

# DATA SHEET

## Three Phase Induction Motor - Squirrel Cage



Customer		: Astraprom d.o.o.			
Product line		: IE3 Three-Phase		Product code : 13096275	
Frame	: 80	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>2</sup>	: 13.8 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]	2.99/1.73	3.01/1.73	2.99/1.73	1.54	
L. R. Amperes [A]	20.0/11.6	21.1/12.1	21.8/12.6	13.1	
LRC [A]	6.7	7.0	7.3	8.5	
No load current [A]	1.99/1.15	2.35/1.35	2.68/1.55	1.20	
Rated speed [RPM]	1430	1435	1440	1745	
Slip [%]	4.67	4.33	4.00	3.06	
Rated torque [kgfm]	0.511	0.509	0.507	0.419	
Locked rotor torque [%]	310	340	370	420	
Breakdown torque [%]	320	350	380	430	
Service factor	1.00	1.00	1.00	1.00	
Temperature rise	80 K	80 K	80 K	80 K	
Locked rotor time	37s (cold) 21s (hot)	36s (cold) 20s (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%	79.0	77.0	76.0	78.0
	75%	81.5	80.5	80.0	80.0
	100%	82.5	82.5	82.5	84.0
Power Factor	25%				
	50%	0.58	0.53	0.48	0.52
	75%	0.71	0.66	0.63	0.60
	100%	0.80	0.76	0.73	0.73
Losses at normative operating points (speed;torque), in percentage of rated output power					
Losses (%)	P1 (0,9;1,0)	19.9	19.9	19.9	17.9
	P2 (0,5;1,0)	16.9	16.9	16.9	15.2
	P3 (0,25;1,0)	17.6	17.6	17.6	15.8
	P4 (0,9;0,5)	11.6	11.6	11.6	10.4
	P5 (0,5;0,5)	8.0	8.0	8.0	7.2
	P6 (0,5;0,25)	6.3	6.3	6.3	5.7
	P7 (0,25;0,25)	4.4	4.4	4.4	3.9
Bearing type	: Drive end 6204 ZZ	Non drive end 6203 ZZ	Foundation loads		
Sealing	: Oil Seal	Oil Seal	Max. traction	: 50 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.

Notes

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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

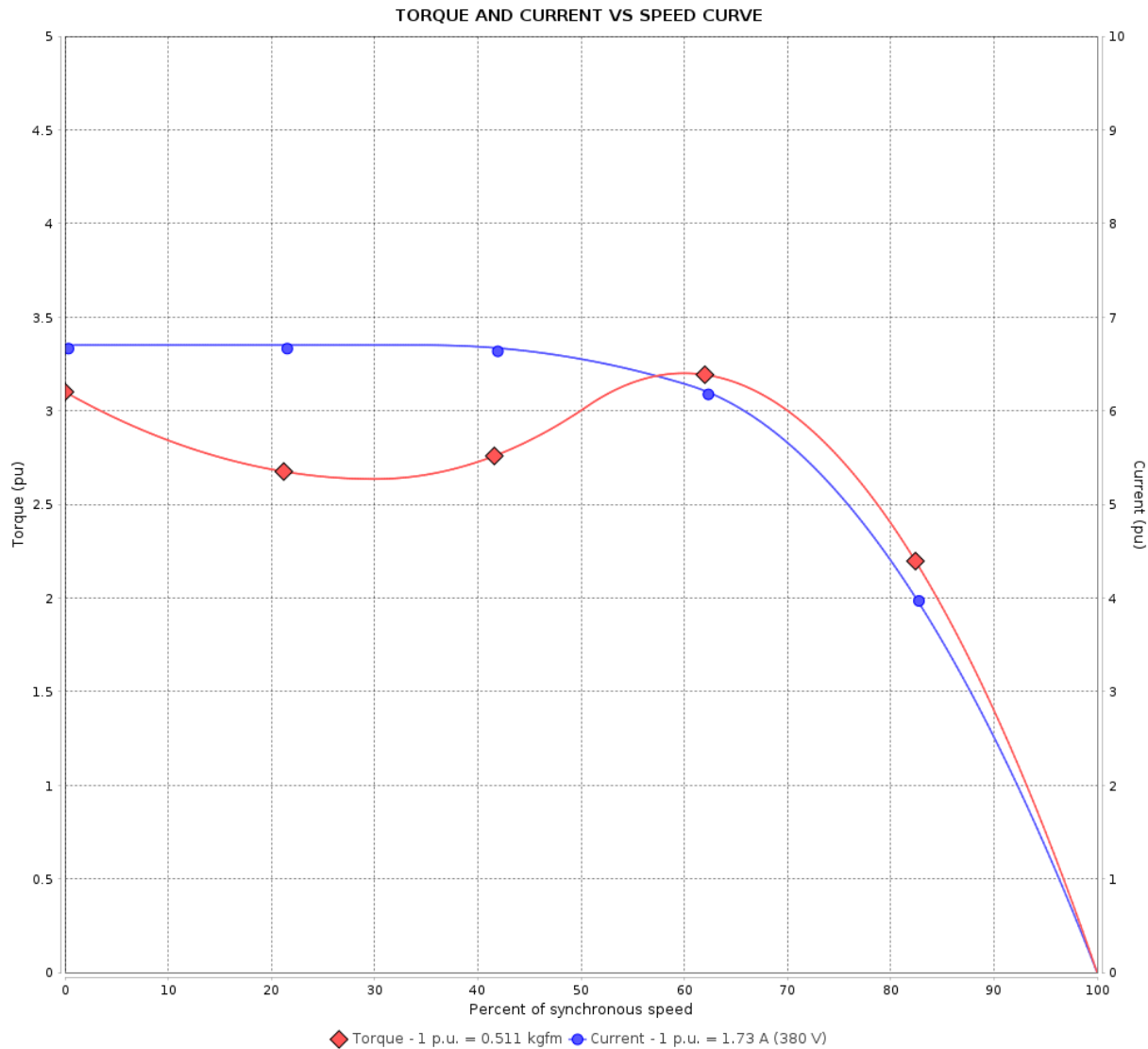
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 220/380 V 50 Hz 4P

Rated current	: 2.99/1.73 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 6.7	Duty cycle	: S1
Rated torque	: 0.511 kgfm	Insulation class	: F
Locked rotor torque	: 310 %	Service factor	: 1.00
Breakdown torque	: 320 %	Temperature rise	: 80 K
Rated speed	: 1430 rpm	Design	: N

Locked rotor time : 37s (cold) 21s (hot)

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# TORQUE AND CURRENT VS SPEED CURVE

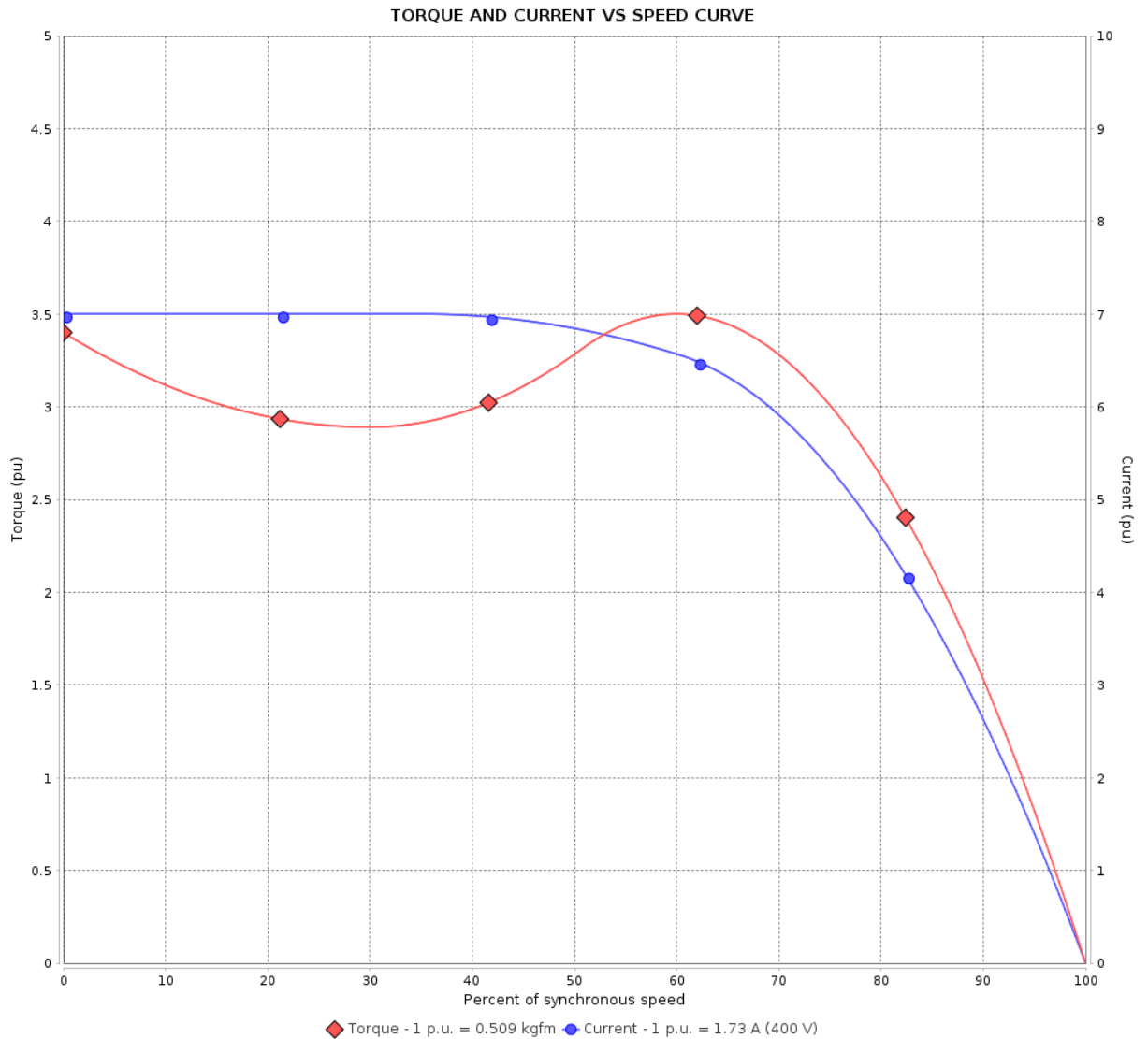


## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 230/400 V 50 Hz 4P

Rated current	: 3.01/1.73 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	: 340 %	Service factor	: 1.00
Breakdown torque	: 350 %	Temperature rise	: 80 K
Rated speed	: 1435 rpm	Design	: N

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

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# TORQUE AND CURRENT VS SPEED CURVE

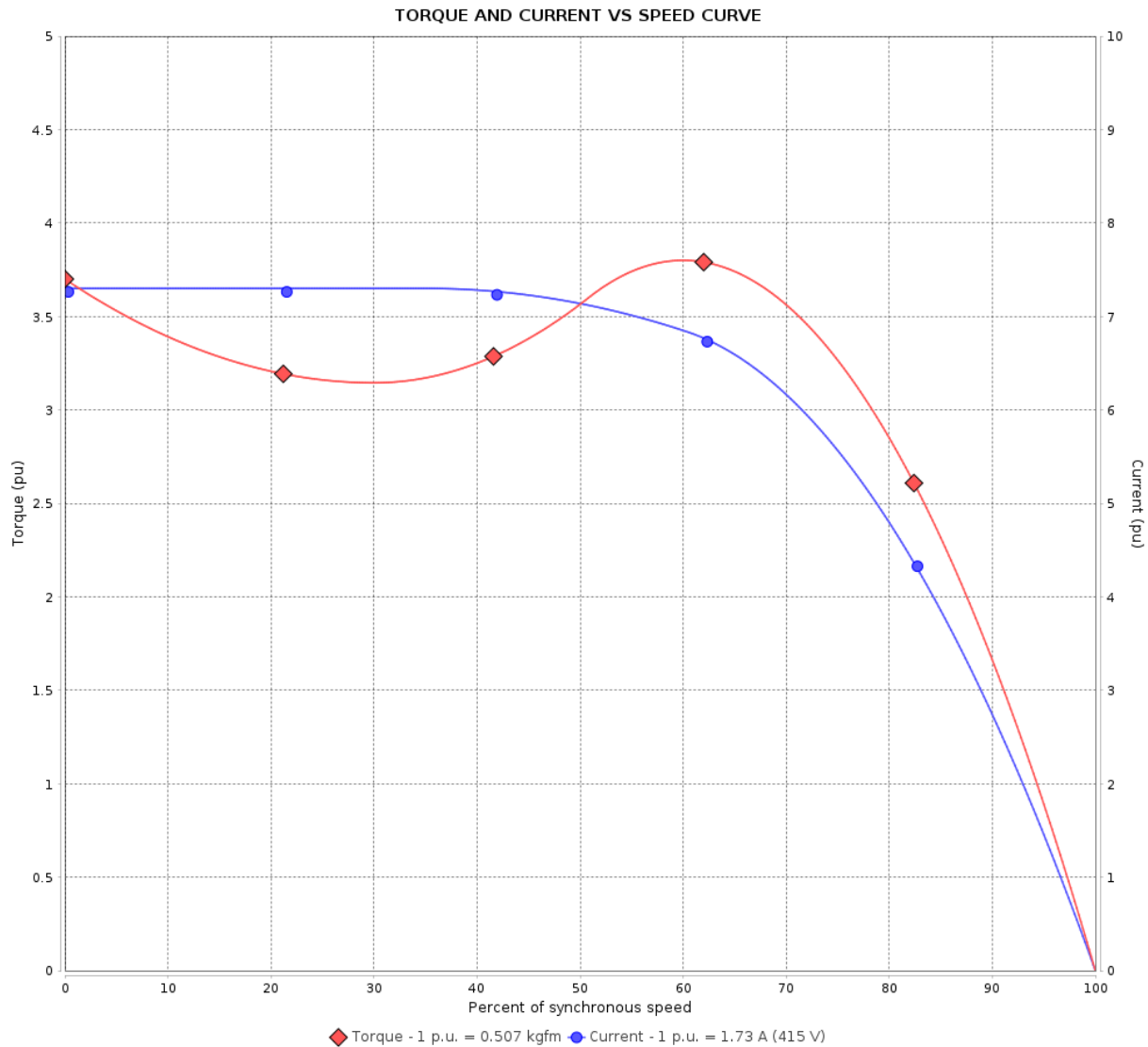
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 240/415 V 50 Hz 4P

Rated current	: 2.99/1.73 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	: 370 %	Service factor	: 1.00
Breakdown torque	: 380 %	Temperature rise	: 80 K
Rated speed	: 1440 rpm	Design	: N

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

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# TORQUE AND CURRENT VS SPEED CURVE

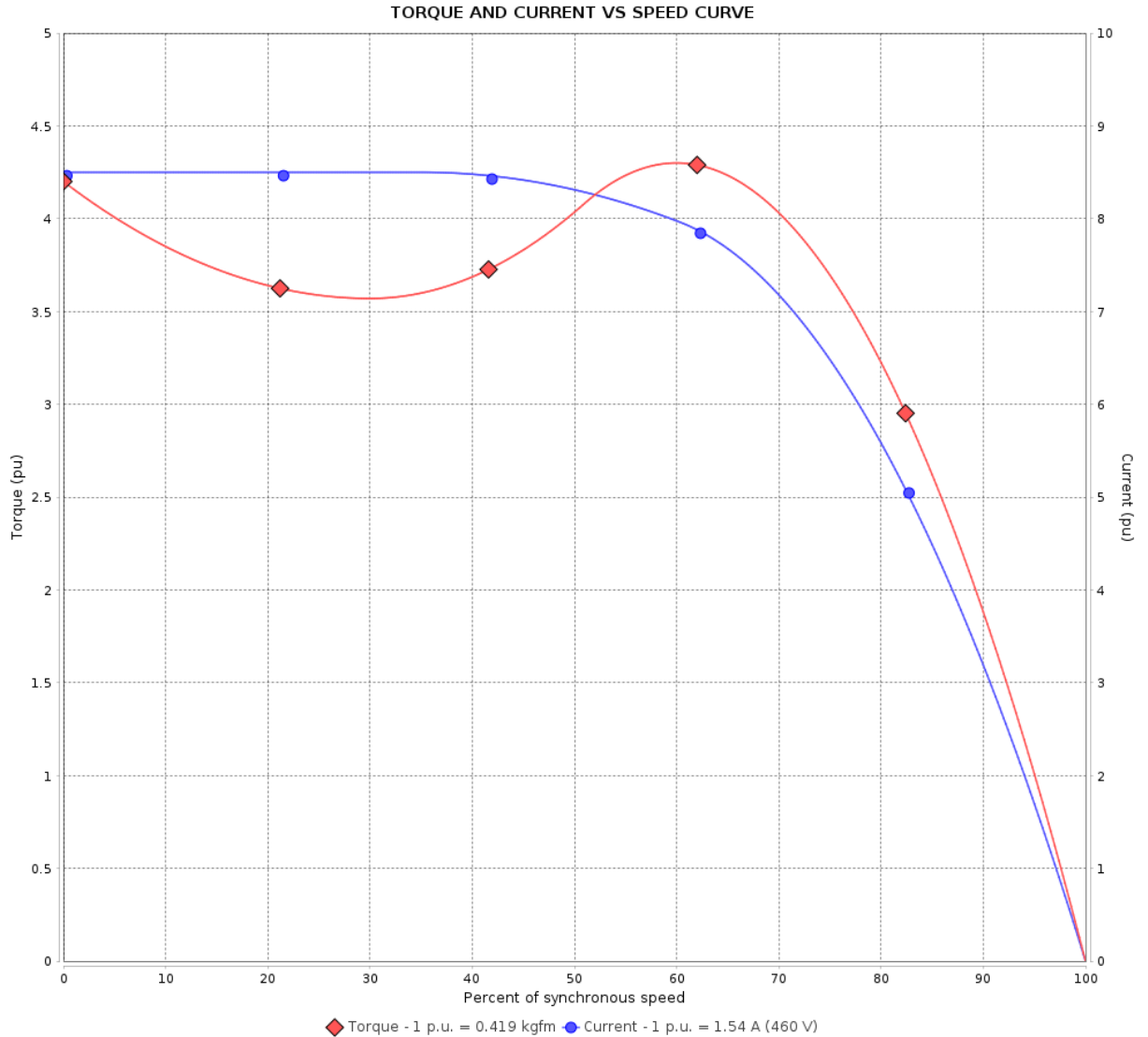


## Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 460 V 60 Hz 4P

Rated current	: 1.54 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 0.419 kgfm	Insulation class	: F
Locked rotor torque	: 420 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 1745 rpm	Design	: N

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

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# LOAD PERFORMANCE CURVE

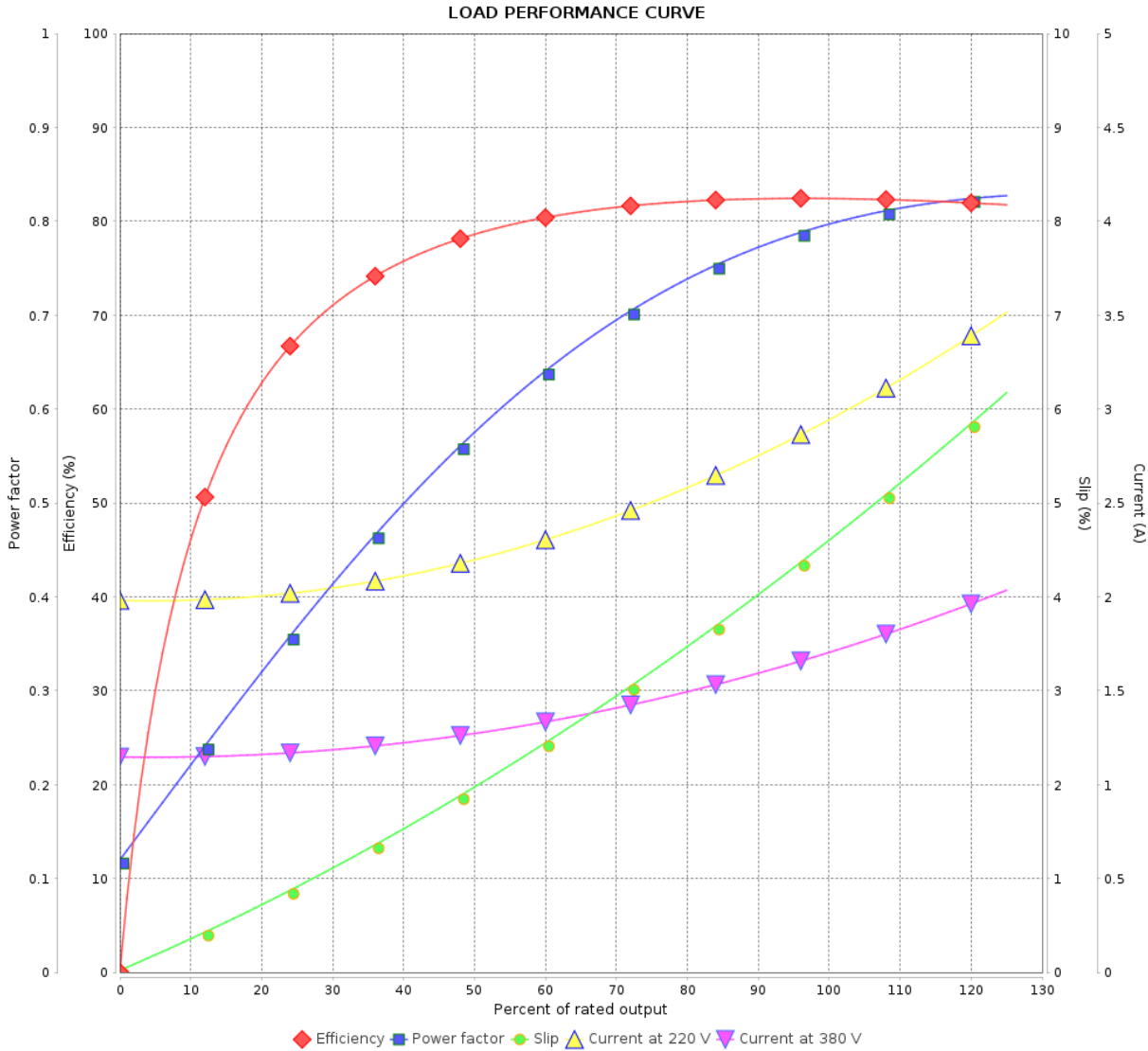
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 220/380 V 50 Hz 4P

Rated current : 2.99/1.73 A  
 LRC : 6.7  
 Rated torque : 0.511 kgfm  
 Locked rotor torque : 310 %  
 Breakdown torque : 320 %  
 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

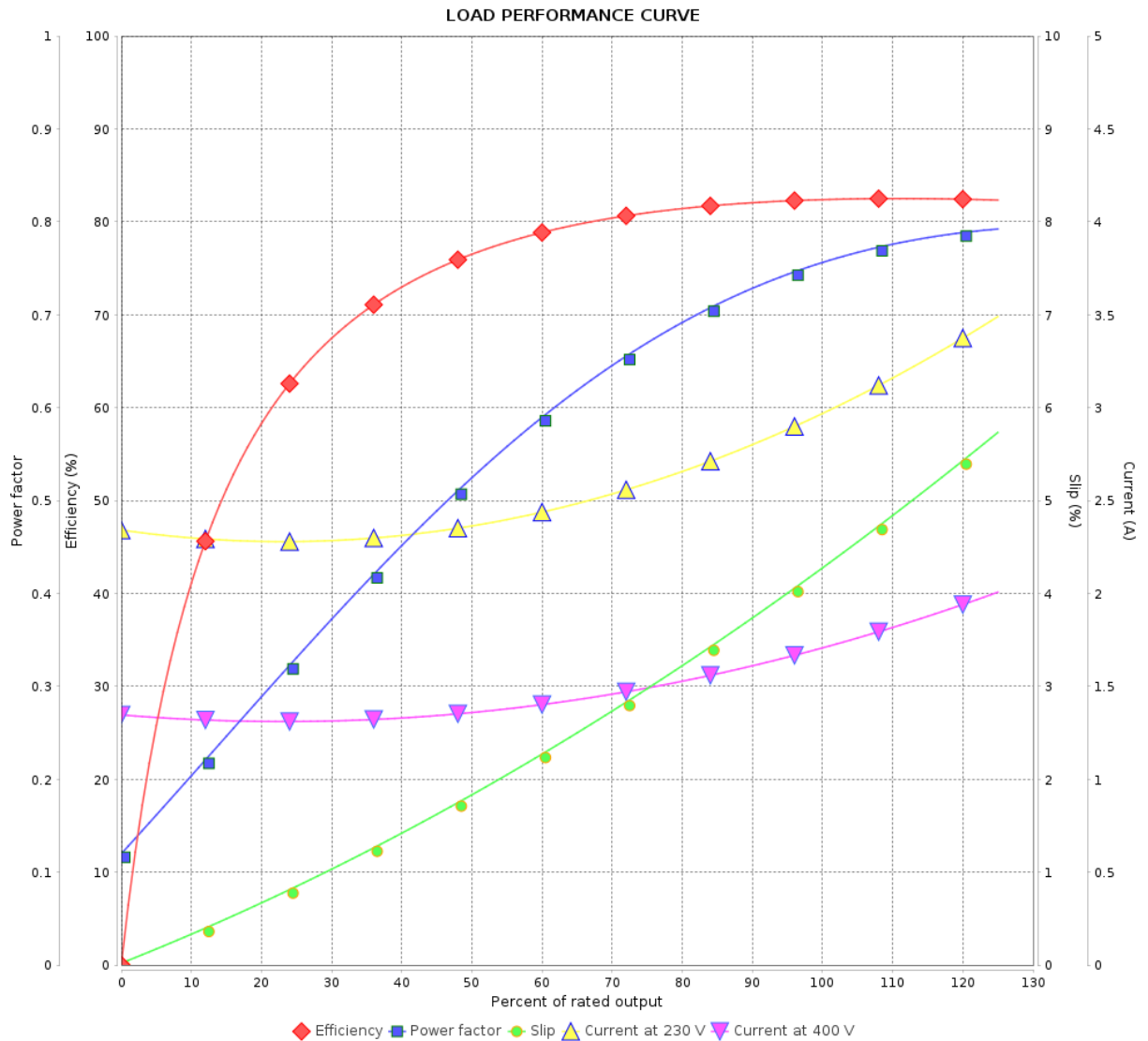
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 230/400 V 50 Hz 4P

Rated current : 3.01/1.73 A  
 LRC : 7.0  
 Rated torque : 0.509 kgfm  
 Locked rotor torque : 340 %  
 Breakdown torque : 350 %  
 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

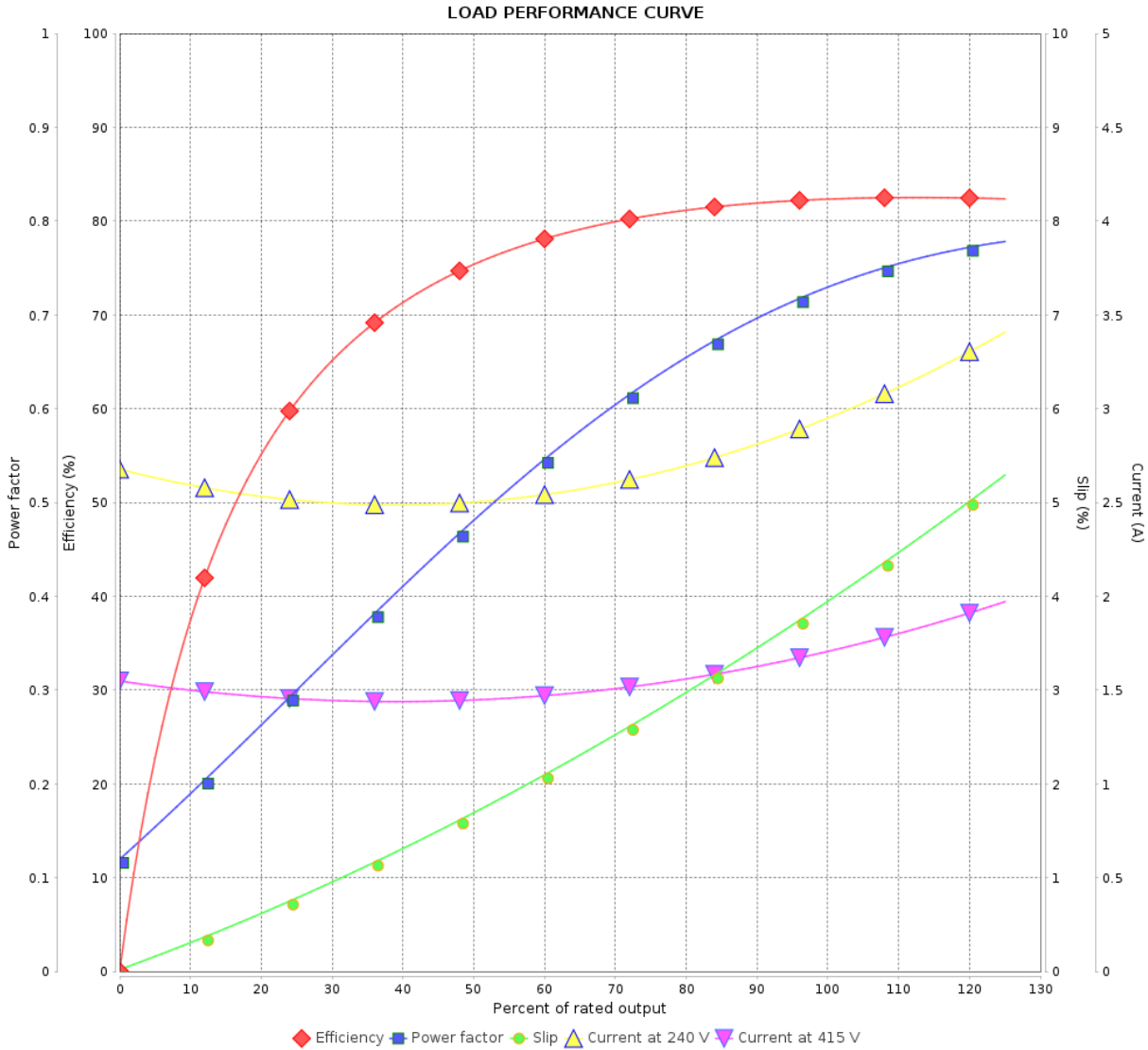
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 240/415 V 50 Hz 4P

Rated current : 2.99/1.73 A  
 LRC : 7.3  
 Rated torque : 0.507 kgfm  
 Locked rotor torque : 370 %  
 Breakdown torque : 380 %  
 Rated speed : 1440 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

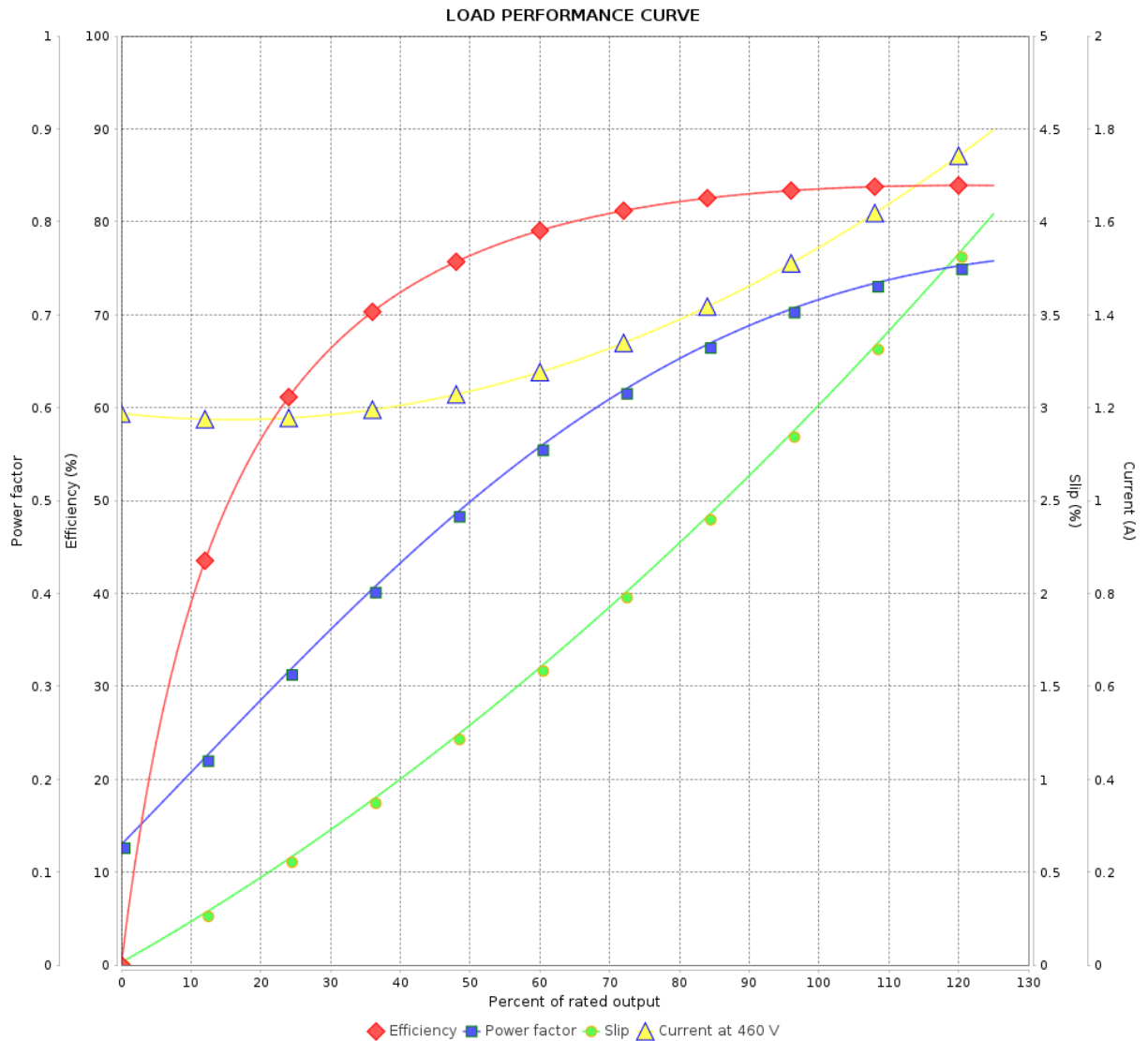
## Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 460 V 60 Hz 4P

Rated current : 1.54 A  
 LRC : 8.5  
 Rated torque : 0.419 kgfm  
 Locked rotor torque : 420 %  
 Breakdown torque : 430 %  
 Rated speed : 1745 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

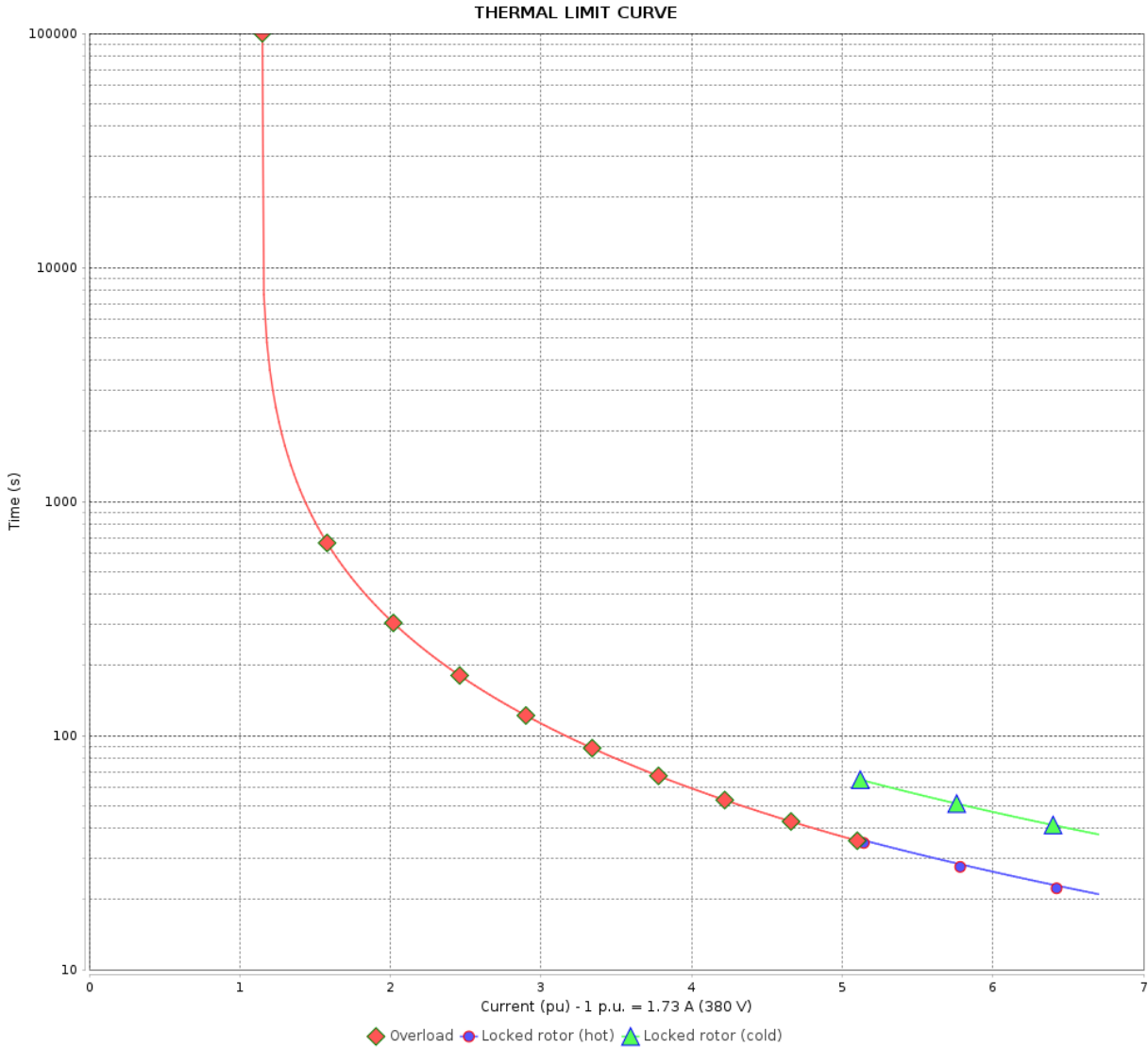
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Product code : 13096275



Performance : 220/380 V 50 Hz 4P

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 LRC : 6.7  
 Rated torque : 0.511 kgfm  
 Locked rotor torque : 310 %  
 Breakdown torque : 320 %  
 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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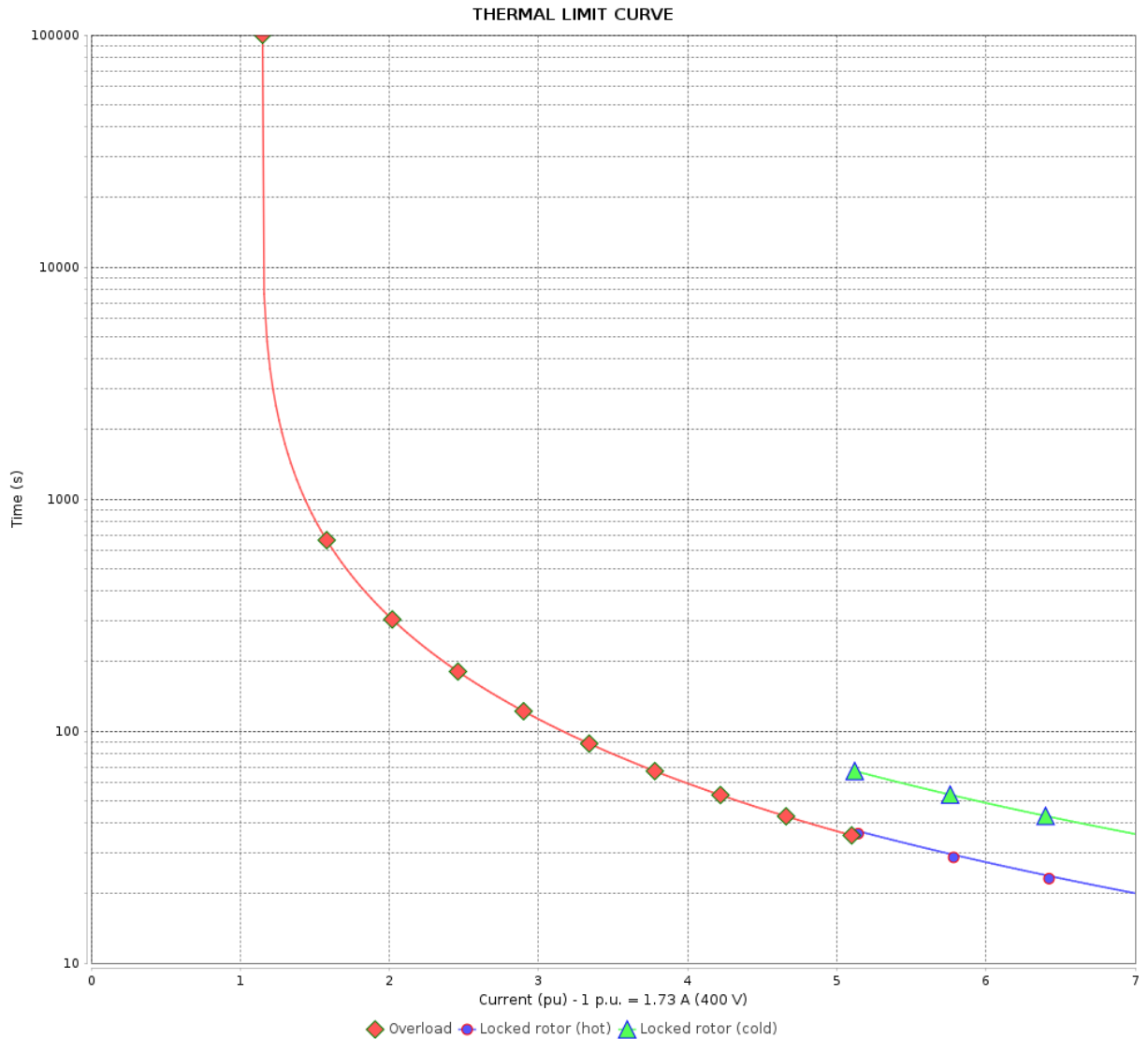
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Customer : Astraprom d.o.o.

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Performance : 230/400 V 50 Hz 4P

Rated current : 3.01/1.73 A  
 LRC : 7.0  
 Rated torque : 0.509 kgfm  
 Locked rotor torque : 340 %  
 Breakdown torque : 350 %  
 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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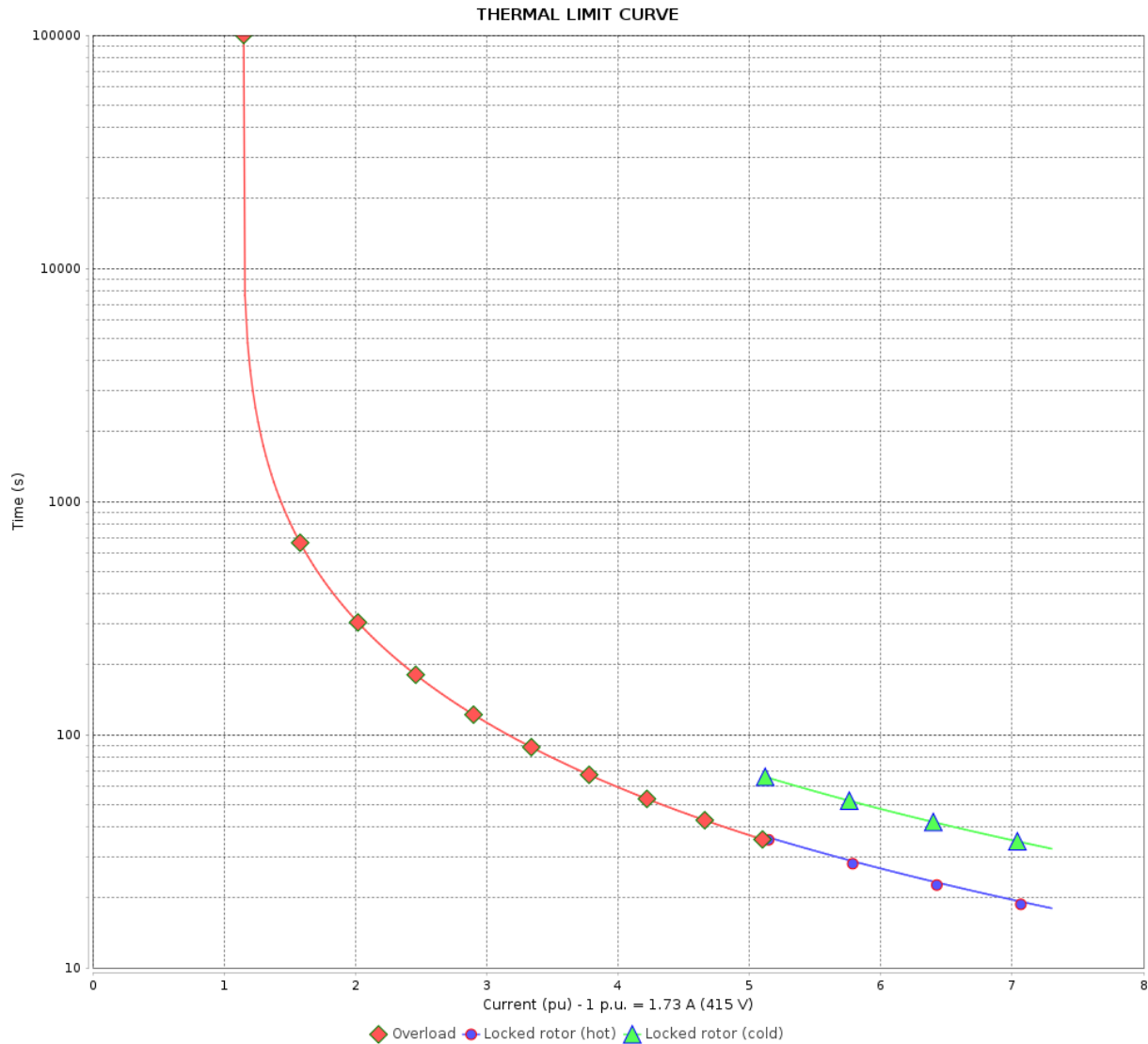
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 Locked rotor torque : 370 %  
 Breakdown torque : 380 %  
 Rated speed : 1440 rpm

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

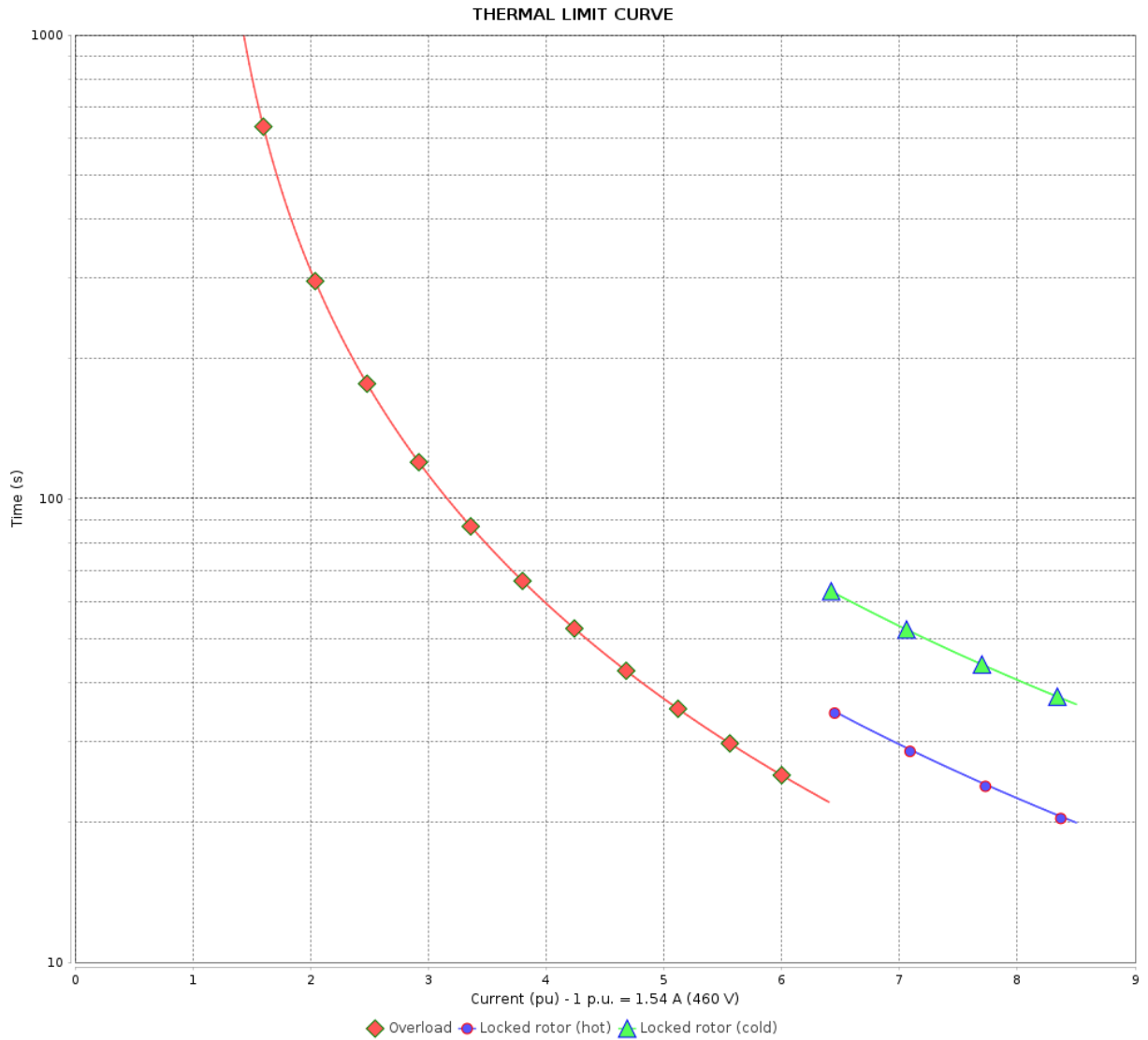
Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : IE3 Three-Phase

Product code : 13096275



Performance : 460 V 60 Hz 4P

Rated current	: 1.54 A	Moment of inertia (J)	: 0.0032 kgm <sup>2</sup>
LRC	: 8.5	Duty cycle	: S1
Rated torque	: 0.419 kgfm	Insulation class	: F
Locked rotor torque	: 420 %	Service factor	: 1.00
Breakdown torque	: 430 %	Temperature rise	: 80 K
Rated speed	: 1745 rpm	Design	: N

Heating constant

Cooling constant

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# VFD OPERATION CURVE

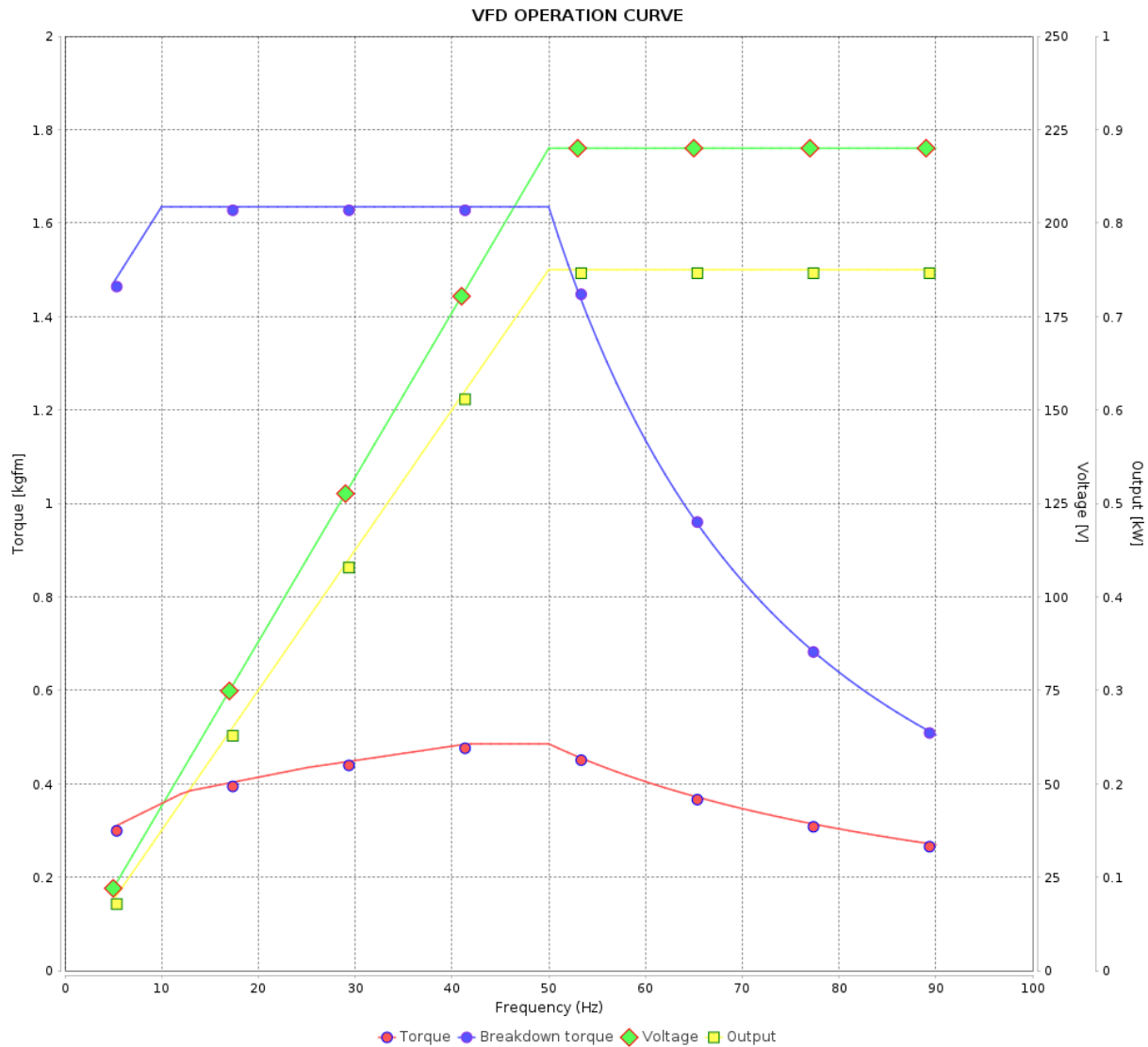
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 Duty cycle : S1  
 Insulation class : F  
 Service factor : 1.00  
 Temperature rise : 80 K  
 Design : N

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# VFD OPERATION CURVE

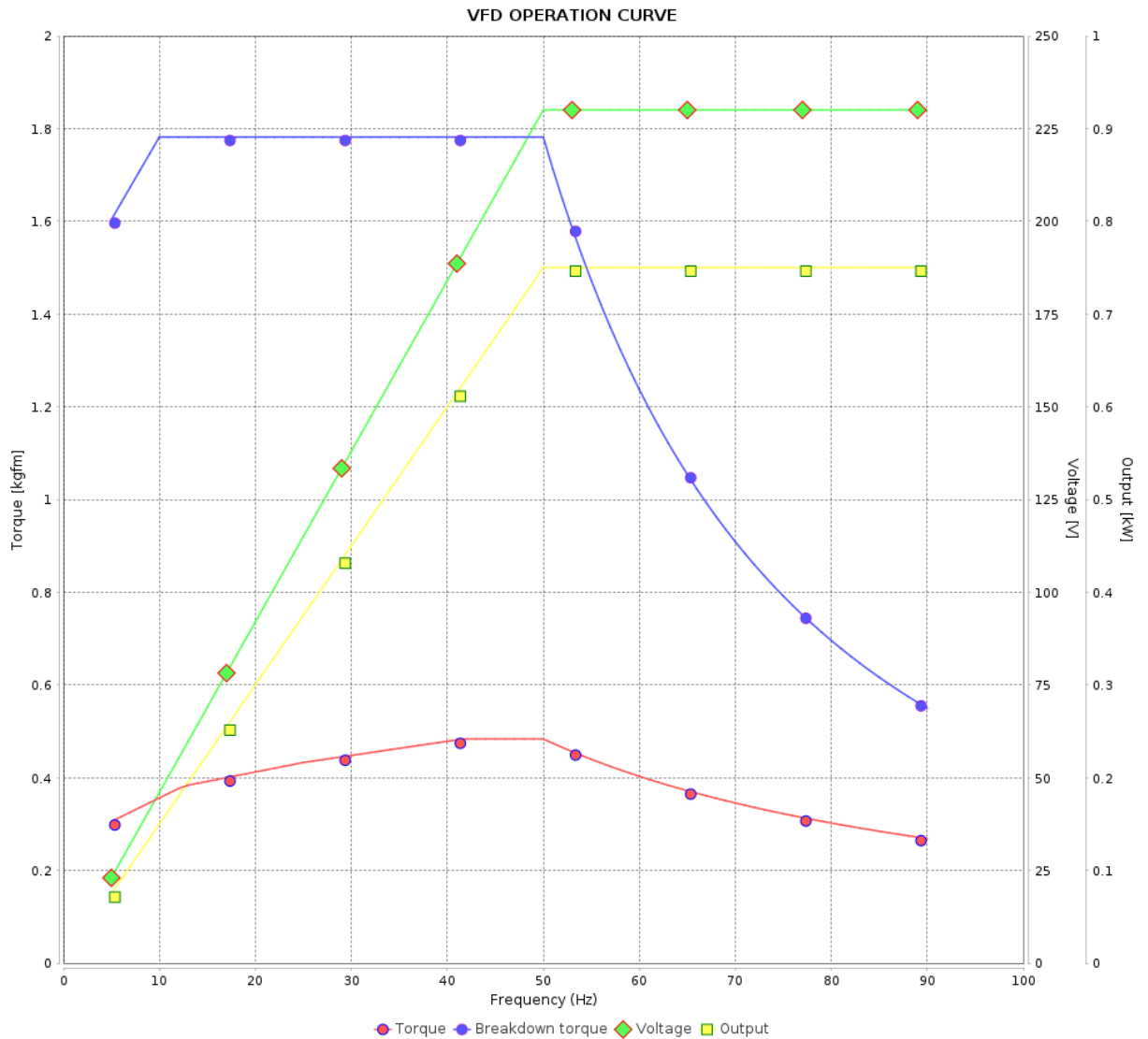
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Performance : 230/400 V 50 Hz 4P

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 Breakdown torque : 350 %  
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Moment of inertia (J) : 0.0032 kgm<sup>2</sup>  
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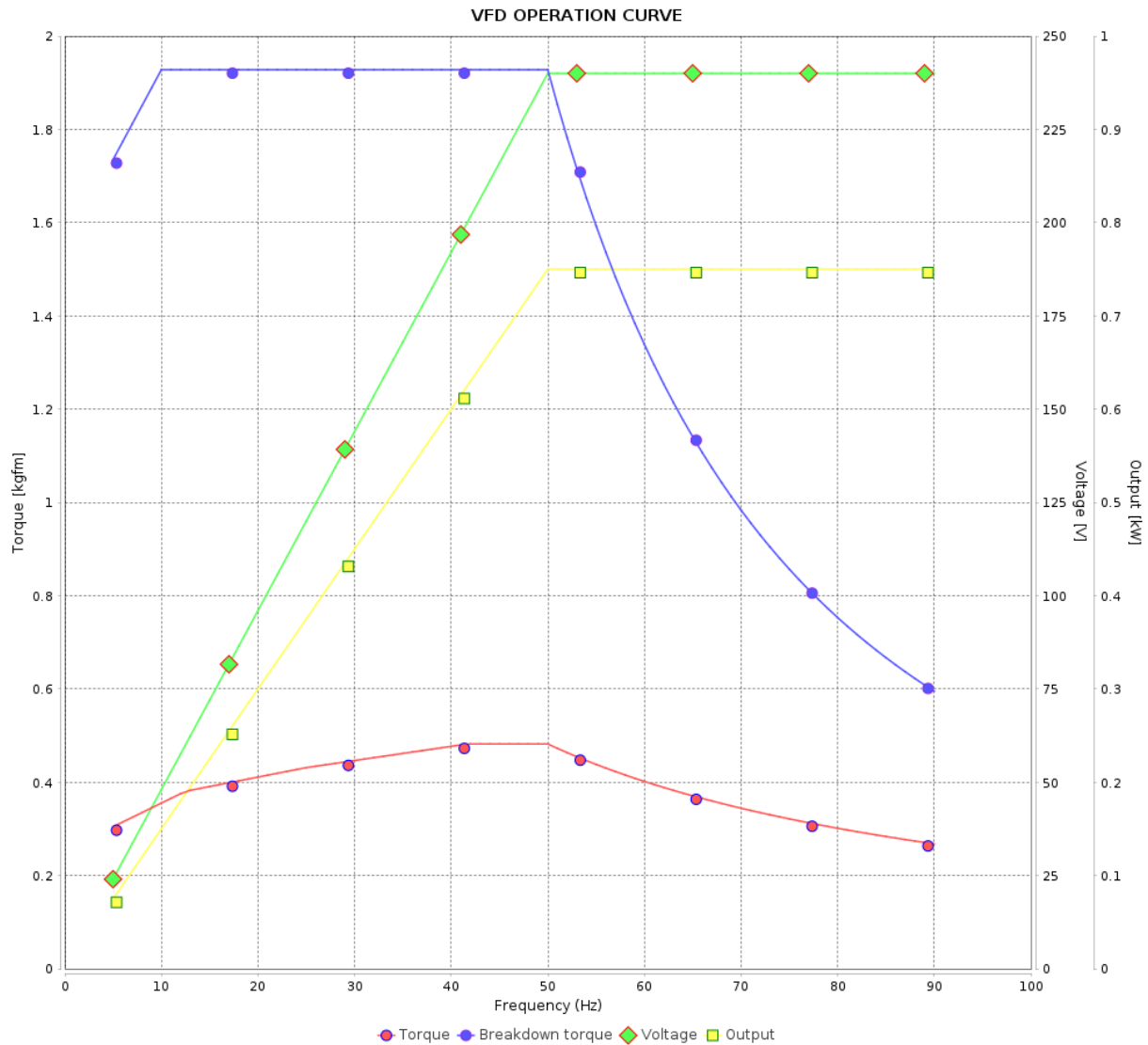
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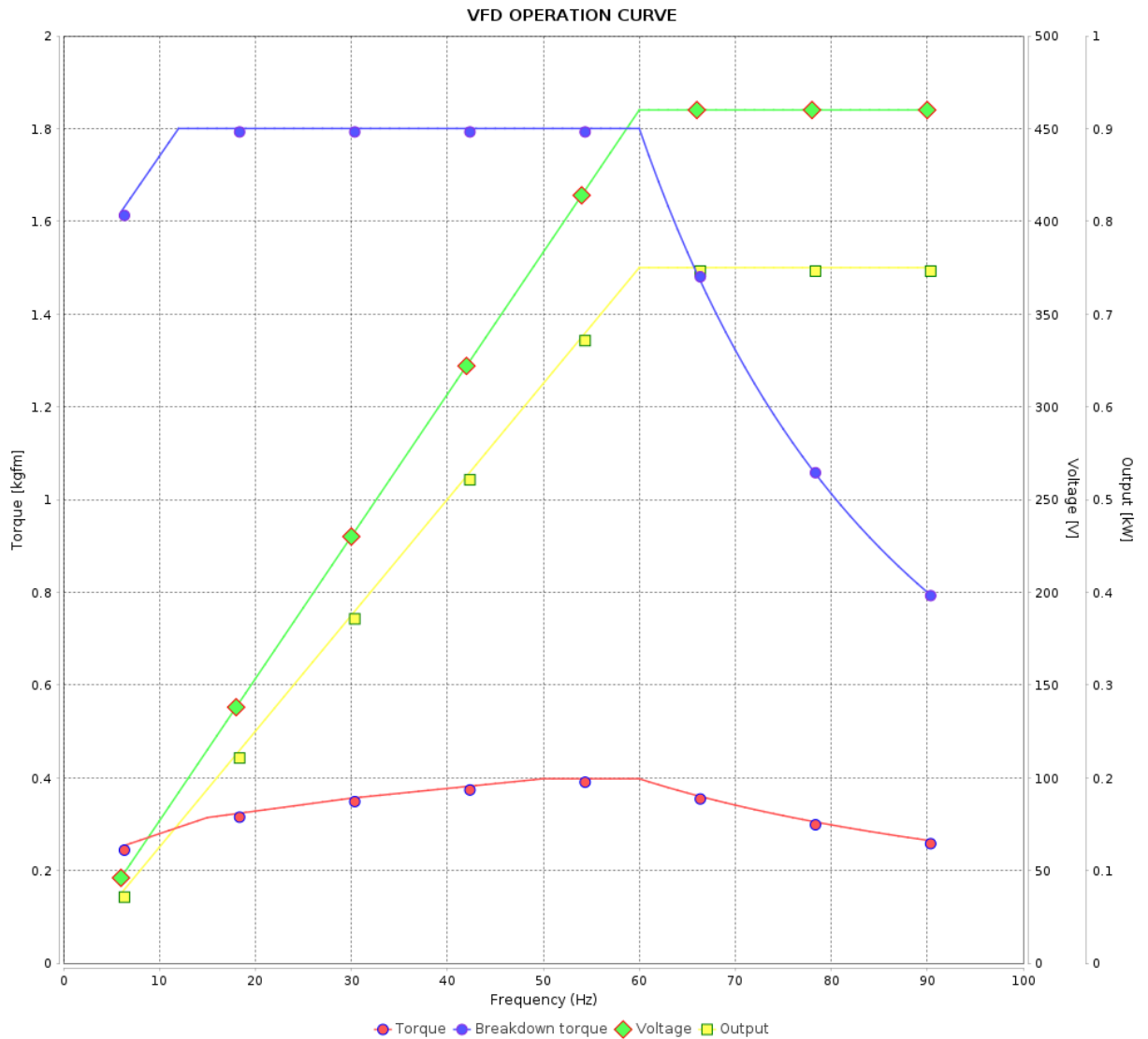
Three Phase Induction Motor - Squirrel Cage



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