

TEST REPORT

PPP 11094A: 2012

Test report for ERP – for comfort fans Ecodesign requirements for air conditioners and – comfort fans Implementation measure EU 206/2012

Report Reference No.: AOC250509004ER

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Lab Supervisor

Date of issue.....: 2025-05-27

Testing Laboratory.....: Shenzhen AOCE Electronic Technology Service Co., Ltd

Address.....: Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China

Testing location/address.....: Same as above

Applicant's name.....: Ningbo Kadeer Electrical Appliances Co., Ltd.

Address.....: Guanhaiwei Industry Development Zone, Cixi, Ningbo city, Zhejiang province, China

Manufacturer name.....: Ningbo Kadeer Electrical Appliances Co., Ltd.

Address.....: Guanhaiwei Industry Development Zone, Cixi, Ningbo city, Zhejiang province, China

Factory name.....: Ningbo Kadeer Electrical Appliances Co., Ltd.

Address.....: Guanhaiwei Industry Development Zone, Cixi, Ningbo city, Zhejiang province, China

Test Object.....: TOWER AIR COOLER

Trade Mark.....: N/A

Model / Type reference.....: F-ST45BGR

Rating(s).....: 220-240V~, 50-60Hz, 65W

Test specification:

Standard: The report test form is based on the following requirements:
Commission Regulation (EU) No 206/2012:06.03.2012, (EU) No 626/2011, Only the requirements for comfort fans are taken into account test method:
EN 50564:2011
EN IEC 60879:2019
EN IEC 60704-2-7:2020

Test procedure: Test report

Non-standard test method: N/A

Test Report Form No.....: IECEE TRF No. (EU) No 206/2012

Test Report Form(s) Originator: AOCE

Master TRF.....: 2019-11-30

Type of test object: Portable appliance	
Order descriptions	☒ Complete test according to TFR ☐ Partial test according to manufacturer's specifications ☐ Preliminary test ☐ Spot check ☐ Others
Test item particulars:	
Type of fans acc. to mounting.....:	☐ ceiling fans ☐ deck-head fans ☐ table fans ☐ pedestal fans ☐ tower fans ☐ box fans ☒ floor standing fans ☐ other fans
Type of fans acc. to function..... :	Non-oscillating / Oscillating
Dimeter of blade sweep.....:	N/A
Number of blades.....:	N/A
Nominal air flow rate(FN) [m ³ /min]..... :	N/A
Nominal electric power (PN) [W].....:	65W
Attachments	
Test equipment	
General remarks	
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory.	

Summary of Testing:**Tests performed (name of test and test clause):**

☐abweichung festgestellt / deviation(s) found
☐keine Abweichung festgestellt / no deviation(s) found
 EU 206/2012
 (EU) 626/2011
 EN 50564:2011
 EN IEC 60879:2019
 EN IEC 60704-2-7:2020

Testing location:

Shenzhen AOCE Electronic Technology Service Co., Ltd
 Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu Industrial Park, Fuhai Street, Baoan District, Shenzhen, Guangdong, China

The product meets the Stage 2 (1 January 2014) requirement of the implementation measure.

Remark:

	Stage 1	Stage 2
Requirement	1 January 2013	1 January 2014
Products	Comfort fans	Comfort fans
Standby & OFF mode	≤ 1.00W (2.00W for information display)	≤ 0.5W (1.00W for information display)
Ower management	--	x
Information requirements	x	x

The manufacturer shall draw up technical documentation, provided information of free access websites and have laboratories information available acc. to IM 206/2012 Annex I item 3 (a) and 3 (b)

Table 3: Information requirements

Information to identify the model(s) to which the information relates to [fill in as necessary]

Description	Symbol	Value	Unit
Maximum fan flow rate	F	27.483	m ³ /min
Fan power input	P	48.2	W
Service value	Sv	0.57	(m ³ /min)/W
Standby power consumption	P _{SB}	0.63	W
Off power consumption	P _{OFF}	--	W
Fan sound power level	L _{WA}	44.0	dB(A)
Maximum air velocity	C	3.2	Meters/sec
Annual Electricity Consumption	Q	54.76	Kwh/a

Possible Test Case Verdicts:

Test case does not apply to the test object.....: N/A (Not Applicable)

Test object does meet the requirement.....: P (Pass)

Test object does not meet the requirement.....: F (Fail)

Testing:

Ambient temperature of tested: 25.0 °C

Test inputs.....: 230V~

Sample size for tested: 1 pcs

Date of receipt of test item.....: 2025-04-28

Date (s) of performance of tests.....: 2025-04-28 to 2025-05-09

General Remarks:

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Shenzhen AOCE Electronic Technology Service Co., Ltd

Copy of marking plate:**TOWER AIR COOLER**

Model: F-ST45BGR

Input: 220-240V~, 50-60Hz, 65W



Ningbo Kadeer Electrical Appliances Co., Ltd.
MADE IN CHINA

Characteristic data:

(not shown on the marking plate)

Dimensions: --

Weight (kg): --kg

REGULATION (EU) No 206/2012			
Clause	Requirement + Test	Result – Remark	Verdict
Article 1	Subject matter and scope		--
	This Regulation establishes eco-design requirements for the placing on the market of comfort fans with an electric fan power input < 125W		P
Annex I	Ecodesign requirements		--
2	Efficiency requirements		--
(a)	from 1 January 2013		--
	comfort fans shall fulfil the requirements on standby and off mode		N/A
	Off mode		--
	Power consumption of equipment in any off mode: not exceed 1,00 W	P _{off} : W	N/A
	Standby mode		--
	The power consumption of equipment in any condition:		--
	providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, not exceeding 1,00 W	P _{SB} : W	N/A
	providing only information or status display, or providing only a combination of reactivation function and information or status display, not exceeding 2,00 W	P _{SB} : W	N/A
	Availability of standby and/or off mode		--
	Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		P
(c)	from 1 January 2014		--
	comfort fans shall fulfil the requirements on standby and off mode		P
	Off mode		N/A
	Power consumption of equipment in any off mode: not exceed 0,50 W	P _{off} :	N/A
	Standby mode		P
	The power consumption of equipment in any condition:		P

REGULATION (EU) No 206/2012			
Clause	Requirement + Test	Result – Remark	Verdict
	providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, not exceeding 0,50 W		N/A
	providing only information or status display, or providing only a combination of reactivation function and information or status display, not exceeding 1,00 W	P _{SB} : 0.63W	P
	Availability of standby and/or off mode		--
	Equipment shall, except where this is inappropriate for the intended use, provide off mode and/or standby mode, and/or another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source.		P
	Power management		--
	When equipment is not providing the main function, or when other energy- using roduct(s) are not dependent on its functions, equipment shall, unless inappropriate for the intended use, offer a power management function, or a similar function, that switches equipment after the shortest possible period of time appropriate for the intended use of the equipment, automatically into: —standby mode, or —off mode, or —another condition which does not exceed the applicable power consumption requirements for off mode and/or standby mode when the equipment is connected to the mains power source. The power management function shall be activated before delivery.		N/A
3	PRODUCT INFORMATION REQUIREMENTS (From 1 January 2013)		--
(e)	Information requirements for comfort fans		--
	Maximum fan flow rate F [m³ /min]	See appended table	P
	Fan power input P [W]	See appended table	P
	Service value SV [(m3/min)/W]	See appended table	P
	Standby mode consumption P _{sb} [W]	See appended table	P
	Fan sound power level L _{wa} [dB(A)]	See appended table	P
	Maximum air velocity c [meters/sec]		P
	Measurement standard for service value	See appended table	P
	Contact details for obtaining more information		N/A
Annex II	Measurements and Calculation		--

REGULATION (EU) No 206/2012			
Clause	Requirement + Test	Result – Remark	Verdict
1.	Measurement Methodes		--
	For the purposes of compliance and verification of compliance with the requirements of this Regulation, measurements and calculations shall be made using harmonized standards the reference numbers of which have been published in the Official Journal of European Union, or other reliable, accurate and reproducible method, which takes into account the generally recognized state of the art methods, and whose results are deemed to be of low uncertainty. They shall fulfil all of the following technical parameters.		P
6.	The comfort fan efficiency shall be determined on the basis of the nominal air flow rate of the unit divided by the nominal electric power input of the unit.		P
	Measurement of Airflow and Power IEC 60879:1986+cor1:1992		--
9	Tests		--
9.3	Test voltage and frequency		--
9.3.1	Rated voltage or rated voltage range [V]	230V~	P
	The test voltage shall be:		--
	- Rated voltage if a rated voltage is indicated		N/A
	- The most unfavorable voltage if two or more distinct rated voltage is specified		N/A
	- The highest and the lowest value of the range when voltage range is in excess of 10% of the mean of range		N/A
	- The mean of upper and lower limits when the voltage range is 10% or less of the mean of the range	230V	P
9.3.2	Rated frequency or rated frequency range		P
	The test frequency shall be:		--
	- Rated frequency if a rated frequency is indicated	50Hz	P
	- The frequency which gives the most unfavorable results if a range of frequency is indicated		N/A
	- 50 Hz or 60 Hz whichever is more unfavorable if no rated frequency is marked		N/A
9.3.3	Limits of voltage variation not exceed $\pm 1\%$ of test voltage		P
9.4	Test for air performance		--

REGULATION (EU) No 206/2012			
Clause	Requirement + Test	Result – Remark	Verdict
	Ambient temperature [20±5°C]		P
9.4.1	Ceiling/deck-head type fans		--
	Test chamber specified as figure 2 and 3		N/A
	Height of fan [3±0.01 m]		N/A
	Testing instrument Vane anemometer having an internal diameter not exceeding 100mm		N/A
	Procedure for test		--
	Run-in to steady condition at test voltage		N/A
	Running at full speed at the test voltage		N/A
	Measure the air delivery (Maximum fan flow rate) as specified		N/A
9.4.2	Table/cabin and pedestal type fans		--
	Test chamber as specified		P
	Distance to walls as specified		P
	Testing instrument Vane anemometer having an internal diameter not exceeding 100mm		P
	Arrangement of apparatus specified as:		--
	Figure 4, for pedestal fans		P
	Figure 5, for table fans		N/A
	Other test set-up		N/A
	Procedure for test		--
	Run-in to steady condition at test voltage		N/A
	Running at full speed at the test voltage		N/A
	Measure the air delivery (Maximum fan flow rate) as specified		P
9.6	Measurement of power factor (for a.c. fans only) and power input		--
	Supplied at the test voltage and frequency		P
	Set at highest speed Oscillating mechanism shall be in action		P
	Measured power input [W]	See appended table	P
	Measurement of Standby & Off Power EN 50564:2011		--
0	General		--
0.1	Ambient condition met requirement of: Ambient temperature (23 ±5)°C Airspeed <0.5m/s (EN 50564 cl.4.2)		P

REGULATION (EU) No 206/2012			
Clause	Requirement + Test	Result – Remark	Verdict
0.2	Where the product has an ambient light sensor that affects the power consumption, the test shall be carried out with controlled ambient light conditions. Where the illuminance levels are externally defined (in a test procedure or in the instructions for use), these values shall be used. Where no illuminance levels are stated or defined, reference illuminance levels of >300 lx and <10 lx shall be used. (EN 50564 cl.4.2)		N/A
0.3	Power source meets requirement of: Voltage 230V±1% Frequency 50Hz ±1% THD value <2% ratio of peak value of test voltage to rms of 1.34 to 1.49 (EN 50564 cl.4.3.1, 4.3.2)		P
0.4	Power measurement uncertainty		--
	Measurements of power of 0,5 W or greater shall be made with an uncertainty of less than or equal to 2 % at the 95 % confidence level. Measurements of power of less than 0,5 W shall be made with an uncertainty of less than or equal to 0,01 W at the 95 % confidence level.		P
0.5	Test approach used		--
	- Sampling method Note: to be used when power is not stable (cyclic or unstable) or limited duration (EN 50564 cl.5.3.2)		P
	- Average reading method Note: to be used when power and mode is stable (EN 50564 cl.5.3.3)		N/A
	--Average power approach		N/A
	--Accumulated energy approach Direct meter reading method Note: to be used when power and mode is stable, not for verification purposes (EN 50564 cl.5.3.4)		N/A
	Test circuit		--
	Test circuit acc. to Fig.1 is used		P
	Other test circuit is used		N/A

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Clause	Requirement + Test	Result – Remark	Verdict
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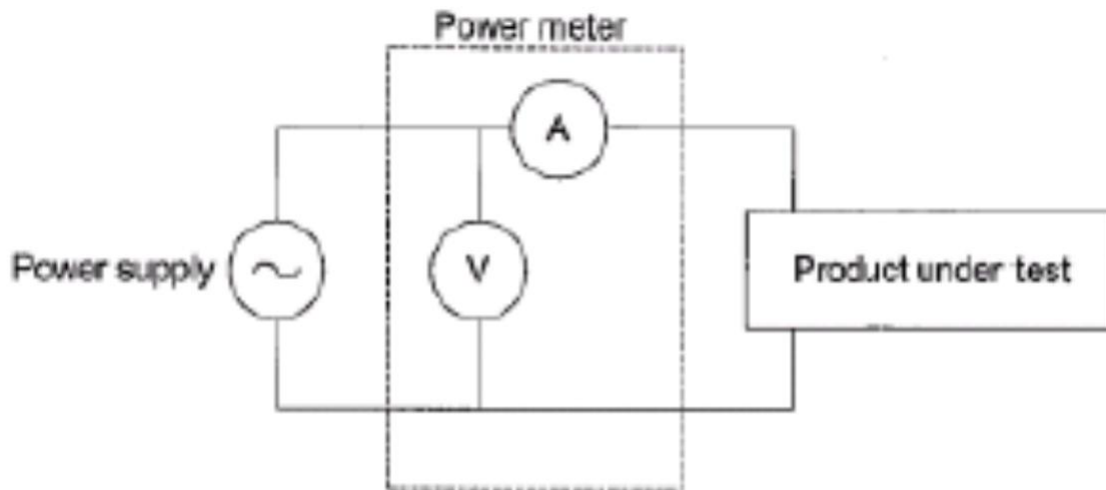


Fig. 1 Test circuit

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Clause	Requirement + Test	Result – Remark	Verdict
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Table 1		Measurement of maximum fan flow rate air of ceiling/deck-head type fans					N/A	
Model					Fan blade size/diameter:			
Voltage(V)	Frequency(Hz)	Current(mA)	Power (W)		Power factor	Fan speed (rpm)	Remark	
--	--	--	--		--	--	--	
Readings group	Mean radius [mm]	Air velocity [m/min]				Mean velocity [m/min	Section of annulus [m²]	Air delivery of each annulus [m³/min]
		A	AA	B	BB			
1	--	--	--	--	--	--	--	--
2	--	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--
4	--	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--	--
6	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--
13	--	--	--	--	--	--	--	--
Sum of air delivery (F)								--
Calculated Service Value: SV = F / P								--
Remark:								
Setting:								
Distance of vane anemometer to plan of fan blades:								
Oscillating mechanism:								

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Clause	Requirement + Test	Result – Remark	Verdict
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Table 2	Measurement of maximum fan flow rate air of table/cabin and pedestal type fans					P
Model	F-ST45BGR			Fan blade size/diameter:		--
Voltage(V)	Frequency (Hz)	Current(A)	Power (W)	Power factor	Fan speed (rpm)	Remark
230	50	0.211	48.2	0.988	--	--
Readings group	Mean radius [mm]	Air velocity [m/min]		Mean velocity [m/min]	Section of annulus [m ²]	Air delivery of each annulus [m ³ /min]
		Left	Right			
1	20	135.66	141.71	138.69	0.0036	0.499
2	60	111.41	118.18	114.80	0.0158	1.814
3	100	93.67	84.83	89.25	0.0231	2.062
4	140	87.39	76.21	81.80	0.0330	2.699
5	180	79.18	75.43	77.31	0.0425	3.285
6	220	61.24	61.21	61.23	0.0489	2.994
7	260	56.13	54.45	55.29	0.0586	3.240
8	300	46.18	47.66	46.92	0.0684	3.209
9	340	31.32	37.29	34.31	0.0705	2.419
10	380	31.21	33.38	32.30	0.0806	2.603
11	420	27.32	26.47	26.90	0.0988	2.658
Sum of air delivery (F)						27.483
Calculated Service Value: $SV = F / P$						0.57
Remark:						
Setting:						
Distance of vane anemometer to plan of fan blades:						
Oscillating mechanism:						

REGULATION (EU) No 206/2012

Clause	Requirement + Test	Result – Remark	Verdict
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Table 3		Power measurement				P
Voltage (230V $\pm$ 1%) (V):		230		Frequency(Hz):		50
T ambient (°C):		25.1		THD (%):		0.158
Air speed (m/s):		--		Illuminance (lux):		--
Operation condition	Current(mA)	Real power (W)	Apparent power (VA)	Power factor	Current crest factor	Remark
Off mode	--	--	--	--	--	--
Standby mode	25.6	0.63	5.89	0.107	5.33	--
supplementary information: -Setting: -Mode pattern/duration:15 min						

Table 4		Energy measurement / Power calculation		N/A	
Voltage (230V ±1%) (V):		--	Frequency(Hz):		--
T ambient (°C):		--	THD (%):		--
Air speed (m/s):		--	Illuminance (lux):		--
Operation condition	Energy (Wh)	Measurement time (min)	Calculated Power (W)		Remark
Off mode	--	--	--		--
Standby mode	--	--	--		--
supplementary information: -Setting: -Mode pattern/duration:15 min					

REGULATION (EU) No 206/2012			
Clause	Requirement + Test	Result – Remark	Verdict

Table 5		Sounds power level testing				P
Model		F-ST45BGR				
Background noise (dB)		18.2				
L1	0.40m	L2	0.45m	L3	1.20m	
a	1.22m	b	1.23m	c	2.18m	
Item		Unit (dB)		Value		
1		dB		44.61		
2		dB		45.36		
3		dB		44.39		
4		dB		43.68		
5		dB		42.96		
6		dB		42.45		
7		dB		40.71		
8		dB		43.55		
9		dB		43.98		
Average (Lpm)		dB		43.52		
K1		dB		0.005		
K2		dB		--		
A Sounds power Level (Lw)		dB(A)		44.0		

Product Photo



Fig. 1 – Overview



Fig. 2 – Overview



Fig. 3 – Overview



Fig. 4 – Remote control view

***** End of Report *****

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