

Prüfbericht - Nr.: 02154072 011

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Test Report No.:

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Auftraggeber:

Gree Electric Appliances Inc. of Zhuhai

Client:

Jinji West Road, Qianshan, Zhuhai, Guangdong 519070 P.R. China

Gegenstand der Prüfung:

Split type room air conditioner

Test item:

Bezeichnung:

See page 2

Identification:

Serien-Nr.:

n.a.

Serial No.:

Wareneingangs-Nr.:

73010306

Receipt No.:

Eingangsdatum:

2003.12.31

Date of receipt:

Prüfört:

Gree Electric Appliances Inc. of Zhuhai

Testing location:

Jinji West Road, Qianshan, Zhuhai, Guangdong 519070 P.R. China

Prüfgrundlage:

EN 60335-1: 1994+A1+A2+A11-A16

Test specification:

EN 60335-2-40: 1997+A1

Prüfergebnis:**Der vorstehend beschriebene Prüfgegenstand wurde geprüft und entspricht oben genannter Prüfgrundlage.**

Test Result:

*The a. m. test item passed.***Prüflaboratorium/ Testing Laboratory: TÜV Rheinland (Guangdong) Co., Ltd.**

zusammengestellt/ compiled by:

kontrolliert/ checked by:

Stone Shi

Nevill Lu

Datum
DateName
NameUnterschrift
SignatureDatum
DateName
NameUnterschrift
Signature*Stone Shi, 2004.02.06.**12.02.2004.**Nevill Lu***Sonstiges/ Other Aspects:****Remark 1:** This report is for additional models based on original report E2154072 E01 and 007;**Remark 2:** All tests performed on KFR-20GW/NA23, KFR-25GW/NA23 and KFR-32GW/NA23 represent the other models, the test samples are pre-production type without serial number.**Attachment 1:** Rating label (3 pages);**Attachment 2:** Test equipment list (1 page).

Abkürzungen: ok / P = entspricht Prüfgrundlage
 fail / F = entspricht nicht Prüfgrundlage
 n.a. / N = nicht anwendbar

Abbreviations: ok / P = passed
 fail / F = failed
 n.a. / N = not applicable

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.

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Summary of testing:

1. Test according to requirements of IEC60335-2-40/EN 60335-2-40;
2. Input test, heating test and some abnormal tests made on enthalpy laboratory, which can imitate the most severe condition in normal use.

Test items particulars:

Serial Number.....: N(A.)

Additional information.....: N(A.)

.....:

.....:

Test case verdicts

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

Test item does meet the requirement.....: P(ass)

Test item does not meet the requirement.....: F(ail)

Testing

Date of receipt of test item.....: 2003.12.31

Date(s) of performance of test.....: 2004.01.02—2004.01.10

General remarks

This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

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

This test report shall not be reproduced except in full, without the written approval of the issuing testing laboratory

Clause numbers between brackets refer to clauses in IEC 60335-1/EN 60335-1

"(see Enclosure #)" refers to an additional information 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.

Model list:

KF-20GW/NA23	KF-25GW/NA23	KF-32GW/NA23
KFR-20GW/NA23	KFR-25GW/NA23	KFR-32GW/NA23

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Clause	Requirement - Test	Result - Remark	Verdict
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The additional models are identically same as original models:KF(R)-20GW/NA12,KF(R)-25GW/NA12 and KF(R)-32GW/NA12, which test report is E2154072 E01 and 007, except for:

1. The models name are changed ;(see page 2)
2. The compressor are changed as: YZG-22RY1 for KF(R)-20GW/NA23, TZG-27RY1 for KF(R)-25GW/NA23, C-RV227H01AA for KF(R)-32GW/NA23 ; The capacitance of running capacitor is changed to 25 μ F/450V accordingly;
3. Outdoor unit fan motor is changed as: FW30K for KF(R)-25GW/NA23 and FW48C for KF(R)-30GW/NA23, The capacitance of running capacitor for fan motor are changed to 2.5 μ F/450V, and 3.0 μ F /450V accordingly;
4. The controller are changed to 5K512X for cooling type and 5K622X for reverse type based on no change with safety components (such as relay, fuse etc);
5. The details of new components specified in table 24.1.

7	MARKING		P
7.1	Rated voltage or voltage range (V)	See rating label	P
	Symbol of nature of supply	See rating label	P
	Rated frequency or frequency range (Hz)	50 Hz	P
	Rated power input (W)	See rating label	P
	Rated current (A)	Not mark on rating label	N
	Manufacturer's name or responsible vendor's name	GREE Electric Appliances, Inc. of Zhuhai	P
	Trademark or identification mark	GREE	P
	Model or type reference	See rating label	P
	Symbol for class II	Class I equipment	N
	IP number	IP24 (outdoor unit)	P
	Mass of refrigerant	See rating label	P
	Refrigerant type	R407C	P
	Permissible excessive operating pressure for the storage tank		N
	Permissible excessive operating pressure for the refrigerant circuit	See rating label	P
10	POWER		P
10.1	Power input at rated voltage and normal operating temperature not deviating from rated input by more than shown in table; measured power input (W); rated input (W); deviation	(see below)	P

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Clause	Requirement - Test	Result - Remark	Verdict
	Measured after stabilisation of the input under the most severe operating condition within the operating temperature range specified by the manufacturer. Highest input was measured under the following conditions: Cooling mode: indoor temp.: 32/23 °C outdoor temp.: 43/26 °C Heating mode: indoor temp.: 27/-°C outdoor temp.: 24/18 °C		-
	Measured power input (W)	(see appended table)	P
	Rated power input (W)	(see appended table)	P
	Deviation	(see appended table)	P
	Maximum allowed deviation	+15 %	P
11	HEATING		P
11.8	Thermal cut-outs do not operate		P
	Temperatures not exceeding specified values (temperature measurement) of table 3	(see appended table)	P
	Sealing compound does not flow out		P
13	LEAKAGE CURRENT		P
13.1	Leakage current not too excessive and electric strength adequate		P
13.2	Leakage current measured by means of circuit described in Annex G		P
	Leakage current measurements	(see appended table)	P
13.3	Electric strength test of insulation. See added Note in Interpretation Sheet I-SH 02, August 1994	(see appended table)	P
	No breakdown during the test		P
15	MOISTURE		P
15.1	Electrical components protected against ingress of water		P
15.2	Appliance subjected to test	(see below)	P
	Outdoor unit has protection degree IP24. Test for second characteristic numeral 4 with spray nozzle performed according to IEC 60529 sub-clause 14.2.4 for outdoor unit under following conditions: Water pressure adjusted to about 100 kPa (1 bar). Enclosure sprayed from all practicable directions for 10 minutes. After the test, no trace of water can be seen on live parts.		-
15.3	Humidity test		P
	Relative humidity of (93±2)%, 48h		P
	Withstand the test of clause 16		P
16	LEAKAGE CURRENT		P
16.1	No excessive leakage current and adequate insulation and electric strength (tests 16.2 and	Performed after tests of clause	P

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Clause	Requirement - Test	Result - Remark	Verdict
	16.3)	15 and sub-clause	
16.2	Leakage current measurements	(see appended table)	P
16.3	Electric strength tests (values in table 5). See added Note in Interpretation Sheet I-SH 02, August 1994	(see appended table)	P
18	ABNORMAL		P
19.2	Locked-motor test by locking moving parts	(see appended table)	P
	Test period of 15 days (360 h)/protection device opens permanently	Applied.	P
	Motor enclosure not exceeding 150 °C, winding temperatures not exceeding limiting temperature, 30 mA residual current device not operating		P
	Leakage current at twice rated voltage between windings and enclosure not exceeding 2 mA		P
	Electric strength test of 16.3 after 72 h	Performed.	P
	Insulation class	(see appended table)	-
	Measured enclosure temperature (°C)	(see appended table)	P
	Measured winding temperature (°C)	(see appended table)	P
	Measured leakage current (mA)	(see appended table)	P
19.3	Motor-compressor lock test	The compressors used have been separately approved complying IEC/EN 60335-2-34.	N
	Complying with sub-clause 19.3 of IEC 60335-2-34		N
	50 cycles for manual reset overload protective systems	Self-reset overload protector	N
	Locked for 15 days or until 2 000 cycles are performed		N
	Test at lower voltage until stabilization is reached with minimum of 3 h (multiple-voltage only)	Single voltage	N
	Single-phase test for secondary side until stabilization is reached with minimum of 3 h (three-phase motor-compressors only)		N
	Single-phase test for primary side for 24 h		N
	Test at lower voltage until stabilization is reached with minimum of 3 h (multiple-voltage only)		N
	Motor overload protector operates reliably, no flames, sparks or molten metal, no enclosure deformation, 30 mA residual current device not operating		N

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Clause	Requirement - Test	Result - Remark	Verdict
	Motor-compressor enclosure does not exceed 150 °C		N
	Leakage current at twice rated voltage between windings and enclosure not exceeding 3.5 mA		N
	Electric strength test of 16.3 after 72 h		N
	Measured enclosure temperature (°C)		N
	Measured leakage current (mA)		N
19.7	Air to air appliances at excessive ambient temperature		P
	Dry-bulb temperature reduced by 5 K below minimum value	15/-°C (indoor unit) -10/-11°C (outdoor unit)	P
	It also worked normally until defrost.		
	Dry-bulb temperature increased by 10 K above maximum value	42 °C (indoor unit) 53 °C (outdoor unit)	P
	Result. appliance worked normally with input increased.		
19.11.2	Fault conditions applied one at a time, the appliance operated under conditions specified in Cl. 11, but supplied at rated voltage, the duration of the tests as specified:		P
	a) short-circuit of creepage distances and clearances between live parts of different potential, if these distances are less than the values specified in 29.1, unless the relevant part is adequately encapsulated	The CI/Cr measured not less than the values specified in 29.1	N
	b) open circuit at the terminals of any component	(see appended table)	P
	c) short-circuit of capacitors, unless they comply with IEC 60384-14 or subclause 14.2 of IEC 60065	(see appended table)	P
	d) short-circuit of any two terminals of an electronic component, other than integrated circuits. This fault condition is not applied between the circuits of an optocoupler	(see appended table)	P
	e) failure of triacs in the diode mode		N
	f) failure of an integrated circuit. In this case the possible hazardous situations of the appliance are assessed to ensure that safety does not rely on the correct functioning of such a component		N
	During and after each test the following is checked:		P
	- the temperature rise of the windings do not exceed the values specified in table B		P
	- the appliance complies with the conditions specified in 19.13		P

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Clause	Requirement - Test	Result - Remark	Verdict
	- live parts not accessible to the test finger or test pin as specified in Cl. 8		P
	- any current flowing through protective impedance not exceeding the limits specified in 8.14		N
	If a conductor of a printed board becomes open circuited, the appliance is considered to have withstood the particular test, provided all three of the following conditions are met:		N
	- the material of the printed circuit board withstands the burning test of subclause 20.1 of IEC 60065		N
	- any loosened conductor does not reduce the creepage distances or clearances between live part and accessible metal parts		N
	- the appliance withstands the tests of 19.11.2 with open circuited conductor bridged		N
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A)	Fuse did not operate during tests of 19.11.2.	N
19.14	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts	Not emitted.	P
	Temperature rises not exceeding the values shown in table 7	Well below the limits.	P
	Enclosures not deformed to such an extent that compliance with the standard is impaired	No deformation.	P
	Appliance, withstands the electric strength test of 16.3, however, the test voltage being:		P
	- basic insulation: 1 000 V	Between supply and protective earth.	P
	- supplementary insulation: 2 750 V		N
	- reinforced insulation: 3 750 V	Between supply and enclosure.	P
24	COMPONENTS		P
24.1.5	Voltage across capacitors in series with a motor winding does not exceed 1.1 times rated voltage, when the appliance is supplied at 1.1 times rated voltage under minimum load	Test performed on all representative models, the greatest value is considered: OU motor capacitor: 383V Compressor capacitor: 355V	P
	List of components	(see appended table)	P
29	CREEPAGE AND INSULATION	CREEPAGE	P

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Clause	Requirement - Test	Result - Remark	Verdict
29.1	Creepage distances and clearances not less than specified in table 13. See added text to notes 4 and 5 in Interpretation Sheet I-SH 01, February, 1993	(see appended table)	P
	Values increased by 4 mm in case of reinforced insulation when resonance voltage	Not applicable.	N
	Circuits with voltages greater than 250 V r.m.s. (354 V peak) in compliance with table of part 2	Working voltages below 250 V r.m.s. and 354 V peak.	N
	Motor-compressors with a working voltage 250 V r.m.s. or less in compliance with requirements of IEC 60335-2-34		P
	Motor-compressor with a working voltage greater than 250 V r.m.s. but not greater than 600 V r.m.s. in compliance with table 101.	Working voltage of motor-compressor is not higher than 250 V.	N
	Reinforced insulation applied in thin sheet form, other than mica or similar scaly material, consists of at least three layers, and any two of the layers together withstand the electric strength test of 16.3 for reinforced insulation	Not applied.	N

10	TABLE 10						P
	Operation mode	Cooling and heating					P
	test voltage (V)	230(for each phase)					—
Model	Rated cooling (W)	Rated Heating (W)	Measured cooling (W)	Measured Heating (W)	Deviation cooling	Deviation Heating	
KFR-20GW/NA23	870	930	975	1066	12,0%	14,6%	
KFR-25GW/NA23	1110	1110	1245	1217	12,1%	10,6%	
KFR-32GW/NA23	1440	1430	1623	1613	12,7%	12,7%	

11.8	TABLE 11.8			P
KFR-20GW/NA23	Operation mode	Cooling and heating		P
	t1 (°C)	25,4		—
	t2 (°C)	Cooling: 32/23(IU), 43/26(OU) Heating: 27/(IU), 24/18(OU)		—
	Test voltage (V)	244		—
Temperature rise dT of part/at:	Channel	Cooling/Heating	Limit T (°C)	
Indoor unit		--		
Enclosure of fan motor	6	78,9	150	
Surface of fan motor capacitor	3	41,2	T70	
Power cord	2	31,9	75	

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Clause	Requirement - Test	Result - Remark	Verdict
PCB	5	33,6	Material test
Outdoor unit:		--	
Enclosure for compressor	24	78,2	150
Internal wire of compressor	23	50,6	110
Test corner	22	41,3	90
Enclosure of fan motor	14	67,7	150
Surface of compressor capacitor	15	48,0	T70
Surface of fan motor capacitor	19	46,5	T70
Remark:			
<ol style="list-style-type: none"> 1. The heating test is conducted at high speed and low speed of the indoor unit motor. The highest temperature result is considered; 2. Test performed at cooling and heating mode, the higher temperature is considered 3. Test performed at different Mfg fan motor, the higher temperature is considered. 			

11.8	TABLE		P
KFR-25GW/NA23	Operation mode.....	Cooling and heating	P
	t1 (°C)	25,5	—
	t2 (°C)	Cooling: 32/23(IU), 43/26(OU) Heating: 27/-(IU), 24/18(OU)	—
	Test voltage (V)	244	—
Temperature rise dT of part/at:	Channel	Cooling/Heating	Limit T (°C)
Indoor unit:		--	
Enclosure of fan motor	5	56,9	150
Surface of fan motor capacitor	5	40,7	T70
Power cord	4	42,8	75
PCB	3	35,8	Material test
Outdoor unit:		--	
Enclosure for compressor	24	102,1	150
Internal wire of compressor	23	68,3	110
Test corner	22	45,5	90
Enclosure of fan motor	14	77,7	150
Surface of fan motor capacitor	19	51,5	T70

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Clause	Requirement - Test	Result - Remark	Verdict
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Remark:

1. The heating test is conducted at high speed and low speed of the indoor unit motor. The highest temperature result is considered;
2. Test performed at cooling and heating mode, the higher temperature is considered.
3. Test performed at different Mfg fan motor, the higher temperature is considered.

	Winding temperature rise measurements:	T1=25,0°C	P
	Insulation class	See below	—

Cooling mode

Temperature rise dT of winding:	R ₁ (Ω)	R ₂ (Ω)	T (°C)	Limit T (°C)	Insulation class
OU fan motor : FW30K (Mfg.:Nanxia)	149,4/163,5	186,2/204,0	89,9	120	B
OU fan motor : FW30K (Mfg.:Changheng)	160,1/172,0	201,1/217,0	93,5	120	B

11.8	TABLE			P
KFR-32GW/NA23	Operation mode.....	Cooling and heating		P
	t1 (°C)	25,3		—
	t2 (°C)	Cooling: 32/23(IU), 43/26(OU) Heating: 27/(IU), 24/18(OU)		—
	Test voltage (V)	244		—
Temperature rise dT of part/at:	Channel	Cooling/Heating	Limit T (°C)	
Indoor unit:		--		
Enclosure of fan motor	6	89,9	150	
Surface of fan motor capacitor	3	41,0	T70	
Power cord	2	44,0	75	
PCB	1	35,5	Material test	
Outdoor unit:		--		
Enclosure for compressor	24	100,1	150	
Internal wire of compressor	23	69,0	110	
Test corner	22	45,7	90	
Enclosure of fan motor	14	70,9	150	
Surface of compressor capacitor	15	50,9	T70	
Surface of fan motor capacitor	19	50,9	T70	

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Clause	Requirement - Test	Result - Remark	Verdict
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Remark:

1. The heating test is conducted at high speed and low speed of the indoor unit motor. The highest temperature result is considered;
2. Test performed at cooling and heating mode, the higher temperature is considered.
3. Test performed at different Mfg fan motor, the higher temperature is considered.

	Winding temperature rise measurements:	T1=25,0°C	P
	Insulation class	See below	—

Cooling mode

Temperature rise dT of winding:	R ₁ (Ω)	R ₂ (Ω)	T (°C)	Limit T (°C)	Insulation class
OU fan motor : FW48C (Mfg: Nanxia)	140,2/170,7	177,6/216,8	95,4	120	B
OU fan motor : FW48C (Mfg: Changheng)	128,0/135,5	161,9/174,6	100,2	120	B

13.2	TABLE		P
	Heating appliances: at 1.15 times rated input (W) :	N/A	—
	Motor-operated and combined appliances: at 1.05 times rated voltage (V)	244	—
Leakage current I between:		I (mA)	Required I (mA)
L/N-enclosure		0,024	0,25
L/N-earthing part		0,27	3,5
Test performed on all representative models, the greatest value is considered.			

13.3	TABLE		P
Test voltage applied between:		Test voltage (V)	Breakdown
L/N – gnd		1000	No
L/N – enclosure of indoor unit (aluminium foil)		3750	No
Test performed on all representative models.			

16.2	TABLE		P
	At 1,05 times rated voltage (V)	244	—
Leakage current I between:		I (mA)	Limit I (mA)
L/N – gnd		0,30	3,5
Indoor unit, L/N – non-conductive enclosure		0,026	0,25
Test performed on all representative models, the greatest value is considered.			

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Clause	Requirement - Test	Result - Remark	Verdict
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18.3	TABLE 1	P
Test voltage applied between:	Test voltage (V)	Breakdown
L/N – gnd	1250	No
L/N – enclosure of indoor unit (aluminium foil)	3750	No
Point where motor winding connected with capacitor-protective earth	1900	No
Point where compressor winding connected with capacitor-protective earth	1900	No
Test performed on all representative models.		

19.2	TABLE 2						P
Test procedure	Supplied with rated voltage (230V)						-
Duration	15 days, after 3 days HV test performed						-
Ambient temperature [°C]	21						
Measured samples	Insulation Class	Enclosure temperature [°C]	Winding temperature [°C]	Pressure Operated?	HV test performed with 1250V	Leakage current [mA]	
FW30K (Nanxia)	B	115,9	118,8	Operated at 1st hour	Pass	0,130mA	
FW30K (Changheng)	B	92,5	97,9	Operated at 1st hour	Pass	0,011mA	
FW48C (Nanxia)	B	111,6	127,3	Operated at 1st hour	Pass	0,032mA	
FW48C (changheng)	B	123,7	140,6	Operated at 1st hour	Pass	0,117mA	

19.11.2	TABLE 3a		P
	Ambient temperature (°C)	Cooling: 32/23(IU), 43/26(OU) Heating: 27/-(IU), 24/18(OU)	-
	Test voltage (V)	244	-
Fault condition	Phenomenon		Hazard
SC IU fan motor capacitor (cooling)	The outdoor fan motor operated slowly. 3 minutes later, compressor stopped.		No
OC IU fan motor capacitor (cooling)	First, appliance operated normally with input increased. after 20 minutes, outdoor fan motor and compressor stopped.		No
SC OU fan motor capacitor (cooling)	The outdoor fan motor operated slowly. 3 minutes later, compressor stopped.		No
OC OU fan motor capacitor (cooling)	First, appliance operated normally with input increased. after 20 minutes, outdoor fan motor and compressor stopped.		No

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Clause	Requirement - Test	Result - Remark	Verdict
SC compressor capacitor (cooling)		Compressor stopped immediately.	No
OC compressor capacitor (cooling)		Input increased, appliance operated normally.	No
SC IU fan motor capacitor (heating)		Appliance worked normally. Defrost.	No
OC IU fan motor capacitor (heating)		Appliance worked normally. Defrost.	No
SC OU fan motor capacitor (heating)		Appliance worked normally. Defrost.	No
OC OU fan motor capacitor (heating)		Appliance worked normally. Defrost.	No
SC compressor capacitor (heating)		Compressor stopped.	No
OC compressor capacitor (heating)		Compressor stopped.	No

Remark: the "SC" means "short-circuited", "OC" means "open-circuited"

24 Component

Remark: only the comp

Compressor (for KF(R)-20*)	Xi'an Qing'an	YZG-22RY1T1	Main: 4.25Ω Aux: 5.87Ω Synthetic	TUV (R 50023602)
Compressor (for KF(R)-25*)	Xi'an Qing'an	YZG-27RY1	Main: 3.24Ω Aux: 5.68Ω Synthetic	TUV (R 50023602)
Compressor (for KF(R)-32*)	Sanyo	C- RV227H01AA	Main: 1.962Ω Aux: 5.585Ω Synthetic	TUV (R9859368)
OU fan motor	Nanxia	FW30K	Main: 153±15%Ω Start: 144±15%Ω	Class B
OU fan motor	Changheng	FW30K	Main: 189±15%Ω Start: 166±15%Ω	Class B
OU fan motor	Nanxia	FW48C	Main: 173±15%Ω Start: 135±15%Ω	Class B
OU fan motor	Changheng	FW48C	Main: 134±15%Ω Start: 115±15%Ω	Class B

Built-in components: (switches, thermostats, heater, plugs, wires, capacitors, sockets, rfi-filters etc.)

Component	Manufacturer	Information about type, current, power etc.	Approvals
Capacitor of compressor	Optional	25μF, 450VAC, T mark: 70°C or above	TUV or any CENELEC
OU fan motor capacitor (for FW30K)	Optional	2,5μF, 450VAC, T mark: 70°C or above	TUV or any CENELEC

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Clause	Requirement - Test	Result - Remark	Verdict
OU fan motor capacitor (for FW48C)	Optional	3,0µF, 450VAC, T mark: 70°C or above	TUV or any CENELEC
Controller (for cooling type)	GREE	5K521X	Test with appliance
Controller (for reverse)	GREE	5K522X	Test with appliance

29.1 TABLE M										P
creepage (cr) and clearance (cl) distance (mm):		Class III appliances		Other appliances, working voltage:						remark
				< 130 V		130-250 V		250-440 V		
		Cr	cl	cr	cl	Cr	Cl	cr	cl	
Between live parts of different potential										
- if protected against deposition of dirt		1,0	1,0	1,0	1,0	<u>3,0</u>	<u>3,0</u>	2,0	2,0	P
- if not protected against deposition of dirt		2,0	1,5	2,0	1,5	<u>4,0</u>	<u>4,0</u>	4,0	3,0	P
- if lacquered or enameled windings		1,0	1,0	1,5	1,5	<u>4,0</u>	<u>4,0</u>	3,0	3,0	P
Cl and Cr measured between:										
1. L and N on PCB;										
2. Winding of fan motor.										
The shortest value is considered.										
Between live parts and other metal parts over basic insulation:										
- if protected against deposition of dirt										N
- if not protected against deposition of dirt		2,0	1,5	2,0	1,5	<u>4,0</u>	<u>4,0</u>	—	—	P
- if the live parts are lacquered or enamelled windings		1,0	1,0	1,5	1,5	<u>4,0</u>	<u>4,0</u>		—	P
Cl and Cr measured between:										
1. Live part on PCB and earthing metal part;										
2. Winding of fan motor and enclosure/body;										
The shortest value is considered.										

--End of report--

Stone

Dec 4, 2007

Split Air Conditioner
Indoor Unit

MODEL: KF-20G/NA23
 COOLING CAPACITY: 2000 W
 HEATING CAPACITY: ———
 AIR FLOW VOLUME: 380m³/h
 RATED VOLTAGE: 220-230V~
 RATED FREQUENCY: 50 Hz
 SOUND PRESSURE LEVEL: 36 dB(A)
 WEIGHT: 8.5kg
 SERIAL NO.:
 MANUFACTURED DATE:



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

XXXXX

GREE Air Conditioner Outdoor Unit

MODEL	KF-20G/NA23	RATED INPUT	COOLING	870 W
RATED VOLTAGE	220-230V~		HEATING	———
RATED FREQUENCY	50Hz	CLIMATE TYPE	II	
COOLING CAPACITY	2000 W	LOCKED ROTOR AMPEREAGE	20 A	
HEATING CAPACITY	———	ISOLATION	I	
REFRIGERANT	R407C	WEIGHT	32 kg	
REFRI. CHARGE	0.85 Kg	SOUND PRESSURE LEVEL	52 dB(A)	
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE DISCHARGE SIDE			2.5MPa	
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE SUCTION SIDE			0.6MPa	
THE MAX OPERATING PRESSURE FOR HEAT EXCHANGER			0.5MPa/2.4MPa	
SERIAL NO.		Moisture Protection	IP24	
MANUFACTURED DATE				



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

XXXXX

GREE Air Conditioner Outdoor Unit

MODEL	KFR-20W/NA23	RATED INPUT	COOLING	870 W
RATED VOLTAGE	220-230V~		HEATING	930 W
RATED FREQUENCY	50Hz	CLIMATE TYPE	II	
COOLING CAPACITY	2000 W	LOCKED ROTOR AMPEREAGE	20 A	
HEATING CAPACITY	2300 W	ISOLATION	I	
REFRIGERANT	R407C	WEIGHT	32 kg	
REFRI. CHARGE	0.85 Kg	SOUND PRESSURE LEVEL	52 dB(A)	
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE DISCHARGE SIDE			2.5MPa	
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE SUCTION SIDE			0.6MPa	
THE MAX OPERATING PRESSURE FOR HEAT EXCHANGER			2.3MPa/2.4MPa	
SERIAL NO.		Moisture Protection	IP24	
MANUFACTURED DATE				



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

XXXXX

Split Air Conditioner
Indoor Unit

MODEL: KFR 20G/NA23
 COOLING CAPACITY: 2000 W
 HEATING CAPACITY: 2300 W
 AIR FLOW VOLUME: 380m³/h
 RATED VOLTAGE: 220-230V~
 RATED FREQUENCY: 50 Hz
 SOUND PRESSURE LEVEL: 36 dB(A)
 WEIGHT: 8.5kg
 SERIAL NO.:
 MANUFACTURED DATE:



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

XXXXX

Split Air Conditioner
Indoor Unit

MODEL: KF-25G/M23
 COOLING CAPACITY: 2500 W
 HEATING CAPACITY: —
 AIR FLOW VOLUME: 420m³/h
 RATED VOLTAGE: 220-230V~
 RATED FREQUENCY: 50 Hz
 SOUND PRESSURE LEVEL: 38 dB(A)
 WEIGHT: 8.5kg
 SERIAL NO.:
 MANUFACTURED DATE:



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

6106201

GREE Air Conditioner Outdoor Unit

MODEL	KF-25G/M23	RATED INPUT	COOLING 1110 W HEATING —
RATED VOLTAGE	220-230V~	CLIMATE TYPE	II
RATED FREQUENCY	50Hz	LOCKED ROTOR AMPEREAGE	23 A
COOLING CAPACITY	2500 W	ISOLATION	I
HEATING CAPACITY	—	WEIGHT	32 Kg
REFRIGERANT	R407C	SOUND PRESSURE LEVEL	54 dB(A)
REFRI. CHARGE	0.85 Kg	PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE DISCHARGE SIDE	2.5MPa
		PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE SUCTION SIDE	0.6MPa
		THE MAX OPERATING PRESSURE FOR HEAT EXCHANGER	0.5MPa/2.4MPa
SERIAL NO.		Moisture Protection	IP24
MANUFACTURED DATE			

CE GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

6106201

Split Air Conditioner
Indoor Unit

MODEL: KF-25G/M23
 COOLING CAPACITY: 2500 W
 HEATING CAPACITY: 2800 W
 AIR FLOW VOLUME: 420m³/h
 RATED VOLTAGE: 220-230V~
 RATED FREQUENCY: 50 Hz
 SOUND PRESSURE LEVEL: 38 dB(A)
 WEIGHT: 8.5kg
 SERIAL NO.:
 MANUFACTURED DATE:



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

6106201

GREE Air Conditioner Outdoor Unit



MODEL	KF-25G/M23	RATED INPUT	COOLING 1110 W HEATING 1100 W
RATED VOLTAGE	220-230V~	CLIMATE TYPE	II
RATED FREQUENCY	50Hz	LOCKED ROTOR AMPEREAGE	23 A
COOLING CAPACITY	2500 W	ISOLATION	I
HEATING CAPACITY	2800 W	WEIGHT	32 Kg
REFRIGERANT	R407C	SOUND PRESSURE LEVEL	54 dB(A)
REFRI. CHARGE	0.85 Kg	PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE DISCHARGE SIDE	2.5MPa
		PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE SUCTION SIDE	0.6MPa
		THE MAX OPERATING PRESSURE FOR HEAT EXCHANGER	2.5MPa/2.4MPa
SERIAL NO.		Moisture Protection	IP24
MANUFACTURED DATE			


CE GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

6106201


**Split Air Conditioner
Indoor Unit**


MODEL: KF-32G/NA23
 COOLING CAPACITY: 3200 W
 HEATING CAPACITY: ———
 AIR FLOW VOLUME: 450m³/h
 RATED VOLTAGE: 220-230V~
 RATED FREQUENCY: 50 Hz
 SOUND PRESSURE LEVEL: 40 dB(A)
 WEIGHT: 8.5kg
 SERIAL NO.:
 MANUFACTURED DATE:

 
 GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI


 **Air Conditioner Outdoor Unit**

MODEL	KF-32G/NA23	RATED INPUT	COOLING	1440 W
RATED VOLTAGE	220-230V~		HEATING	———
RATED FREQUENCY	50Hz	CLIMATE TYPE	T1	
COOLING CAPACITY	3200 W	LOCKED ROTOR AMPERAGE	31 A	
HEATING CAPACITY	———	ISOLATION	I	
REFRIGERANT	R407C	WEIGHT	40 kg	
REFRI. CHARGE	0.90 Kg	SOUND PRESSURE LEVEL	56 dB(A)	
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE DISCHARGE SIDE				2.5MPa
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE SUCTION SIDE				0.6MPa
THE MAX OPERATING PRESSURE FOR HEAT EXCHANGER				0.5MPa/2.4MPa
SERIAL NO.		Moisture Protection	IP24	
MANUFACTURED DATE				

 GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



 **Air Conditioner Outdoor Unit**

MODEL	KFR-32W/NA23	RATED INPUT	COOLING	1440 W
RATED VOLTAGE	220-230V~		HEATING	1430 W
RATED FREQUENCY	50Hz	CLIMATE TYPE	T1	
COOLING CAPACITY	3200 W	LOCKED ROTOR AMPERAGE	31 A	
HEATING CAPACITY	3600 W	ISOLATION	I	
REFRIGERANT	R407C	WEIGHT	40 kg	
REFRI. CHARGE	0.90 Kg	SOUND PRESSURE LEVEL	56 dB(A)	
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE DISCHARGE SIDE				2.5MPa
PERMISSIBLE EXCESSIVE OPERATING PRESSURE FOR THE SUCTION SIDE				0.6MPa
THE MAX OPERATING PRESSURE FOR HEAT EXCHANGER				2.3MPa/2.4MPa
SERIAL NO.		Moisture Protection	IP24	
MANUFACTURED DATE				

 GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

**Split Air Conditioner
Indoor Unit**

MODEL: KFR-32G/NA23
 COOLING CAPACITY: 3200 W
 HEATING CAPACITY: 3600 W
 AIR FLOW VOLUME: 450m³/h
 RATED VOLTAGE: 220-230V~
 RATED FREQUENCY: 50 Hz
 SOUND PRESSURE LEVEL: 40 dB(A)
 WEIGHT: 8.5kg
 SERIAL NO.:
 MANUFACTURED DATE:

 
 GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Appendix : list fo electric safety test instruments

SN	name	model/number	Manufacturer	Calibration until	Uncertainty /accuracy
01	voltage endurance tester	CS2572B/2004206	Nanjing Changshen electronics instruments factory	2004.5.18	---
02	Leakage current tester	7611/E270035	Taiwan huayi electronics corporation	2004.9.29	0.01mA
03	Three-phase Leakage current tester	8980C/890006001	Qingdao qingzhi instruments corporation	2004.12.15	0.1mA
04	Intellective direct current low resistance tester	TH2512B/D2-40-129	Chanzhou tonghui electronics instruments factory	2004.06.07	0.1Ω
05	Safety gauge electrical medium analysis tester	7440/E190184	Taiwan huayi electronics corporation	2004.12.09	----
06	Electricity power meter	8716A/02704002	Qingdao qingzhi instruments corporation	2005.01.05	---
07	multimeter	87III/9809021	FLUKE corporation	2004.08.06	0.5Ω
08	multimeter	87III/71860629	FLUKE corporation	2004.08.06	0.5Ω
09	Temperature recorder	BH140NDN/GR705214	Shanghai dahua-qianye meter corporation	2004.03.17	±0.1℃
10	Temperature recorder	GR1800/GR705223	Japan henhe	2004.03.17	±0.1℃
11	Hand thermometer hygrometer	HN-AK	Shanghai dahua-qianye meter corporation	2004.11.15	±0.1℃
12	Vernier caliper	0-150mm/3-6101224	Shanghai measure factory	2004.06.07	0.02mm
13	Torque screwdriver	400N.cm/3041	Japan TOHNICHI	2004.12.10	----
14	Test finger	2g6001/1046	Guangzhou electrical science institute	2004.04.20	----
15	Test stick	9391-4/4PC01	Guangzhou electrical science institute	2004.05.10	----
16	Test pin	49C01/10202	Guangzhou electrical science institute	2004.05.10	----
17	Sping impact instrument	95-20/3H50	Guangzhou electrical science institute	2004.12.10	
18	Ardor silk test equipment	GTR-4/9032	Guangzhou electrical science institute	2004.03.28	1.5
19	Galvanothermy blast oven	CS101/4030	Chongqing test equipment factory	2004.09.16	±1℃
20	Creepage trace test setting	TS-2/4061	Guangzhou electrical science institute	2004.09.16	1.5
21	Needle blaze test setting	NB-2/8073	Guangzhou electrical science institute	2004.03.10	
Written by (date):			Audited by (date):		