



# 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

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Type: TAI 200L-4

TR Number: 2013031202

Test Lab: Techtop factory

## Nameplate:

|            |              |    |           |         |       |         |
|------------|--------------|----|-----------|---------|-------|---------|
| Type:      | TAI 200L-4   |    | Duty:     | S1      | IP:   | 55      |
| Serial No: | 201301016018 |    | Ins.Cl:   | F       | KG:   | 169.2   |
| Voltage    | Hz           | kW | A         | cos fi  | r/min | Eff.[%] |
| 400/690    | 50           | 30 | 54.2/31.4 | 0.86    | 1470  | 92.9    |
| Brg.DE:    | 6312 RZ      |    | Brg.NDE:  | 6212 RZ |       |         |

## No Load Test:

|                | Voltage<br>[V] | Current<br>[A] | Input<br>[W] | Freq.<br>[Hz] | Speed<br>[min <sup>-1</sup> ] | Torque<br>[Nm] | Output<br>[W] | Power<br>Factor | Eff.<br>[%] |
|----------------|----------------|----------------|--------------|---------------|-------------------------------|----------------|---------------|-----------------|-------------|
| No load        | 370            | 18.31          | 706          | 50            | 1500                          | 0.0            | 0             | 0.06            | 0.0         |
| <b>No load</b> | <b>400</b>     | <b>22.38</b>   | <b>852</b>   | <b>50</b>     | <b>1500</b>                   | <b>0.0</b>     | <b>0</b>      | <b>0.05</b>     | <b>0.0</b>  |
| No load        | 420            | 26.80          | 1000         | 50            | 1500                          | 0.0            | 0             | 0.05            | 0.0         |

## Load Test:

| Load<br>[p.u] | Voltage<br>[V] | Current<br>[A] | Input<br>[W] | Freq.<br>[Hz] | Speed<br>[min <sup>-1</sup> ] | Torque<br>[Nm] | Output<br>[W] | Power<br>Factor | Eff.<br>[%] |
|---------------|----------------|----------------|--------------|---------------|-------------------------------|----------------|---------------|-----------------|-------------|
| 0.25          | 400            | 24.93          | 8441         | 50            | 1494                          | 48.0           | 7500          | 0.49            | 88.9        |
| 0.5           | 400            | 32.87          | 16204        | 50            | 1487                          | 96.3           | 15000         | 0.71            | 92.6        |
| 0.75          | 400            | 42.75          | 24149        | 50            | 1480                          | 145.2          | 22500         | 0.82            | 93.2        |
| <b>1</b>      | <b>400</b>     | <b>54.09</b>   | <b>32302</b> | <b>50</b>     | <b>1473</b>                   | <b>194.5</b>   | <b>30000</b>  | <b>0.86</b>     | <b>92.9</b> |
| 1.25          | 400            | 66.45          | 40685        | 50            | 1465                          | 244.5          | 37500         | 0.88            | 92.2        |
| 1.5           | 400            | 79.36          | 49305        | 50            | 1457                          | 295.0          | 45000         | 0.90            | 91.3        |

## Full Load At 380V & 420V

|      | Voltage<br>[V] | Current<br>[A] | Input<br>[kW] | Freq.<br>[Hz] | Speed<br>[min <sup>-1</sup> ] | Torque<br>[Nm] | Output<br>[kW] | Power<br>Factor | Eff.<br>[%] |
|------|----------------|----------------|---------------|---------------|-------------------------------|----------------|----------------|-----------------|-------------|
| 380V | 380            | 55.87          | 32.36         | 50            | 1470                          | 194.90         | 30             | 0.88            | 92.7        |
| 420V | 420            | 54.13          | 32.29         | 50            | 1476                          | 194.11         | 30             | 0.82            | 92.9        |

## Locked Rotor Test:

| Un (V)  | Ik (A) | Pk(W)  | Tk (Nm) | cosφ |
|---------|--------|--------|---------|------|
| 400/690 | 511.6  | 175955 | 638.6   | 0.50 |

## Temperature Rise:

|                  |       |      |                           |    |      |
|------------------|-------|------|---------------------------|----|------|
| Amb.Temperature: | 22.7  | [°C] | Winding temperature rise: | 75 | [K]  |
| Cold Resistance: | 0.136 | [Ω]  | Frame:                    | 56 | [°C] |
| Hot Resistance:  | 0.172 | [Ω]  | Bearing:                  | 59 | [°C] |

## Torque And Current:

|                                    |                                    |
|------------------------------------|------------------------------------|
| Locked Rotor Tor./Rated Tor.: 3.25 | Breakdown Torque/Rated Torque: 3.7 |
| Locked Rotor Cur./Rated Cur.: 9.46 | Pullup Torque/Rated Torque: 2.33   |

|                  |                   |                      |
|------------------|-------------------|----------------------|
| Check: Zhang Kai | Operator: Li Jian | Test Date: 12-Mar-13 |
|------------------|-------------------|----------------------|