



Type Test Report

Motor tested in accordance with IEC60034-2-1 & AS/NZS1359.102.3. Efficiency as per IEC60034-2-1
(PLL determined from residual loss)

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Type: TAI 631-4

TR Number: 2011102001

Test Lab: Techtop factory

Nameplate:

| | | | | | | |
|------------|--------------|----------|-----------|--------|-------|----------|
| Type: | TAI 631-4 | Duty: | S1 | IP: | 55 | |
| Serial No: | 201107053003 | Ins.Cl: | F | KG: | 3.7 | |
| Voltage | Hz | kW | A | cos fi | r/min | Eff. [%] |
| 230/400 | 50 | 0.12 | 0.89/0.51 | 0.62 | 1300 | 54.6 |
| Brg.DE: | 6201 RZ | Brg.NDE: | 6201 RZ | | | |

No Load Test:

| | Voltage [V] | Current [A] | Input [W] | Freq. [Hz] | Speed [min ⁻¹] | Torque [Nm] | Output [W] | Power Factor | Eff. [%] |
|----------------|-------------|-------------|-----------|------------|----------------------------|-------------|------------|--------------|------------|
| No load | 380 | 0.44 | 54 | 50 | 1500 | 0.0 | 0 | 0.19 | 0.0 |
| No load | 400 | 0.48 | 65 | 50 | 1500 | 0.0 | 0 | 0.20 | 0.0 |
| No load | 420 | 0.54 | 81 | 50 | 1500 | 0.0 | 0 | 0.21 | 0.0 |

Load Test:

| Load [p.u] | Voltage [V] | Current [A] | Input [W] | Freq. [Hz] | Speed [min ⁻¹] | Torque [Nm] | Output [W] | Power Factor | Eff. [%] |
|------------|-------------|-------------|------------|------------|----------------------------|--------------|------------|--------------|-------------|
| 0.25 | 400 | 0.47 | 102 | 50 | 1453 | 0.197 | 30 | 0.31 | 29.5 |
| 0.5 | 400 | 0.47 | 135 | 50 | 1416 | 0.405 | 60 | 0.41 | 44.5 |
| 0.75 | 400 | 0.48 | 173 | 50 | 1367 | 0.629 | 90 | 0.52 | 52.1 |
| 1 | 400 | 0.51 | 220 | 50 | 1306 | 0.878 | 120 | 0.62 | 54.6 |
| 1.25 | 400 | 0.57 | 287 | 50 | 1232 | 1.163 | 150 | 0.73 | 52.3 |
| 1.5 | 400 | 0.66 | 363 | 50 | 1147 | 1.499 | 180 | 0.79 | 49.6 |

Full Load At 380V & 420V

| | Voltage [V] | Current [A] | Input [W] | Freq. [Hz] | Speed [min ⁻¹] | Torque [Nm] | Output [W] | Power Factor | Eff. [%] |
|------|-------------|-------------|-----------|------------|----------------------------|-------------|------------|--------------|----------|
| 380V | 380 | 0.51 | 221.4 | 50 | 1280 | 0.895 | 120 | 0.66 | 54.2 |
| 420V | 420 | 0.52 | 223.0 | 50 | 1315 | 0.871 | 120 | 0.59 | 53.8 |

Locked Rotor Test:

| Un (V) | Ik (A) | Pk(W) | Tk (Nm) | cosφ |
|---------|--------|-------|---------|------|
| 400/230 | 1.491 | 867 | 2.647 | 0.84 |

Temperature Rise:

| | | | | | |
|-------------------|-------|------|---------------------------|------|------|
| Amb. Temperature: | 20.2 | [°C] | Winding temperature rise: | 50.8 | [K] |
| Cold Resistance: | 129.8 | [Ω] | Frame: | 21.6 | [°C] |
| Hot Resistance: | 155.3 | [Ω] | Bearing: | 23.1 | [°C] |

Torque And Current:

| | | | |
|-------------------------------|------|--------------------------------|------|
| Locked Rotor Tor./Rated Tor.: | 3.02 | Breakdown Torque/Rated Torque: | 2.79 |
| Locked Rotor Cur./Rated Cur.: | 2.92 | Pullup Torque/Rated Torque: | 2.72 |

| | | |
|------------------|---------------------------|----------------------|
| Check: Zhang Kai | Operator: Chen Zhongliang | Test Date: 20/Oct/11 |
|------------------|---------------------------|----------------------|