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№： PMC20221009003

TEST REPORT

NAMEOF SAMPLE: Air Conditioner

APPLICANT: EL Araby United Company for Industrial and Commercial Investment

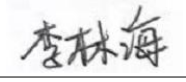
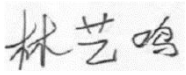
CLASSIFICATION OF TEST: Commission Test

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

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

TEST REPORT

The rating and performance testsfor Air-conditioner

Applicant Name..... :	EL Araby United Company for Industrial and Commercial Investment		
Address ..... :	12 Mohamed Sabry Abo Alam STR, Off Beirut STR, Heliopolis, Cairo, Egypt		
Manufacturer ..... :	EL Araby United Company for Industrial and Commercial Investment		
Address ..... :	12 Mohamed Sabry Abo Alam STR, Off Beirut STR, Heliopolis, Cairo, Egypt		
Factory ..... :	TCL Air Conditioner (Zhongshan) Co. Ltd.		
Address ..... :	No.59, Nantou Road West, Nantou, Zhongshan, Guangdong, 528427, China		
Product name ..... Trademark ..... Model / type reference ..... Rating and characteristics.	Air conditioner TORNADO AF-W24BHK 230V~ 60Hz		
Date of receipt of test item	2024-10-13	Date(s) of test	2024-10-13
Test specification/Standard	SASO 2663/2021 SASO GSO ISO 5151: 2017 ISO 16358-1 :2013/Cor 1 :2013/AMD1 :2019		
To compile	李林海		
audit	林艺鸣		
The director of the approval	赖福远		
Date of issue	2024-10-14		

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.

TCL空调器（中山）有限公司 测试中心 TEST CENTER TCL AIR CONDITIONER (ZHONGSHAN) CO.,LTD.

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） : 1942 Cooling （T3） : 2284 Heating /
	Rated capacity (Btu/h)	Cooling （T1） : 20000 Cooling （T3） : 16100 Heating /
	Rated current (A)	N/A
2	Type of power supply	☒ Single phase ☐ Three phase
3	Construction of the unit	☐ Split type ☒ Single packaged type ☐ Multi-split type
4	Type of the unit considering if it has the air ducts (A/C Configuration— Air Distribution)	☐ Spot ☐ Single-duct ☐ Double ducts ☒ Non Ducted
5	The number ofthe indoor units if multi-split type	
6	Type of the indoor unit if split type	☐ Wall-mounted ☐ Free-standing ☐ Ceiling-mounted ☒ Other type
7	Type of outdoor unit if split type	☐ Free-standing ☒ Other type
9	Supplementary heating element	☐ Yes ☒ No
10	Operation function	☐ Cooling mode and heating mode ☒ Cooling only ☐ Heating only
11	Type of the refrigerant	As attach page
12	Mass of refrigerant (kg)	As attach page
13	Compressor information	As attach page
14	Compressor stages type	☒ Fixed capacity unit ☐ Two-stage capacity unit ☐ Multi-stage capacity unit ☐ Variable capacity unit

Photo of nameplate:

TORNADO

WINDOW AIR CONDITIONER
مـكـيـف هـــواء نـافذة

Model موديل	AF-W24BHK	
	Cooling(T1) تبريد(تي ١)	Cooling(T3) تبريد(تي ٣)
Capacity القدرة	20000Btu/h (5.850kW)	16100Btu/h (4.710kW)
Current التيار	8.7A	10.2A
Rated Current (IEC60335) تيار القدرة المقدرة	17.5A	17.5A
Power Input مدخل الطاقة	1942W	2284W
Rated Power Input (IEC60335) مدخل القدرة المقدرة	3860W	3860W
EER معدل كفاءة الطاقة للتبريد	10.300 (Btu/h/W)	7.050 (Btu/h/W)
Air Volume حجم الهواء	750m³/h	
Maximum allowable pressure الحد الأقصى للضغط	4.5MPa	
Operating Pressure الضغط لضاغط الغاز — Discharge ضغط الإطلاق	4.5MPa	
Suction ضغط الاستشاق	1.5MPa	
Noise الضجيج — Inside الداخلي	56dB(A)	
Outside الخارجي	63dB(A)	
Weight الوزن	54kg	
Rated Voltage/Frequency التردد/ الجهد الكهربائي	230V~1 Phase/ 60Hz	
Refrigerant/Charge غاز التبريد / الكمية	R410A//0.840kg	
Outdoor Unit Water Proof Protection IPX4 درجة الحماية من الماء لمكيف الهواء الخارجي IPX4		

Serial number:
الرقم المسلسل

Made in China
صنع في الصين

Distributed by:
Company al-Hijaz al-Mutatawwirah Commercial
23432Jeddah,4343-7555Al-Rawdah,SaudiArabia
Info@alhijaz.com,920010526
Manufactured by:
EL Araby United Company for Industrial and Commercial Investment
12 Mohamed Sabry Abo Alam STR., Off Beirut STR., Heliopolis, Cairo, Egypt
شركة الحجاز المتطورة التجارية
23432 جده الامير سعود الفيصل ، حي الروضة 4343 – 7555

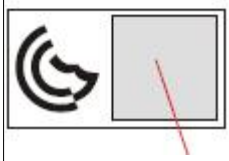


Photo of the tested sample:

TCL空调器（中山）有限公司
测试中心
TEST CENTER
TCL AIR CONDITIONER (ZHONGSHAN) CO.,LTD.

Photo of compressor:

TCL空调器（中山）有限公司
测试中心
TEST CENTER
TCL AIR CONDITIONER (ZHONGSHAN) CO.,LTD.

Summary

Test method		**Enthalpy test room**
COOLING CAPACITY(T1-Full load capacity)	Cotal cooling capacity in Btu/h	19373
	Air conditioner power consumption in W	1887
	Energy Efficiency Ratio(EER) in Btu/h/w	10.27
COOLING CAPACITY(T1-Half load capacity)	Cotal cooling capacity in Btu/h	/
	Air conditioner power consumption in W	/
	Energy Efficiency Ratio(EER) in Btu/h/w	/
COOLING CAPACITY(T3)	Cotal cooling capacity in Btu/h	16227
	Air conditioner power consumption in W	2246
	Energy Efficiency Ratio(EER) in Btu/h/w	7.22
HEATING CAPACITY	Cotal heating capacity in W	/
	Air conditioner power consumption in W	/
	Energy Efficiency Ratio(COP) in W/W	/

Test Result:

☒ **Pass** **Fail**

Note: If failed, it shall be indicated which part it was fail in.

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1- Sample Information

Brand	TORNADO			
Model No.	**System (if application)**	AF-W24BHK		
	Indoor (split system only)	/		
	Outdoor (split system only)	/		
Serial number	**Indoor: G452C0200200E4910005**	Outdoor:		
Air-Conditioner Type	Window air conditioner			
Air Distribution	Two way (Left-right)			
Type of system	R410A	Mass of Refrigerant (kg)	0.840	
Heat transfer	Cooling only			
Voltage(V)	230			
Phase	1ph			
Hz	60			
Compressor	**Type**	Hermetic motor-compressor		
	Brand	GMCC		
	Model Name	ASG190N1SKP		
	Maker	Zhejiang Meizhi Compressor Co.,Ltd.		
	Country of Origin	China		
Fan motor	**Type**	AC motor		
	Brand	Tongde		
	Model	22001-000159		
	Maker	Zhuhai city Tongde electric equipment co.,ltd.		
	Country of Origin	China		
Evaporator	**Volume(mm)**	454mm x 383 mm x 50.8 mm		
	Type	Hydrophilic & Louver Fin; Innergroover tube		
Condenser	**Volume(mm)**	677mm x 393.5 mm x 34.8 mm		
	Type	Louver or Corrugated Fin; Innergroover tube		
Refrigerant	**Type: R410A**	840g		
Dimensions	**Indoor(mm)**	**Width :660**	**Depth :680**	Height :430
	Outdoor(mm)	/	/	/

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2- Test report

2.1 Cooling capacity test(T1-Full load capacity)

Data to be recorded for Enthalpy cooling capacity tests

Test Duration(min)	90
Power supplied	230V~1 Phase/ 60Hz
Applied voltage (V)	230.0
Frequency (Hz)	60
Current (A)	8.27
Power Consumption (W)	1887
Power factor	99.2%
Fan speed settings	High speed
Dry bulb temperature, indoor (C)	27.00
Wet bulb temperature, indoor (C)	19.00
Dry bulb temperature, outdoor (C)	34.99
Wet bulb temperature, outdoor (C)	24.00
Barometer (Pa)	101.27
Indoor cooling capacity (Btu/h)	19373
Sensible cooling capacity (Btu/h)	14256
Latent cooling capacity (dehumidifying capacity) (Btu/h)	5117
Static pressure(Pa)	362.1
Volume flow rate of air(m3/hr)	720
Cooling capacity (Btu/h)	19373
EER(Btu/h)/W	10.27

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2.2 Cooling capacity test (T1-Half load capacity)

Test Duration(min)	/
Power supplied	/
Applied voltage (V)	/
Frequency (Hz)	/
Current (A)	/
Power Consumption (W)	/
Power factor	/
Fan speed settings	/
Dry bulb temperature, indoor (℃)	/
Wet bulb temperature, indoor (℃)	/
Dry bulb temperature, outdoor (℃)	/
Wet bulb temperature, outdoor (℃)	/
Barometer (Pa)	/
Indoor cooling capacity (Btu/h)	/
Sensible cooling capacity (Btu/h)	/
Latent cooling capacity (dehumidifying capacity) (Btu/ h)	/
Static pressure(Pa)	/
Volume flow rate of air(m3/hr)	/
Cooling capacity (Btu/h)	/
EER(Btu/h)/W	/

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2.3 Test record of cooling capacity test (T3)

Test Duration(min)	90
Power supplied	230V~1 Phase/ 60Hz
Applied voltage (V)	230.0
Frequency (Hz)	60
Current (A)	9.85
Power Consumption (W)	2246
Power factor	99.1%
Fan speed settings	High speed
Dry bulb temperature, indoor (C)	29.01
Wet bulb temperature, indoor (C)	19.00
Dry bulb temperature, outdoor (C)	45.96
Wet bulb temperature, outdoor (C)	24.00
Barometer (Pa)	99.92
Indoor cooling capacity (Btu/h)	16227
Sensible cooling capacity (Btu/h)	13208
Latent cooling capacity (dehumidifying capacity) (Btu/ h)	3019
Static pressure(Pa)	255.74
Volume flow rate of air(m3/hr)	712
Cooling capacity (Btu/h)	16227
EER(Btu/h)/W	7.22

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2.4 Test record of heating capacity test (H1)

Test Duration(min)	/
Power supplied	/
Applied voltage (V)	/
Frequency (Hz)	/
Current (A)	/
Power Consumption (W)	/
Power factor	/
Fan speed settings	/
Dry bulb temperature, indoor (℃)	/
Wet bulb temperature, indoor (℃)	/
Dry bulb temperature, outdoor (℃)	/
Wet bulb temperature, outdoor (℃)	/
Barometer (Pa)	/
Indoor heating capacity (W)	/
Sensible heating g capacity (W)	/
Latent heating capacity (dehumidifying capacity) (W)	/
Static pressure(Pa)	/
Volume flow rate of air(m3/hr)	/
heating capacity W	/
COP W / W	/

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2.5 Functional Performance –Cooling&Heating

Operability at Maximum cooling conditions at 52℃	☒ Tested ☐ Declared	Result:	☒ Pass ☐ Fail ☐ Non Relevant
Operability at Minimum cooling conditions	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant
Freeze up air blockage and freeze-up drip	☒ Tested ☐ Declared		☒ Pass ☐ Fail ☐ Non Relevant
Condensate control and enclosure sweat performance	☒ Tested ☐ Declared		☒ Pass ☐ Fail ☐ Non Relevant
Operability at Maximum heating conditions	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant
Operability at Minimum heating conditions	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant
Verification of automatic defrost	☒ Tested ☐ Declared		☐ Pass ☐ Fail ☒ Non Relevant

2.6 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-Full load capacity)	**27**	**19**	**35**	**24**	230V, 60Hz
Cooling mode (T1-Half load capacity)	**27**	**19**	**35**	**24**	230V, 60Hz
Cooling mode (T3)	**29**	**19**	**46**	**24**	230V, 60Hz
Temperature (H1)	**20**	**15**	**7**	**6**	230V, 60Hz

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Conclusion

Cooling capacity test (for condition T1- Full load capacity)					
Mode	**Rated**	**Tested**	**Verifying**	**Required EER**	Verdict
Cooling capacity, Btu/h	**20000**	**19373**	**-3.14%**	**>=19000**	Pass
Cooling power input, W	**1942**	**1887**	**-2.83%**	**<=2039**	Pass
EER, Btu/W ·h	**10.30**	**10.27**	**-0.29%**	**>=9.80**	Pass
Cooling capacity test (for condition T1- Half load capacity)					
Cooling capacity, Btu/h	/	/	/	/	/
Cooling power input, W	/	/	/	/	/
EER, Btu/W ·h	/	/	/	/	/
Cooling capacity test (for condition T3)					
Cooling capacity, Btu/h	**16100**	**16227**	**0.79%**	**>=15295**	Pass
Cooling power input, W	**2284**	**2246**	**-1.66%**	**<=2398**	Pass
EER, Btu/W ·h	**7.05**	**7.22**	**2.41%**	**>=7. 00**	Pass
Heating capacity					
Heating capacity, W	/	/	/	/	Pass
Heating power input, W	/	/	/	/	Pass
COP, WW	/	/	/	/	Pass
CSEC (Kwh/Y):		7446			
Energy class: (base on rated EER at T1)		F			
SEER class		F			
SEER		8.60			

Cooling capacity(T1 Full load capacity)	≥ 0.95 × rated capacity
Cooling power input(T1 Full load capacity)	≤ 1.05× rated
Cooling capacity(Half load capacity)	≥ 0.95 × rated capacity
Cooling capacity(T3)	≥ 0.95 × rated capacity
Cooling power input(T3)	≤ 1.05× rated
Heating capacity	≥ 0.95 × rated capacity
Heating power input	≤ 1.05× rated
EER(T1 Full load capacity)	≥ 0.95 × rated
EER(T3)	≥ 0.95 × rated
COP	≥ 0.95 × rated

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Nergy Rating Classification

Table 6 – Seasonal Energy Efficiency Ratio (SEER) Classification			
Bar color	**Energy class**		**SEER limits (Btu/W.h)**
Dark green	أ	A	SEER ≥ 18.0
Green	ب	B	18.0> SEER ≥ 15.0
Light green	ج	C	15.0> SEER ≥ 12.5
Yellow	د	D	12.5> SEER ≥ 10.0
Orange	هـ	E	10.0> SEER ≥ 9.0
Red	و	F	9.0> SEER ≥ 8.0
Dark Red	ز	G	8.0> SEER

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