TECHNICAL SERVICE MANUAL

—— Gree 2000 Series

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI
Jinji West Rd. Qianshan Zhuhai
Guangdong China

Introduction

In this technical service manual, you will find rich references to GREE 2000 Series products, including photos, technical specifications, explosive views, spare parts lists and circuit diagrams. Service people and engineers of Gree's customers and distributors would find it a very handy source of technical information of our products.

Technical Support Department
GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI
Nov. 2002

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3.1 Summary

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MODEL	NOTE
KFR-25GW/HF(2545)F KFR-32GW/HF(3245)F	1Ph 220-230V~50Hz R22 WITH AIR FRESH
KFR-25GW/JF(2545a) KFR-32GW/JF(3245a)	1Ph 220-230V~50Hz R22 WITHOUT AIR FRESH

3.2 Technical specifications

Table 3-1

Model			KFR-25GW/JF(2545a)F KFR-25GW/HF(2545)F	
Function			Cooling	Heating
Power supply			1Ph-230V~50Hz	
Capacity(W)			2500(900~2900)	3000(900~3400)
Rated input(W)			990	1100
Rated current(A)			5.2	5.6
Air flow(M^3/H)			450	
Dehumidifying volume(L/h)			1.3	
C.O.P(W/W)			2.52	2.73
Indoor unit	Model		KFR-25G/(2545a)F & KFR-25G/(2545)F	
	Motor fan speed(r/min)		1000/900/800	
	Output power(W)		8	
	Fan type/piece		Cross flow fan-1	
	Diameter-length(mm)		ϕ 91 × 616	
	Evaporator		Aluminum fin-copper tube	
	Row-fin distance(mm)		3-1.5	
	Working area(m^2)		0.18	
	Swing motor		MP24GA	
	Input power(W)		2	
	Fuse(A)		Controllor 3.15A Transformer 0.2A	
	Working capacitor(μF)		1	
	Noise(dB(A))		⩽ 38	
	Dimension(width-height-depth)mm		830 × 285 × 189	
	Net weight(kg)		11	
Outdoor unit	Model		KFR-25W/JF & KFR-25W/HF	
	Input power(W)		960	
	Current(A)		5.05	
	L.R.A.(A)		22	
	Throttling method		Capillary	
	Compressor		C-1RB102H12AA	
	Power(W)		580	
	Protector		External overload protection	
	Starting method		Power supply module	
	Working temp.		Exhaust temperature ⩽ 115℃	
	Condenser		Aluminum-copper	
	Pipe-diameter(mm)		ϕ 9.52	
	Working area(m^2)		0.4	
	Fan motor speed(rpm)		730	
	Type-piece		Axial fan-1	
	Diameter(mm)		ϕ 400	
	Defrosting method		Auto defrost	
	Noise dB(A)		52	
	Dimension(mm)(width-height-depth)		848 × 540 × 320	
	Net weight(kg)		40	
	Refrigerant charge (kg)		R22/0.85	
Connecting pipe	Length(m)		4	
	Outer diameter	Liquid pipe(mm)	ϕ 6(1/4")	
		Gas pipe(mm)	ϕ 9.52(3/8")	
	Max distance	Height(m)	5	
		Length(m)	10	

The technical data are subject to change without notice .Please refer to the nameplate of the unit.

Table 3-2

Model			KFR-32GW/JF(3245a)F KFR-32GW/HF(3245)F	
Function			Cooling	Heating
Power supply			1Ph-230V~50Hz	
Capacity(W)			3200(900~3700)	4000(900~4300)
Rated input(W)			1220	1500
Rated current(A)			6.35	7.81
Air flow(M^3/h)			510	
Dehumidifying volume(L/h)			1.8	
C.O.P(W/W)			2.62	2.66
Indoor unit	Model		KFR-32G/JF(3245a)F	
	Motor fan speed(r/min)		1100/900/800	
	Output power(W)		8	
	Fan type/piece		Cross flow fan-1	
	Diameter-length(mm)		ϕ 91 × 616	
	Evaporator		Aluminum fin-copper tube	
	Row-fin distance(mm)		3-1.5	
	Working area(m^2)		0.18	
	Swing motor		MP24GA	
	Input power(W)		2	
	Fuse(A)		Controllor 3.15A Transformer 0.2A	
	Working capacitor(μF)		1	
	Noise(dB(A))		⩽ 39	
	Dimension(width-height-depth)mm		830 × 285 × 189	
	Net weight(kg)		11	
Outdoor unit	Model		KFR-32W/JF & KFR-32W/HF	
	Input power(W)		1187	
	Current(A)		6.21	
	L.R.A.(A)		29	
	Throttling method		Capillary	
	Compressor		C-6RV73HOH	
	Power(W)		700	
	Protector		External overload protection	
	Starting method		Power supply module	
	Working temp.		Exhaust temperature ⩽ 115℃	
	Condenser		Aluminum-copper	
	Pipe-diameter(mm)		ϕ 9.52	
	Working area(m^2)		0.4	
	Fan motor speed(rpm)		730	
	Type-piece		Axial fan-1	
	Diameter(mm)		ϕ 400	
	Defrosting method		Auto defrost	
	Noise dB(A)		52	
	Dimension(mm)(width-height-depth)		848 × 540 × 320	
	Net weight(kg)		41	
	Refrigerant charge (kg)		R22/1.25	
Connecting pipe	Length(m)		4	
	Outer diameter	Liquid pipe(mm)	ϕ 6(1/4")	
		Gas pipe(mm)	ϕ 12(1/2")	
	Max distance	Height(m)	5	
		Length(m)	10	

The technical data are subject to change without notice .Please refer to the nameplate of the unit.

3.3 Performance curves

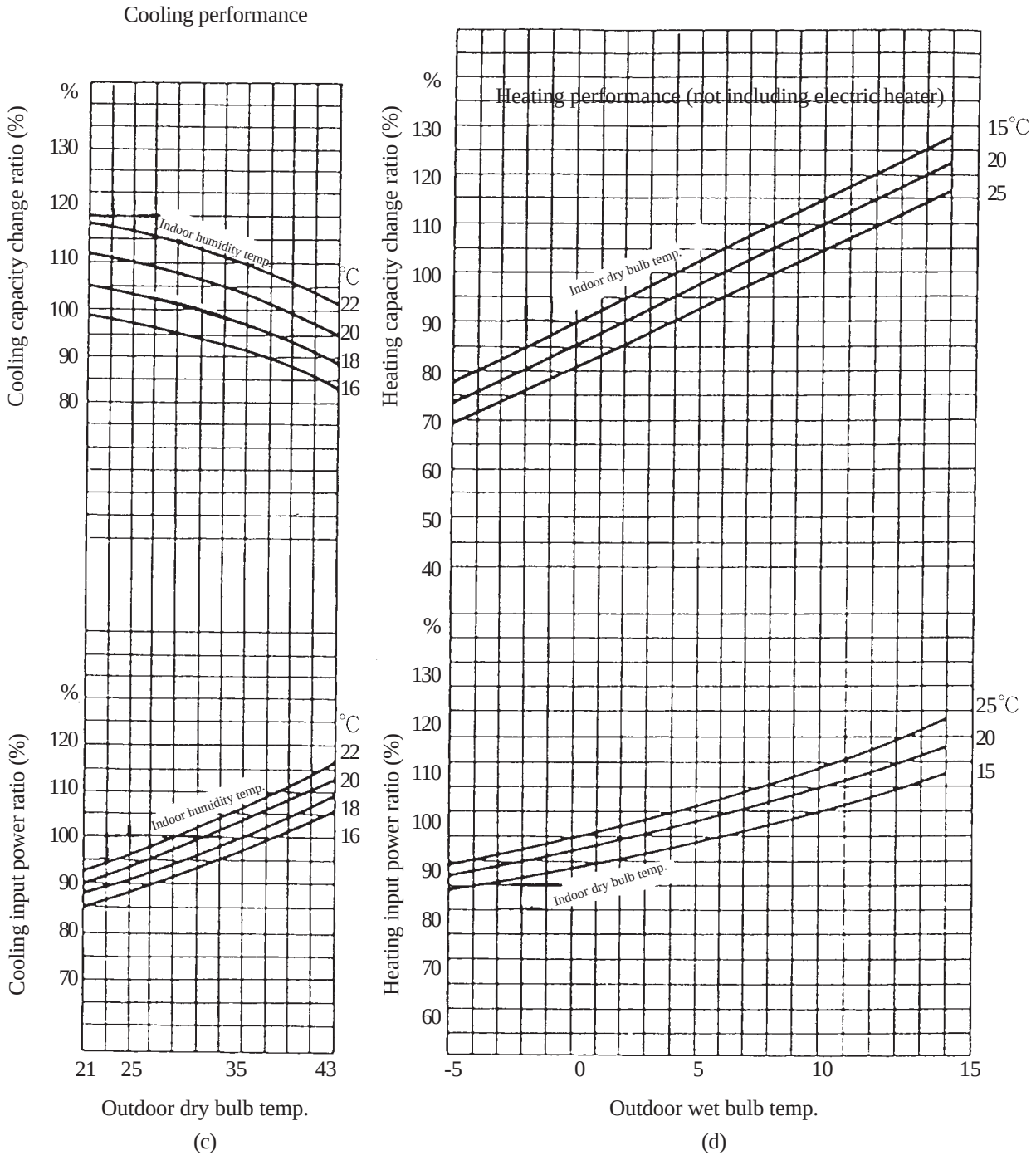
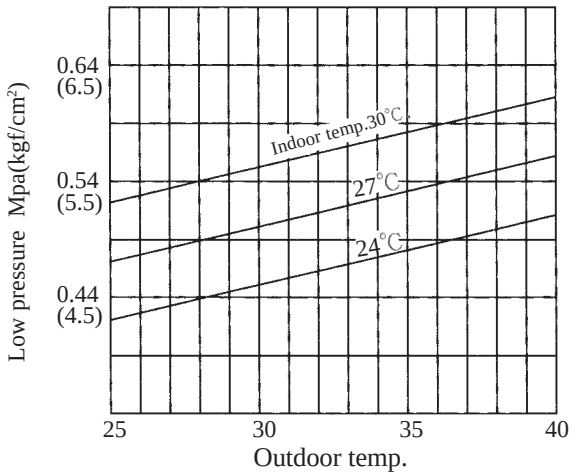


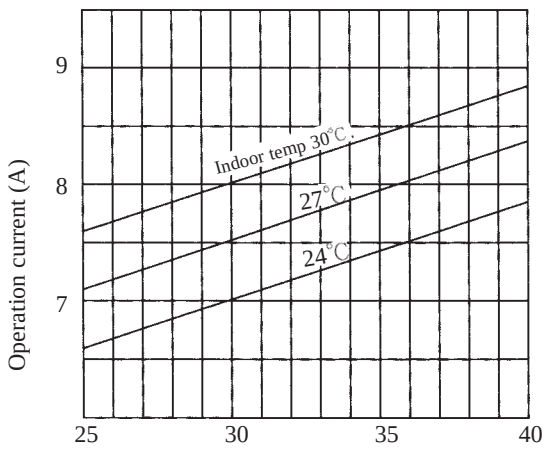
figure 3-2

Model: KFR-25GW/HF(2545)
KFR-25GW/JF(2545a)

Cooling performance

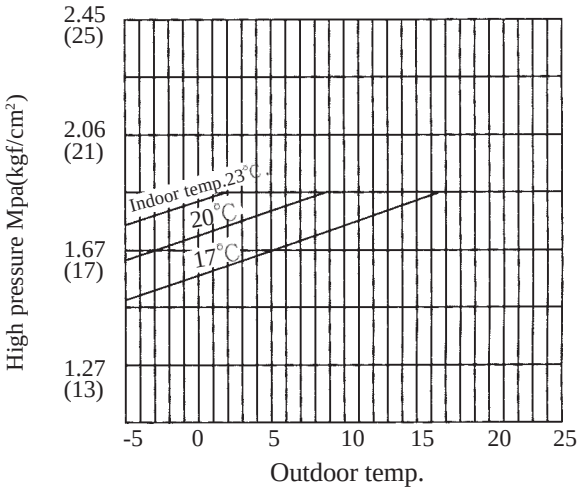


(a)



(b)

Heating performance (not including electric heater)



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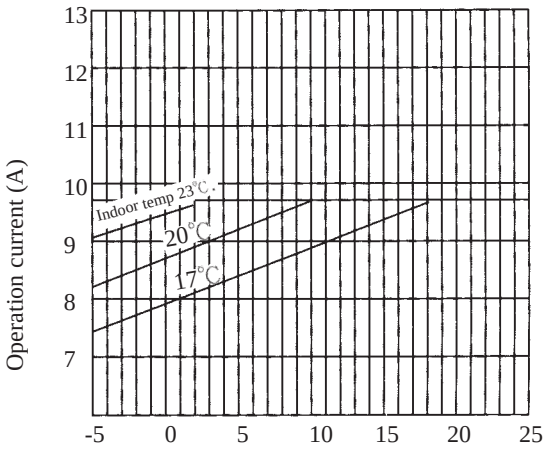
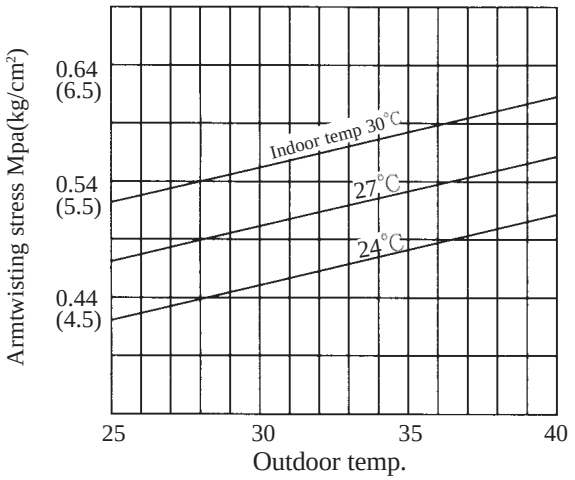


(d)

figure 3-3

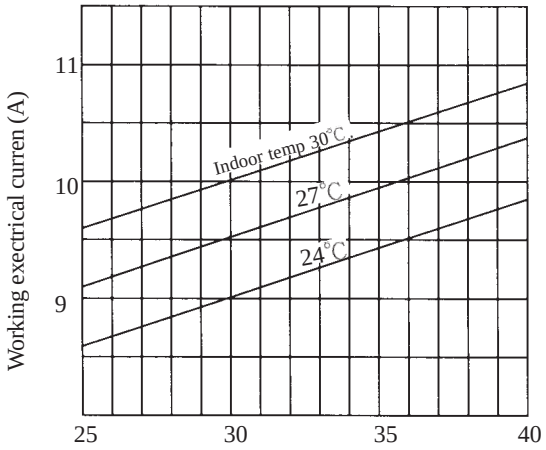
Model: KFR-32GW/HF(3245)
KFR-32GW/JF(3245a)

Cooling performance



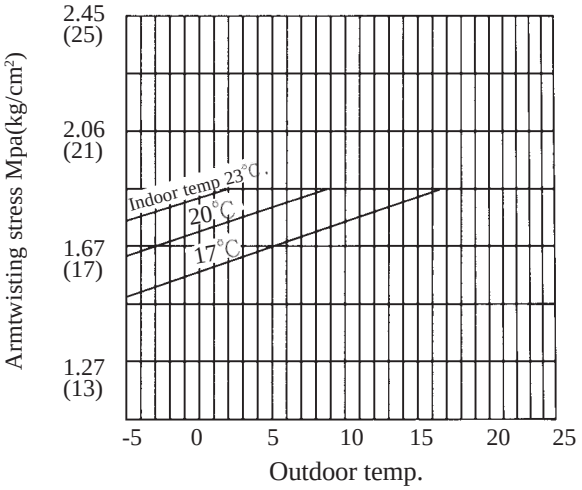
(1Mpa(G)=10.2kg/cm²(G))

(a)



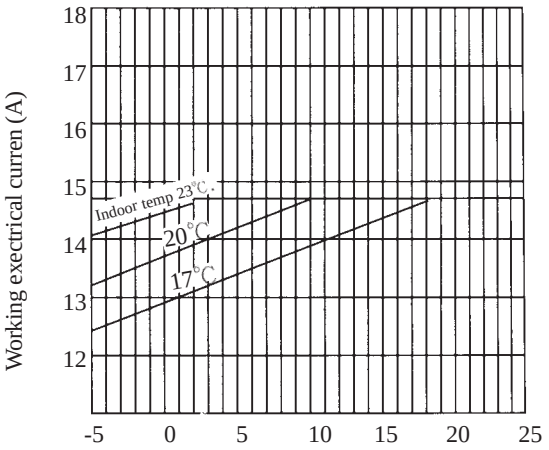
(b)

Heating performance (not including electric heater)



(1Mpa(G)=10.2kg/cm²(G))

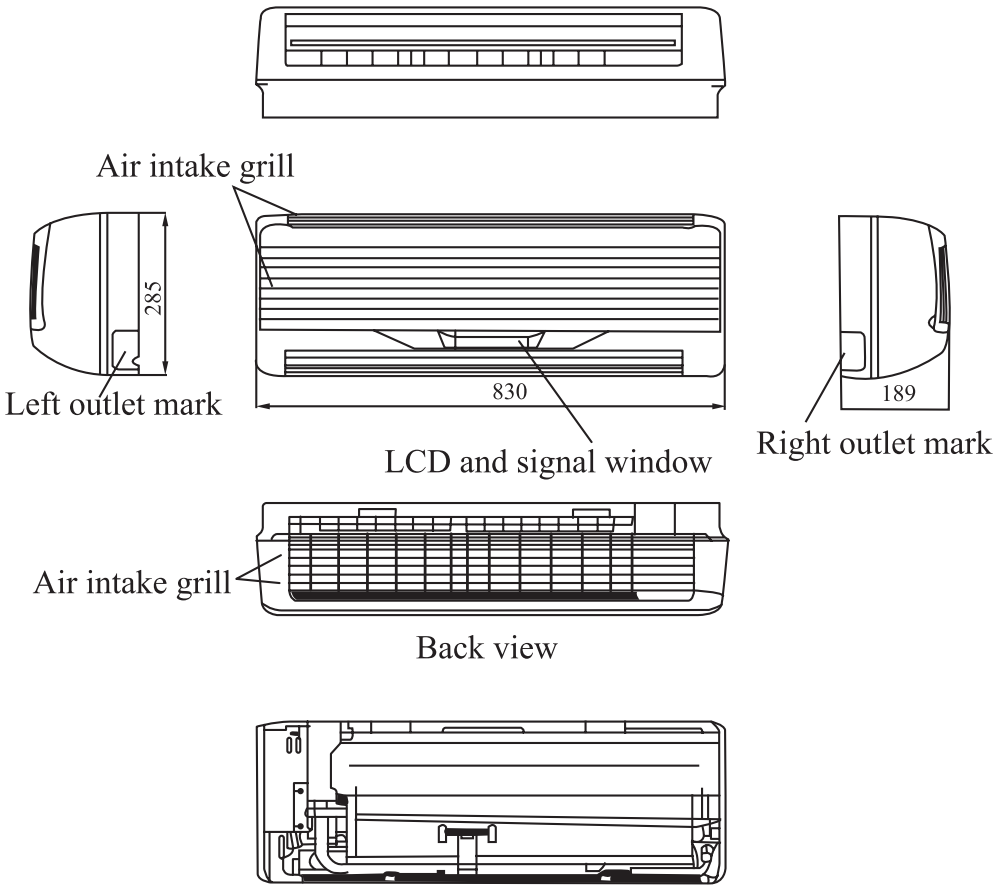
(c)



(d)

figure 3-4

3.4 Outlines and dimensions of indoor unit



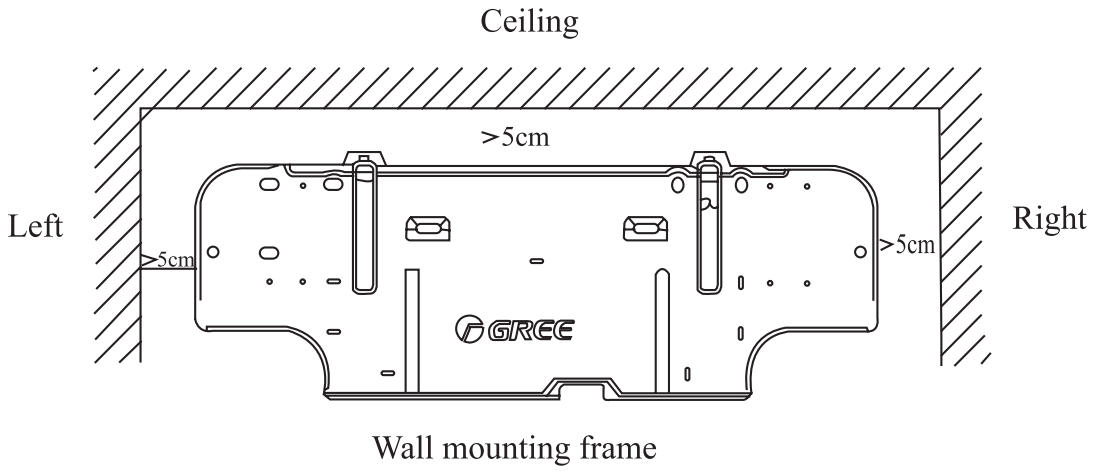
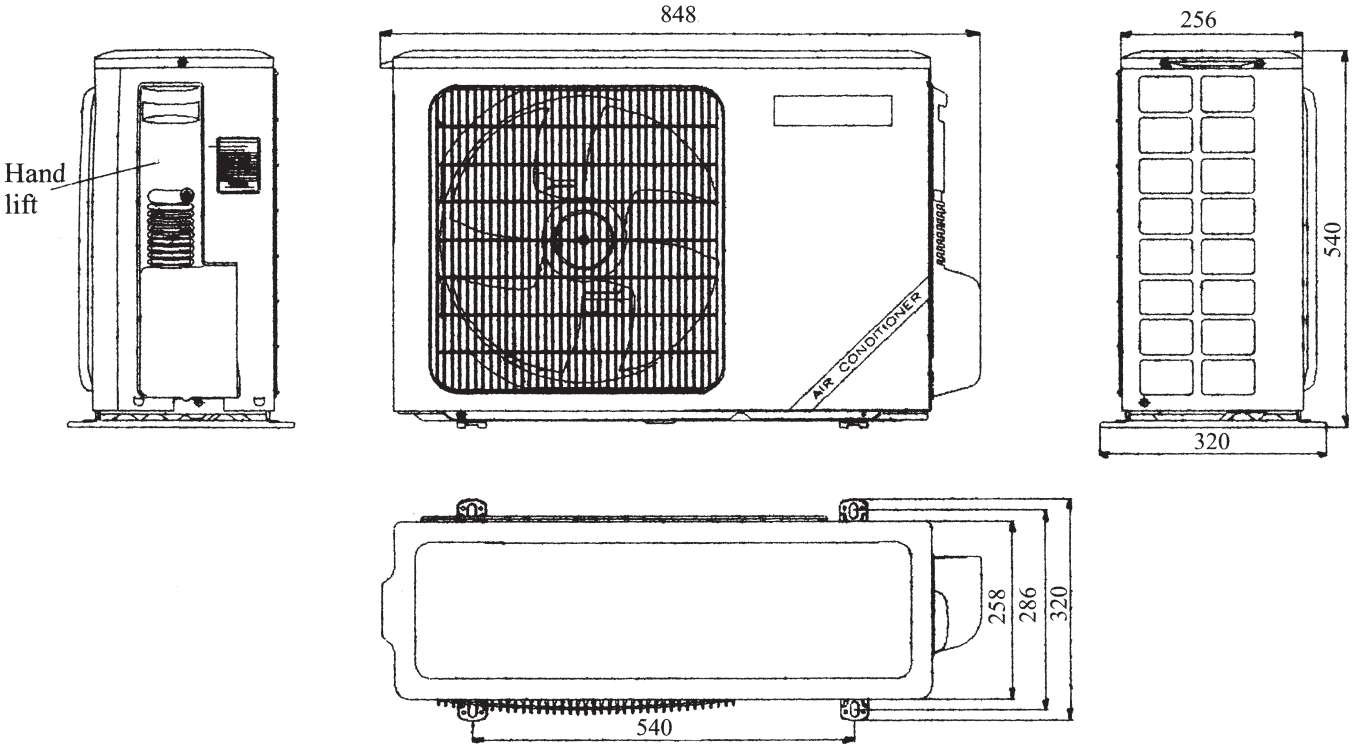


figure 3-5

3.5 Outlines and dimensions of outdoor unit

Model: KFR-25GW/JF(2545a)
KFR-32GW/JF(3245a)



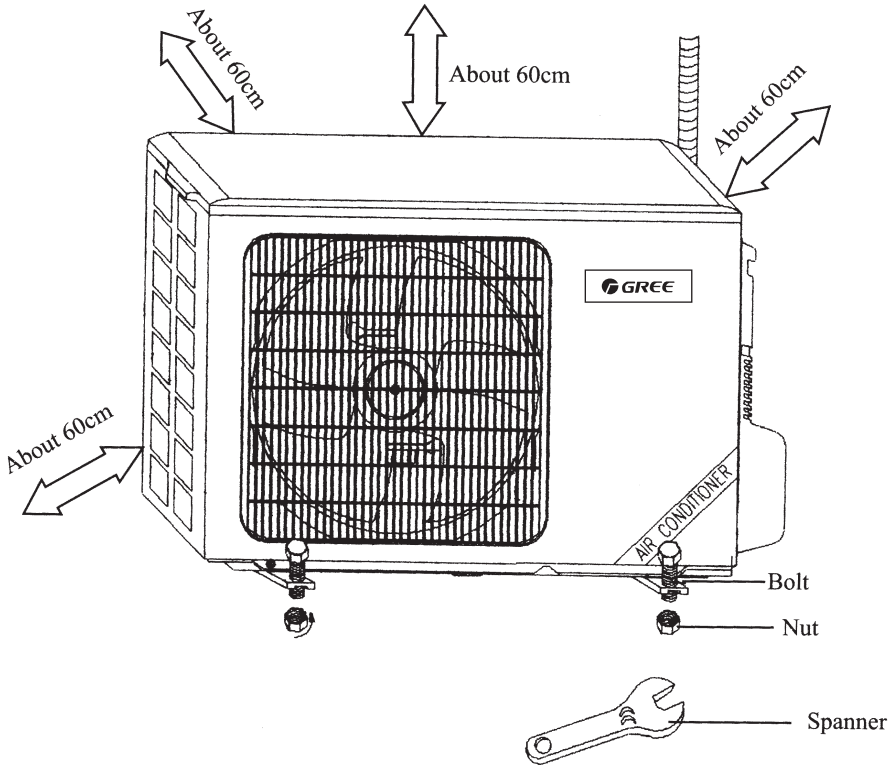


figure 3-6

3.6 Explosive view and spare parts list of indoor unit

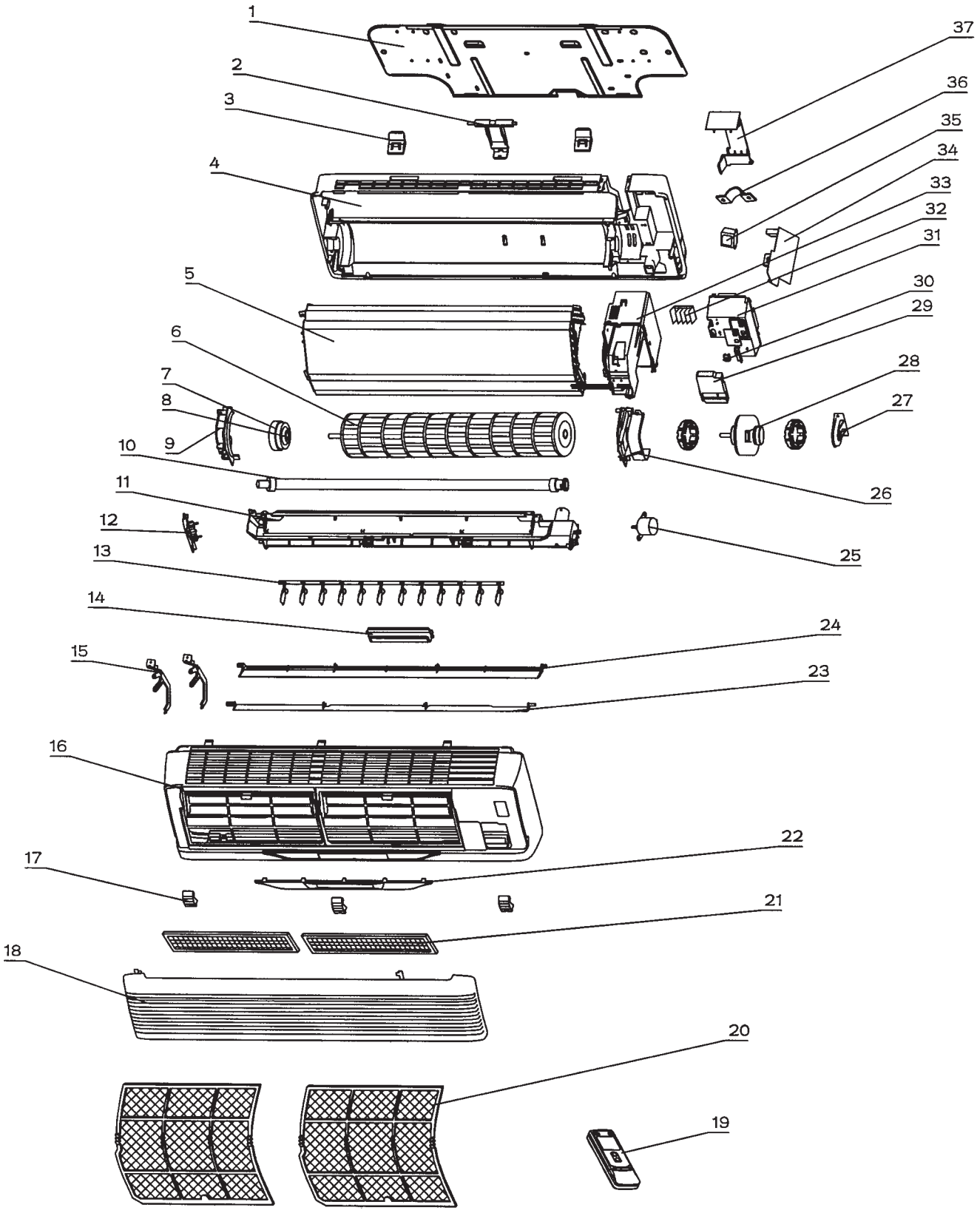


figure 3-7

Table 3-3

No.	Description		Part No.				Qty
			KFR-25G/ (2545)F	KFR-32G/ (3245)F	KFR-25W/ (2545a)F	KFR-32W/ (3245a)F	
1	Wall-Mounting Frame	壁挂板	01252381	01252381	01252381	01252381	1
2	Pipe Clamp	卡管板	26112425	26112425	26112425	26112425	1
3	Hook	挂板钩	26272421	26272421	26272421	26272421	2
4	Rear Case	底壳	22202429	22202429	22202429	22202429	1
5	Evaporator Assy	蒸发器部件	01002020	01002046	01002020	01002046	1
6	Cross Flow Fan	贯流风叶部件	10352405	10352405	10352405	10352405	1
7	Ring of Bearing	轴承胶座	76712015	76712015	76712015	76712015	1
8	Fan Bearing	风扇轴承	76512210	76512210	76512210	76512210	1
9	Motor Left Clamp	电机左卡板	261124281	261124281	261124281	261124281	1
10	Drainage Pipe	排水管	05232411	05232411	05232411	05232411	1
11	Water Tray Assy	接水盘导风系统	12122060	12122060	12122060	12122060	1
12	Stepping Motor Gear	导风电机齿轮组	10592001	10592001	10592001	10592001	1
13	Swing Assy	扫风部件	10102001	10102001	10102001	10102001	1
14	LCD Display Assy	液晶显示屏组件	22242007	22242007	22242007	22242007	1
15	Guide Louver Holder	导风板支撑架	24212429	24212429	24212429	24212429	2
16	Front Case Assy	面板体	20002407	20002407	20002407	20002407	1
17	Screw Cover	螺钉盖	24252440	24252440	24252440	24252440	3
18	Front Panel	面板	20002196	20002196	20002196	20002196	1
19	Remote Controller	遥控器	30512506	30512506	30512506	30512506	1
20	Filter	过滤网	11122440	11122440	11122440	11122440	2
21	Air Cleaner	净化器滤网	11012422	11012422	11012422	11012422	2
22	LCD Paneling	液晶镶板	22432439	22432439	22432439	22432439	1
23	Guide Louver	小导风板	10512428	10512428	10512428	10512428	1
24	Guide Louver	大导风板	10512427	10512427	10512427	10512427	1
25	Stepping Motor MP24GA	步进电机	15212102	15212102	15212102	15212102	1
26	Right Motor Clamp	电机右卡板	26112429	26112429	26112429	26112429	1
27	Bearing holder	轴承座	26152423	26152423	26152423	26152423	1
28	Motor FN8D-PG	电机 FN8D-PG	15012014	15012014	15012014	15012014	1
29	Covering Plate	接线盖板	22242411	22242411	22242411	22242411	1
30	Switching Plate	开关拨动片	26272422	26272422	26272422	26272422	1
31	Electric Box Cover	电器盒顶盖	20102430	20102430	20102430	20102430	1
32	Terminal Board	接线排GT4B4A1	42010152	42010152	42010152	42010152	1
33	Electric box	电器盒	20102429	20102429	20102429	20102429	1
34	PCB 9252A1	控制器 9252A1	30029203	\	\	\	1
	PCB 9252B1	控制器 9252B1	\	30029209	\	\	1
	PCB 9252A10A	控制器 9252A10A	\	\	30029206	\	1
	PCB 9252B10A	控制器 9252B10A	\	\	\	30029210	1
35	Transformer SC28C1A	电源变压器SC28C1A	43110173	43110173	43110173	43110173	1
36	Wire Clamp	电线夹(中)	71010103	71010103	71010103	71010103	1
37	Rear Clamp	后板卡板	26112430	26112430	26112430	26112430	1
38	Power cable	电源线	40020202	40020203	40020202	40020203	1
39	Connecting Cable	电源连接线	40020441	40020440	40020441	40020440	1
40	Air exchange cable	换气连接线	40012103	40012103	\	\	1
41	room sensor	室温感温包	39000155	39000155	39000155	39000155	1
42	tube sensor	管温感温包	39000159	39000159	39000159	39000159	1

The data are subject to change without notice.

3.7 Explosive view and spare parts list of outdoor unit

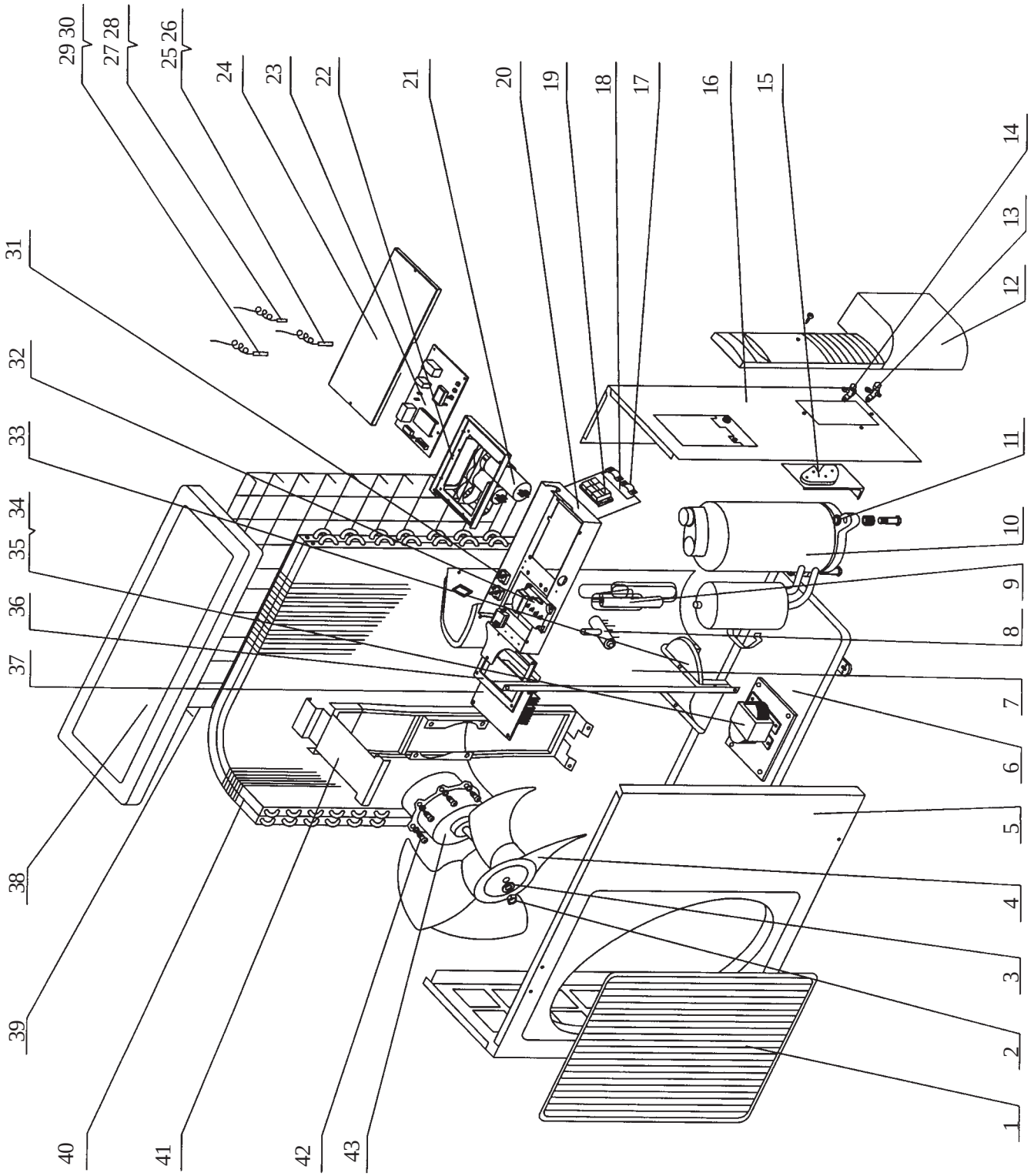


figure 3-8

Table 3-4

No.	Description		Part No.				Qty
			KFR-25W/HF	KFR-25W/JF	KFR-32W/HF	KFR-32W/JF	
1	Front Grill	面板格栅	22413431	22413431	22413431	22413431	1
2	Nut M6	螺母 M6	70310132	70310132	70310132	70310132	1
3	Washer 6	垫片 6	70410252	70410252	70410252	70410252	1
4	Axial Flow Fan	轴流风叶	10333412	10333412	10333412	10333412	1
5	Front Panel	面板	01533423	01533428	01533423	01533428	1
6	Metal Base	底盘组件	01203331	01203331	01203102	01203102	1
7	Isolation Sheet Assy	隔板组件	01233501	01233501	01233501	01233501	1
8	4-way Valve	四通阀	43000402	43000402	43000403	43000403	1
9	Capillary Assy	毛细管组件	03003067	03003067	03003085	03003085	1
10	CompressorC-1RB102H12AA	压缩机及其附件 C-1RB102H12AA	00100349	00100349	/	/	1
	Compressor C-6RV73HOH	压缩机及其附件 C-6RV73HOH	/	/	00100357	00100357	1
11	Nut with Washer M8	带垫螺母	70310011	70310011	70310011	70310011	3
12	Handle	大提手	26233422	/	26233422	/	1
	Handle	大提手	/	26233431	/	26233431	1
13	Valve 1/2"	阀门 1/2 "	/	/	07100151	07100151	1
	Valve 3/8"	阀门 3/8 "	07100139	07100139	/	/	1
14	Valve 1/4"	阀门 1/4 "	07100120	07100120	07100120	07100120	1
15	Valve Support	阀门支架	01713041	01713041	01713041	01713041	1
16	Right Side Plate	右侧板组件	01302465	01303030	01302465	01303030	1
17	Wire Clamp	电线夹(中)	71010103	71010103	71010103	71010103	1
18	Insulation Fabric	绝缘垫片	70410523	70410523	70410525	70410525	1
19	Terminal Board	三位接线板 A	42011113	42011113	42011113	42011113	1
20	Electric Box	电器盒 B	01413050	01413050	01413050	01413050	1
21	capacitor	电容 100uF/400V	33310054	33310054	33310054	33310054	1
22	Electric Box	电器盒 A	20103501	20103501	20103501	20103501	1
23	PCB W922CA	控制器W922CA	30029007	30029007	/	/	1
	PCB W922DA	控制器W922DA	/	/	30029011	30029011	1
24	Electric Box Cover	电器盒盖	01413048	01413048	01413048	01413048	1
25	Tube Sensor	室外管感温包	39000009	39000009	39000009	39000009	1
26	Sensor Insert B	感温头插片 B	42020063	42020063	42020063	42020063	1
27	Air Sensor	室外环境感温包	39000011	39000011	39000011	39000011	1
28	Sensor Support	感温包架	24215101	24215101	24215101	24215101	1
29	Compressor Sensor	压缩机感温头	39000016	39000016	39000016	39000016	1
30	Sensor Insert	感温头插片 E	42040066	42040066	42020066	42020066	1
31	Rectifier S15VB60	整流桥 S15VB60	46010601	46010601	/	/	2
	Rectifier S25VB60	整流桥 S25VB60	/	/	46010602	46010602	2
32	Power Module TM-33	电源模块 TM-33	/	/	32210084	32210084	1
	Power Module TL-105B	电源模块 TL-105B	/	/	32210081	32210081	1
	Power Module TM-03	电源模块 TM-03	32210082	32210082	/	/	1
33	Reactor Box	电抗器盒	20123025	20123025	20123025	20123025	1
34	Reactor 10mH/13A	电抗器 10mH/13A	/	/	43130156	43130156	1
	Reactor 10mH/8.5A	电抗器 10mH/8.5A	43130157	43130157	/	/	1
35	Soleplate	底板	22223401	22223401	22223401	22223401	1
36	Module Support	模块支架	24213025	24213025	24213025	24213025	1
37	Radiator	散热片	49010203	49010203	49010203	49010203	1
38	Top Cover Assy	顶盖组件	01253260	01253260	01253260	01253260	1
39	Rear Grill Assy	后护网组件	11123402	11123402	11123402	11123402	1
40	Condenser Assy	冷凝器组件	01103071	01103071	/	/	1
	Condenser Assy	冷凝器组件	/	/	01133031	01133031	1
41	Motor Support	电机支架	01703069	01703069	01703067	01703067	1

Table 3-4 continue

No.	Description		Part No.				Qty
			KFR-25W/HF	KFR-25W/JF	KFR-32W/HF	KFR-32W/JF	
42	Self-tapping Screw	螺钉	10140165	10140165	10140165	10140165	4
43	Motor FW25F	电机 FW25F	15013501	15013501	15013501	15013501	1

The data are subject to change without notice.

3.8 Circuit diagram

These circuit diagrams are subject to change without notice.
Please refer to the ones stuck on the machines.

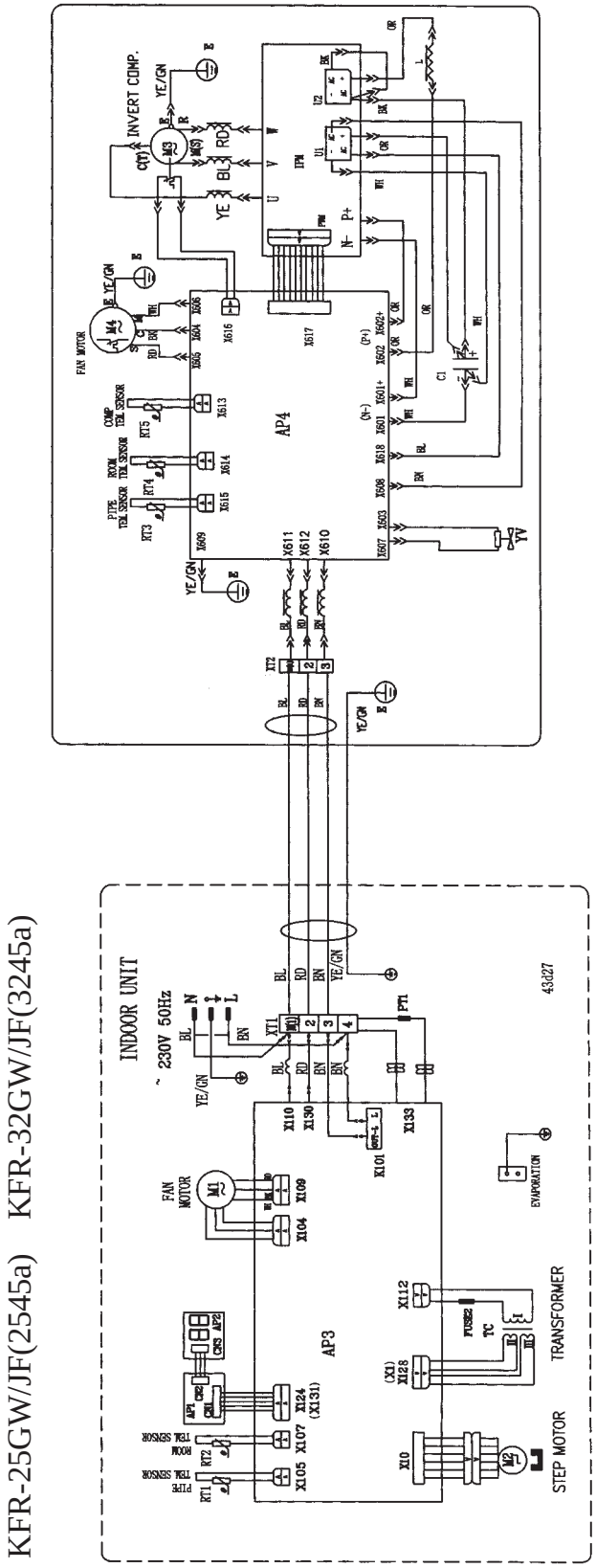


figure 3-9

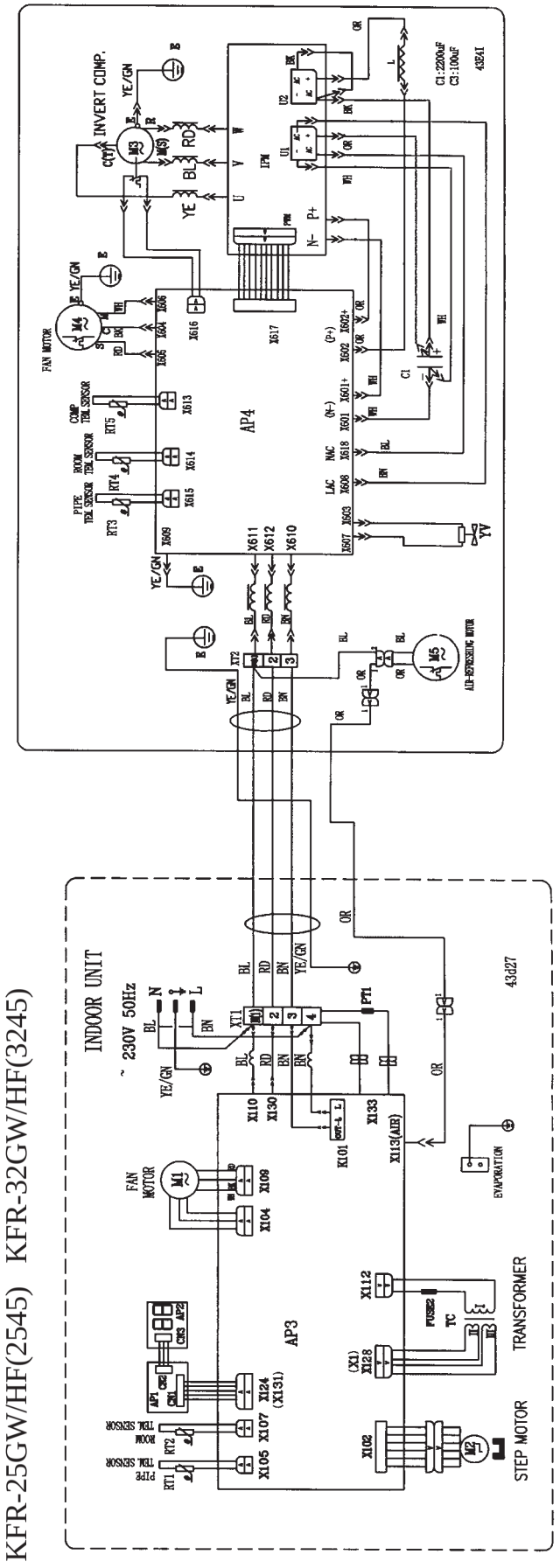

KFR-25GW/HF(2545) KFR-32GW/HF(3245)
INDOOR UNIT
~ 230V 50Hz
INVERT COMP.
FAN MOTOR
STEP MOTOR
TRANSFORMER
AP3
AP4
EVAPORATION
AIR-REFRESHING MOTOR
43227
43241

figure 3-10

3.9 PCB function manual

The PCB function manual of the airfresh-inverter conditioner

A. running mode

1. cool 2. dry 3. fan 4. heat 5. auto 6. manual operation

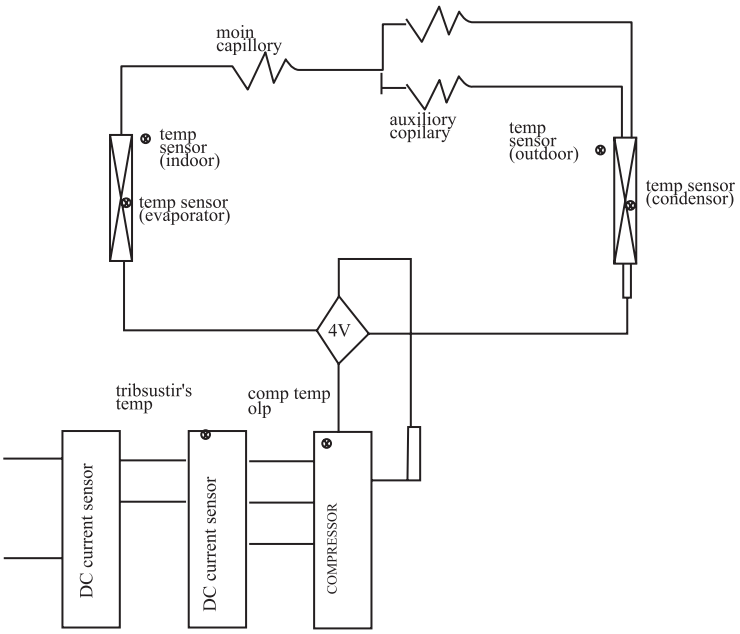
B. controlling contents

1) indoor unit fan motor(Total A,B,C,D 4 speeds from high to low). Heat mode:(A,B,C,D ,4 speed). Cool mode:(A,B,C, 3 speed);Dry mode: (C ,1speed). Auto mode :(from A to C ,according to the compressor's frequency)
   12000BTU model A=1100rpm B=900rpm C=800rpm D=600rpm
   9000BTU model A=1000rpm B=850rpm C=750rpm D=600rpm
2) swing fan motor
3) outdoor unit fan motor
4) compressor
5) electrical heater
6) fresh air fan motor
7) anion creator (air cleaner)
8) buzzer
9) bower of outdoor unit
10) 4-way reversing valve

C. the parameter to be input

1) the ambient temperature of the indoor unit and outdoor (T_{in},T_{out})
2) the evaporator temperature of the indoor unit (shorten form is T_{eva})
3) the set temperature of the indoor (shorten form is T_{set})
4) the temperature of the condenser (shorten form is T_{con})
5) the temperature of the compressor
6) the set mode
7) fan speed
8) timer mode
9) set time
10) state of guide louver
11) total current I_t

D. drawing of refrigeration system and sensor



E. the basal control modes

1) cooling mode

1. condition and process of cooling mode

(1)If $T_{in} \geqslant T_{set}$, cooling mode act, compressor and outdoor fan motor run, and indoor fan motor run in the set speed; compressor run at 58 Hz frequency ,1min later run at the correct frequency according to the changing of T_{in} and T_{set},.

a. If $T_{set} < T_{in} < T_{set}+0.5℃$, cooling mode act, compressor run at set frequency F1.

b. If $T_{set}+0.5℃ < T_{in} < T_{set}+1℃$, cooling mode act, compressor run at set frequency F2

c. If $T_{in} \geqslant T_{set}+1℃$cooling mode act, compressor run at the max frequency F_{max}.

(2) If $T_{in} \leqslant T_{set}-2℃$, the unit will be stop from cooling mode, compressor stop ,outdoor fan motor stop 30sec later, and indoor unit still run in the low speed;

(3) If $T_{set}-2℃ < T_{in} < T_{set}$, keep running in the primary mode;

2. In the cooling mode, the range of T_{set} is 16℃~30℃. Primary set temperature is 24℃.

3.The speed of compressor's frequency convert: up or down at 1Hz/sec

4. Frequency at standard rating :F_c=80Hz

5. F_{max}=95Hz

6. When the indoor unit motor run at low speed, the frequency is F=75Hz.

7. the protecting functions:

① avoiding freezing:

At cooling and dry mode, once the compressor works for 8min, when $T_{eva} \leqslant 0℃$ for over 3min, the compressor and the outdoor unit fan motor stop. at the cooling mode, the indoor unit fan motor and swing motor run in the set speed. At the dry mode , indoor fan motor run at low speed ,swing motor keep the primary mode. When $T_{eva} \geqslant 8℃$,air conditioner restart automatically.

② the protection of overload current (total current rise ,frequency down):

When the $I_t \geqslant B$, forbid the frequency to rise , When the $I_t \geqslant C$, the frequency will be down to a level, if the current continue to rise, then frequency will be down to lower .if current is litter than the set current and room temperature is higher, then the frequency will rise. If room temperature continue to rise, frequency rise too. If the current is more than a set value, then frequency will be down again. recycle etc. If $I_t \geqslant D$,compressor stop, outdoor unit fan motor stop 30 sec latter.

12000BTU B=8A C=9A D=10A

9000BTU B=6A C=7A D=8A

Before the compressor's frequency can be changed, it must be jarless for 30 sec. But the frequency must be reduced immediately when it need protection .(no 30sec waiting)

2) drying mode:

1. condition and process of drying mode:

① If $T_{in} > T_{set}$, drying mode act, compressor and outdoor fan motor run, and indoor fan motor run in the set speed; compressor run at 55Hz frequency.

② If T_{set}-2℃$\leqslant T_{in} \leqslant T_{set}$, keep the primary mode.

③ If $T_{in} < T_{set}$-2℃, compressor stop, outdoor unit fan motor stop 30 sec later, indoor unit fan motor run at low speed.

2. In drying mode, the range of T_{set} is 16℃~30℃. Primary set temperature is 24℃.

3. The speed of compressor's frequency convert: up or down at 1Hz/sec.

4. Before the compressor's frequency can be changed, it must be jarless for 30 sec.

5. protection

① Protection of Avoiding freezing in drying mode: As the same as cooling mode.

② The protection of overload current (total current rise, frequency down) as the same as cooling mode.

3) fan mode

1. In this mode, indoor fan motor can run at high、mid low or auto mode. Compressor and outdoor fan motor both stop.

2. control condition of auto fan mode:

$T_{in} > T_{set}$+4℃, high fan speed

T_{set}+2℃$\leqslant T_{in} \leqslant T_{set}$+4℃,mid fan speed

$T_{in} < T_{set}$+2℃,low fan speed

In fan mode, the range of T_{set} is 16℃~30℃. Primary set temperature is 24℃.

4) heating mode:

1. If $T_{in} \leqslant T_{set}$+1℃, heating mode act, reversing valve, compressor and outdoor unit fan motor run, indoor unit fan motor run at set speed in the condition of avoiding the cold wind; compressor start to run at 20Hz and increase gradually at a speed of 1Hz/s.Aftter compressor run at 58 Hz

frequency 1min later ,then compressor run at the correct frequency according to the changing of T_{in} and T_{set}.

a) If $T_{set} \leqslant T_{in} \leqslant T_{set}+0.5℃$, compressor run at F3.

b) If $T_{set}+0.5℃ \leqslant T_{in} \leqslant T_{set}+1℃$, compressor run at F2.

c) If $T_{set}+1℃ \leqslant T_{in} \leqslant T_{set}+1.5℃$, compressor run at F1.

d) If $T_{set} \leqslant T_{in} \leqslant T_{set}-1.5℃$, compressor run at F0.

e) If $T_{in} \leqslant T_{set}+2℃$, compressor stops, outdoor fan stops in 30 seconds, indoor fan runs at blowing surplus heat mode, the Led of compressor running switched off.

2. Compressor frequency changing rate: Compressor frequency changes up and down at the rate of 1Hz/sec.

3. The designated frequency F_c of rated heating is 90HZ.

4. The maximum frequency F_{max} is 100 HZ.

5. defrosting condition and process

When the machine is in heating mode for 45 minutes ,it begins to detect the temperature of outdoor exchange .the lasting time of $T_{eva} \leqslant -8$ ℃ is over 3 minutes ,it begins to defrost, compressor stops, outdoor fan and 4-way valve stop,30s later, compressor starts and runs at the frequency of 95Hz,the Led of indoor running keeps flashing. when compressor runs for 6 minutes or $T_{eva} \geqslant 10$ ℃, compressor stops ,30s later,4-way valve is on ,the Led of indoor running stops flashing. another 30 s later, compressor and outdoor fan keeps running ,indoor fan runs at the anti-cool air mode.

6. In this mode , the set temperature range is 16-30℃, the initial value is 24℃.

7. Anti-cool air condition: after compressor starts running for 30s, indoor fan runs at the set speed, after compressor starts running for 1 minutes, indoor fan runs at the set speed, swing motor runs at the set mode.

8. Blowing surplus heat: indoor fan runs at the smallest speed for 90s,then it stops, swing motor turns the air guider to the horizontal position.

9. Auxiliary heater working condition: in heating mode, when indoor fan is running at high or medium speed, and the indoor temperature $T_{in} \leqslant 25℃$ or indoor heat exchanger $T_{con} \leqslant 50$ ℃ , auxiliary heater is switched on. If compressor stops, indoor runs at the smallest speed or in low speed or not running or $T_{in} \geqslant 28℃ T_{con} \geqslant 56$ ℃ ,auxiliary heater stops. after the auxiliary heater being switched off ,it can not be switched on for at least 2 minutes

10. Protection:

When the current increases and frequency decreases ,the protection is :

When the current is over the rated value, $I \geqslant X$,it forbids frequency increase, when $I \geqslant Y$, the frequency decreases to the lower level ,if current continues rising ,the frequency will go down further until the current reached stability and less than the speculated value.

In this condition, if room temperature is very low ,the frequency increases to the upper level, if room temperature drops further, the frequency will goes up further. when the current is over the speculated value, the frequency will goes down to the lower level ,and so on and on:

When $I \geqslant Z$, compressor stops,30s later ,outdoor fan stops.

12000BTU

X=11A ,Y=12A ,Z=13A;

9000BTU

X=8A ,Y=9A ,Z=10A.

When frequency changes to a level , it should be in this level for at least 30s and it can change the level. but in protection mode, frequency can changes to a level and then to another level , it doesn't need 30s waiting time.

5) AUTO funcion

1. condition and process of AUTO mode

cooling T_{set} =25℃ ,heating T_{set}=20℃.

a. When $T_{in} > T_{set}+1$℃, it is in cooling mode, the set temperature is 25.When $T_{in} \leqslant T_{set}-2$℃, compressor and outdoor fan stops running ,indoor fan runs at set speed. When $T_{set}-2$℃$< T_{in} \leqslant T_{set}+1$℃,it keeps the original running status.

b. When $T_{in} \leqslant T_{set}$,it is heating mode, the set temperature is 20 ,when $T_{in} \geqslant T_{set}+3$℃,compressor stops,30s later, outdoor fan stops, indoor fan runs at blowing surplus heat mode. When $T_{set} < T_{in} < T_{set}+3$℃, it keeps the original state.

2. in this mode, you can press TEMP (∧or∨) button to increase or decrease the set temperature by 1 or 2 ℃.

F. protection

When it run in cooling, its function is same with cooling mode.

When it run in heating, its function is same with heating mode.

When ambient temperature changes, mode changing has the priority. when compressor starts, there is no function of 6 minutes control.