

No: PMC20191106004

TEST REPORT

NAME OF SAMPLE: Air Conditioner

APPLICANT: TCL Air Conditioner (Zhongshan) Co., Ltd.

CLASSIFICATION OF TEST: Commission Test




Testing Center of TCL Air Conditioner (Zhongshan) Co., Ltd.

59 Nantou Road West, Nantou, Zhongshan, Guangdong, China



TEST REPORT

The rating and performance tests for Air-conditioner

| | | | |
|-----------------------------------|--|---|------------|
| Applicant Name | TCL Air Conditioner (Zhongshan) Co., Ltd. | | |
| Address | 59 Nantou Road West, Nantou, Zhongshan, Guangdong, China | | |
| Manufacturer | TCL Air Conditioner (Zhongshan) Co., Ltd. | | |
| Address | 59 Nantou Road West, Nantou, Zhongshan, Guangdong, China | | |
| Factory | Same as applicant | | |
| Product name | Air conditioner | | |
| Trademark | TCL | | |
| Model / type reference | TAC-30CHS/X8 | | |
| Rating and characteristics. | 230V~ 60Hz | | |
| Date of receipt of test item | 2019-11-06 | Date(s) of test | 2019-11-06 |
| Test specification/Standard | SASO 2663/2018 SASO GSO ISO 5151: 2010 | | |
| To compile | 谭民杰 |  | |
| audit | 王佳 |  | |
| The director of the approval | 张开结 |  | |
| Date of issue | 2019-11-06 | | |

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**The rating and performance tests for
Air conditioner**

| | |
|---|------|
| Test case verdicts | / |
| Test case does not apply to the test object | N.A. |
| Test item does meet the requirement | Pass |
| Test item does not meet the requirement | Fail |
| Procedure deviation | N.A. |
| Non-standard test method | N.A. |
| | |

General remarks

The test results presented in this report relate only to the item tested.

The test report is invalid without the official stamp of TCL.

The test report is invalid without the signatures of Author and Reviewer.



| Brief description of the tested sample(s) | | |
|---|--|---|
| 1 | Ratings | |
| | Rated voltage/rated voltage range (V) | 230 |
| | Rated frequency (Hz) | 60 |
| | Rated input (W) | Cooling (T1) : 2129 Cooling (T3) : 2529 Heating 1944 |
| | Rated capacity (Btu/h) | Cooling (T1) : 26400 Cooling (T3) : 22000 Heating: 7000W |
| | Rated current (A) | N/A |
| 2 | Type of power supply | <input checked="" type="checkbox"/> Single phase <input type="checkbox"/> Three phase |
| 3 | Construction of the unit | <input checked="" type="checkbox"/> Split type <input type="checkbox"/> Single packaged type <input type="checkbox"/> Multi-split type |
| 4 | Type of the unit considering if it has the air ducts | <input type="checkbox"/> Spot <input type="checkbox"/> Single-duct <input type="checkbox"/> Double ducts |
| 5 | The number of the indoor units if multi-split type | |
| 6 | Type of the indoor unit if split type | <input checked="" type="checkbox"/> Wall-mounted <input type="checkbox"/> Free-standing <input type="checkbox"/> Ceiling-mounted <input type="checkbox"/> Other type |
| 7 | Type of outdoor unit if split type | <input checked="" type="checkbox"/> Free-standing <input type="checkbox"/> Other type |
| 9 | Supplementary heating element | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 10 | Operation function | <input checked="" type="checkbox"/> Cooling mode and heating mode <input type="checkbox"/> Cooling only <input type="checkbox"/> Heating only |
| 11 | Type of the refrigerant | As attach page |
| 12 | Mass of refrigerant (kg) | As attach page |
| 13 | Compressor information | As attach page |
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Photo of nameplate:

| | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------------------|-----------------------------|--------------------------|--------------------|------------------------|-------|-------------------|------|------|--|-------|-------|----------------------------|-------|-------|--|-------|-------|--|---------------|-----------|
| <h1>TCL</h1> | | | | | | | | | | | | | | | | | | | | | | |
| SPLIT TYPE AIR CONDITIONER جهاز تكييف هواء حائط INDOOR UNIT مكيف الهواء الداخلي | | | | | | | | | | | | | | | | | | | | | | |
| Model موديل | TAC-30CHS/X8 | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td></td> <td>Cooling(T1) تبريد (تي 1)</td> <td>Heating التدفئة</td> </tr> <tr> <td>Capacity القدرة</td> <td>26400Btu/h (7.75kW)</td> <td>7000W</td> </tr> <tr> <td>Current التيار</td> <td>9.4A</td> <td>8.6A</td> </tr> <tr> <td>Rated Current (IEC60335) تيار القدرة المقدر</td> <td>17.9A</td> <td>14.5A</td> </tr> <tr> <td>Power Input مدخل الطاقة</td> <td>2129W</td> <td>1944W</td> </tr> <tr> <td>Rated Power Input (IEC60335) مدخل القدرة المقدر</td> <td>3300W</td> <td>2700W</td> </tr> <tr> <td>EER/COP معدل كفاءة الطاقة للتبريد/الحرارة</td> <td>12.40(Btu/hW)</td> <td>3.60(W/W)</td> </tr> </table> | | Cooling(T1) تبريد (تي 1) | Heating التدفئة | Capacity القدرة | 26400Btu/h (7.75kW) | 7000W | Current التيار | 9.4A | 8.6A | Rated Current (IEC60335) تيار القدرة المقدر | 17.9A | 14.5A | Power Input مدخل الطاقة | 2129W | 1944W | Rated Power Input (IEC60335) مدخل القدرة المقدر | 3300W | 2700W | EER/COP معدل كفاءة الطاقة للتبريد/الحرارة | 12.40(Btu/hW) | 3.60(W/W) |
| | Cooling(T1) تبريد (تي 1) | Heating التدفئة | | | | | | | | | | | | | | | | | | | | |
| Capacity القدرة | 26400Btu/h (7.75kW) | 7000W | | | | | | | | | | | | | | | | | | | | |
| Current التيار | 9.4A | 8.6A | | | | | | | | | | | | | | | | | | | | |
| Rated Current (IEC60335) تيار القدرة المقدر | 17.9A | 14.5A | | | | | | | | | | | | | | | | | | | | |
| Power Input مدخل الطاقة | 2129W | 1944W | | | | | | | | | | | | | | | | | | | | |
| Rated Power Input (IEC60335) مدخل القدرة المقدر | 3300W | 2700W | | | | | | | | | | | | | | | | | | | | |
| EER/COP معدل كفاءة الطاقة للتبريد/الحرارة | 12.40(Btu/hW) | 3.60(W/W) | | | | | | | | | | | | | | | | | | | | |
| Indoor Air Volume حجم تدفق الهواء | 1500m ³ /h | | | | | | | | | | | | | | | | | | | | | |
| Maximum allowable pressure الحد الأقصى للضغط | 4.5MPa | | | | | | | | | | | | | | | | | | | | | |
| Operating Pressure الضغط | <table border="1"> <tr> <td>Discharge ضغط الإطلاق</td> <td>4.5MPa</td> </tr> <tr> <td>Suction ضغط الاستنشاق</td> <td>1.9MPa</td> </tr> </table> | Discharge ضغط الإطلاق | 4.5MPa | Suction ضغط الاستنشاق | 1.9MPa | | | | | | | | | | | | | | | | | |
| Discharge ضغط الإطلاق | 4.5MPa | | | | | | | | | | | | | | | | | | | | | |
| Suction ضغط الاستنشاق | 1.9MPa | | | | | | | | | | | | | | | | | | | | | |
| Noise الضجيج | 51dB(A) | | | | | | | | | | | | | | | | | | | | | |
| Weight الوزن | 18kg | | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage/Frequency التردد/الجهد الكهربائي | 230V~/ 60Hz | | | | | | | | | | | | | | | | | | | | | |
| Serial number: الرقم التسلسلي Made in China صنع في الصين | | | | | | | | | | | | | | | | | | | | | | |

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|--|---|-----------------------------|-----------------------------|-----------------------------|--------------------|--------------------|------------------------|------------------------|-------|-------------------|------|-------|------|--|-------|-------|-------|----------------------------|-------|-------|-------|--|-------|-------|-------|--|---------------|--------------|-----------|
| <h1>TCL</h1> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SPLIT TYPE AIR CONDITIONER جهاز تكييف هواء حائط OUTDOOR UNIT مكيف الهواء الخارجي | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Model موديل | TAC-30CHS/X8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <tr> <td></td> <td>Cooling(T1) تبريد (تي 1)</td> <td>Cooling(T3) تبريد (تي 3)</td> <td>Heating التدفئة</td> </tr> <tr> <td>Capacity القدرة</td> <td>26400Btu/h (7.75kW)</td> <td>22000Btu/h (6.45kW)</td> <td>7000W</td> </tr> <tr> <td>Current التيار</td> <td>9.4A</td> <td>11.2A</td> <td>8.6A</td> </tr> <tr> <td>Rated Current (IEC60335) تيار القدرة المقدر</td> <td>17.9A</td> <td>17.9A</td> <td>14.5A</td> </tr> <tr> <td>Power Input مدخل الطاقة</td> <td>2129W</td> <td>2529W</td> <td>1944W</td> </tr> <tr> <td>Rated Power Input (IEC60335) مدخل القدرة المقدر</td> <td>3300W</td> <td>3300W</td> <td>2700W</td> </tr> <tr> <td>EER/COP معدل كفاءة الطاقة للتبريد/الحرارة</td> <td>12.40(Btu/hW)</td> <td>8.70(Btu/hW)</td> <td>3.60(W/W)</td> </tr> </table> | | Cooling(T1) تبريد (تي 1) | Cooling(T3) تبريد (تي 3) | Heating التدفئة | Capacity القدرة | 26400Btu/h (7.75kW) | 22000Btu/h (6.45kW) | 7000W | Current التيار | 9.4A | 11.2A | 8.6A | Rated Current (IEC60335) تيار القدرة المقدر | 17.9A | 17.9A | 14.5A | Power Input مدخل الطاقة | 2129W | 2529W | 1944W | Rated Power Input (IEC60335) مدخل القدرة المقدر | 3300W | 3300W | 2700W | EER/COP معدل كفاءة الطاقة للتبريد/الحرارة | 12.40(Btu/hW) | 8.70(Btu/hW) | 3.60(W/W) |
| | Cooling(T1) تبريد (تي 1) | Cooling(T3) تبريد (تي 3) | Heating التدفئة | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capacity القدرة | 26400Btu/h (7.75kW) | 22000Btu/h (6.45kW) | 7000W | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Current التيار | 9.4A | 11.2A | 8.6A | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Power Input مدخل الطاقة | 2129W | 2529W | 1944W | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Power Input (IEC60335) مدخل القدرة المقدر | 3300W | 3300W | 2700W | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EER/COP معدل كفاءة الطاقة للتبريد/الحرارة | 12.40(Btu/hW) | 8.70(Btu/hW) | 3.60(W/W) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum allowable pressure الحد الأقصى للضغط | 4.5MPa | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Pressure الضغط | <table border="1"> <tr> <td>Discharge ضغط الإطلاق</td> <td>4.5MPa</td> </tr> <tr> <td>Suction ضغط الاستنشاق</td> <td>1.9MPa</td> </tr> </table> | Discharge ضغط الإطلاق | 4.5MPa | Suction ضغط الاستنشاق | 1.9MPa | | | | | | | | | | | | | | | | | | | | | | | | |
| Discharge ضغط الإطلاق | 4.5MPa | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Suction ضغط الاستنشاق | 1.9MPa | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Noise الضجيج | 55dB(A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Weight الوزن | 60kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated Voltage/Frequency التردد/الجهد الكهربائي | 230V~/ 60Hz | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Refrigerant/Charge غاز التبريد / الكمية | R410A/2.000kg | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Outdoor Unit WaterProof Protection IPX4 درجة الحماية من الماء لمكيف الهواء الخارجي X4 اي بي | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Serial number: الرقم التسلسلي Made in China صنع في الصين | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Photo of the tested sample:



Photo of compressor:



Summary

| Test method | | Enthalpy test room |
|----------------------|---|--------------------|
| COOLING CAPACITY(T1) | Total cooling capacity in Btu/h | 26500 |
| | Air conditioner power consumption in W | 2120 |
| | Energy Efficiency Ratio(EER) in Btu/h/w | 12.50 |
| COOLING CAPACITY(T3) | Total cooling capacity in Btu/h | 22200 |
| | Air conditioner power consumption in W | 2520 |
| | Energy Efficiency Ratio(EER) in Btu/h/w | 8.81 |
| HEATING CAPACITY | Total heating capacity in W | 7050 |
| | Air conditioner power consumption in W | 1930 |
| | Energy Efficiency Ratio(COP) | 3.65 |

Test Result: **Pass** **Fail****Note: If failed, it shall be indicated which part it was fail in.**

1- Sample Information

| | | | | |
|----------------------|--|---|------------|-------------|
| Brand | TCL | | | |
| Model No. | System (if application) | KT3FR-63GW/YXA(E/6)(AVY00) | | |
| | Indoor (split system only) | / | | |
| | Outdoor (split system only) | / | | |
| Serial number | Indoor: G440N0200100G3250002 | Outdoor: G440W0200100G3250002 | | |
| Air-Conditioner Type | Split air conditioner | | | |
| Air Distribution | Two way (Up-down) | | | |
| Type of system | R410A | Mass of Refrigerant (kg) | 2.000 | |
| Heat transfer | Cooling only and heat pump type | | | |
| Voltage(V) | 230 | | | |
| Phase | 1ph | | | |
| Hz | 60 | | | |
| Compressor | Type | Hermetic motor-compressor | | |
| | Brand | HIGHLY | | |
| | Model Name | ASH215DG-C8DU | | |
| | Maker | SHANGHAI HIGHLY ELECTRICAL APPLIANCES CO., LTD | | |
| | Country of Origin | China | | |
| Indoor Fan motor | Type | DC motor | | |
| | Brand | BROAD-OCEAN/Welling | | |
| | Model | 210900290B | | |
| | Maker | ZHONGSHAN BROAD-OCEAN MOTOR Co., LTD. Guangdong Welling Motor Manufacturing Co., Ltd | | |
| | Country of Origin | China | | |
| Outdoor Fan motor | Type | AC motor | | |
| | Brand | BROAD-OCEAN/Welling | | |
| | Model | 1170040154 | | |
| | Maker | ZHONGSHAN BROAD-OCEAN MOTOR Co., LTD. Guangdong Welling Motor Manufacturing Co., Ltd | | |
| | Country of Origin | China | | |
| Evaporator | Volume(mm) | 895mm x 378 mm x 38.1 mm | | |
| | Type | Hydrophilic & Louver Fin; Innergroover tube type | | |
| Condenser | Volume(mm) | 1025mm x 756 mm x 36.4 mm | | |
| | Type | Louver or Corrugated Fin; Innergroover tube type | | |
| Refrigerant | Type: R410A | 2000g | | |
| Dimensions | Indoor(mm) | Width :1186 | Depth :340 | Height :258 |
| | Outdoor(mm) | Width :953 | Depth :433 | Height :808 |



2- Test report

2.1 Cooling capacity test (T1)

Data to be recorded for Enthalpy cooling capacity tests

| | |
|--|------------|
| Test Duration(min) | 90 |
| Power supplied | 220-240V |
| Applied voltage (V) | 230.0 |
| Frequency (Hz) | 60 |
| Current (A) | 9.50 |
| Power Consumption (W) | 2120 |
| Power factor | 97.0% |
| Fan speed settings | High speed |
| Dry bulb temperature, indoor (°C) | 27.02 |
| Wet bulb temperature, indoor (°C) | 19.03 |
| Dry bulb temperature, outdoor (°C) | 35.01 |
| Wet bulb temperature, outdoor (°C) | 23.98 |
| Barometer (Pa) | 100.21 |
| Indoor cooling capacity (Btu/h) | 26500 |
| Sensible cooling capacity(Btu/h) | 21200 |
| Latent cooling capacity (dehumidifying capacity) (Btu/h) | 5300 |
| Static pressure(Pa) | 232 |
| Volume flow rate of air(m3/hr) | 1503 |
| Cooling capacity (Btu/h) | 26500 |
| EER(Btu/h)/W | 12.50 |



2.2 Test record of cooling capacity test (T3)

| | |
|--|------------|
| Test Duration(min) | 90 |
| Power supplied | 220-240V |
| Applied voltage (V) | 230.0 |
| Frequency (Hz) | 60 |
| Current (A) | 11.30 |
| Power Consumption (W) | 2520 |
| Power factor | 97.0% |
| Fan speed settings | High speed |
| Dry bulb temperature, indoor (°C) | 29.00 |
| Wet bulb temperature, indoor (°C) | 19.00 |
| Dry bulb temperature, outdoor (°C) | 46.02 |
| Wet bulb temperature, outdoor (°C) | 24.01 |
| Barometer (Pa) | 100.40 |
| Indoor cooling capacity (Btu/h) | 22200 |
| Sensible cooling capacity(Btu/h) | 20202 |
| Latent cooling capacity (dehumidifying capacity) (Btu/h) | 1998 |
| Static pressure(Pa) | 243 |
| Volume flow rate of air(m3/hr) | 1578 |
| Cooling capacity (Btu/h) | 22200 |
| EER(Btu/h)/W | 8.81 |



2.3 Test record of heating capacity test (H1)

| | |
|--|------------|
| Test Duration(min) | 90 |
| Power supplied | 220-240V |
| Applied voltage (V) | 230 |
| Frequency (Hz) | 60 |
| Current (A) | 8.65 |
| Power Consumption (W) | 1930 |
| Power factor | 97.0% |
| Fan speed settings | High speed |
| Dry bulb temperature, indoor (°C) | 20.00 |
| Wet bulb temperature, indoor (°C) | 15.00 |
| Dry bulb temperature, outdoor (°C) | 7.01 |
| Wet bulb temperature, outdoor (°C) | 6.00 |
| Barometer (Pa) | 100.58 |
| Indoor heating capacity (W) | 7050 |
| Sensible heating g capacity (W) | 7050 |
| Latent heating capacity (dehumidifying capacity) (W) | / |
| Static pressure(Pa) | 234 |
| Volume flow rate of air(m3/hr) | 1509 |
| heating capacity W | 7050 |
| COP W/W | 3.65 |



2.4 Functional Performance – Cooling

| | | | |
|--|---|---------|---|
| Operability at Maximum cooling conditions at T3 conditions | <input checked="" type="checkbox"/> Tested <input type="checkbox"/> Declared | Result: | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |
| Minimum cooling at T3 conditions | <input checked="" type="checkbox"/> Tested <input type="checkbox"/> Declared | | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |
| Freeze-up drip at T3 conditions (non-ducted AC) | <input checked="" type="checkbox"/> Tested <input type="checkbox"/> Declared | | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |
| Condensate control and enclosure sweat performance | <input checked="" type="checkbox"/> Tested <input type="checkbox"/> Declared | | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |

2.5 Capacity tests at below condition were considered in this report.

| Mode | Indoor air temperature | | Outdoor air temperature | | Test voltage |
|-------------------|------------------------|----------|-------------------------|----------|--------------|
| | Dry bulb | Wet bulb | Dry bulb | Wet bulb | |
| Cooling mode (T1) | 27 | 19 | 35 | 24 | 230V, 60Hz |
| Cooling mode (T3) | 29 | 19 | 46 | 24 | 230V, 60Hz |
| Temperature (H1) | 20 | 15 | 7 | 6 | 230V, 60Hz |



Conclusion

| Cooling capacity test (for condition T1) | | | | | |
|--|-------|--------|-----------|--------------|---------|
| Mode | Rated | Tested | Verifying | Required EER | Verdict |
| Cooling capacity, Btu/h | 26400 | 26500 | 0.4% | ≥ 25080 | Pass |
| Cooling power input, W | 2129 | 2120 | -0.4% | ≤ 2235 | Pass |
| EER, Btu/W ·h | 12.40 | 12.50 | 0.8% | ≥ 11.80 | Pass |
| Cooling capacity test (for condition T3) | | | | | |
| Cooling capacity, Btu/h | 22000 | 22200 | 0.9% | ≥ 20900 | Pass |
| Cooling power input, W | 2529 | 2520 | -0.4% | ≤ 2655 | Pass |
| EER, Btu/W ·h | 8.70 | 8.81 | 1.3% | ≥ 8.30 | Pass |
| Heating capacity | | | | | |
| Heating capacity, W | 7000 | 7050 | 0.7% | ≥ 6650 | Pass |
| Heating power input, | 1944 | 1930 | -0.7% | ≤ 2041 | Pass |
| COP, WW | 3.60 | 3.65 | 1.5% | ≥ 3.42 | Pass |
| Estimated annual energy consumption (Kwh/Y): | 5748 | | | | |
| Energy class: (base on rated EER at T1) | D | | | | |

* Verifying limit for test T1

Cooling capacity $\geq 0.95 \times$ rated capacity

Cooling power input $\leq 1.05 \times$ rated

Heating capacity $\geq 0.95 \times$ rated capacity

Heating power input $\leq 1.05 \times$ rated

EER $\geq 0.95 \times$ rated

COP $\geq 0.95 \times$ rated

