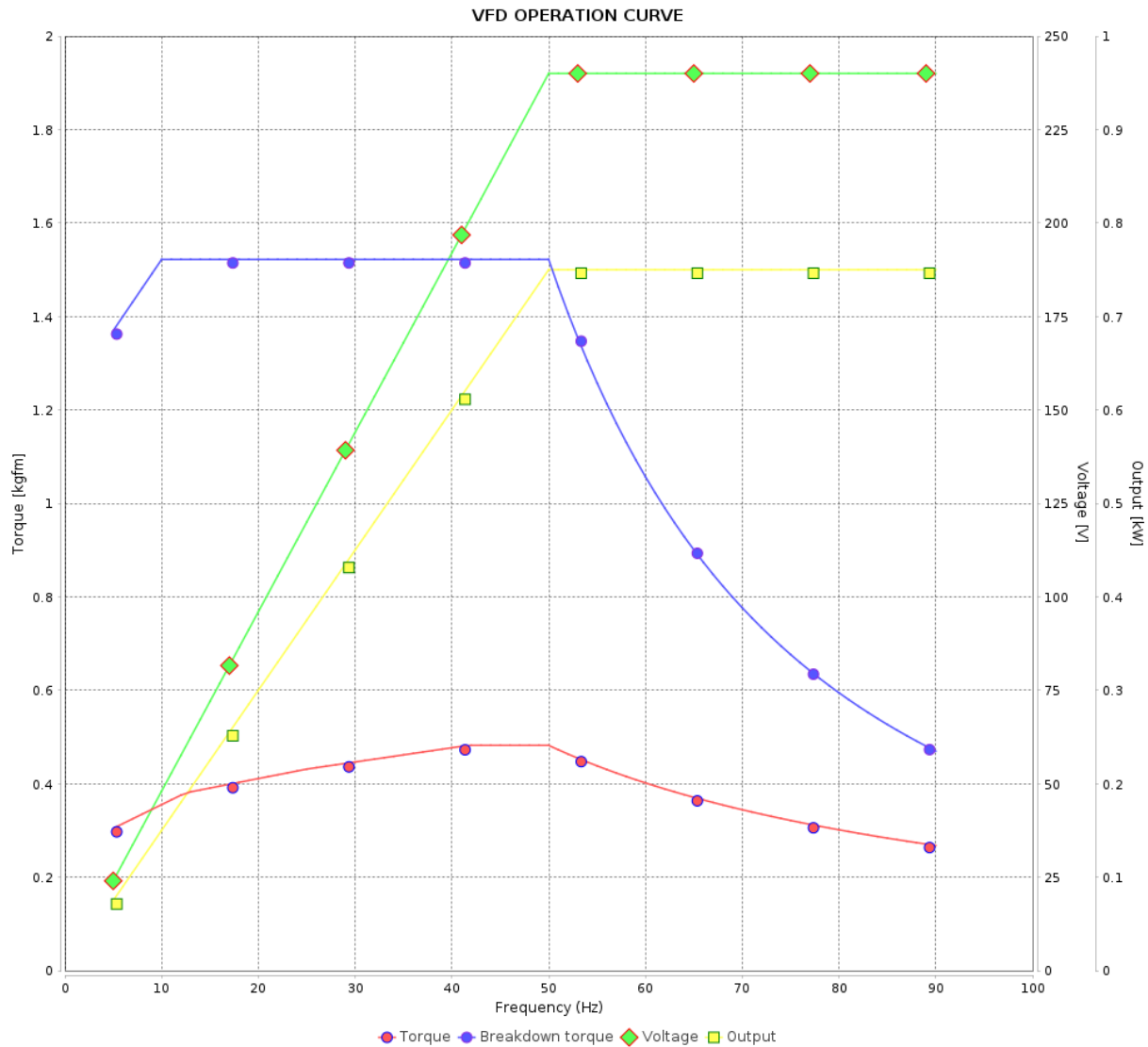
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

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Performance : 240/415 V 50 Hz 4P

Rated current : 2.80/1.62 A  
 LRC : 7.3  
 Rated torque : 0.507 kgfm  
 Locked rotor torque : 340 %  
 Breakdown torque : 360 %  
 Rated speed : 1435 rpm

Moment of inertia (J) : 0.0032 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

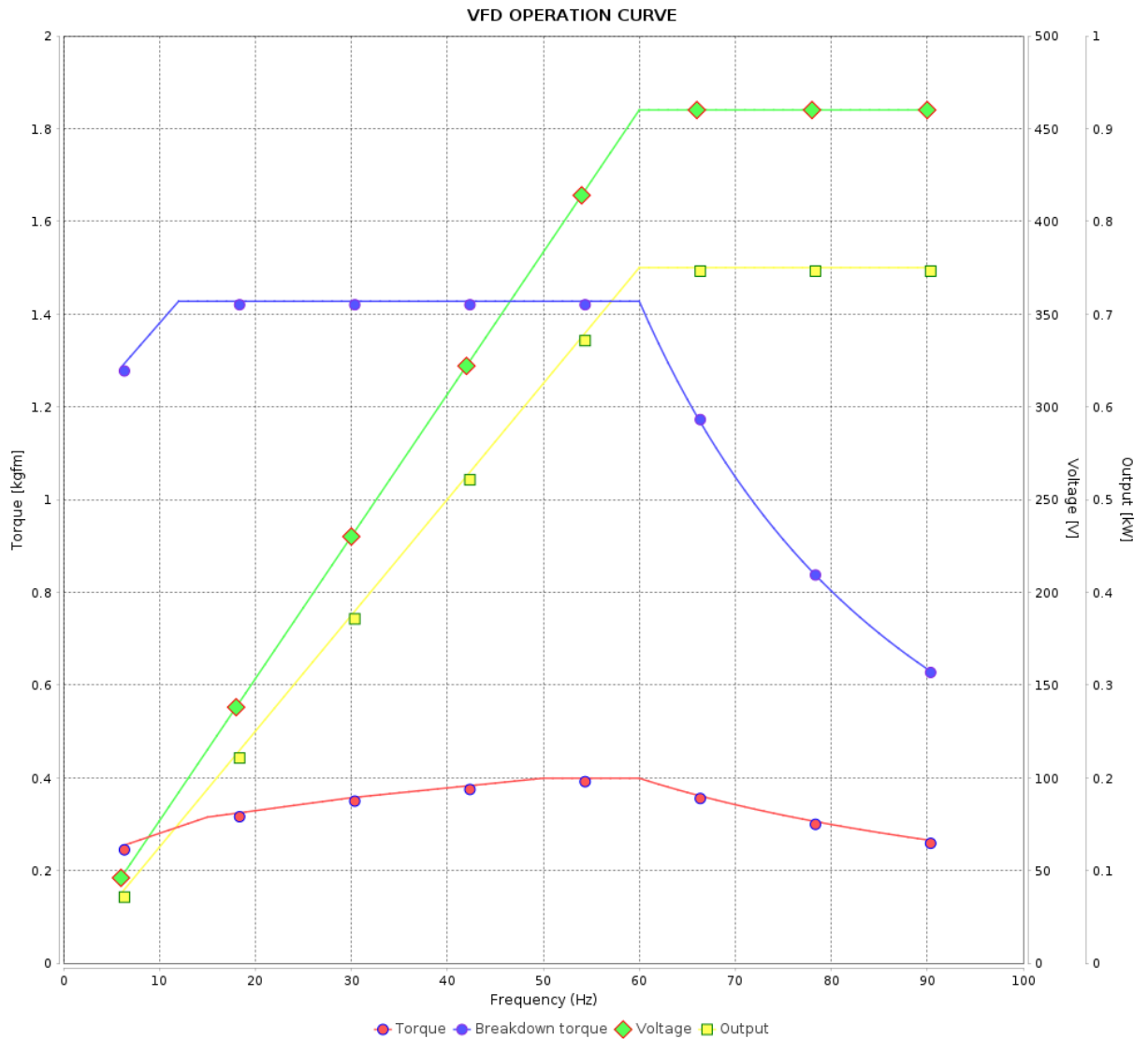
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Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13760749



Performance : 460 V 60 Hz 4P

Rated current	: 1.48 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 8.3	Duty cycle	: S1
Rated torque	: 0.420 kgfm	Insulation class	: F
Locked rotor torque	: 380 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 1740 rpm	Design	: N

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