



BALLU

SPLIT TYPE AIR CONDITIONER

SERVICE MANUAL

KFR - 33GWE
KFR - 2501GWE
KFR - 3301GWE
KFR - 4801GWE
KF(R)- 25GWE
KF - 5002GWE
KF - 34GWE
KFR - 3201GWE

CONTENTS

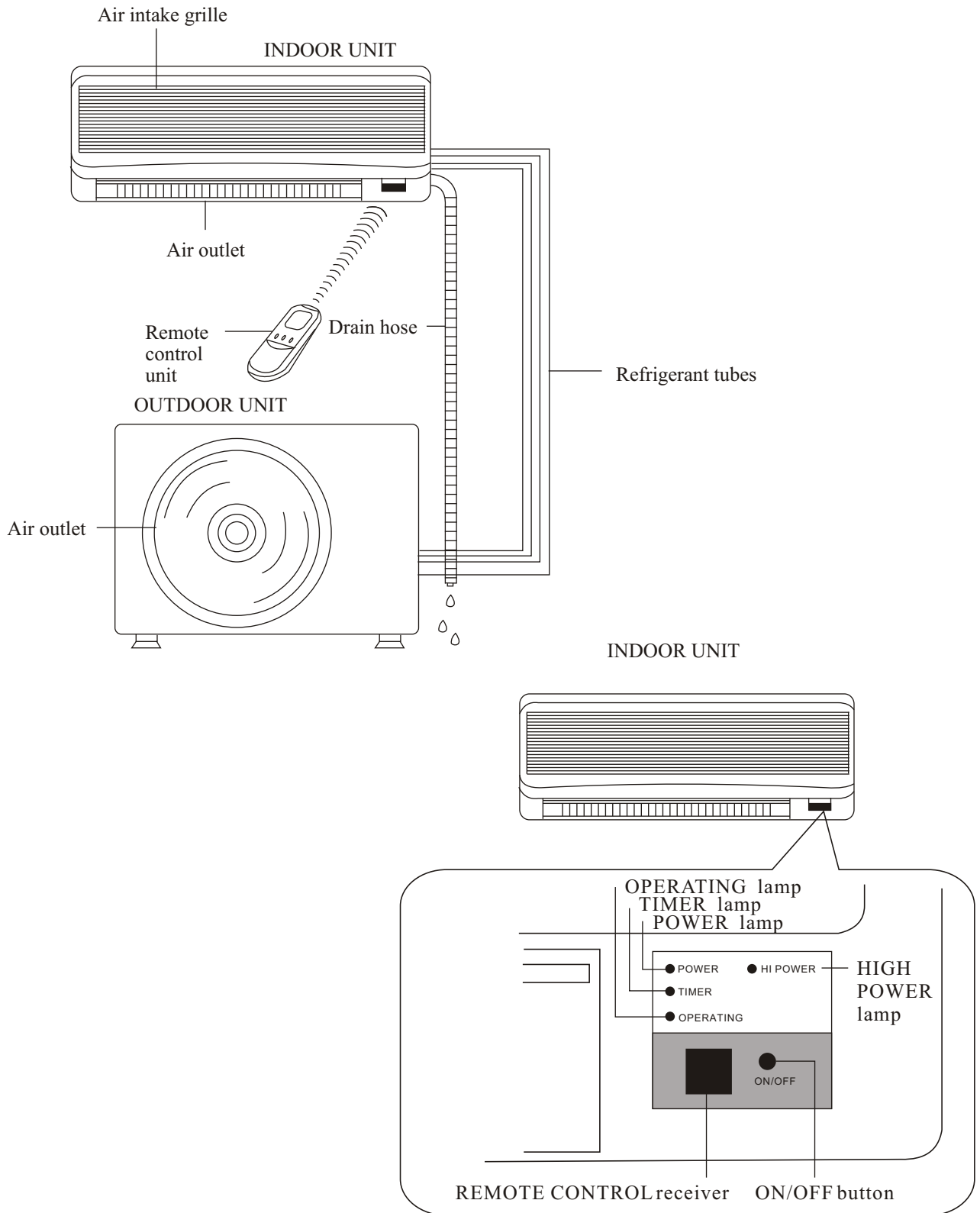
1.PART NAMES AND FUNCTIONS.....
2.SPECIFICATION.....
3.OUTLINES AND DIMENSIONS.....
4.WIRING DIAGRAM
5.REFRIGERANT SYSTEM DIAGRAM
6.PERFORMANCE DATA
7.CONTROL MODE
8.TROUBLESHOOTING
9.SERVICE FLOW CHART.....
10.SENSOR PARAMETER
11.DISASSEMBLY INSTRUCTIONS
12.PARTS LIST

1. PART NAMES AND FUNCTIONS

KFR-3301GWE KFR-3201GWE

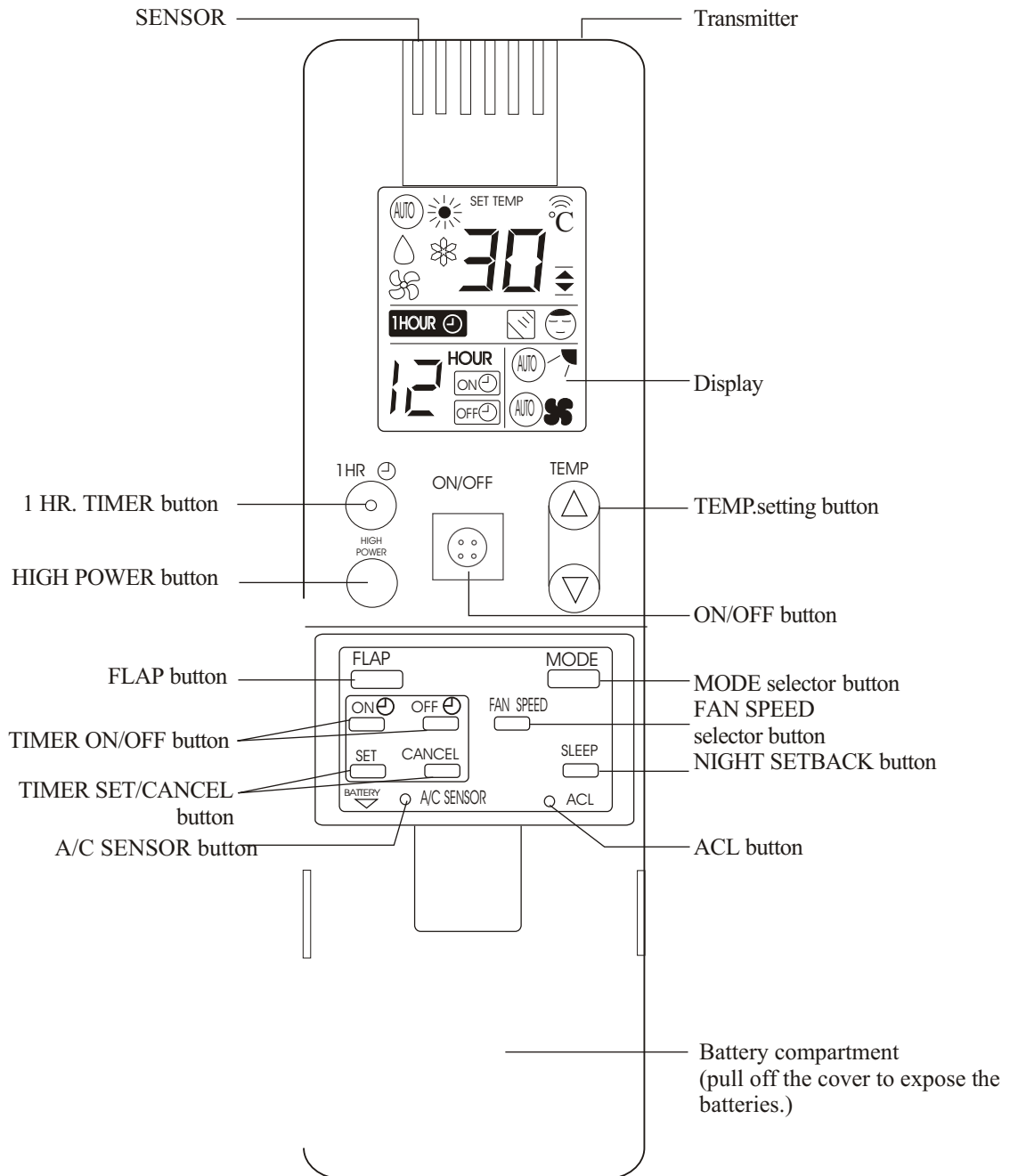
KFR-2501GWE KFR-33GWE

KF(R)-25GWE KF-34GWE



1. PART NAMES AND FUNCTIONS

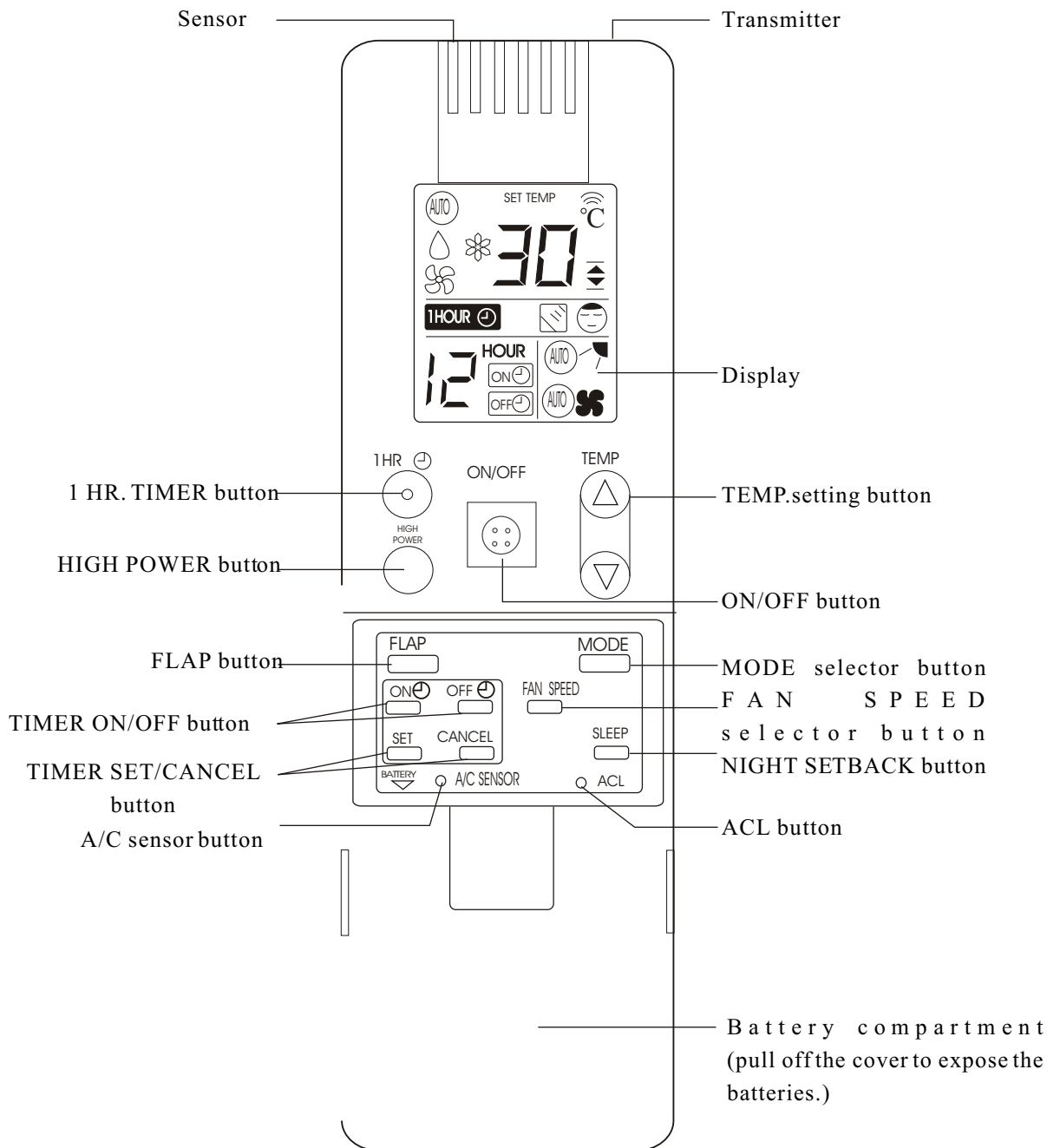
KFR-3301GWE KFR-3201GWE KFR-2501GWE KFR-33GWE KFR-25GWE



REMARK: The remote controller transmits signal to indoor unit at 3 minutes intervals. If the indoor unit has not received the signal for more than 10 minutes due to remote controller missing or other reason, the sensor on indoor unit will be used for detecting indoor temperature automatically. Here, ambient temperature of remote controller is likely to slightly different from that detecting by the indoor unit, temperature will be compensated automatically. When the remote controller is missing or the batteries are exhausted, please use the temporary switch.

1. PART NAMES AND FUNCTIONS

KF-25GWE KF-34GWE

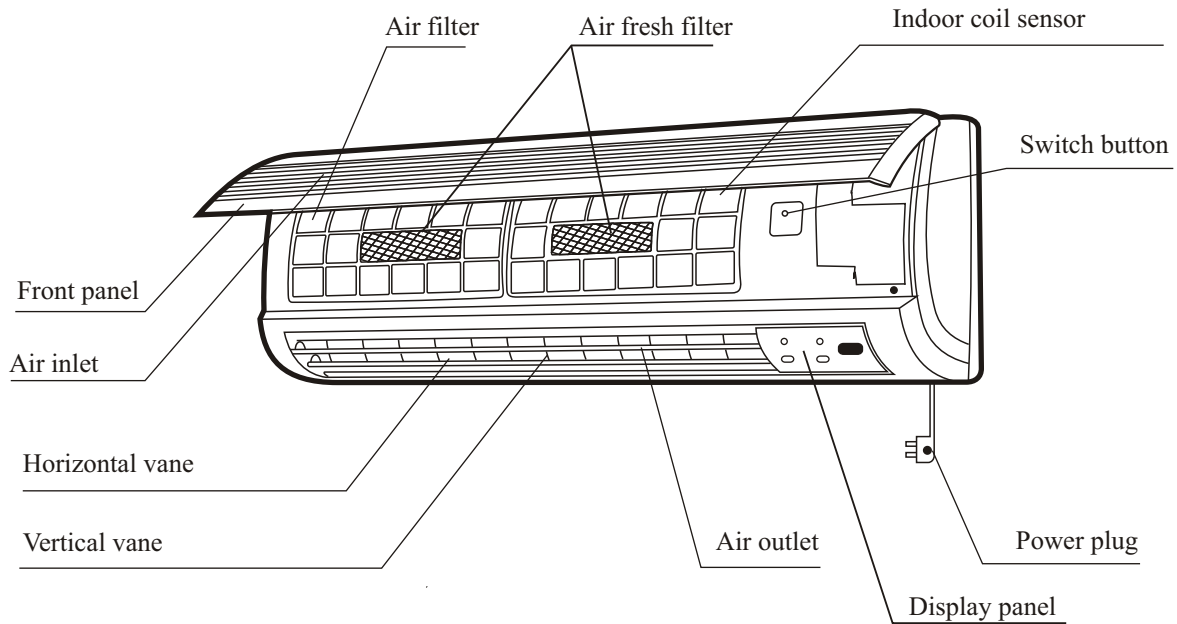


REMARK: The remote controller transmits signal to indoor unit at 3 minutes intervals. If the indoor unit has not received the signal for more than 10 minutes due to remote controller missing or other reason, the sensor on indoor unit will be used for detecting indoor temperature automatically. Here, ambient temperature of remote controller is likely to slightly different from that detecting by the indoor unit, temperature will be compensated automatically. When the remote controller is missing or the batteries are exhausted, please use the temporary switch.

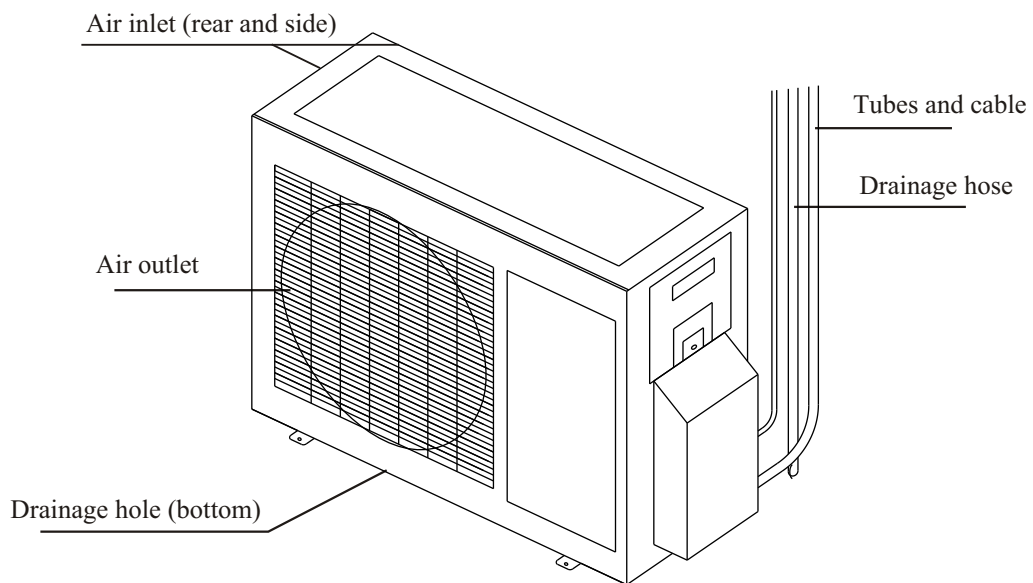
1. PART NAMES AND FUNCTIONS

KFR-4801GWE

INDOOR UNIT



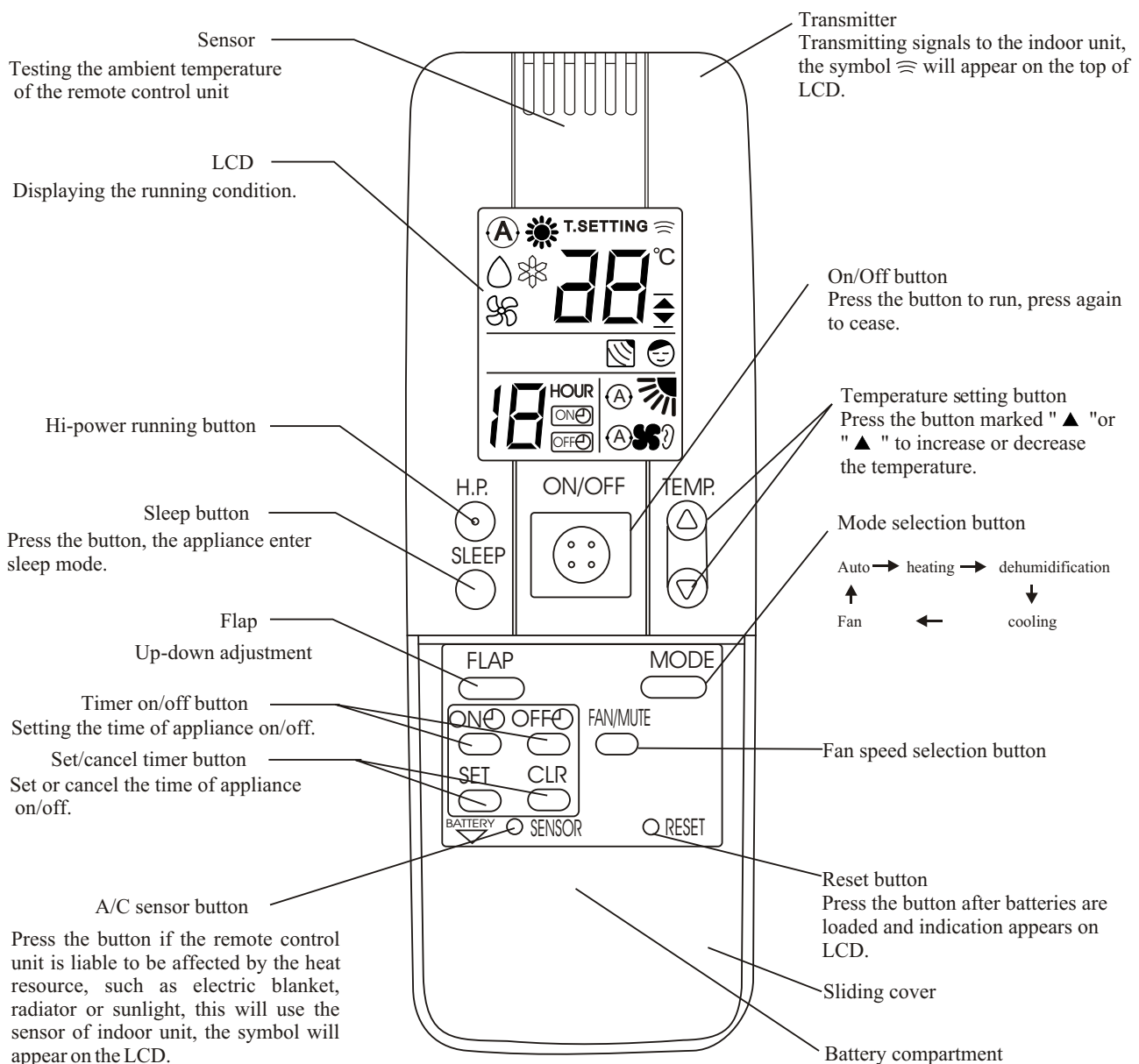
OUTDOOR UNIT



1. PART NAMES AND FUNCTIONS

KFR-4801GWE

REMOTE CONTROL UNIT



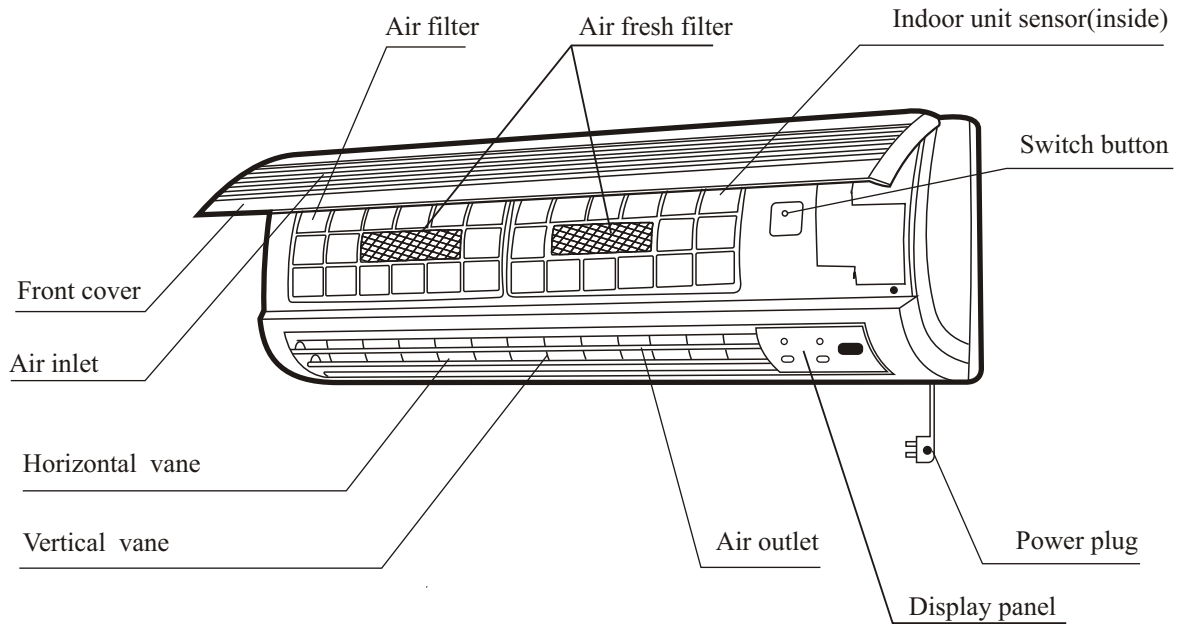
COMMONSENSE

- Remove the batteries in the remote control unit when it is not used for a long period.
- Replace the batteries when the indication on the LCD of the remote control unit is faint, or the remote control unit cannot be set or operated.
- Properly dispose of used batteries.
- Keep the remote control unit away from cold or hot air, sunlight or heat sources.
- Contact the local distributor if the receiver in the appliance does not work in a room illuminated by fluorescent tubes.
- Remote control unit must be used within its effective range or the timer and the temperature control will not function properly.
- Control will fail if two of the same model appliances are installed in the same room.
- If the remote control unit is fixed on the wall, press the On/Off button to ensure that the appliance is receiving a signal from the device.

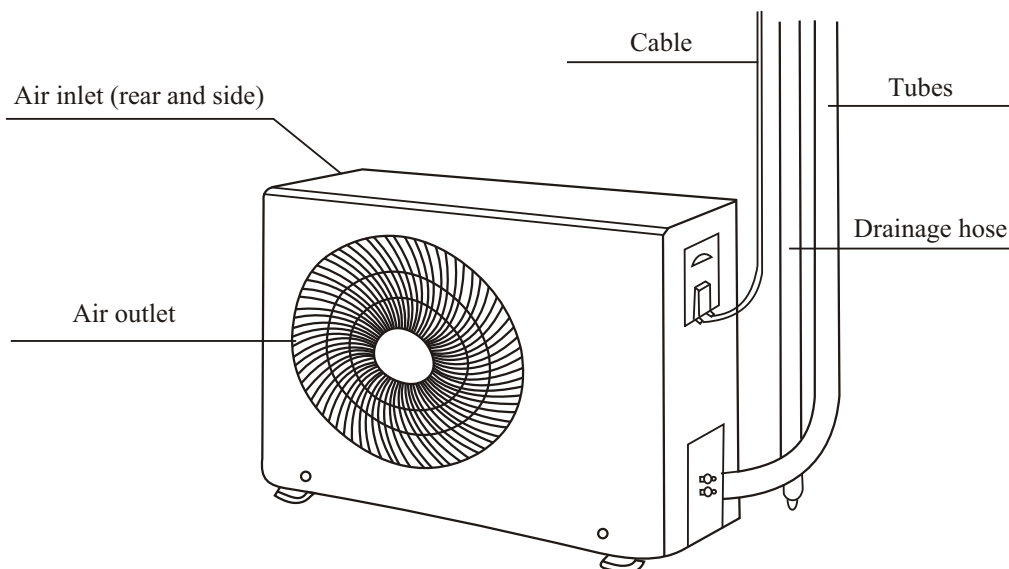
1. PART NAMES AND FUNCTIONS

KF-5002GWE

INDOOR UNIT



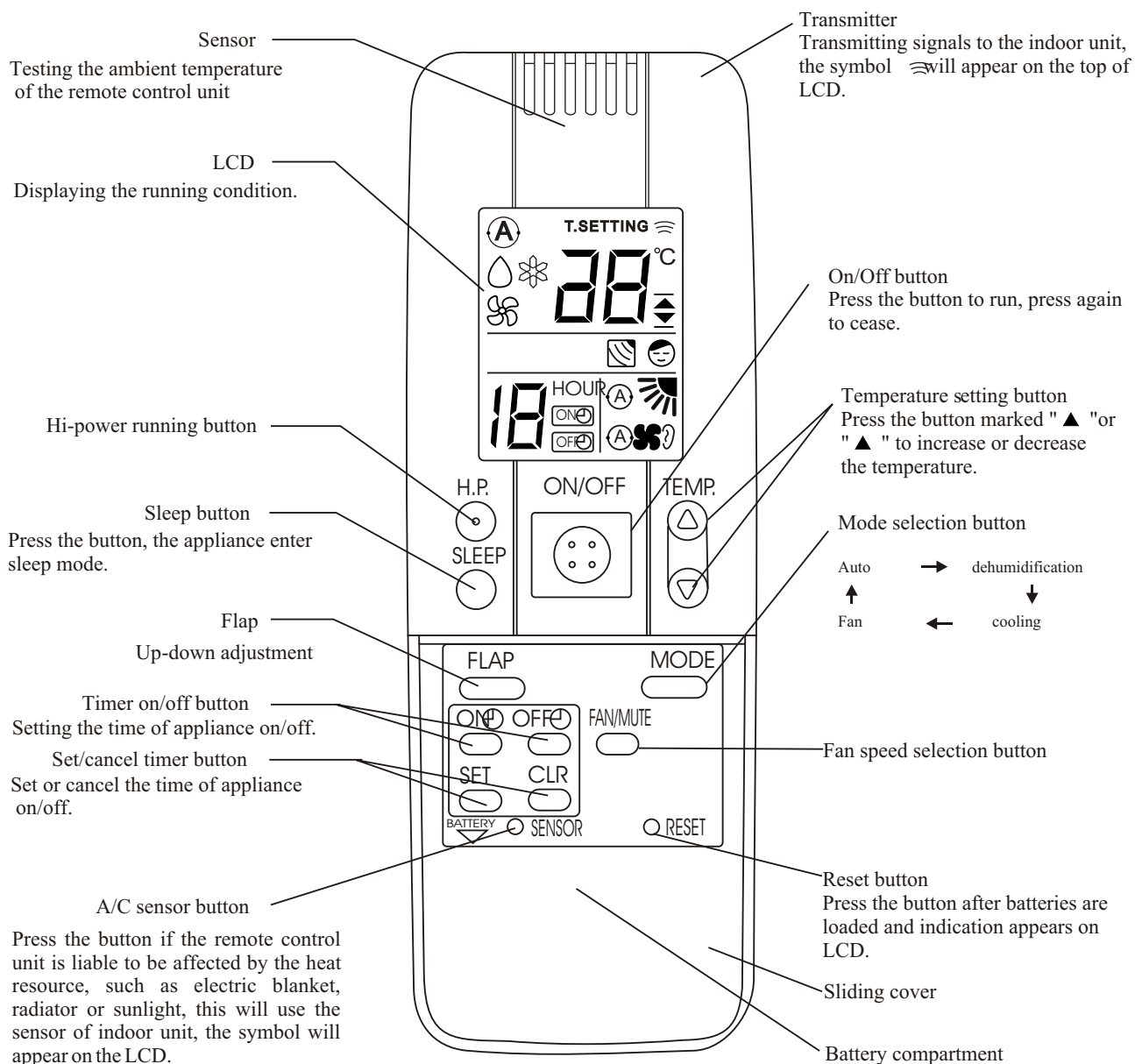
OUTDOOR UNIT



1. PART NAMES AND FUNCTIONS

KF-5002GWE

REMOTE CONTROL UNIT



COMMONSENSE

- Remove the batteries in the remote control unit when it is not used for a long period.
- Replace the batteries when the indication on the LCD of the remote control unit is faint, or the remote control unit cannot be set or operated.
- Properly dispose of used batteries.
- Keep the remote control unit away from cold or hot air, sunlight or heat sources.
- Contact the local distributor if the receiver in the appliance does not work in a room illuminated by fluorescent tubes.
- Remote control unit must be used within its effective range or the timer and the temperature control will not function properly.
- Control will fail if two of the same model appliances are installed in the same room.
- If the remote control unit is fixed on the wall, press the On/Off button to ensure that the appliance is receiving a signal from the device.

2.SPECIFICATION

Model			KF-25GWE		KF-34GWE		
Function			Cooling	Heating	Cooling	Heating	
Power supply			a.c 220V~ 50Hz		a.c 220V~ 50Hz		
Capacity	Capacity	KW	2.5		3.4		
	Dehumidification	l/h	1.0		1.5		
	Air flow	m ³ /h	450		450		
Electrical data	Power outlet	A	10		10		
	Running current	A	4.2		5.9		
	Power input	W	900		1250		
	Auxiliary heater	A(KW)					
	Power factor	%	97		97		
	Starting current	A	15		20		
	Compressor motor current	A	6.5		7.0		
Coefficient of performance(C.O.P)			2.7		2.7		
Compressor	Model		SG533QA1U		QXR-23(F)		
	Output	W	800		1100		
	Winding resistance (at20°C)	Ω	3.73		1.962		
Indoor fan motor	Model		YYW11-2-311		YYW11-2-311		
	Winding resistance (at20°C)	Ω	280		280		
Outdoor fan motor	Model		UE6-C21C4		UE6-C21C4		
	Winding resistance (at20°C)	Ω	296		296		
Dimensions	Indoor unit	Width	mm	805	805		
		Height	mm	265	265		
		Depth	mm	148	148		
	Outdoor unit	Width	mm	750	750		
		Height	mm	530	530		
		Depth	mm	270	270		
Weight	Indoor unit	kg	7.5		7.5		
	Outdoor unit	kg	37.0		39.0		
Refrigerant piping	Liquid pipe	mm	6.35		6.35		
	Gas pipe	mm	12.7		12.7		
	Connection method		Flared				
Special remarks	Air direction		6		6		
	Sound level (Hi)	Indoor unit	dB	34/39		34/43	
		Outdoor unit	dB	48		48	
	Fan speed (Hi)	Indoor unit	rpm	1850		1850	
		Outdoor unit	rpm	750		750	
	Fan speed regulator	Indoor unit		3		3	
		Outdoor unit		1		1	
	Refrigerant filling capacity(R-22)		kgΩ	0.73		1.18	
Thermitstor	RT1(at25°C)	kΩ	5		5		
	RT2(at25°C)	kΩ	5.286		5.286		

NOTE: Test conditions: Cooling: Indoor:DB27°C /Wb19°C Heating:Indoor:DB20°C/Wb15°C
 Outdoor: DB35°C/Wb24°C Outdoor:DB7°C/Wb6°C

2.SPECIFICATION

Model			KFR-25GWE		KFR-33GWE		
Function			Cooling	Heating	Cooling	Heating	
Power supply			a.c 220V~ 50Hz		a.c 220V~ 50Hz		
Capacity	Capacity	KW	2.5	3.0	3.3	3.65	
	Dehumidification	ℓ/h	1.0		1.5		
	Air flow	m ³ /h	450		450		
Electrical data	Power outlet	A	10		10		
	Running current	A	4.3	4.3	5.8	6.0	
	Power input	W	950	950	1220	1260	
	Auxiliary heater	A(KW)					
	Power factor	%	97		97		
	Starting current	A	15		20		
	Compressor motor current	A	6.5		7.0		
	Fan motor current	A	0.5		0.5		
Coefficient of performance(C.O.P)			2.6		2.7		
Compressor	Model		SG633		QXR-23(F)		
	Output	W	800		1100		
	Winding resistance (at20°C)	Ω	3.73		1.962		
Indoor fan motor	Model		YYW11-2-311		YYW11-2-311		
	Winding resistance (at20°C)	Ω	280		280		
Outdoor fan motor	Model		UE6-C21C4		UE6-C21C4		
	Winding resistance (at20°C)	Ω	296		296		
Dimensions	Indoor unit	Width	mm	805		805	
		Height	mm	265		265	
		Depth	mm	148		148	
	Outdoor unit	Width	mm	750		750	
		Height	mm	530		530	
		Depth	mm	270		270	
Weight	Indoor unit	kg	7.5		7.5		
	Outdoor unit	kg	37.0		40.0		
Refrigerant piping	Liquid pipe	mm	6.35		6.35		
	Gas pipe	mm	12.7		12.7		
	Connection method			Flared			
Special remarks	Air direction			6	6		
	Sound level (Hi)	Indoor unit	dB	34/40		34/43	
		Outdoor unit	dB	48		41/48	
	Fan speed (Hi)	Indoor unit	rpm	1850/1700/1600		1850/1700/1600	
		Outdoor unit	rpm	750		750	
	Fan speed regulator	Indoor unit		3		3	
		Outdoor unit		1		1	
	Refrigerant filling capacity(R-22)		kgΩ	0.84		1.30	
Thermitstor	RT1(at25°C)	kΩ	5.286		5.286		

NOTE:Test conditions: Cooling: Indoor:DB27°C/WB19°C Heating:Indoor:DB20°C/WB15°C
 Outdoor:DB35°C/WB24°C Outdoor:DB7°C/Wb6°C

2.SPECIFICATION

Model			KFR-3301GWE		KFR-3201GWE	
Function			Cooling	Heating	Cooling	Heating
Power supply			a.c 220V~ 50Hz		a.c 220V~ 50Hz	
Capacity	Capacity	KW	3.30	3.55	3.20	3.75
	Dehumidification	ℓ/h	1.5		1.5	
	Air flow	m ³ /h	420		420	
Electrical data	Power outlet	A	10		10	
	Running current	A	5.8	6.0	5.8	6.8
	Power input	W	1.22	1.26	1.25	1.40
	Auxiliary heater	A(KW)				
	Power factor	%	97		97	
	Starting current	A	20		20	
	Compressor motor current	A	7.0		7.0	
	Fan motor current	A	0.5		0.5	
Coefficient of performance(C.O.P)						
Compressor	Model		QXR-23(F)		QXR-23(F)	
	Output	W	1100		1100	
	Winding resistance (at20°C)	Ω	1.962		1.962	
Indoor fan motor	Model		YYW11-2-311		YYW11-2-311	
	Winding resistance (at20°C)	Ω	280		280	
Outdoor fan motor	Model		UE6-C21C4		UE6-C21C4	
	Winding resistance (at20°C)	Ω	296		296	
Dimensions	Indoor unit	Width	mm	805		805
		Height	mm	265		265
		Depth	mm	148		148
	Outdoor unit	Width	mm	750		750
		Height	mm	530		530
		Depth	mm	270		270
Weight	Indoor unit	kg	7.5		7.5	
	Outdoor unit	kg	40.0		40.0	
Refrigerant piping	Liquid pipe	mm	6.35		6.35	
	Gas pipe	mm	12.7		12.7	
	Connection method			Flared		
Special remarks	Air direction			6		6
	Sound level (Hi)	Indoor unit	dB	34/43		34/43
		Outdoor unit	dB	41/48		41/48
	Fan speed (Hi)	Indoor unit	rpm	1850/1700/1600		1850/1700/1600
		Outdoor unit	rpm	750		750
	Fan speed regulator	Indoor unit		3		3
		Outdoor unit		1		1
	Refrigerant filling capacity(R-22°C)		kgΩ	1.30		1.18

NOTE: Test conditions: Cooling: Indoor:DB27°C /WB19°C Heating:Indoor:DB20°C /WB15°C
 Outdoor:DB35°C /WB24°C Outdoor:DB7°C /Wb6°C

2.SPECIFICATION

Model			KFR-4801GWE		KF-5002GWE		
Function			Cooling	Heating	Cooling	Heating	
Power supply			a.c 220V~ 50Hz		a.c 220V~ 50Hz		
Capacity	Capacity	KW	4.8	5.8	5.0		
	Dehumidification	ℓ/h	2.0		2.0		
	Air flow	m ³ /h	720	740	740		
Electrical data	Power outlet	A	16		16		
	Running current	A	9.0	10.0	9.0		
	Power input	W	1.85	2.10	1.92		
	Auxiliary heater	A(KW)					
	Power factor	%	97		97		
	Starting current	A	35		35		
	Compressor motor current	A	10.0		10.0		
	Fan motor current	A	0.2		0.2		
Coefficient of performance(C.O.P)			2.6		2.6		
Compressor	Model		SHW33TC4-V		SHW33TC4-V		
	Output	W	1800		1800		
	Winding resistance (at20°C)	Ω	1.47		1.47		
Indoor fan motor	Model		YYW28-4-751		YYW28-4-751		
	Winding resistance (at20°C)	Ω					
Outdoor fan motor	Model		UE6-C51A4		KFG6S-C41A4		
	Winding resistance (at20°C)	Ω	103		92		
Dimensions	Indoor unit	Width	mm	905		905	
		Height	mm	285		285	
		Depth	mm	235		235	
	Outdoor unit	Width	mm	900		830	
		Height	mm	630		630	
		Depth	mm	300		305	
Weight	Indoor unit	kg	13.0		13.0		
	Outdoor unit	kg	57.0		54.0		
Refrigerant piping	Liquid pipe	mm	6.35		12.7		
	Gas pipe	mm	6.35		12.7		
	Connection method						
Special remarks	Air direction		6		6		
	Sound level (Hi)	Indoor unit	dB	39/45		34/45	
		Outdoor unit	dB	52		50	
	Fan speed (Hi)	Indoor unit	rpm	1250/1050/900		1250/1050/900	
		Outdoor unit	rpm	780		780	
	Fan speed regulator	Indoor unit		3		3	
		Outdoor unit		1		1	
Refrigerant filling capacity(R-22°C)		kgΩ	1.75		1.85		

NOTE:Test conditions: Cooling: Indoor:DB27°C /WB19°C Heating:Indoor:DB20°C/WB15°C
 Outdoor:DB35°C/WB24°C Outdoor:DB7°C/Wb6°C

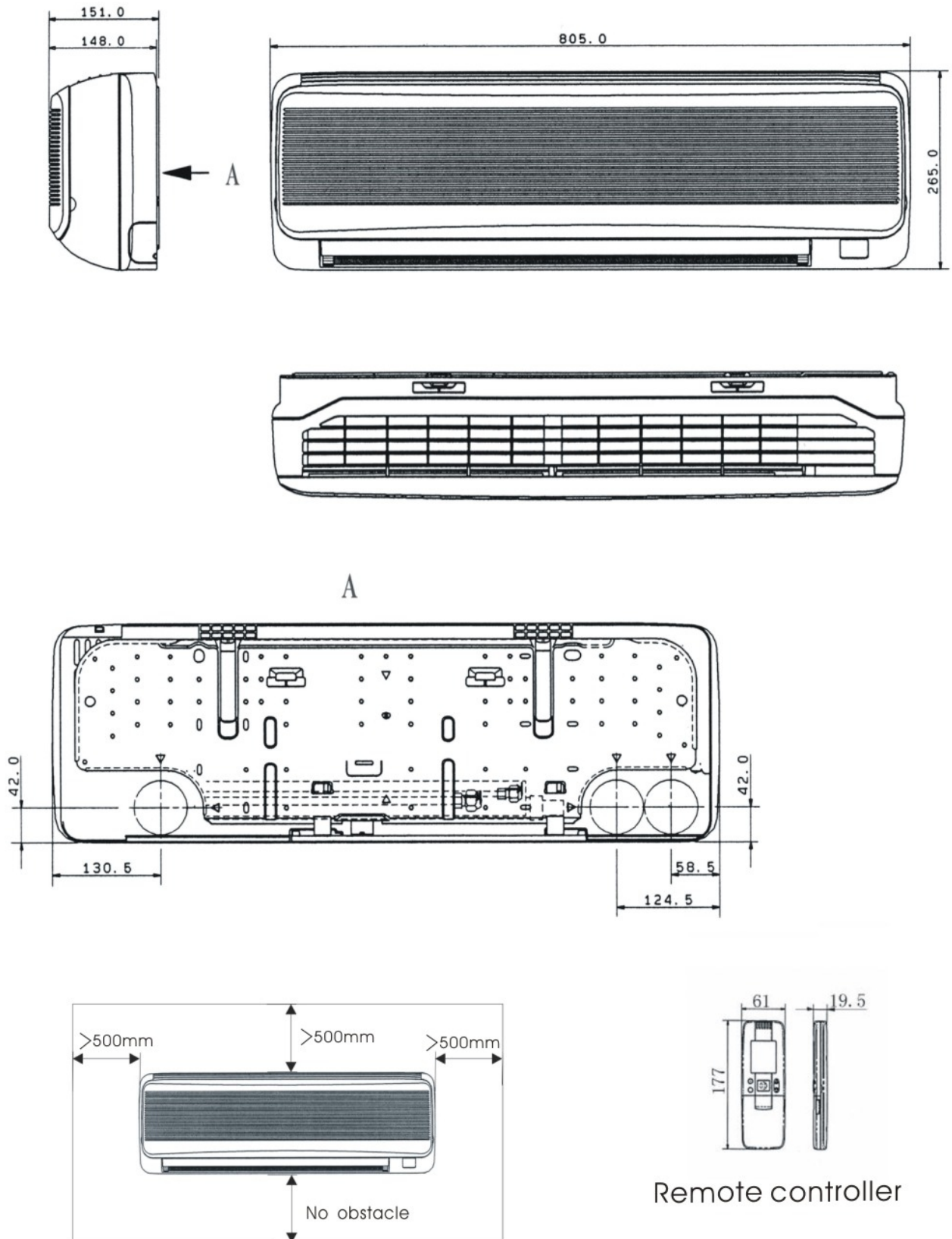
2.SPECIFICATION

Model			KFR-2501GWE	
Function			Cooling	Heating
Power supply			a.c 220V~ 50Hz	
Capacity	Capacity	KW	2.5	3.0
	Dehumidification	ℓ/h	1	
	Air flow	m³/h	420	
Electrical data	Power outlet	A	10	
	Running current	A	4.2	4.2
	Power input	W	0.98	0.98
	Auxiliary heater	A(KW)		
	Power factor	%	97	
	Starting current	A	15	
	Compressor motor current	A	0.5	
	Fan motor current	A	0.2	
Coefficient of performance(C.O.P)			2.7	
Compressor	Model		SG633	
	Output		950	
	Winding resistance (at20°C)	Ω	3.73	
Indoor fan motor	Model		YYW11-2-311	
	Winding resistance (at20°C)	Ω	280	
Outdoor fan motor	Model		UE6-C21C4	
	Winding resistance (at20°C)	Ω	296	
Dimensions	Indoor unit	Width	mm	805
		Height	mm	265
		Depth	mm	148
	Outdoor unit	Width	mm	750
		Height	mm	530
		Depth	mm	270
Weight	Indoor unit		kg	7.5
	Outdoor unit		kg	37.0
Refrigerant piping	Liquid pipe		mm	6.35
	Gas pipe		mm	12.7
	Connection method			
	Air direction			6
Special remarks	Sound level (Hi)	Indoor unit	dB	41
		Outdoor unit	dB	48
	Fan speed (Hi)	Indoor unit	rpm	1850
		Outdoor unit	rpm	750
	Fan speed regulator	Indoor unit		3
		Outdoor unit		1
	Refrigerant filling capacity(R-22)		kg	0.80
Thermitstor	RT1(at25°C)	κΩ	5.286	

NOTE:Test conditions: Cooling: Indoor:DB27°C /WB19°C Heating:Indoor:DB20°C /WB15°C
 Outdoor:DB35°C/WB24°C Outdoor:DB7°C/Wb6°C

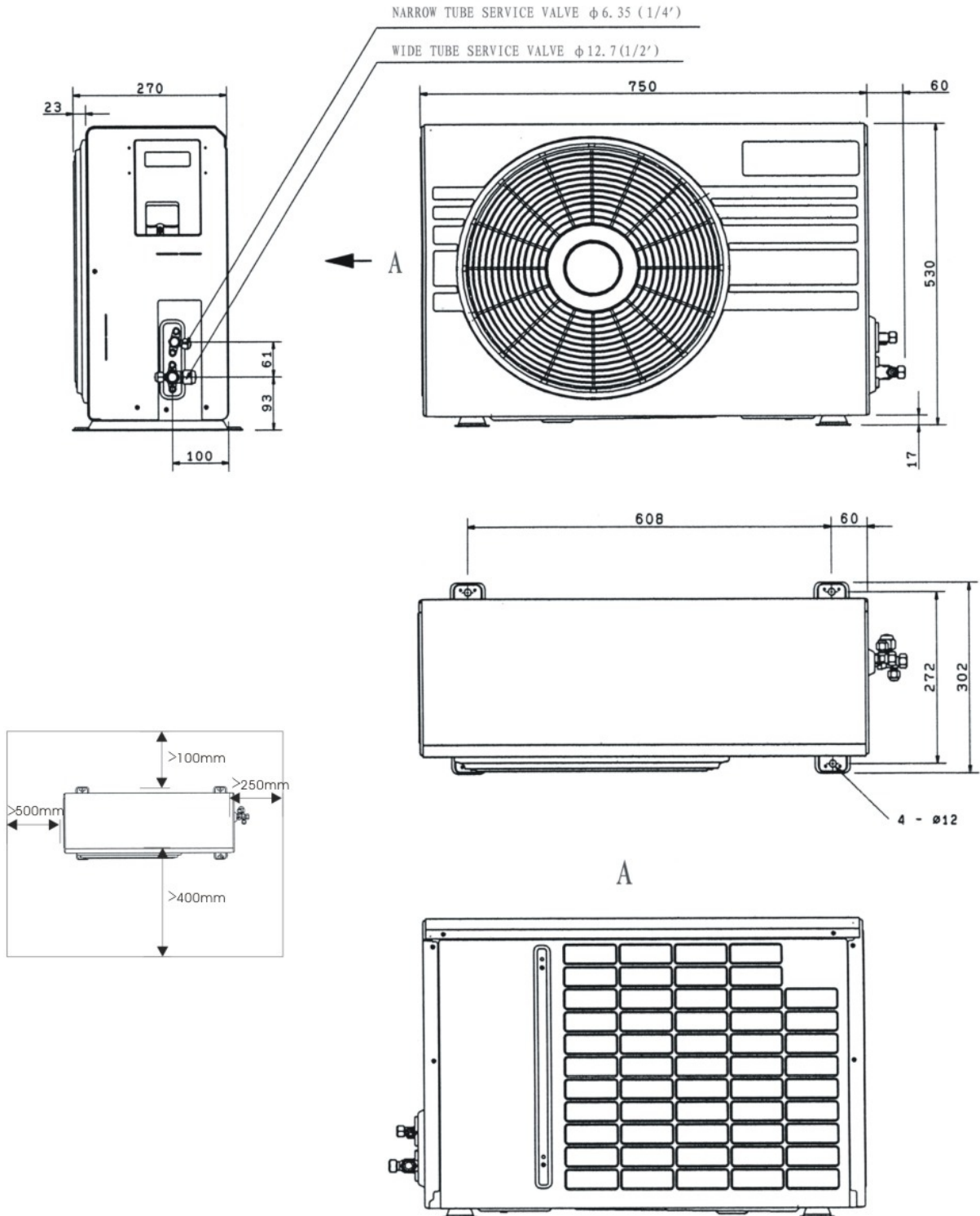
3.OUTLINES AND DIMENSIONS

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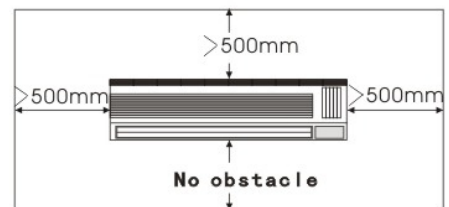
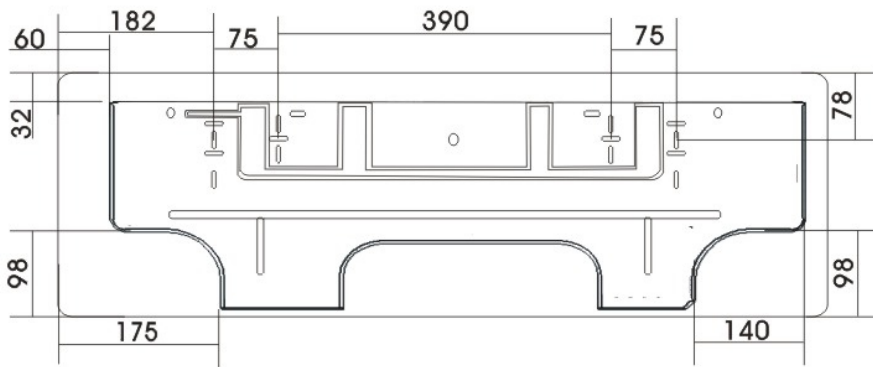
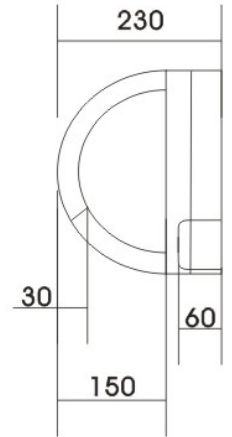
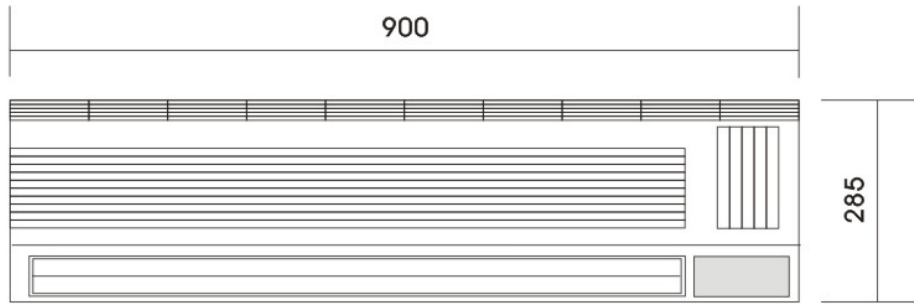
3. OUTLINES AND DIMENSIONS

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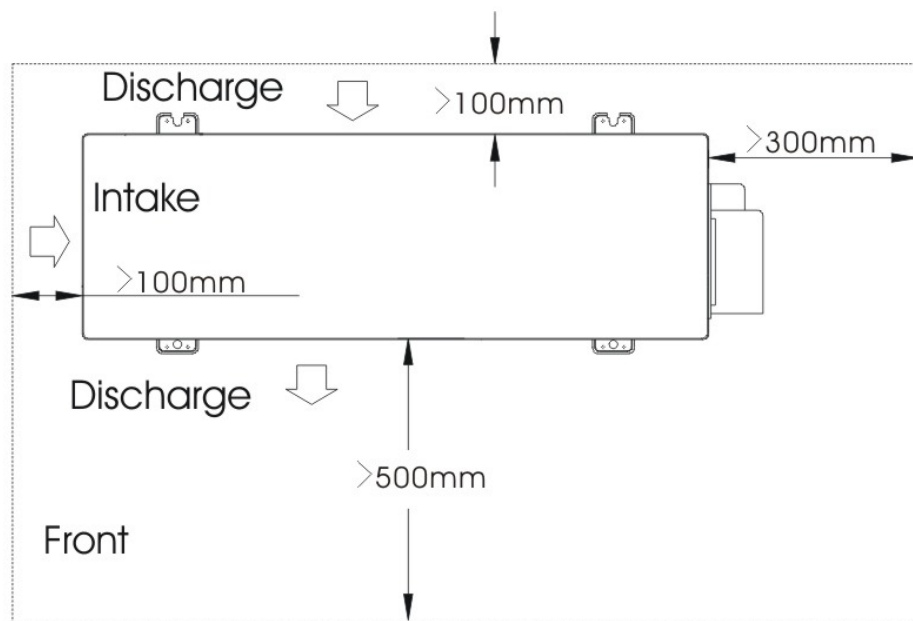
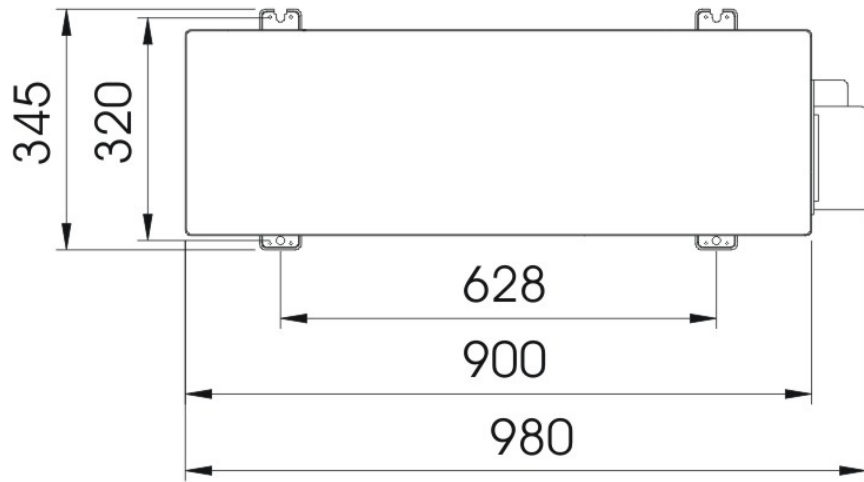
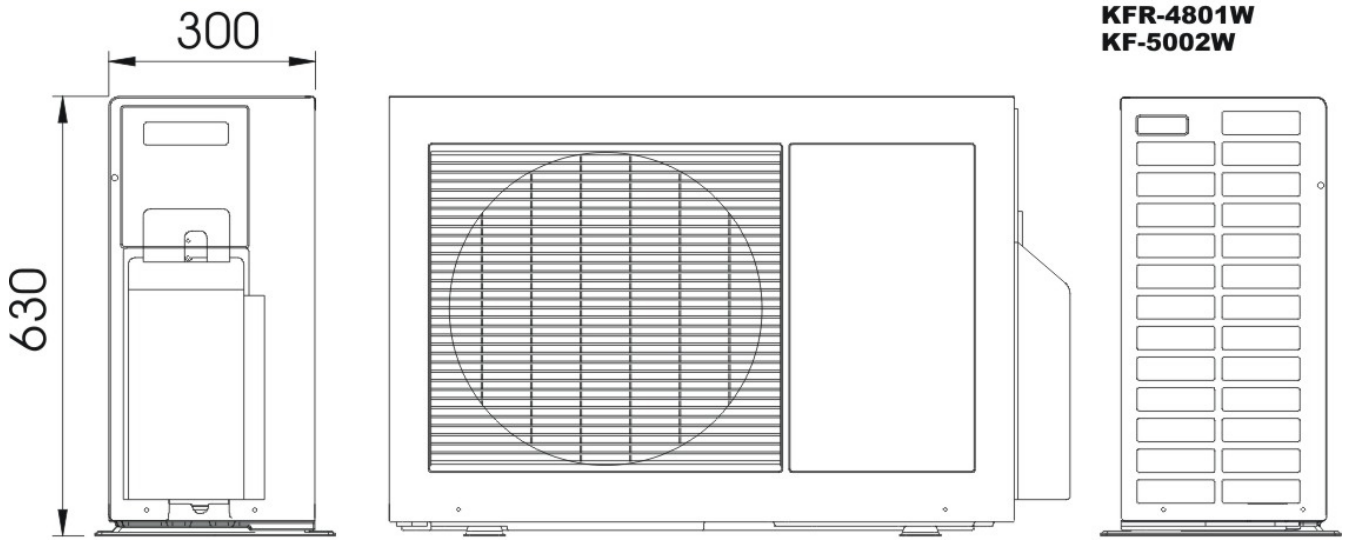
3.OUTLINES AND DIMENSIONS

KFR-4801G
KF-5002G



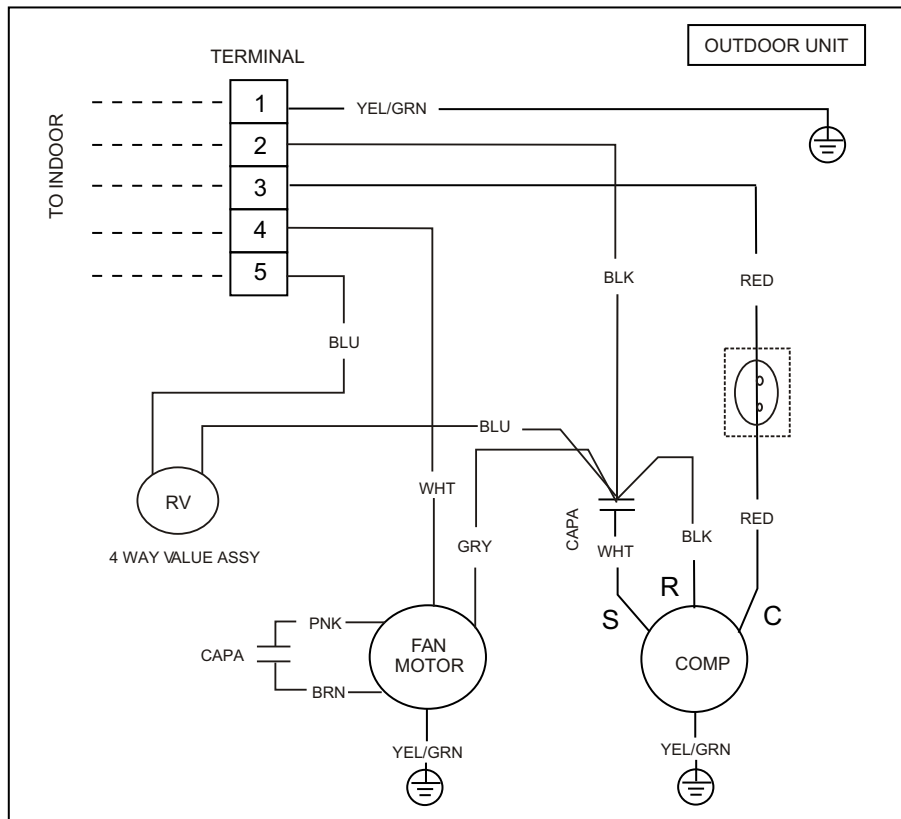
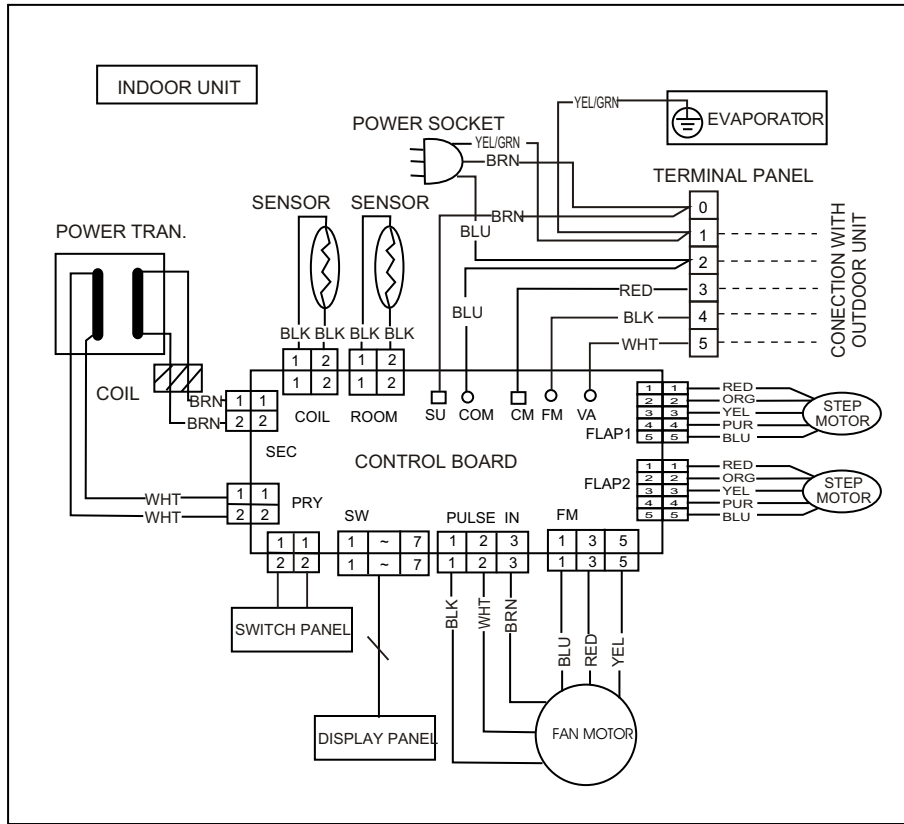
3.OUTLINES AND DIMENSIONS

KFR-4801W
KF-5002W



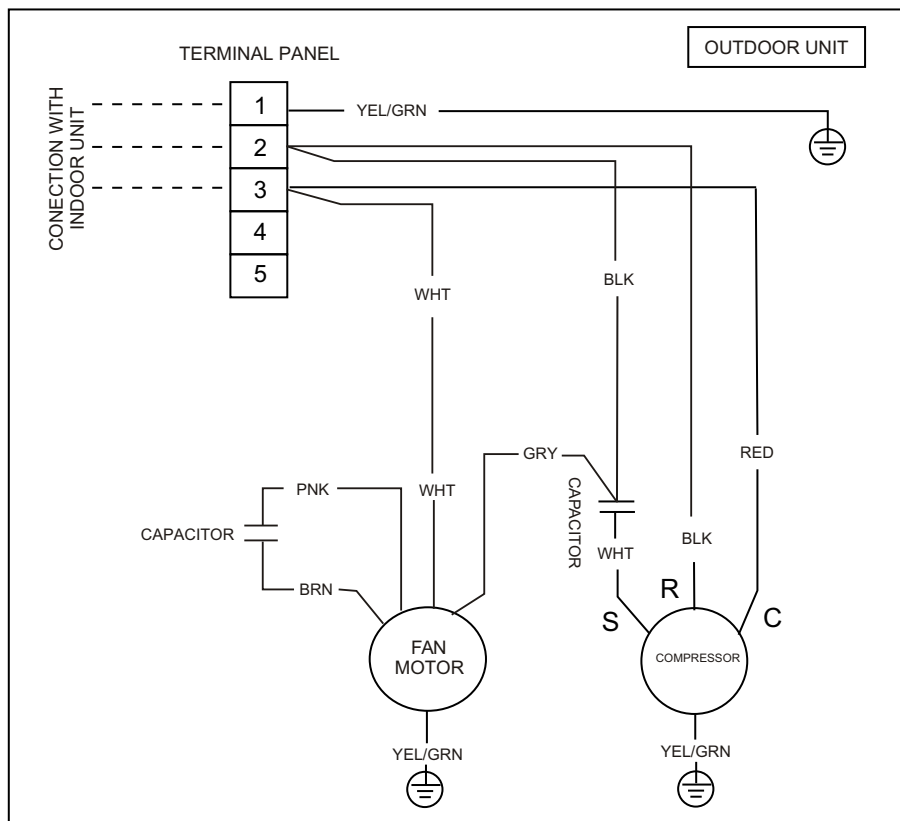
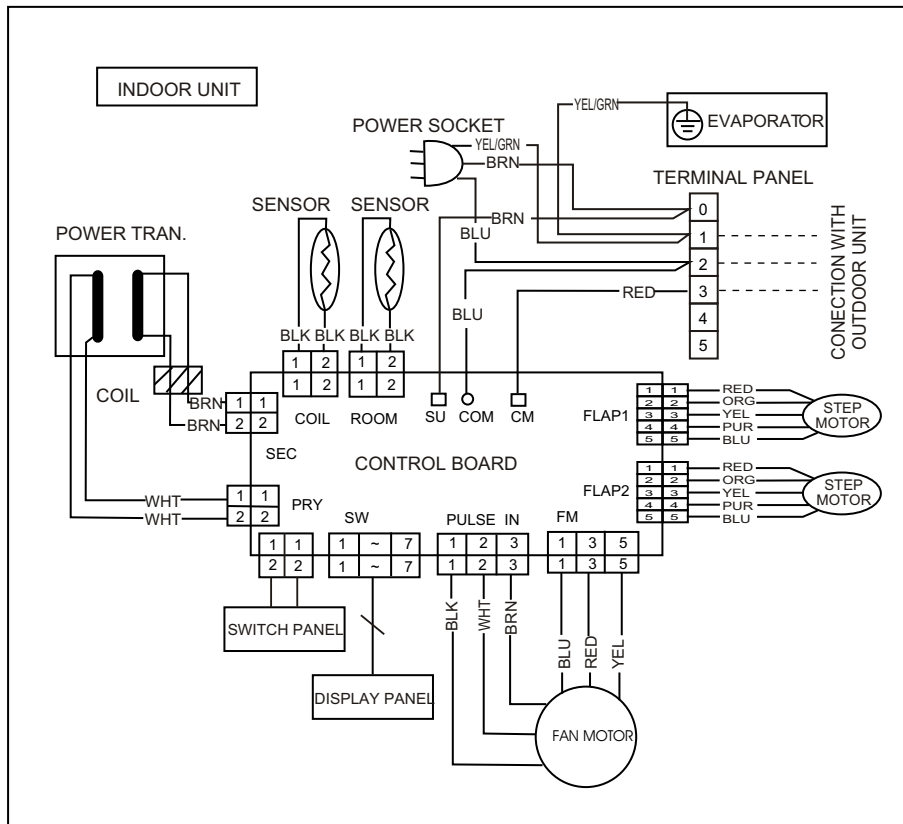
4. WIRING DIAGRAM

KFR-4801GWE



4. WIRING DIAGRAM

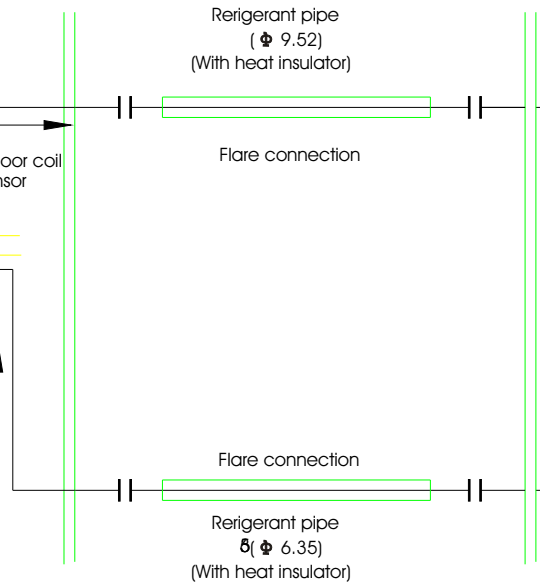
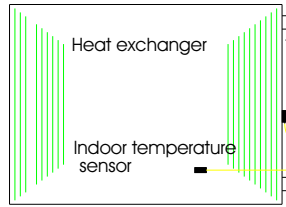
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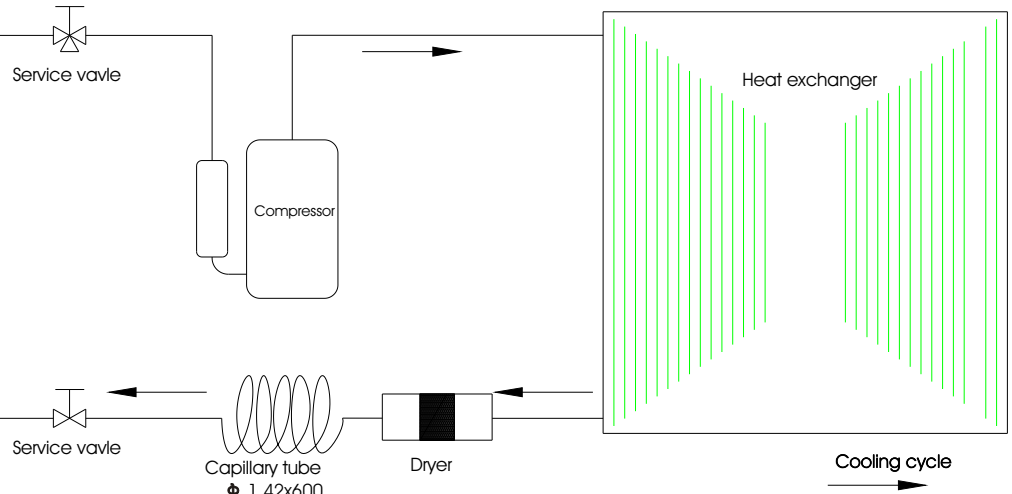
5. REFRIGERANT SYSTEM DIAGRAM

KF-25GWE

INDOOR UNIT

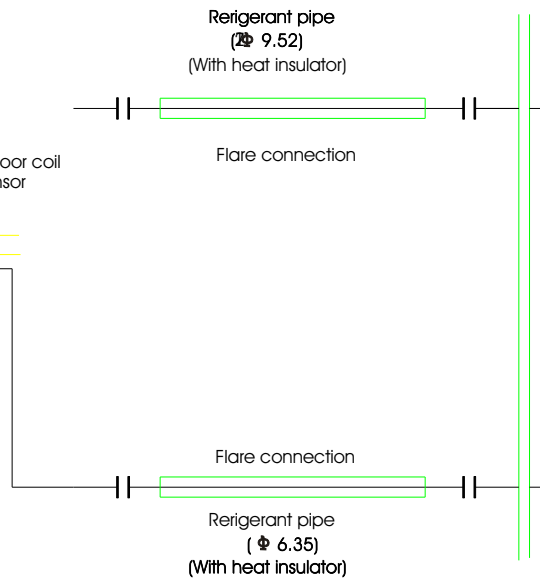
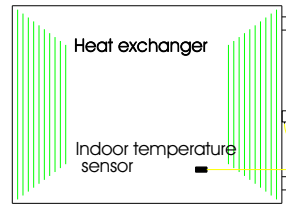


OUTDOOR UNIT

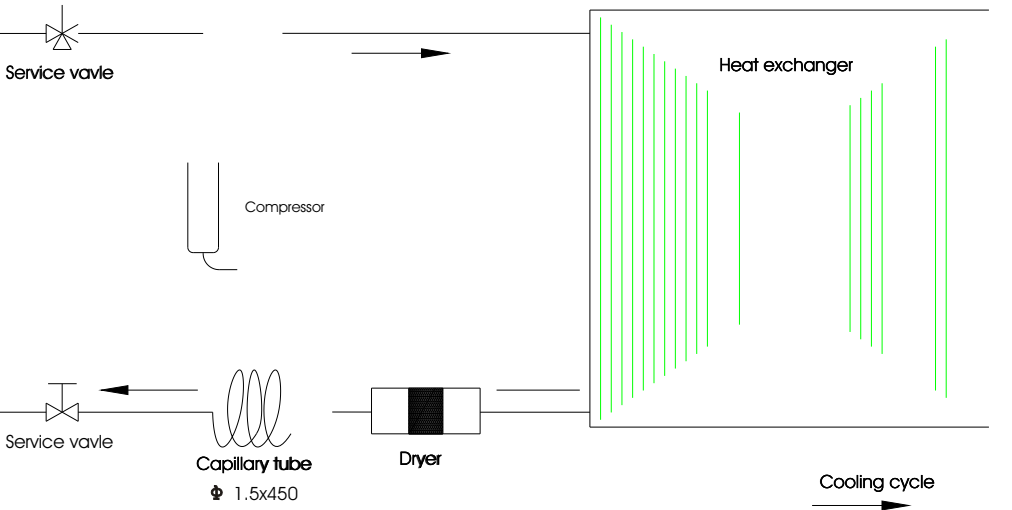


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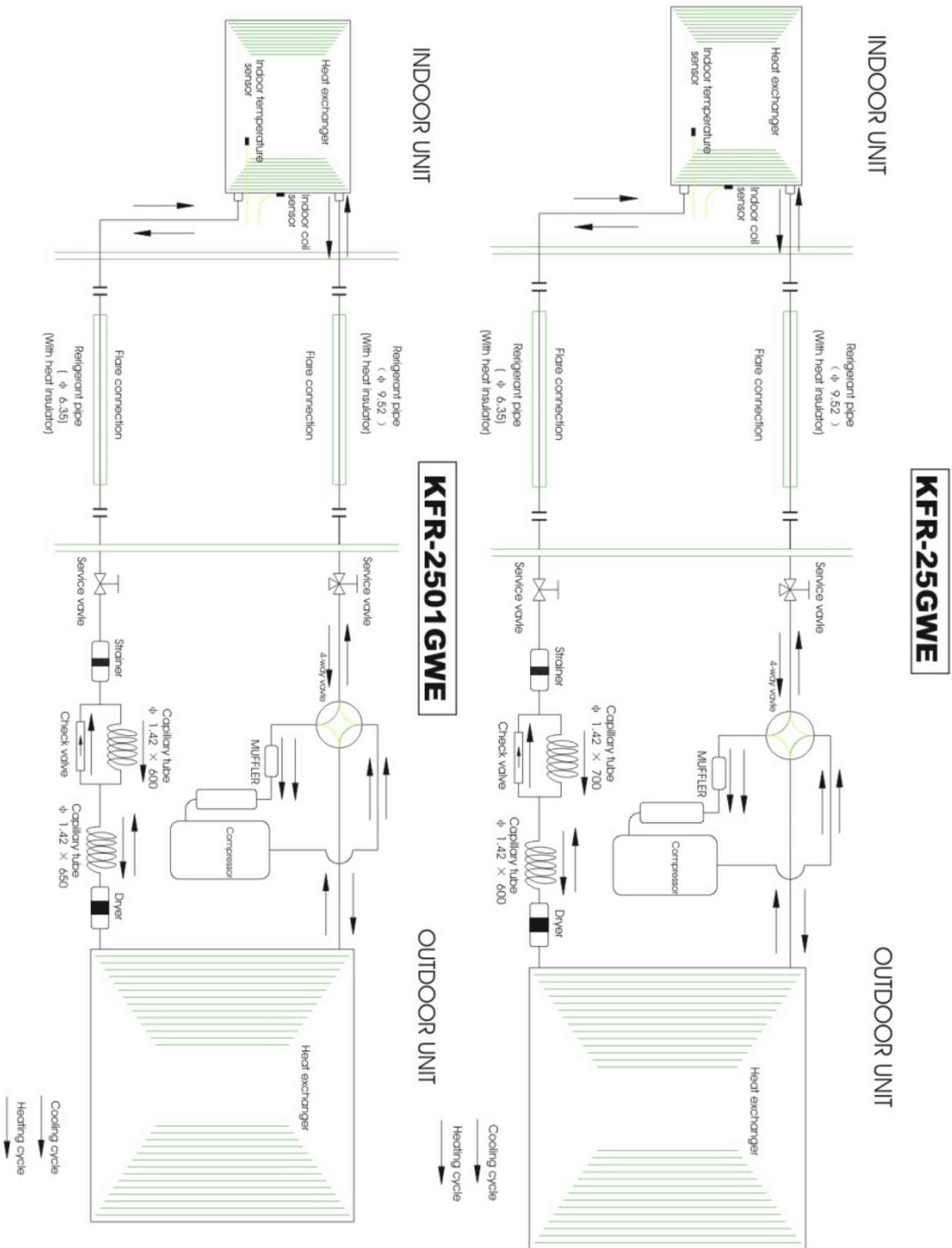
INDOOR UNIT



OUTDOOR UNIT

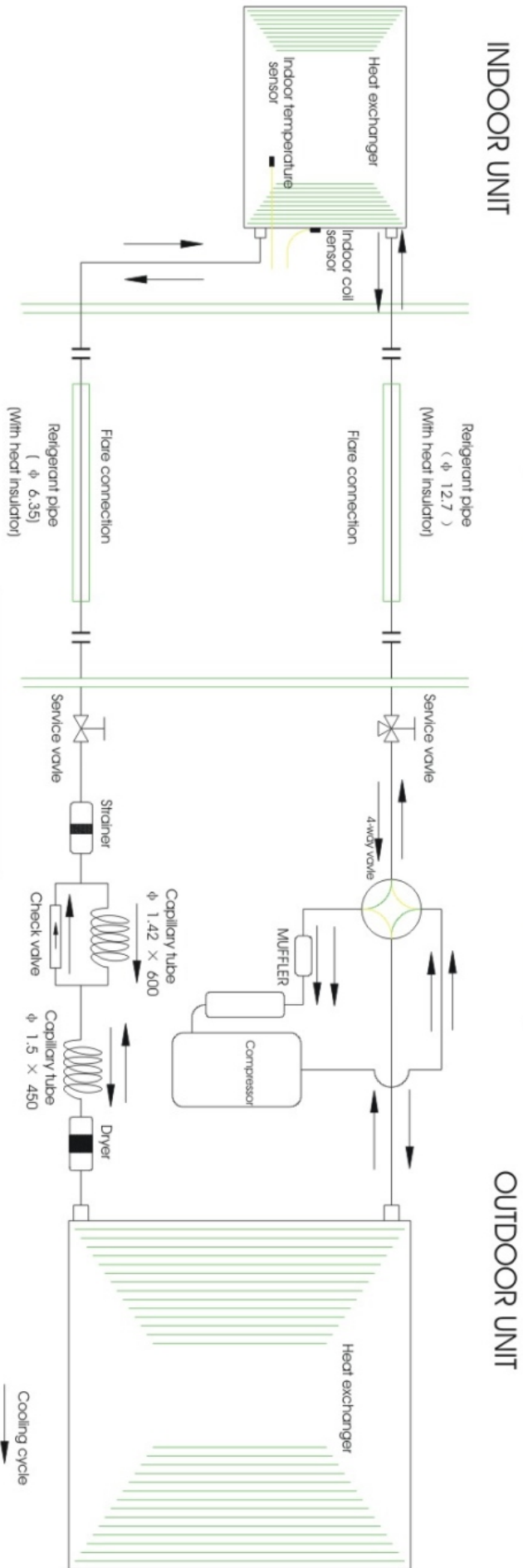


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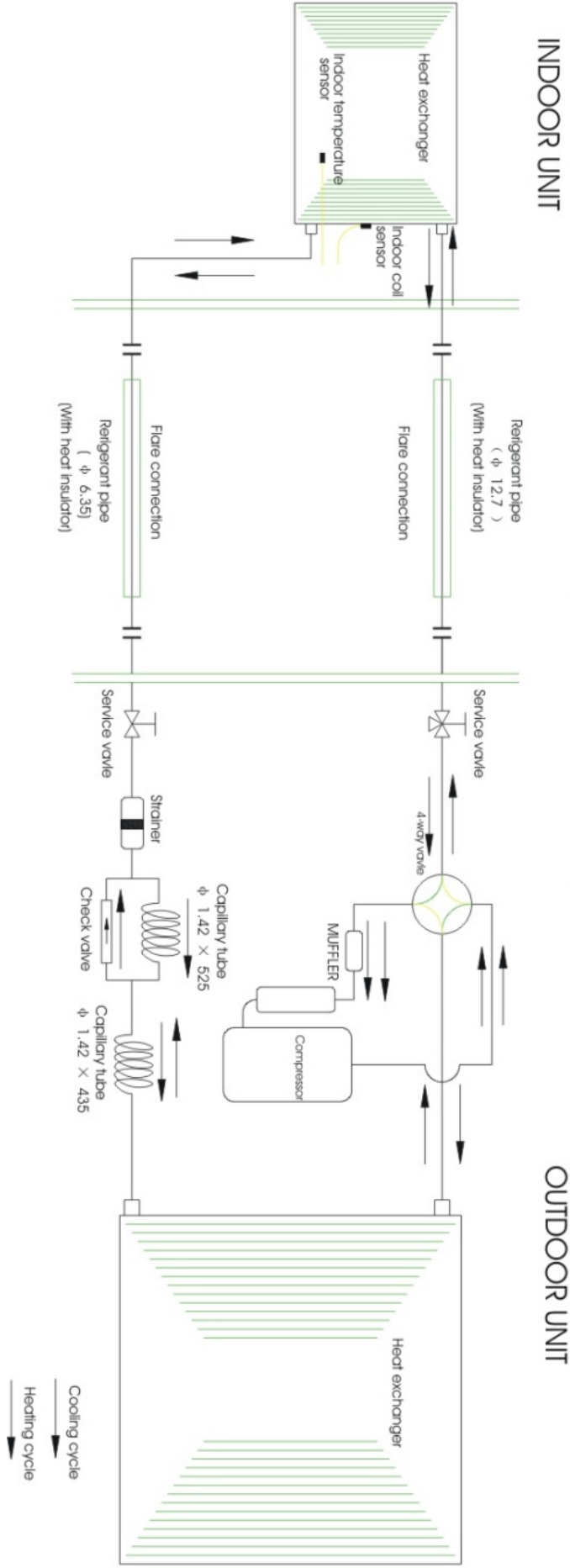


5. REFRIGERANT SYSTEM DIAGRAM

KFR-3301GWE KFR-3301GWE

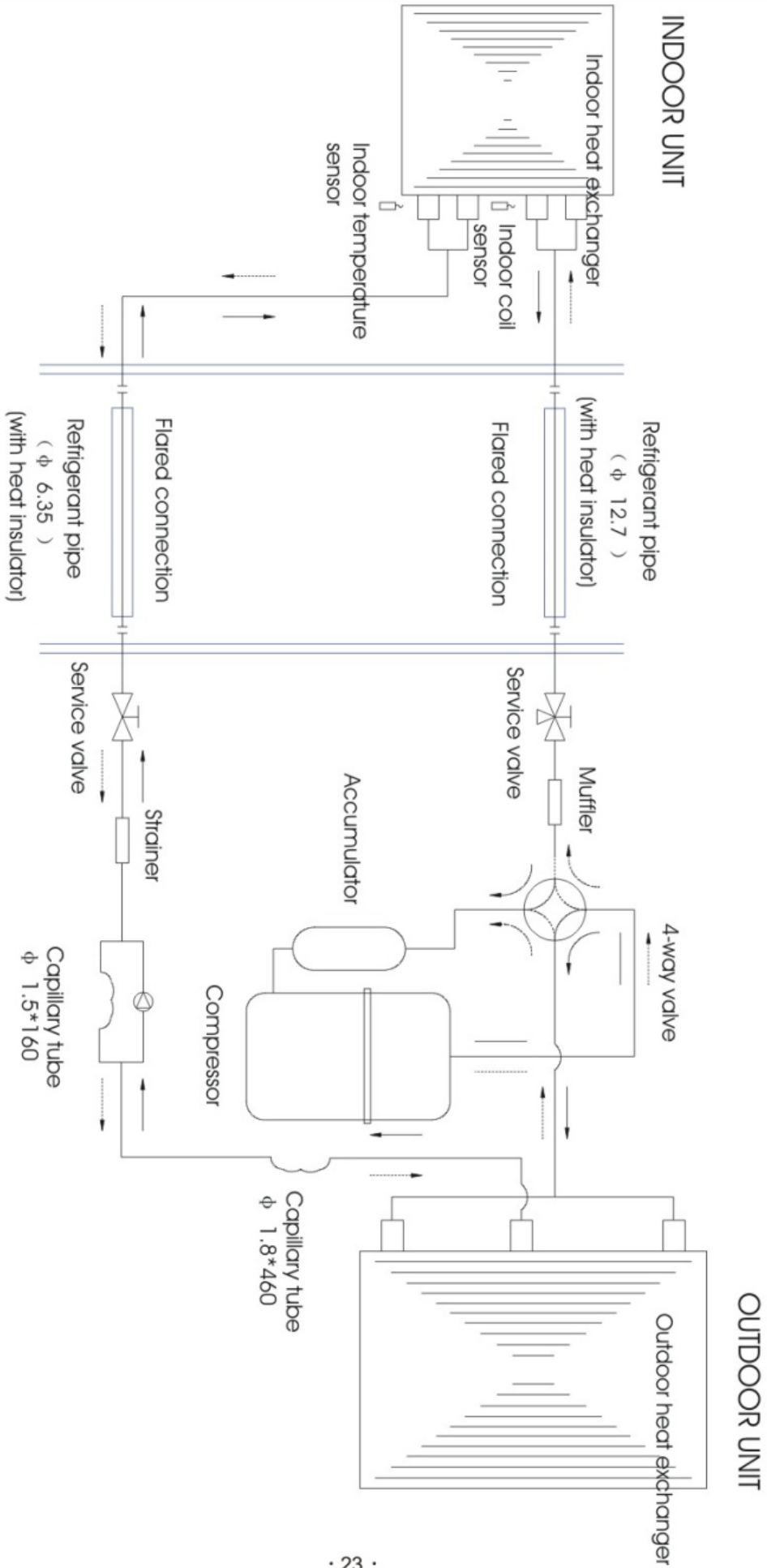


KFR-3201GWE



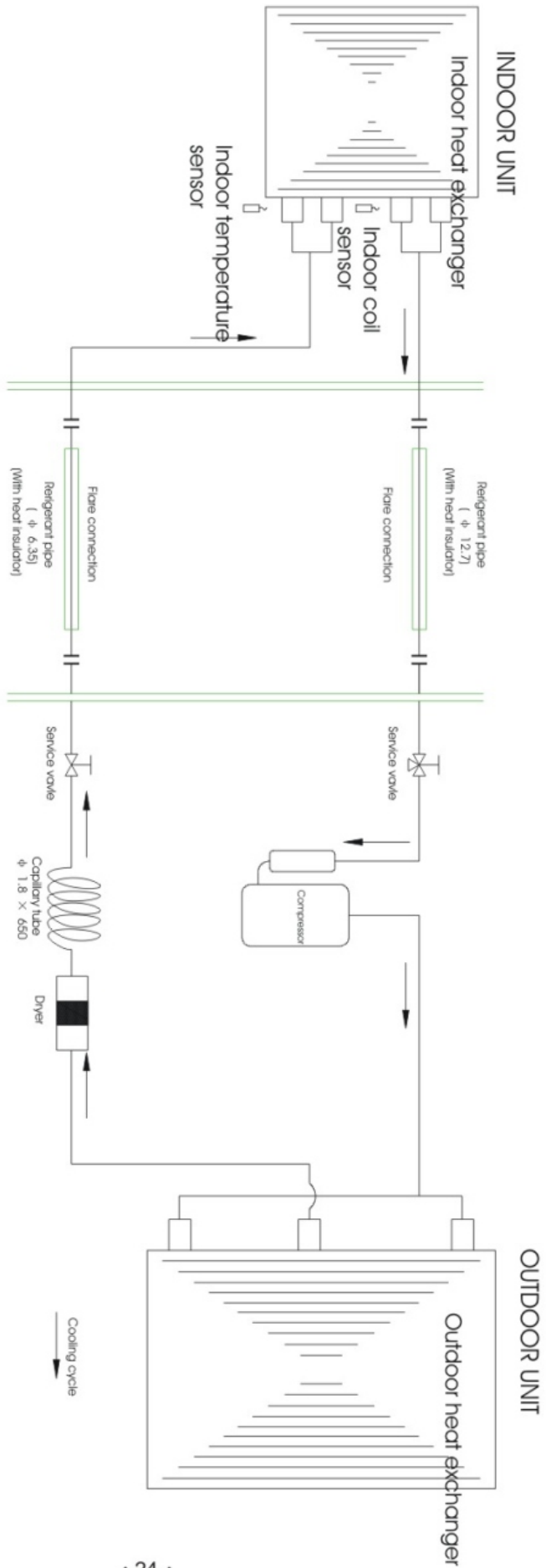
5.REFRIGERANT SYSTEM DIAGRAM

KFR-4801GWE



5.REFRIGERANT SYSTEM DIAGRAM

KF-5002GWE

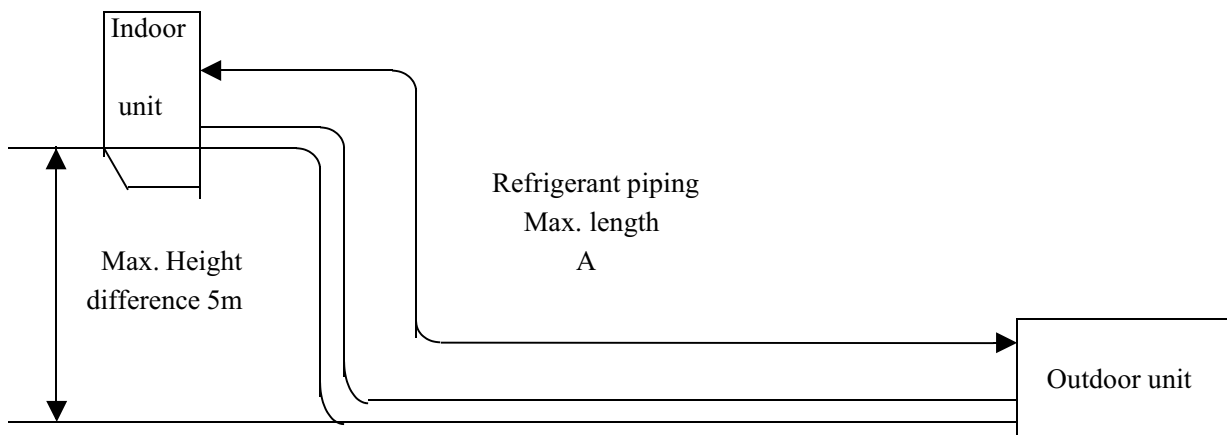


5.REFRIGERANT SYSTEM DIAGRAM

MAX. REFRIGERANT PIPING LENGTH

Modles	Refrigerant Piping Max. Length : m A	Piping size O.D : mm		Length of connecting pipe : m	
		Gas	Liquid	Indoor unit	Outdoor unit
KFR-25GWE	15	9.52	6.35		
KFR-3201GWE	15	12.7	6.35		
KFR-33GWE	15	12.7	6.35		

MAX. HEIGHT DIFFERENCE



ADDITIONAL; REFRIGERANT CHARGE(R-22 : g)

Modles	Outdoor unit precharged (up to 7m)	Refrigerant piping length (one way)		
		7m	10m	15m
KFR-25GWE	840	0	75	200
KFR-3201GWE	1180	0	75	200
KFR-33GWE	1300	0	75	200

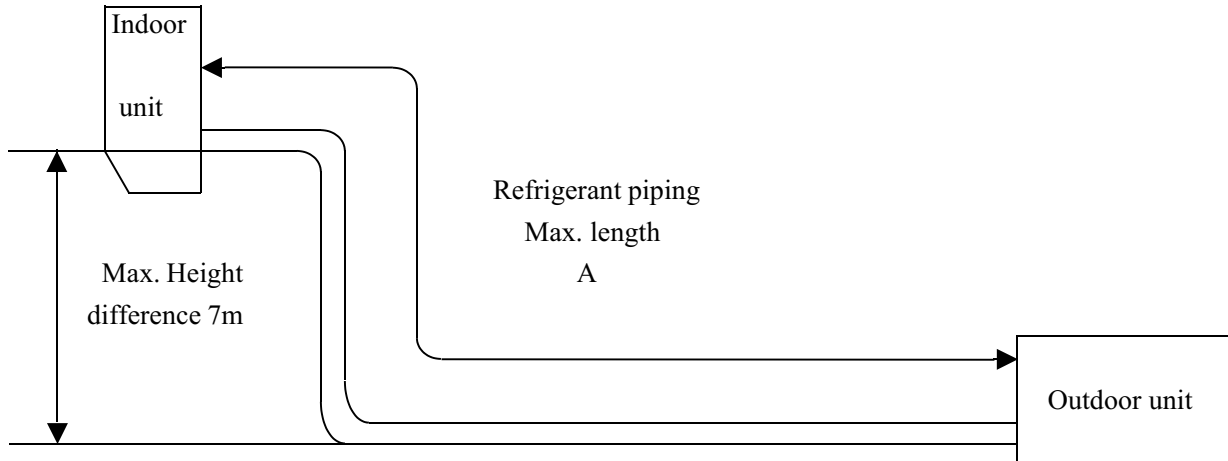
Calculation : $X_g = 25g/m * (A-7)m$

5.REFRIGERANT SYSTEM DIAGRAM

MAX. REFRIGERANT PIPING LENGTH

Modles	Refrigerant Piping Max. Length : m A	Piping size O.D : mm		Length of connecting pipe : m	
		Gas	Liquid	Indoor unit	Outdoor unit
KFR-4801GWE	15	12.7	6.35		
KF-5002GWE	15	12.7	6.35		

MAX. HEIGHT DIFFERENCE



ADDITIONAL; REFRIGERANT CHARGE(R-22 : g)

Modles	Outdoor unit precharged (up to 7m)	Refrigerant piping length (one way)		
		7m	10m	15m
KFR-4801GWE	1750	0	150	400
KF-5002GWE	1850	0	150	400

Caculation : $Xg=50g/m * (A-7)m$

5.REFRIGERANT SYSTEM DIAGRAM

EVACUATION PROCEDURES

Connect the refrigerant pipes (both the liquid and gas pipes) between the indoor and the outdoor units.

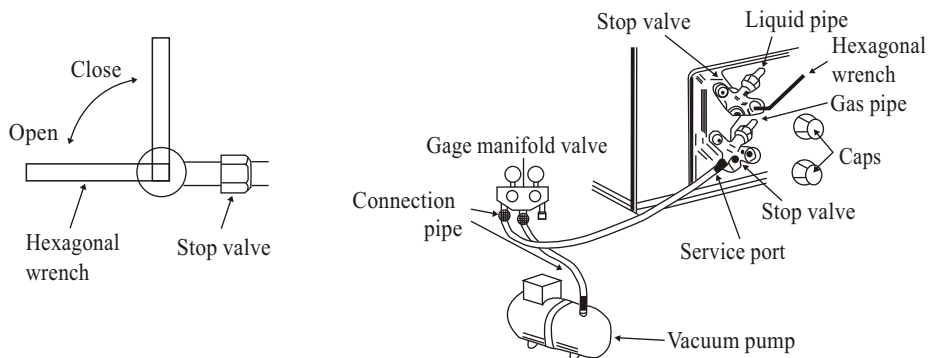
Remove the service port cap of the stop valve on the side of the outdoor unit gas pipe. (The stop valve will not work in its initial state fresh out of the factory (totally closed with cap on).

Connect the gage manifold valve and the vacuum pump to the service port of the stop valve on the gas pipe side of the outdoor unit.

Run the vacuum pump for more than 15 minutes and at this time confirm that the pressure gage indicates -0.1 Mpa (-76 cmHg).

Check the vacuum with the gage manifold valve, then close the gage manifold valve, and stop the vacuum pump.

Leave it as is for one or two minutes. Make sure the pointer of the gage manifold valve remains in the same position.



Remove the gage manifold valve quickly from the service port of the stop valve.

After refrigerant pipes are connected and evacuated, fully open all stop valves on gas and liquid pipe sides. Operating without fully opening lowers the performance and causes trouble.

Pipe length
7m maximum
No gas charge is
needed.

Pipe length
exceeding 7m
Charge the prescribed
amount of gas.

Tighten the cap to the service port to obtain the initial status.

Retighten the cap.

Leak test

COOLING CAPACITY

model	Indoor Intake Air(WB) °C	Outdoor intake air DB °C											
		20		25		30		35		40		45	
		CA	PC	CA	PC	CA	PC	CA	PC	CA	PC	CA	PC
KFR-33GWE (220V)	16	3408	988	3161	1066	3016	1154	2851	1237	2663	1337	2435	1433
	18	3674	1003	3433	1089	3265	1176	3032	1266	2899	1362	2659	1465
	20	3843	1008	3746	1107	3549	1194	3302	1295	3161	1399	2885	1508
	22	3970	1014	3948	1120	3827	1212	3606	1321	3455	1428	3162	1552
KFR-25GWE (220V)	16	2522	793	2336	829	2173	901	1963	958	1778	1037	1508	1182
	18	2701	806	2559	855	2376	915	2142	977	1960	1061	1752	1137
	20	2783	823	2659	888	2593	939	2351	1002	2166	1077	1943	1164
	22	2893	826	2824	905	2800	958	2587	1029	2341	1102	2137	1188
KFR-2501GWE (240V)	16	2539	848	2383	883	2166	990	1982	1086	1802	1177	1700	1241
	18	2832	853	2640	908	2402	962	2199	1055	2058	1110	1925	1177
	20	2999	853	2824	920	2611	959	2416	1029	2223	1120	2042	1195
	22	3149	869	3046	932	2863	1000	2684	1069	2481	1142	2275	1231
KFR-4801GWE (220V)	16	4516	1498	4357	1577	4124	1699	3888	1812	3589	1958	3437	2110
	18	4684	1491	4581	1591	4461	1726	4256	1849	4015	1996	3778	2140
	20	4925	1515	4819	1611	4695	1743	4518	1897	4347	2019	3782	2299
	22	5143	1522	5017	1646	4864	1765	4765	1924	4647	2066	4349	2254
KFR-3201GWE (220V)	16	3056	1011	3125	1117	2947	1233	2779	1319	2536	1452	2452	1506
	18	3131	1020	3168	1112	3227	1210	3092	1333	2858	1416	2669	1542
	20	3264	1036	3268	1115	3307	1220	3270	1337	3076	1440	2858	1560
	22	3333	1006	3328	1101	3377	1215	3396	1336	3312	1458	3115	1586

HEATING CAPACITY

model	Indoor Intake Air(DB°C)	Outdoor intake air WB°C											
		-10		-5		0		5		10		15	
		CA	PC	CA	PC	CA	PC	CA	PC	CA	PC	CA	PC
KFR-33GWE (220V)	15	2256	976	2866	1043	3242	1134	3907	1304	4312	1434	4196	1372
	20	2083	1043	2484	1114	2891	1192	3606	1374	3708	1377	3729	1373
	25	1961	1110	2279	1155	2637	1256	3100	1342	3104	1328	3136	1320
KFR-25GWE (220V)	15	1702	715	2061	769	2471	823	2866	897	3199	966	3492	1015
	20	1587	756	2044	815	2361	873	2840	953	3153	1042	3428	1103
	25	1560	804	1950	867	2265	928	2685	1010	3062	1117	3032	1126
KFR-2501GWE (240V)	15	1936	796	2177	828	2627	901	2905	903	3334	977	3386	1041
	20	1861	836	2076	871	2525	939	2954	1012	3436	1128	3424	1122
	25	1746	882	1968	920	2448	983	2828	1070	3197	1124	3126	1128
KFR-4801GWE (220V)	15	4067	1504	4864	1622	5575	1744	6244	1908	7219	2166	8187	2480
	20	3893	1580	4667	1722	5240	1823	6056	2007	6956	2265	7879	2582
	25	3773	1671	4537	1837	5085	1947	5768	2120	6954	2475	6789	2433
KFR-3201GWE (220V)	15	1954	949	2488	1064	2224	1001	3739	1397	4321	1538	4431	1585
	20	1986	1021	2409	1115	1471	914	3560	1487	3622	1390	3573	1431
	25	1989	1095	2287	1193	2800	1359	2943	1382	3196	1383	3120	1376

7.CONTROL MODE

Note: This manual is for the fixed-speed series split type air conditioners, including the models KFR-33GWE, KFR-25GWE, KFR-2501GWE, KFR-3301GWE, KFR-3201GWE, KF-25GWE, KF-34GWE, KF-5002GWE, KFR-4801GWE.

Control Unit's Feature

1. Display panel

1.1 Description of pattern

1.2 The display screen consists of 4 LEDs, indicating power, time set, operation and high power respectively.

1.3 Power indicator. When the air conditioner runs, the power indicator lamp lights up; Compressor operation indicator. When the compressor runs, the operation indicator lamp lights up;

1.4 Timer indicator. When the timer function works, the timer indicator lamp lights up;

1.5 High power indicator. When the air conditioner works in the high efficient mode, the high efficient indicator lamp lights up.

2. Temporary Switch

2.1 Press the temporary switch to start the unit, and press it once again to stop the unit; the control unit makes a judge according to the room temperature to select the corresponding run mode. Once a run mode is selected, it will not be changed unless the unit is cut off and powered on again.

A. When the room temperature $> 26^{\circ}\text{C}$, the unit starts in the cooling mode; the indoor controlled temperature is set at 26°C , and the indoor fan speed is set to automatic mode;

B. When the room temperature $< 23^{\circ}\text{C}$, the unit starts in the heating mode; the indoor controlled temperature is set at 23°C , and the indoor fan speed is set to the automatic mode;

C. When $23^{\circ}\text{C} \leq$ the room temperature $\leq 26^{\circ}\text{C}$, the air blowing mode starts, and the indoor fan speed is set to automatic;

2.2 When the air conditioner is powered on, hold down the temporary switch for 5 seconds or longer, the control unit starts the test operation, when the system is forced to run in the cooling mode regardless of the room temperature.

7. CONTROL MODE

1.1 Hold down the temporary switch and then turn on the air conditioner, the buzzer on the indoor unit rings two times, and the unit enters in the self-test status.

1.2 If a signal has been received from the remote controller during the temporary run, the system will operate according to the commands of the remote signal.

2. Automatic mode

3.1 When the remote controller is set to start the unit in the automatic mode, the air conditioner judges according to the differences between the room temperature and temperature setting and selects a run mode.

Indoor temperature \geq temperature setting, the unit runs in the cooling mode;

Indoor temperature $<$ temperature setting, the unit runs in the heating mode.

3.2 The run mode is determined when the unit gets started at the first time. Once a mode is selected, it will not change within 30 minutes.

3.3 If the difference between the room temperature and temperature setting is above 3°C , the run mode can be changed immediately.

3.4 When the unit is turned off and restarted with the remote controller, these conditions remain valid.

3.5 When powered off and powered on again, the air conditioner will reselect a run mode.

3.6 The indoor and outdoor fan speed and compressor control in the automatic mode are same as that in the heating and cooling mode.

3.7 After being set to the cooling only type in EE, the heating mode does not work.

4 Cooling mode

4.1 In the cooling mode, the temperature setting is selected by using the remote controller. The temperature control ranges from $16\text{-}30^{\circ}\text{C}$.

4.2 When powered on for the first time, the compressor can be started immediately. After turning off, the compressor must not be restarted until at least 3 minutes later.

4.3 After turning on, the compressor must run for at least 5 minutes.

7. CONTROL MODE

3.2 Indoor fan speed:

Fan speed \	25	2501	33, 34	3301, 3201	4801	5002
High power	1,950	1,950	1,950	1,950	1,300	1,300
High	1,850	1,850	1,850	1,850	1,250	1,250
Low	1,700	1,700	1,700	1,700	1,050	1,050
Mute	1,600	1,600	1,600	1,600	900	900
Ultra-low	1,500	1,500	1,500	1,500	850	850

Automatic

	$T_{\text{setting}} - T_{\text{room}}$	Fan speed		$T_{\text{setting}} - T_{\text{room}}$	Fan speed
↓ Direction of Temperature Difference	0 °C	Mute	↑ Direction of Temperature Difference	0 °C	Mute
	1 °C	Low		1 °C	Low
	2 °C	Low		2 °C	Low
	3 °C	Low		3 °C	Low
	4 °C	Low		4 °C	High
	≥ 5 °C	High		≥ 5 °C	High

3.2 Outdoor fan speed

Single-speed motor starts or stops as soon as the compressor starts or stops.

4.6 The 4-way valve is interrupted.

4.7 Anti-freezing for evaporator

When the indoor coil temperature $\leq -1^{\circ}\text{C}$ and maintains for 5 minutes, both the compressor and outdoor fan are interrupted. The resumption condition is that the indoor coil temperature $\geq 7^{\circ}\text{C}$.

5. Dehumidification mode

5.1 In the dehumidification mode, the temperature setting is selected by using the remote controller. The temperature control ranges from 16-30°C.

7. CONTROL MODE

The control unit selects a run mode according to the temperature difference between the room temperature and temperature setting.

- 5.2 When the room temperature is above 2°C higher than the temperature setting, the system runs in the cooling mode.
- 5.3 When the difference between the room temperature and temperature setting is equal to or lower than 2°C, the system starts in the dehumidification mode. In the dehumidification mode, both the compressor and outdoor fan operate in the cycle of 10 minutes run and 6 minutes stop.
- 5.4 When dehumidification, the outdoor fan starts or stops as soon as the compressor starts or stops.

6. Heating mode (only applicable to the model with the heat pump type for cooling and heating)

- 6.1 In the heating mode, the temperature setting is determined with the remote controller. The temperature control ranges from 16-30°C.
- 6.2 When powered on for the first time, the compressor may be started immediately. After turning off, the compressor must not be restarted until at least 3 minutes later.
- 6.3 After turning on, the compressor must operate at least 5 minutes.
- 6.4 When the air conditioner turns off, the compressor is interrupted; the outdoor 4-way valve turns off after a 1 minutes and 40 seconds delay; and the indoor fan stops after a 40 seconds delay to blow out the residual heat.
- 6.5 Cold air prevention function. When the air conditioner turns on, the indoor unit does not start immediately. When the heat exchanger temperature rises above 28°C, the fan operates at the ultra-low fan speed, and the flap is opened to the position 1; when the heat exchanger temperature $\geq 38^\circ\text{C}$ or runs for over 4 minutes, the fan runs at a preset fan speed, and the flap is opened to a preset position. When the indoor heat exchanger temperature drops below 23°C, the indoor fan stops.
- 6.6 When the unit is running, the indoor fan stops 40 seconds after the compressor is interrupted because the room temperature has reached the temperature setting. When the compressor is in operation again, the cold air prevention function still works.
- 6.7 In the heating mode, the outdoor fan starts or stops as soon as the compressor starts or stops unless the indoor heat exchanger overheat protection starts.
- 6.8 After being set to cooling only type in EE, the heating mode does not work.
- 6.9 The 4-way valve is activated.
- 6.10 Indoor heat exchanger overload protection
 - $T_{\text{indoor coil}} \geq 60^\circ\text{C}$, compressor is interrupted;
 - $T_{\text{indoor coil}} \geq 55^\circ\text{C}$, outdoor fan stops.The resumption temperature for each of the control points is 50°C,

7. CONTROL MODE

6.4 Indoor fan speed:

Fan speed \ Model	25	2501	33	3301, 3201	4801
High power	2,000	2,000	1,950	1,950	1,300
High	1,900	1,900	1,850	1,850	1,250
Low	1,700	1,700	1,700	1,700	1,050
Mute	1,600	1,600	1,600	1,600	900
Ultra-low	1,500	1,500	1,500	1,500	850

Automatic

	$T_{\text{setting}} - T_{\text{room}}$	Fan speed		$T_{\text{setting}} - T_{\text{room}}$	Fan speed
↓ Direction of Temperature Difference	1 °C	Low	↑ Direction of Temperature Difference	1 °C	Low
	2 °C	Medium		2 °C	Low
	3 °C	Medium		3 °C	Medium
	4 °C	Medium		4 °C	Medium
	5 °C	High		5 °C	Medium
	≥ 6 °C	High		≥ 6 °C	High

7 Defrosting mode (only applicable to the model with heat pump for cooling and heating).

7.1 Frost is removed by reverse of the 4-way valve.

7.2 Conditioner for entering in the defrosting mode:

K After the unit gets started (in the heating mode) or every time the defrosting run ends, calculated from the time when the heating run continues for 12 minutes, the drop in the coil temperature amounts to at least X °C (X is 5.5 for 2501, 6 for both 3301 and 3201, and 7 for 4801), and the coil temperature reaches below 40 °C.

L In the heating mode, the difference between the coil temperature and indoor ambient temperature (at the air intake) is less than 10 °C, and maintains for at least 5 minutes;

M The coil temperature < 40 °C and maintains for at least 90 minutes.

7. CONTROL MODE

The air conditioner will enter defrosting as long as any of the three conditions is satisfied. .

7.1 Defrosting procedures:

Both the compressor and outdoor fan motor are interrupted.

→ 50 seconds later, the 4-way valve turns off.

→ 5 seconds later, the compressor gets started.

→ Defrosting (the compressor runs) starts. The longest defrosting time is

Y minutes (Y is 7 for 2501, 11 for both 3301 and 3201, 13 for 4801).

3 minutes after defrosting starts (the compressor runs), the value of the compressor current is read. From then on, if the compressor current is above 1.2 A higher than the current at the end of the first 3 minutes, the system quits defrosting 1 minute later.

→ 30 seconds later, the 4-way valve turns on.

→ 5 seconds later, compressor starts.

→ 3 seconds later, outdoor fan starts.

→ Defrosting ends.

8. Fan mode

When select the fan mode, only both the indoor fan and flap operate in a preset mode. If the fan speed is set to "automatic", the fan runs at the low speed.

9. Flap control

9.1 Press the up and down flap button, the flap's position is switched over between the 8 statuses, i.e. automatic flap, flap orientation where the flap plate opens to 6 positions 1, 2, 3, 4, 5, 6 from down to up, and flap swing.

9.2 Automatic flap: In the heating mode, the flap swings between position 1 and position 4; In the cooling or dehumidification mode, the flap swings between position 3 and position 6; In the fan mode, the flap is located at to position 5.

9.3 Flap orientation: The flap is set at a certain position by using the remote controller.

9.4 Flap swing: The flap swings between position 1 and position 6.

9.5 The default status is the "automatic flap".

9.6 When powered on and off for the first time, the flap plate turns to the maximum angle to ensure that the flap is closed; When the unit starts, the flap plate moves to the maximum angle, and returns to the preset position after the flap is completely closed.

10. Man-machine communication

10.1 The indoor control unit has two thermal sensors for detecting the room temperatures, one is installed in the remote controller, and the other at the air intake of the indoor unit. The default air outlet setting is subject to the remote controller's

7. CONTROL MODE

Detection. The remote controller detects the room temperature once every 20 seconds, and automatically transmits the signal at 3-minute intervals or when it has detected a change in the room temperature. If the indoor control unit has not received a remote signal for more than 10 minutes, the control function will be automatically switched over to the temperature sensor at the air intake.

10.2 Neither turning on nor turning off operations will cancel the interface communication function.

10.3 In default, the air conditioner is set to start the interface communication function.

11. Timer function

11.1 Timer on: When set to start in the set time with the remote controller, the air conditioner enters in the timer on status. When the set time is up, the air conditioner turns on and operates according to the preset conditions after receiving the signal from the remote controller. If the air conditioner has not received the signal of the remote controller when the set time is up, it will automatically start and operate according to the preset conditions.

11.2 Timer off: When set to stop in the set time with the remote controller, the air conditioner enters the timer off status. When the set time is up, the air conditioner turns off after receiving the signal from the remote controller. If the air conditioner has not received the signal of the remote controller when the set time is up, it will turn off automatically.

11.3 Neither turning on nor turning off operations will cancel the timer function.

12. Sleep function

12.1 In the heating or cooling mode, press the "Sleep" button on the remote controller to start or cancel the sleep function in sequence.

12.2 In the heating mode, 1 hour after the sleep mode starts, the temperature setting will decrease by 3°C. After another 2 hours, the temperature decreases by 4°C further. The unit will continue to run for further 5 hours and then stops automatically.

12.3 In the cooling mode, 1 hour after the sleep mode starts, the setting temperature will rise by 1°C. The unit will continue to run for further 7 hours and then automatically stops.

12.4 In default, the preset status is to cancel the sleep function. Turning off the unit will also cancel the sleep function.

Note: This function is subject to the description in the User's Manual.

13. High power run function

In the high power run mode, the indoor fan speed is switched over to the high power run and the high power indicator lamp on the display panel lights up.

8. TROUBLESHOOTING

When the air conditioner works in the abnormal condition, please press the sensor button of the remote controller one time and then press this button continuously two time, the trouble (the LED lamp flickers) will be displayed on the display panel.

Trouble Description	Trouble Code	LED Display			
		High Power	Operation	Timer	Power
Room temperature sensor abnormal	1				☆
Indoor heat exchanger temperature sensor abnormal	2			☆	
Indoor heat exchanger frozen	3			☆	☆
Indoor heat exchanger overheated	4		☆		
Instantaneous interruption of power	6		☆	☆	
Compressor overcurrent	7		☆	☆	☆
Fan motor locked	8	☆			
Trouble with indoor unit E ² PROM	13	☆	☆		☆

1. Compressor overcurrent protection

Depends on the overcurrent protection value of the overload protection device in a model.

2. Indoor heat exchanger overheat protection

Refer to the heating mode.

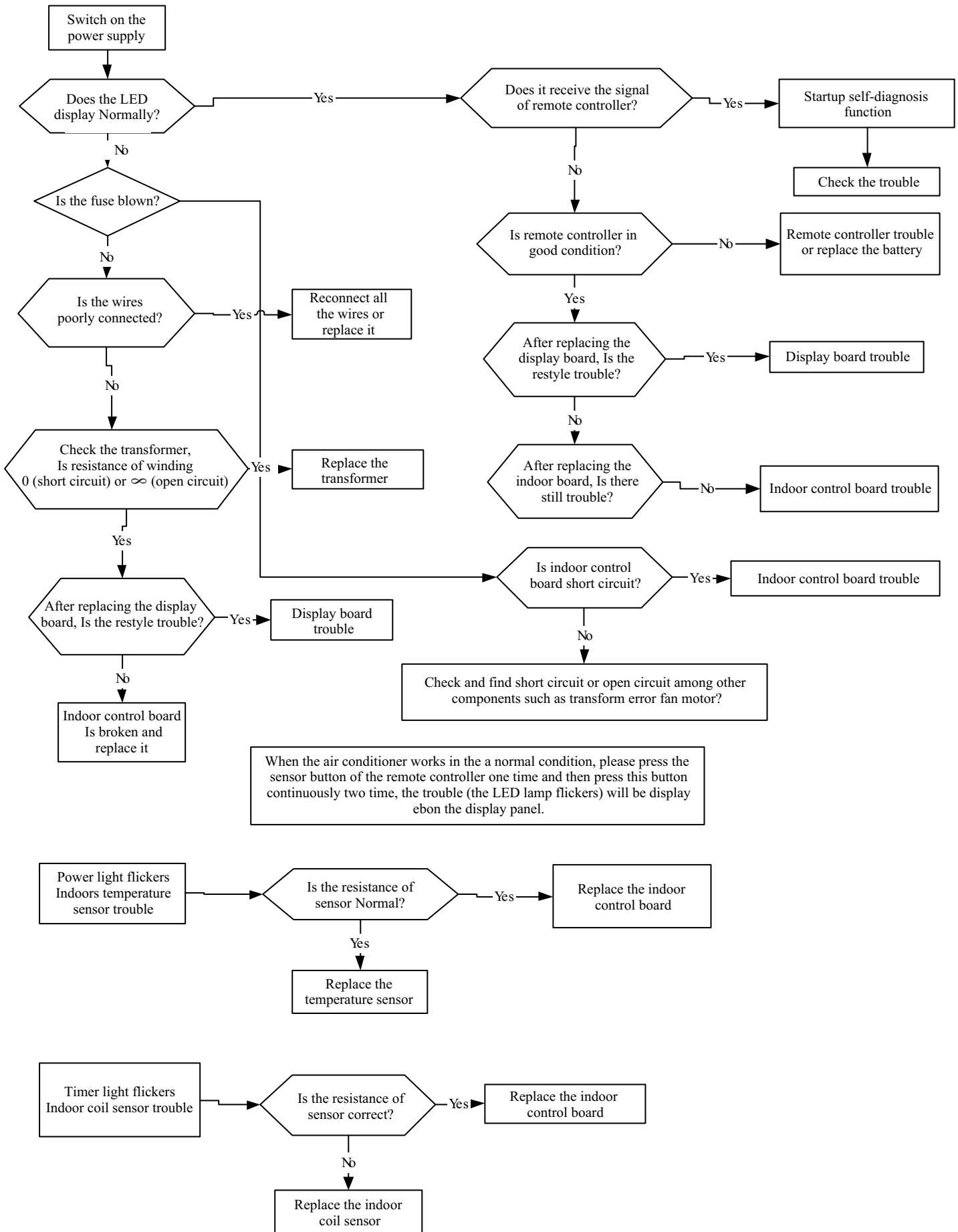
3. Indoor heat exchanger anti-froze protection

Refer to the cooling mode.

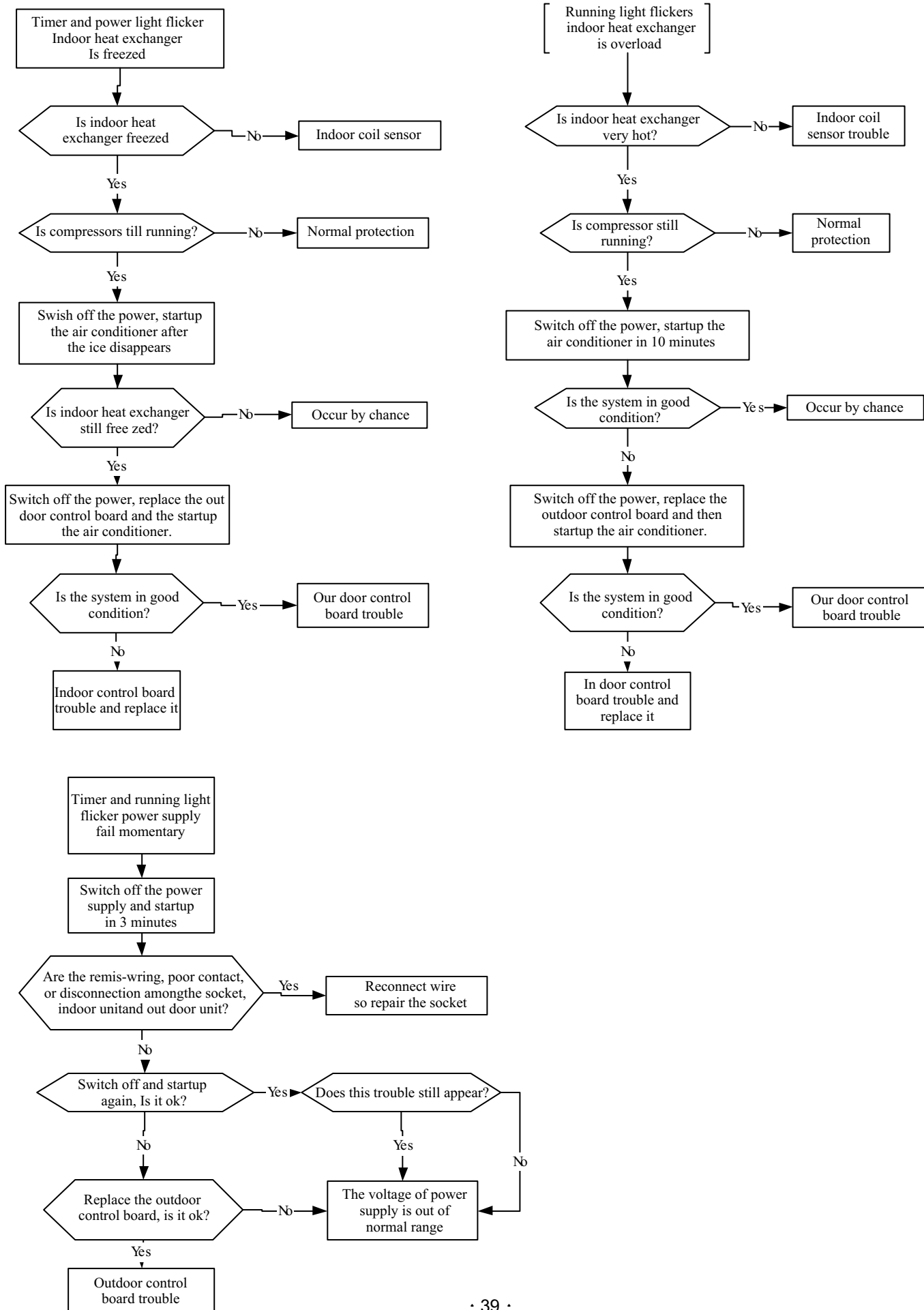
4. Time-delay start protection: After turning off, the compressor will not be restarted until 3 minutes later to protect the system.

5. Indoor fan motor in trouble: If the indoor micro-processor, according to the position signal of the indoor fan motor's rotor, judges that the motor is in stoppage, locked or shaking abnormally, it will cut off the indoor fan motor's drive signal, and restarts the motor 3 minutes later; if the trouble occurs 4 times within 30 minutes, the air conditioner turns off and displays the trouble code. The unit will not restart unless powered on again.

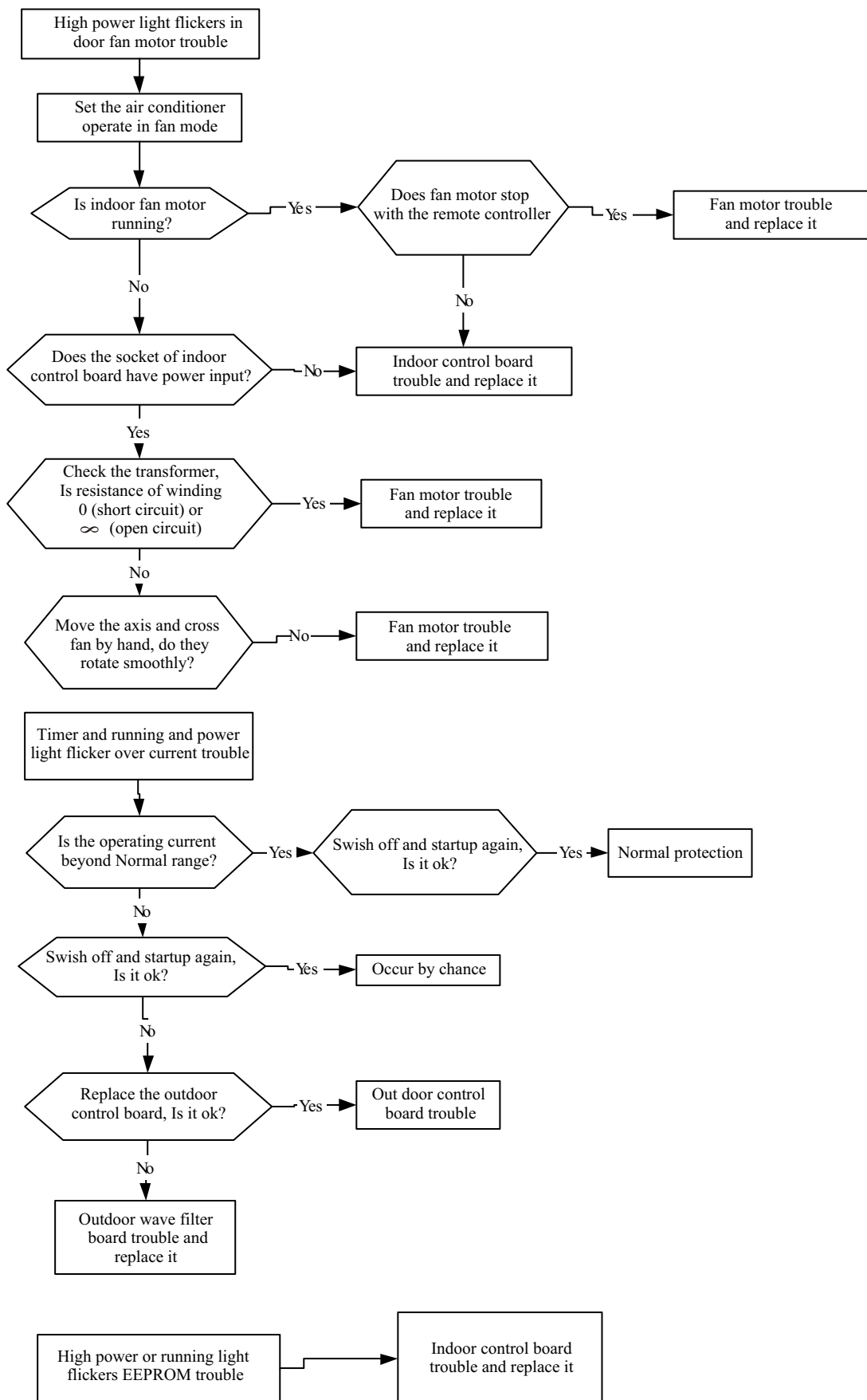
9.SERVICE FLOW CHART DIAGRAM



9.SERVICE FLOW CHART DIAGRAM



9.SERVICE FLOW CHART DIAGRAM



10.SENSOR PARAMETER

KF-25GWE KF-34GWE

THE PARAMETER OF THE INDOOR COIL SENSOR

T(°C)	R(Ko)	V(v)	T(°C)	R(Ko)	V(v)	T(°C)	R(Ko)	V(v)
-10	23.95	0.8202	16	7.549	1.9185	41	2.936	3.0775
-9	22.82	0.8539	17	7.249	1.9667	42	2.835	3.1188
-8	21.75	0.8885	18	6.962	2.0151	43	2.739	3.159
-7	20.74	0.9237	19	6.688	2.0636	44	2.646	3.199
-6	19.79	0.9596	20	6.427	2.112	45	2.556	3.2387
-5	18.88	0.9966	21	6.178	2.1603	46	2.471	3.2771
-4	18.02	1.0343	22	5.939	2.2089	47	2.388	3.3155
-3	17.2	1.0731	23	5.712	2.257	48	2.309	3.3528
-2	16.43	1.1122	24	5.494	2.3053	49	2.233	3.3896
-1	15.7	1.152	25	5.286	2.3533	50	2.159	3.4262
0	15	1.1929	26	5.086	2.4014	51	2.089	3.4615
1	14.34	1.2342	27	4.896	2.4489	52	2.021	3.4965
2	13.71	1.2765	28	4.714	2.4963	53	1.956	3.5306
3	13.11	1.3195	29	4.539	2.5436	54	1.893	3.5644
4	12.55	1.3623	30	4.372	2.5904	55	1.832	3.5977
5	12.01	1.4063	31	4.212	2.6369	56	1.774	3.6299
6	11.5	1.4506	32	4.059	2.683	57	1.718	3.6616
7	11.01	1.4959	33	3.912	2.7288	58	1.664	3.6926
8	10.55	1.541	34	3.772	2.7738	59	1.612	3.7231
9	10.1	1.5878	35	3.637	2.8188	60	1.562	3.7528
10	9.684	1.6338	36	3.508	2.8631	61	1.513	3.7824
11	9.284	1.6805	37	3.384	2.907	62	1.467	3.8106
12	8.903	1.7276	38	3.265	2.9504	63	1.422	3.8386
13	8.54	1.7749	39	3.151	2.9932	64	1.379	3.8658
14	8.194	1.8226	40	3.041	3.0358	65	1.337	3.8927
15	7.864	1.8704						

THE PARAMETER OF THE INDOOR SENSOR

T(°C)	R(Ko)	V(v)	T(°C)	R(Ko)	V(v)	T(°C)	R(Ko)	V(v)
-10	27.68	0.726	7	11.52	1.449	24	5.226	2.368
-9	26.22	0.76	8	10.97	1.5	25	5	2.423
-8	24.85	0.795	9	10.45	1.551	26	4.785	2.478
-7	23.56	0.832	10	9.963	1.603	27	4.581	2.532
-6	22.34	0.869	11	9.497	1.655	28	4.387	2.586
-5	21.19	0.908	12	9.056	1.708	29	4.202	2.64
-4	20.11	0.947	13	8.638	1.762	30	4.025	2.693
-3	19.09	0.988	14	8.241	1.816	31	3.857	2.746
-2	18.12	1.03	15	7.865	1.87	32	3.697	2.799
-1	17.21	1.073	16	7.508	1.925	33	3.545	2.85
0	16.35	1.116	17	7.169	1.98	34	3.399	2.902
1	15.54	1.161	18	6.847	2.035	35	3.26	2.952
2	14.77	1.207	19	6.541	2.091	36	3.128	3.002
3	14.05	1.253	20	6.251	2.146	37	3.002	3.051
4	13.36	1.301	21	5.975	2.201	38	2.881	3.1
5	12.72	1.349	22	5.712	2.257	39	2.766	3.148
6	12.1	1.399	23	5.463	2.312	40	2.657	3.194

10.SENSOR PARAMETER

KFR-3201GWE

KFR-2501GWE

KFR-33GWE

KFR-25GWE

KFR-4801GWE

KF-5002GWE

KFR-3301GWE

THE PARAMETER OF THE TEMPERATURE SENSOR


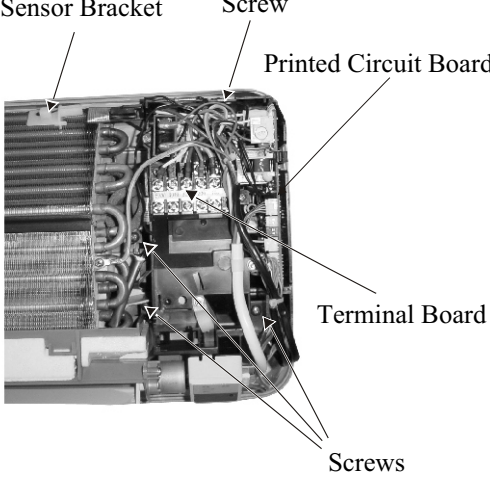
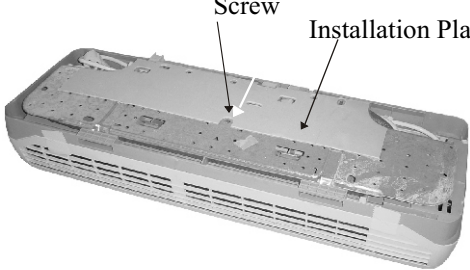
T(°C)	R(Ko)	V(v)	T(°C)	R(Ko)	V(v)	T(°C)	R(Ko)	V(v)
-10	23,95	0,8202	16	7,549	1,9185	41	2,936	3,0775
-9	22,82	0,8539	17	7,249	1,9667	42	2,835	3,1188
-8	21,75	0,8885	18	6,962	2,0151	43	2,739	3,159
-7	20,74	0,9237	19	6,688	2,0636	44	2,646	3,199
-6	19,79	0,9596	20	6,427	2,112	45	2,556	3,2387
-5	18,88	0,9966	21	6,178	2,1603	46	2,471	3,2771
-4	18,02	1,0343	22	5,939	2,2089	47	2,388	3,3155
-3	17,2	1,0731	23	5,712	2,257	48	2,309	3,3528
-2	16,43	1,1122	24	5,494	2,3053	49	2,233	3,3896
-1	15,7	1,152	25	5,286	2,3533	50	2,159	3,4262
0	15	1,1929	26	5,086	2,4014	51	2,089	3,4615
1	14,34	1,2342	27	4,896	2,4489	52	2,021	3,4965
2	13,71	1,2765	28	4,714	2,4963	53	1,956	3,5306
3	13,11	1,3195	29	4,539	2,5436	54	1,893	3,5644
4	12,55	1,3623	30	4,372	2,5904	55	1,832	3,5977
5	12,01	1,4063	31	4,212	2,6369	56	1,774	3,6299
6	11,5	1,4506	32	4,059	2,683	57	1,718	3,6616
7	11,01	1,4959	33	3,912	2,7288	58	1,664	3,6926
8	10,55	1,541	34	3,772	2,7738	59	1,612	3,7231
9	10,1	1,5878	35	3,637	2,8188	60	1,562	3,7528
10	9,684	1,6338	36	3,508	2,8631	61	1,513	3,7824
11	9,284	1,6805	37	3,384	2,907	62	1,467	3,8106
12	8,903	1,7276	38	3,265	2,9504	63	1,422	3,8386
13	8,54	1,7749	39	3,151	2,9932	64	1,379	3,8658
14	8,194	1,8226	40	3,041	3,0358	65	1,337	3,8927
15	7,864	1,8704						

11. DISASSEMBLY INSTRUCTIONS

KFR-3301GE KFR-3201GE

KFR-2501GE KFR-33GE

KF(R)-25GE KF-34GE

OPERATION PROCEDURE	PHOTOS
<p>1. Remove the grille</p> <ol style="list-style-type: none"> 1) Open the screw cover of the grille. 2) Take out the screws of the grille. 3) Hold both sides of the grille and drag it towards oneself, shown the operation switching board of the indoor unit. 	<p>Front Panel</p>  <p>Screws</p>
<p>2. Remove the electrical control box</p> <ol style="list-style-type: none"> 1) Remove the cover of the electrical control box 2) Take the indoor coil sensor from the sensor bracket. 3) Remove the switching board. 4) Take out the screws of the terminal board and remove the terminal board. 5) Disconnect the circuitry of the printed circuit board. 6) Remove and check-up the printed circuit board. 7) Disconnect all the connectors of the electrical control box. 8) Take out the screws of the electrical control box and remove the electrical control box. 	 <p>Sensor Bracket Screw Printed Circuit Board Terminal Board Screws</p>
<p>3. Remove the installation plate</p> <ol style="list-style-type: none"> 1) Take out the screws of the installation plate. 2) Remove the installation plate. 	 <p>Screw Installation Plate</p>

11. DISASSEMBLY INSTRUCTIONS

KFR-3301GE KFR-3201GE

KFR-2501GE KFR-33GE

KF(R)-25GE KF-34GE

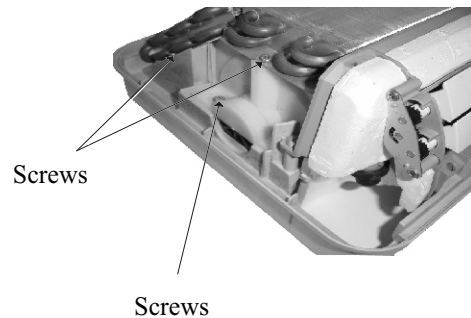
3. Remove the air outlet

- 1) Take out the screws of the air outlet.
- 2) Remove the ateeper motor.
- 3) Disconnect the drainage hose and the air outlet.
- 4) Remove the air outlet.



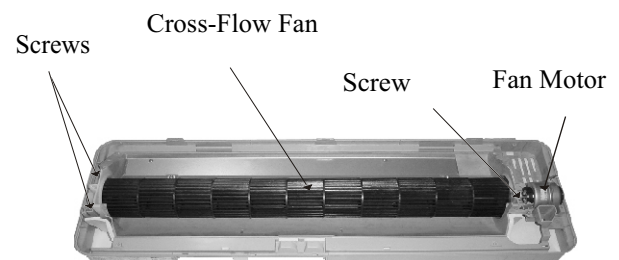
4. Remove the evaporator

- 1) Disconnect the evaporator and the other parts, Take out the screws of the evaporator and remove the evaporator.



5. Remove the cross-flow fan and the fan motor

- 1) Take out the screw between the cross-flow fan and the fan motor.
- 2) Remove the fan motor and the bearing ass'y.
- 3) Remove the cross-flow fan.

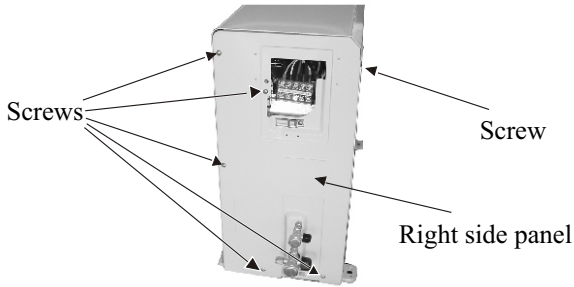
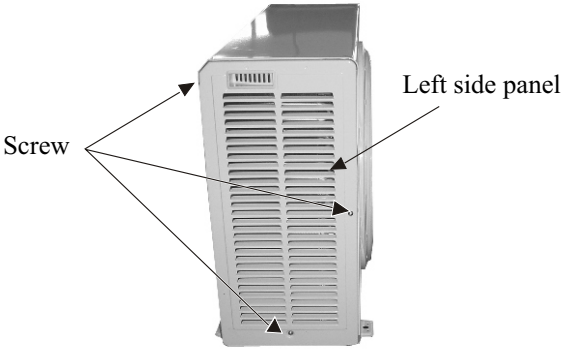



11. DISASSEMBLY INSTRUCTIONS

KFR-3301WE KFR-3201WE

KFR-2501WE KFR-33WE

KF(R)-25WE KF-34WE

OPERATION PROCEDURE	PHOTOS
<p>1. Remove the right side panel</p> <p>1) Take out the screws of the side panel and remove the side panel.</p> <p>2) Take out the screws of the right side panel.</p> <p>3) Remove the right side panel.</p>	
<p>2. Remove the left side panel</p> <p>1) Take out the screws of the left side panel.</p> <p>2) Remove the left side panel.</p>	
<p>2. Remove the front panel</p> <p>1) Take out the screws of the front panel.</p> <p>2) Remove the front panel.</p>	

11. DISASSEMBLY INSTRUCTIONS

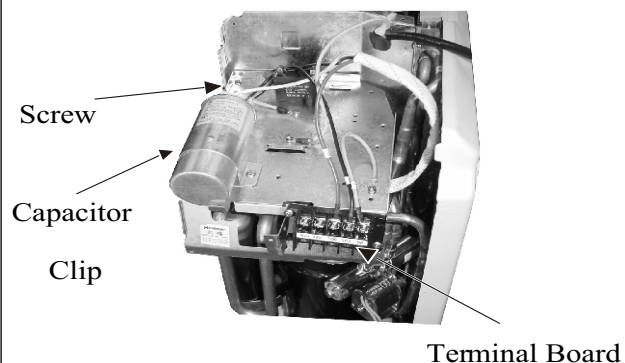
KFR-3301WE KFR-3201WE

KFR-2501WE KFR-33WE

KF(R)-25WE KF-34WE

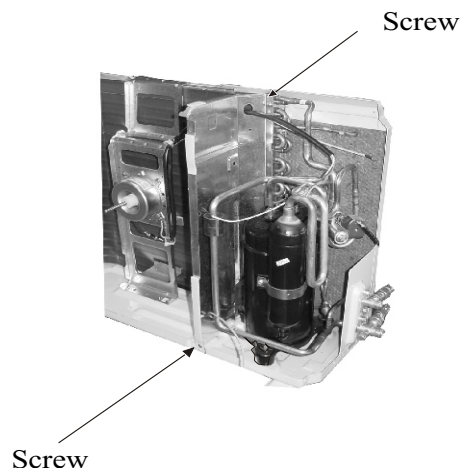
3. Remove the electrical board

- 1) Disconnect all the circuitries of the terminal board and the capacitor.
- 2) Take out the screws of the electrical board.
- 3) Remove the electrical board.



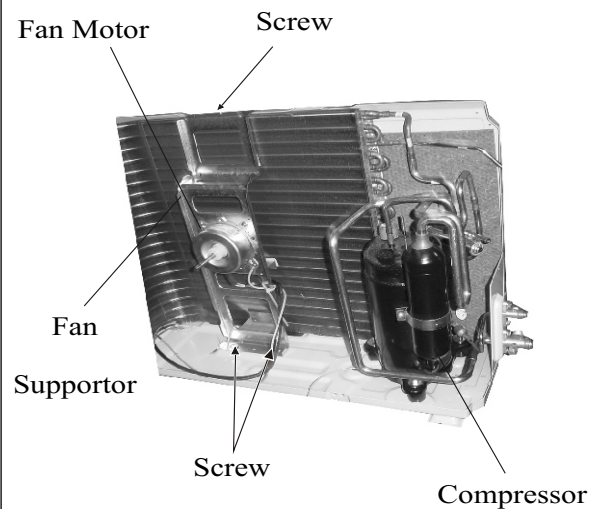
4. Remove the separator support plate

- 1) Disconnect the separator support plate and the other parts, take out the screws of the separator support plate and remove the separator support plate.



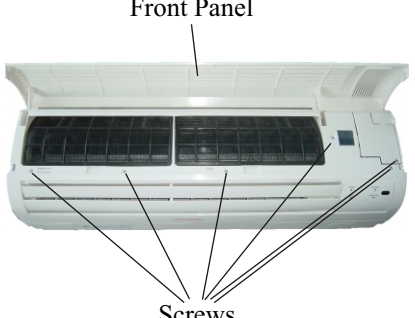
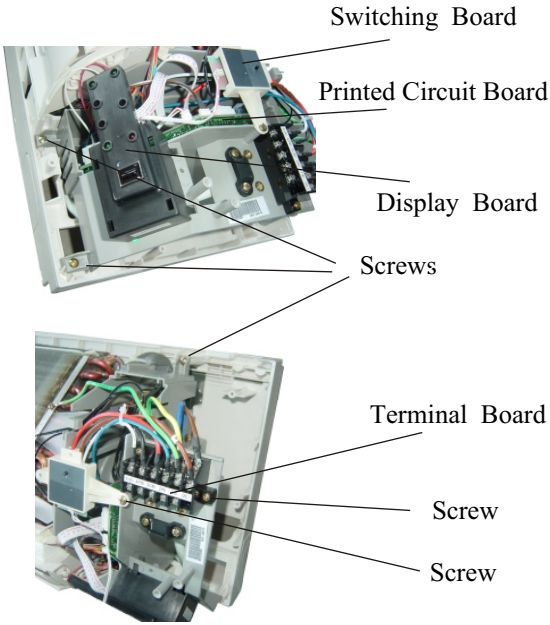
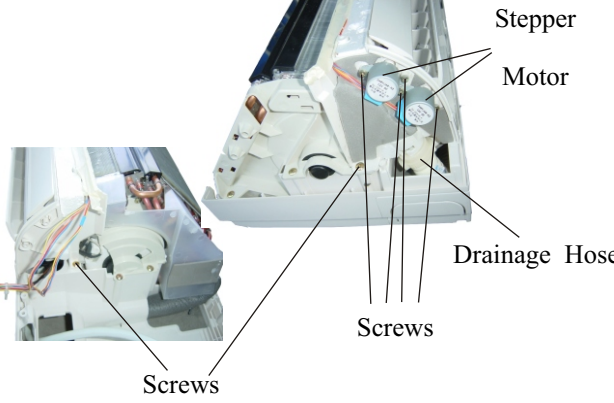
5. Remove the outside fan

- 1) Take out the screws of the outside fan.
- 2) Remove the outside fan.
- 3) Take out the screws of the fan supportor and remove the fan supportor.



11. DISASSEMBLY INSTRUCTIONS

KFR-4801GE KF-5002GE

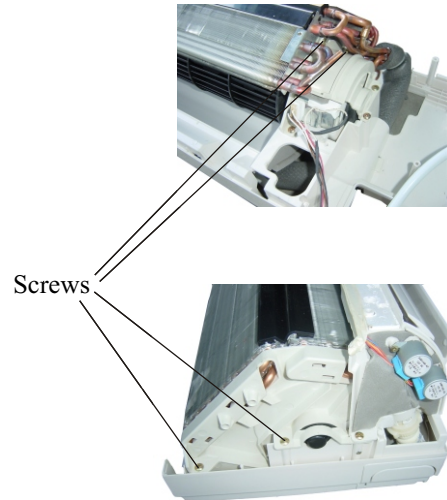
OPERATION PROCEDURE	PHOTOS
<p>1. Remove the grille</p> <ol style="list-style-type: none"> 1) Open the front panel. 2) Take out the screws of the grille. 3) Hold the both sides of the grille and drag it towards oneself,remove the grille. 	 <p>Front Panel</p> <p>Screws</p>
<p>2. Remove the electrical control box</p> <ol style="list-style-type: none"> 1) Take the indoor coil sensor from the sensor bracket. 2) Remove the switching board. 3) Take out the screws of the terminal board and remove the terminal board. 4) Remove the display board. 5) Disconnect the circuitries of the printed circuit board. 6) Remove and check-up the printed circuit board. 7) Disconnect all the circuitries of the electrical printed board. 8) Take out the screws of the electrical control box and remove the electrical control box. 	 <p>Switching Board</p> <p>Printed Circuit Board</p> <p>Display Board</p> <p>Screws</p> <p>Terminal Board</p> <p>Screw</p> <p>Screw</p>
<p>3. Remove the air outlet frame</p> <ol style="list-style-type: none"> 1) Take out the screws of the stepper motor,disconnect the stepper motor and the air outlet frame. 2) Remove the stepper motor. 3) Disconnect the drainage and the air outlet frame. 4) Take out the screws of the air outlet frame. 5) Remove the air outlet frame. 	 <p>Stepper Motor</p> <p>Drainage Hose</p> <p>Screws</p>

11. DISASSEMBLY INSTRUCTIONS

KFR-4801GE KF-5002GE

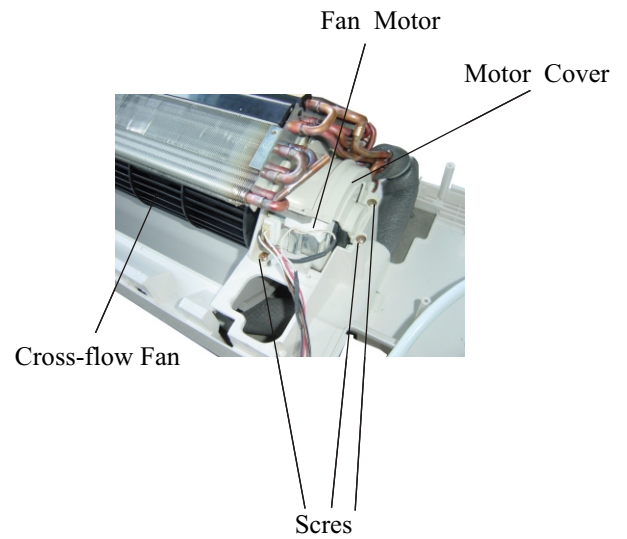
4. Remove the evaporator

1. Disconnect the evaporator and the other parts, take out the screws of the evaporator and remove the evaporator.



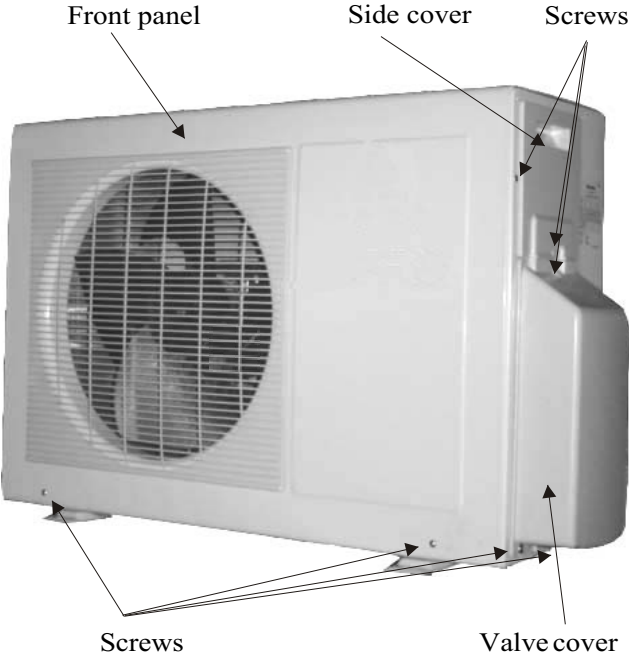

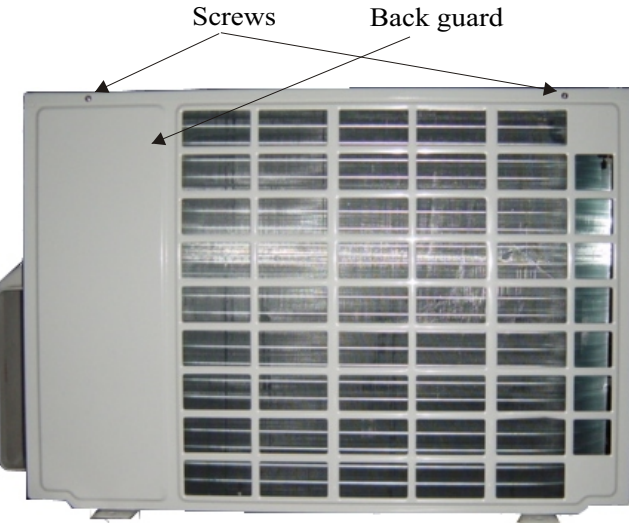
5. Remove the cross-flow fan and the fan motor

- 1) Take out the screws of the motor cover and remove the motor cover.
- 2) Remove the cross-flow fan and the fan motor.

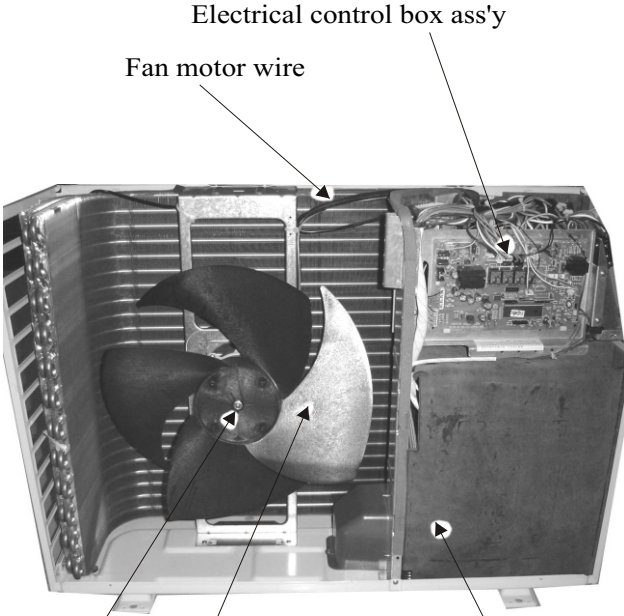
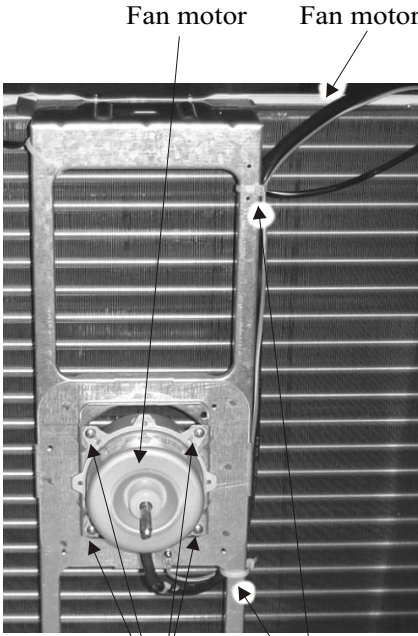


11. DISASSEMBLY INSTRUCTIONS

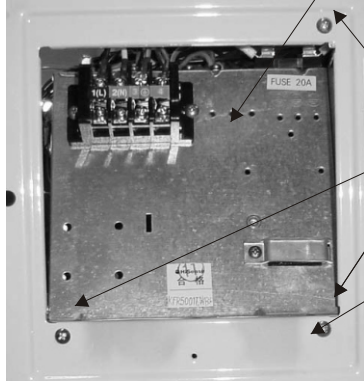
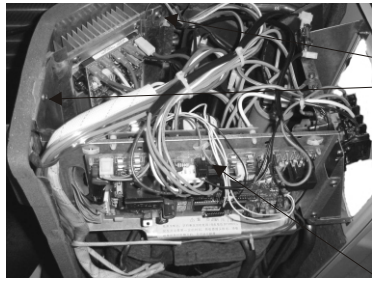
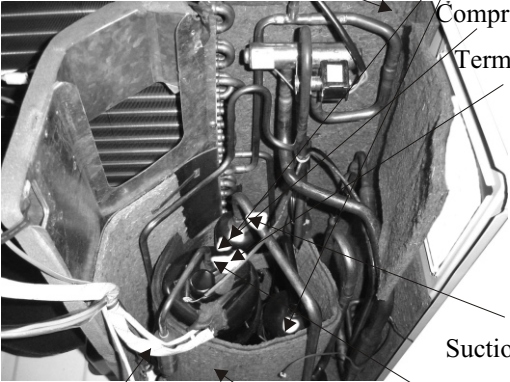
KFR-4801WE

OPERATION PROCEDURE	PHOTOS
<p>1. Remove the front panel</p> <p>1) Remove the valve cover.</p> <p>2) Remove the side cover.</p> <p>3) Remove the front panel.</p>	 <p>Labels: Front panel, Side cover, Screws, Valve cover</p>
 <p>Labels: Screws</p>	 <p>Labels: Screws, Back guard</p>

11. DISASSEMBLY INSTRUCTIONS

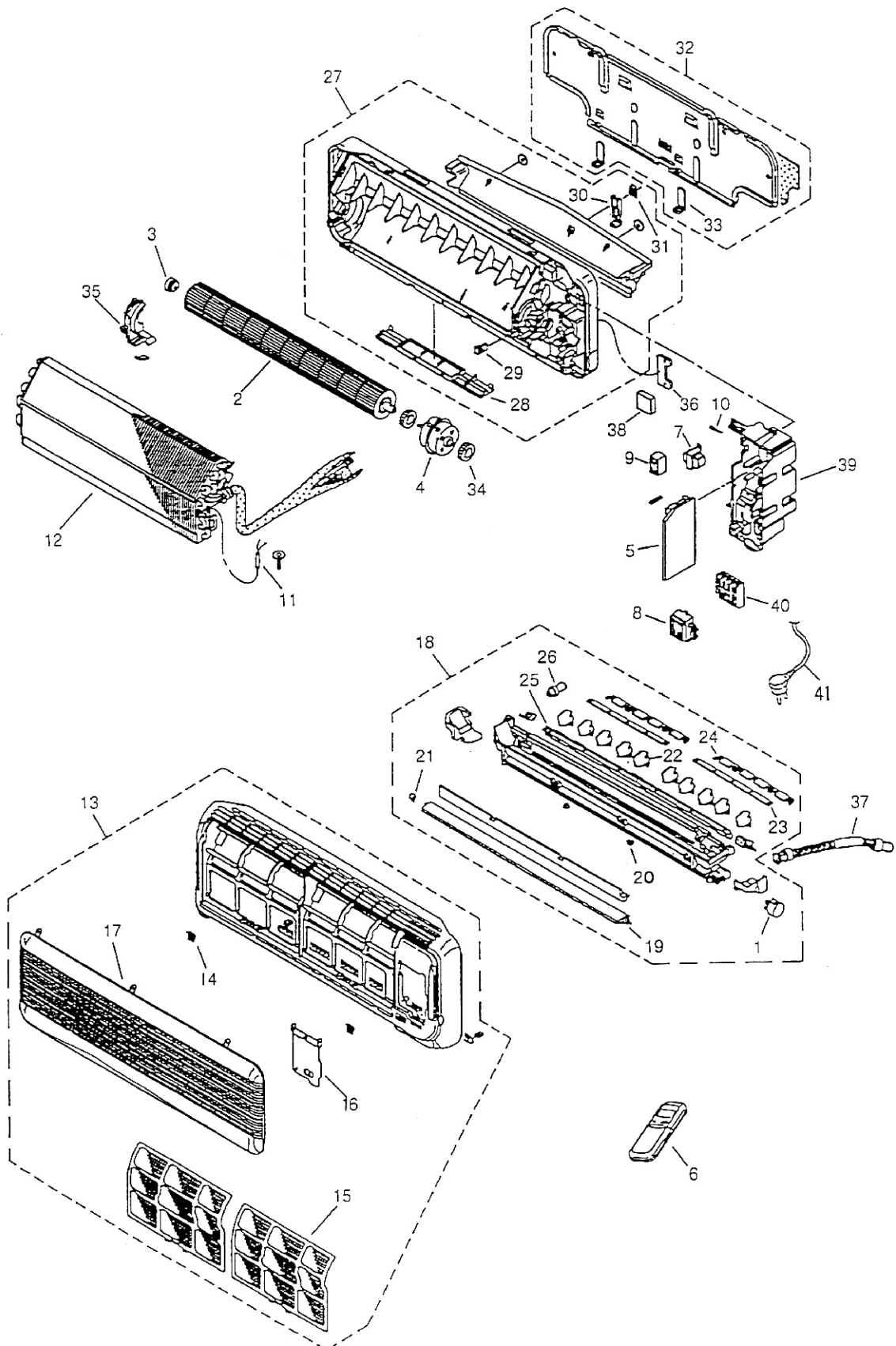
OPERATION PROCEDURE	PHOTOS
<p>2. Remove the outside fan</p> <p>1) Turn the nut which fix the outside fan in anti-clockwise and remove the outside fan.</p>	 <p>Electrical control box ass'y</p> <p>Fan motor wire</p> <p>Nut</p> <p>Outside fan</p> <p>Noise defending cover</p>
<p>3. Remove the fan motor</p> <p>1) Remove all the terminals of the fan motor wire.</p> <p>2) Take out the screws and the clip.</p> <p>3) Remove the fan motor.</p>	 <p>Fan motor</p> <p>Fan motor wire</p> <p>Screws</p> <p>Clips</p>

11. DISASSEMBLY INSTRUCTIONS

OPERATION PROCEDURE	PHOTOS
<p>4. Remove the electrical control Box ass'y</p> <p>1) Remov eall the terminals of the electrical control box ass'y.</p> <p>2) Take out the screws and remove the electrical Control box.</p>	<p>Electrical control box ass'y</p>  <p>Screws</p> <p>Back guard</p>  <p>Screws</p> <p>Electrical control box ass'y</p>
<p>5. Remove the compressor</p> <p>1) Remove the back guard.</p> <p>2) remove the compressor terminal Cover and the compressor wire.</p> <p>3) Disconnect the compressor and the discharge tube, liquid tank and the suction tube.</p> <p>5) Remove the noise defending cover.</p> <p>6) Take out the nut of the compressor and remove the compressor.</p>	<p>Back guard</p> <p>Liquid tank</p>  <p>Compressor</p> <p>Terminal cover</p> <p>Suction tube</p> <p>Discharge tube</p> <p>Noise dfending cover</p> <p>Compressor wire</p>

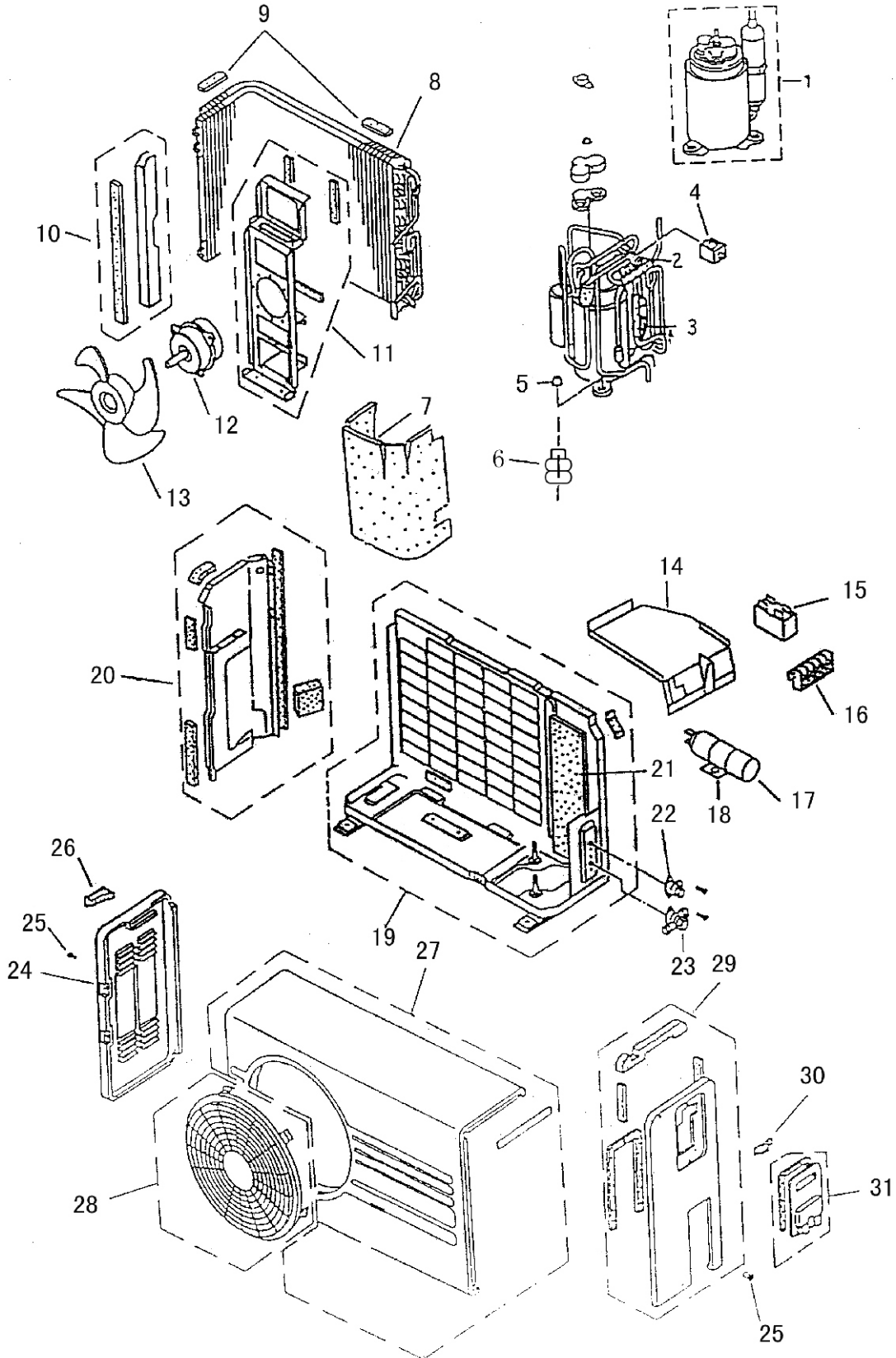
12. PARTS LIST

KFR-33GE KF(R)-25GE KFR-2501GE KFR-3301GE KF-34GE KFR-3201GE



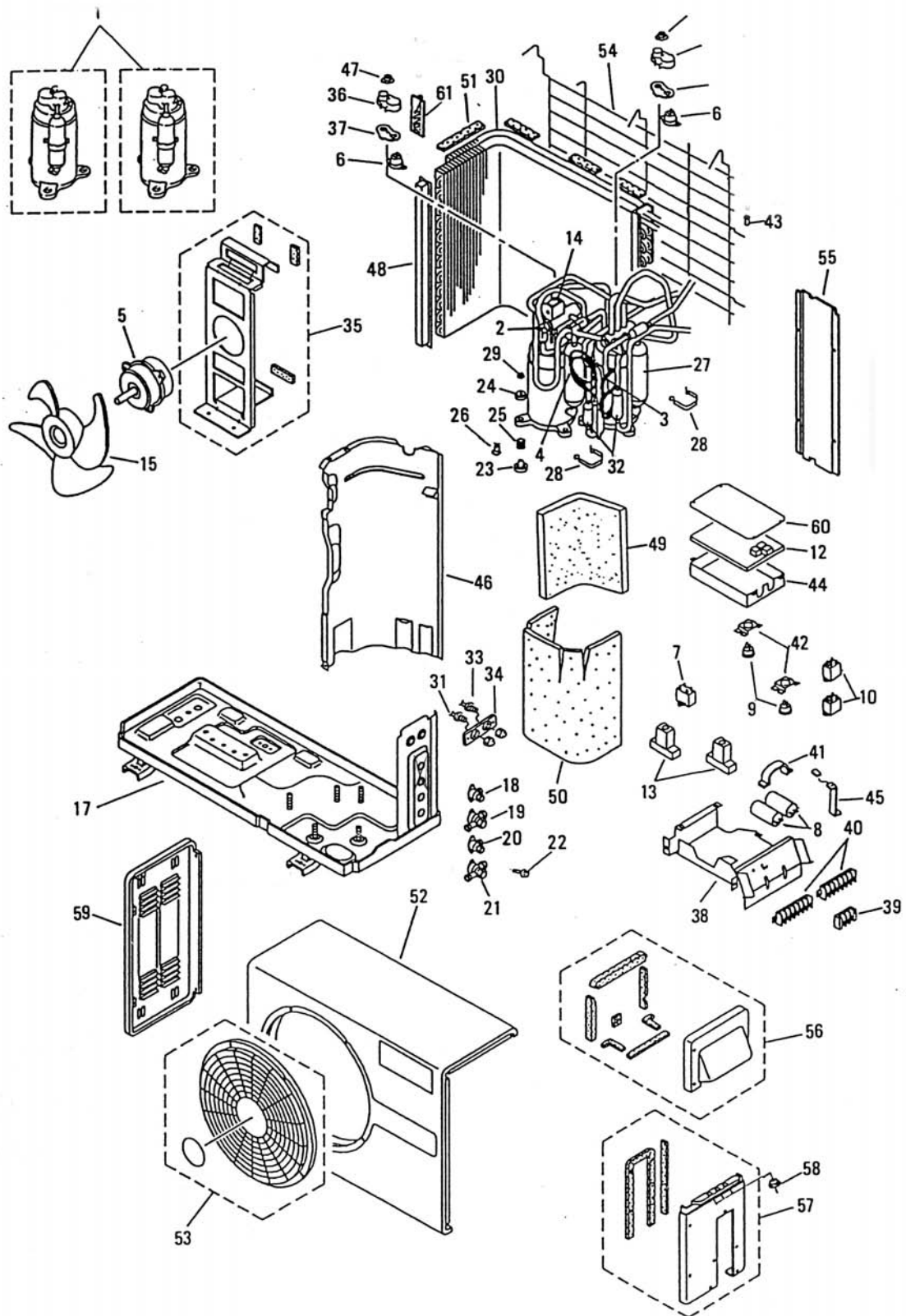
12. PARTS LIST

KFR-33WE KF(R)-25WE KFR-2501WE KFR-3301WE KF-34WE KFR-3201WE



12. PARTS LIST

KF-5002WE



12. PARTS LIST

KFR-33GE KF(R)-25GE KFR-2501GE KFR-3301GE KF-34GE KFR-3201GE

Key No.	Part No.	Description	KF-25GE Q'ty	KF-34GE Q'ty	KFR-25GE Q'ty	KFR-3201GE Q'ty	KFR-33GE Q'ty	KFR-2501GE Q'ty
1	529-0-0000-062-0A-0	Steppor Motor	1	1	1	1	1	1
2	852-0-2509-206-00-0	Cross-Flow Fan Ass'y	1	1	1		1	1
2	RZA-0-2509-111-XX-0	Cross-Flow Fan Ass'y				1		
3	852-0-2510-128-00-1	Bearing Ass'y	1	1	1	1	1	1
4	RZA-0-0000-073-XX-0	Fan Motor	1		1	1	1	1
4	RZA-0-0000-033-XX-0	Fan Motor		1				
5	RZA-0-5172-013-XX-0	PCB Ass'y	1					
5	851-0-5172-609-00-C	PCB Ass'y		1				
5	RZA-0-5172-105-XX-0	PCB Ass'y					1	
5	RZA-0-5172-166-XX-0	PCB Ass'y						1
5	RZA-0-5172-321-XX-0	PCB Ass'y			1			
5	RZA-0-5172-167-XX-0	PCB Ass'y						
5	RZA-0-5172-292-XX-0	PCB Ass'y				1		
6	RZA-0-0054-034-XX-0	Remote Controller	1					
6	851-0-0054-287-00-	Remote Controller		1				
6	RZA-0-0054-036-XX-F	Remote Controller			1		1	1
6	RZA-0-0054-001-XX-0	Remote Controller				1		
7	RZA-0-5263-035-XX-0	Power Transformer						
7	RZA-0-5263-004-XX-0	Power Transformer	1		1		1	1
7	851-0-5263-182-00-C	Power Transformer		1				
7	RZA-0-5263-031-XX-0	Power Transformer				1		
8	RZA-0-5152-017-XX-0	Switching and Display Ass'y	1	1	1			
8	RZA-0-5152-001-XX-0	Switching and Display Ass'y				1	1	1
9	4-2239-572-20-3	Capacitor	1	1	1	1	1	1
10	851-0-5259-613-00-0	Temperature Sensor		1				
11	851-0-5259-554-00-3	Temperature Sensor		1				
11	851-0-5259-050-XX-0	Temperature Sensor	1		1	1	1	1
11	851-0-5259-051-XX-0	Temperature Sensor	1		1	1	1	1
12	852-0-4116-421-00-1	Evaporator Ass'y	1		1	1		1

12. PARTS LIST

KFR-33GE KF(R)-25GE KFR-2501GE KFR-3301GE KF-34GE KFR-3201GE

12	852-0-4116-381-00-0	Evaporator Ass'y		1			1
13	852-0-1501-297-00-0	Grill Ass'y	1	1	1	1	1
14	852-2-2350-155-01-0	Screw Cover	2	2	2	2	2
15	852-0-2307-248-01-0	Air Filter	2	2	2	2	2
16	852-2-2369-314-01-0	Electrical Control Box cover	1	1	1	1	1
17	852-2-1601-123-01-0	Front Panel	1	1	1	1	1
18	852-0-1504-204-00-0	Air Outlet Ass'y	1	1	1	1	1
19	852-2-1523-198-01-0	Flap	1	1	1	1	1
20	852-2-1514-496-01-0	Midst Axel Cover	2	2	2	2	2
21	852-2-1514-498-01-0	Side Axel Cover	1	1	1	1	1
22	852-2-1519-253-01-0	Vane	10	10	10	10	10
23	852-2-1514-500-01-0	Vane Lever	2	2	2	2	2
24	852-2-2478-142-01-0	Vane Panel	2	2	2	2	2
25	852-2-2360-130-01-1	Vane	1	1	1	1	1
26	852-2-2348-118-00-0	Drainage Vent Tuck	1	1	1	1	1
27	852-0-2201-287-01-0	Base Ass'y	1	1	1	1	1
28	852-2-2369-316-01-0	Bottom Cover	1	1	1	1	1
29	852-2-2316-136-01-0	Crook	1	1	1	1	1
30	852-2-2362-209-01-0	Mounting Plate	1	1	1	1	1
31	852-2-2487-109-01-0	Mounting Plate	1	1	1	1	1
32	852-0-2210-111-00-1	Installation Plate	1	1	1	1	1
33	852-2-2309-721-01-0	Installation Plate fixer	2	2	2	2	2
34	852-2-2511-163-00-0	Rubber Ring	2	2	2	2	2
35	852-0-2515-103-00-0	Rubber Cover Ass'y	1	1	1	1	1
36	852-2-2309-723-01-0	Mounting Plate	1	1	1	1	1
37	852-0-1303-221-00-0	Drainage Hose Ass'y	1	1	1	1	1
38	852-2-2350-141-00-1	Cover	1	1	1	1	1
39	RZA 0-5316-016-XX-0	Electrical Control Box	1	1	1	1	1
40	RZA-0-5306-024-XX-0	Terminal	1	1			
40	RZA-0-5306-022-XX-1	Terminal			1	1	1
41	RZA-0-5250-025-XX-D	Power Cable	1	1	1		1
41	RZA 0-5250-007-XX-2	Power Cable				1	

12. PARTS LIST

KFR-33WE KF(R)-25WE KFR-2501WE KFR-3301WE KF-34WE KFR-3201WE

Key No.	Part No.	Description	KF-25WE Q'ty	KF-34WE Q'ty	KFR-25WE Q'ty	KFR-33WE Q'ty	KFR 2501WE Q'ty	KFR 3301WE Q'ty	KFR 3201WE Q'ty
1	RZA 0-4526-037-XX-0	Compressor Ass'y	1						
1	852-0-4526-151-00-C	Compressor Ass'y		1					
1	RZA-0-4526-058-XX-0	Compressor Ass'y			1		1		
1	RZA-0-4526-150-00-2	Compressor Ass'y				1		1	1
2	852-0-4509-118-00-2	4-Way Valve			1		1		
2	852-0-4509-126-00-0	4-Way Valve				1		1	1
3	854-0-4518-138-00-1	Unilateral Valve			1	1	1	1	
3	RZA-2-4204-002-XX-0	Unilateral Valve							1
4	RZA 0-2049-001-XX-0	Magnetic Coil			1	1	1	1	1
5	851-0-2395-105-01-0	Special Nut Ass'y	3	3	3	3	3	3	3
6	RZA 2-2390-002-XX-0	Rubber Gasket	3		3		3		
6	851-2-2390-236-00-C	Rubber Gasket		3					
6	RZA-2-2390-001-XX-0	Rubber Gasket				3		3	3
7	852-2-2476-448-00-0	Noise Defending Cover	1	1	1	1	1	1	1
8	RZA 0-4102-012-XX-0	Condenser Ass'y	1						
8	852-0-4102-774-00-C	Condenser Ass'y		1					
8	RZA 0-4102-008-XX-0	Condenser Ass'y			1		1		
8	852-0-4102-674-00-1	Condenser Ass'y				1		1	
8	852-0-4102-118-XX-0	Condenser Ass'y							1
9	852-2-2353-442-00-0	Damping Gasket		2					
10	852-0-2309-151-00-0	Barrier Ass'y	1	1	1	1	1	1	1
11	852-0-2506-176-00-0	Fan Supporter		1		1		1	1
11	852-0-2506-001-XX-0	Fan Supporter	1		1		1		
12	RZA 0-0000-005-XX-0	Fan Motor	1		1	1			
12	RZA 0-0000-077-XX-0	Fan Motor					1		
12	525-0-0000-867-05-C	Fan Motor		1					
12	RZA-0-0000-092-XX-0	Fan Motor							1
12	525-0-0000-767-05-0	Fan Motor						1	

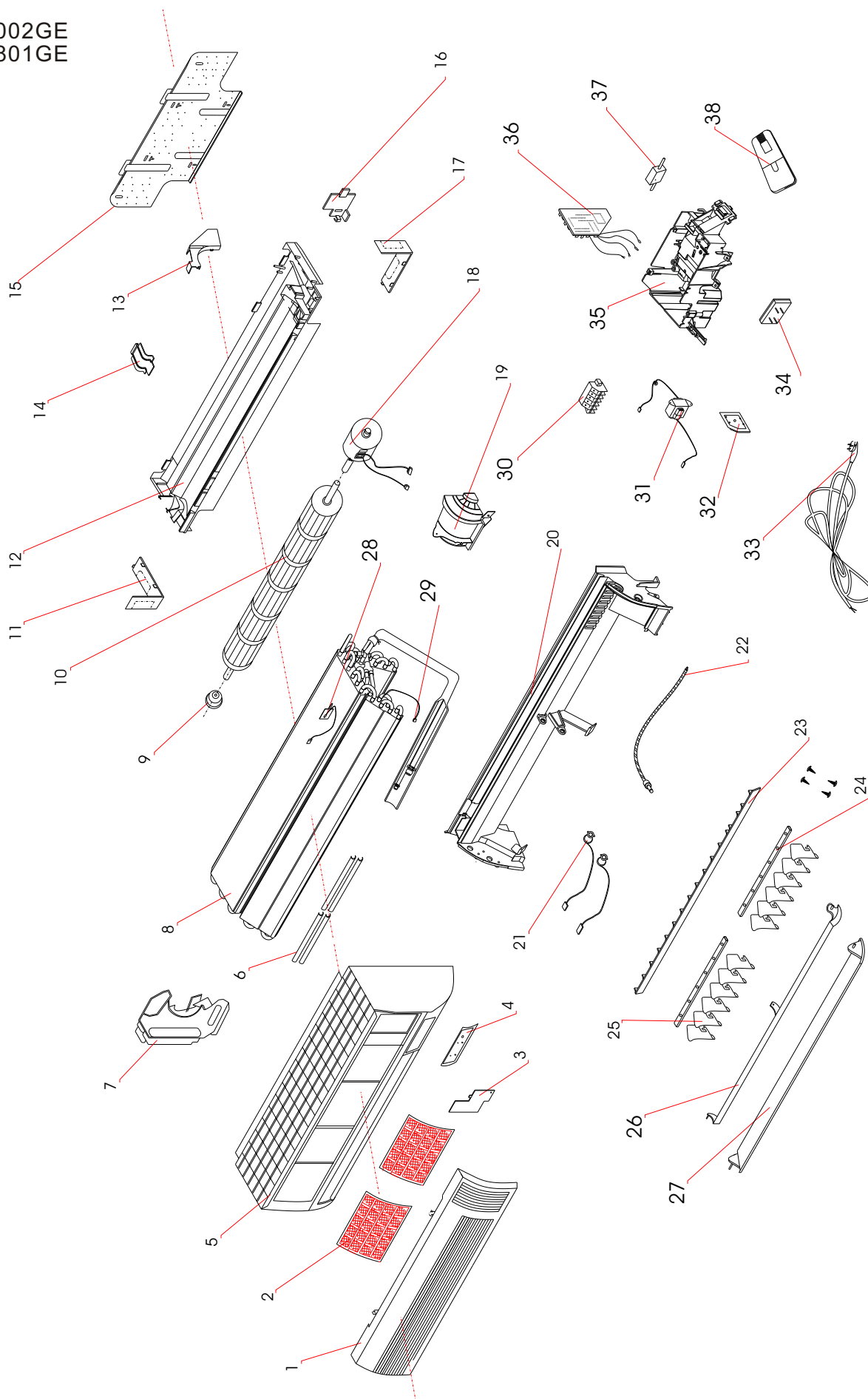
12. PARTS LIST

KFR-33WE KF(R)-25WE KFR-2501WE KFR-3301WE KF-34WE KFR-3201WE

13	852-0-2502-135-00-0	Outside Fan	1					1	
13	852-0-2502-138-00-0	Outside Fan		1	1	1	1		1
14	852-2-5307-542-01-1	P.C.B.	1	1	1	1	1	1	1
15	4-2239-561-60-2	Capacitor	1	1	1	1	1	1	1
16	RZA 1-2379-010-XX-1	Terminal Block	1	1					
16	RZA-0-5306-030-XX-0	Terminal Block					1	1	1
16	RZA 0-2379002-XX-1	Terminal Block			1	1			
17	4-2239-572-23-1	Capacitor	1	1		1		1	1
17	RZA 4-2239-001-XX-0	Capacitor			1		1		
18	852-2-5301-288-01-0	Capacitory Clip	1	1		1		1	1
18	RZA 2-5301-002-XX-0	Capacitory Clip			1		1		
19	RZA 0-2202-005-XX-0	Base Ass'y	1		1		1		
19	852-0-2202-578-XX-A	Base Ass'y		1		1		1	1
20	852-0-2209-232-00-0	Separator Support Plate	1	1	1	1	1	1	1
21	852-2-2476-450-00-0	Noise Defending Cover	1	1	1	1	1	1	1
22	852-0-4501-546-00-C	Valve Ass'y	1	1					
22	852-0-4501-466-00-0	Valve Ass'y			1		1		
22	852-0-4501-446-00-0	Valve Ass'y				1		1	
23	RZA 0-4501-009-XX-0	Valve Ass'y	1		1		1		
23	852-0-4501-546-00-C	Valve Ass'y		1					
23	852-0-4501-456-00-0	Valve Ass'y				1		1	1
24	852-0-1104-274-01-0	Left Side Panel Ass'y	1	1	1	1	1	1	1
25	852-2-2326-220-01-A	Screw Covering	2	2	2	2	2	2	2
26	852-2-2303-117-01-0	Handle	1	1	1	1	1	1	1
27	852-0-1101-308-00-0	Front Panel Ass'y	1	1	1	1	1	1	1
28	852-2-1321-154-01-1	Fan Guard	1	1	1	1	1	1	1
29	852-0-1104-273-00-0	Right Side Panel Ass'y	1	1	1	1	1	1	1
30	852-2-5304-176-01-0	Clip	1	1	1	1	1	1	1
31	852-0-5302-160-00-0	Side Cover Ass'y	1	1	1	1	1	1	1

12. PARTS LIST

KF-5002GE
KF-4801GE



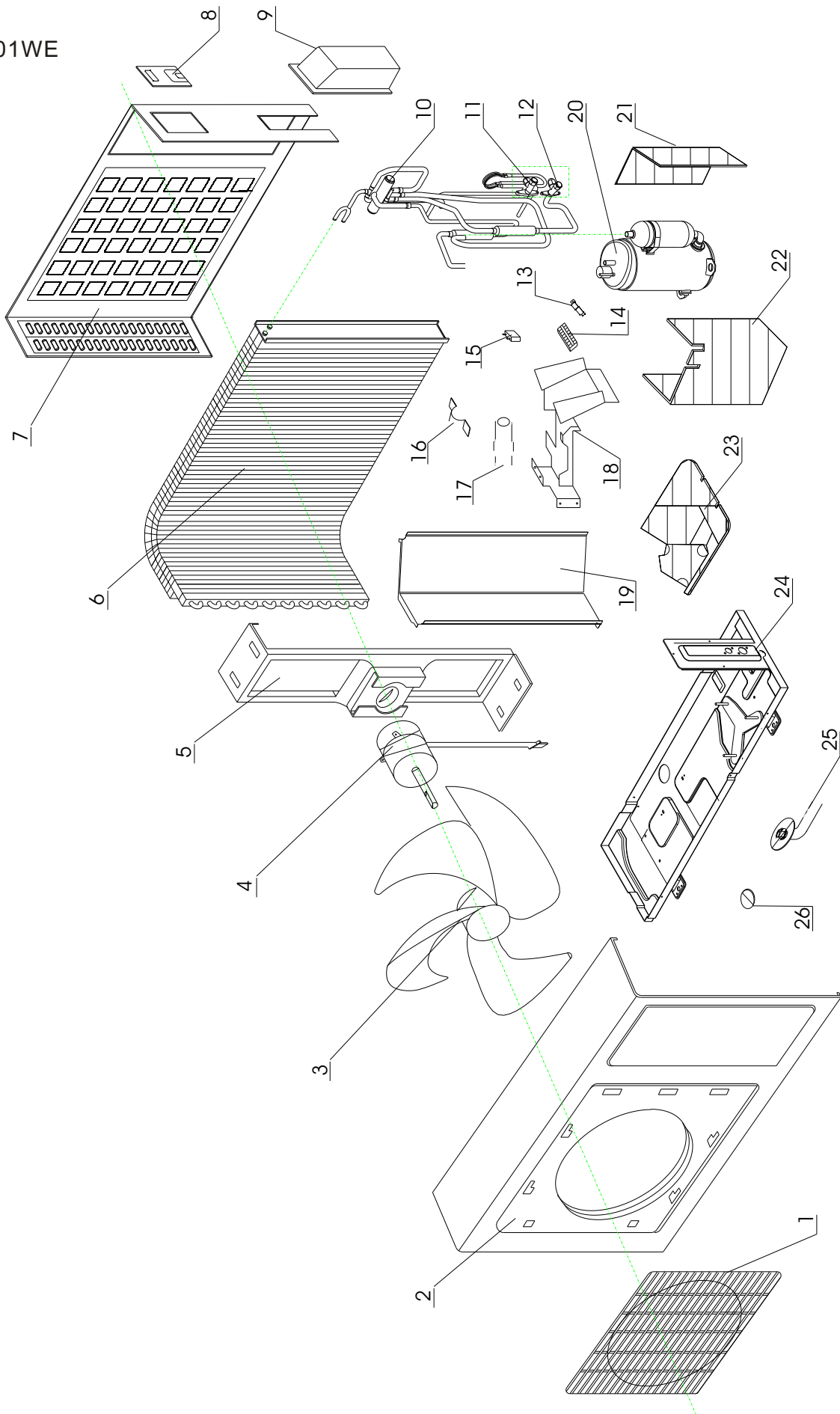
12. PARTS LIST

KF-5002GE
KF-4801GE

Key NO.	Part NO.	Description	Q'ty
1	RZA-2-1601-004-XX-0	Front Panel	1
2	RZA-0-2305-006-XX-0	Air Filter	2
3	RZA-2-2369-011-XX-0	Electrical Control Box cover	1
4	RZA-0-2258-013-XX-	Display panel	1
5	RZA-0-1501-007-XX-0	Grill	1
6	RZA-0-2326-103-XX-0	Water Plate	2
7	RZA-2-2219-016-XX-0	Evaporator Supportor	1
8	RZA-0-4116-042-XX-0	Evaporator Ass'y	1
9	RZA-0-2510-100-XX-0	Bearing Ass'y	1
10	RZA-0-2509-102-XX-0	Cross-Flow Fan Ass'y	1
11	RZA-2-2369-009-XX-0	Down Left Cover	1
12	RZA-0-2201-103-XX-0	Base Ass'y	1
13	RZA-0-2209-021-XX-0	Insulator Cover Ass'y	1
14	RZA-2-2478-101-XX-0	Mounting Plate	
15	RZA-2-2230-101-XX-0	Installation Plate	1
16	RZA-2-2362-019-XX-0	Mounting Plate	1
17	RZA-2-2369-010-XX-0	Down Right Cover	1
18	RZA-0-0000-050-XX-1	Fan Motor	1
19	RZA-0-2514-103-XX-0	Motor Guard	1
20	RZA-0-1504-020-XX-0	Air Outlet Frame	1
21	RZA-0-0000-048-XX-0	Stepper Motor	2
22	RZA-0-1303-101-XX-0	Drainage Hose Ass'y	1
23	RZA-0-1514-016-XX-0	Vane Install Plate Ass'y	1
24	RZA-2-1514-014-XX-0	Vane Lever	2
25	RZA-2-1519-011-XX-0	Vane	10
26	RZA-2-1523-010-XX-0	Down Flap	1
27	RZA-2-1523-009-XX-0	Up Flap	1
28	852-2-5303-215-01-0	Sensor Bracket	1
29	RZA-0-5259-051-XX-0	Temperature Sensor	1
30	RZA-0-5706-022-XX-1	Terminal	1
31	RZA-0-5263-004-XX-0	Power Transformer	1
32	RZA-2-2222-008-XX-0	Transformer Fix Plate	1
33	RZA-0-5250-025-XX-D	Power Cable	1
34	RZA-0-5152-026-XX-0	Display board	1
35	RZA-0-5316-018-XX-0	Electrical Control Box	1
36	RZA-0-5172-227-XX-0	Control Board	1
37	RZA-0-5152-023-XX-0	Switching Ass'y	1
38	RZA-0-0054-048-XX-A	Remote Controller	1

12. PARTS LIST

KF-4801WE



12. PARTS LIST

KF-4801WE

Key No.	Part No.	Description	Q'ty
1	RZA-2-1321-002-XX-0	Fan Guard	1
2	RZA-2-1112-002-XX-1	Front Panel	1
3	852-2-2502-136-01-0	Outside Fan	1
4	RZA-0-0000-042-XX-0	Fan Motor	1
5	RZA-0-2362-015-XX-0	Fan Supporter Ass'y	1
6	RZA-0-4102-039-XX-0	Condenser Ass'y	1
7	RZA-0-1108-001-XX-0	Back Panel Ass'y	1
8	RZA-0-5302-003-XX-0	Side Cover Ass'y	1
9	RZA-2-2369-001-XX-1	Valve Cover	1
10	RZA-0-4525-026-XX-0	4-Way Valve Ass'y	1
11	RZA-0-4501-043-XX-0	1/4 Valve Ass'y	1
12	RZA-0-4501-044-XX-0	1/2 Valve Ass'y	1
13	RZA-2-5304-002-XX-1	Power Cable Clip	1
14	RZA-0-5306-030-XX-0	Terminal Block	1
15	4-2239-561-61-2	Fan Capacitor	1
16	RZA-2-5301-019-XX-0	Capacitory Clip	1
17	RZA-4-2239-034-XX-0	Compressor Capacitor	1
18	RZA-0-5316-010-XX-0	Electrical Box Ass'y	1
19	RZA-0-2209-013-XX-0	Separator Support Plate Ass'y	1