

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: Multimounting IE3 Three-Phase		Product code : 13749546	
Frame	: 63	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>	: 6.2 kg		
Protection degree	: IP55	Moment of inertia (J)	: 0.0006 kgm <sup>2</sup>		
Design	: N				
Output [kW]	0.18	0.18	0.18	0.18	0.18
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]	0.902/0.522	0.897/0.516	0.885/0.512	0.468	
L. R. Amperes [A]	3.79/2.19	4.13/2.37	4.43/2.56	2.57	
LRC [A]	4.2	4.6	5.0	5.5	
No load current [A]	0.605/0.350	0.661/0.380	0.692/0.400	0.360	
Rated speed [RPM]	1365	1380	1395	1705	
Slip [%]	9.00	8.00	7.00	5.28	
Rated torque [kgfm]	0.128	0.127	0.126	0.103	
Locked rotor torque [%]	200	220	240	270	
Breakdown torque [%]	200	220	240	280	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	54s (cold) 30s (hot)	54s (cold) 30s (hot)	54s (cold) 30s (hot)	72s (cold) 40s (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%	65.0	65.0	65.0	62.0
	75%	67.0	67.0	67.0	66.0
	100%	69.9	69.9	69.9	70.0
Power Factor	25%				
	50%	0.57	0.53	0.50	0.50
	75%	0.67	0.63	0.61	0.60
	100%	0.75	0.72	0.70	0.69
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	45.5	45.5	45.5	45.3
	P2 (0,5;1,0)	47.0	47.0	47.0	46.8
	P3 (0,25;1,0)	41.8	41.8	41.8	41.6
	P4 (0,9;0,5)	24.1	24.1	24.1	24.0
	P5 (0,5;0,5)	18.7	18.7	18.7	18.6
	P6 (0,5;0,25)	14.5	14.5	14.5	14.5
	P7 (0,25;0,25)	10.9	10.9	10.9	10.8
Bearing type	: Drive end 6201 ZZ	Non drive end 6201 ZZ	Foundation loads		
Sealing	: V'Ring	V'Ring	Max. traction	: 8 kgf	
Lubrication interval	: -	-	Max. compression	: 14 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

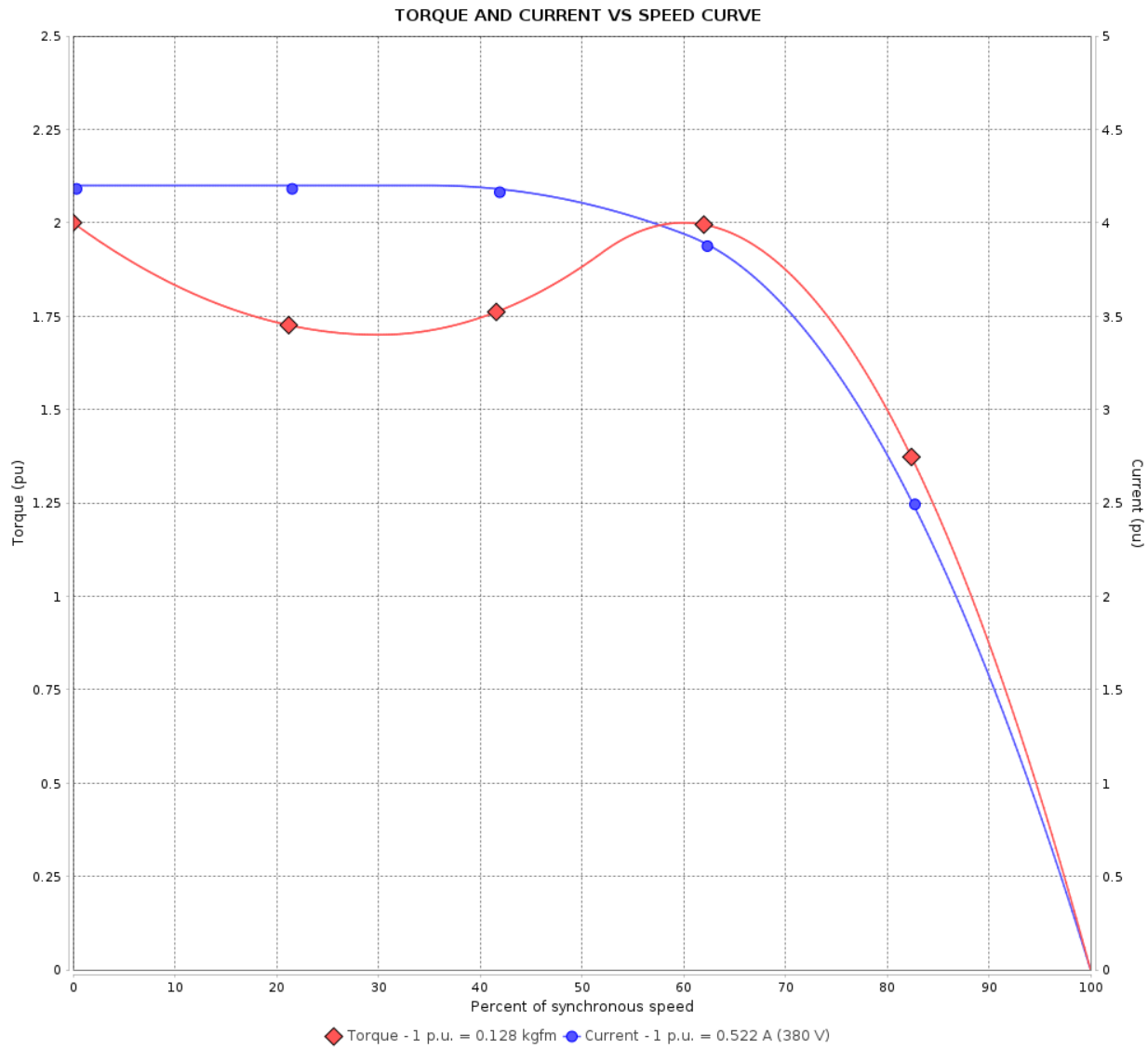
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 220/380 V 50 Hz 4P

Rated current	: 0.902/0.522 A	Moment of inertia (J)	: 0.0006 kgm <sup>2</sup>
LRC	: 4.2	Duty cycle	: S1
Rated torque	: 0.128 kgfm	Insulation class	: F
Locked rotor torque	: 200 %	Service factor	: 1.00
Breakdown torque	: 200 %	Temperature rise	: 80 K
Rated speed	: 1365 rpm	Design	: N

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE



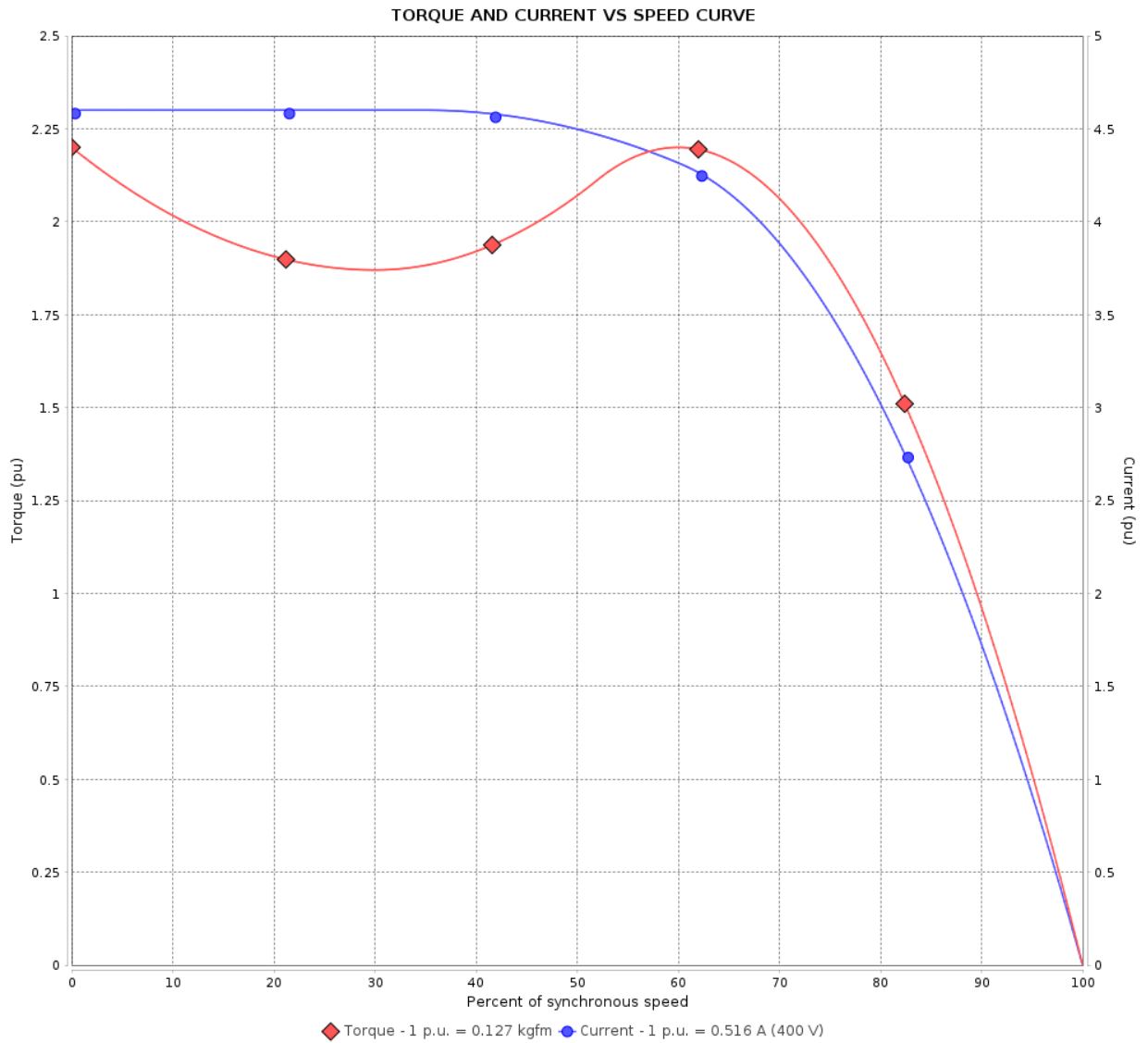
## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code :

13749546



Performance : 230/400 V 50 Hz 4P

Rated current : 0.897/0.516 A  
 LRC : 4.6  
 Rated torque : 0.127 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 220 %  
 Rated speed : 1380 rpm

Moment of inertia (J) : 0.0006 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

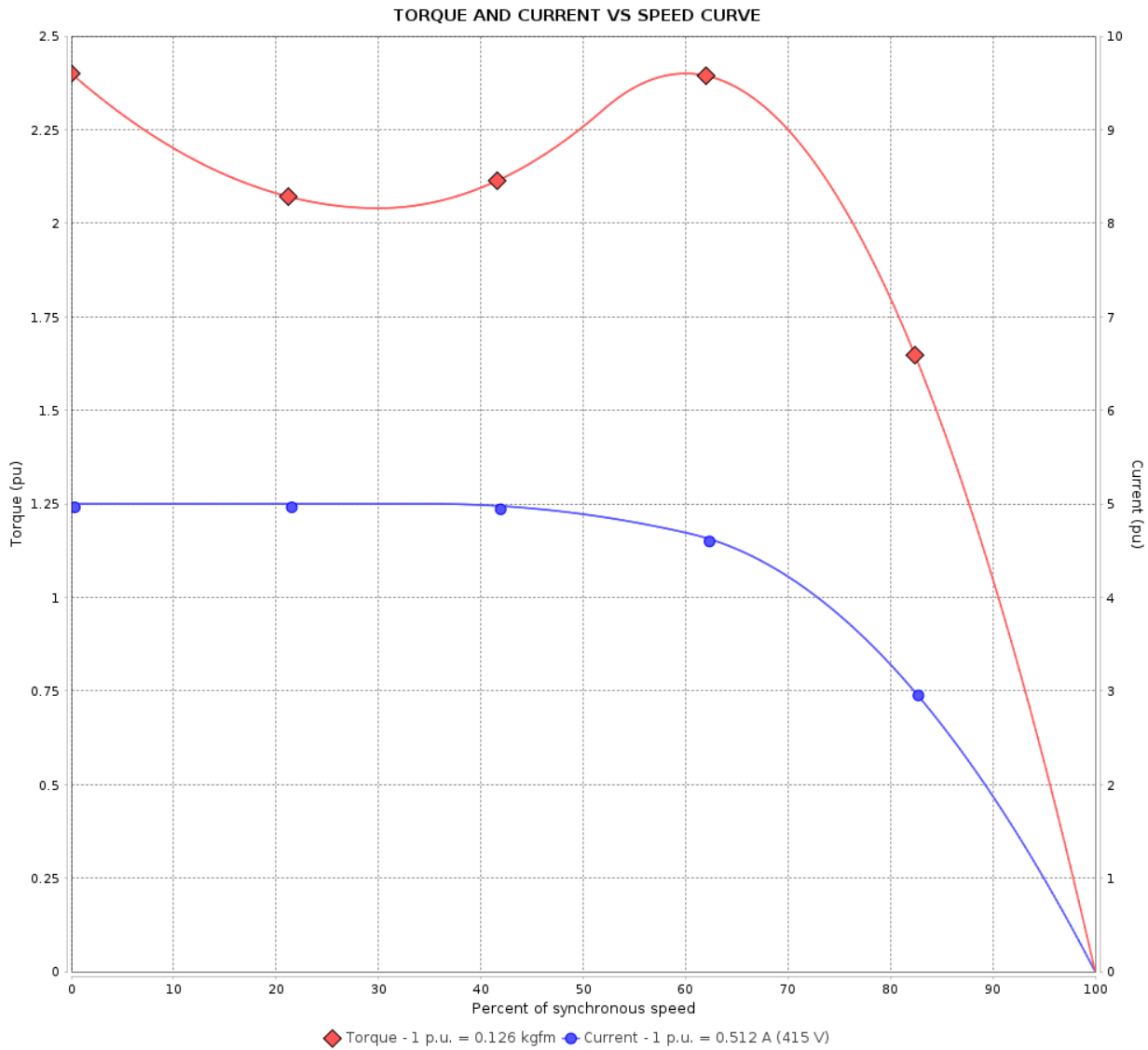
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 240/415 V 50 Hz 4P

Rated current	: 0.885/0.512 A	Moment of inertia (J)	: 0.0006 kgm <sup>2</sup>
LRC	: 5.0	Duty cycle	: S1
Rated torque	: 0.126 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1395 rpm	Design	: N

Locked rotor time : 54s (cold) 30s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

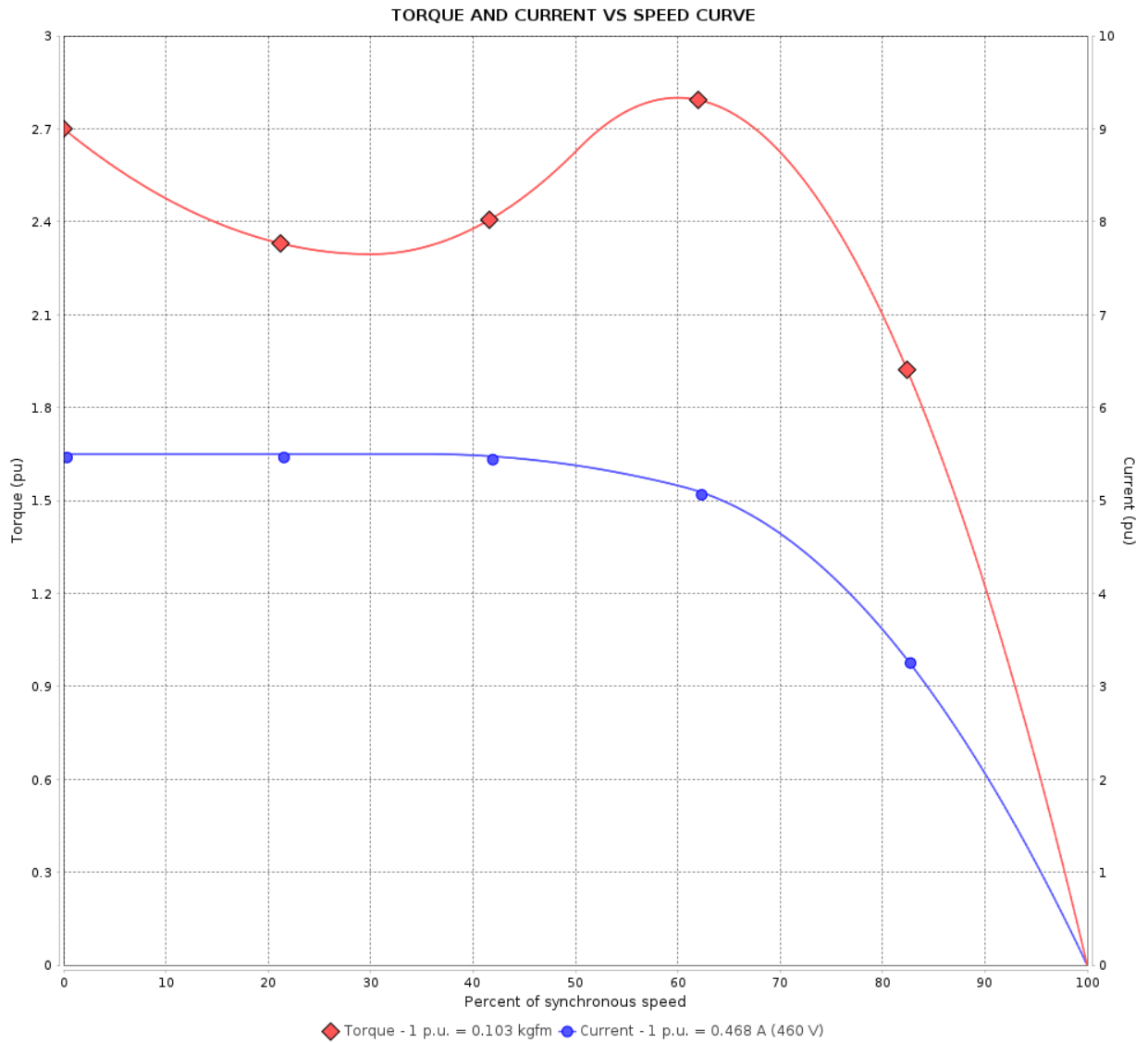


Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code :

13749546



Performance : 460 V 60 Hz 4P

Rated current	: 0.468 A	Moment of inertia (J)	: 0.0006 kgm <sup>2</sup>
LRC	: 5.5	Duty cycle	: S1
Rated torque	: 0.103 kgfm	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1705 rpm	Design	: N

Locked rotor time : 72s (cold) 40s (hot)

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# LOAD PERFORMANCE CURVE

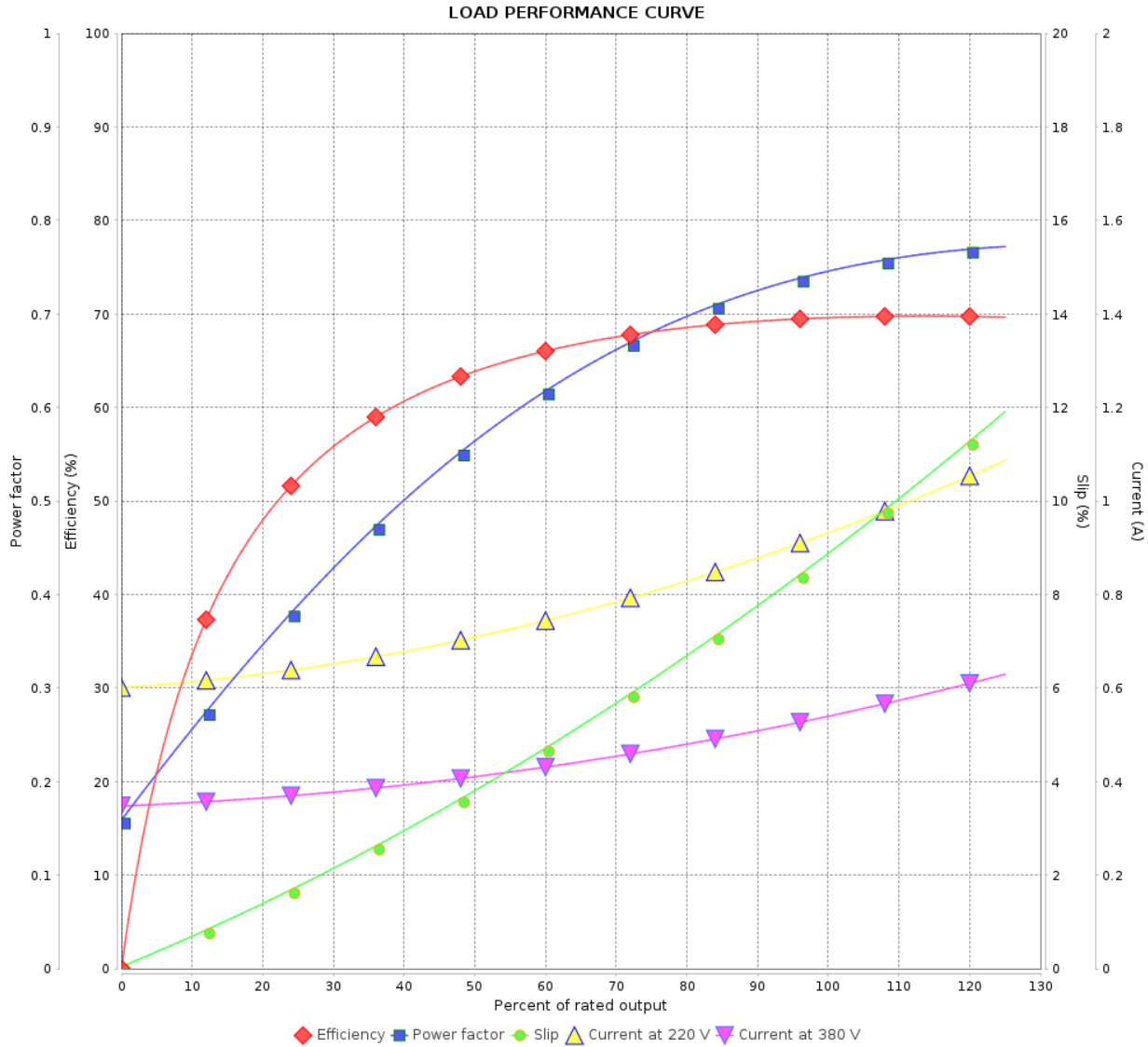
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 220/380 V 50 Hz 4P

Rated current : 0.902/0.522 A  
 LRC : 4.2  
 Rated torque : 0.128 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 200 %  
 Rated speed : 1365 rpm

Moment of inertia (J) : 0.0006 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

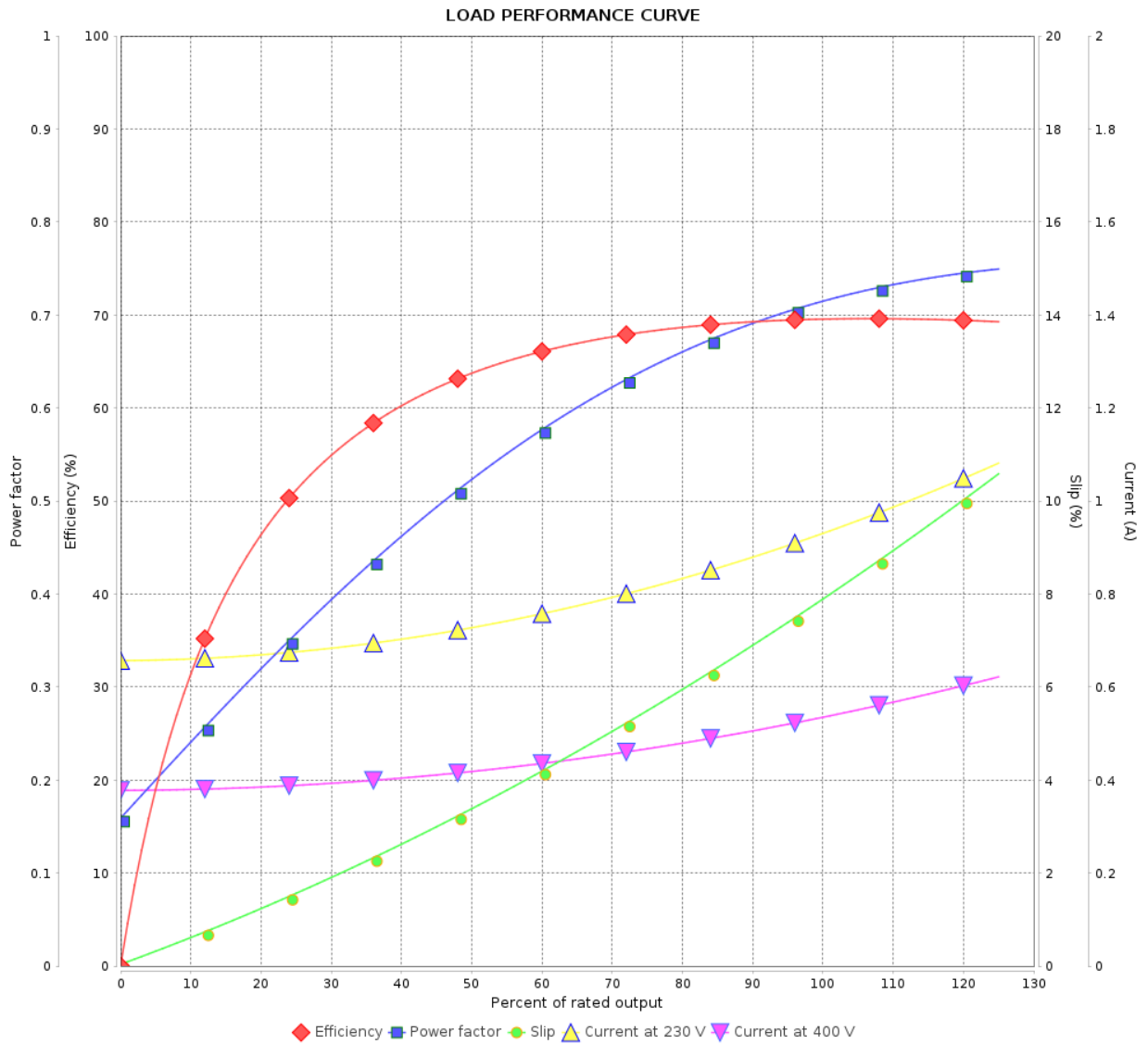


Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code :

13749546



Performance : 230/400 V 50 Hz 4P

Rated current : 0.897/0.516 A  
 LRC : 4.6  
 Rated torque : 0.127 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 220 %  
 Rated speed : 1380 rpm

Moment of inertia (J) : 0.0006 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

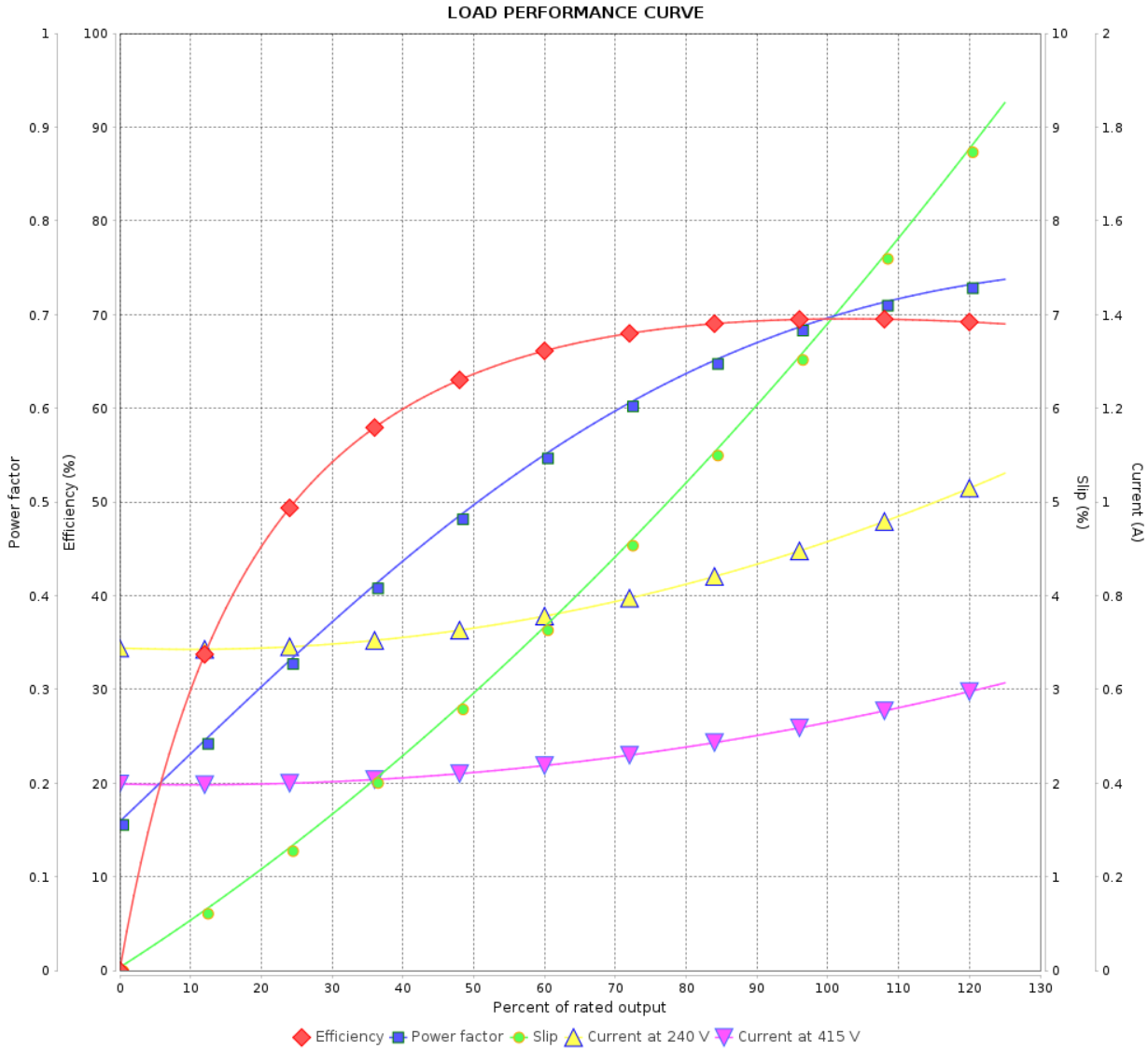
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 240/415 V 50 Hz 4P

Rated current : 0.885/0.512 A  
 LRC : 5.0  
 Rated torque : 0.126 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 240 %  
 Rated speed : 1395 rpm

Moment of inertia (J) : 0.0006 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

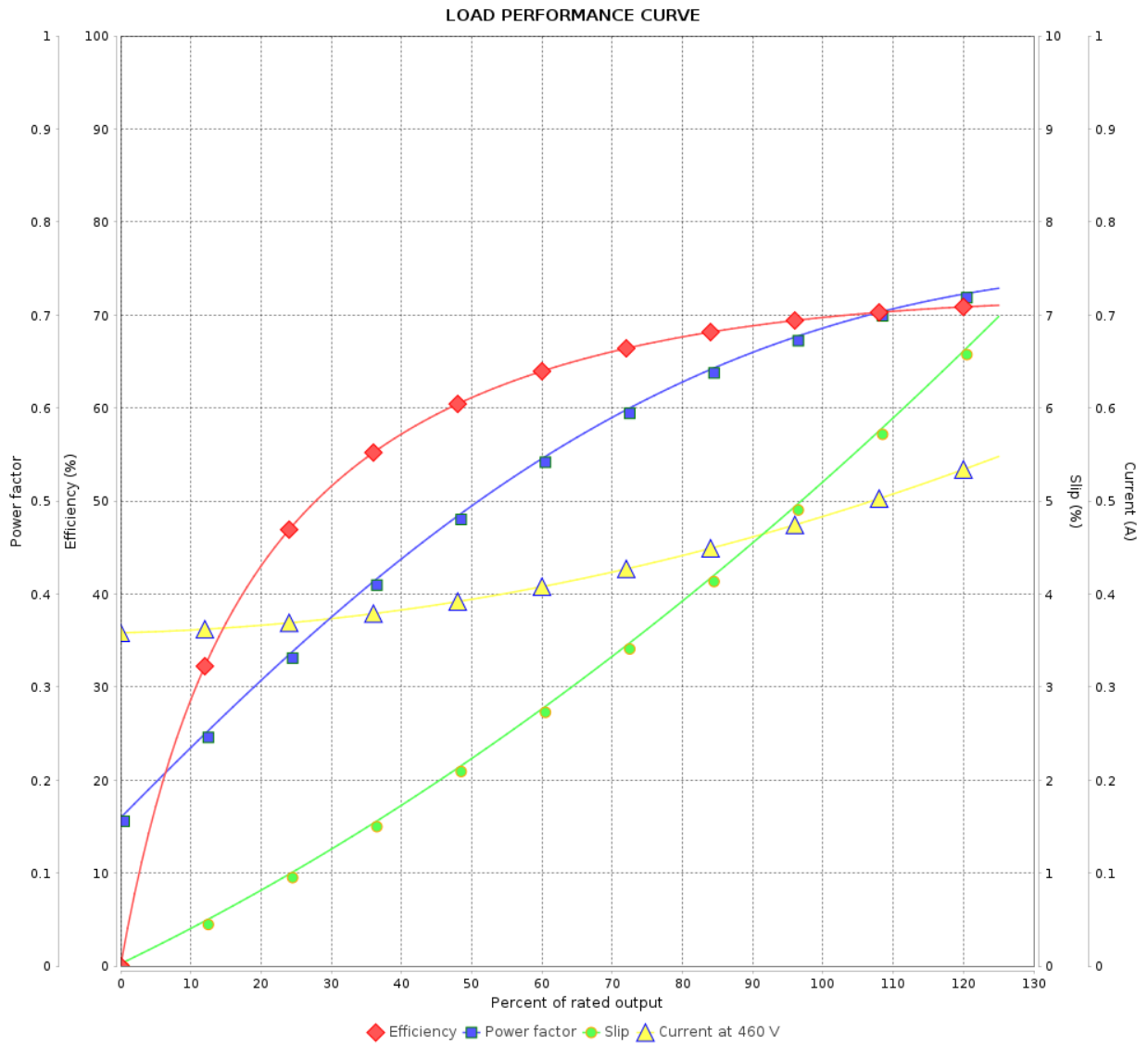


Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code :

13749546



Performance : 460 V 60 Hz 4P

Rated current : 0.468 A  
 LRC : 5.5  
 Rated torque : 0.103 kgfm  
 Locked rotor torque : 270 %  
 Breakdown torque : 280 %  
 Rated speed : 1705 rpm

Moment of inertia (J) : 0.0006 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

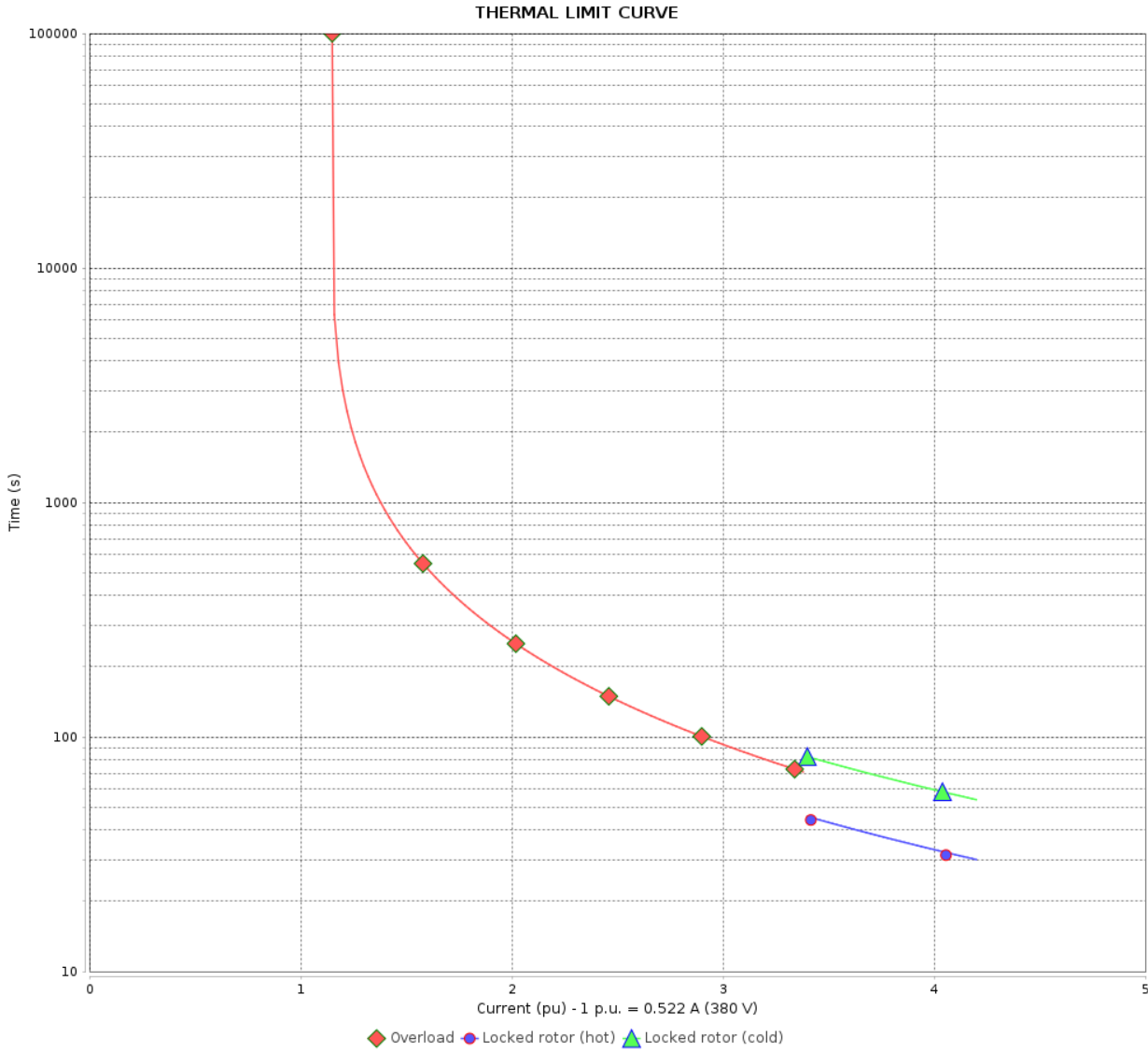
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 220/380 V 50 Hz 4P

Rated current : 0.902/0.522 A  
 LRC : 4.2  
 Rated torque : 0.128 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 200 %  
 Rated speed : 1365 rpm

Moment of inertia (J) : 0.0006 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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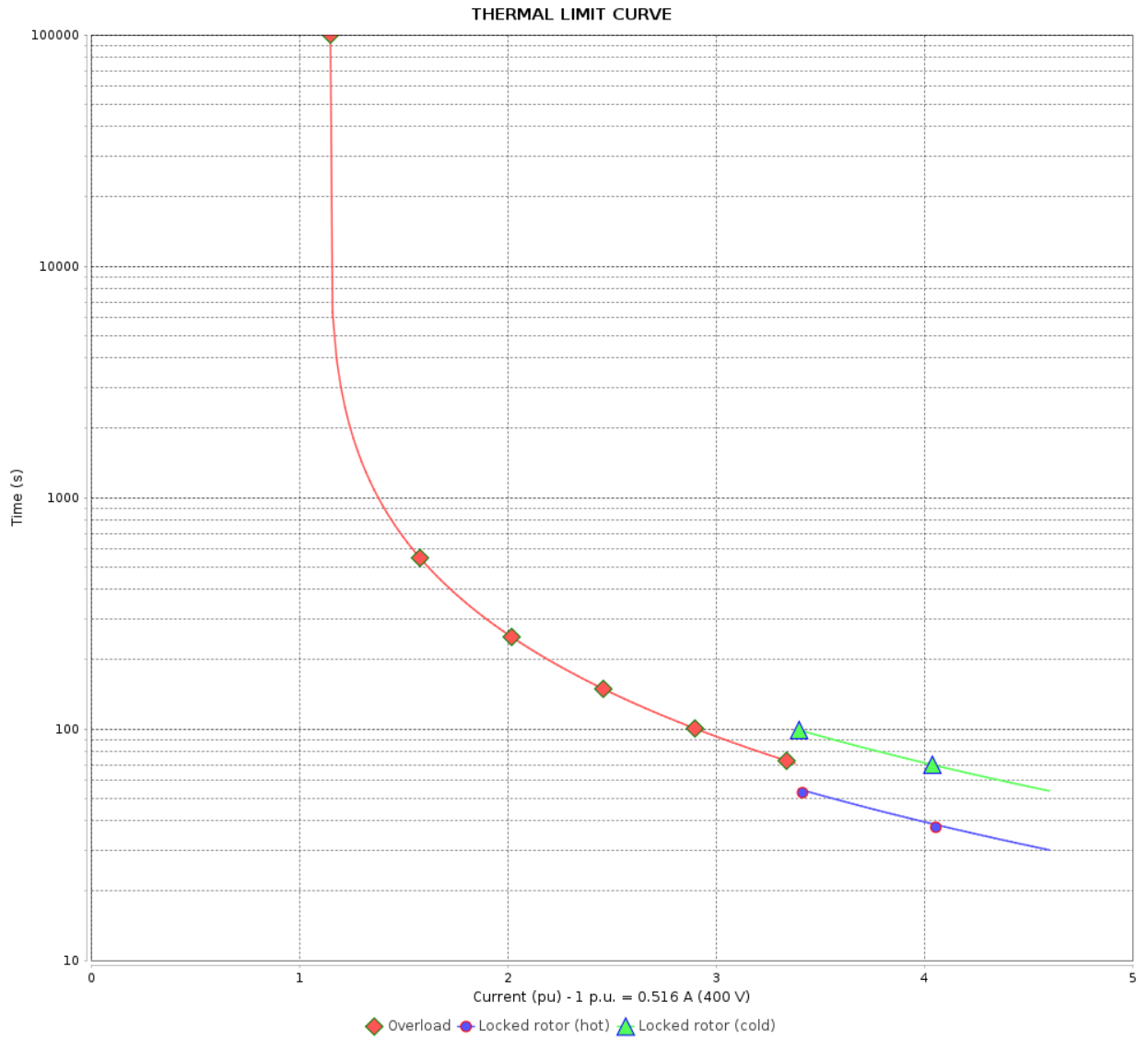
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Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 230/400 V 50 Hz 4P

Rated current : 0.897/0.516 A  
 LRC : 4.6  
 Rated torque : 0.127 kgfm  
 Locked rotor torque : 220 %  
 Breakdown torque : 220 %  
 Rated speed : 1380 rpm

Moment of inertia (J) : 0.0006 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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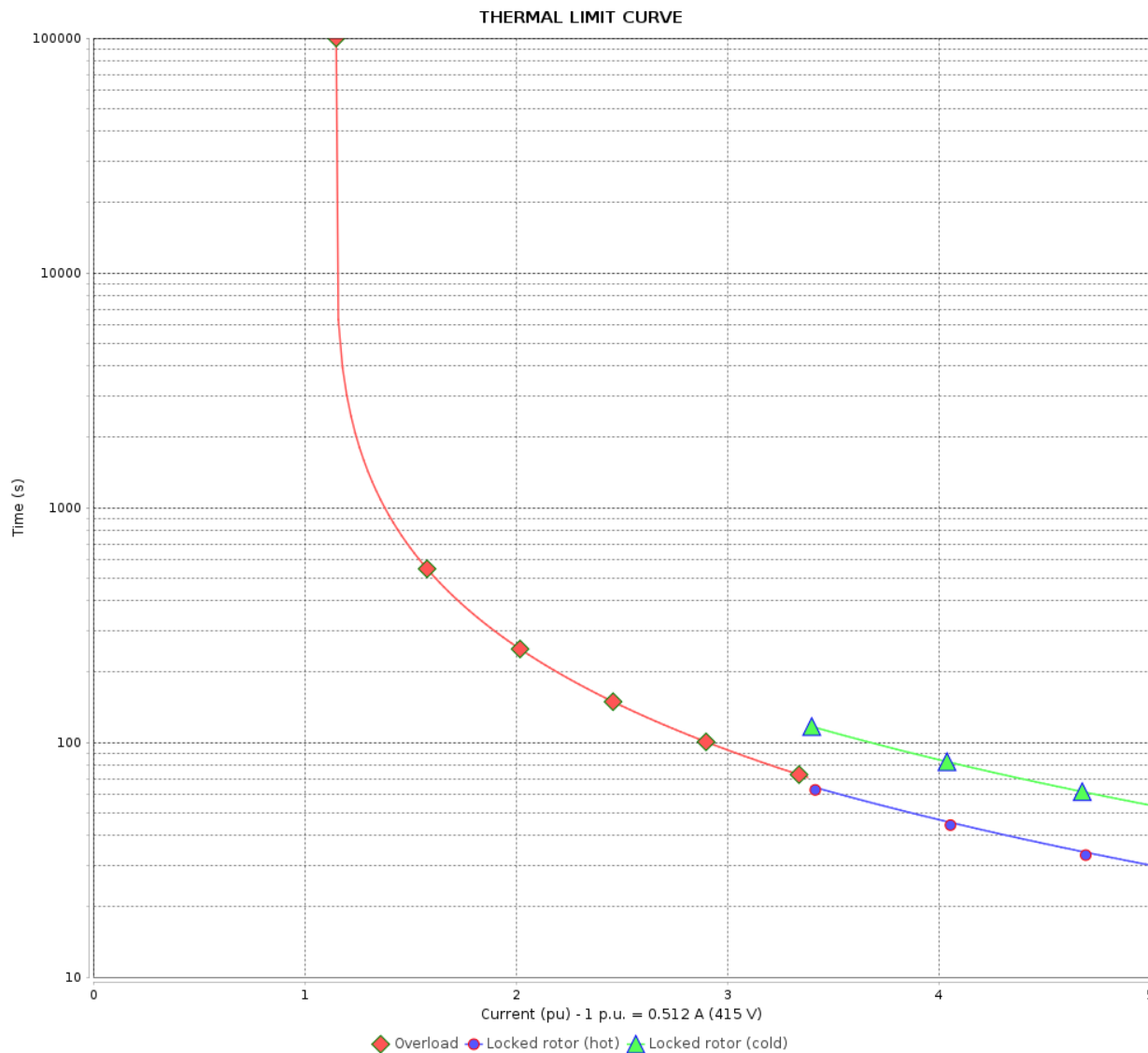
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 240/415 V 50 Hz 4P

Rated current	: 0.885/0.512 A	Moment of inertia (J)	: 0.0006 kgm <sup>2</sup>
LRC	: 5.0	Duty cycle	: S1
Rated torque	: 0.126 kgfm	Insulation class	: F
Locked rotor torque	: 240 %	Service factor	: 1.00
Breakdown torque	: 240 %	Temperature rise	: 80 K
Rated speed	: 1395 rpm	Design	: N

Heating constant

Cooling constant

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# THERMAL LIMIT CURVE

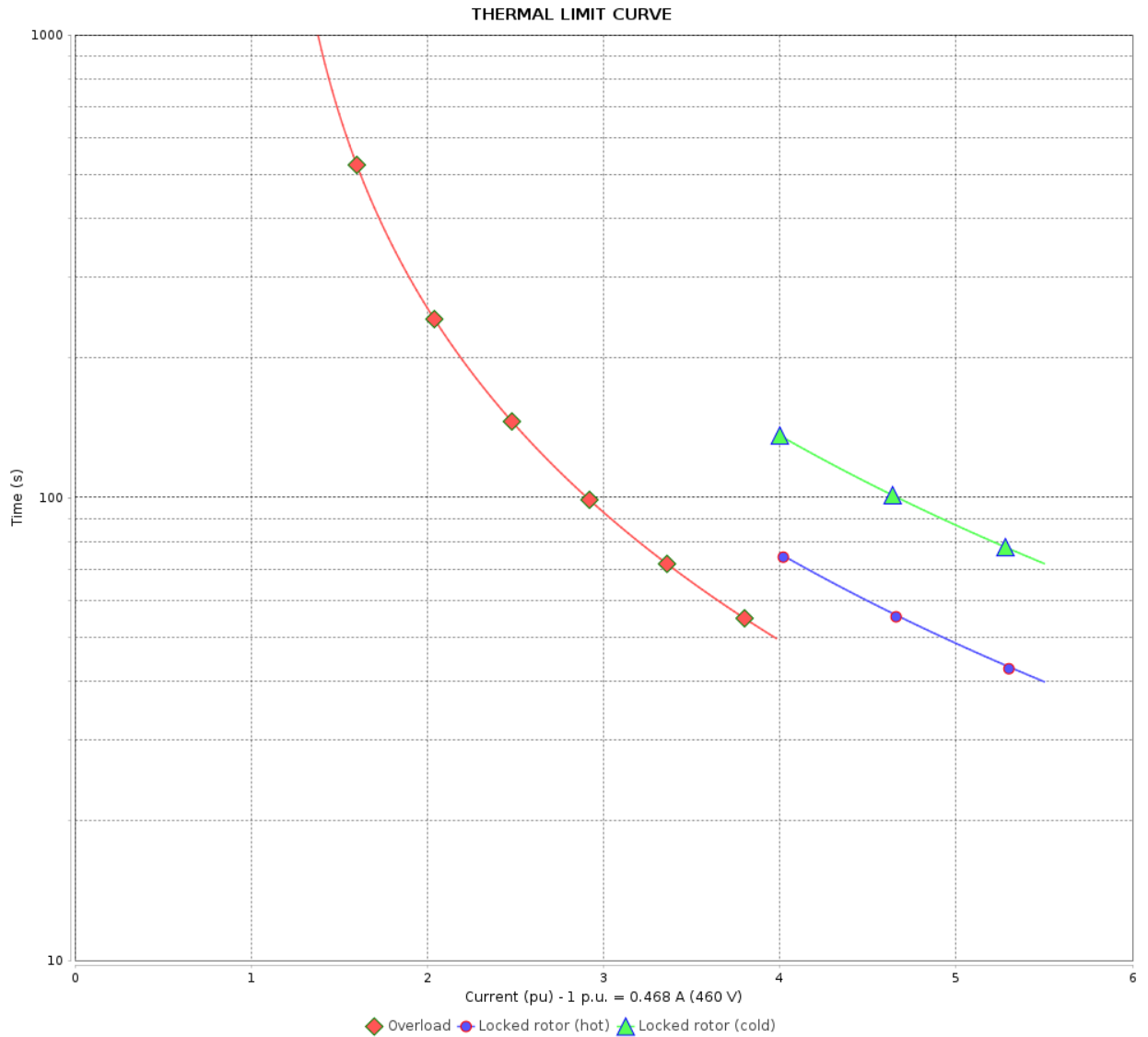
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

Product code : 13749546



Performance : 460 V 60 Hz 4P

Rated current	: 0.468 A	Moment of inertia (J)	: 0.0006 kgm <sup>2</sup>
LRC	: 5.5	Duty cycle	: S1
Rated torque	: 0.103 kgfm	Insulation class	: F
Locked rotor torque	: 270 %	Service factor	: 1.00
Breakdown torque	: 280 %	Temperature rise	: 80 K
Rated speed	: 1705 rpm	Design	: N

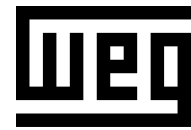
Heating constant

Cooling constant

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# VFD OPERATION CURVE

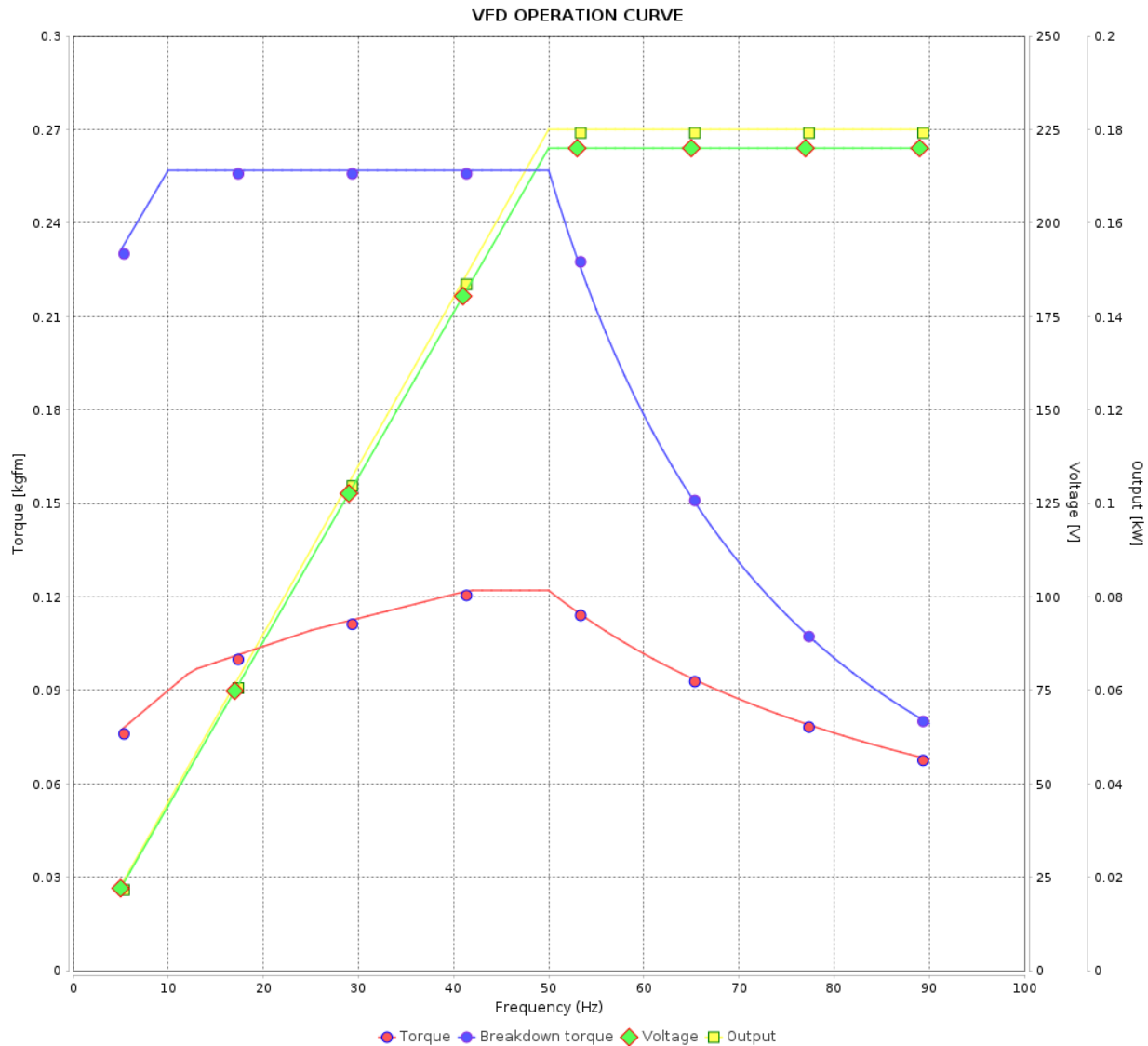
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

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Performance : 220/380 V 50 Hz 4P

Rated current : 0.902/0.522 A  
 LRC : 4.2  
 Rated torque : 0.128 kgfm  
 Locked rotor torque : 200 %  
 Breakdown torque : 200 %  
 Rated speed : 1365 rpm

Moment of inertia (J) : 0.0006 kgm<sup>2</sup>  
 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

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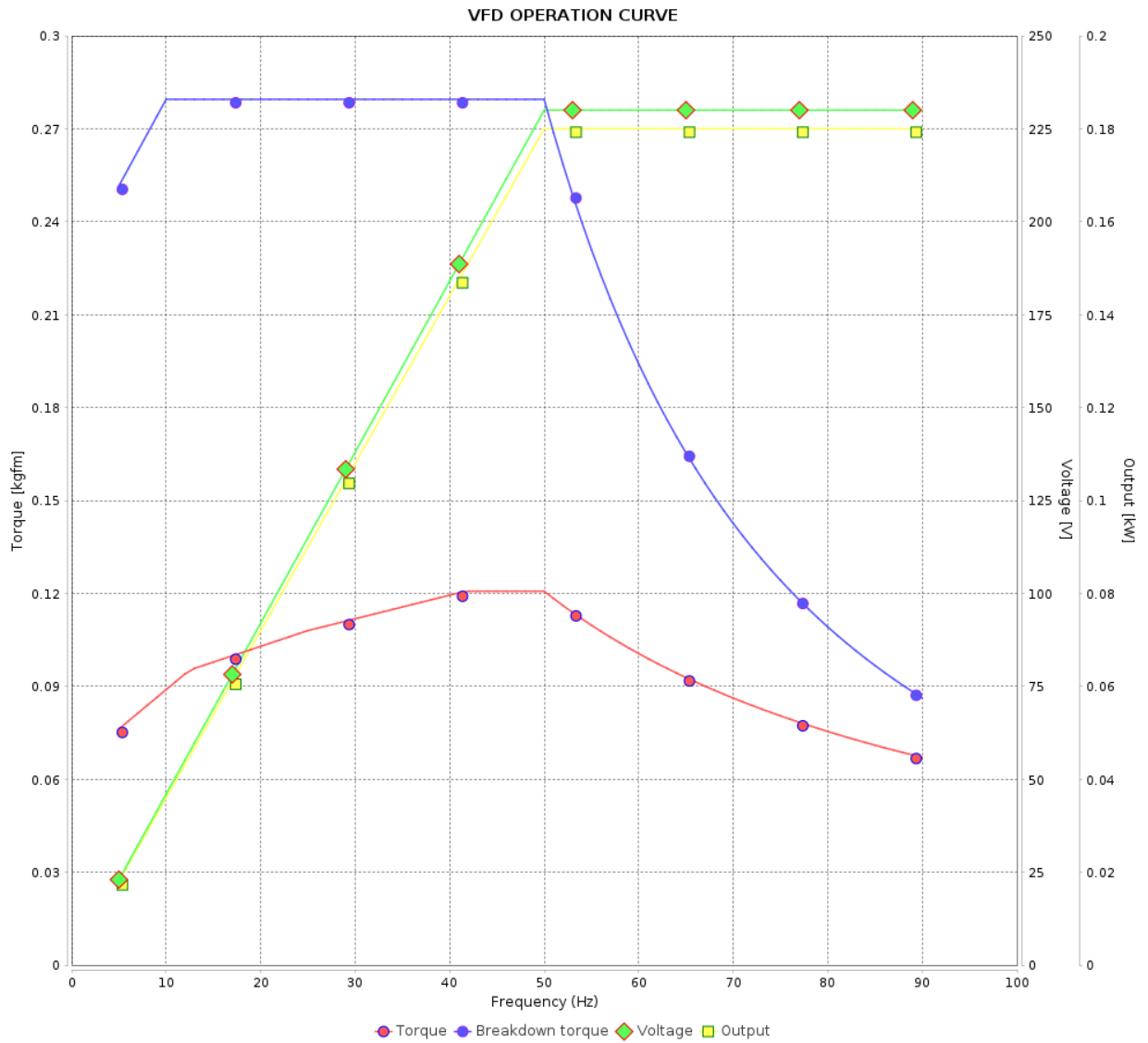
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Performance : 230/400 V 50 Hz 4P

Rated current : 0.897/0.516 A  
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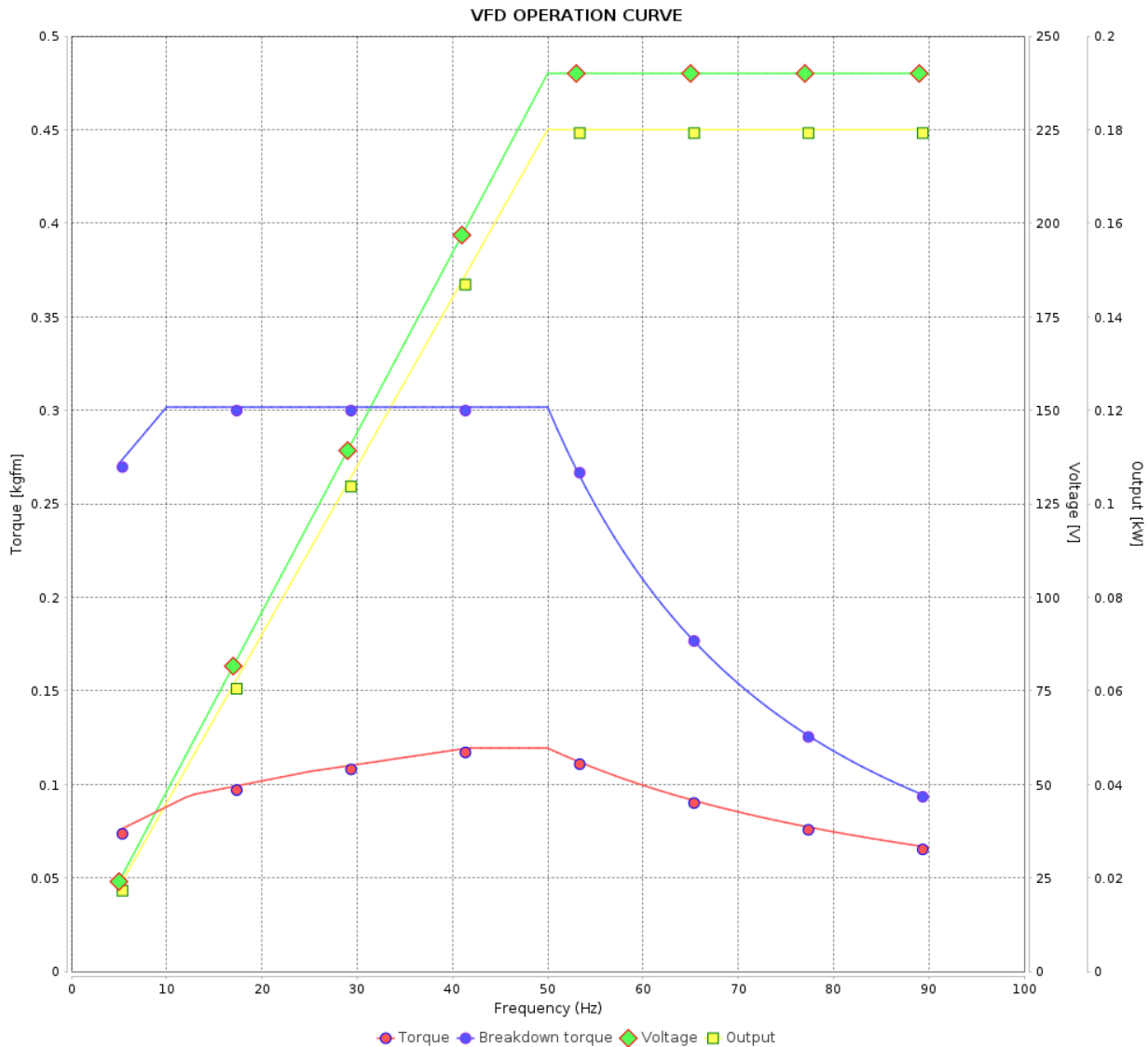
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Customer : Astraprom d.o.o.

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Performance : 240/415 V 50 Hz 4P

Rated current : 0.885/0.512 A  
 LRC : 5.0  
 Rated torque : 0.126 kgfm  
 Locked rotor torque : 240 %  
 Breakdown torque : 240 %  
 Rated speed : 1395 rpm

Moment of inertia (J) : 0.0006 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

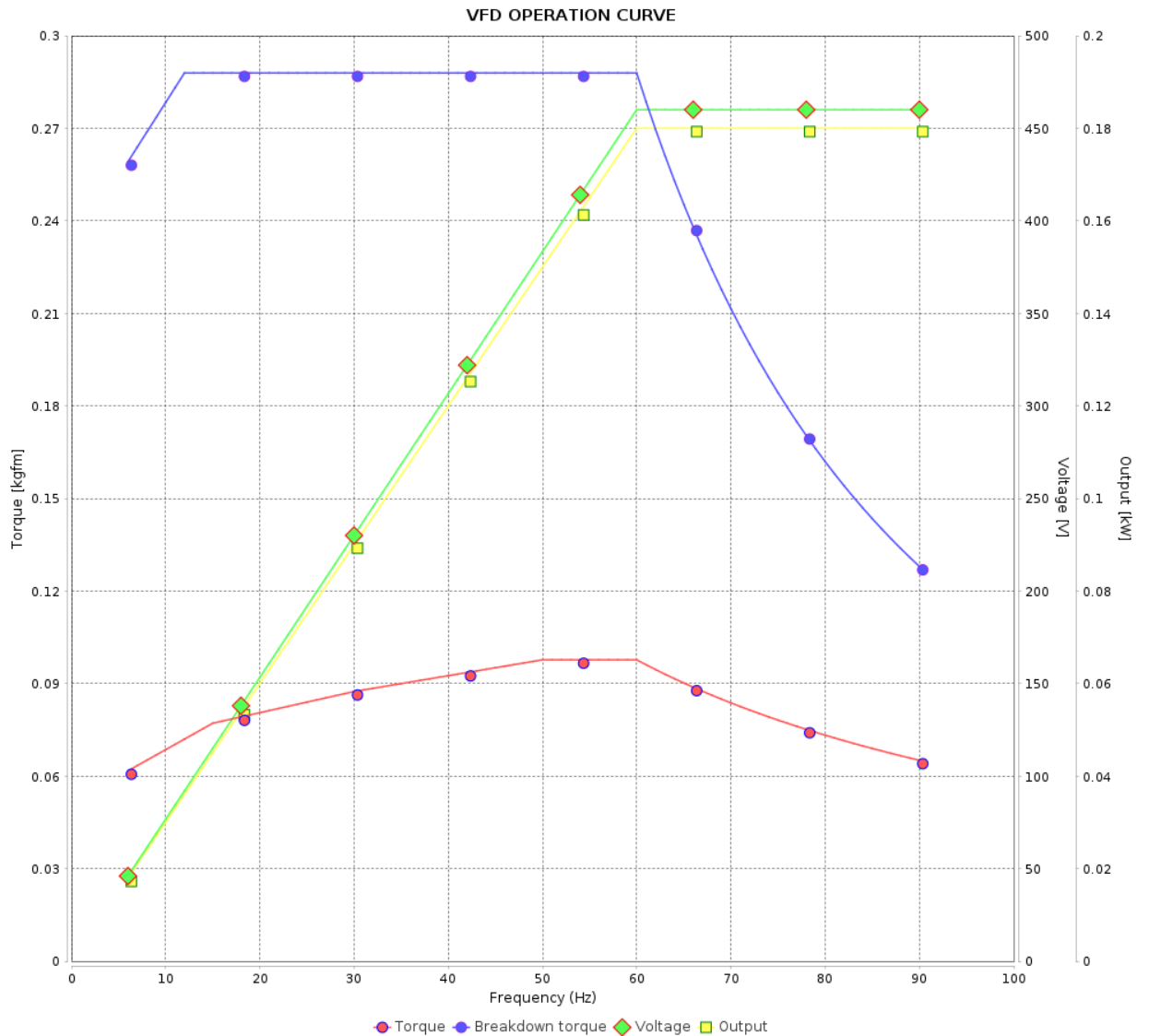
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Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase

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