



# 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 160L-4  
TR Number: 2013030601  
Test Lab: Techtop factory

### Nameplate:

Type:	TAI 160L-4		Duty:	S1		IP:	55	
Serial No:	201301016005		Ins.Cl:	F		KG:	102	
Voltage	Hz	kW	A	cos fi	r/min	Eff. [%]		
400/690	50	15	28.2/16.3	0.84	1460	91.3		
Brg.DE:	6309 RZ		Brg.NDE:	6209RZ				

### No Load Test:

	Voltage [V]	Current [A]	Input [W]	Freq. [Hz]	Speed [min <sup>-1</sup> ]	Torque [Nm]	Output [W]	Power Factor	Eff. [%]
No load	380	10.63	434	50	1500	0.0	0	0.06	0.0
<b>No load</b>	<b>400</b>	<b>12.04</b>	<b>490</b>	<b>50</b>	<b>1500</b>	<b>0.0</b>	<b>0</b>	<b>0.06</b>	<b>0.0</b>
No load	420	13.91	564	50	1500	0.0	0	0.06	0.0

### Load Test:

Load [p.u]	Voltage [V]	Current [A]	Input [W]	Freq. [Hz]	Speed [min <sup>-1</sup> ]	Torque [Nm]	Output [W]	Power Factor	Eff. [%]
0.25	400	13.19	4302	50	1493	24.0	3750	0.47	87.2
0.5	400	17.06	8214	50	1485	48.2	7500	0.69	91.3
0.75	400	22.15	12240	50	1477	72.7	11250	0.80	91.9
<b>1</b>	<b>400</b>	<b>28.20</b>	<b>16420</b>	<b>50</b>	<b>1468</b>	<b>97.6</b>	<b>15000</b>	<b>0.84</b>	<b>91.4</b>
1.25	400	34.93	20760	50	1458	122.8	18750	0.86	90.3
1.5	400	42.09	25270	50	1447	148.5	22500	0.87	89.0

### Full Load At 380V & 420V

	Voltage [V]	Current [A]	Input [kW]	Freq. [Hz]	Speed [min <sup>-1</sup> ]	Torque [Nm]	Output [kW]	Power Factor	Eff. [%]
380V	380	29.22	16.54	50	1463	97.92	15	0.86	90.7
420V	420	27.85	16.41	50	1472	97.32	15	0.81	91.4

### Locked Rotor Test:

Un (V)	Ik (A)	Pk(W)	Tk (Nm)	cosφ
400/690	233.7	80720	245.52	

### Temperature Rise:

Amb. Temperature:	22.7	[°C]	Winding temperature rise:	72	[K]
Cold Resistance:	0.368	[Ω]	Frame:	51	[°C]
Hot Resistance:	0.470	[Ω]	Bearing:	65	[°C]

### Torque And Current:

Locked Rotor Tor./Rated Tor.:	2.51	Breakdown Torque/Rated Torque:	2.88
Locked Rotor Cur./Rated Cur.:	8.29	Pullup Torque/Rated Torque:	1.64

Check: Zhang Kai	Operator: Li Jian	Test Date: 06-Mar-13
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