



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)

SHANGHAI TOP MOTOR CO., LTD

No.303 Kangliu Road
Kang Qiao Industrial Area
Pudong, Shanghai, China

Ph: 86 15000088129
zk@techtopy.net.cn
www.techtopy.com

Type: TAI 180M-2
TR Number: 2013030901
Test Lab: Techtop factory

Nameplate:

| | | | | | | |
|------------|--------------|----------|-----------|--------|-------|----------|
| Type: | TAI 180M-2 | Duty: | S1 | IP: | 55 | |
| Serial No: | 201301016011 | Ins.Cl: | F | KG: | 128 | |
| Voltage | Hz | kW | A | cos fi | r/min | Eff. [%] |
| 400/690 | 50 | 22 | 39.5/22.9 | 0.87 | 2950 | 92.3 |
| Brg.DE: | 6311 RZ | Brg.NDE: | 6211 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 | 10.15 | 687 | 50 | 3000 | 0.0 | 0 | 0.10 | 0.0 |
| No load | 400 | 11.24 | 747 | 50 | 3000 | 0.0 | 0 | 0.10 | 0.0 |
| No load | 420 | 12.73 | 818 | 50 | 3000 | 0.0 | 0 | 0.09 | 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 | 13.86 | 6260 | 50 | 2988 | 17.6 | 5500 | 0.65 | 87.9 |
| 0.5 | 400 | 21.57 | 11968 | 50 | 2978 | 35.3 | 11000 | 0.80 | 91.9 |
| 0.75 | 400 | 30.21 | 17822 | 50 | 2966 | 53.1 | 16500 | 0.85 | 92.6 |
| 1 | 400 | 39.67 | 23842 | 50 | 2953 | 71.2 | 22000 | 0.87 | 92.3 |
| 1.25 | 400 | 49.85 | 30050 | 50 | 2939 | 89.4 | 27500 | 0.87 | 91.5 |
| 1.5 | 400 | 60.65 | 36468 | 50 | 2923 | 107.8 | 33000 | 0.87 | 90.5 |

Full Load At 380V & 420V

| | Voltage [V] | Current [A] | Input [kW] | Freq. [Hz] | Speed [min ⁻¹] | Torque [Nm] | Output [kW] | Power Factor | Eff. [%] |
|------|-------------|-------------|------------|------------|----------------------------|-------------|-------------|--------------|----------|
| 380V | 380 | 40.78 | 23.89 | 50 | 2941 | 71.44 | 22 | 0.89 | 92.1 |
| 420V | 420 | 38.50 | 23.81 | 50 | 2958 | 71.03 | 22 | 0.85 | 92.4 |

Locked Rotor Test:

| Un (V) | Ik (A) | Pk(W) | Tk (Nm) | cosφ |
|---------|--------|-------|---------|------|
| 400/690 | 343 | 95746 | 195.3 | 0.42 |

Temperature Rise:

| | | | | | |
|-------------------|-------|------|---------------------------|------|------|
| Amb. Temperature: | 32.7 | [°C] | Winding temperature rise: | 60.3 | [K] |
| Cold Resistance: | 0.181 | [Ω] | Frame: | 35.2 | [°C] |
| Hot Resistance: | 0.227 | [Ω] | Bearing: | 38.5 | [°C] |

Torque And Current:

| | | | |
|-------------------------------|------|--------------------------------|------|
| Locked Rotor Tor./Rated Tor.: | 2.74 | Breakdown Torque/Rated Torque: | 3.16 |
| Locked Rotor Cur./Rated Cur.: | 8.65 | Pullup Torque/Rated Torque: | 1.6 |

| | | |
|------------------|-------------------|----------------------|
| Check: Zhang Kai | Operator: Li Jian | Test Date: 09-Mar-13 |
|------------------|-------------------|----------------------|