

DATA SHEET

Three Phase Induction Motor - Squirrel Cage



| | | | | | |
|--|----------------------|---------------------------------|--|-------------------------|----------|
| Customer | | : Astraprom d.o.o. | | | |
| Product line | | : Multimounting IE3 Three-Phase | | Product code : 13749655 | |
| Frame | : 71 | Cooling method | : IC411 - TEFC | | |
| Insulation class | : F | Mounting | : B5T | | |
| Duty cycle | : S1 | Rotation ¹ | : Both (CW and CCW) | | |
| Ambient temperature | : -20°C to +40°C | Starting method | : Direct On Line | | |
| Altitude | : 1000 m.a.s.l. | Approx. weight ³ | : 9.3 kg | | |
| Protection degree | : IP55 | Moment of inertia (J) | : 0.0007 kgm ² | | |
| Design | : N | | | | |
| Output [kW] | 0.25 | 0.25 | 0.25 | 0.25 | |
| Poles | 4 | 4 | 4 | 4 | |
| Frequency [Hz] | 50 | 50 | 50 | 60 | |
| Rated voltage [V] | 220/380 | 230/400 | 240/415 | 460 | |
| Rated current [A] | 1.24/0.720 | 1.23/0.710 | 1.23/0.710 | 0.640 | |
| L. R. Amperes [A] | 5.10/2.95 | 5.93/3.41 | 5.89/3.41 | 3.39 | |
| LRC [A] | 4.1 | 4.8 | 4.8 | 5.3 | |
| No load current [A] | 0.760/0.440 | 0.887/0.510 | 0.934/0.540 | 0.490 | |
| Rated speed [RPM] | 1405 | 1415 | 1420 | 1725 | |
| Slip [%] | 6.33 | 5.67 | 5.33 | 4.17 | |
| Rated torque [kgfm] | 0.173 | 0.172 | 0.171 | 0.141 | |
| Locked rotor torque [%] | 210 | 240 | 270 | 280 | |
| Breakdown torque [%] | 220 | 260 | 290 | 310 | |
| Service factor | 1.00 | 1.00 | 1.00 | 1.25 | |
| 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) | 122s (cold) 68s (hot) | |
| Noise level ² | 43.0 dB(A) | 43.0 dB(A) | 43.0 dB(A) | 47.0 dB(A) | |
| Efficiency (%) | 25% | | | | |
| | 50% | 67.0 | 69.0 | 65.1 | 70.0 |
| | 75% | 69.1 | 72.0 | 68.6 | 72.0 |
| | 100% | 73.5 | 73.5 | 73.4 | 74.0 |
| Power Factor | 25% | | | | |
| | 50% | 0.50 | 0.50 | 0.48 | 0.47 |
| | 75% | 0.63 | 0.60 | 0.57 | 0.57 |
| | 100% | 0.72 | 0.69 | 0.67 | 0.66 |
| Losses at normative operating points (speed;torque), in percentage of rated output power | | | | | |
| Losses (%) | P1 (0,9;1,0) | 34.4 | 34.4 | 34.6 | 33.6 |
| | P2 (0,5;1,0) | 31.8 | 31.8 | 32.0 | 31.0 |
| | P3 (0,25;1,0) | 34.1 | 34.1 | 34.3 | 33.2 |
| | P4 (0,9;0,5) | 19.6 | 19.6 | 19.7 | 19.1 |
| | P5 (0,5;0,5) | 15.1 | 15.1 | 15.2 | 14.7 |
| | P6 (0,5;0,25) | 11.9 | 11.9 | 12.0 | 11.6 |
| | P7 (0,25;0,25) | 9.3 | 9.3 | 9.4 | 9.1 |
| Bearing type | : Drive end 6202 ZZ | Non drive end 6202 ZZ | Foundation loads | | |
| Sealing | : Oil Seal | Oil Seal | Max. traction | : 10 kgf | |
| Lubrication interval | : - | - | Max. compression | : 20 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 | 17/10/2024 | | | 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 | 17/10/2024 | | 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 | 17/10/2024 | | | |
| | | | Revision | |

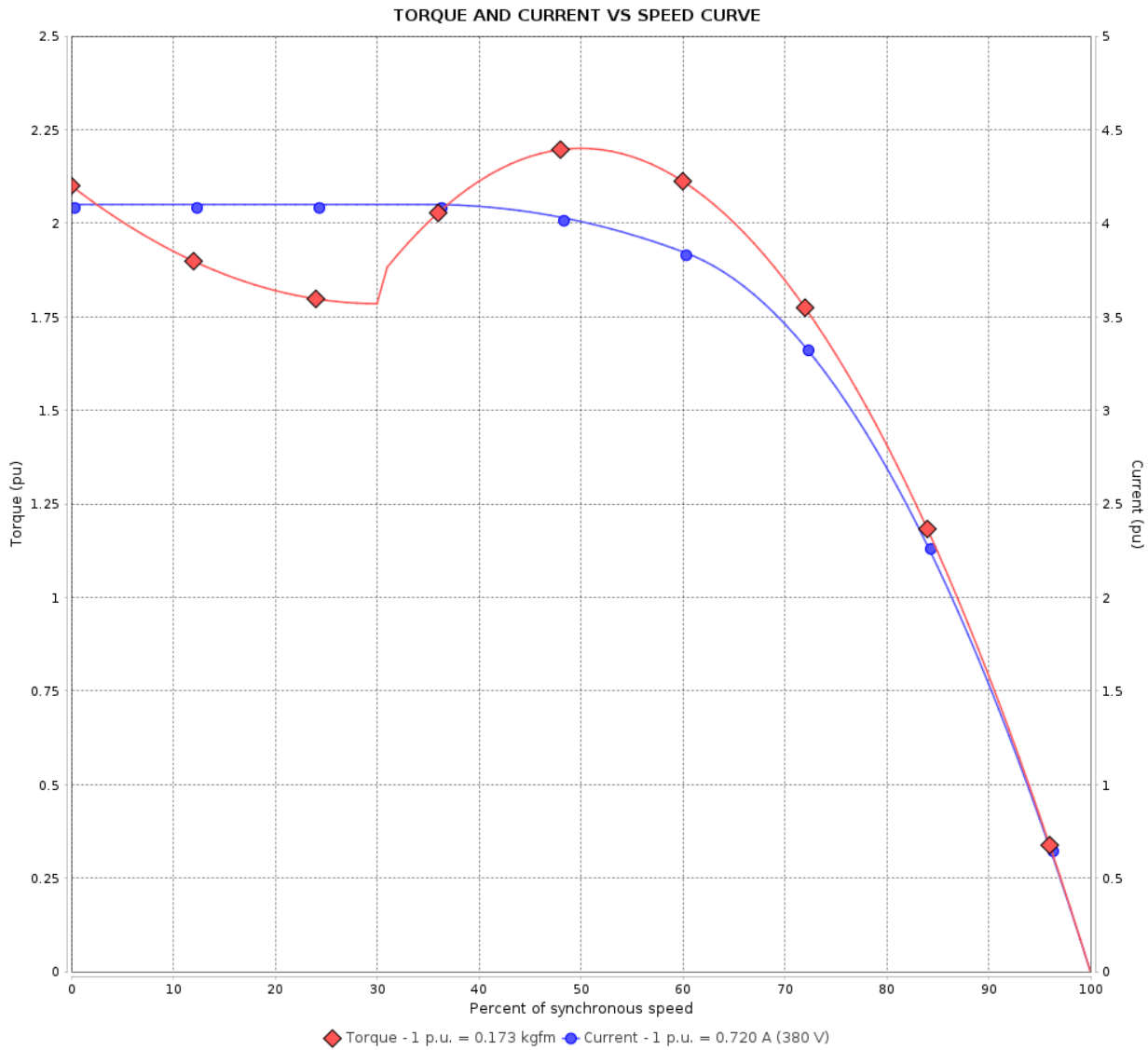
TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 220/380 V 50 Hz 4P

| | | | |
|---------------------|----------------|-----------------------|---------------------------|
| Rated current | : 1.24/0.720 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 4.1 | Duty cycle | : S1 |
| Rated torque | : 0.173 kgfm | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.00 |
| Breakdown torque | : 220 % | Temperature rise | : 80 K |
| Rated speed | : 1405 rpm | Design | : N |

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

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 4 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

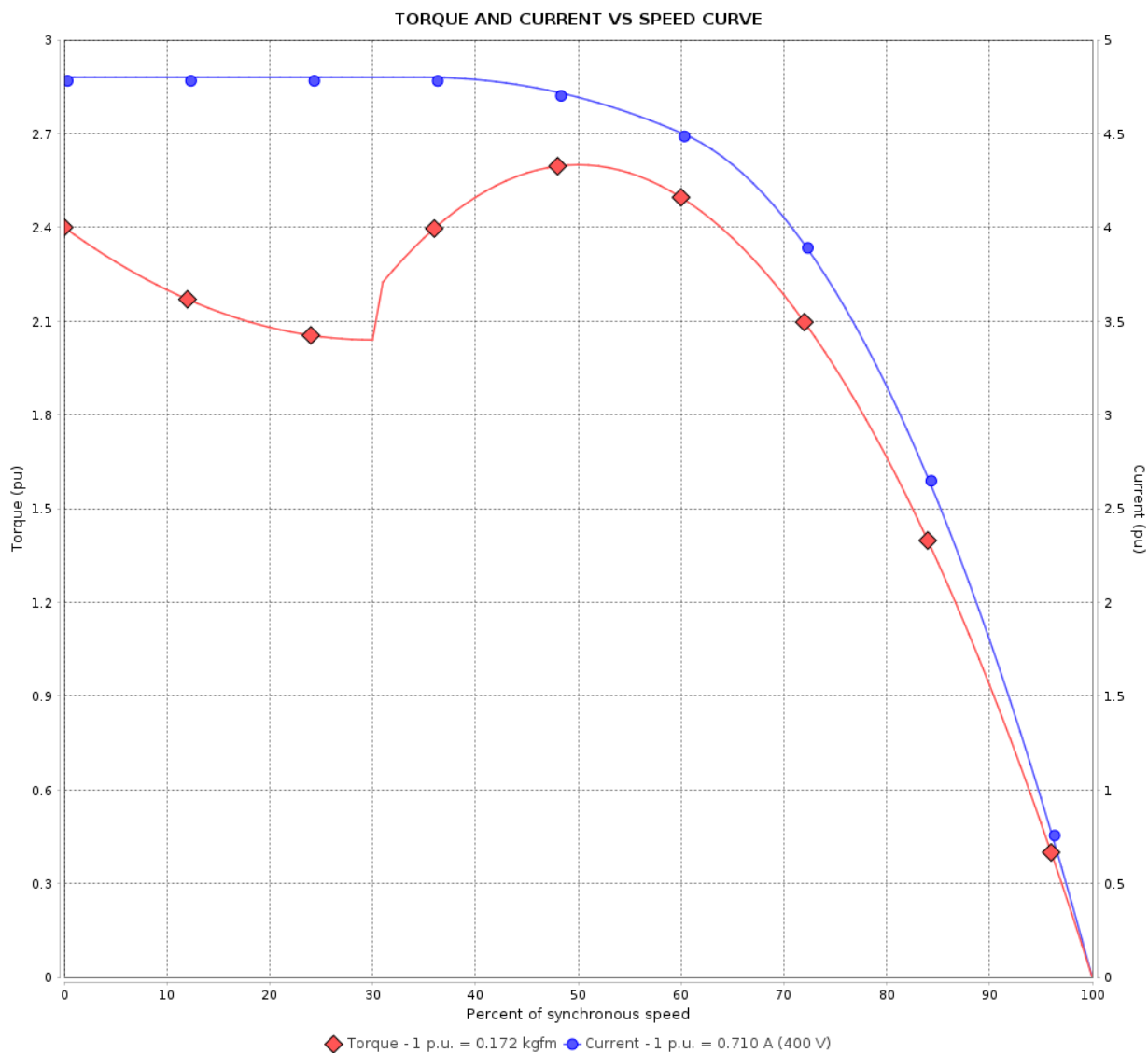
TORQUE AND CURRENT VS SPEED CURVE



Three Phase Induction Motor - Squirrel Cage

Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 230/400 V 50 Hz 4P

| | | | |
|---------------------|----------------|-----------------------|---------------------------|
| Rated current | : 1.23/0.710 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 4.8 | Duty cycle | : S1 |
| Rated torque | : 0.172 kgfm | Insulation class | : F |
| Locked rotor torque | : 240 % | Service factor | : 1.00 |
| Breakdown torque | : 260 % | Temperature rise | : 80 K |
| Rated speed | : 1415 rpm | Design | : N |

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

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 5 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

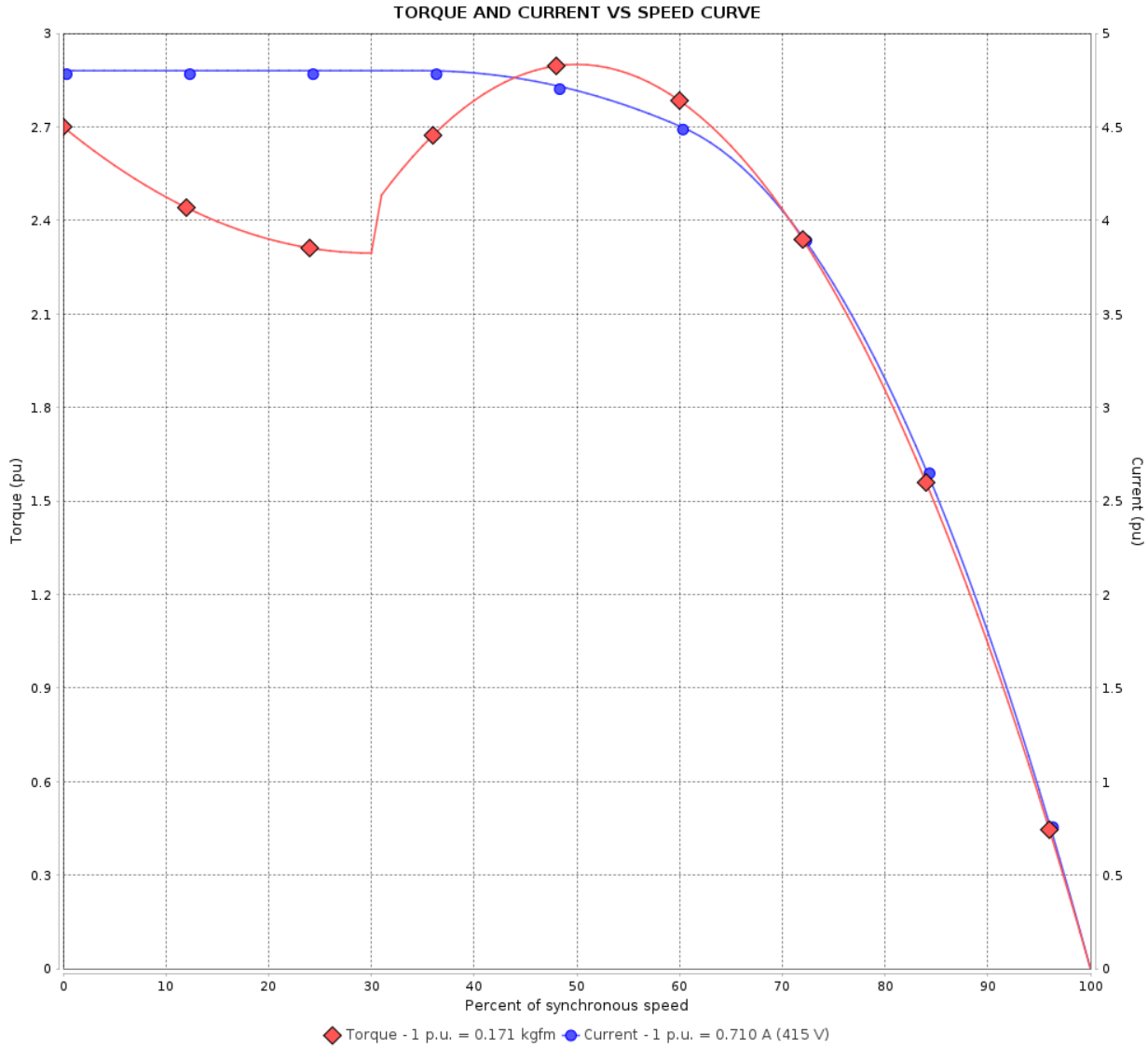
TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 240/415 V 50 Hz 4P

| | | | |
|---------------------|----------------|-----------------------|---------------------------|
| Rated current | : 1.23/0.710 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 4.8 | Duty cycle | : S1 |
| Rated torque | : 0.171 kgfm | Insulation class | : F |
| Locked rotor torque | : 270 % | Service factor | : 1.00 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1420 rpm | Design | : N |

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

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|----------------|----------|
| | | | | |
| Performed by | | | Page 6 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

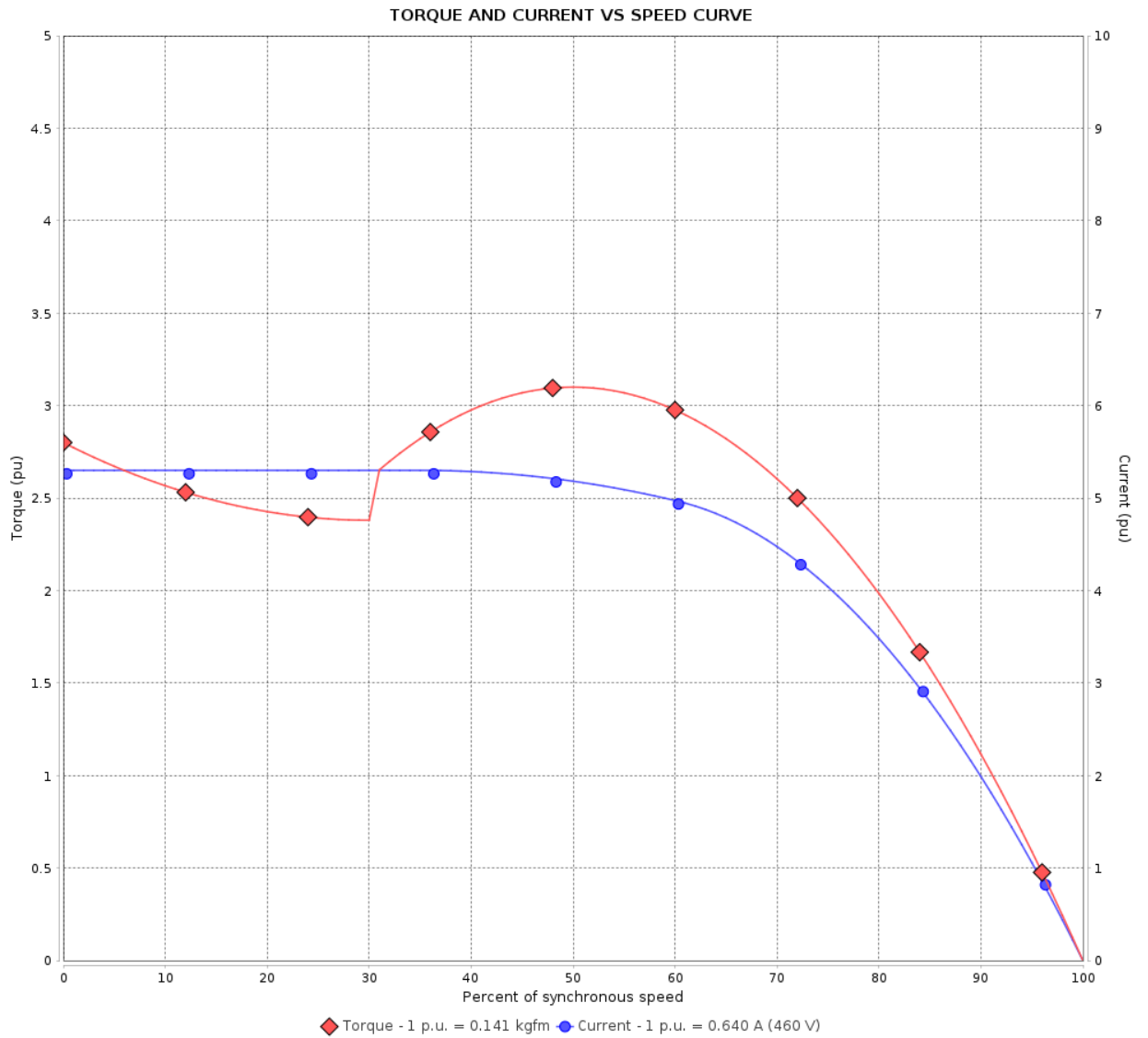
TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 460 V 60 Hz 4P

| | | | |
|---------------------|--------------|-----------------------|---------------------------|
| Rated current | : 0.640 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 5.3 | Duty cycle | : S1 |
| Rated torque | : 0.141 kgfm | Insulation class | : F |
| Locked rotor torque | : 280 % | Service factor | : 1.25 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
| Rated speed | : 1725 rpm | Design | : N |

Locked rotor time : 122s (cold) 68s (hot)

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 7 / 19 | | |
| Date | 17/10/2024 | | | |

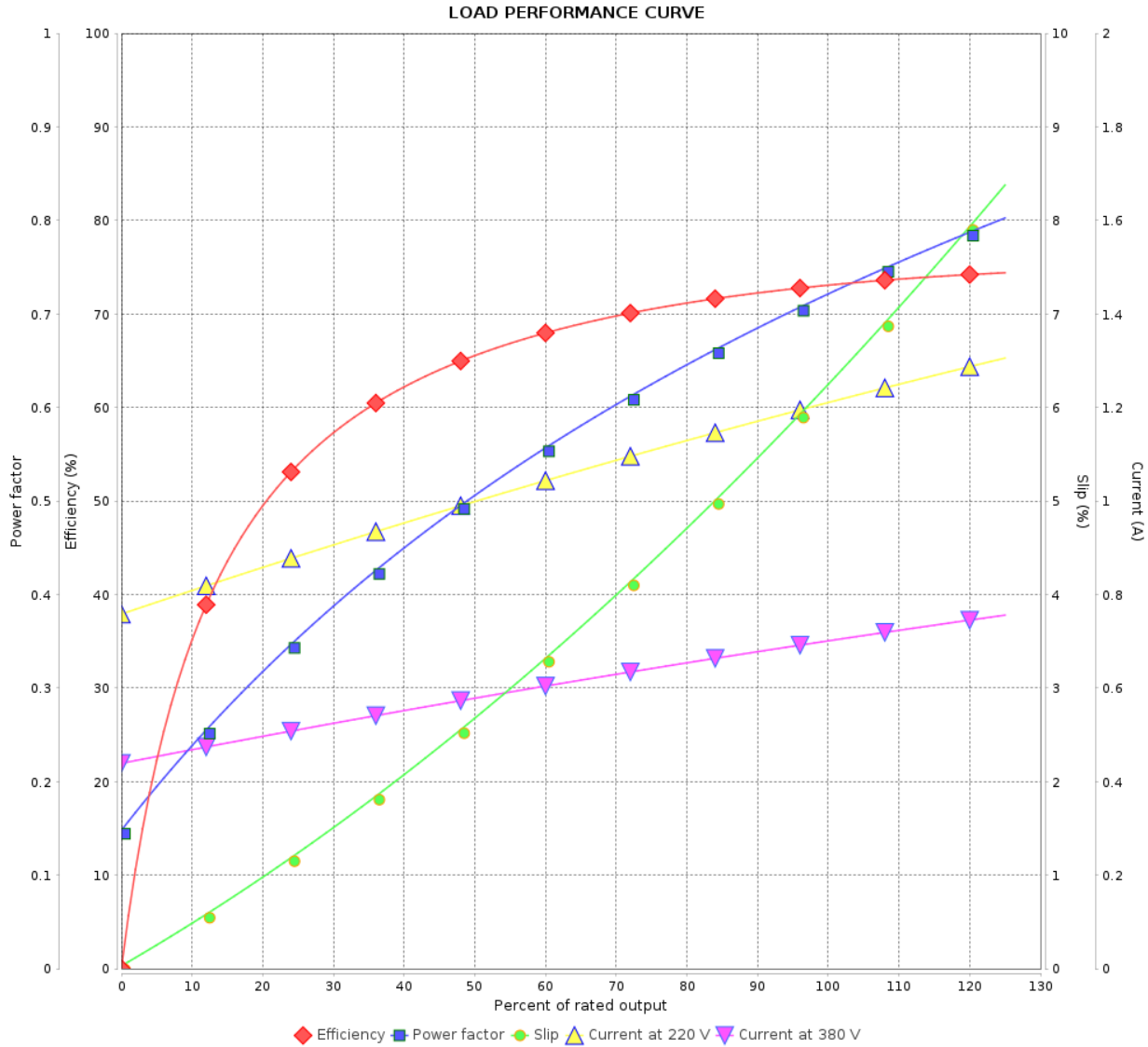
LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 220/380 V 50 Hz 4P

Rated current : 1.24/0.720 A
 LRC : 4.1
 Rated torque : 0.173 kgfm
 Locked rotor torque : 210 %
 Breakdown torque : 220 %
 Rated speed : 1405 rpm

Moment of inertia (J) : 0.0007 kgm²
 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 | 17/10/2024 | | | |

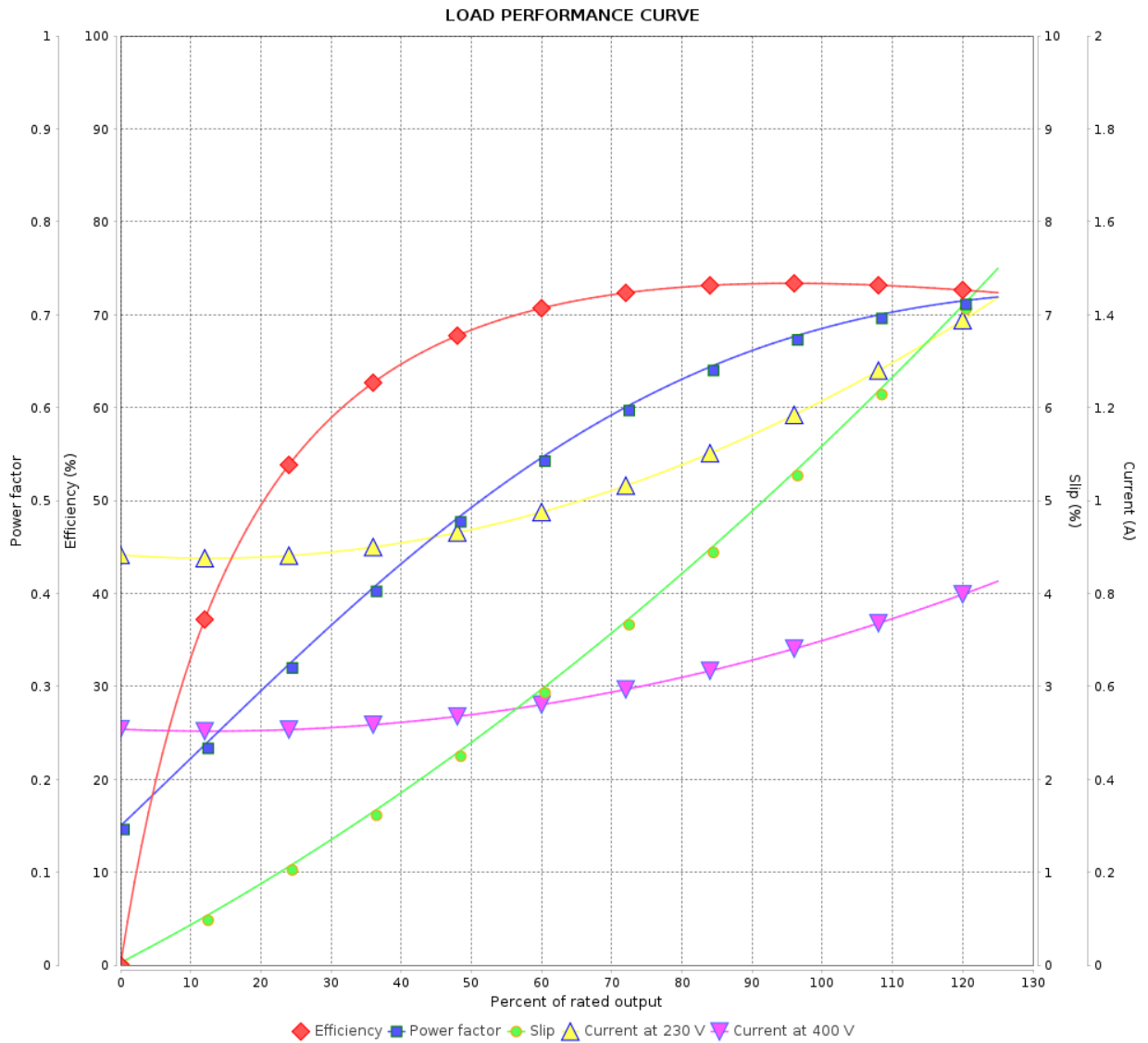
LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 230/400 V 50 Hz 4P

Rated current : 1.23/0.710 A
 LRC : 4.8
 Rated torque : 0.172 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 260 %
 Rated speed : 1415 rpm

Moment of inertia (J) : 0.0007 kgm²
 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 | | | 9 / 19 | |
| Date | 17/10/2024 | | | |

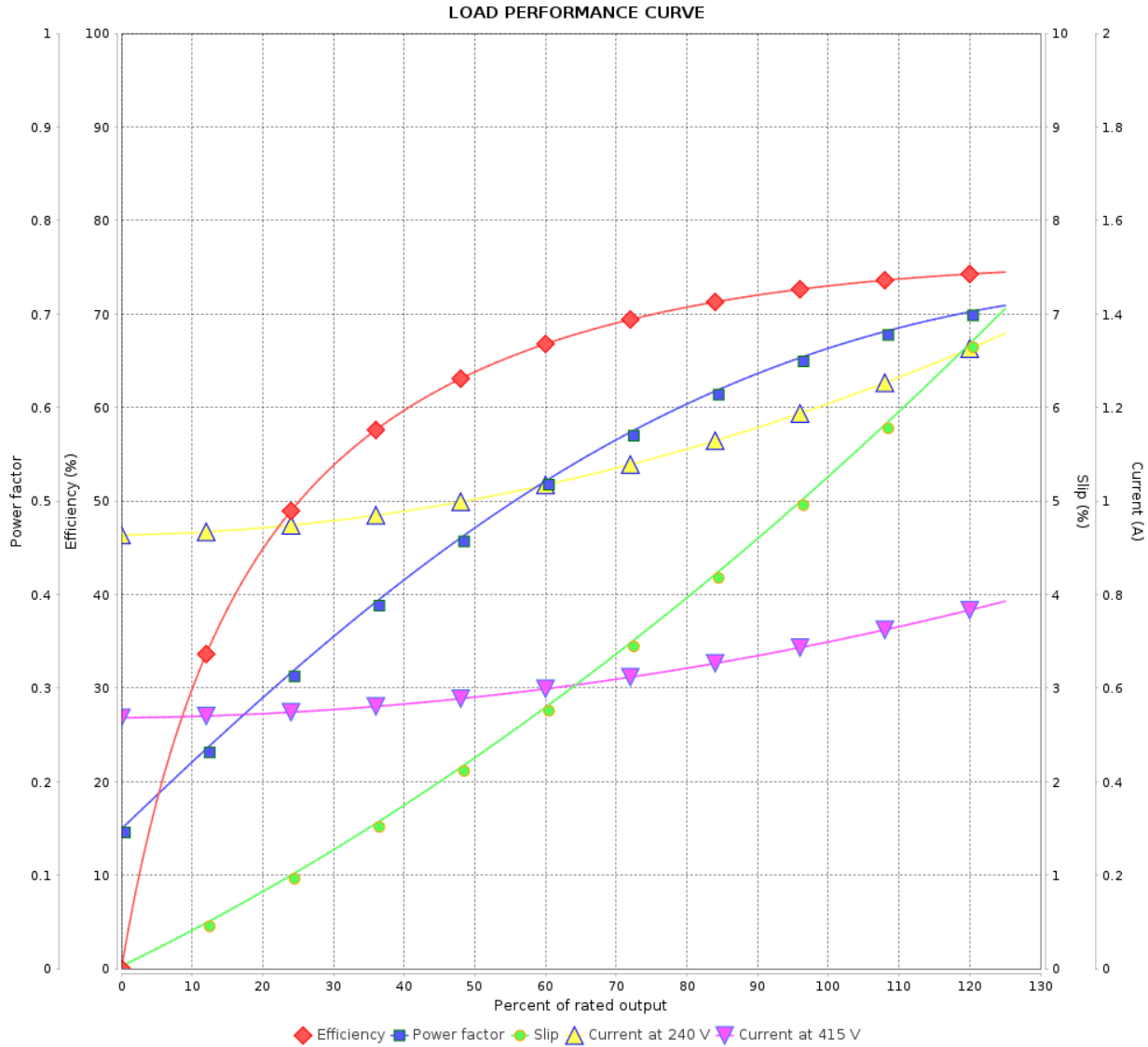
LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 240/415 V 50 Hz 4P

Rated current : 1.23/0.710 A
 LRC : 4.8
 Rated torque : 0.171 kgfm
 Locked rotor torque : 270 %
 Breakdown torque : 290 %
 Rated speed : 1420 rpm

Moment of inertia (J) : 0.0007 kgm²
 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 | 17/10/2024 | | | |

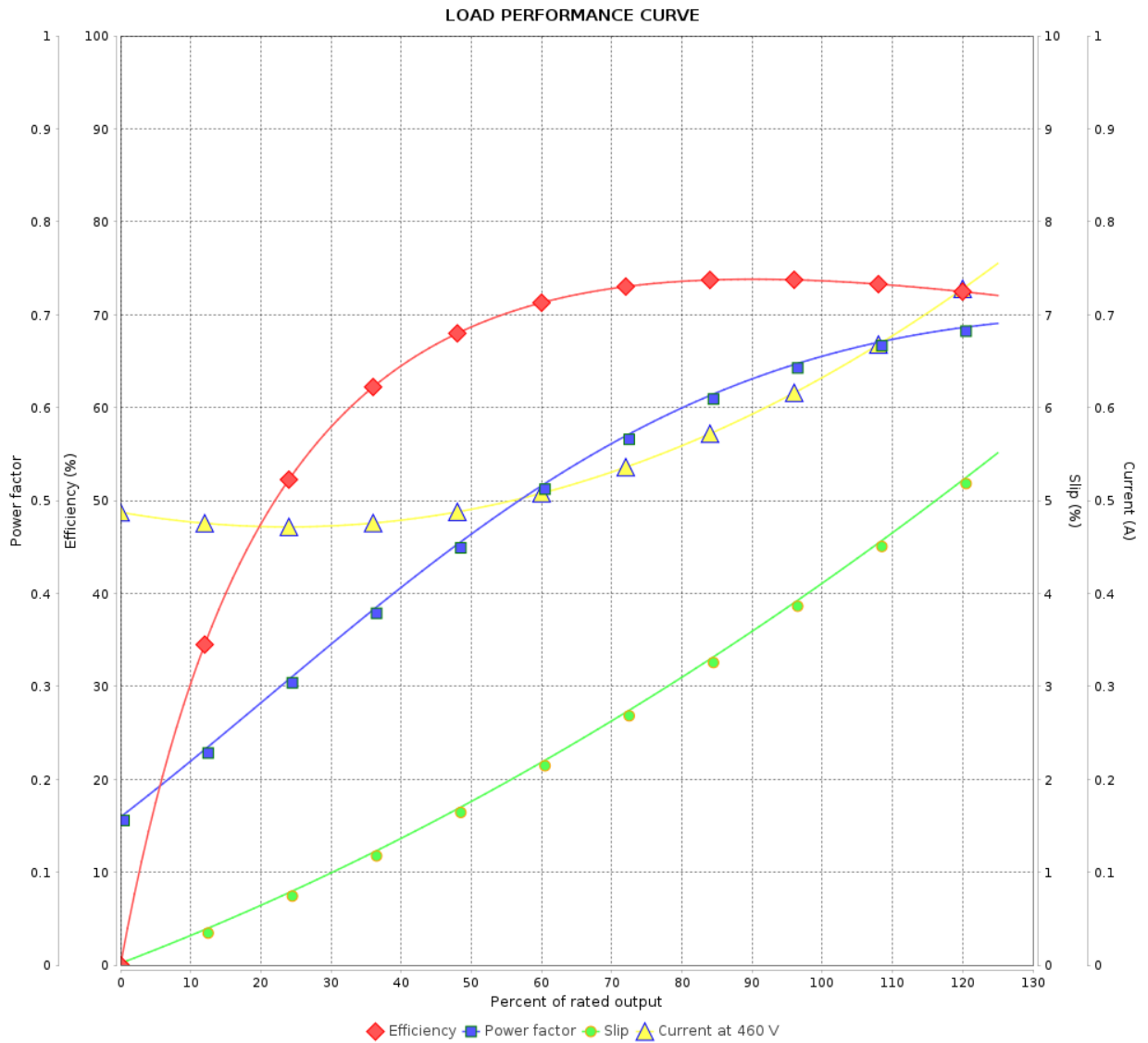
LOAD PERFORMANCE CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 460 V 60 Hz 4P

Rated current : 0.640 A
 LRC : 5.3
 Rated torque : 0.141 kgfm
 Locked rotor torque : 280 %
 Breakdown torque : 310 %
 Rated speed : 1725 rpm

Moment of inertia (J) : 0.0007 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.25
 Temperature rise : 80 K
 Design : N

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|-----------------|----------|
| | | | | |
| Performed by | | | Page 11 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

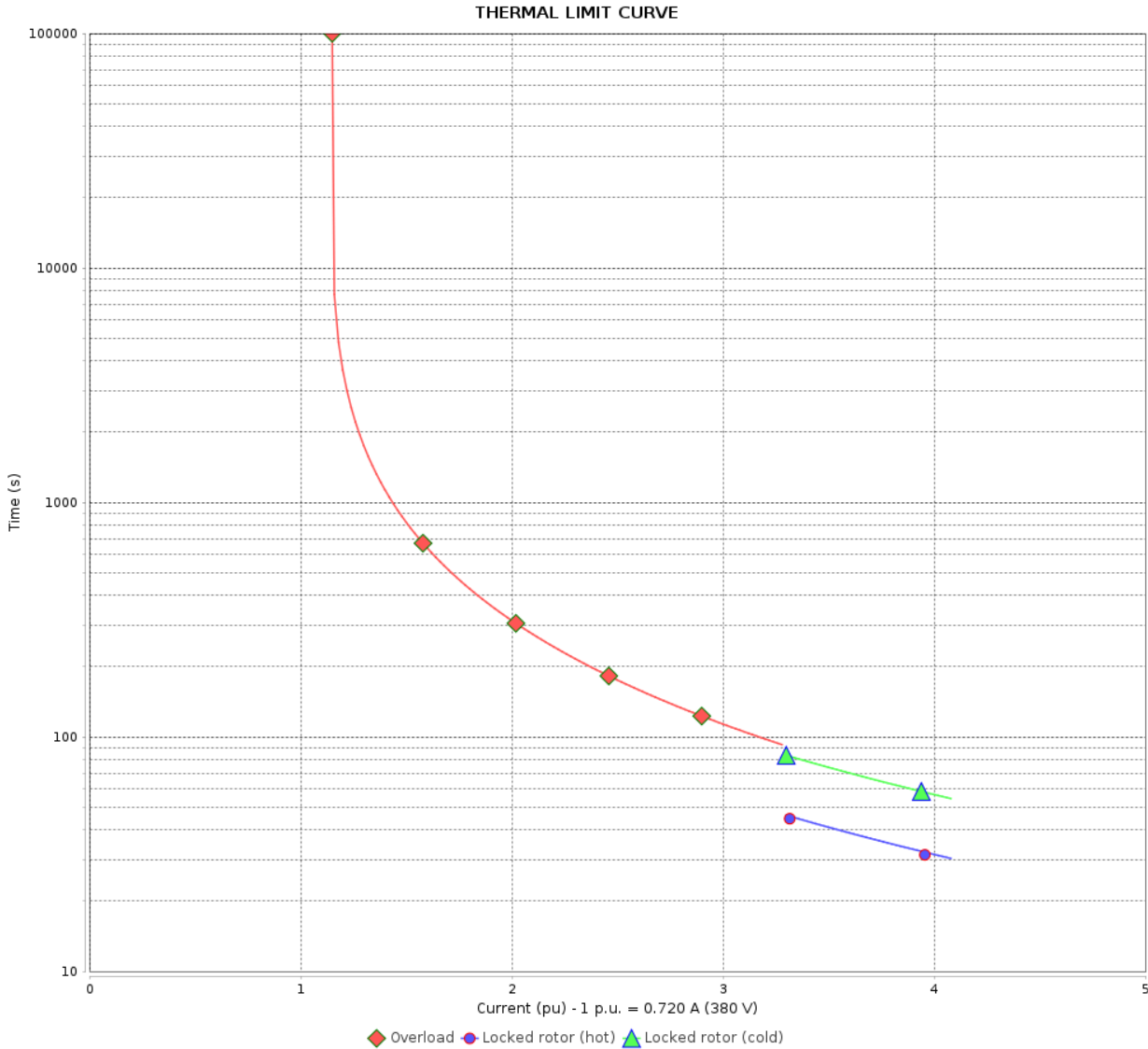
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 220/380 V 50 Hz 4P

| | | | |
|---------------------|----------------|-----------------------|---------------------------|
| Rated current | : 1.24/0.720 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 4.1 | Duty cycle | : S1 |
| Rated torque | : 0.173 kgfm | Insulation class | : F |
| Locked rotor torque | : 210 % | Service factor | : 1.00 |
| Breakdown torque | : 220 % | Temperature rise | : 80 K |
| Rated speed | : 1405 rpm | Design | : N |

Heating constant

Cooling constant

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|-----------------|----------|
| | | | | |
| Performed by | | | Page 12 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

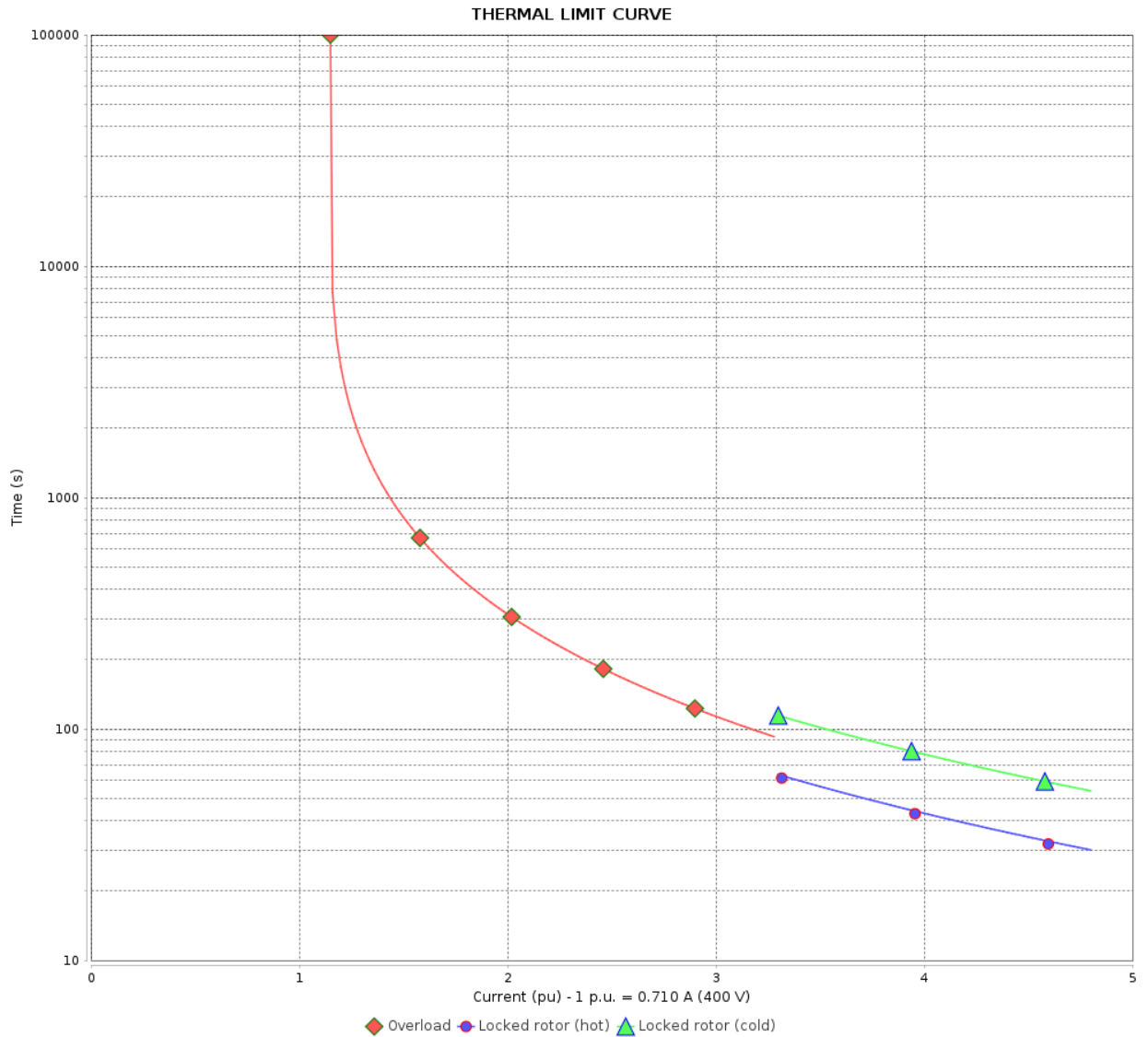
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 230/400 V 50 Hz 4P

Rated current : 1.23/0.710 A
 LRC : 4.8
 Rated torque : 0.172 kgfm
 Locked rotor torque : 240 %
 Breakdown torque : 260 %
 Rated speed : 1415 rpm

Moment of inertia (J) : 0.0007 kgm²
 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 | | |

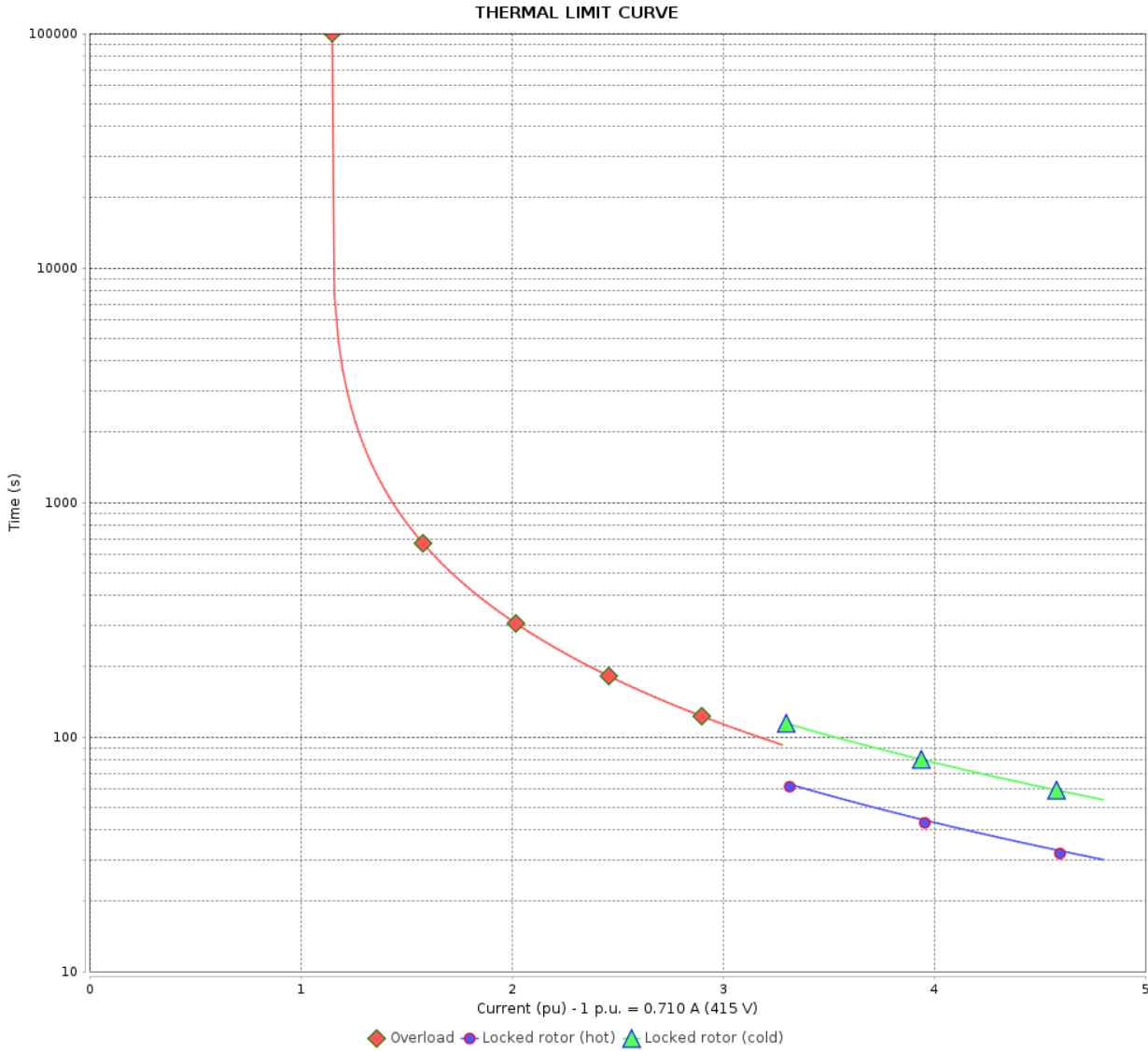
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 240/415 V 50 Hz 4P

| | | | |
|---------------------|----------------|-----------------------|---------------------------|
| Rated current | : 1.23/0.710 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 4.8 | Duty cycle | : S1 |
| Rated torque | : 0.171 kgfm | Insulation class | : F |
| Locked rotor torque | : 270 % | Service factor | : 1.00 |
| Breakdown torque | : 290 % | Temperature rise | : 80 K |
| Rated speed | : 1420 rpm | Design | : N |

Heating constant

Cooling constant

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|-----------------|----------|
| | | | | |
| Performed by | | | Page 14 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

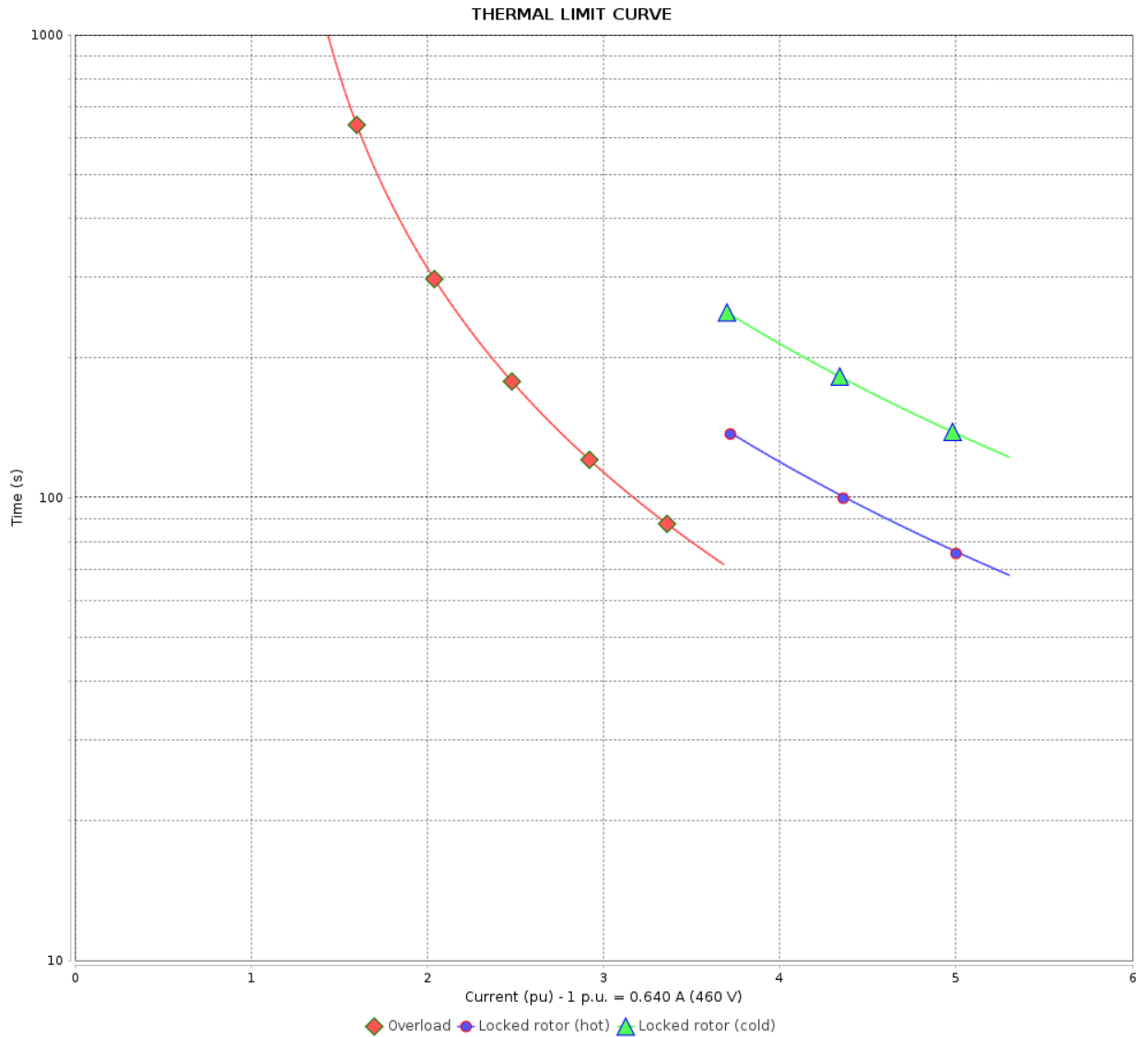
THERMAL LIMIT CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 460 V 60 Hz 4P

| | | | |
|---------------------|--------------|-----------------------|---------------------------|
| Rated current | : 0.640 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 5.3 | Duty cycle | : S1 |
| Rated torque | : 0.141 kgfm | Insulation class | : F |
| Locked rotor torque | : 280 % | Service factor | : 1.25 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
| Rated speed | : 1725 rpm | Design | : N |

Heating constant

Cooling constant

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|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | | Page | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

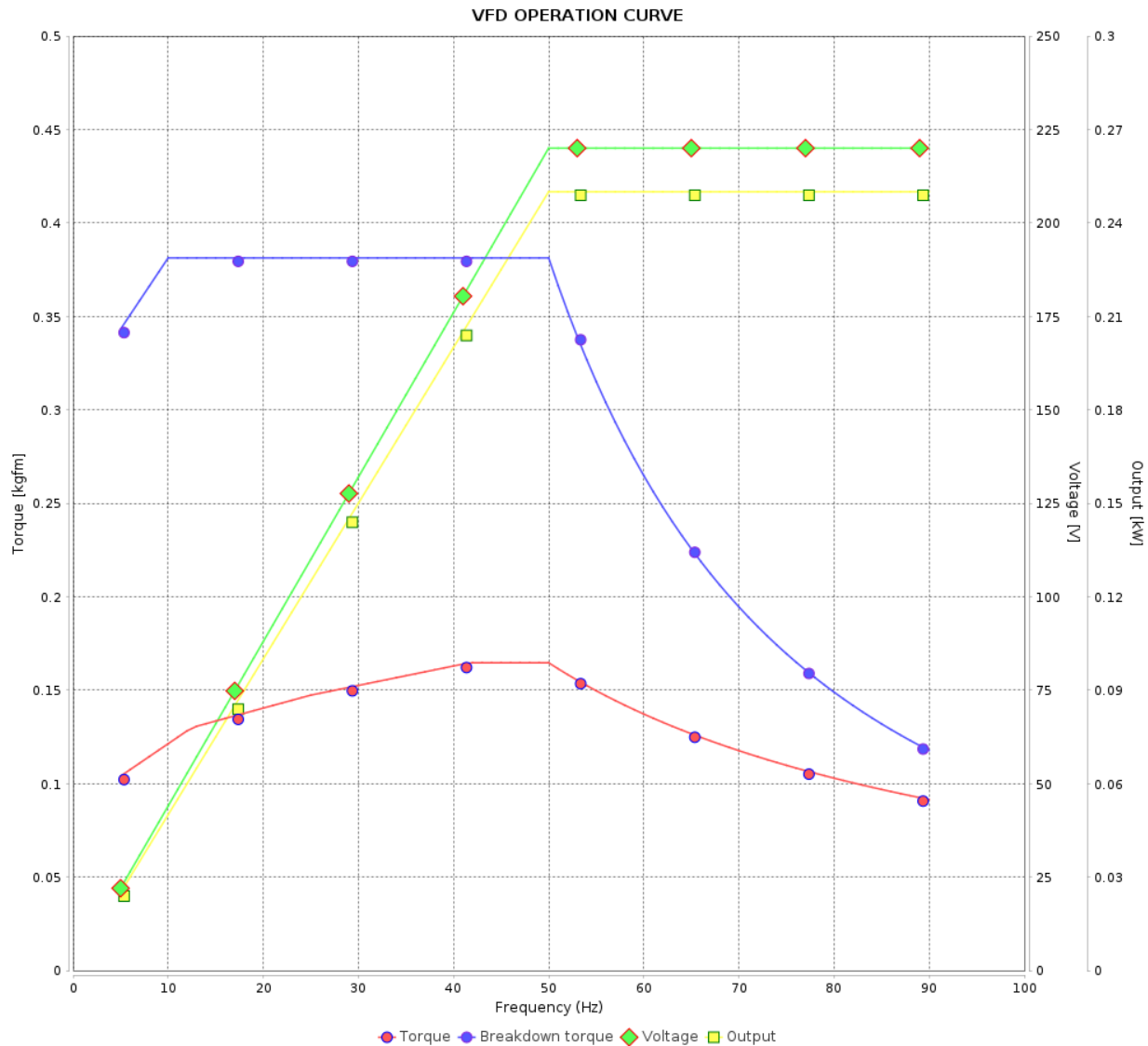
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 220/380 V 50 Hz 4P

Rated current : 1.24/0.720 A
 LRC : 4.1
 Rated torque : 0.173 kgfm
 Locked rotor torque : 210 %
 Breakdown torque : 220 %
 Rated speed : 1405 rpm

Moment of inertia (J) : 0.0007 kgm²
 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 16 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

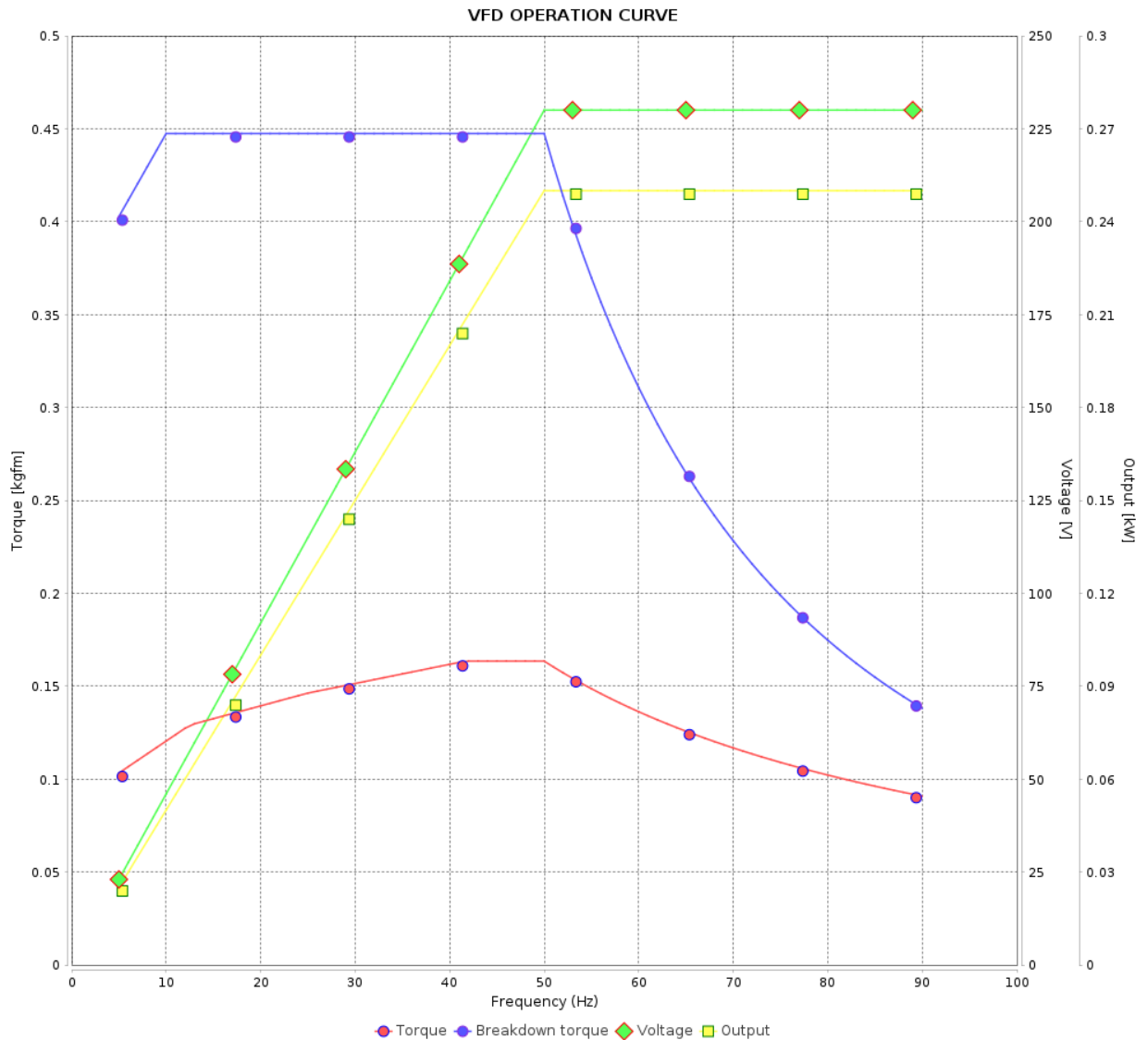
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 230/400 V 50 Hz 4P

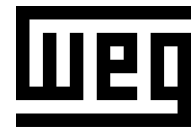
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 Breakdown torque : 260 %
 Rated speed : 1415 rpm

Moment of inertia (J) : 0.0007 kgm²
 Duty cycle : S1
 Insulation class : F
 Service factor : 1.00
 Temperature rise : 80 K
 Design : N

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|--------------|-----------------|------------|---------|----------|
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| Performed by | | Page | | Revision |
| Checked by | | 17 / 19 | | |
| Date | | 17/10/2024 | | |

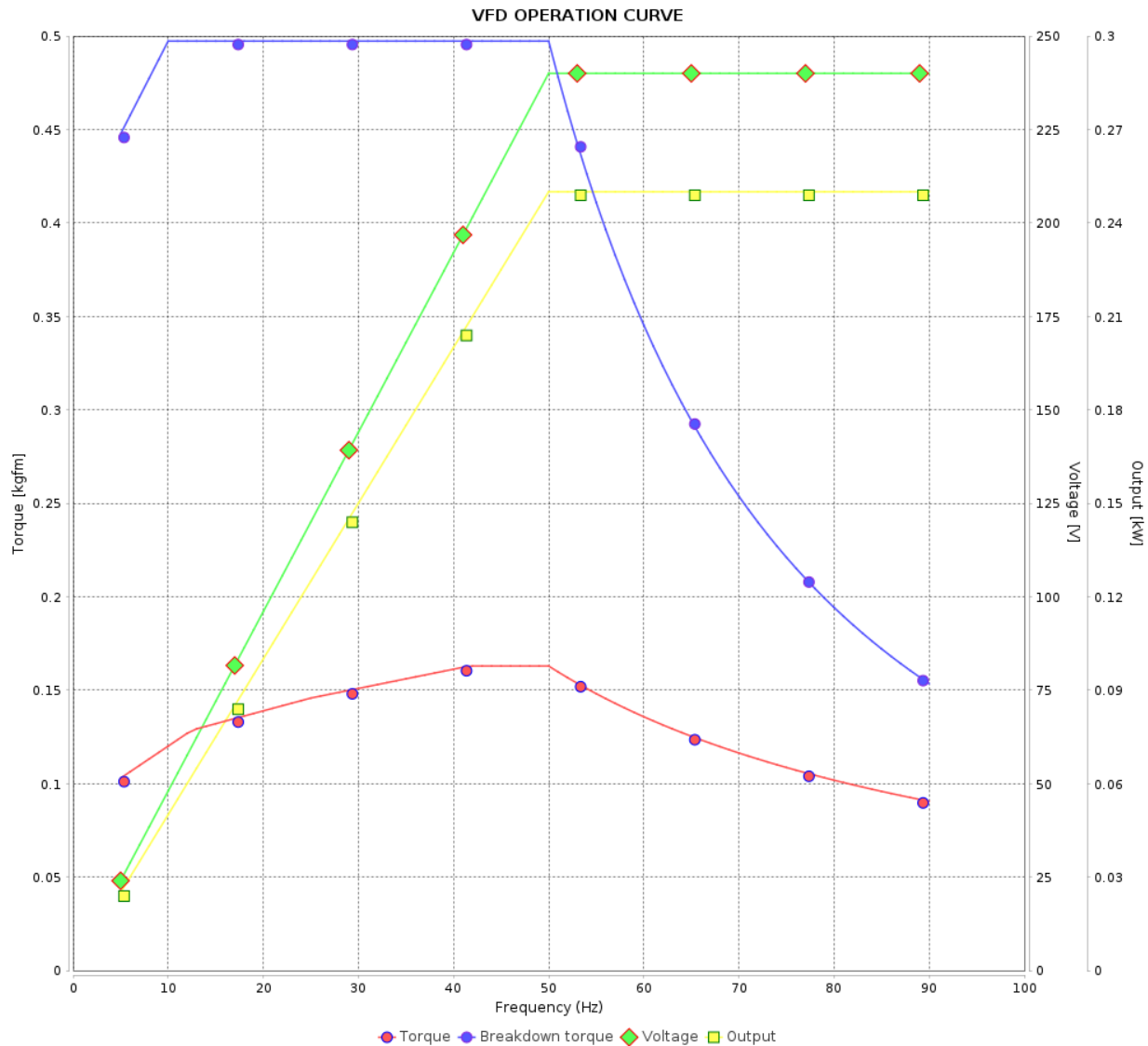
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 240/415 V 50 Hz 4P

Rated current : 1.23/0.710 A
 LRC : 4.8
 Rated torque : 0.171 kgfm
 Locked rotor torque : 270 %
 Breakdown torque : 290 %
 Rated speed : 1420 rpm

Moment of inertia (J) : 0.0007 kgm²
 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 18 / 19 | Revision |
| Checked by | | | | |
| Date | 17/10/2024 | | | |

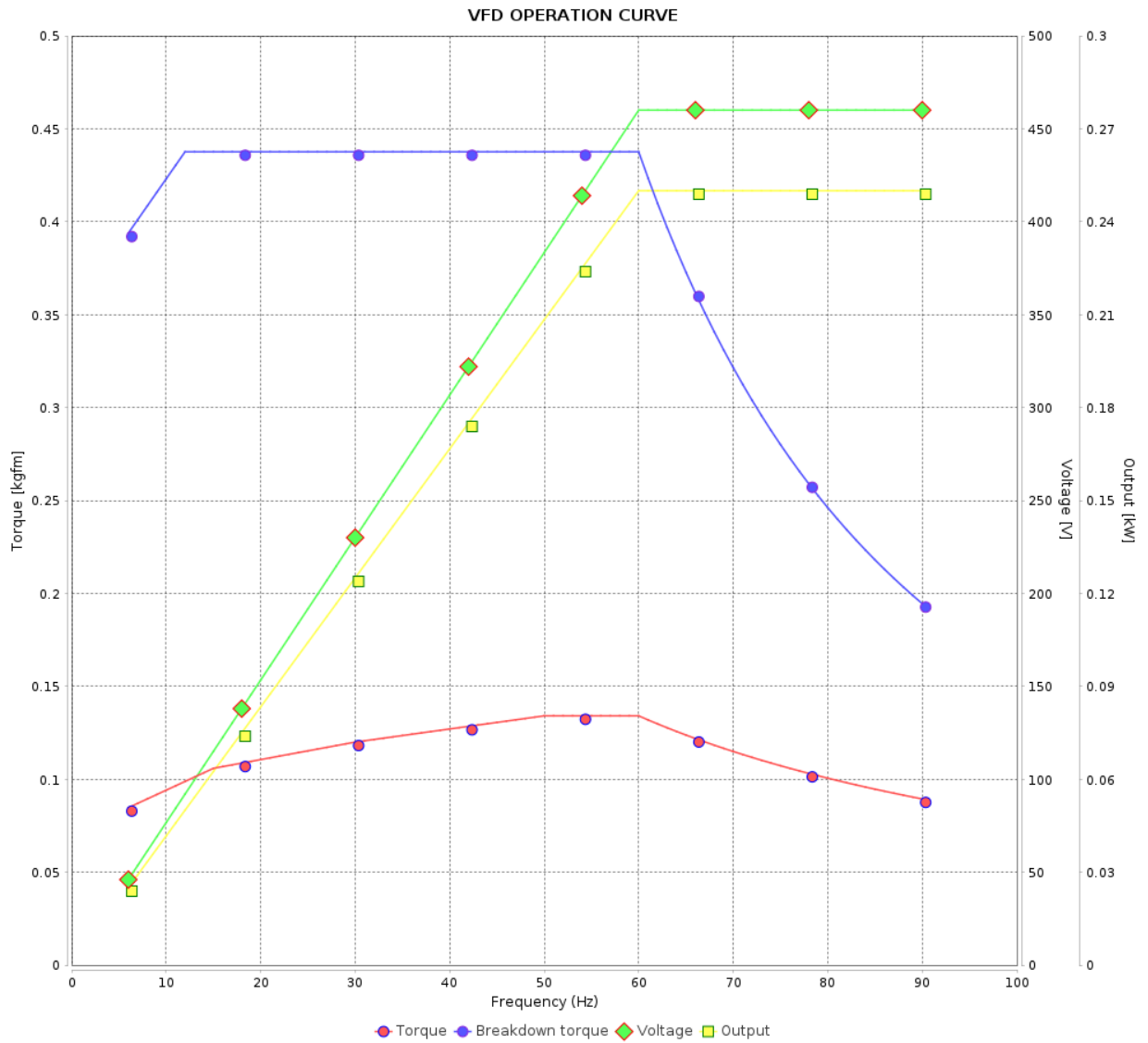
VFD OPERATION CURVE

Three Phase Induction Motor - Squirrel Cage



Customer : Astraprom d.o.o.

Product line : Multimounting IE3 Three-Phase Product code : 13749655



Performance : 460 V 60 Hz 4P

| | | | |
|---------------------|--------------|-----------------------|---------------------------|
| Rated current | : 0.640 A | Moment of inertia (J) | : 0.0007 kgm ² |
| LRC | : 5.3 | Duty cycle | : S1 |
| Rated torque | : 0.141 kgfm | Insulation class | : F |
| Locked rotor torque | : 280 % | Service factor | : 1.25 |
| Breakdown torque | : 310 % | Temperature rise | : 80 K |
| Rated speed | : 1725 rpm | Design | : N |

| Rev. | Changes Summary | Performed | Checked | Date |
|--------------|-----------------|-----------|---------|----------|
| | | | | |
| Performed by | | Page | | Revision |
| Checked by | | 19 / 19 | | |
| Date | 17/10/2024 | | | |