

TECHNICAL SERVICE MANUAL

— **Cassette type**

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 Cassette type 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
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Cassette type

1. Summary



figure 1

MODEL

NOTE

KF-50TW/A1
KFR-50TW/A1

CE STANDARD
1Ph 220-230V 50Hz R22

KF-50TW/NA1
KFR-50TW/NA1

CE STANDARD
1Ph 220-230V 50Hz R407C

Cassette type



figure 2

MODEL

NOTE

KF-70TW/B1(7031T1)
KFR-70TW/B1(7051T1)

CE STANDARD
1Ph 220-230V 50Hz R22

KF-70TW/B1(7031T1)N
KFR-70TW/B1(7041T1)N

CE STANDARD
1Ph 220-230V 50Hz R407C

KF-70TW/B(7031T)N
KFR-70TW/B(7041T)N

CE STANDARD
3Ph 380-400V 50Hz R407C

KF-70TW/B(7031T)A
KFR-70TW/B(7041T)A

3Ph 380-400V 50Hz R22

GSK24-22L/A
GSK24-22R/A

CE STANDARD
1Ph 220V 60Hz R22

Cassette type



figure 3

MODEL

NOTE

KF-120TW/B(1231T)N
KFR-120TW/B(1241T)N

CE STANDARD
3Ph 380-400V 50Hz R407C

KF-120TW/B(1231T)C
KFR-120TW/B(1251T)B

3Ph 380-400V 50Hz
R22

KF-120TW/B(1231T)B
KFR-120TW/B(1241T)B

CE STANDARD
3Ph 380-400V 50Hz R22

GSK41-22L/A
GSK41-22R/A

3Ph 220V 60Hz
R22

Cassette type

2. Technical specifications

Table 1

Model		KF-50TW/A1	KFR-50TW/A1		KF-50TW/NA1	KFR-50TW/NA1		
Function		Cooling	Cooling	Heating	Cooling	Cooling	Heating	
Power supply		1PH 220-230V 50Hz						
Capacity	W	5000	5000	5500	5000	5000	5500	
Rated input (W)		1960	1960	1960	2150	2150	2150	
Rated current (A)		8.5	8.5	8.5	10	10	10.5	
Air flow (m ³ /h)		680						
Dehumidifying volume(L/h)		2.9						
Indoor unit	Model		KF-50T/A1	KFR-50T/A1		KF-50T/NA1	KFR-50T/NA1	
	Motor fan speed(r/min)		620/720/820					
	Output power(W)		11					
	Fan type/piece		Centrifugal fan-1					
	Diameter-length(mm)		φ 283mm/148mm					
	Evaporator		Aluminum fin-copper tube					
	Row-fin distance(mm)		2/1.5					
	Working area(m ²)		0.23					
	Swing motor		MP35BA					
	Input power		2W/12V DC					
	Control method		Remote control					
	Fuse (A)		Control Board-3.15; Transformer-0.2					
	Work capacitor(μF)		2.5					
	Noise(dB(A))		≤ 47					
	Outline	panel	Width (mm)	650				
			Height (mm)	50				
			Depth (mm)	650				
		Main body	Width (mm)	600				
			Height (mm)	230				
			Depth (mm)	600				
Net weight(kg)	Panel	5						
	Main body	20						

Cassette type

Table 1 continue

Model		KF-50TW/A1	KFR-50TW/A1	KF-50TW/NA1	KFR-50TW/NA1	
Outdoor unit	Model	KF-50W/tA1	KFR-50W/tA1	KF-50W/tNA1	KFR-50W/tNA1	
	Input power W	1900	1900/1900	2090	2090/2090	
	Current A	8.2	8.2	9.7	9.7/10.2	
	Throttling method	Capillary				
	Compressor	type	Rotary		Rotary	
		model	2V34S225AUA		C-2RN170H5U	
		Starting method	PSC			
		Overload protector	Build-in			
		L.R.A A	45			
		Working temp. (°C)	120			
		Input power W	1800		1990	
	Condenser	Aluminum fin-copper tube				
	Row-fin distance(mm)	2/1.8				
	Working area(m ³)	0.4				
	Fan motor	Model	FW60D	FW60B	FW60D	FW60B
		Output power (W)	60		60	
		Fan motor speed (rpm)	780/620	750/620/380	780/620	750/620/380
		Quantity	1			
	Fan type/piece	Axial flow fan/1				
	Fan diameter (mm)	φ 450				
	Defrost method	Auto defrost				
	Noise [dB(A)]	≤ 59		≤ 59		
	Outl ine	Width (mm)	950			
		height (mm)	700			
		depth (mm)	412			
	Net weight (kg)	65				
Refrigerant	R22		R407C			
Refrigerant charge(kg)	2					
Connection pipe	Diameter	Liquid pipe(mm)	φ 9.52			
		Gas pipe(mm)	φ 16			
	Standard length(m)	5				
	Max. Distance (m)	height	5			
		length	10			

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

Cassette type

Table 2

Model		KF-70TW/B1 (7031T1)N	KFR-70TW/B1 (7041T1)N	KF-70TW/B1 (7031T1)	KFR-70TW/B1 (7051T1)			
Function		Cooling	Cooling	Heating	Cooling	Cooling	Heating	
Power supply		1PH,220-230V 50Hz						
Capacity	Kcal/h	6020	6020	6450	6020	6020	6450	
	Btu/h	23891	23891	25598	23891	23891	25598	
	W	7000	7000	7500	7000	7000	7500	
Rated input (W)		2750	2750	2750	2750	2750	2750	
Rated current (A)		4.8	4.8	4.8	4.8	4.8	4.8	
Air flow (m ³ /h)		1180			1180			
Electric heater power (W)		\			\	1400		
Dehumidifying volume(L/h)		4.0			4.0			
Indoor unit	Model		KF-70T/B1 (7031T1)N	KFR-70T/B1 (7041T1)N	KF-70T/B1 (7031T1)	KFR-70T/B1 (7051T1)		
	Motor fan speed(r/min)		600/550/500			600/550/500		
	Output power(W)		35W					
	Fan type/piece		Centrifugal fan-1					
	Diameter-length(mm)		φ 450mm/140mm			φ 450mm/140mm		
	Evaporator		Aluminum fin-copper tube					
	Row-fin distance(mm)		2/1.5			3/1.5	2/1.5	
	Working area(mm ²)		1980x171.5			1980x171.5		
	Swing motor		SM008					
	Input power-speed		3W-2.5r/min					
	Control method		Remote control					
	Fuse(A)		Controller 3.15A Transformer 0.2A					
	Work capacitor(μF)		3.5					
	Noise(dB(A))		≤ 47					
	Outline	panel	Width (mm)	950				
			Height (mm)	60				
Depth (mm)			950					
Main body		Width (mm)	840					
		Height (mm)	240					
		Depth (mm)	840					
Net weight(kg)	Panel	6.5						
	Main body	30						

Cassette type

Table 2 continue

Model		KF-70TW/B1 (7031T1)N	KFR-70TW/B1 (7041T1)N	KF-70TW/B1 (7031T1)	KFR-70TW/B1 (7051T1)	
Outdoor unit	Model	KF-70W/tB1N	KFR-70W/tB1N	KF-70W/tB1	KFR-70W/tB1	
	Input power W	2610	2610/2480	2610	2610/2480	
	Current A	11.85	11.85/11.3	11.85	11.85/11.3	
	Throttling method	Capillary				
	Compressor	type	Rotary		Reciprocating	
		model	C-RN220H5B		AWG5532EVA	AWG5532EXC
		Starting method	CSR			
		Overload protector	Inner			
		L.R.A A	82			
		Working temp. (°C)	143.3			
		Input power W	2600		2660	
	Condenser	Aluminum fin-copper tube				
	Row-fin diatance(mm)	2/2.0				
	Working area (mm × mm)	810x600				
	Fan motor	Model	FW60D	FW60T	FW60D	FW60S
		Output power (W)	60		60	
		Fan motor speed (rpm)	780/620	780/620/600	780/620	780/600/460
		Quantity	1		1	
	Fan type/piece	Axial flow fan/1				
	Fan diameter (mm)	φ 450				
	Defrost method	Auto defrost				
	Noise [dB(A)]	≤ 60				
	Outline	Width (mm)	950			
		height (mm)	840			
		depth (mm)	412			
	Net weight (kg)	75				
Refrigerant	R407C		R22			
Refrigerant charge(kg)	2.8		2.7			
Connection pipe	Diameter	Liquid pipe(mm)	φ 9.52	3/8"		
		Gas pipe(mm)	φ 16	5/8"		
	Standard length(m)	5				
	Max. Distance (m)	height	5			
		length	10			

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

Cassette type

Table 3

Model		KF-70TW/B (7031T)N	KFR-70TW/B (7041T)N		KF-70TW/B (7031T)A	KFR-70TW/B (7041T)A		
Function		Cooling	Cooling	Heating	Cooling	Cooling	Heating	
Power supply		3Ph,380-400V 50Hz						
Capacity(W)	Kcal/h	6020	6020	6450	6020	6020	6450	
	Btu/h	23891	23891	25598	23891	23891	25598	
	W	7000	7000	7500	7000	7000	7500	
Rated input (W)		2750	2750	2600	2750	2750	2600	
Rated current (A)		4.8	4.8	4.6	4.8	4.8	4.6	
Air flow (m ³ /h)		1180						
Dehumidifying volume(L/h)		4.0						
Indoor unit	Model		KF-70T/B (7031T)N	KFR-70T/B (7041T)N		KF-70T/B (7031T)A	KFR-70T/B (7041T)A	
	Motor fan speed(r/min)		600/550/500					
	Output power(W)		35W					
	Fan type/piece		Centrifugal fan-1					
	Diameter-length(mm)		φ 450mm/112mm			φ 450mm/140mm		
	Evaporator		Aluminum fin-copper tube					
	Row-fin distance(mm)		2/1.5					
	Working area(m ²)		0.34					
	Swing motor		SM008					
	Input power-speed		3W-2.5r/min					
	Control method		Remote control					
	Fuse(A)		Controller 3.15A Transformer 0.2A					
	Work capacitor(μF)		3.5					
	Noise(dB(A))		≤ 47					
	Outline	panel	Width (mm)	950				
			Height (mm)	60				
			Depth (mm)	950				
Main body		Width (mm)	840					
		Depth (mm)	840					
		Height (mm)	240					
Net weight(kg)	Panel	6.5						
	Main body	30						

Cassette type

Table 3 Continue

Model		KF-70TW/B (7031T)N	KFR-70TW/B (7041T)N	KF-70TW/B (7031T)A	KFR-70TW/B (7041T)A	
Outdoor unit	Model	KF-70W/tBN	KFR-70W/tBN	KF-70W/tBA	KFR-70W/tBA	
	Input power W	2630	2630/2480	2630	2630/2480	
	Current A	4.8	4.8/4.6	4.8	4.8/4.6	
	Throttling method	Capillary				
	Compressor	type	Rotary		Reciprocating	
		model	C-RN243H8A		AVA5535EXG	
		Starting method	IR			
		Overload protector	Inner			
		L.R.A A	32.8			
		Working temp. (°C)	143.3			
		Input power W	2842			
	Condenser	Aluminum fin-copper tube				
	Row-fin distance(mm)	2/2.0				
	Working area (mm × mm)	810x600				
	Fan motor	Model	FW60D	FW60T	FW60D	FW60T
		Output power (W)	60			
		Fan motor speed (rpm)	780/620	780/620/600	780/620	780/620/600
		Quantity	1			
	Fan type/piece	Axial flow fan/1				
	Fan diameter (mm)	φ 450				
	Defrost method	Auto defrost				
	Noise [dB(A)]	≤ 60				
	Outline	Width (mm)	950			
		height (mm)	840			
		depth (mm)	412			
	Net weight (kg)	75				
Refrigerant	R407C		R22			
Refrigerant charge(kg)	2.6	2.7	2.6	2.7		
Connection pipe	Diameter	Liquid pipe(mm)	φ 9.52 3/8"			
		Gas pipe(mm)	φ 16 5/8"			
	Standard length(m)	5				
	Max.Distance	height	5			
		length	10			

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

Cassette type

Table 4

Model		GSK24-22L/A		GSK24-22R/A	
Function		Cooling		Cooling	Heating
Power supply		1Ph,220V 60Hz			
Capacity(W)	W	7000		7000	7500
Rated input (W)		2750		2750	
Rated current (A)		14			
Air flow (m ³ /h)		1180			
Dehumidifying volume(L/h)		4			
Model		GSK24-22L/A(I)		GSK24-22R/A(I)	
Motor fan speed(r/min)		600/550/500			
Output power(W)		35			
Fan type/piece		Centrifugal fan-1			
Diameter-length(mm)		φ 450/140			
Evaporator		Aluminum foil fin-copper tube			
Row-fin distance(mm)		2/1.5			
Working area(m ²)		0.34			
Swing motor		SM008			
Input power-speed		3W/2.5r/min			
Control method		Remote control			
Fuse(A)		Controller 3.15A Transformer 0.2A			
Work capacitor(μF)		3.5			
Noise(dB(A))		≤ 47			
Outline	panel	Width (mm)	950		
		Height (mm)	60		
		Depth (mm)	950		
	Main body	Width (mm)	840		
		Height (mm)	240		
		Depth (mm)	840		
Net weight(kg)	Panel	6.5			
	Main body	30			

Cassette type

Table 4 Continue

Model		GSK24-22L/A	GSK24-22R/A	
Outdoor unit	Model	GSK24-22L/A(O)	GSK24-22R/A(O)	
	Input power W	2630	2630/2300	
	Current A	13.5	13.5/13	
	Throttling method	Capillary		
	Compressor	type	Scroll	
		model	AWG5530EXN	
		Starting method	PSC	
		Overload protector	Build-in	
		L.R.A A	69	
		Working temp. (°C)	143.3	
		Input power W	3050	
	Condenser	Aluminum fin-copper tube		
	Row-fin distance(mm)	2/2.0		
	Working area (m ²)	0.49		
	Fan motor	Model	FW60H	FW60C
		Output power (W)	60	
		Fan motor speed (rpm)	780/620	780/620/600
		Quantity	1	
	Fan type/piece	Axial - 1		
	Fan diameter (mm)	φ 450		
	Defrost method	Auto defrost		
	Noise [dB(A)]	≤ 59		
	Outline	Width (mm)	950	
		height (mm)	840	
		depth (mm)	412	
	Net weight (kg)	75		
Refrigerant	R22			
Refrigerant charge(kg)	2.15			
Connection pipe	Diameter	Liquid pipe(mm)	φ 9.52 3/8"	
		Gas pipe(mm)	φ 16 5/8"	
	Standard length(m)	5		
	Max.Distance	height	5	
		length	10	

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

Cassette type

Table 5

Model		KF-120TW/B (1231T)C	KFR-120TW/B (1251T)B		KF-120TW/B (1231T)N	KFR-120TW/B (1241T)N		
Function		Cooling	Cooling	Heating	Cooling	Cooling	Heating	
Power supply		3Ph,380~400V~50Hz						
Capacity(W)	W	12000	12000	12500+2100	12000	12000	12500	
Rated input (W)		2600	4750	4400	2600	4750	4400	
Rated current (A)		4.6	8	7.5	4.6	8.0	7.5	
Air flow (m ³ /h)		1860			1860			
Dehumidifying volume(L/h)		7.0			7.0			
Indoor unit	Model	KF-120T/B (1231T)C	KFR-120T/B (1251T)B		KF-120T/B (1231T)N	KFR-120T/B (1241T)N		
	Motor fan speed(r/min)	610/560/510			610/560/510			
	Output power(W)	50W			50W			
	Fan type/piece	Centrifugal fan-1			Centrifugal fan-2			
	Diameter-length(mm)	φ 502mm/160mm			φ 502mm/160mm			
	Evaporator	Aluminum foil fin-copper tube						
	Row-fin distance(mm)	3/1.5			3/1.5			
	Working area(m ²)	0.5			0.5			
	Swing motor	SM008						
	Input power-speed	3W-2.5r/min						
	Control method	Remote control						
	Fuse(A)	Controller 3.15A Transformer 0.2A						
	Work capacitor(μF)	4.5			3.5			
	Noise(dB(A))	≤ 53			≤ 53			
	Outline	panel	Width (mm)	950				
			Height (mm)	60				
			Depth (mm)	950				
Main body		Width (mm)	840					
		Depth (mm)	840					
		Height (mm)	320			320		
Net weight(kg)	Panel	6.5						
	Main body	38			38			

Cassette type

Table 5 Continue

Model		KF-120TW/B (1231T)C	KFR-120TW/B (1251T)B	KF-120TW/B (1231T)N	KFR-120TW/B (1241T)N	
Outdoor unit	Model	KF-120W/tBC	KFR-120W/tBB	KF-120W/tBN	KFR-120W/tBN	
	Input power W	4600	4600/4250	4600	4600/4250	
	Current A	7.5	7.5/7	7.5	7.5/7.0	
	Throttling method	Capillary				
	Compressor	type	Reciprocating		Scroll	
		model	AGC5561EXG	C-SB373H8A	C-SBN373H8A	
		Starting method	IR			
		Overload protector	Inner			
		L.R.A A	62		62	
		Working temp. (°C)	143.3			
		Input power W	5248			
	Condenser	Aluminum fin-copper tube				
	Row-fin diatance(mm)	2/2.0				
	Working area (m ²)	0.73				
	Fan motor	Model	FW68D	FW68T	FW68D	FW68A
		Output power (W)	68		68	
		Fan motor speed (rpm)	840/640	840/740/640	840/640	840/350/200
		Quantity	2		2	
	Fan type/piece	Axial flow fan/2		Axial flow fan/2		
	Fan diameter (mm)	φ 450				
	Defrost method	Auto defrost				
	Noise [dB(A)]	≤ 63				
	Outline	Width (mm)	950			
		height (mm)	1250			
		depth (mm)	412			
	Net weight (kg)	112				
Refrigerant	R22		R407C			
Refrigerant charge(kg)	4.0	4.2	3.8			
Connection pipe	Diameter	Liquid pipe(mm)	φ 12 1/2"		φ 12 1/2"	
		Gas pipe(mm)	φ 19 3/4"		φ 19 3/4"	
	Standard length(m)	5				
	Max.Distance	height	5			
		length	10			

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

Cassette type

Table 6

Model		KF-120TW/B (1231T)B	KFR-120TW/B (1241T)B		GSK41-22L/A	GSK41-22R/A		
Function		Cooling	Cooling	Heating	Cooling	Cooling	Heating	
Power supply		3Ph,380-400V~50Hz						
Capacity(W)	W	12000	12000	12500+2100	12000	12000	12500+2100	
Rated input (W)		4750	4750	4400	4750	4750	4700	
Rated current (A)		8	8	7.5	13.8	13.8	13	
Air flow (m ³ /h)		1860			1860			
Dehumidifying volume(L/h)		7.0			7.0			
Indoor unit	Model	KF-120T/B (1231T)B	KFR-120T/B (1241T)B		GSK41-22L/A(I)	GSK41-22R/A(I)		
	Motor fan speed(r/min)	610/560/510			710/660/610			
	Output power(W)	50W			60W			
	Fan type/piece	Centrifugal fan-1			Centrifugal fan-1			
	Diameter-length(mm)	φ 502mm/160mm			φ 502mm/160mm			
	Evaporator	Aluminum foil fin-copper tube						
	Row-fin distance(mm)	3/1.5			2/1.5			
	Working area(m ²)	0.5			0.5			
	Swing motor	SM008						
	Input power-speed	3W-2.5r/min						
	Control method	Remote control						
	Fuse(A)	Controller 3.15A Transformer 0.2A						
	Work capacitor(μF)	4.5			4.5			
	Noise(dB(A))	≤ 53			≤ 54			
	Outline	panel	Width (mm)	950				
			Height (mm)	60				
Depth (mm)			950					
Main body		Width (mm)	840					
		Depth (mm)	840					
		Height (mm)	320					
Net weight(kg)	Panel	6.5						
	Main body	38						

Cassette type

Table 6 Continue

Model		KF-120TW/B (1231T)B	KFR-120TW/B (1241T)B	GSK41-22L/A	GSK41-22R/A	
Outdoor unit	Model	KF-120W/tBB	KFR-120W/tBB	GSK41-22L/A(O)	GSK41-22R/A(O)	
	Input power W	4600	4600/4250	4550	4550/4300(6400)	
	Current A	7.5	7.5/7	13.3	13.3/12.5	
	Throttling method	Capillary				
	Compressor	type	Reciprocating		Scroll	
		model	C-SB373H8A		C-SB303H3B	
		Starting method	IR			
		Overload protector	Inner			
		L.R.A A	62		62	
		Working temp. (°C)	143.3			
		Input power W	5248			
	Condenser	Aluminum fin-copper tube				
	Row-fin distance(mm)	2/2.0				
	Working area (m ²)	0.73				
	Fan motor	Model	FW68D	FW68T	FW68K	FW68E
		Output power (W)	68		68	
		Fan motor speed (rpm)	840/640	840/740/640	840/640	840/740/640
		Quantity	2		2	
	Fan type/piece	Axial flow fan/2		Axial flow fan/2		
	Fan diameter (mm)	φ 450				
	Defrost method	Auto defrost				
	Noise [dB(A)]	≤ 60		≤ 62		
	Outline	Width (mm)	950			
		height (mm)	1250			
		depth (mm)	412			
	Net weight (kg)	112				
Refrigerant	R22					
Refrigerant charge(kg)	4.0	4.2	3.8			
Connection pipe	Diameter	Liquid pipe(mm)	φ 12 1/2"		φ 12 1/2"	
		Gas pipe(mm)	φ 19 3/4"		φ 19 3/4"	
	Standard length(m)	5				
	Max.Distance	height	5			
		length	10			

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

Cassette type

3. Outlines and dimensions of indoor unit

For 50 model

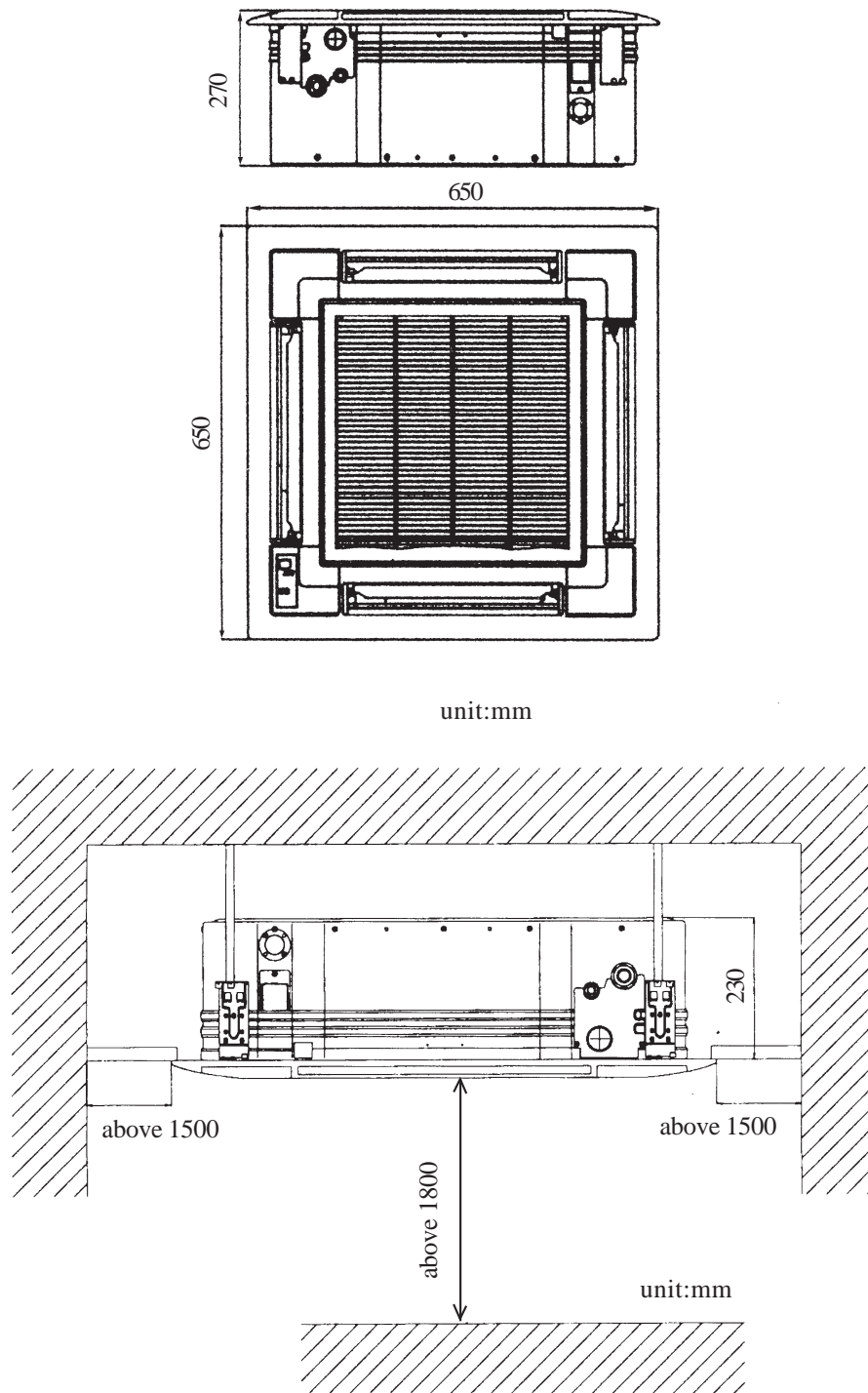
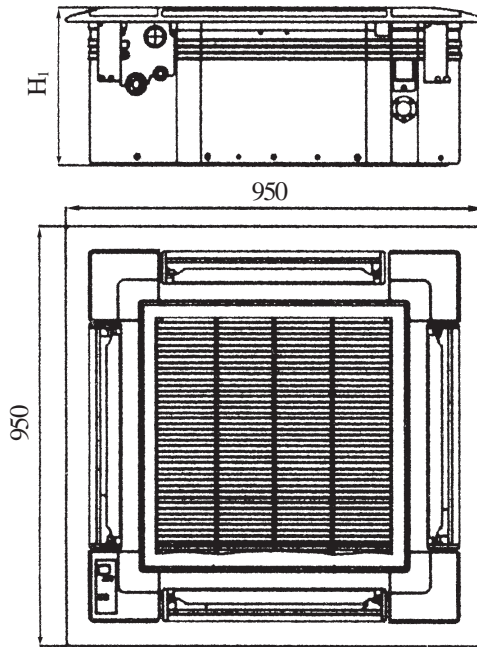


figure 4

Cassette type

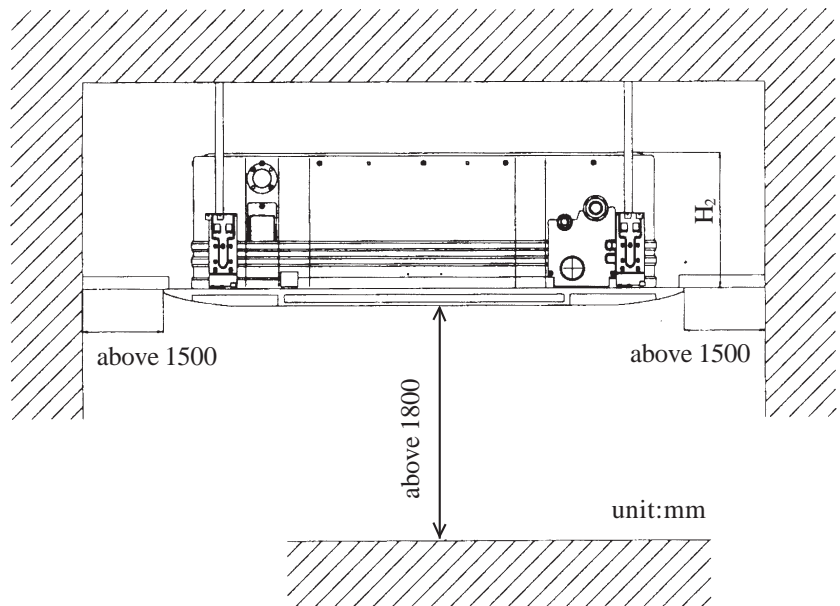
For others

Model	H ₁
70	270
120	355
GSK24-22L(R)/A	270
GSK41-22L(R)/A	355



unit:mm

Model	H ₂
70	260
120	340
GSK24-22L(R)/A	260
GSK41-22L(R)/A	340



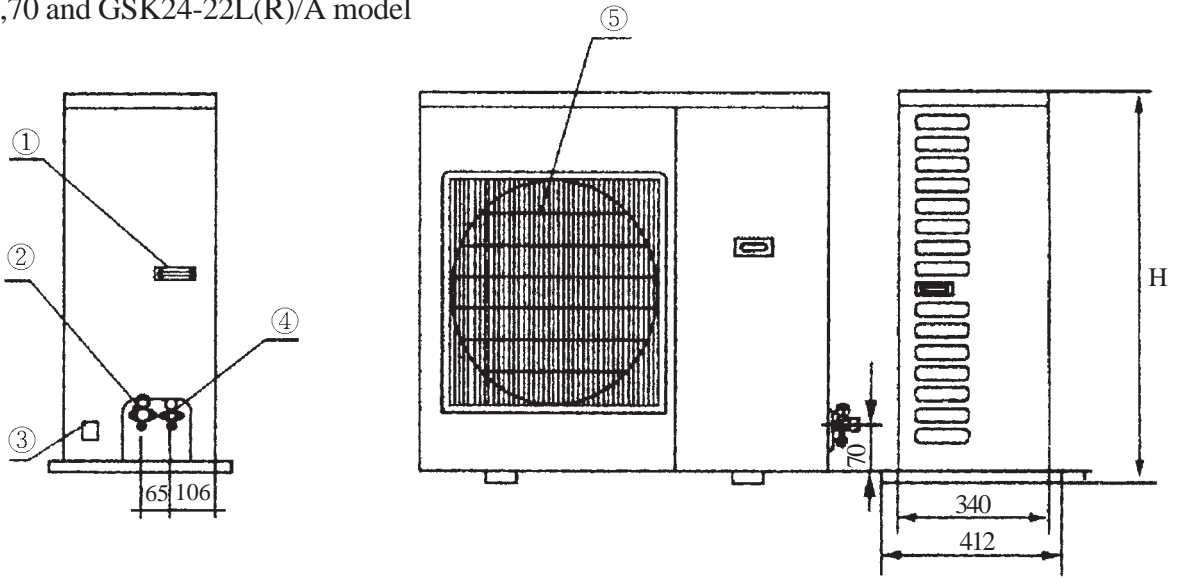
unit:mm

figure 5

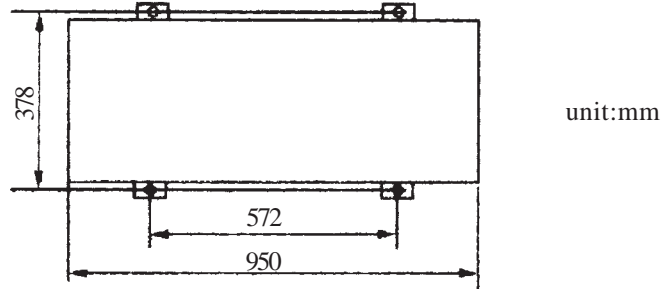
Cassette type

4. Outlines and dimensions of outdoor unit

For 50,70 and GSK24-22L(R)/A model



Model	H(mm)
50	700
70	840
GSK24-22L(R)/A	840



- ① handle ② gas valve ③ wire hole ④ liquid valve ⑤ front grill

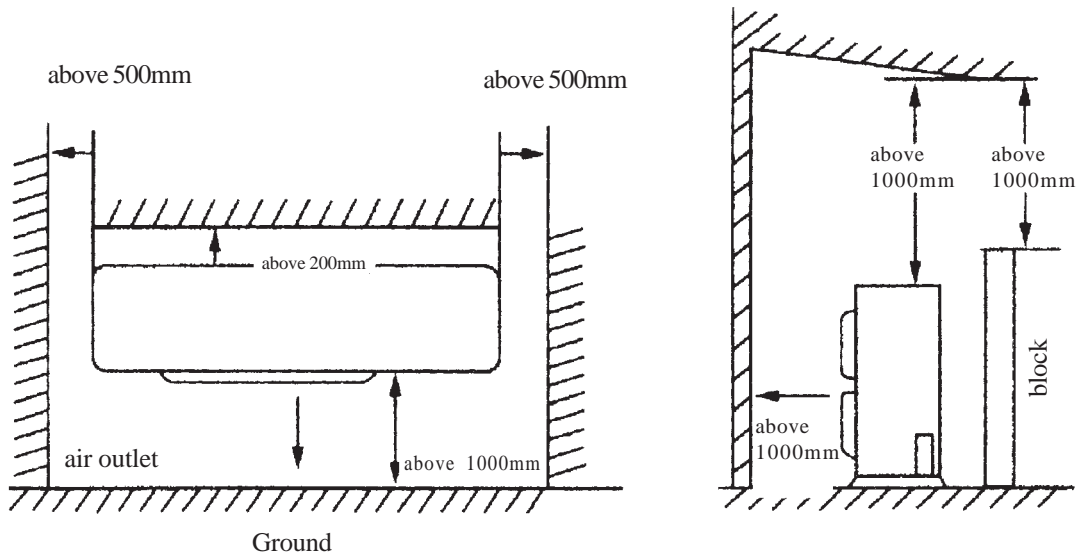
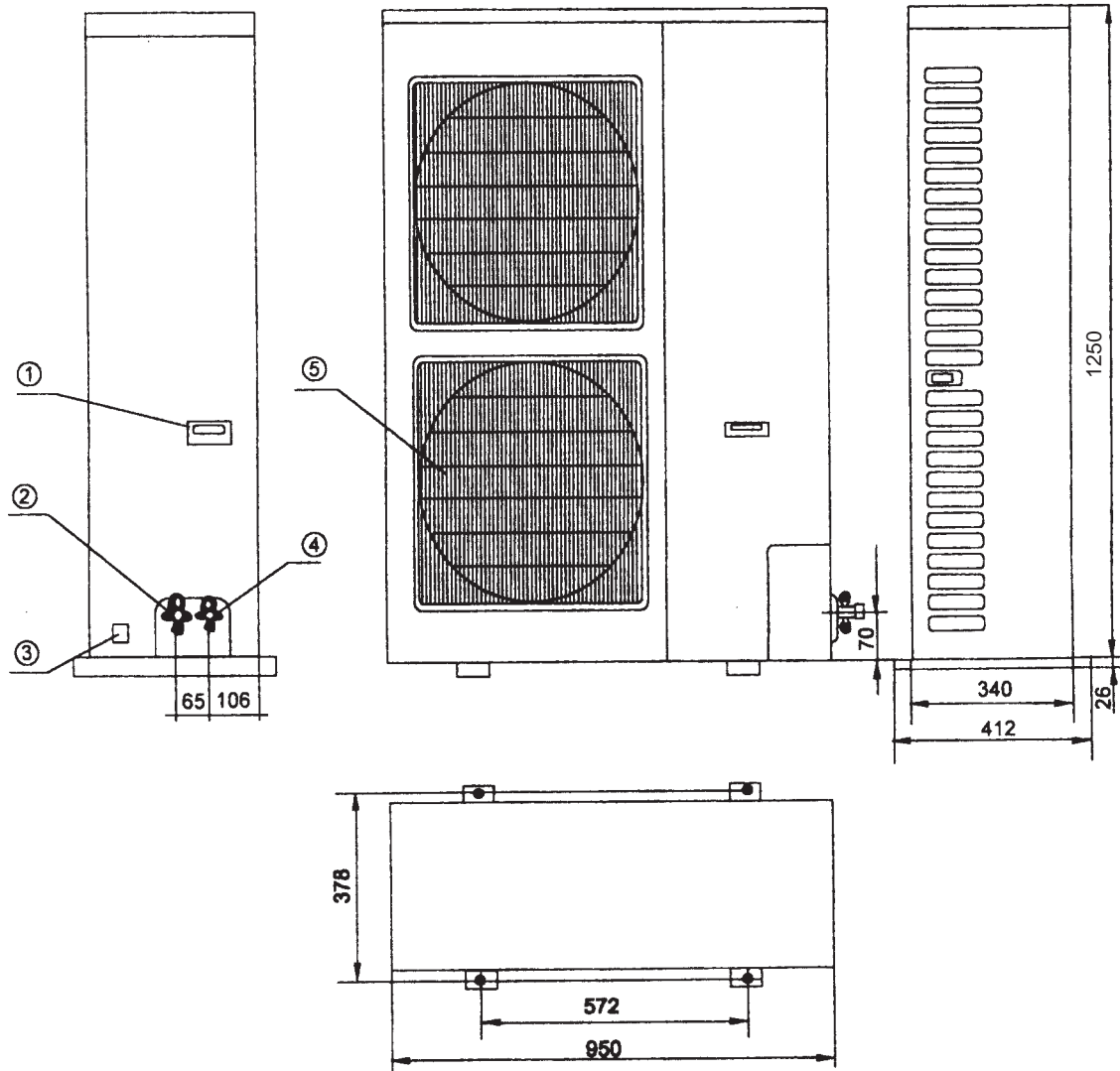


figure 6

Cassette type

For 120 and GSK41-22L(R)/A model



- ① handle ② gas valve ③ wire hole ④ liquid valve ⑤ front grill

figure 7

Cassette type

(Blank)

5. Explosive view and spare parts list of indoor panel

For 50 model

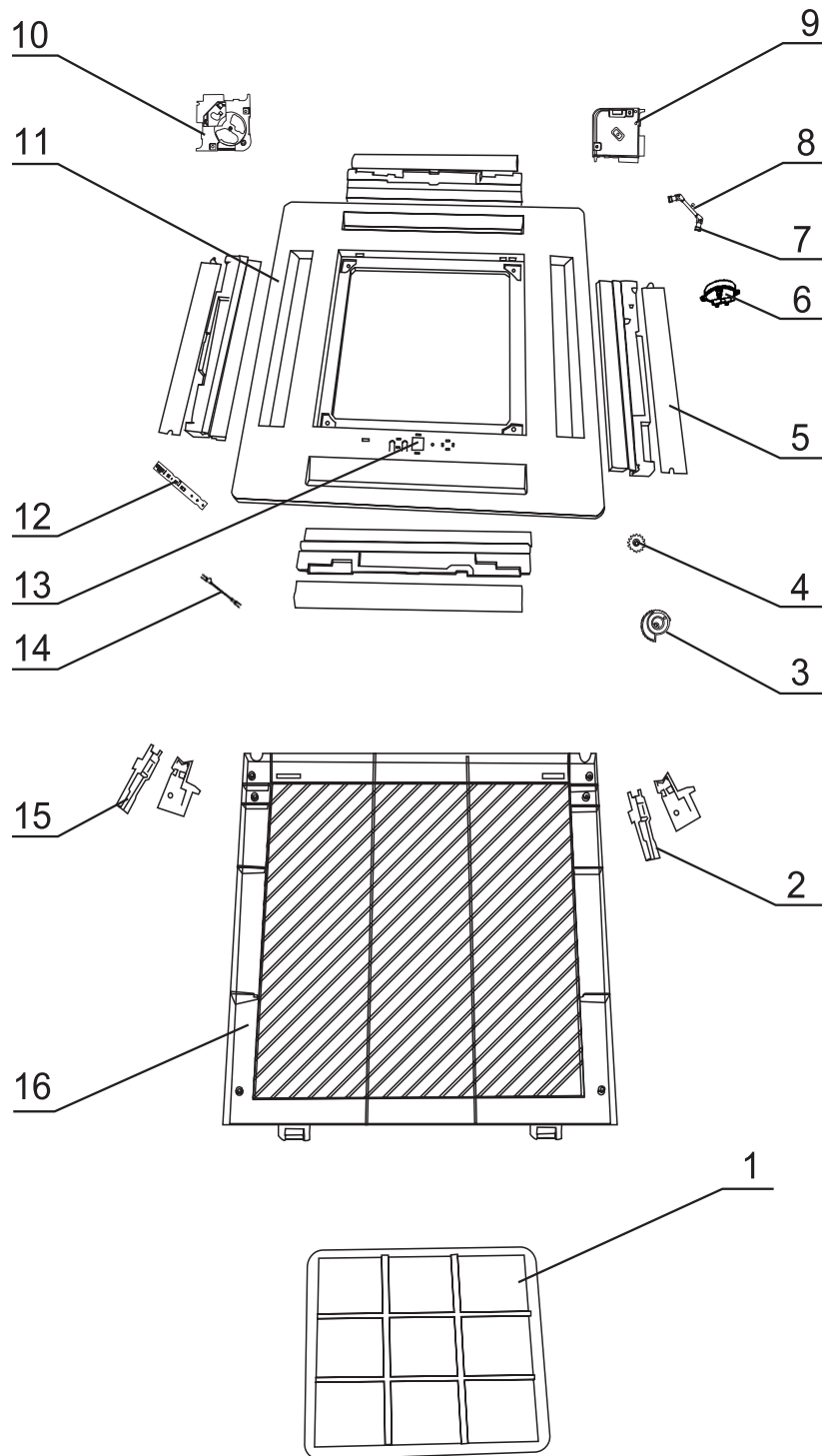


figure 8

Cassette type

Table 7

No	Description		Part No	Qty
			T02	
1	Filter	过滤网	11122703	1
2	Right Clamp	右网扣	26252706	1
3	Big Gear	大齿轮	73012702	2
4	Little Gear	小齿轮	73012701	2
5	Cover of Air Guider	导风板	10512704	4
6	Synchronous Motor MP35BA	步进电机 MP35BA	15210105	2
7	Universal Joint	万向头	10562703	8
8	Connecting Lever	连杆	10582704	2
9	Inner Conner Cover I	角内盖 I	22242715	2
10	Inner Conner Cover II	角内盖 II	22242716	2
11	Front Panel	面板	20002704	1
12	Receiver PCB	接收板 KJ	30261001	1
13	Receiving Window	接收窗	22432705	1
14	Gimbal	万向节	10562704	4
15	Left Clamp	左网扣	26252705	1
16	Air Inlet Grille	进风格栅	22412704	1

The data are subject to change without notice.

Cassette type

For others

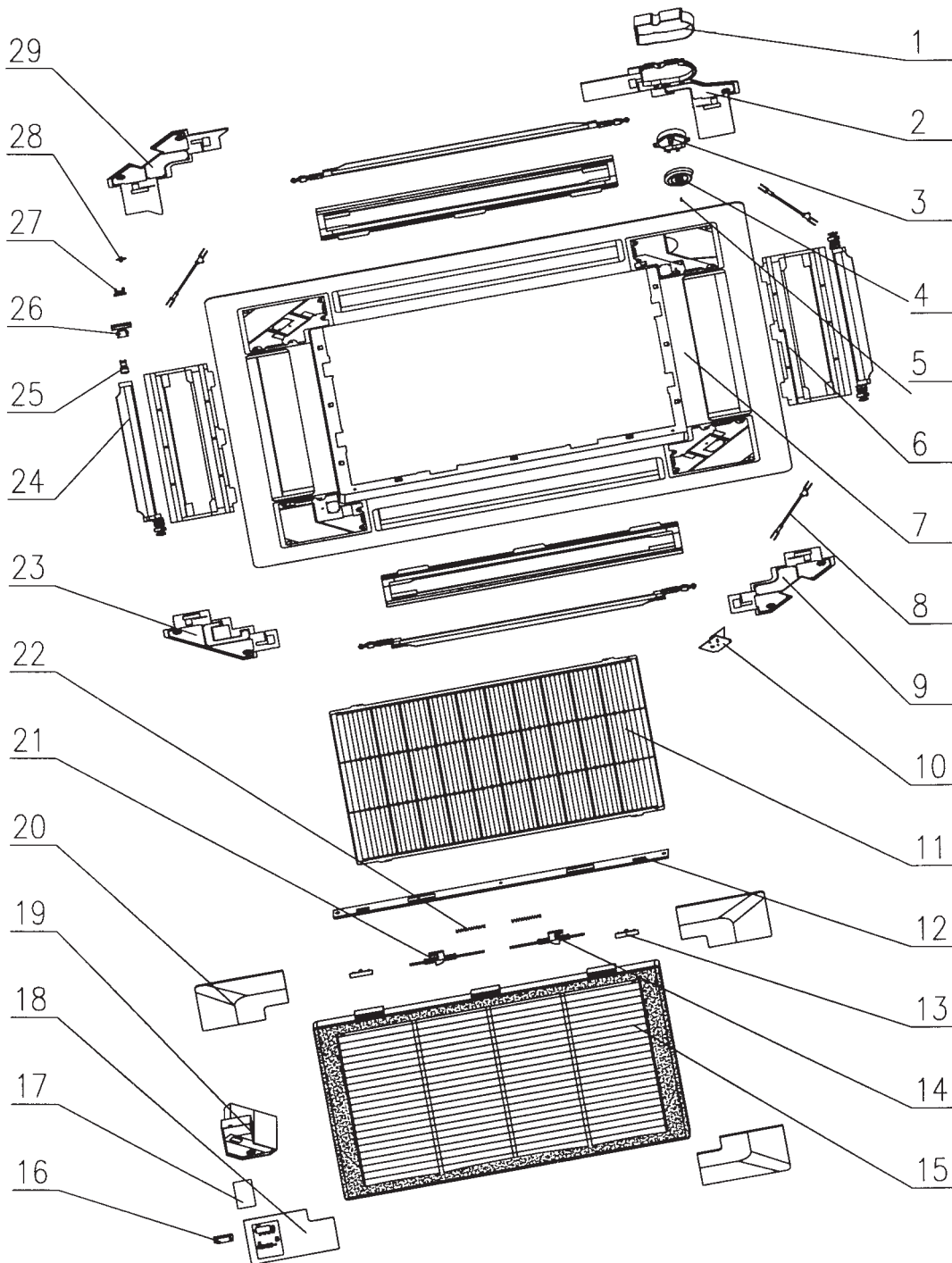


figure 9

Cassette type

Table 8

No	Description		Part No	Qty
			T01	
1	Motor Cover	电机盖	22242701	1
2	Inner Conner Cover IV	角内盖 IV	22242705	1
3	Synchronous Motor	同步电机 SM008	15212701	1
4	Motor Holder	电机座	26152702	1
5	Pin	销3X14	70410603	1
6	Air Outlet Foam	出风口泡沫	12312701	4
7	Front Panel	面板	20002701	1
8	Connecting Lever	连杆	10582701	3
9	Inner Conner Cover III	角内盖 III	22242704	1
10	Hanging Ring	吊环件	70810101	4
11	Filter	过滤网	11122701	1
12	Fixing Plate of Net Hook	网扣固定板	01722721	1
13	Net Hook	网扣	26252703	2
14	Right Clamp	右卡扣	26252702	1
15	Air Inlet Grille	进风格栅	22412702	1
16	Receiving Window	接收窗	22432702	1
17	Receiver PCB 6032	控制器 6032	30002603	1
18	Outer Conner Cover II	角外盖 II	22242707	1
19	Cover of Receiving Window	接收窗盖	22242708	1
20	Outer Conner Cover I	角外盖 I	22242706	3
21	Left Clamp	左卡扣	26252701	1
22	Spring	弹簧	73010011	2
23	Inner Conner Cover II	角内盖 II	22242703	1
24	Air Guider Assy	导风板部件	75112721	4
25	Crank	活动轴	10542701	8
26	Positioning Holder	定位座	26152701	8
27	Universal Joint	万向头	10562702	8
28	Gimbal	万向节	10562701	8
29	inner conner cover I	角内盖 I	22242702	1

The data are subject to change without notice.

6. Explosive view and spare parts list of indoor unit

For 50 model

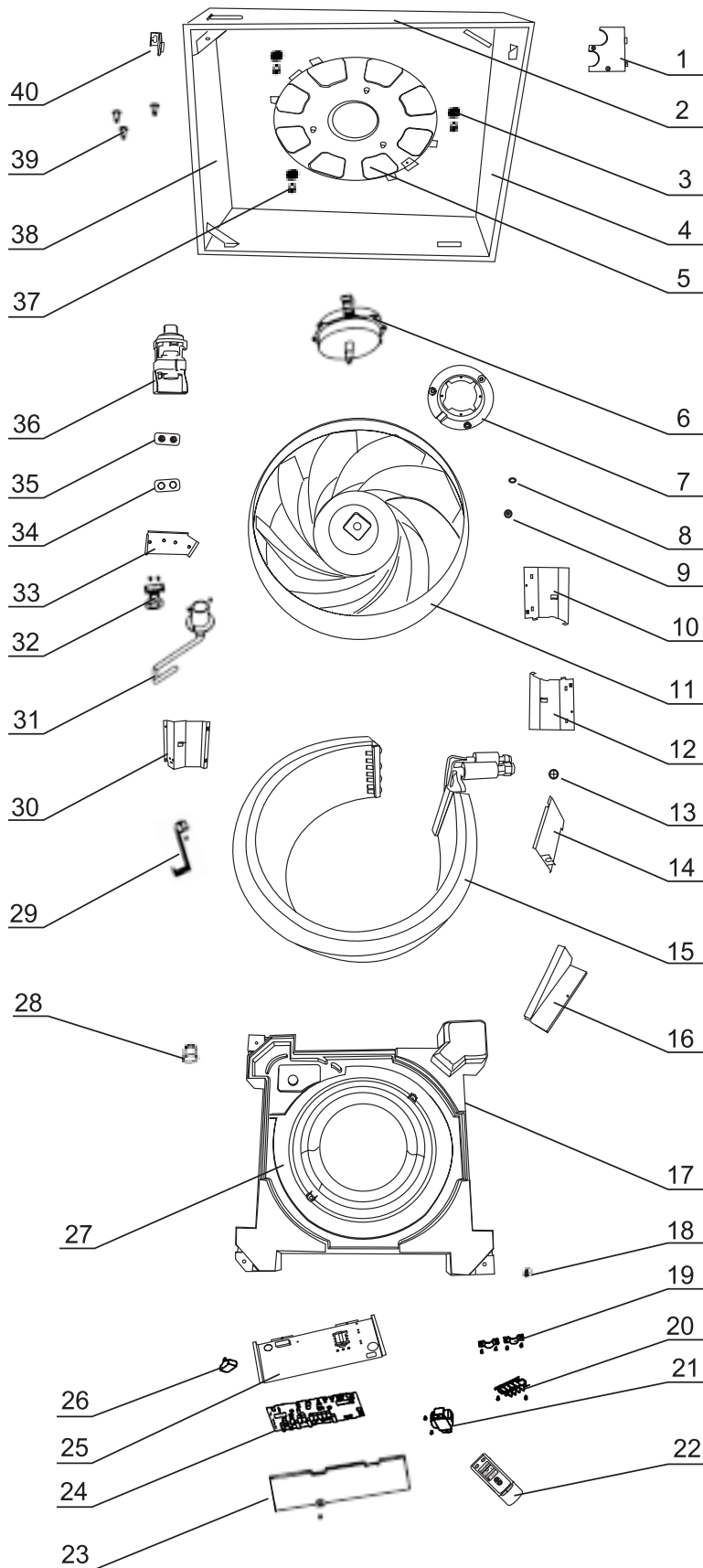


figure 10

Cassette type

Table 9

No	Description		Part No				Qty
			KF- 50T/A1	KFR- 50T/A1	KF- 50T/NA1	KFR- 50T/NA1	
1	Tube-exit Plate	出管口板部件	01382719	01382719	01382719	01382719	1
2	Front Side Plate	前侧板	01302741	01302741	01302741	01302741	2
3	Motor Gasket	电机橡胶垫	76712705	76712705	76712705	76712705	3
4	Right Side plate	右侧板组件	01302743	01302743	01302743	01302743	2
5	Basing Plate	底板	01222711	01222711	01222711	01222711	1
6	Motor FN11T	电机 FN11T	15012707	15012707	15012707	15012707	1
7	Motor Support	电机固定架	01702702	01702702	01702702	01702702	1
8	Fixer	风叶固定垫	76712709	76712709	76712709	76712709	1
9	Nut with Washer	带垫螺母 M6	70310012	70310012	70310012	70310012	4
10	Evaporator Left Plate 1	蒸发器左边板 1	01072717	01072717	01072717	01072717	1
11	Centifugal Fan	离心风叶	10312702	10312702	10312702	10312702	1
12	Evaporator Left Plate 2	蒸发器左边板 2	01072718	01072718	01072718	01072718	1
13	Cable-cross Loop	过线胶圈	76512701	76512701	76512701	76512701	2
14	Cable-cross plate	过线挡板	01362701	01362701	01362701	01362701	1
15	Evaporator Assy	蒸发器部件	01002707	01002707	01002707	01002707	1
16	Evap Connection	蒸发器连接板	01072713	01072713	01072713	01072713	1
17	Water Tray	接水盘部件	20182704	20182704	20182704	20182704	1
18	Screw	带垫自攻螺钉	70140032	70140032	70140032	70140032	4
19	Wire Clamp	电线夹	71010102	71010102	71010102	71010102	2
20	Terminal board	接线板 T360C	42011225	42011225	42011225	42011225	1
21	Transformer	电源变压器 SC28B1	43110170	43110170	43110170	43110170	1
22	Remote Controller	遥控器 Y512(GREE)	30512506	30512506	30512506	30512506	1
23	Electric Box Cover	电器盒盖	01412723	01412723	01412723	01412723	1
24	PCB 6251J	主板 6251J	30036202	\	30036202	\	1
	PCB 6253J	主板 6253J	\	30036203	\	30036203	1
25	Electric Box	电器盒	01412724	01412724	01412724	01412724	1
26	Capacitor CBB61 2.5uF/450VAC	电容 CBB61 2.5uF/450VAC	33010026	33010026	33010026	33010026	1
27	Water Tray foam	接水盘泡沫	12312703	12312703	12312703	12312703	1
28	Rubber Plug	橡胶塞	76712706	76712706	76712706	76712706	2
29	Evaporator Support	蒸发器固定架	01072714	01072714	01072714	01072714	1
30	Evaporator Right Plate	蒸发器右边板	01072711	01072711	01072711	01072711	2
31	Pump Drainpipe	水泵排水管	05232722	05232722	05232722	05232722	1
32	Water Level Switch	液位开关	45012701	45012701	45012701	45012701	1
33	Pump Support	水泵安装架	01332707	01332707	01332707	01332707	1
34	Pump Gasket1	水泵橡胶垫 1	76712707	76712707	76712707	76712707	1
35	Pump Gasket2	水泵橡胶垫 2	76712708	76712708	76712708	76712708	1
36	Pump PSB-7	水泵 PSB-7	43130320	43130320	43130320	43130320	1
37	Motor Bolt	电机螺栓	70212702	70212702	70212702	70212702	3
38	Left Side Plate	左挡板	01362703	01362703	01362703	01362703	1
39	Bolt	螺栓组合件 M6X16	70210051	70210051	70210051	70210051	4
40	Body Fixing Plate	主体安装架	01332705	01332705	01332705	01332705	4

The data are subject to change without notice.

Cassette type

For others

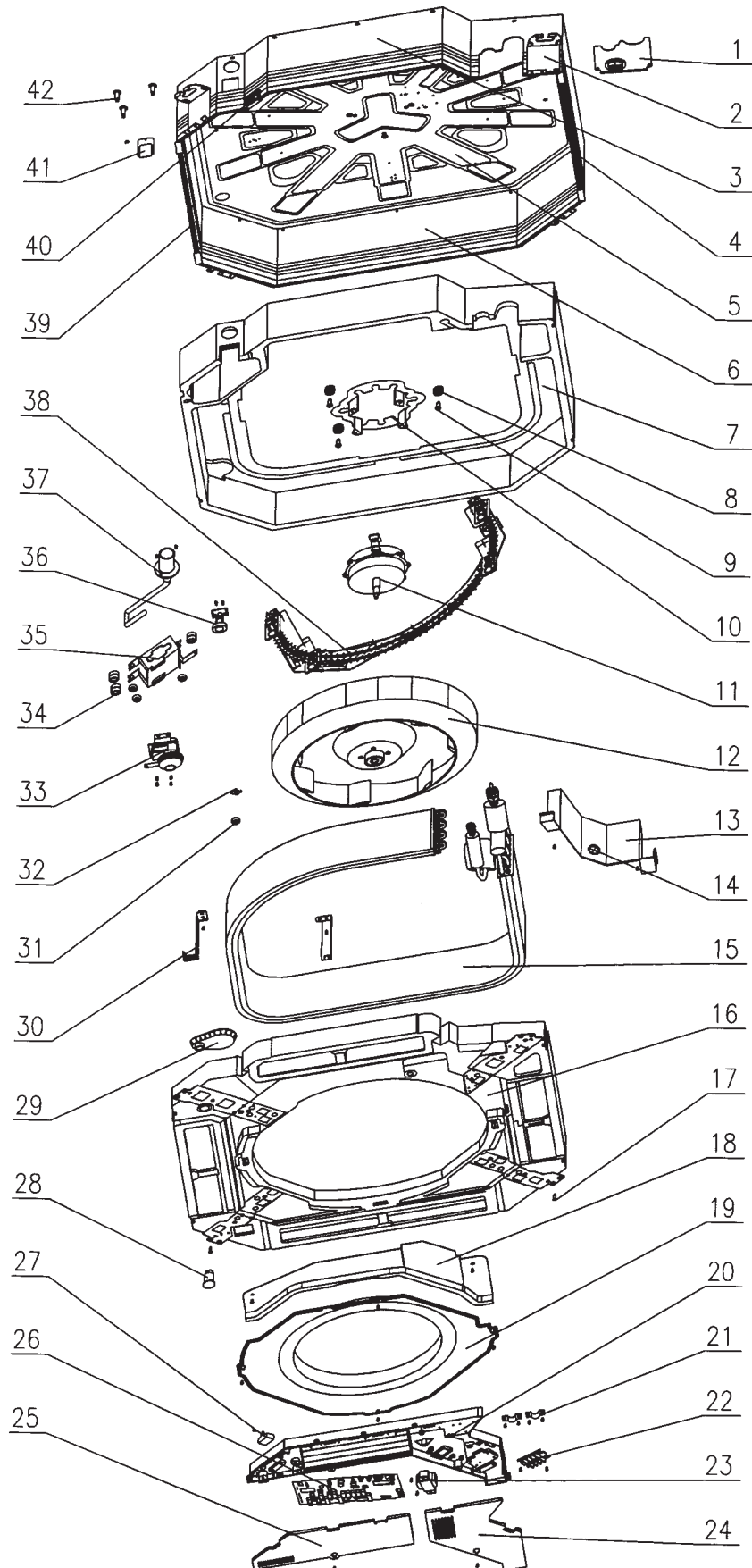


figure 11

Cassette type

Table 10

No	Description		Part No						Qty
			KF-70T/B (7031T)N	KFR-70T/B (7041T)N	KF-70T/B1 (7031T1)N	KFR-70T/B1 (7041T1)N	KF-120T/B (1231T)N	KFR-120T/B (1241T)N	
1	Tube-exit Plate	出管口板部件	01382715	01382715	01382715	01382715	01382715	01382715	1
2	Body Fixing Plate	主体安装板	01332701	01332701	01332701	01332701	01332701	01332701	1
3	Front Side Plate	前侧板部件	01302713	01302713	01302713	01302713	01302713	01302713	1
4	Left Side Plate	左侧板部件	01302715	01302715	01302715	01302715	\	\	1
	Left Side Plate	左侧板部件	\	\	\	\	01302711	01302711	1
5	Busing plate	底板	01222702	01222702	01222702	01222702	01222702	01222702	1
6	Rear Side Plate	后侧板部件	01302714	01302714	01302714	01302714	\	\	1
	Rear Side Plate	后侧板部件	\	\	\	\	01302709	01302709	1
7	Bottom Foam	底板泡沫部件	52012722	52012722	52012722	52012722	52012721	52012721	1
8	Motor Gasket	电机橡胶垫	76712711	76712711	76712711	76712711	76712711	76712711	1
9	Bolt	螺栓	70212711	70212711	70212711	70212711	70212711	70212711	1
10	Motor Support	电机固定架	01702701	01724460	01702701	01702701	01724460	01724460	1
11	Motor FN35D	电机(FN35B)	15012703	15012703	15012703	15012703	\	\	1
	Motor FN50T	电机(FN50T)	\	\	\	\	15012710	15012710	1
12	Centifugal Fan	离心风叶	10312705	10312705	10312705	10312705	\	\	1
	Centifugal Fan	离心风叶	\	\	\	\	10310101	10310101	1
13	Evap Connection	蒸发器连接板	01072710	01072710	01072710	01072710	01072735	01072735	1
14	Cable-cross Loop	过线胶圈	76512701	76512701	76512701	76512701	76512701	76512701	1
15	Evaporator Assy	蒸发器部件	01002712	01002712	\	\	\	\	1
	Evaporator Assy	蒸发器部件	\	\	01002716	01002716	\	\	1
	Evaporator Assy	蒸发器部件	\	\	\	\	01002704	01002704	1
16	Water Tray	接水盘部件	20182701	20182701	20182701	20182701	20182701	20182701	1
17	Screw	带垫自攻螺钉	70140032	70140032	70140032	70140032	70140032	70140032	4
18	Electric Plate	电器盒底板	01412721	01412721	01412721	01412721	01412721	01412721	1
19	Flow-guide Loop	导流圈	10372701	10372701	10372701	10372701	10372722	10372722	1
20	Electric Box	电器盒	20102701	20102701	20102701	20102701	20102701	20102701	1
21	Insulated Clamp	绝缘线夹B	71010082	71010082	71010082	71010082	71010082	71010082	3
22	Terminal Board	接线板 T360B	42011222	42011222	42011222	42011222	42011222	42011222	1
23	Transformer	电源变压器(SC28B1)	43110170	43110170	43110170	43110170	43110170	43110170	1
24	Electric Box Cover I	电器盒盖 I	20102702	20102702	20102702	20102702	20102702	20102702	1
25	Electric Box Cover II	电器盒盖 II	20102703	20102703	20102703	20102703	20102703	20102703	1
26	PCB 6051 J	控制器 6051 J	30026635	\	30026635	\	30026635	\	1
	PCB 6053 J	控制器 6053 J	\	30026636	\	30026636	\	30026636	1
27	Capacitor 3.5uF	电容 3.5uF	33010010	33010010	33010010	33010010	\	\	1
	Capacitor 4.5uF	电容 4.5uF	\	\	\	\	33010012	33010012	1
28	Rubber Plug	橡胶塞	76712701	76712701	76712701	76712701	76712701	76712701	1
29	Drainage Plastic	排水塑件	06122701	06122701	06122701	06122701	06122701	06122701	1
30	Evap Support	蒸发器固定架部件	01072703	01072703	01072703	01072703	01072705	01072705	2
31	Nut with Washer	带垫螺母 M6	70310012	70310012	70310012	70310012	70310012	70310012	1
32	Fixer	风叶固定件	10312701	10312701	10312701	10312701	10312701	10312701	1
33	Water Pump	水泵	43130324	43130324	43130324	43130324	43130324	43130324	1
34	Pump Gasket	水泵橡胶垫	76712702	76712702	76712702	76712702	76712702	76712702	3
35	Pump Support	水泵安装架	01332702	01332702	01332702	01332702	01332721	01332721	1
36	Water Level Switch	液位开关	45010201	45010201	45010201	45010201	45010201	45010201	1
37	Pump Drainpipe	水泵排水管	05230026	05230026	05230026	05230026	05230026	05230026	1
38	Auxiliary Heater	辅助电加热部件	\	\	\	\	\	\	\
39	Right Side Plate	右侧板部件	01302716	01302716	01302716	01302716	\	\	1
	Right Side Plate	右侧板部件	\	\	\	\	01302712	01302712	1

Cassette type

Table 10 continue

No	Description		Part No						Qty
			KF-70T/B (7031T)N	KFR-70T/B (7041T)N	KF-70T/B1 (7031T1)N	KFR-70T/B1 (7041T1)N	KF-120T/B (1231T)N	KFR-120T/B (1241T)N	
40	Cable-cross Block	过线胶块	76512702	76512702	76512702	76512702	76512702	76512702	1
41	Pump Cover Board	水泵备用盖板部件	01252713	01252713	01252713	01252713	01252713	01252713	1
42	Bolt	螺栓	70212701	70212701	70212701	70212701	70212701	70212701	3
43	Remote Controller	英文遥控器	30512506	30512506	30512506	30512506	30512506	30512506	1

The data are subject to change without notice.

Cassette type

Table 11

No	Description		Part No						Qty
			KF-70T/B (7031T)A	KFR-70T/B (7041T)A	KF-70T/B1 (7031T1)	KFR-70T/B1 (7051T1)	KF-120T/B (1231T)C	KFR-120T/B (1251T)B	
1	Tube-exit Plate	出管口板部件	01382715	01382715	01382715	01382715	01382715	01382715	1
2	Body Fixing Plate	主体安装板	01332701	01332701	01332701	01332701	01332701	01332701	1
3	Front Side Plate	前侧板部件	01302713	01302713	01302713	01302713	01302713	01302713	1
4	Left Side Plate	左侧板部件	01302715	01302715	01302715	01302715	\	\	1
	Left Side Plate	左侧板部件	\	\	\	\	01302711	01302711	1
5	Busing plate	底板	01222702	01222702	01222702	01222702	01222702	01222702	1
6	Rear Side Plate	后侧板部件	01302714	01302714	01302714	01302714	\	\	1
	Rear Side Plate	后侧板部件	\	\	\	\	01302709	01302709	1
7	Bottom Foam	底板泡沫部件	52012722	52012722	52012722	52012722	52012721	52012721	1
8	Motor Gasket	电机橡胶垫	76712711	76712711	76712711	76712711	76712711	76712711	1
9	Bolt	螺栓	70212711	70212711	70212711	70212711	70212711	70212711	1
10	Motor Support	电机固定架	01702701	01724460	01702701	01702701	01702701	01702701	1
11	Motor FN35D	电机(FN35B)	15012703	15012703	15012703	15012703	\	\	1
	Motor FN50T	电机(FN50T)	\	\	\	\	15012710	\	1
	Motor FN60T	电机(FN60T)	\	\	\	\	\	15012706	1
12	Centifugal Fan	离心风叶	10312705	10312705	10312705	10312705	\	\	1
	Centifugal Fan	离心风叶	\	\	\	\	10310101	10310101	1
13	Evap Connection	蒸发器连接板部件	01074042	01074042	01074042	01074042	01072730	01072732	1
14	Cable-cross Loop	过线胶圈	76512701	76512701	76512701	76512701	76512701	76512701	1
15	Evaporator Assy	蒸发器部件	01002712	01002712	\	\	\	\	1
	Evaporator Assy	蒸发器部件	\	\	01002719	\	\	\	1
	Evaporator Assy	蒸发器部件	\	\	\	01002716	\	\	1
	Evaporator Assy	蒸发器部件	\	\	\	\	01002701	\	1
	Evaporator Assy	蒸发器部件	\	\	\	\	\	01002703	1
16	Water Tray	接水盘部件	20182701	20182701	20182701	20182701	20182701	20182701	1
17	Screw	带垫自攻螺丝钉	70140032	70140032	70140032	70140032	70140032	70140032	4
18	Electric Plate	电器盒底板	01412721	01412721	01412721	01412721	01412721	01412721	1
19	Flow-guide Loop	导流圈	10372701	10372701	10372701	10372701	10372722	10372722	1
20	Electric Box	电器盒	20102701	20102701	20102701	20102701	20102701	20102701	1
21	Insulated Clamp	绝缘线夹B	\	\	71010082	71010082	71010082	71010082	3
22	Terminal Board	接线板 T360B	\	\	42011222	42011222	\	\	1
	Terminal Board	接线板 GT360B1	42010171	42010171	\	\	42010171	\	1
	Terminal Board	接线板 GT5A0B1	\	\	\	\	\	42010175	1
23	Transformer	电源变压器(SC28B1)	43110170	43110170	43110170	43110170	43110170	43110170	1
24	Electric Box Cover I	电器盒盖 I	20102702	20102702	20102702	20102702	20102702	20102702	1
25	Electric Box Cover II	电器盒盖 II	20102703	20102703	20102703	20102703	20102703	20102703	1
26	PCB 6051	控制器 6051	30026629	\	\	\	\	\	1
	PCB 6053	控制器 6053	\	30026620	\	\	\	\	1
	PCB 6051 J	控制器 6051 J	\	\	30026635	\	30026635	\	1
	PCB 6053 J	控制器 6053 J	\	\	\	\	\	30026636	1
	PCB 6053BJ	控制器 6053BJ	\	\	\	30026637	\	\	1
27	Capacitor 3.5uF	电容 3.5uF	33010010	33010010	33010010	33010010	\	\	1
	Capacitor 4.5uF	电容 4.5uF	\	\	\	\	33010012	33010012	1
28	Rubber Plug	橡胶塞	76712701	76712701	76712701	76712701	76712701	76712701	1
29	Drainage Plastic	排水塑件	06122701	06122701	06122701	06122701	06122701	06122701	1
30	Evaporator Support	蒸发器固定架部件	01072703	01072703	01072703	01072703	01072705	01072707	2
31	Nut with Washer	带垫螺母 M6	70310012	70310012	70310012	70310012	70310012	70310012	1
32	Fixer	风叶固定件	10312701	10312701	10312701	10312701	10312701	10312701	1
33	Water Pump	水泵(PJV-1415)	43130324	43130324	43130324	43130324	43130324	43130324	1
34	Pump Gasket	水泵橡胶垫	76712702	76712702	76712702	76712702	76712702	76712702	3

Cassette type

Table 11 continue

No	Description		Part No						Qty
			KF-70T/B (7031T)A	KFR-70T/B (7041T)A	KF-70T/B1 (7031T1)	KFR-70T/B1 (7051T1)	KF-120T/B (1231T)C	KFR-120T/B (1251T)B	
35	Pump Support	水泵安装架	01332702	01332702	01332702	01332702	01332721	01332721	1
36	Water Level Switch	液位开关	45010201	45010201	45010201	45010201	45010201	45010201	1
37	Pump Drainpipe	水泵排水管	05230026	05230026	05230026	05230026	05230026	05230026	1
38	Auxiliary Heater	辅助电加热部件	\	\	\	32002701	\	32002707	1
39	Right Side Plate	右侧板部件	01302716	01302716	01302716	01302716	\	\	1
	Right Side Plate	右侧板部件	\	\	\	\	01302712	01302712	1
40	Cable-cross Block	过线胶块	76512702	76512702	76512702	76512702	76512702	76512702	1
41	Pump Cover Board	水泵备用盖板部件	01252713	01252713	01252713	01252713	01252713	01252713	1
42	Bolt	螺栓	70212701	70212701	70212701	70212701	70212701	70212701	3
43	Remote Controller	英文遥控器	30512504	30512504	30512506	30512506	30512506	30512506	1

The data are subject to change without notice.

Cassette type

Table 12

No	Description		Part No						Qty
			KF-120T/B (1231T)B	KF-120T/B (1241T)B	GSK24- 22L/A(I)	GSK24- 22R/A(I)	GSK41- 22L/A(I)	GSK41- 22R/A(I)	
1	Tube-exit Plate	出管口板部件	01382715	01382715	01382715	01382715	01382715	01382715	1
2	Body Fixing Plate	主体安装板	01332701	01332701	01332701	01332701	01332701	01332701	1
3	Front Side Plate	前侧板部件	01302713	01302713	01302713	01302713	01302713	01302713	1
4	Left Side Plate	左侧板部件	01302711	01302711	\	\	01302711	01302711	1
	Left Side Plate	左侧板部件	\	\	01302715	01302715	\	\	1
5	Busing Plate	底板	01222702	01222702	01222702	01222702	01222702	01222702	1
6	Rear Side Plate	后侧板部件	01302709	01302709	\	\	01302709	01302709	1
	Rear Side Plate	后侧板部件	\	\	01302714	01302714	\	\	1
7	Bottom Foam	底板泡沫部件	52012721	52012721	52012722	52012722	52012721	52012721	1
8	Motor Gasket	电机橡胶垫	76712711	76712711	76712711	76712711	76712711	76712711	1
9	Bolt M6	螺栓 M6	70212711	70212711	70212711	70212711	70212711	70212711	1
10	Motor Support	电机固定架	01724460	01724460	01724460	01724460	01702701	01702701	1
11	Motor FN50T	电机(FN50T)	15012710	15012710	\	\	\	\	1
	Motor FN35H	电机(FN35H)	\	\	15012704	15012704	\	\	1
	Motor FN60A	电机(FN60A)	\	\	\	\	15012715	15012715	1
12	Centifugal Fan	离心风叶	10310101	10310101	\	\	10310101	10310101	1
	Centifugal Fan	离心风叶	\	\	10312705	10312705	\	\	1
13	Evap Connection	蒸发器连接板部件	01072732	01072732	01074042	01074042	01072732	01072732	1
14	Cable-cross Loop	过线胶圈	76512701	76512701	76512701	76512701	76512701	76512701	1
15	Evaporator Assy	蒸发器部件	\	\	01002716	01002716	\	\	1
	Evaporator Assy	蒸发器部件	01002703	01002703	\	\	01002703	01002703	1
16	Water Tray	接水盘部件	20182701	20182701	20182701	20182701	20182701	20182701	1
17	Screw	带垫自攻螺丝钉	70140032	70140032	70140032	70140032	70140032	70140032	4
18	Electric Plate	电器盒底板	01412721	01412721	01412721	01412721	01412721	01412721	1
19	Flow-guide Loop	导流圈	10372722	10372722	10372701	10372701	10372722	10372722	1
20	Electric Box	电器盒	20102701	20102701	20102701	20102701	20102701	20102701	1
21	Insulated Clamp	绝缘线夹 B	71010082	71010082	\	\	71010082	71010082	3
22	Terminal Board	接线板 T360B	42011222	42011222	\	\	\	\	1
		接线板 T360F	\	\	42011238	42011238	42011238	\	1
		接线板 T5A0B	\	\	\	\	\	42011221	1
23	Transformer	电源变压器(SC28B1)	43110170	43110170	43110170	43110170	43110170	43110170	1
24	Electric Box Cover I	电器盒盖 I	20102702	20102702	20102702	20102702	20102702	20102702	1
25	Electric Box Cover II	电器盒盖 II	20102703	20102703	20102703	20102703	20102703	20102703	1
26	PCB 6051J	控制器 6051J	30026635	\	30026635	\	30026635	\	1
	PCB 6053J	控制器 6053J	\	30026636	\	30026636	\	30026636	1
27	Capacitor 3.5uF	电容 3.5uF	\	\	33010010	33010010	\	\	1
	Capacitor 4.5uF	电容 4.5uF	33010012	33010012	\	\	33010012	33010012	1
28	Rubber Plug	橡胶塞	76712701	76712701	76712701	76712701	76712701	76712701	1
29	Drainage Plastic	排水塑件	\	06122701	06122701	06122701	\	\	1
30	Evap Support	蒸发器固定架部件	01072707	01072707	01072703	01072703	01072707	01072707	2
31	Nut with Washer	带垫螺母 M6	70310012	70310012	70310012	70310012	70310012	70310012	1
32	Fixer	风叶固定件	10312701	10312701	10312701	10312701	10312701	10312701	1
33	Water Pump	水泵	43130324	43130324	43130324	43130324	43130324	43130324	1
34	Pump Gasket	水泵橡胶垫	76712702	76712702	76712702	76712702	76712702	76712702	3
35	Pump Support	水泵安装架	01332721	01332721	01332702	01332702	01332721	01332721	1
36	Water Level Switch	液位开关	45010201	45010201	45010201	45010201	45010201	45010201	1
37	Pump Drainpipe	水泵排水管	05230026	05230026	05230026	05230026	05230026	05230026	1
38	Auxiliary Heater	辅助电加热部件	\	32002707	\	32002701	\	320027021	1
39	Right Side Plate	右侧板部件	01302712	01302712	\	\	01302712	01302712	1

Cassette type

Table 12 continue

No	Description		Part No						Qty
			KF-120T/B (1231T)B	KF-120T/B (1241T)B	GSK24- 22L/A(I)	GSK24- 22R/A(I)	GSK41- 22L/A(I)	GSK41- 22R/A(I)	
39	Right Side Plate	右侧板部件	\	\	01302716	01302716	\	\	1
40	Cable-cross Block	过线胶块	76512702	76512702	76512702	76512702	76512702	76512702	1
41	Pump Cover Board	水泵备用盖板部件	01252713	01252713	01252713	01252713	01252714	01252714	1
42	Bolt	螺栓	70212701	70212701	70212701	70212701	70212701	70212701	3
43	Remote Controller	遥控器(Y512)	30512506	30512506	30512506	30512506	30512506	30512506	1

The data are subject to change without notice.

Cassette type

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7. Explosive view and spare parts list of outdoor unit

For 50 model

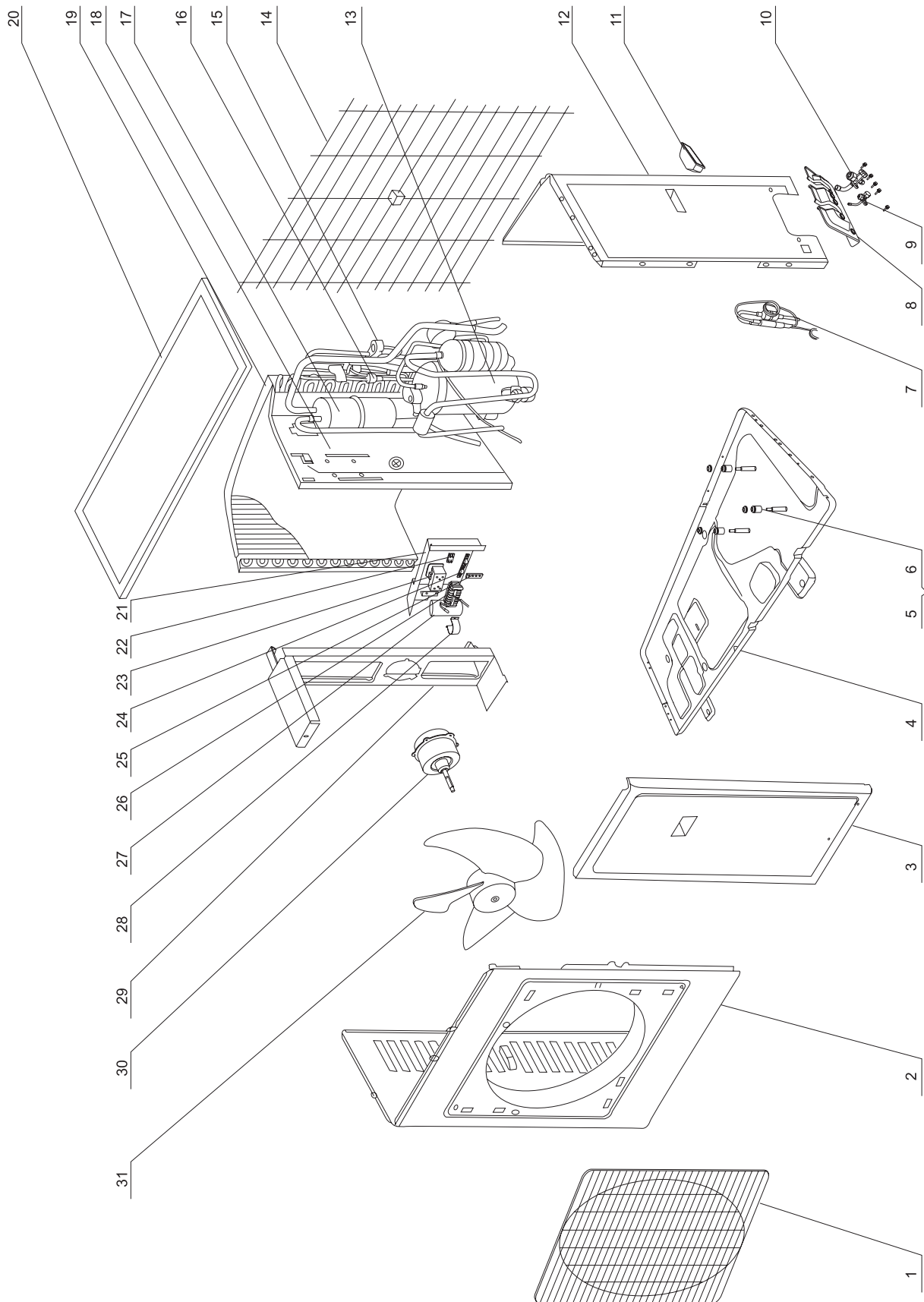


figure 12

Cassette type

Table 13

No	Description		Part No				Qty
			KF- 50W/tA1	KFR- 50W/tA1	KF- 50W/tNA1	KFR- 50W/tNA1	
1	Front Grill	面罩	22265251	22265251	22265251	22265251	1
2	Front Plate	外罩	01433028	01433028	01433028	01433028	1
3	Front Side Plate	前侧板	01303023	01303023	01303023	01303023	1
4	Metal Base	底盘组件	01205073	01205073	\	\	1
	Metal Base	底盘组件	\	\	012037021	012037021	1
5	Base Support	支脚	01795251	01795251	01795251	01795251	2
6	Nut with Washer M8	带垫螺母 M8	70310014	70310014	70310014	70310014	3
7	Capillary Assy	毛细管组件	03003743	03003740	03003742	03003741	1
8	Valve Support	阀门支架	01715256	01715256	01715256	01715256	1
9	Liquid Valve Assy	小阀门组件	071037021	071037021	\	\	1
	Liquid Valve Assy	小阀门组件	\	\	07105002	07105002	1
10	Gas Valve Assy	大阀门组件	071052521	071052521	\	\	1
	Gas Valve Assy	大阀门组件	\	\	07105007	07105007	1
11	Handle	把手	26235253	26235252	26235253	26235253	1
12	Rear Side Plate	后侧板	01305002	01305002	01305002	01305002	1
13	Compressor 2V34S225AUA	压缩机 2V34S225AUA	00100009	00100009	\	\	1
	Compressor C-2RN170H5U	压缩机 C-2RN170H5U	\	\	00100075	00100075	1
14	Rear grill Assy	网罩	01473025	01473025	01473025	01473025	1
15	4 way Valve	四通阀	\	43000403	\	430004031	1
	4 way Valve Assy	四通阀配件	\	430004013	\	430004013	1
16	Silencer	消音器	\	\	\	\	\
17	Gas-liquid Separator	汽液分离器部件	07225001	07225001	07225001	07225001	1
18	Isolation Sheet Assy	中间隔板组件	01233022	01233701	01233701	01233701	1
19	Condenser Assy	冷凝器部件	01103740	01103740	\	01103741	1
	Condenser Assy	冷凝器部件	\	\	01103742	\	1
20	Top Cover Assy	顶盖	01255262	01255262	01255262	01255262	1
21	Electric Box	电器盒组件	01403707	01403707	01403707	01403707	1
22	Capacitor 3uF/450V	电容 3uF/450V	33010027	33010027	33010027	33010027	1
23	Contacto	双极交流接触器	44010221	44010221	44010222	44010221	1
24	Wire Clamp	电线夹	71010102	71010102	71010102	71010102	2
25	Velometer	调速器 TS60	\	30117001	\	30117001	1
26	Terminal Board 2-8	接线板 2-8	42011103	42011103	42011103	42011103	1
27	Capacitor 50uF/440V	电容 50uF/440V	33000001	33000001	\	\	1
	Capacitor 40uF/450V	电容 40uF/450V	\	\	33000022	33000023	1
28	Capacitor Clamp	电容夹	02143441	02143441	02143442	02143442	1
29	Motor Support	电机支架组件	01703026	01703027	01703026	\	1
	Motor Support	电机支架组件	\	\	\	01703038	1
30	Motor FW60D	电机 FW60D	15013702	\	15013702	\	1
	Motor FW60B	电机 FW60B	\	15013701	\	15013701	1
31	Axial Flow Fan	轴流风叶	10335253	10335253	10335253	10335253	1

The data are subject to change without notice.

Cassette type

For 70 model

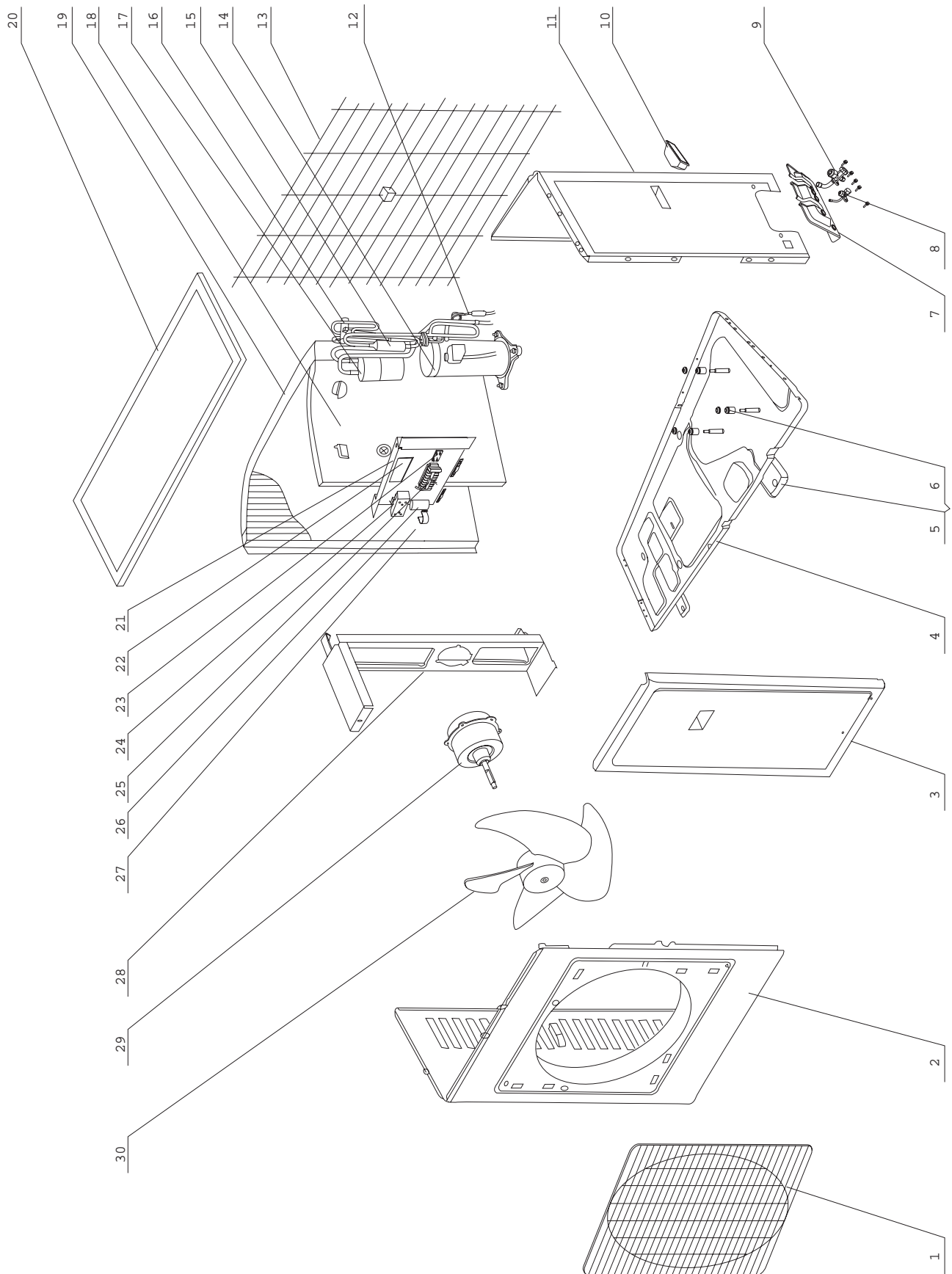


figure 13

Cassette type

Table 14

No	Description		Part No						Qty
			KF-	KFR-	KF-	KFR-	KF-	KFR-	
			70W/tB1	70W/tB1	70W/tB1N	70W/tB1N	70W/tBN	70W/tBN	
1	Front Grill	面罩	22265251	22265251	22265251	22265251	22265251	22265251	1
2	Front Plate	外罩	01435254	01435254	01435254	01435254	01435254	01435254	1
3	Front Side Plate	前侧板	01305247	01305247	01305247	01305247	01305247	01305247	1
4	Metal Base	底盘组件	01205264	01205264	01205011	01205011	01205011	01205011	1
5	Base Support	支脚	01795251	01795251	01795251	01795251	01795251	01795251	2
6	Nut with Washer M8	带垫螺母 M8	70310014	70310014	70310014	70310014	70310014	70310014	3
7	Valve Support	阀门支架	01715256	01715256	01715256	01715256	01715256	01715256	1
8	Liquid Valve Assy	小阀门组件	071037021	071037021	\	\	\	\	1
	Liquid Valve Assy	小阀门组件	\	\	07105002	07105002	07105002	07105002	1
9	Gas Valve Assy	大阀门组件	071052521	071052521	\	\	\	\	1
	Gas Valve Assy	大阀门组件	\	\	07105007	07105007	07105007	07105007	1
10	Handle	把手	26235252	26235252	26235252	26235252	26235252	26235252	1
11	Rear Side Plate	后侧板	01305260	01305260	01305260	01305260	01305260	01305260	1
12	Capillary Assy	毛细管组件	03003703	\	\	\	03013708	03003716	1
	Capillary Assy	毛细管组件	\	03003724	03003720	03003721	\	\	1
13	Rear grill Assy	网罩	01475251	01475251	01475251	01475251	01475251	01475251	1
14	Compressor	压缩机 AWG5532EVA	00100509	\	\	\	\	\	1
	Compressor	压缩机 AWG5532EXC	\	00100510	\	\	\	\	1
	Compressor	压缩机 C-RN220H5B	\	\	00100063	00100063	\	\	1
	Compressor	压缩机 C-RN243H8A	\	\	\	\	00100341	00100341	1
15	Silencer	消音器	07245201	07245101	07245005	07245005	07245005	\	1
16	4 way Valve	四通阀	\	43000403	\	43000403	\	43000321	1
	4 way Valve Assy	四通阀配件	\	430004005	\	430004005	\	430004005	1
17	Gas-liquid Separator	汽液分离器部件	07225001	07225001	07255251	07255251	07255251	07255251	1
18	Isolation Sheet	中间隔板	01235252	01235252	01235252	01235252	01235252	01235252	1
19	Condenser Assy	冷凝器部件	01103705	01103703	\	\	01103708	01103708	1
	Condenser Assy	冷凝器部件	\	\	01103706	01103707	\	\	1
20	Top Cover Assy	顶盖	01255262	01255262	01255262	01255262	01255262	01255262	1
21	Electric Box	电器盒	\	\	\	\	01415205	01415205	1
	Electric Box	电器盒组件	01405106	01405106	01405106	01405106	\	\	1
22	Velometer	调速器 TS60	30117001	30117001	30117001	30117001	30117001	30117001	1
23	Capacitor 3uF/450V	电容 3uF/450V	33010027	33010027	33010027	33010027	33010027	33010027	1
24	AC Contactor	双极交流接触器	44010221	44010221	44010222	44010222	\	\	1
	AC Contactor	双极交流接触器	\	\	\	\	44010209	44010209	1
25	Terminal Board 2-8	2-8 接线板	42011103	42011103	42011103	42011103	42011103	42011103	1
26	Capacitor 45uF/440V(450V)	电容 CBB65	33000012	33000012	\	\	\	\	1
	Capacitor 40uF	电容 CBB65	\	\	33000022	33000022	\	\	1
27	Capacitor Clamp	电容夹	02143441	02143441	02143441	02143441	\	\	1
28	Motor Support	电机支架	01705253	01705253	01705253	01705253	01705253	01705253	1
29	Motor FW60D	电机 FW60D	15013702	\	15013702	\	15013702	\	1
	Motor FW60T	电机 FW60T	\	\	\	15013703	\	15013703	1
	Motor FW60S	电机 FW60S	\	15013109	\	\	\	\	1
30	Axial Flow Fan	轴流风叶	10335253	10335253	10335253	10335253	10335253	10335253	1

The data are subject to change without notice.

Cassette type

Table 15

No	Description		Part No				Qty
			GSK24-22L/A(O)	GSK24-22R/A(O)	KF-70W/tB(7031T)A	KFR-70W/tB(7041T)A	
1	Front Grill	面罩	22265251	22265251	22265251	22265251	1
2	Front Plate	外罩	01435254	01435254	01435254	01435251	1
3	Front Side Plate	前侧板	01305247	01305247	01305247	01305251	1
4	Metal Base	底盘组件	01205264	01205263	01205011	01205011	1
5	Base Support	支脚	01795251	01795251	01795251	01795251	2
6	Nut with Washer M8	带垫螺母 M8	70310014	70310014	70310014	70310014	3
7	Valve Support	阀门支架	01715256	01715256	01715256	01715256	1
8	Liquid Valve Assy	小阀门组件	071037021	071037021	071037021	071037021	1
9	Gas Valve Assy	大阀门组件	071052521	071052521	071052521	071052521	1
10	Handle	把手	26235252	26235252	26235252	26235252	1
11	Rear Side Plate	后侧板	01305260	01305260	01305260	01305261	1
12	Capillary Assy	毛细管部件	03003726	03003727	03003703	03003701	1
13	Rear grill Assy	网罩	01475251	01475251	01475251	01475251	1
14	Compressor AWG5530EXN	压缩机 AWG5530EXN	00100511	00100511	\	\	1
	Compressor AVA5535EXG	压缩机 AVA5535EXG	\	\	00100503	00100503	1
15	Silencer	消音器	07245101	07245005	07245201	07245201	1
16	4 way Valve	四通阀	\	43000403	\	43000403	1
	4 way Valve Assy	四通阀配件	\	430004003	\	430004005	1
17	Gas-liquid Separator	汽液分离器部件	07225001	07225001	07255251	07255251	1
18	Isolation Sheet Assy	中间隔板组件	01235253	01235253	01235253	01235253	1
19	Condenser Assy	冷凝器部件	01103726	01103727	\	\	1
	Condenser Assy	冷凝器部件	\	\	01103728	01103708	1
20	Top Cover Assy	顶盖	01255262	01255262	01255262	01255261	1
21	Electric Box	电器盒组件	\	\	01415205	01415205	1
	Electric Box	电器盒组件	01405106	01405106	\	\	1
22	Velometer	调速器 TS60	\	\	30117001	\	1
23	Capacitor 3uF/450V	电容	33010027	33010027	33010027	33010027	1
24	AC Contactor	双极交流接触器	44010221	44010221	\	44010209	1
25	Terminal Board 2-8	2-8 接线板	42011103	42011103	42011103	42011103	1
26	Capacitor 40uF	电容 CBB65	33000012	33000012	\	\	1
27	Capacitor Clamp	电容夹	02141375	02141375	\	\	1
28	Motor Support	电机支架组件	01705253	01705253	01705252	01705251	1
29	Motor FW60H	电机 FW60H	15013704	\	\	\	1
	Motor FW60C	电机 FW60C	\	15013706	\	\	1
	Motor FW60D	电机 FW60D	\	\	15013702	\	1
	Motor FW60T	电机 FW60T	\	\	\	12013703	1
30	Axial Flow Fan	轴流风叶	10335253	10335253	10335253	10335253	1

The data are subject to change without notice.

Cassette type

(Blank)

Cassette type

For 120 model

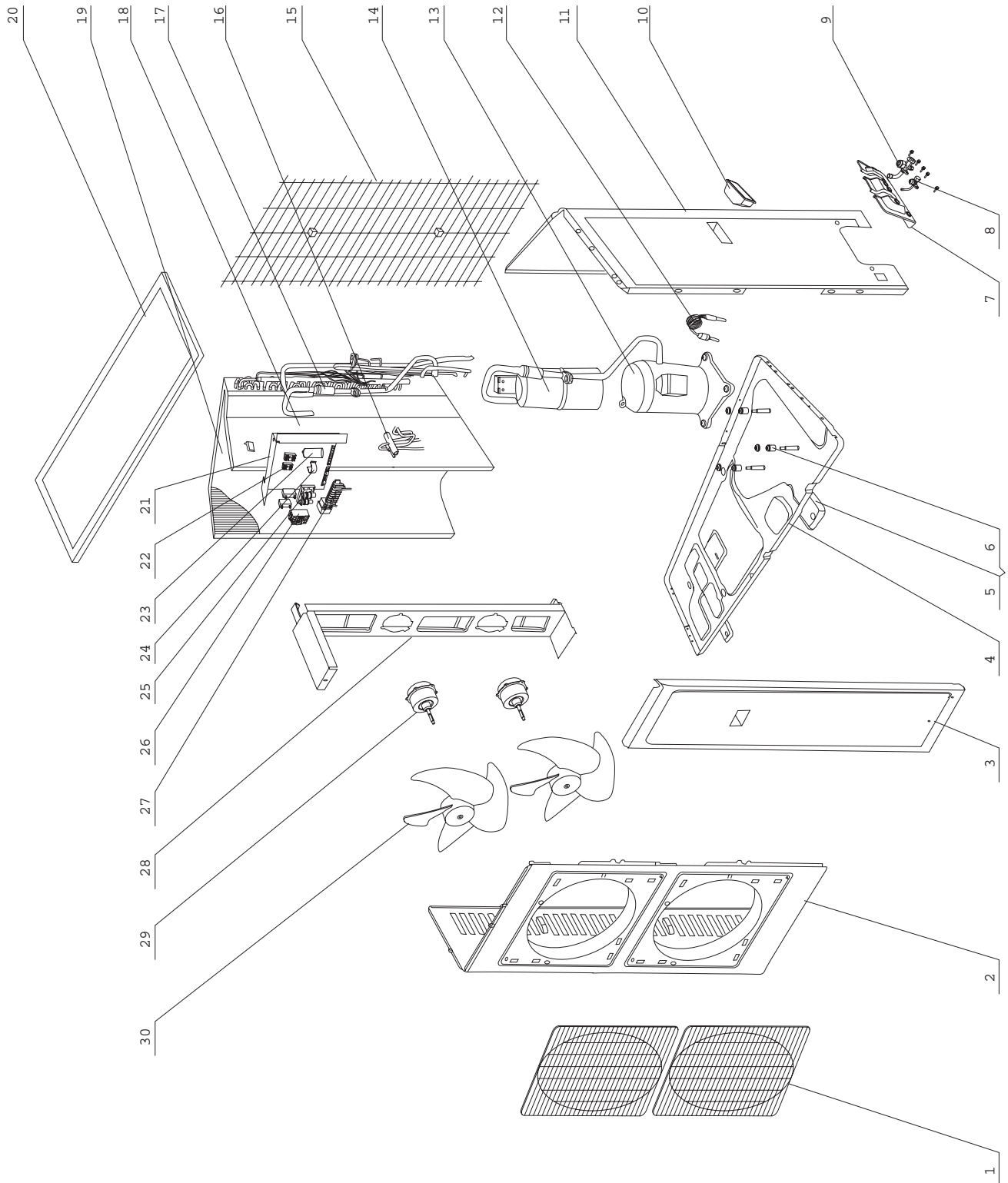


figure 14

Cassette type

Table 16

No	Description		Part No				Qty
			KF-120W/tB (1231T)C	KFR-120W/tB (1251T)B	KF- 120W/tBN	KFR- 120W/tBN	
1	Front Grill	面罩	22265251	22265251	22265251	22265251	2
2	Front Plate	外罩	01435432	01435433	01435432	01435433	1
3	Front Side Plate	前侧板	01305437	01305431	01305437	01305431	1
4	Metal Base	底盘组件	01205011	\	01205433	01205433	1
	Metal Base	底盘组件	\	01203721	\	\	1
5	Base Support	支脚	01795251	01795251	01795251	01795251	2
6	Nut with Washer M8	带垫螺母 M8	70310014	70310014	70310014	70310014	4
7	Valve Support	阀门支架	01715256	01715256	01715256	01715256	1
8	Liquid Valve Assy	小阀门组件	071037011	071037011	\	\	1
	Liquid Valve Assy	小阀门组件	\	\	07103704	07103704	1
9	Gas Valve Assy	大阀门组件	07105436	07105436	\	\	1
	Gas Valve Assy	大阀门组件	\	\	07103703	07103703	1
10	Handle	把手	26235252	26235252	26235252	26235252	1
11	Rear Side Plate	后侧板	01305440	01305434	01305434	01305434	1
12	Capillary Assy	毛细管部件	03003709	03003717	03003714	03003713	1
13	Compressor AGC5561EXG	压缩机	00100502	\	\	\	1
	Compressor C-SB373H8A	压缩机	\	00100330	\	\	1
	Compressor C-SBN373H8A	压缩机	\	\	00100332	00100332	1
14	Gas-liquid Separator	汽液分离器部件	07225433	07225433	07225433	07225433	1
15	Rear Grill Assy	网罩	01475431	01475431	01475431	01475431	1
16	4 way Valve	四通阀	\	43000405	\	43000307	1
	4 way Valve Assy	四通阀配件	\	430004005	\	430004003	1
17	Silencer	消音器	07245005	07245434	07245005	07245434	1
18	Isolation Sheet Assy	中间隔板	01235441	01235441	01235441	01235441	1
19	Condenser Assy	冷凝器部件	011037121	\	\	\	1
	Condenser Assy	冷凝器部件	\	01103722	\	\	1
	Condenser Assy	冷凝器部件	\	\	01103711	01103710	1
20	Top cover Assy	顶盖	01255261	01255262	01255261	01255262	1
21	Electric Box	电器盒	01415205	01415205	01415205	01415205	1
22	Capacitor	电容 3.5uF/450VAC	33010010	33010010	33010010	33010010	2
23	Capacitor	电容 50uF/450V	33010710	33010710	33010710	33010710	1
24	Terminal Board	接线板 T5A0A	\	42011210	\	42011223	1
	Terminal Board	接线板 T8FOA	\	\	42011224	\	1
	Terminal Board	接线板 GT8F0A1	42011036	\	\	\	1
25	Velometer	调速器 TS60	\	30117001	\	30024413	1
26	AC Contactor	双极交流接触器	44010211	44010226	44010211	44010211	1
27	Terminal Board 2-8	2-8 接线板	42011103	42011103	42011103	42011103	1
28	Motor Support	电机支架组件	01705431	01705431	01705431	01705431	1
29	Motor	电机 FW68T	\	15013302	\	\	2
	Motor	电机 FW68D	15013303	\	15013303	\	2
	Motor	电机 FW68A	\	\	\	15013711	2
30	Axial Flow Fan	轴流风叶	10335253	10335253	10335253	10335253	2

The data are subject to change without notice.

Cassette type

Table 17

No	Description		Part No				Qty
			GSK41-22L/A(O)	GSK41-22R/A(O)	KF-120W/tB (1231T)B	KFR-120W/tB (1241T)B	
1	Front Grill	面罩	22265251	22265251	22265251	22265251	1
2	Front Plate	外罩	01435433	01435433	01435433	01435433	1
3	Front Side Plate	前侧板	01305431	01305431	01305431	01305431	1
4	Metal Base	底盘组件	01205433	01205433	\	\	1
	Metal Base	底盘组件	\	\	01203721	01203721	1
5	Base Support	支脚	01795251	01795251	01795251	01795251	2
6	Nut with Washer M8	带垫螺母 M8	70310014	70310014	70310014	70310014	4
7	Valve Support	阀门支架	01715256	01715256	01715256	01715256	1
8	Liquid Valve Assy	小阀门组件	071037011	071037011	071037011	071037011	1
9	Gas Valve Assy	大阀门组件	07105436	07105436	07105436	07105436	1
10	Handle	把手	26235253	26235253	26235252	26235252	1
11	Rear Side Plate	后侧板	01305434	01305434	01305434	01305434	1
12	Capillary Assy	毛细管部件	03003175	03003723	03003725	03003717	1
13	CompressorC-SB373H8A	压缩机 C-SB373H8A	\	\	00100330	00100330	1
	CompressorC-SB303H3B	压缩机 C-SB303H3B	00100015	00100015	\	\	1
14	Gas-liquid Separator	汽液分离器部件	07225433	07225433	07225433	07225433	1
15	Rear Grill Assy	网罩	01475431	01475431	01475431	01475431	1
16	4 way Valve	四通阀	\	43000307	\	43000405	1
	4 way Valve Assy	四通阀配件	\	430004003	\	430004005	1
17	Silencer	消音器	\	07245434	\	07245434	1
18	Isolation Sheet Assy	中间隔板组件	01235440	01235440	01235440	01235440	1
19	Condenser Assy	冷凝器部件	\	01103719	01103723	01103722	1
	Condenser Assy	冷凝器部件	01103055	\	\	\	1
20	Top cover Assy	顶盖	01255262	01255262	01255262	01255262	1
21	Electric Box	电器盒组件	01405201	01405201	01415205	01415205	1
22	Capacitor	电容 3.5uF/450VAC	33010010	33010010	33010010	33010010	2
23	Capacitor	电容 50uF/450V	\	\	\	33010710	1
24	Terminal Board	接线板 GT8F0B1	42010177	\	\	42011210	1
	Terminal Board	接线板 T5A0A	\	42011223	\	\	1
	Terminal Board	接线板 T8F0A	\	\	42011224	\	1
25	Velometer	调速器 TS60	\	30117001	\	30117001	1
26	AC Contactor	双极交流接触器	\	\	44010211	44010226	1
	AC Contactor	双极交流接触器	44010214	44010214	\	\	1
27	Terminal Board 2-8	2-8 接线板	42011103	42011103	42011103	42011103	1
28	Motor Support	电机支架组件	01705431	01705431	01705431	01705433	1
29	Motor FW68T	电机 FW68T	\	\	\	15013302	2
	Motor FW68D	电机 FW68D	\	\	15013303	\	2
	Motor FW68E	电机 FW68E	\	15013712	\	\	2
	Motor FW68K	电机 FW68K	15013304	\	\	\	2
30	Axial Flow Fan	轴流风叶	10335253	10335253	10335253	10335253	2

The data are subject to change without notice.

Cassette type

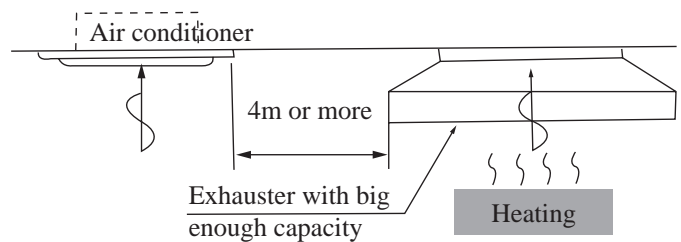
8. Installation guide

● Location

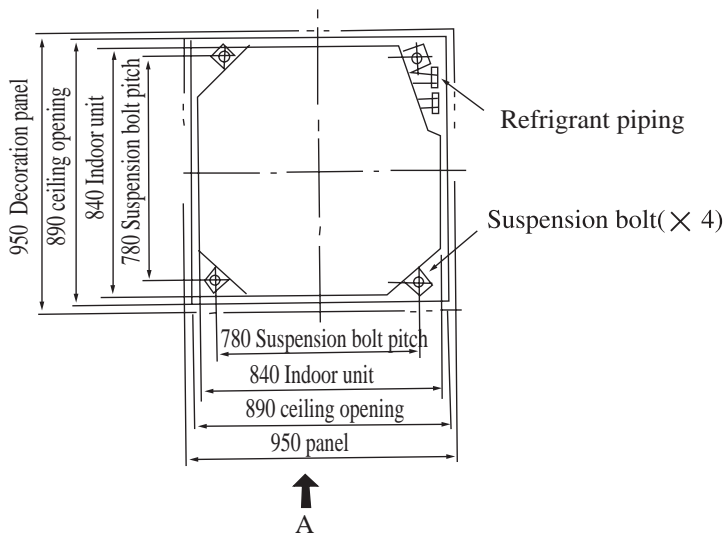
1. Do not place object near the air outlet so that conditioned air can reach the whole room.
2. Be sure to install the indoor unit firmly and horizontally.
3. Select the place that can support 4 times of the indoor unit's weight and will not increase noise and vibration.
4. Select a place easy to drain water and connect with the outdoor unit.
5. Make sure there is enough space for maintenance and make sure the distance between the unit and ground is 1.8m or more.
6. Make sure the suspension bolt pitch can hold 4 times of the indoor units' weight, otherwise, you should strengthen the suspension bolt pitch.

● Note:

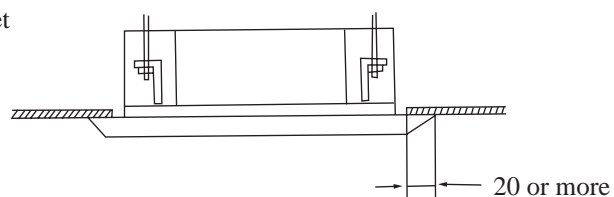
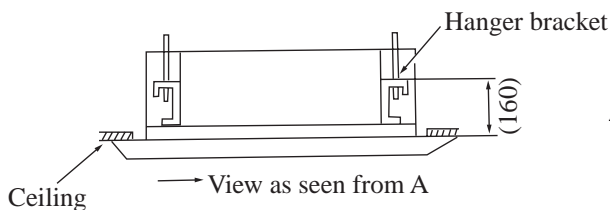
1. Keep enough distance from the kitchen.
2. The appliance shall not be installed in the laundry.



● Ceiling opening and suspension bolt (M10) pitch dimension.



* Drilling of ceiling must be done by qualified personnel.



● Note

Installation is possible with a ceiling dimension of 890 (marked with * can be 910), but the ceiling-panel overlapping dimension must be 20mm or more.

Indoor unit installation

1. Install the indoor unit temporarily.

- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket. The washer fixing plate ⑦ will prevent the washer from falling.
- Refer to the paper pad for installation ⑤ for ceiling opening dimension.
- The center of the ceiling is indicated on the paper pad for installation, the center of the unit is indicated on the label attached to the unit and on the paper pad for installation.
- Fix the paper pad to the unit with screws ⑥ (× 3)

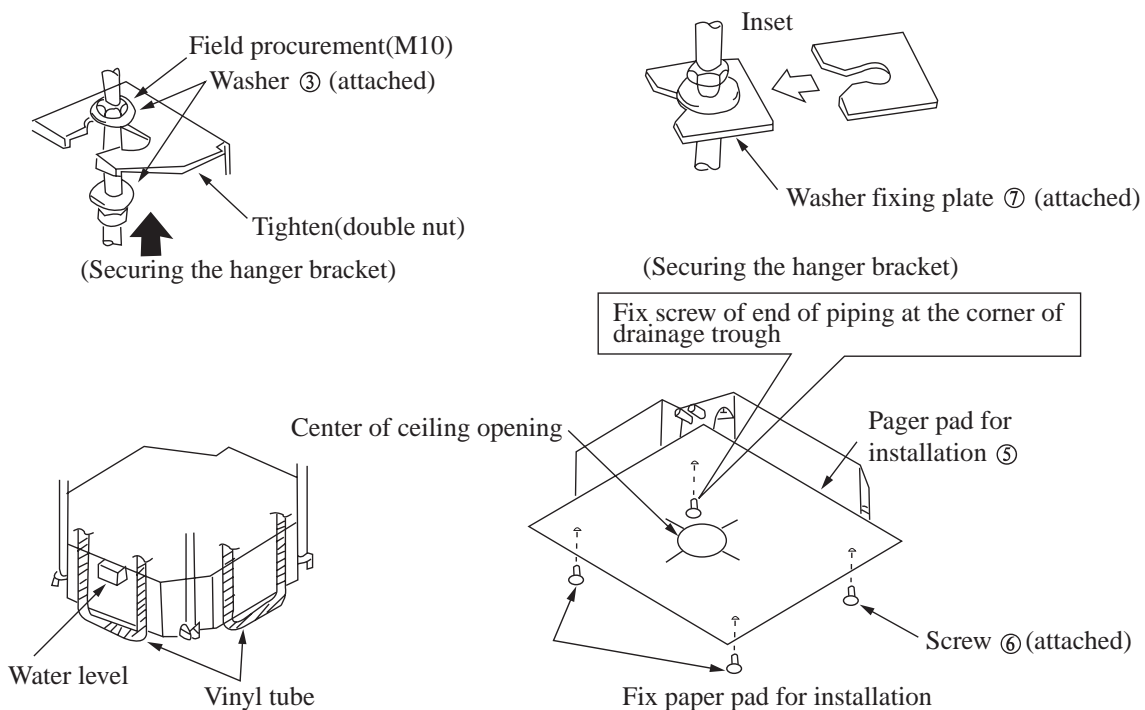
2. Refer to diagram 3, adjust the unit to the right position for installation.

3. Check if the unit is horizontally level.

- The indoor unit is equipped with a built-in drainage pump and float switch. At each of the unit's 4 corners, verify that it is level by using a water level or a water filled vinyl tube. (If the unit is tilted against condensate flow, the float switch may malfunction and cause water to drip.)

4. Remove the washer fixing plate ⑦ used for preventing the washer from falling and tighten the upper nut.

5. Remove the paper pad for installation ⑤.



Warning

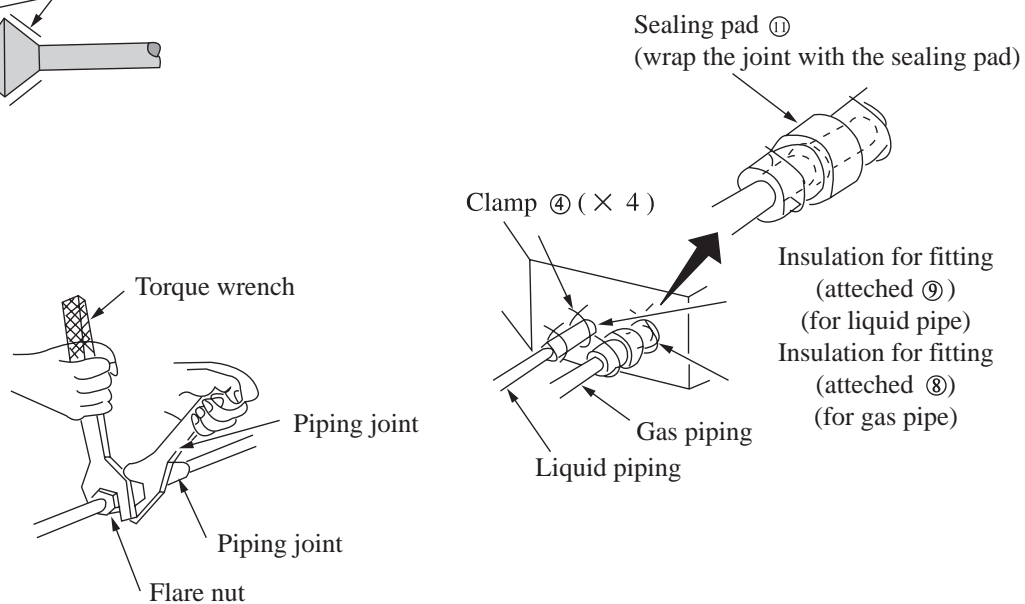
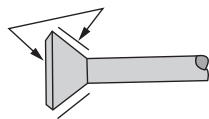
Tighten the nut to prevent the unit from falling.

Cassette type

● Connection of refrigerant pipe

- Be sure to use both a spanner and torque wrench together as shown in the drawing, connecting or disconnecting pipes to/from the unit.
- Refer to table 1 to determine the proper tightening torque (over tightening may damage the flare and cause leaks.)
- When connecting the flare nut, coat the flare both inside and outside with refrigerating machine oil and initially tighten by hand 3 or 4 turns.
- Check the pipe connector for gas leaks, then insulate it as shown in the drawing below.
- Use sealing pad (11) to wrap joint between gas pipe and the insulation (8).

Coat here with refrigerating machine oil



● Table 1

Pipe gauge	Tightening torque	Notes	
Φ 9.52	30~40N.m	KF(R)-50TW/E1	Add 30g
Φ 16	60~65N.m	KF(R)-70TW/B	Add 30g
Φ 12	45~50N.m	KF(R)-70TW/B1	Add 30g
Φ 19	70~75N.m	KF(R)-120TW/B	Add 30g

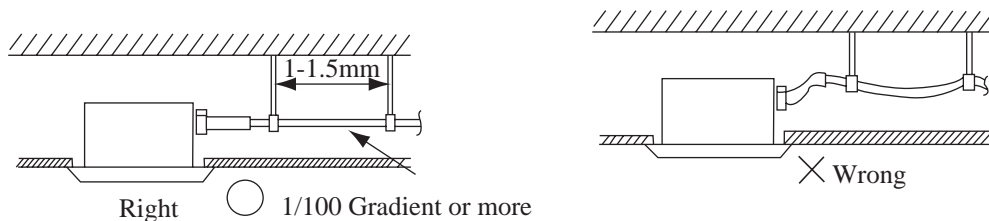
The maximum length for refrigerant piping is 25 meters, when the length exceeds 10 meters, you should charge additional (refrigerant as shown in following for per-meter added).

Cassette type

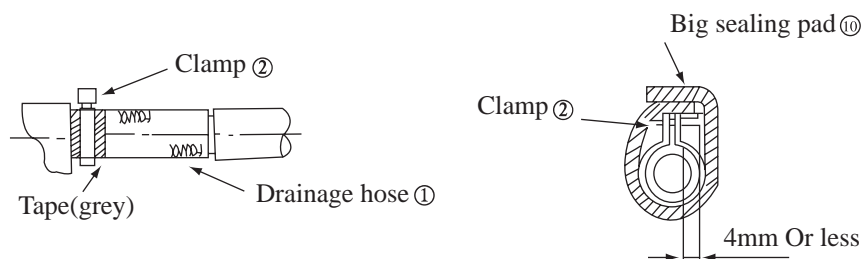
● Drainage pipe

1. Installation of drainage pipe.

- The diameter of the drainage pipe should be greater than or equal to the diameter of the connecting pipe [vinyl tube, pipe size: 25mm (outer dimension)]
- Keep the drainage pipe short and sloping downwards at a gradient of at least 1/100 to prevent air pockets from forming.
- If the drainage hose cannot be sufficiently set on a slope, add a drainage raising pipe.
- To keep the drainage hose from sagging, keep space between hanging hooks at 1~1.5m.

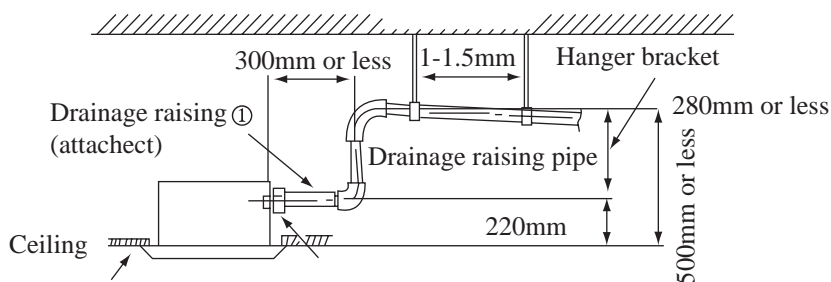


- Use the attached drainage hose ① and clamp ②. Insert the drainage hose into the drainage socket up to the grey tape. Tighten the clamp until the screw head is less than 4 mm from the hose.
- Wrap the big sealing pad around clamp of the drainage hose to insulate.
- Insulate the drainage hose inside the room.



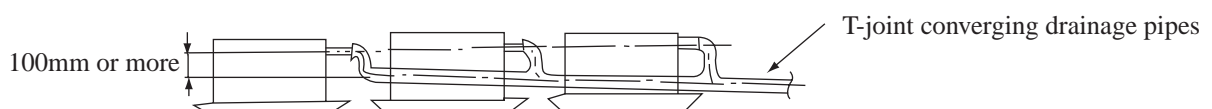
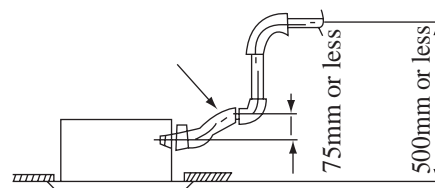
● Precautions for drainage raising pipe

- Install the drainage raising pipe at a height of less than 280 mm.
- Install the drainage raising pipe at a right angle to the indoor unit and no more than 300 mm from the unit.



● Note

- The incline of attached drain hose ① should be 75mm or less, so that the drainage socket does not have to stand additional force.
- If converging multiple drainage pipes, install according to the procedure shown below.



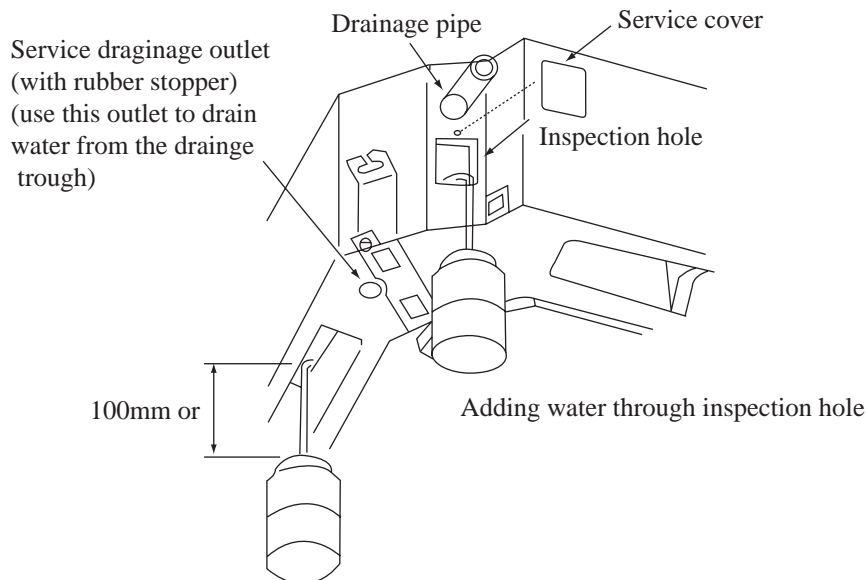
Select converging drainage pipes whose gauge is suitable for the operating capacity of the unit.

Cassette type

2. After finishing installation, check if drainage water flows smoothly.

- Add approximately 600 cc of water to the drainage trough through air outlet or inspection hole slowly and check drainage flow.
- When electric wiring is finished, check drainage flow during cooling operation.

● Method of adding water.



● Warning: Before obtaining access to terminals, all supply circuits must be disconnected.

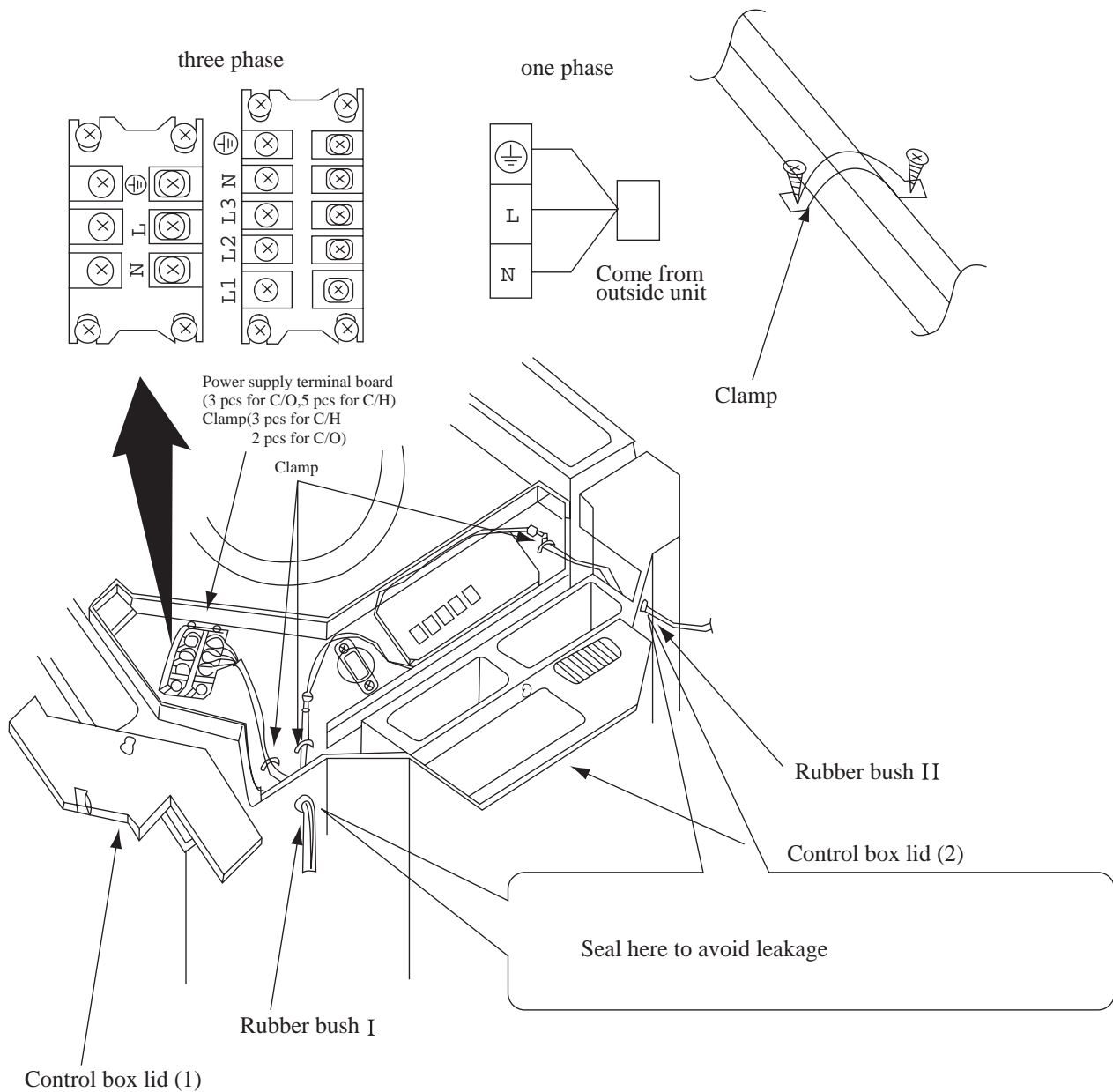
● Electric wiring

- All field supplied parts and materials must conform to local laws and regulations.
- For electric wiring, refer to “ WIRING DIAGRAM ” attached to the unit body.
- All wiring must be performed by a skilled technician.
- A circuit breaker capable of shutting down power supply to the entire system and with at least 3 mm contact separation must be installed.
- Earth properly.
- Wiring must conform to national laws and regulations.
- Installing the protector with not more than 30mA leakage current is a must.
- If the supply cord is damaged, it must be replaced by the manufactory or its service agents or a similarly qualified person in order to avoid a hazard.

● Wiring of unit and the controller

- Wiring of the indoor unit.
- Remove the control box lid(1), pull the wires inside through rubber bush [] and wiring according to the “ WIRING DIAGRAM ”, then tighten it with clamp.
- Wiring of the controller.
- Remove the control box lid(2), pull wires inside through rubber bush [] and connect to the controller.
- Wrap the wire with sealing pad(12).
- After wiring, tighten it with clamp and fix the control box lid(1),(2).
- Heating and cooling: connect the rubber wire (5-cords) to the power supply terminal board in properly.
- Cooling: connect the rubber wire (3-cords) to the power supply terminal board properly.

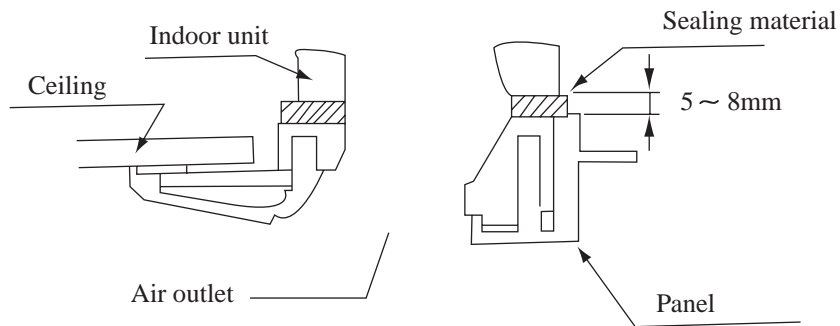
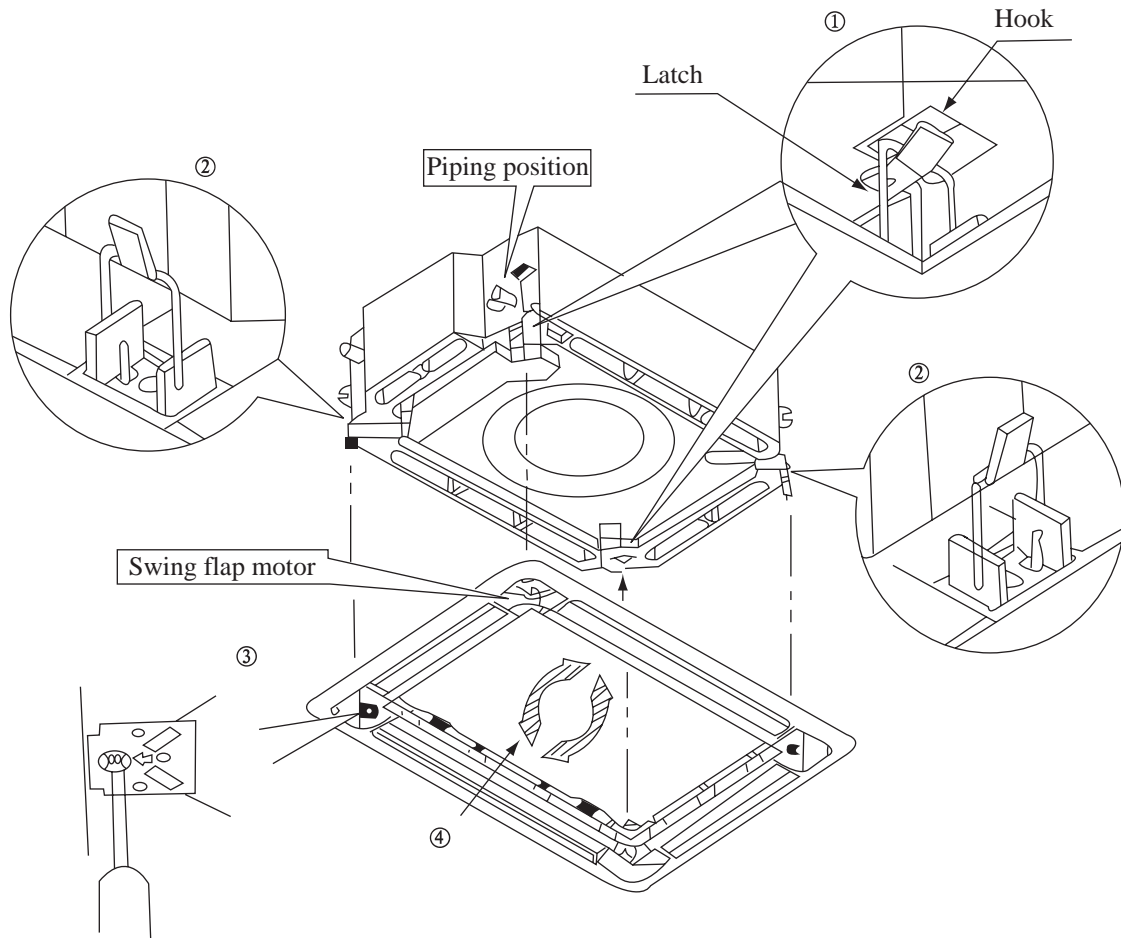
Cassette type



● Precautions: Be sure to connect the indoor unit and outdoor unit at right poles.

Installation of panel

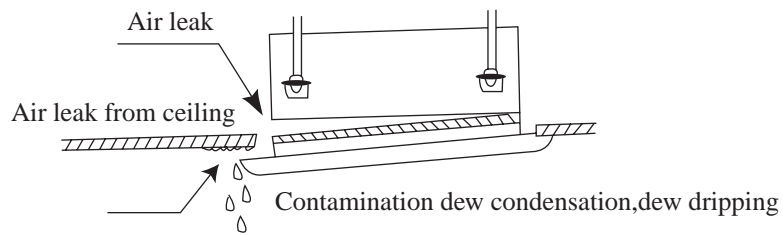
1. Set the panel to the indoor unit body by matching the position of the swing flap motor of the decoration panel to the piping position of the panel to the piping position of the indoor unit as shown in fig.4.
2. Install the decoration panel
 - (1) Hang the latch, which is located on the opposite side of the swing flap motor on the panel, temporarily to the back of the indoor unit. (2 Positions)
 - (2) Temporarily hang the remaining 2 latches to the hooks on the sides of the indoor unit. (be careful not to let the swing motor lead wire get caught in the sealing material.)
 - (3) Screw all 4 hexagon head screws located right beneath the latches in approximately 15mm. (panel will rise)
 - (4) Adjust the panel by turning it to the arrowed direction in Fig.4 so that the ceiling opening is completely covered.
 - (5) Tighten the screws until the thickness of the sealing material between the panel and the indoor unit body is reduced to 5~8 mm.



(Fig.4)

● Precautions

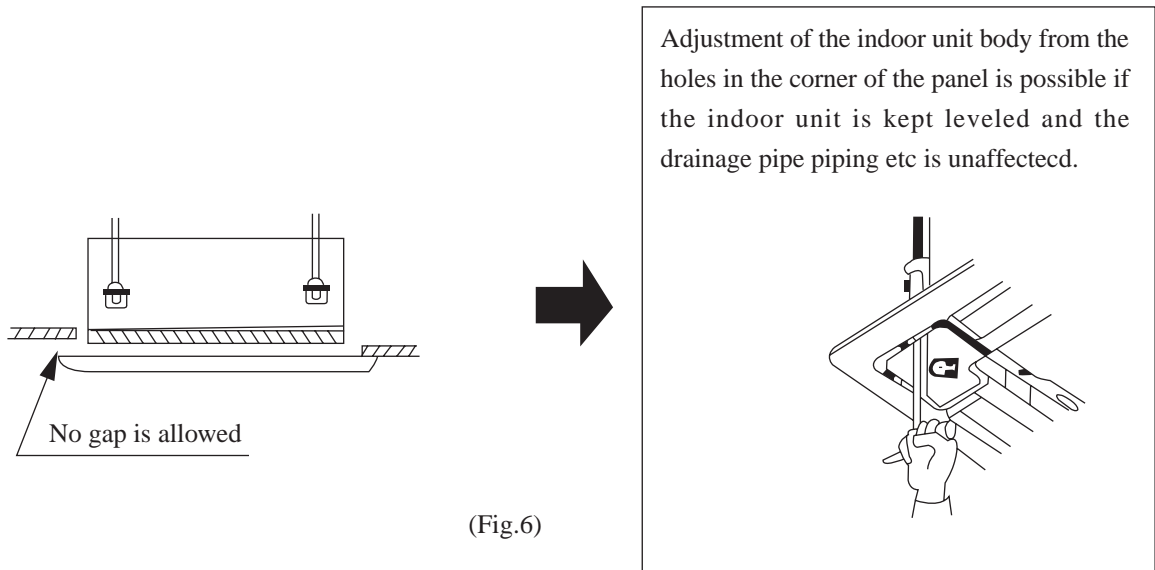
1. Improper screwing of the screws may cause the troubles shown in Fig.5.



(Fig.5)

Cassette type

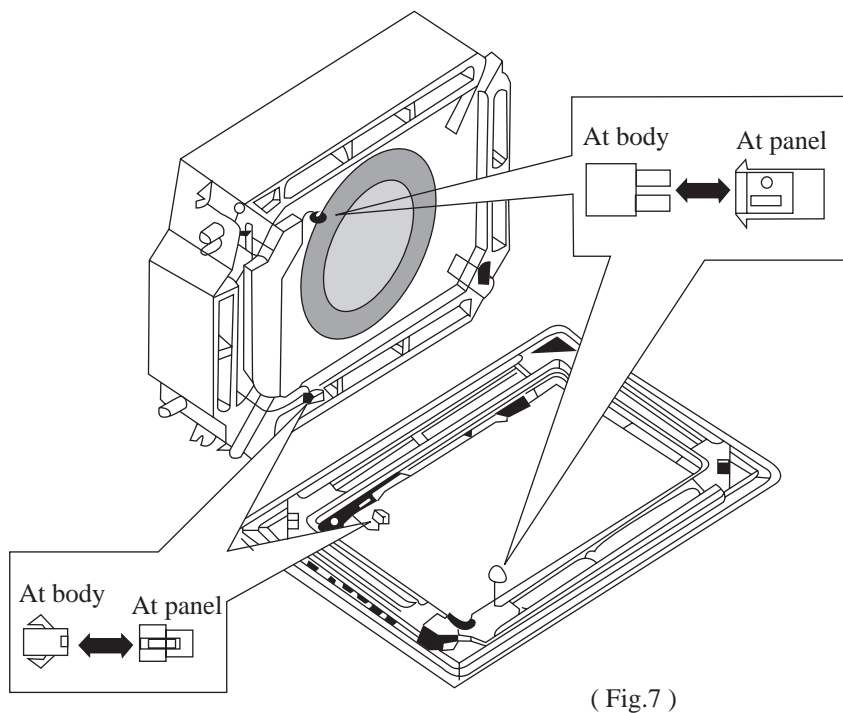
2.If gap is still left between the ceiling and the panel after screwing the screws,readjust height of the indoor unit body(Refer to Fig.6).



* After fixing,be sure no gap left between the ceiling and the panel.

3.Wiring of the decoration panel.

⑥ Connect te joints for swing flap motor lead wire(at 2 places) installed on the panel (Refer to Fig.7).



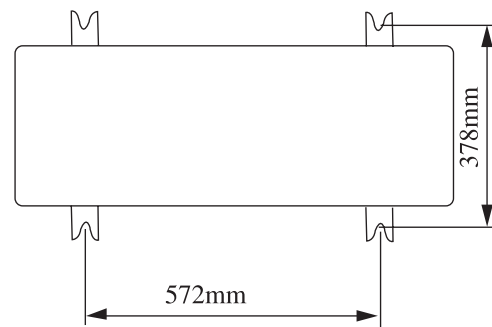
Cassette type

● Selecting installation site

- Select an installation site where the following conditions are satisfied and that meets with your customer's approval.
- Places which are well-ventilated.
- Safe places which can withstand the unit's weight and vibration and where the unit can be installed level.
- Places where the unit does not bother next-door neighbors.
- Places where there is no possibility of flammable gas leak.
- Places where things distressed in water do not exist because water drains off the outdoor unit.
- Places where servicing space can be well ensured.
- Places where strong wind can not blow directly to outdoor unit.

● Outdoor unit installation

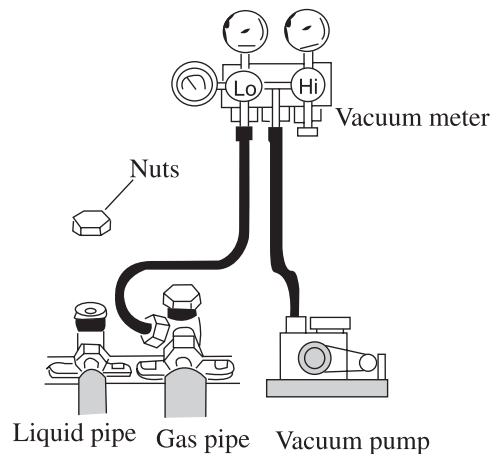
1. Install the unit firmly with combination of M10 or more bolts and nuts on the foundation that can fully support the weight of the unit and make sure the unit stand vertically.
2. Do not install the unit on the top of building.
3. If there is noise caused by vibration add rubber between the unit and the foundation, Please.
4. When the air conditioner is heating or defrosting, drain water of the outdoor unit to an appropriate place with the drain hose.
5. Fixing method: Fix the outdoor drainage hose head in the hole of the chassis, then connect the drainage hose with the mouth of drainage pipe.



(Fig.8)

● Connecting the pipe.

1. Remove the flare nuts of the valves.
2. Match the piping center, tighten the flare nuts with hand.
3. Tightening the flare nuts with a driver.
4. Remove the nuts of one-way valve.
5. If possible, evacuate from the one-way valve with a vacuum pump. (Fig.9)
6. Tighten the nuts, then check whether there is gas leaking out.



(Fig.9)

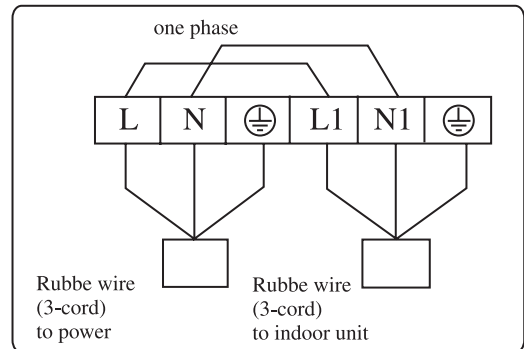
Cassette type

Electric wiring

- (1) Read the name plate carefully, then arrange wiring according to the “WIRING DIAGRAM”
- (2) A circuit breaker capable of shutting down power supply to the entire system must be installed.
- (3) Earth properly.
- (4) All wiring must be performed by a skilled electrician according to the “WIRING DIAGRAM”. Wrong wiring may cause fire or electric shock.

Connect the power connecting wires

- (1) Remove the front side plate (Fig.10).
- (2) Break through the hole for wires and put on rubber bush.
- (3) Pull all wires through the rubber bush.
- (4) Connect the outdoor unit according to the “WIRING DIAGRAM” of outdoor unit. Make sure to wire firmly.
- (5) Tighten the wires with clamp and clasp.

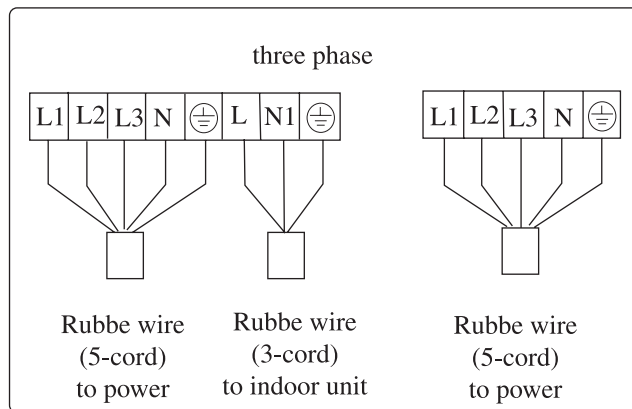


Note

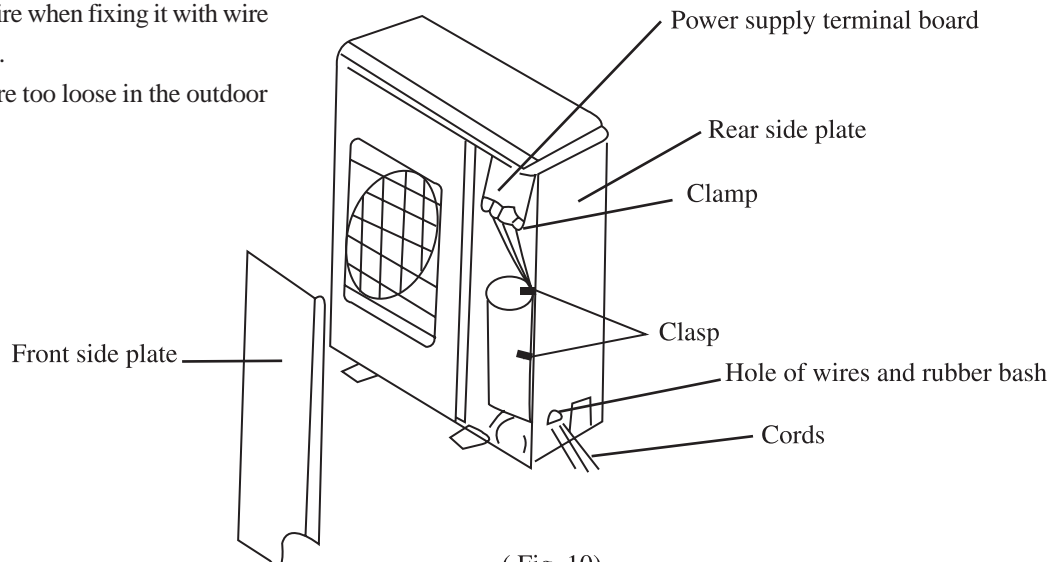
- (1) Earth the units firmly.
- (2) Wire the units firmly.
- (3) Don't pull the connector too forcefully.
- (4) For cooling only type:

Connect the rubber wire (3-cords) to L, N1 ⊕ of the power supply terminal board (8p) and the rubber wire (5-cords) to L1, L2, L3, N ⊕, of the power supply terminal board (8p) accordingly.

For cooling/heating type:
Connect the rubber wire (5-cords) to the power supply terminal board (5p) properly.



- (5) Connect the other wires properly.
- Do not pull the wire when fixing it with wire clamp and clasp.
 - Do not let the wire too loose in the outdoor unit.



(Fig .10)

Cassette type

● Test operation

1. Prepare for test

- (1) Do not turn on the power switch before all installation is finished.
- (2) Connect wires correctly and firmly.
- (3) Open the check valve.
- (4) Remove all dust.

2. Testing

- (1) Turn on the power switch and press “1/0” button.
- (2) Press “MODE” button select COOL, HEAT, FAN, etc to test whether it operates normally.

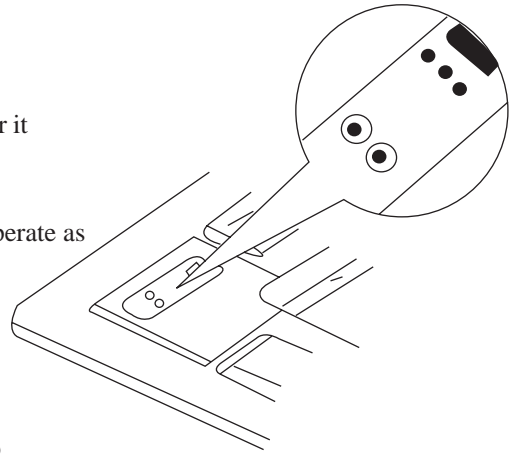
3. Emergency operation.

When the batteries fail or when the remote controller is missing, operate as shown below.

- * On stopping you can press the “AUTO” button on cover NO. II unit it is in “AUTO” mode.

The air conditioner select from COOL, HEAT, DRY, FAN modes automatically.

- * On operating, press the “AUTO” button, the air conditioner will stop.



Note

The “TEST” button on the cover No. II is specially for testing the air conditioner. When pressing it, the air conditioner will be forced to operate or stop. Do not press it when air conditioner is in normal operation.

For the following items, take special care during construction and check after installation is finished.

Items to check	If not properly done, what is likely to happen	Check
Is the indoor unit fixed firmly?	The unit may drop, vibrate or make noise.	
Is the gas leak test finished?	It may result in insufficient cooling.	
Is the unit fully insulated?	Condensate water may drip.	
Does drainage flow smoothly?	Condensate water may drip.	
Does the power supply voltage correspond to that shown on the nameplate?	The unit may malfunction or the components burn out.	
Are wiring and piping correct?	The unit may malfunction or the components burn out.	
Is the unit safely grounded?	Risk of electric leakage.	
Is wiring size according to specifications?	The unit may malfunction or the components burn out.	
Is something blocking the air outlet or intake of either the indoor or outdoor units?	It may result in insufficient cooling.	
Have records of refrigerant piping length and additional refrigerant charge been made?	Volume of refrigerant charge in the system is not clear.	

Note to the installer

Be sure to instruct the customer how to operate the system and show him/her the attached operation manual.

9. Circuit diagram

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

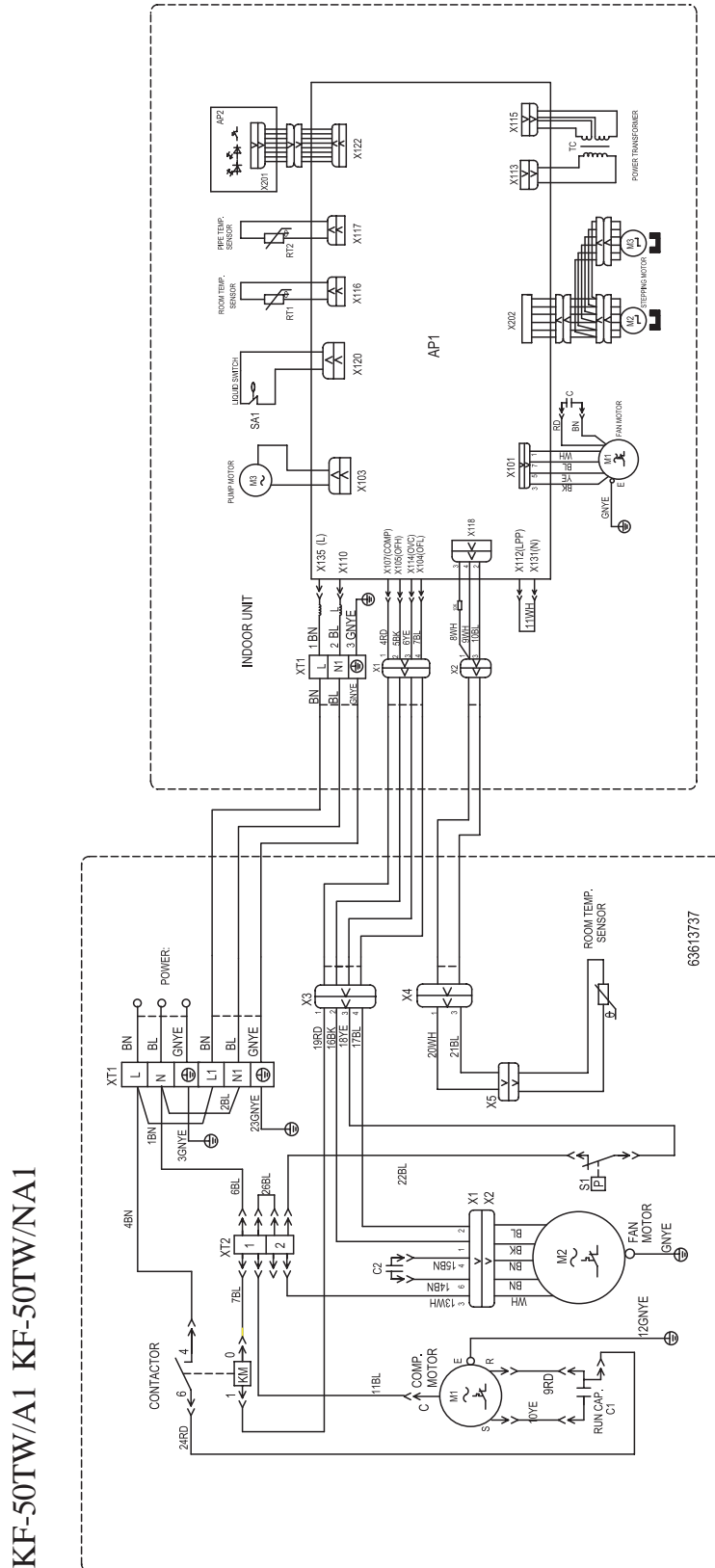


figure 15

KF-70TW/B1(7031T1)

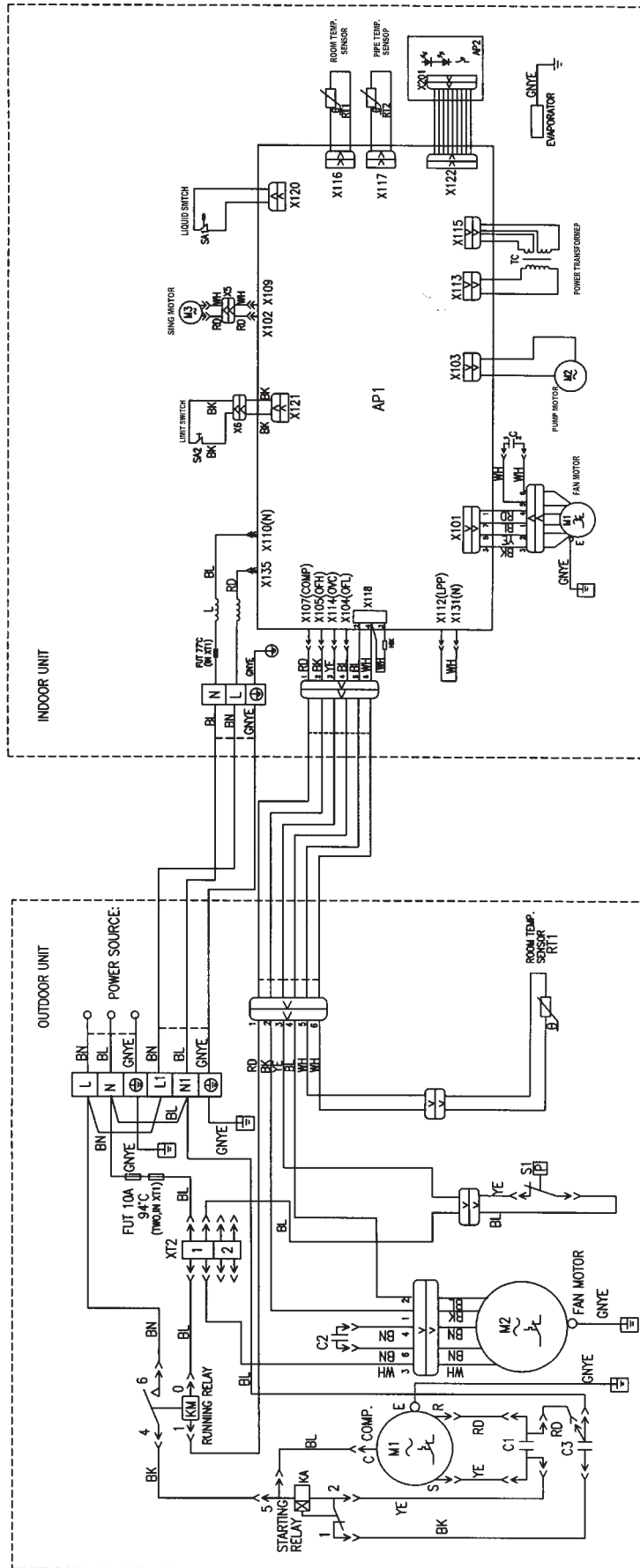


figure 17

KFR-70TW/B1(7051T1)

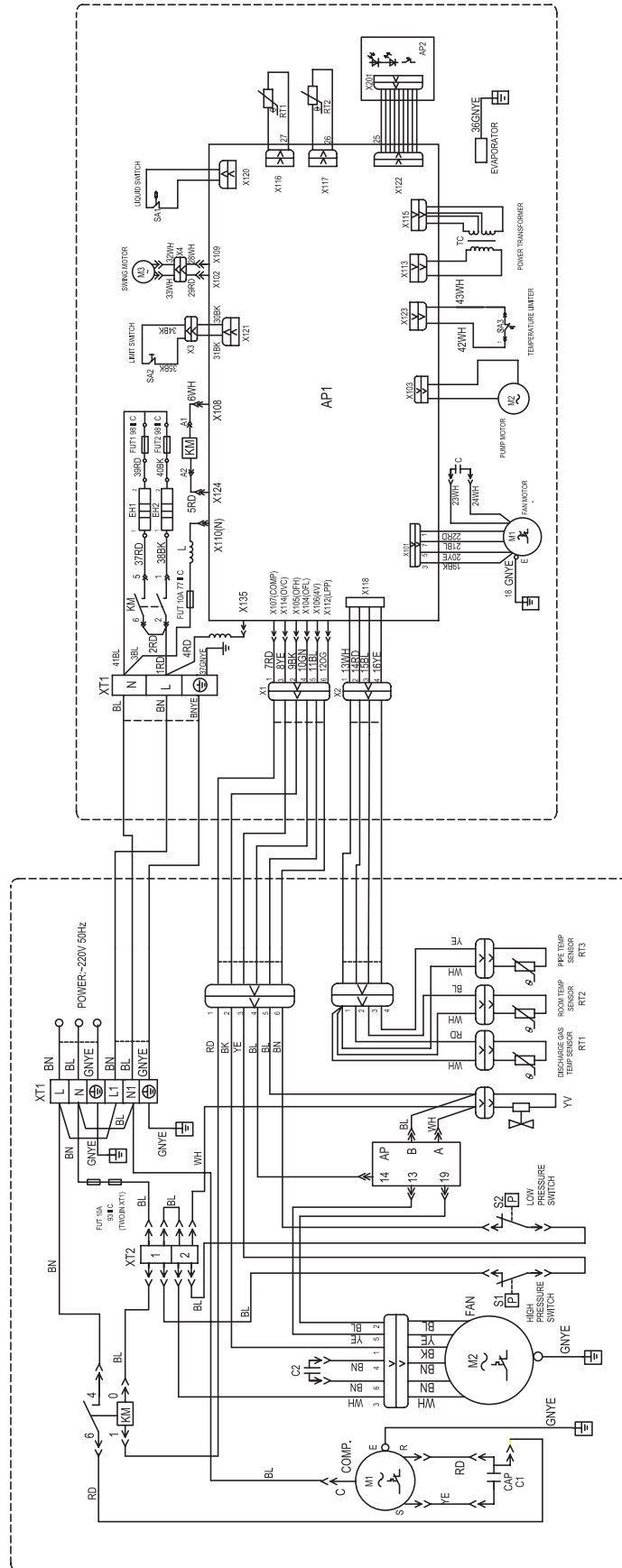


figure 18

KF-70TW/B1(7031T1)N

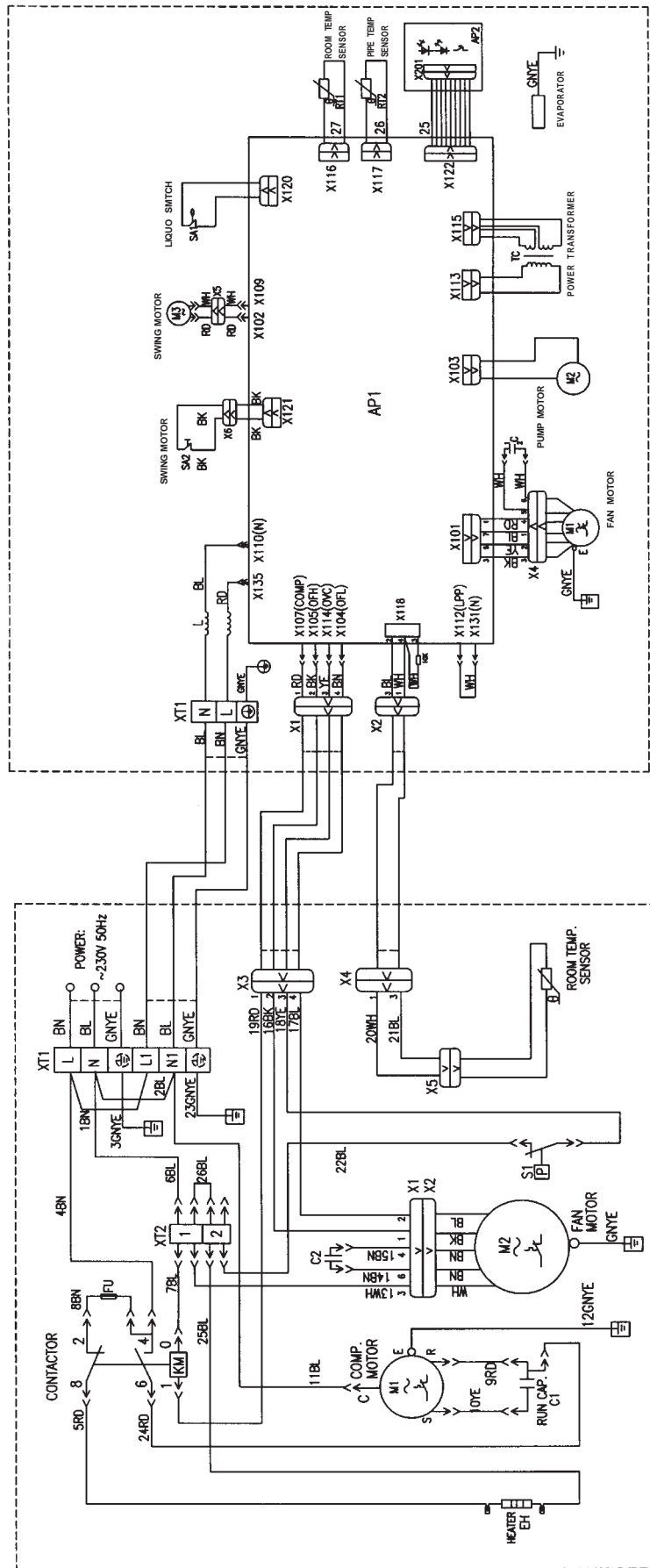


figure 19

KFR-70TW/B1(7041T1)N

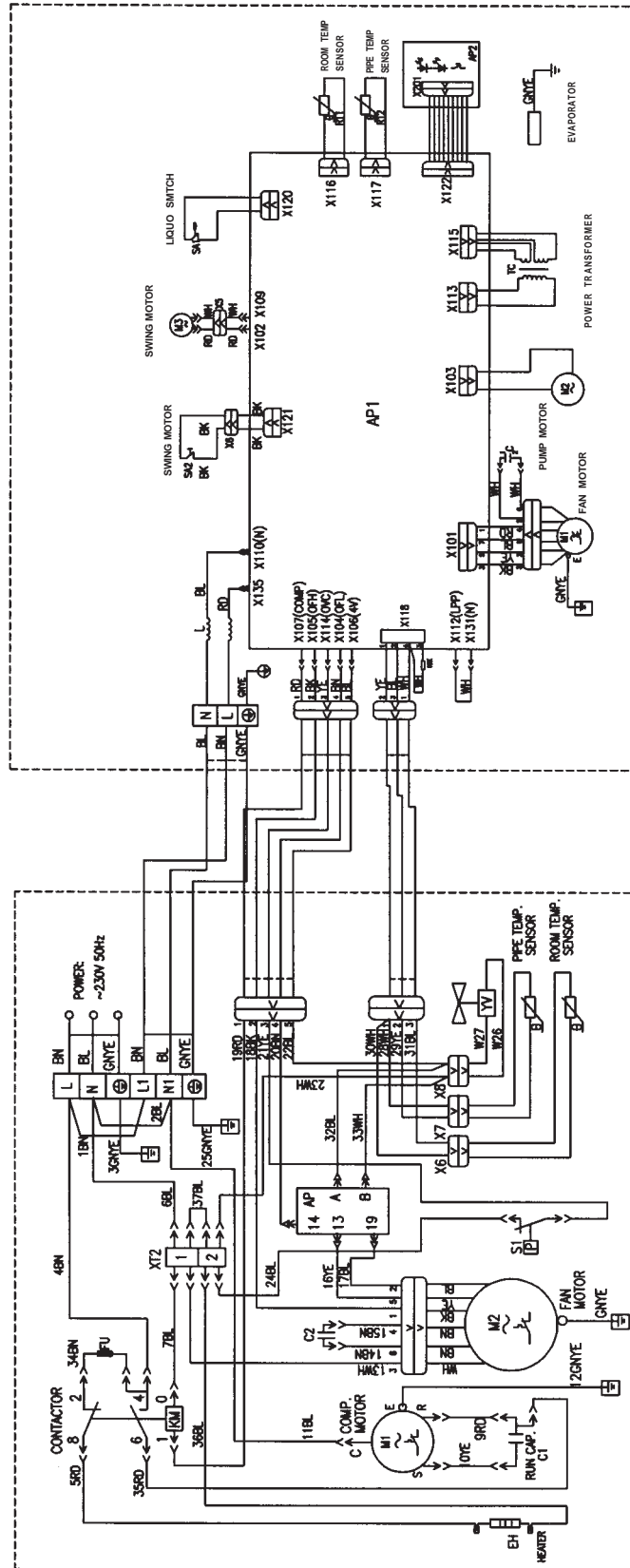


figure 20

KF-70TW/B(7031T)N

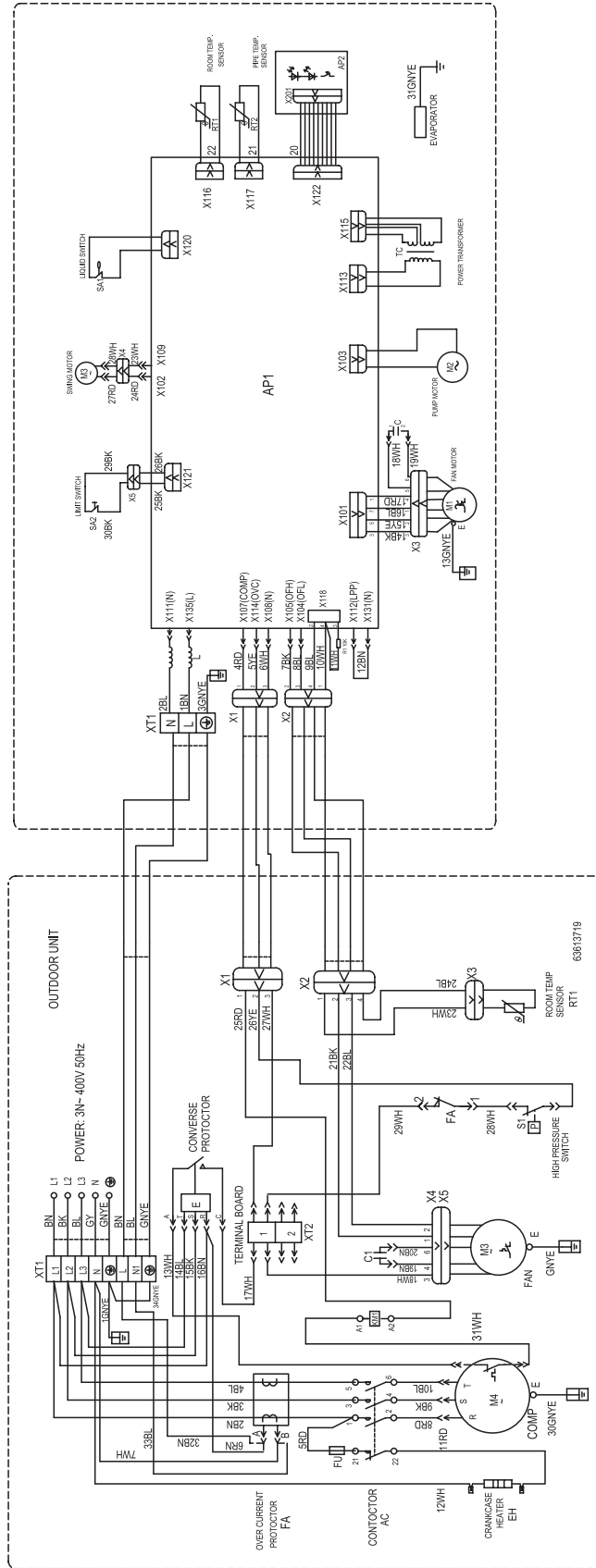


figure 21

KFR-70TW/B(7041T)N

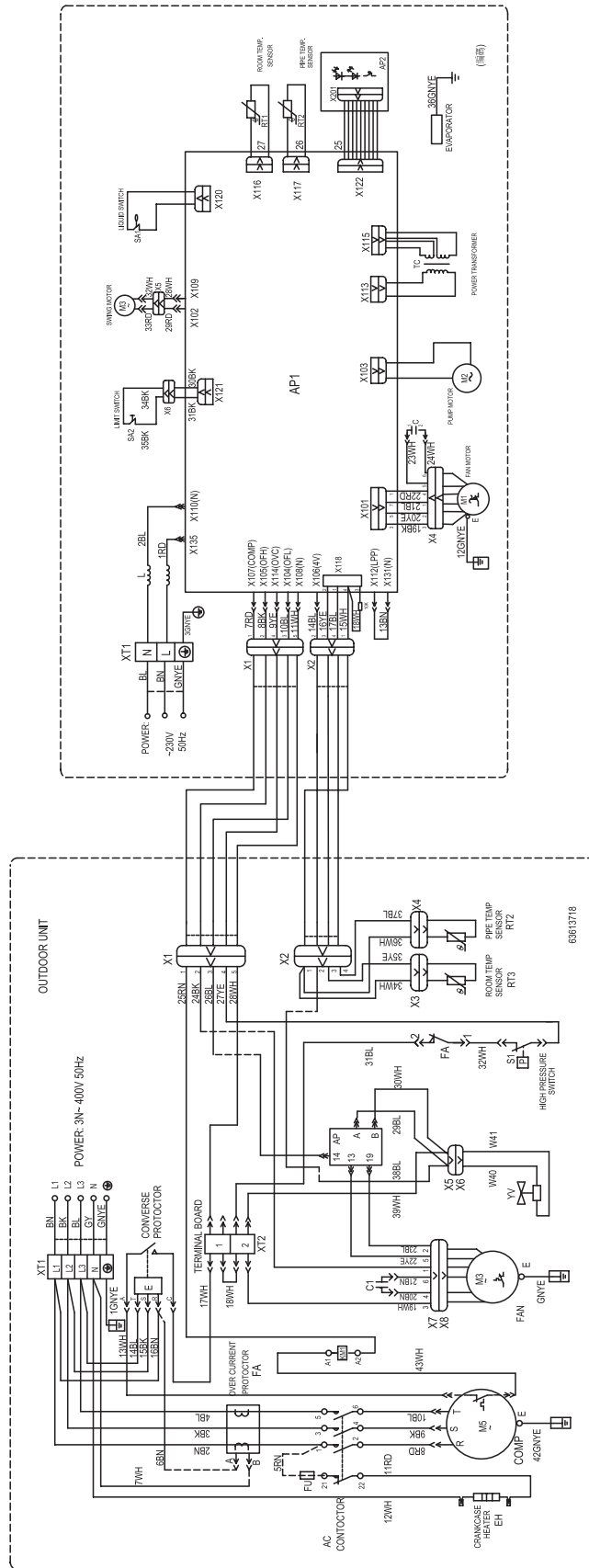


figure 22

KF-70TW/B(7031T)A

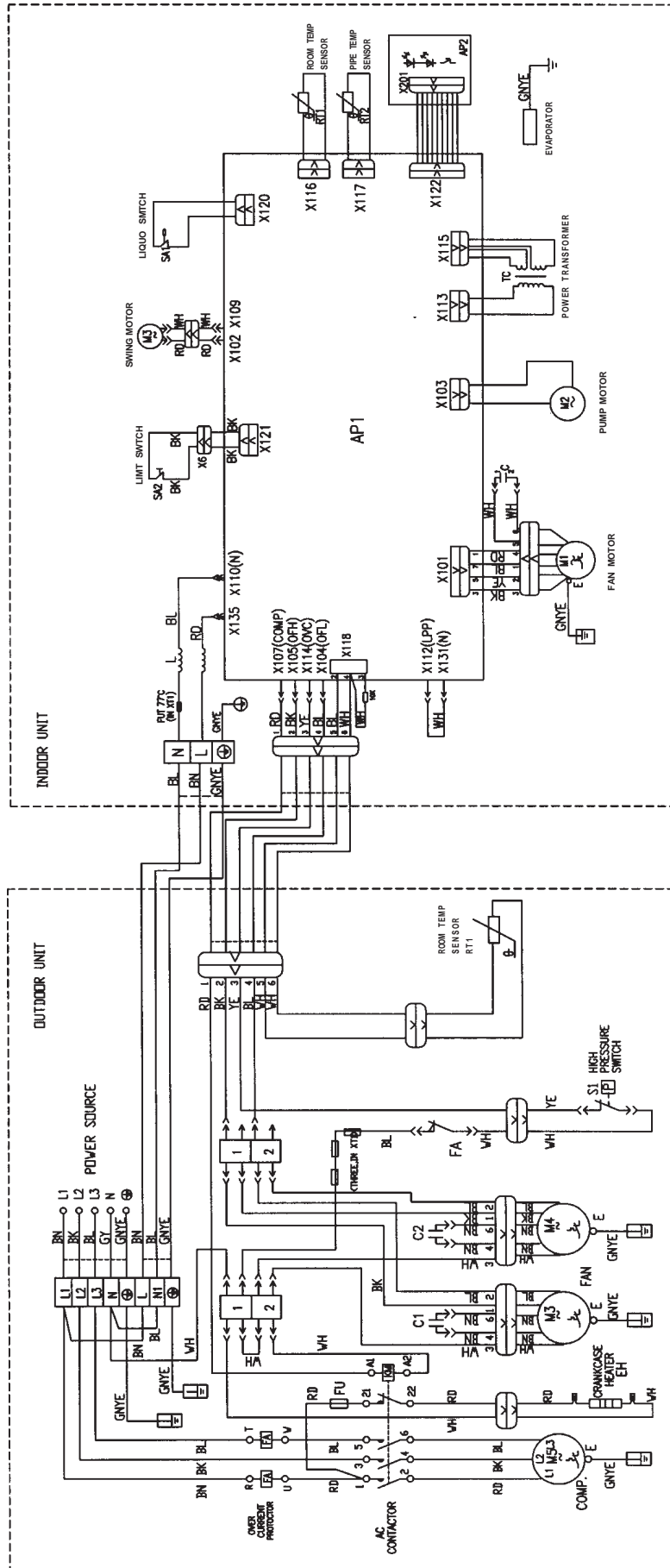


figure 23

KFR-70TW/B(7041T)A

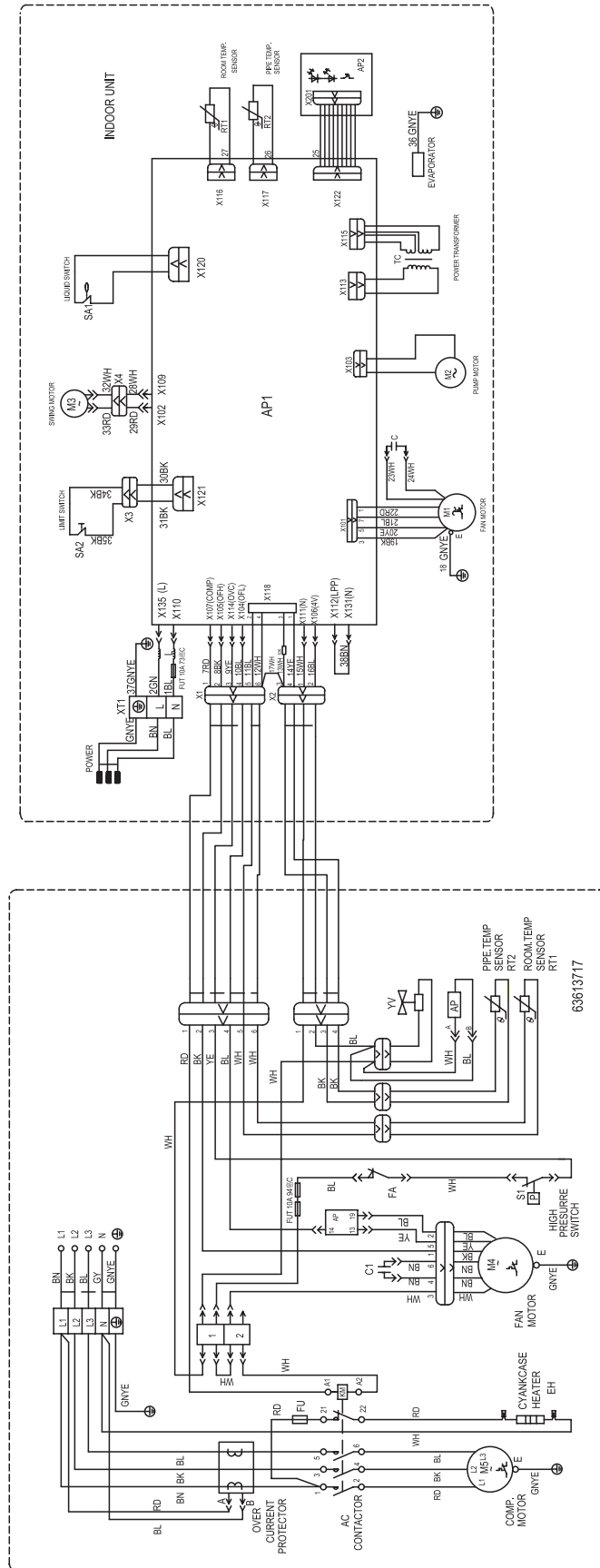


figure 24

GSK24-22L/A

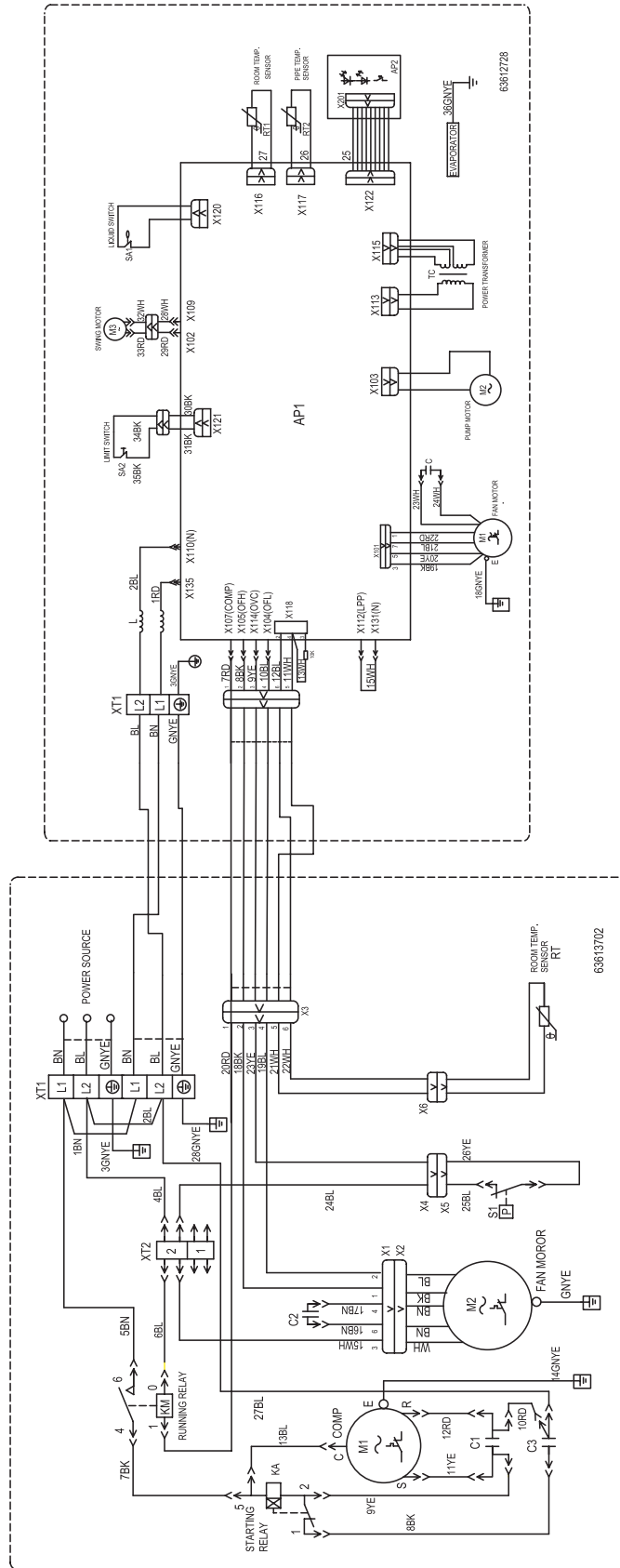


figure 25

GSK24-22R/A

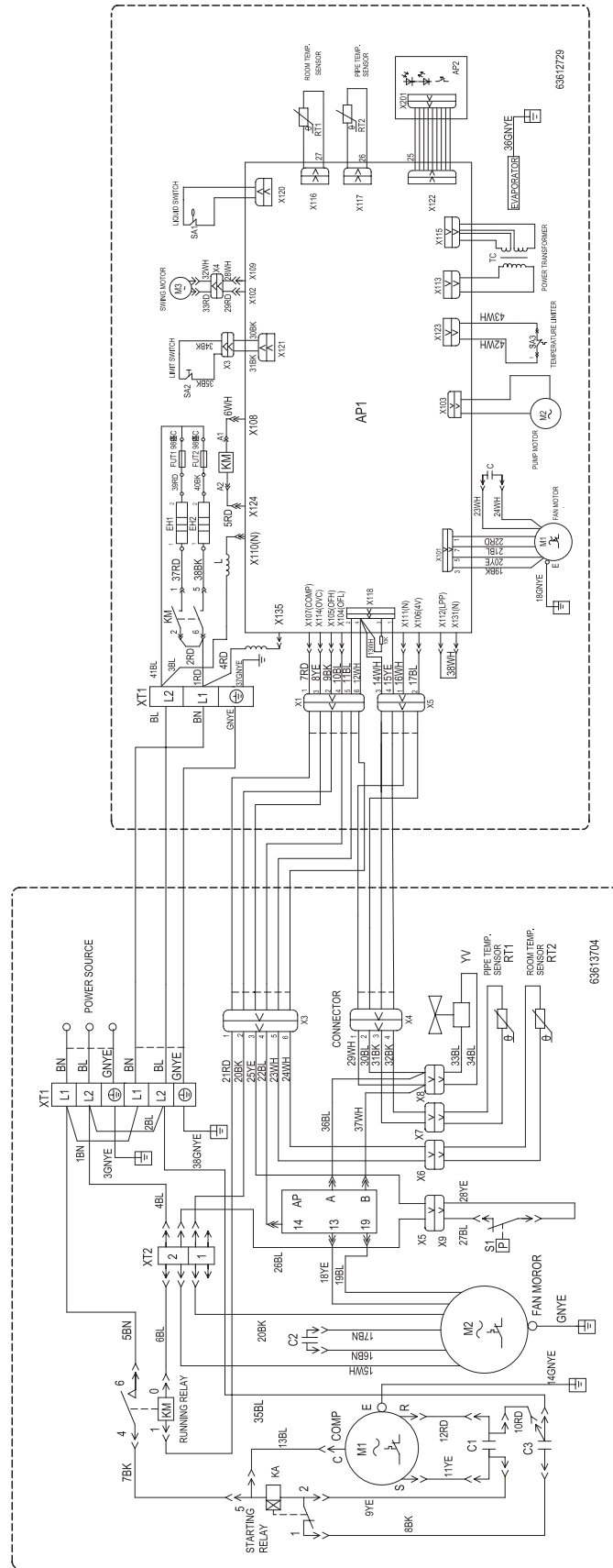


figure 26

KF120-TW/B(1231T)N

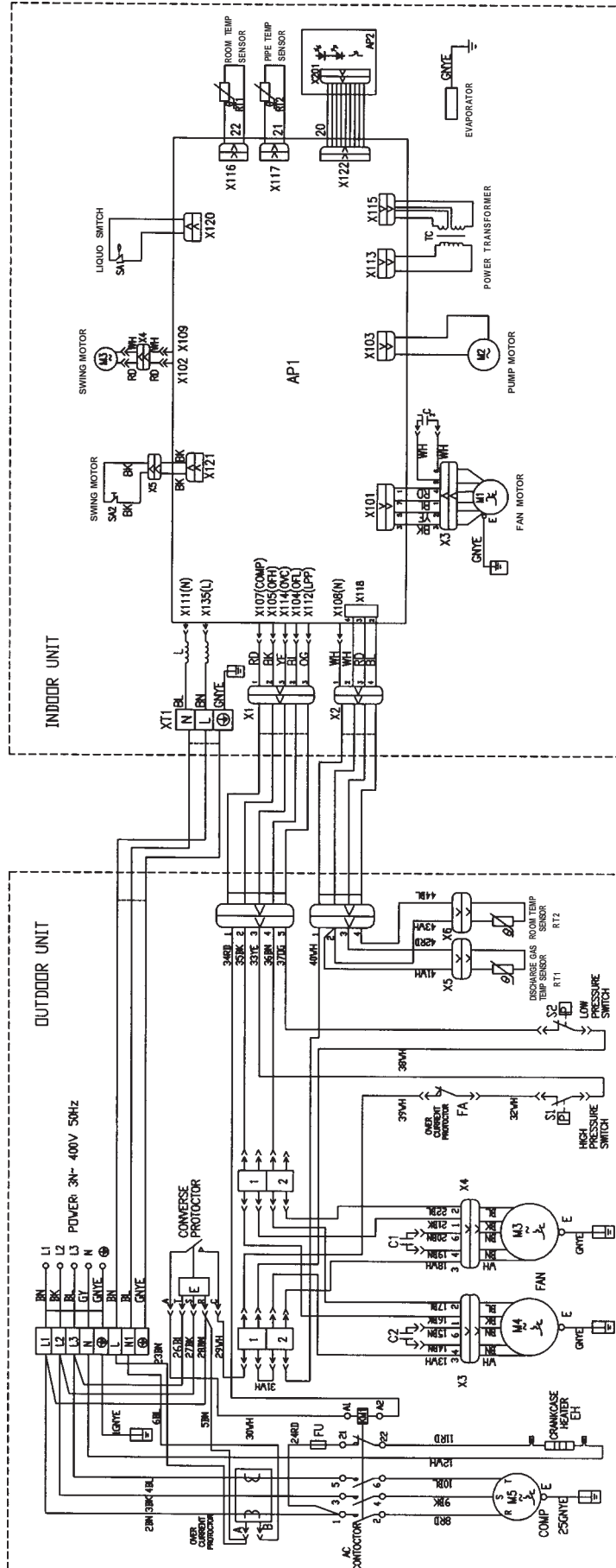


figure 27

KFR-120TW/B(1241T)N

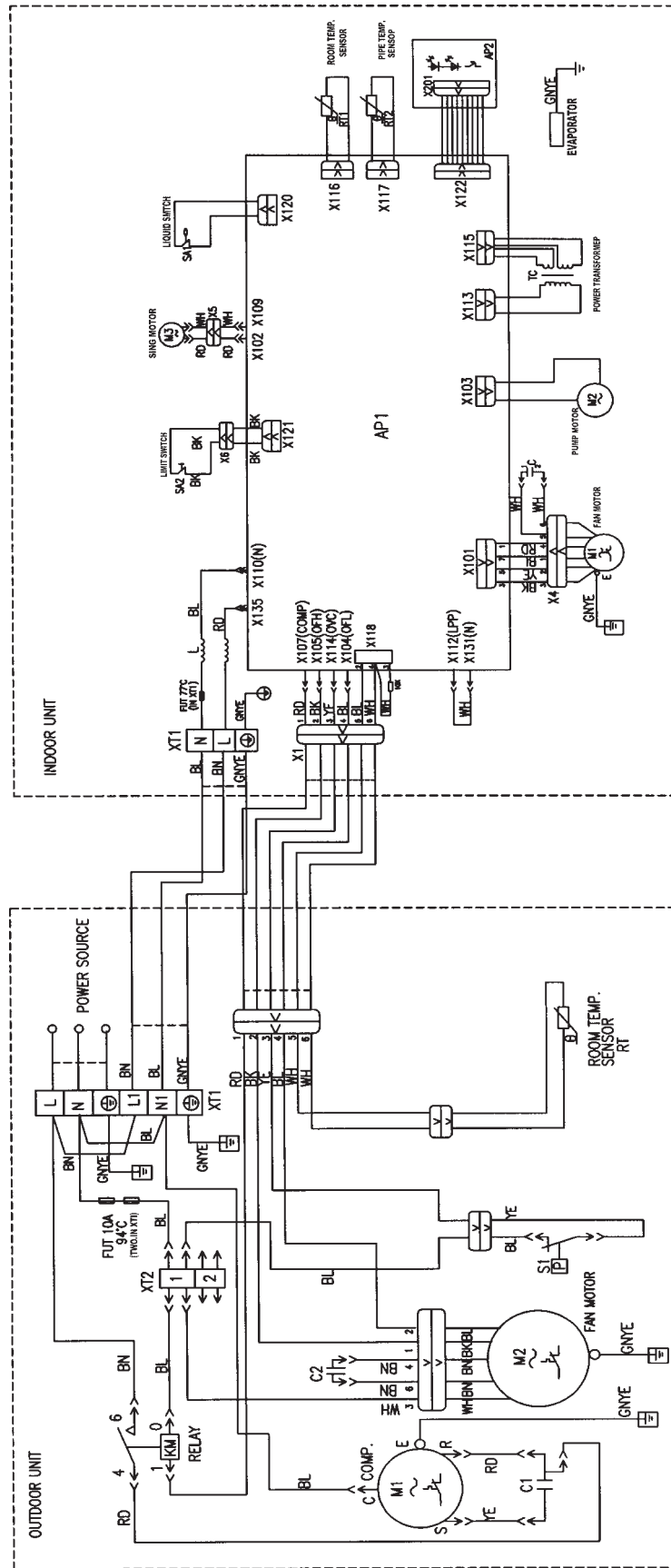


figure 28

KF-120TW/B(1231T)C

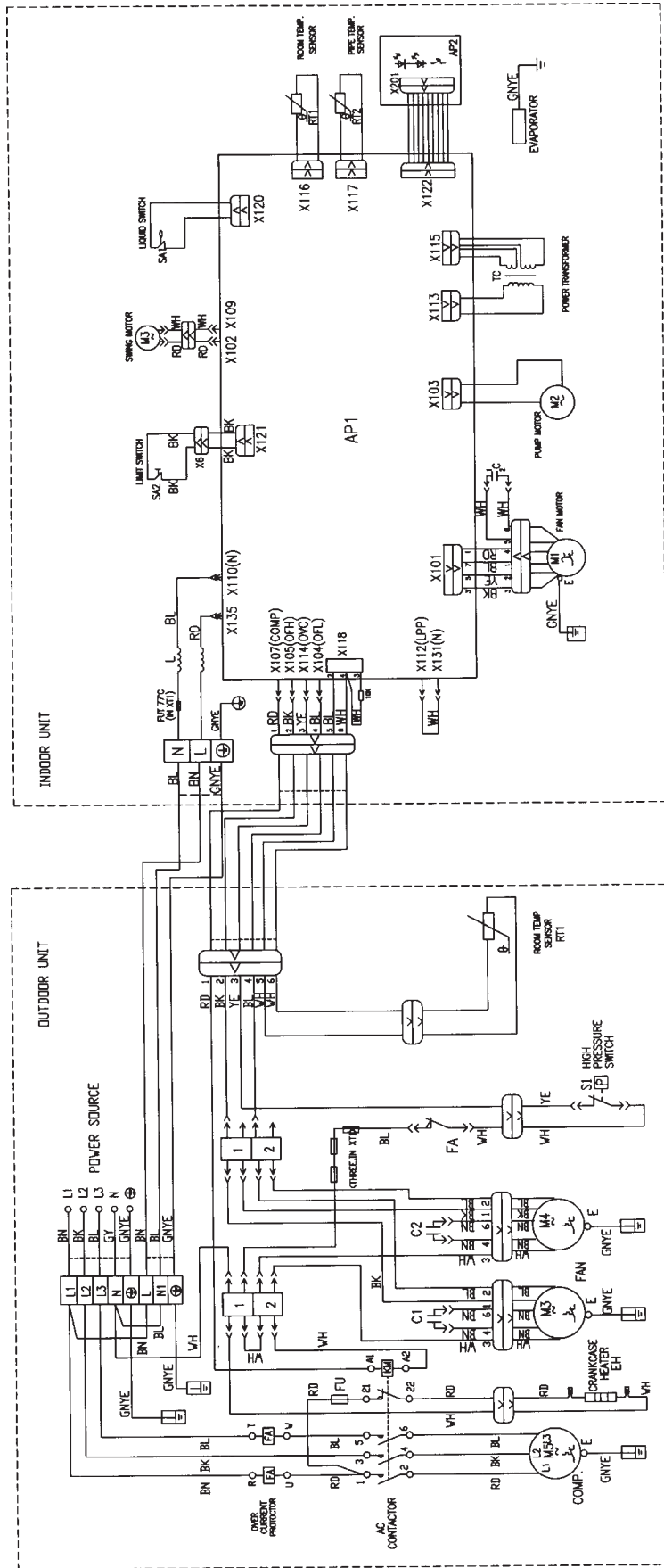


figure 29

KFR-120TW/B(1251T)B

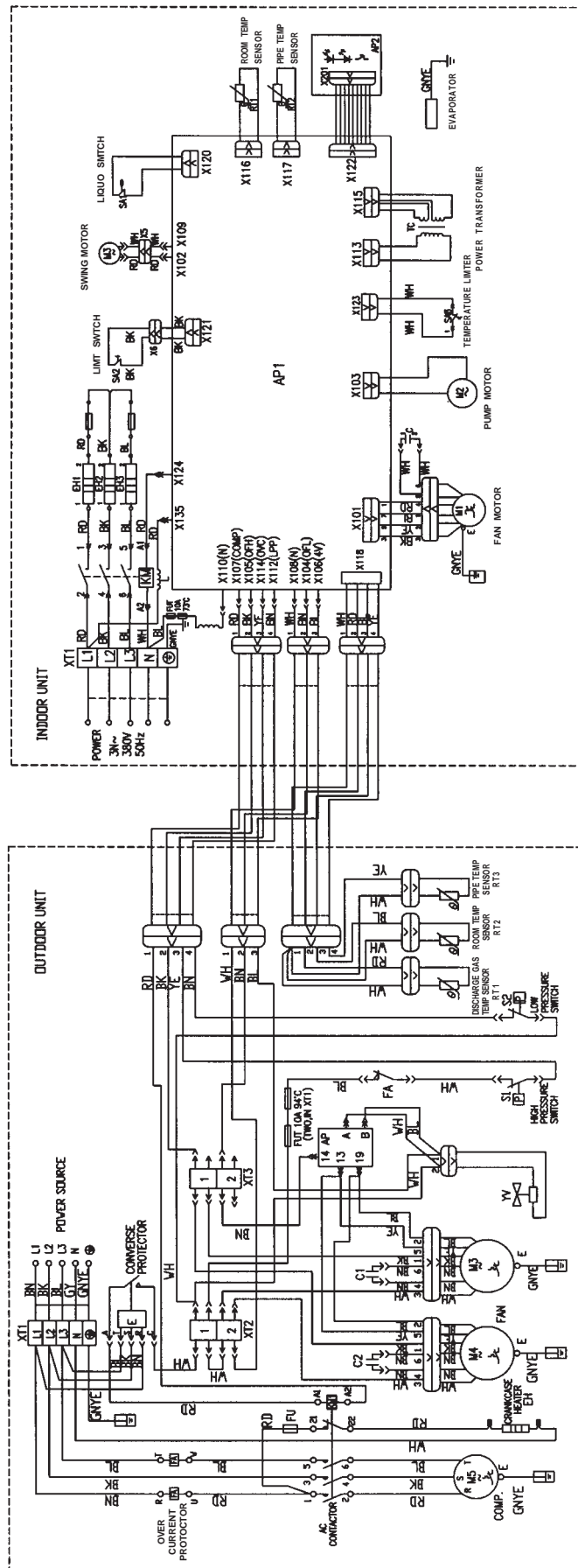


figure 30

KF-120TW/B(1231T)B

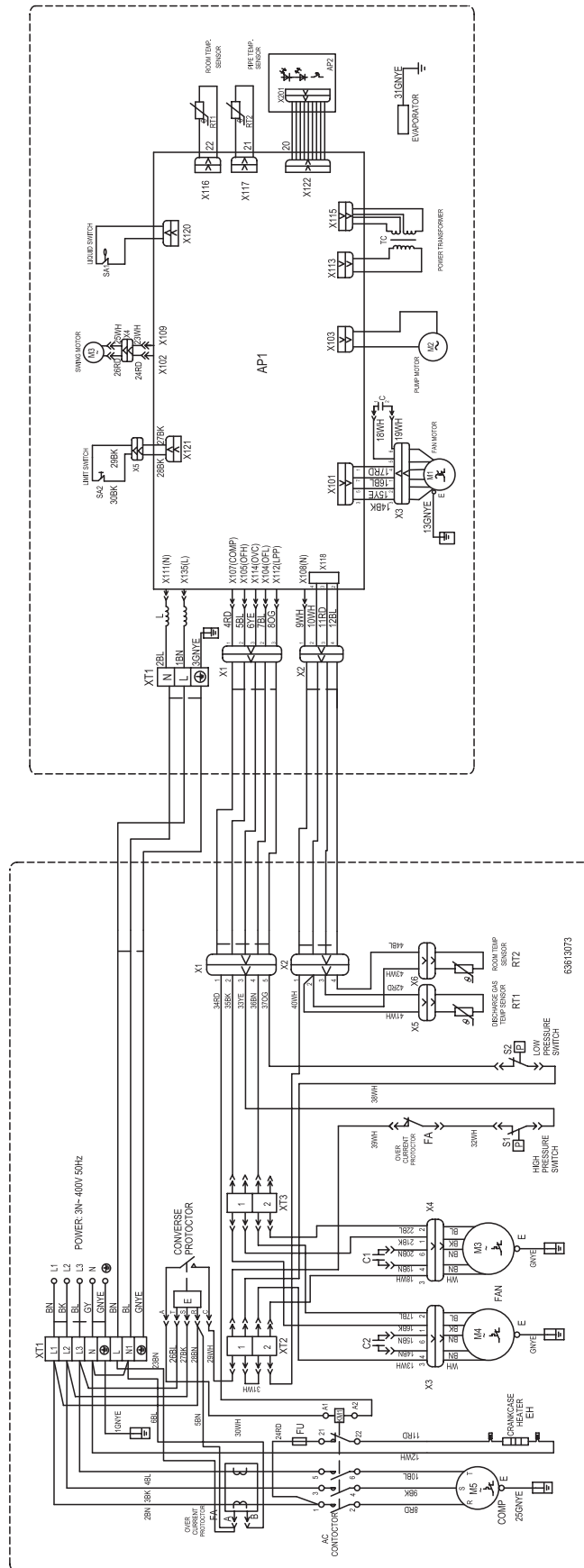


figure 31

KFR-120TW/B(1241T)B

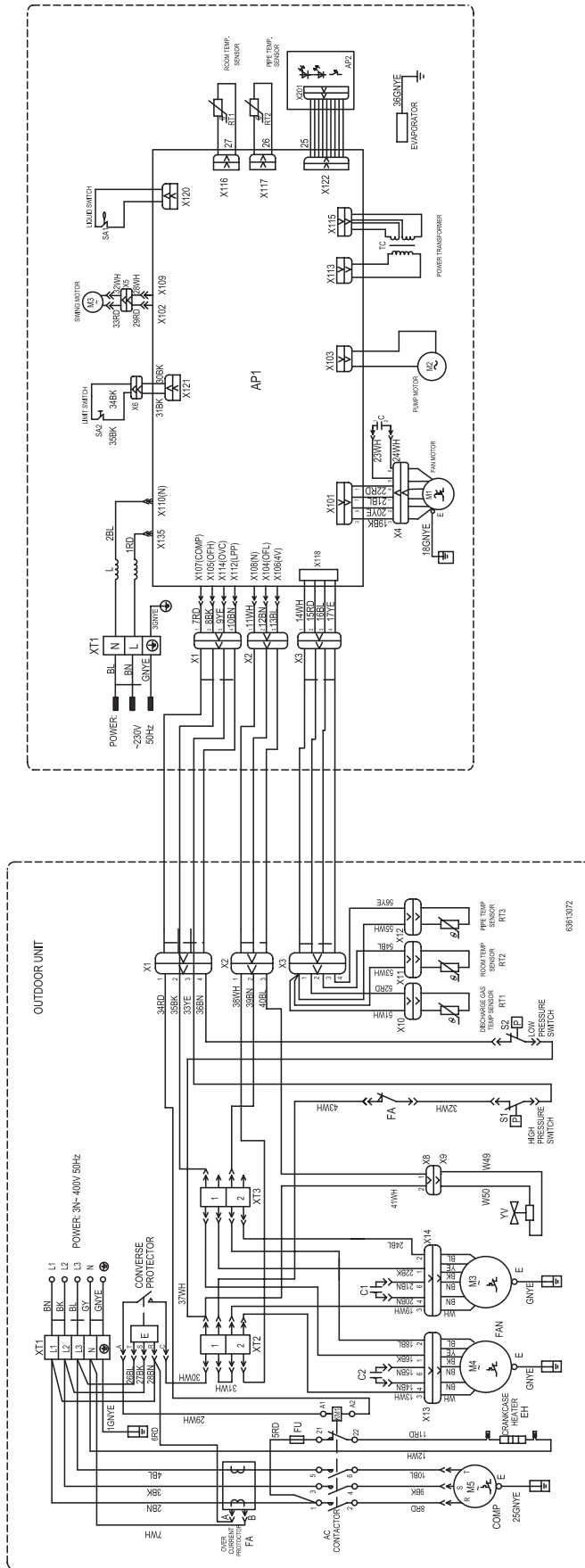


figure 32

GSK41-22L/A

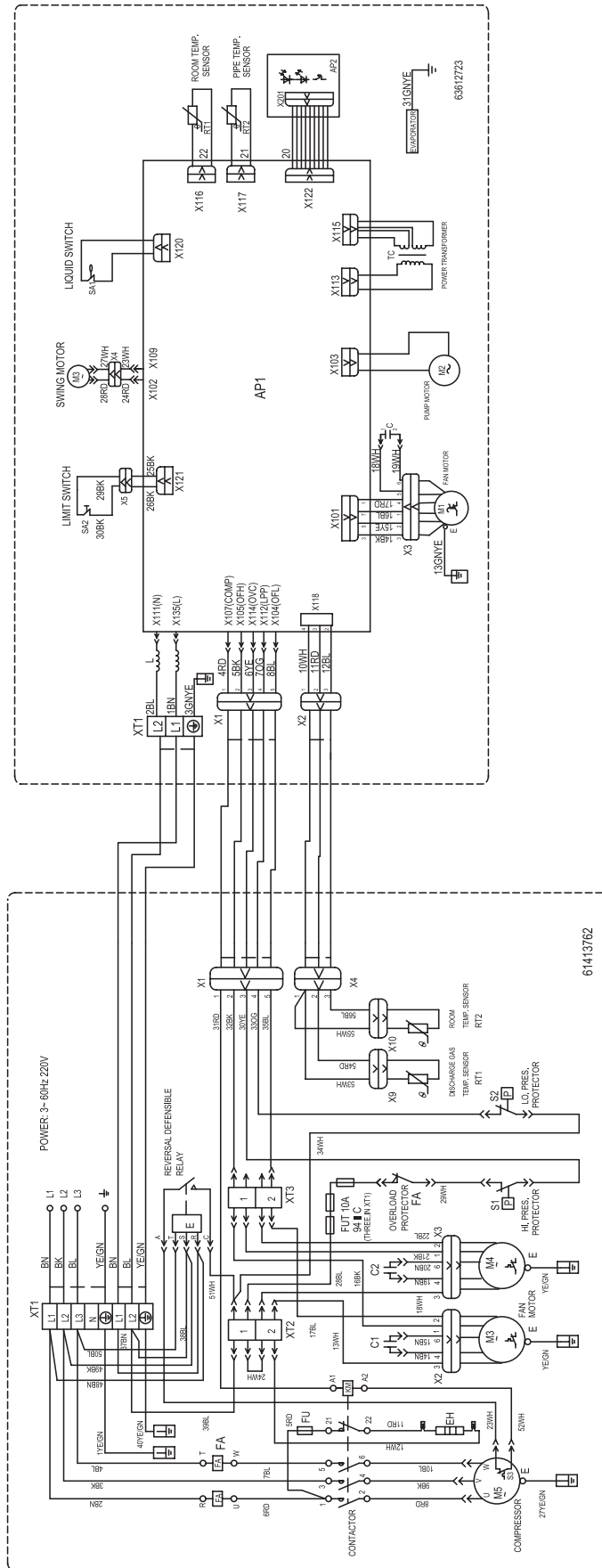


figure 33

GSK41-22R/A

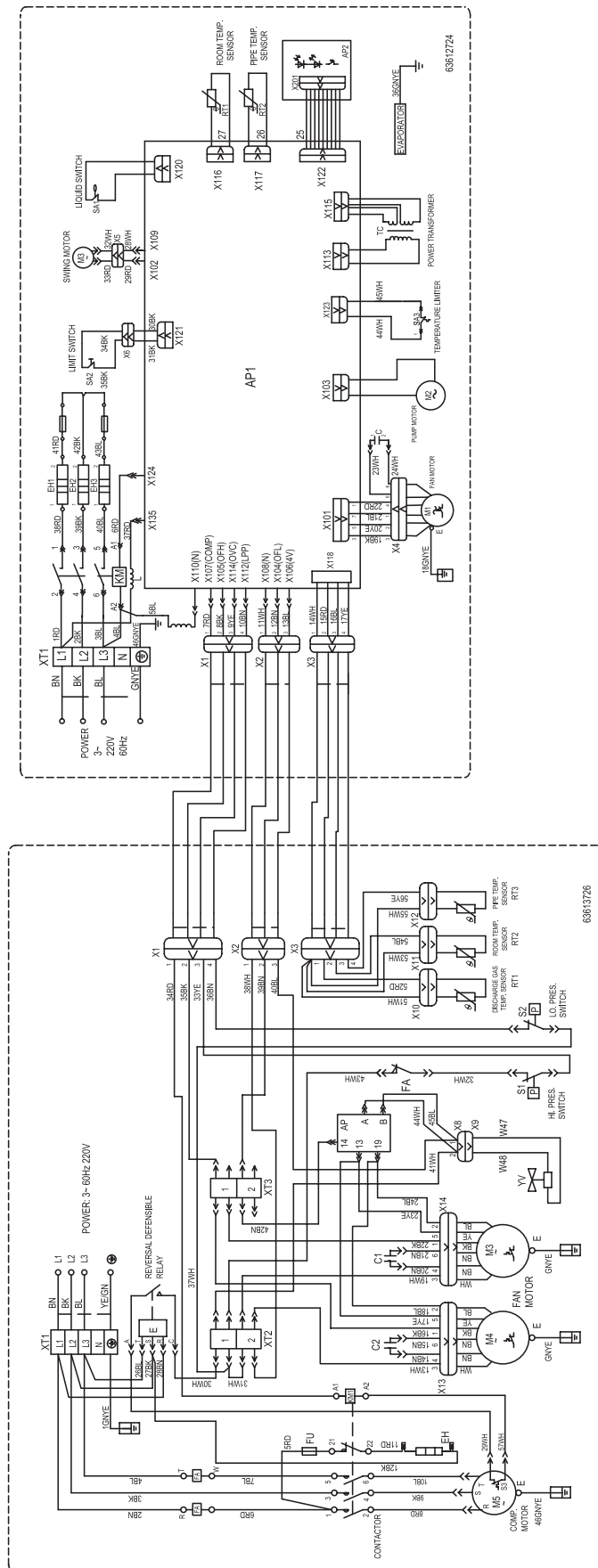


figure 34

10. PCB function manual

PCB Function manual (for 50 model)

A. Running mode:

- 1) COOL; 2) DRY; 3) FAN; 4) HEAT; 5) AUTO.

B. Controlling contents:

1. Fan (Hi,Mi,Lo)
2. Swing motor
3. Auxiliary heater
4. Outdoor fan (Hi, Lo)
5. 4-way valve
6. Compressor
7. Water pump

C. Input parameter:

1. Indoor room temp T_{room}
2. Evaporator temp T_{eva}
3. Condenser temp T_{con}
4. Ambient temp T_{ambient}
5. Discharge temp $T_{\text{discharge}}$

Note: the resistance of indoor room sensor and ambient sensor is 15K, the resistance of evaporator sensor and condenser sensor is 20K; for 15K sensor, voltage dividing resistance is also 15K; for 20K sensor, voltage dividing resistance is also 20K.

D. Functions:

In every mode, when you start machine, compressor will run at least 6 min except water-full protection, it will delay 3 min to restart. When indoor fan starts to run, it will run at high speed for 8 sec, then switch to set speed; when outdoor fan starts to run, it will run at high speed for 8 sec, then switch to set speed.

(a) Cool mode:

When $T_{\text{room}} \geq T_{\text{set}} + 1^{\circ}\text{C}$, if it's in COOL mode, compressor and outdoor fan run, indoor fan runs at set speed.

If $T_{\text{room}} \leq T_{\text{set}} - 1^{\circ}\text{C}$, cooling stops, compressor and outdoor fan stop, indoor fan runs at set speed.

If $T_{\text{set}} - 1^{\circ}\text{C} < T_{\text{room}} < T_{\text{set}} + 1^{\circ}\text{C}$, keep its previous state.

In COOL mode, set temp range is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

Outdoor fan working condition:

If $T_{\text{ambient}} \geq 27^{\circ}\text{C}$, outdoor fan runs at high speed;

If $T_{\text{ambient}} \leq 24^{\circ}\text{C}$, outdoor fan runs at low speed;

If $24^{\circ}\text{C} < T_{\text{ambient}} < 27^{\circ}\text{C}$, outdoor fan keeps previous state.

(b) Dry mode:

If $T_{\text{room}} > T_{\text{set}} + 2^{\circ}\text{C}$, it goes into COOL mode, compressor and outdoor fan run, indoor fan runs at

Cassette type

low speed.

If $T_{\text{set}}-2^{\circ}\text{C} \leq T_{\text{room}} \leq T_{\text{set}}+2^{\circ}\text{C}$, indoor and outdoor fan run 6 minutes, then stop 4 minutes, run again at this cycle, indoor fan runs at low speed.

If $T_{\text{room}} < T_{\text{set}}-2^{\circ}\text{C}$, compressor, outdoor fan and indoor fan stop.

In this mode, set temp range is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

Outdoor fan working condition:

If $T_{\text{ambient}} \geq 27^{\circ}\text{C}$, outdoor fan runs at high speed.

If $T_{\text{ambient}} \leq 24^{\circ}\text{C}$, outdoor fan runs at low speed.

If $24^{\circ}\text{C} < T_{\text{ambient}} < 27^{\circ}\text{C}$, outdoor fan keeps previous state.

(c) Heat mode:

If $T_{\text{room}} \leq T_{\text{set}}+1^{\circ}\text{C}$, it's in HEAT mode, compressor, 4-way valve and outdoor fan works, indoor fan runs at set speed or anti-cool air protection.

If $T_{\text{room}} \geq T_{\text{set}}+3^{\circ}\text{C}$, compressor and outdoor fan stop running, 4-way valve is still live, indoor fan runs at blow surplus heat protection.

If $T_{\text{set}}+1^{\circ}\text{C} < T_{\text{room}} < T_{\text{set}}+3^{\circ}\text{C}$, it keeps previous state.

In this mode, set temperature is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

After the machine stops 2 min, 4-way valve is powered off.

Outdoor fan working condition:

If $T_{\text{ambient}} \geq 16^{\circ}\text{C}$, outdoor fan runs at low speed.

If $T_{\text{ambient}} \leq 13^{\circ}\text{C}$, outdoor fan runs at high speed.

If $13^{\circ}\text{C} < T_{\text{ambient}} < 16^{\circ}\text{C}$, outdoor fan keeps previous state.

In defrosting period, outdoor fan stops.

Anti cool air protection:

Indoor fan runs at high speed for 8 sec, then switches to low speed.

a. If room temp reaches restarting temp, compressor runs, indoor fan runs at low speed for 30 sec, then switches to set speed.

b. If temp doesn't reach restarting temp, indoor fan runs at low speed.

Blow surplus heat protection:

If compressor stops running, indoor fan runs at low speed.

Defrost condition:

In heat mode, if machine runs for 44 minutes and sensor detects $T_{\text{con}} \leq -8^{\circ}\text{C}$ for 1 consecutive minute, it begins defrosting, 4-way valve, indoor fan and outdoor fan stop.

If auxiliary heater is working, stop auxiliary heater first, then stop 4-way valve, indoor fan and outdoor fan 1 min later.

The conditions of stopping defrosting:

If defrost lasts 10 min or $T_{\text{con}} \geq +10^{\circ}\text{C}$, defrost ends, 4-way valve and outdoor fan begin to run, indoor fan and swing motor run at anti cool air protection.

Auxiliary heater working condition:

If indoor fan runs at high or low speed, and compressor is running, and $T_{\text{eva}} \leq 44^{\circ}\text{C}$ and T_{set}

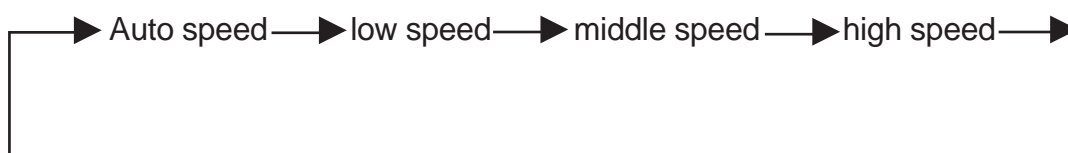
Cassette type

$\leq 23^{\circ}\text{C}$, and $T_{\text{room}} < T_{\text{set}} - 1^{\circ}\text{C}$, auxiliary heater goes into running.

If indoor fan is not running or it runs at low speed, or compressor is not running, or $T_{\text{eva}} \geq 52^{\circ}\text{C}$, or $T_{\text{room}} \geq 26^{\circ}\text{C}$, or $T_{\text{room}} \geq T_{\text{set}} + 2^{\circ}\text{C}$, auxiliary heater stops running, if auxiliary heater stops, it can not restart in the first 2 minutes.

(d) Fan mode:

Indoor fan runs at set speed:



Temperature range is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

(e) Auto mode:

In this mode, running mode is up to indoor room temperature.

If $T_{\text{room}} > 26^{\circ}\text{C}$, it runs COOL mode, set temp is 26°C .

If $20^{\circ}\text{C} \leq T_{\text{room}} \leq 26^{\circ}\text{C}$, it runs DRY mode, set temp is 24°C .

If $T_{\text{room}} < 20^{\circ}\text{C}$, it runs HEAT mode, set temp is 20°C , if $T_{\text{room}} \geq 24^{\circ}\text{C}$, it stops HEAT mode.

If machine is cooling only, and $T_{\text{room}} < 20^{\circ}\text{C}$, it runs at FAN mode, set temp is 20°C , if $T_{\text{room}} \geq 24^{\circ}\text{C}$, it stops FAN mode.

In mode switching, there is a 30 sec delay protection.

E. Timer and Sleep function:

(a) Sleep:

① If machine is in COOL or DRY mode, and you set SLEEP function, then after 1 hour, set temp will be raised 1°C , one hour later, it will be raised another 1°C , then machine runs at this set temperature.

② If machine is HEAT mode, in the first hour after you set SLEEP function, set temp will be decreased 1°C , after another one hour, it will be decreased another 1°C , then machine runs at this set temperature.

③ No SLEEP function in Fan mode and AUTO mode.

(b) Timer ON:

If machine is in Timer ON status, when it reaches set time, machine will run according to the last setting. The interval of timer set is 0.5 hour, set range is 0.5~24 hours.

(c) Timer OFF:

If machine is in Timer OFF status, when it reaches set time, machine is turned off; the set interval of Timer OFF is 0.5 hour, set range is 0.5~24 hours.

F. Other controls:

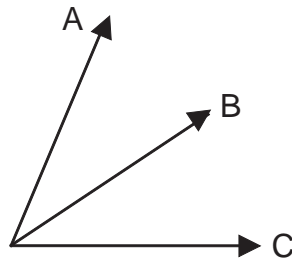
(a) Control of swing:

You can use Swing button on remote control to control its ON/OFF status. After it is turned on, swing motor will rotate a few angles to close the louver, as shown below:

A is CLOSE position, B is MINIMUM position, C is MAXIMUM position; if machine is turned

Cassette type

on and Swing is OFF, louver goes to C, if Swing is ON, Louver swings between B and C. In HEAT mode, the angle between A and B is 30 degrees, angle between A and C is 50 degrees; in COOL, DRY and FAN mode, angle between A and B is 30 degrees, angle between A and C is 40 degrees.



(b) Control of buzzer:

When machine is turned on or it receives an effective signal, it beeps.

(c) Auto fan control of indoor unit:

There is a 30 sec delay protection in fan speed switching.

In HEAT mode:

If $T_{\text{room}} \geq T_{\text{set}} + 2^{\circ}\text{C}$, it is low speed

If $T_{\text{room}} \leq T_{\text{set}} + 1^{\circ}\text{C}$, it is medium speed

If $T_{\text{room}} < T_{\text{set}} - 1^{\circ}\text{C}$, it is high speed.

In COOL mode:

If $T_{\text{room}} \leq T_{\text{set}}$, it is low speed.

If $T_{\text{room}} \geq T_{\text{set}} + 1^{\circ}\text{C}$, it is medium speed.

If $T_{\text{room}} > T_{\text{set}} + 3^{\circ}\text{C}$, it is high speed.

In FAN mode:

If $T_{\text{room}} \leq T_{\text{set}}$, it is low speed.

If $T_{\text{room}} \geq T_{\text{set}} + 1^{\circ}\text{C}$, it is medium speed.

If $T_{\text{room}} > T_{\text{set}} + 3^{\circ}\text{C}$, it is high speed.

(d) Control of indication LED:

1. RUN Led (red Led): it is lit when machine is on, it turns off when machine is not running.

In one of following situations, RUN Led flashes:

defrost (flash once) \ anti indoor freezing protection (flash twice) \ water full protection (flash 3 times).

2. TIMER Led (yellow Led), it is lit when there is a Timer or Sleep function, or it is not lit.

In one of following situations, TIMER Led flashes :

high pressure protection (flash once) \ low pressure protection (flash twice) \ low voltage protection (flash 3 times) \ discharge tube high temp protection (flash 4 times).

3. COMPRESSOR Led (green Led), it is lit when compressor in on, otherwise it is not lit.

G. Protections:

(a) Anti indoor freezing protection:

In COOL and DRY mode, after compressor starts for 5 minutes and if it tests $T_{\text{eva}} \leq -4^{\circ}\text{C}$ for

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continuous 1 min, RUN Led flashes, compressor and outdoor fan stop, indoor fan and swing motor keep previous state; if compressor stops over 10 minutes and $T_{eva} \geq 15^{\circ}\text{C}$, Led is off, machine goes back to set mode.

(b) High pressure protection:

If it detects high pressure protection for continuous 3 sec, it turns off all loads except water pump, machine doesn't receive any signals during this period, TIMER Led is flashing, when it detects no pressure protection for continuous 6 sec, machine can receive any signals, TIMER Led is flashing, you need to push ON/OFF button to turn off flashing led, and push ON/OFF again to restart machine.

(c) Low pressure protection:

1. After compressor starts 3 minutes, machine begins to detect low pressure signal, if it tests low pressure signal for continuous 3 minutes, machine stops, TIMER Led flashes, it goes back running after 3 minutes; if it detects two consecutive times of low pressure protection, machine stops and can not be restarted automatically, TIMER Led flashes.

2. In defrosting period, machine doesn't detect low pressure signal; after defrost ended for 10 minutes, machine begins to detect low pressure signal.

3. Push TEST and AUTO button simultaneously, it shields low pressure signal testing, compressor can suck refrigerant into outdoor unit, after 6 minutes it begins to detect low pressure signal; or push ON/OFF button to turn off machine, push it again to turn on machine.

4. In HEAT mode, if ambient temp is equal to or less than 0°C , it shields low pressure testing.

5. In HEAT mode, if compressor is running but outdoor fan stops (indoor high tube temp protection), it shields low pressure testing, it restores when outdoor fan begins to work..

6. If compressor stops and it detects low pressure for continuous 30 sec, machine stops, if TIMER Led flashes and can not be restored automatically, press ON/OFF to turn off machine, and press it again to start machine.

(d) High discharge temp protection:

After compressor started, if it detects that discharge temp is higher than 130°C or discharge temp sensor is broken for continuous 30 sec, TIMER Led flashes.

Machine stops as if indoor room temp has reached set temp.

If compressor stops for over 3 min and discharge temp $< 90^{\circ}\text{C}$, machine goes back running.

If this phenomenon happens twice consecutively, machine can not run, TIMER Led flashes.

Press ON/OFF button to turn off machine, press it again, if discharge temp is less than 90°C , it can run in set mode, otherwise TIMER Led flashes.

(e) Indoor high tube temp protection:

In HEAT mode, if it detects $T_{eva} \geq 58^{\circ}\text{C}$ for continuous 5 sec, outdoor fan stops, if $T_{eva} \leq 51^{\circ}\text{C}$, outdoor fan starts, when $T_{eva} \geq 100^{\circ}\text{C}$, indoor fan will run at high speed, when $T_{eva} \leq 48^{\circ}\text{C}$, indoor fan goes back to its previous state.

(f) Water pump control and water full protection:

1. In COOL and DRY mode, water pump runs when compressor runs.

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2. When machine is stopped or machine stops in COOL or DRY mode, or machine is switch modes, water pump is still working for 5 minutes even if machine stopped.

3. When it detects water full signal, water pump must run no matter mode it's in.

4. If machine is running or machine runs at compulsory cooling state and heating state, and it detects water full signal, it goes into water full protection, RUN Led flashes; in COOL mode or compulsory cooling, outdoor fan and compressor stop, indoor fan stops 1 min later; in DRY mode, all controls are cut off; in HEAT mode or compulsory heating, it turns off all the loads except 4-way valve, indoor fan stops 1 minute later; in FAN mode, indoor fan stops 1 minute later.

5. In water full protection, if it detects no water full signal and water pump works for 10 minutes, it turns off water pump, if water pump doesn't work for 10 minutes, it works to ten minutes and cut off.

6. When water full signal is removed

Press ON/OFF button to turn off machine, press it to restart machine. If water full signal can not be removed, stop sending power to water pump.

H. Buttons:

If you use remote control, and its display mode is HEAT mode, but machine is cooling only, it will run in FAN mode.

1. TEST button

If machine is not running and you push this button, machine goes into compulsory cooling status, compressor, swing motor, indoor fan and outdoor fan run. If machine is not running and you push this button over 1 sec, machine goes into compulsory heating, compressor, swing motor, indoor fan, outdoor fan, 4-way valve and auxiliary heater run. If it detects $T_{\text{room}}(\text{or } T_{\text{eva}}) \leq -10^{\circ}\text{C}$ or $T_{\text{room}}(\text{or } T_{\text{eva}}) \geq 80^{\circ}\text{C}$, buzzer beeps. If machine is running, you push this button, machine stops immediately.

2. AUTO button: if machine is not running, and you push this button, machine runs at AUTO mode, if machine is running, pushing this button will stop the machine.

I. Auto-restart function:

Memory content: mode, swing, set temp and set speed.

It can restart according to last status after blackout, compressor will have 3 minutes delay in the first restart.

PCB Function manual (for others)

1. Running mode:

a. COOL; b. DRY; c. FAN; d. HEAT; e. AUTO.

2. Controlling contents:

- a. indoor unit fan motor (high, middle and low speed);
- b. sweep fan motor;
- c. electrical heater;
- d. outdoor unit fan motor (high and low speed);
- e. reversing valve;
- f. compressor;
- g. water pump;
- h. fresh air fan motor;
- i. anion creator.

3. The parameter to be input:

- a. The ambient temperature of the indoor unit (shorten form is T_{in});
- b. The evaporator temperature of the indoor unit (shorten form is T_{eva});
- c. The condenser temperature of the outdoor unit (shorten form is T_{con});
- d. The ambient temperature of the outdoor unit (shorten form is T_{out});
- e. The temperature of gas output from the compressor (shorten form is T_{output}).

4. The different controlling mode for the different function mode:

Under all of the modes, the compressor will continue work for 6min once it starts (except for the protection of full-water), and be restart in 4min after it stops. At the beginning, the indoor unit fan motor runs for 8sec in high speed, then change to the set fan speed; and it is same in the outdoor unit.

1) Cooling mode:

If $T_{in} \geq T_{set} + 1^{\circ}\text{C}$, cooling mode act, compressor and outdoor unit run, and indoor unit run in the set speed;

If $T_{in} \leq T_{set} - 1^{\circ}\text{C}$, the unit will be stop from cooling mode, compressor and outdoor unit stop, and indoor unit still run in the set speed;

If $T_{set} - 1^{\circ}\text{C} < T_{in} < T_{set} + 1^{\circ}\text{C}$, keep running in the old mode;

In the cooling mode, the range of T_{set} is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

Outdoor fan motor working state:

$T_{out} \geq 27^{\circ}\text{C}$, outdoor fan motor runs in high speed;

$T_{out} \leq 24^{\circ}\text{C}$, outdoor fan motor runs in low speed;

$24^{\circ}\text{C} < T_{out} < 27^{\circ}\text{C}$, outdoor fan motor runs in old mode.

2) Drying mode:

If $T_{in} > T_{set} + 2^{\circ}\text{C}$, drying mode act, compressor, indoor unit fan motor run, the indoor unit fan motor runs in low speed;

If $T_{set} - 2^{\circ}\text{C} \leq T_{in} \leq T_{set} + 2^{\circ}\text{C}$, compressor, indoor unit and outdoor run for 6 min, then stop for 3 min, then run by this cycle, the indoor unit fan motor runs in low speed;

If $T_{in} < T_{set} - 2^{\circ}\text{C}$, compressor, outdoor unit fan motor, indoor unit fan motor stop.

In drying mode, the range of T_{set} is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

Outdoor fan motor working state:

$T_{out} \geq 27^{\circ}\text{C}$, outdoor fan motor runs in high speed;

$T_{out} \leq 24^{\circ}\text{C}$, outdoor fan motor runs in low speed;

$24^{\circ}\text{C} < T_{out} < 27^{\circ}\text{C}$, outdoor fan motor runs in old speed.

3) Heating mode:

If $T_{in} \leq T_{set} + 1^{\circ}\text{C}$, heating mode act, reversing valve, compressor and outdoor unit fan motor run, indoor unit fan motor runs in the set speed and the condition of avoiding the cold wind;

If $T_{in} \geq T_{set} + 3^{\circ}\text{C}$, compressor and outdoor unit fan motor stop, reversing valve is still electric, the indoor unit fan motor runs in the condition of flowing the rest heat;

If $T_{set} + 1^{\circ}\text{C} < T_{in} < T_{set} + 3^{\circ}\text{C}$, keep running the old mode;

In the heating mode, the range of T_{set} is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

In the heating mode, the valve will be electroless in 2 min after the unit is turned off.

The working condition of the outdoor unit:

$T_{out} \geq 16^{\circ}\text{C}$, the outdoor unit fan motor runs in low speed;

$T_{out} \leq 13^{\circ}\text{C}$, the outdoor unit fan motor runs in high speed;

$13^{\circ}\text{C} < T_{out} < 16^{\circ}\text{C}$, the outdoor unit fan motor runs in the old speed;

the outdoor unit fan motor stop when it is defrosting.

The conditions of avoiding cold wind:

The indoor unit adjust the guider into horizontal first, indoor unit motor runs in high speed for 8 sec, then runs in low speed.

a. Compressor runs as soon as T_{in} achieve the temperature of starting unit, indoor unit runs at low speed, guider is still horizontal, 30sec later, indoor unit fan motor runs in the set speed, guider run in the set mode (it run in the max angle if it has not be set);

b. If T_{in} does not achieve the temperature of starting unit, indoor unit fan motor runs in the low speed and guider is horizontal.

The conditions of flowing the rest heat:

Once the compressor is stop, guider turn into horizontal, the indoor unit fan motor runs in low speed.

The conditions of beginning defrosting:

After the unit continue heating for 44min, and detect $T_{con} \leq -8^{\circ}\text{C}$ for 1min, the defrosting mode act, guider turn into horizontal, the reversing valve, the indoor and outdoor unit fan motor stop.

If there is electrical heater in the unit, then it will be stopped first. after 1min, reversing valve, the indoor and outdoor unit fan motor stop.

Cassette type

The conditions of stopping defrosting:

After the unit continue defrosts for 10min or $T_{con} \geq +10^{\circ}\text{C}$, the defrosting stop, the reversal valve run, the outdoor fan motor runs, and the indoor unit fan motor will run in the condition of avoiding the cold wind.

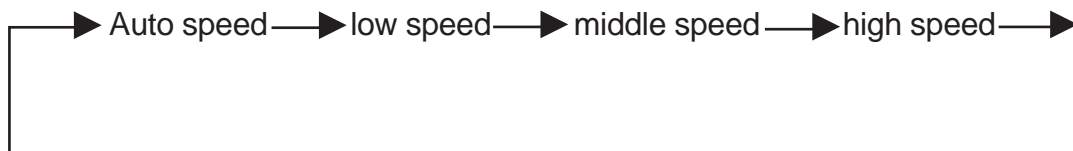
The working conditions of electrical heater:

When the indoor unit fan motor runs in high or middle speed and compressor runs, and $T_{eva} \leq 44^{\circ}\text{C}$ and $T_{in} \leq 23^{\circ}\text{C}$, or $T_{in} < T_{set} - 1^{\circ}\text{C}$, the electrical heater act.

When the indoor unit is stop or runs in low speed or compressor in stop, or $T_{eva} \geq 52^{\circ}\text{C}$, or $T_{in} \geq 26^{\circ}\text{C}$, or $T_{in} \geq T_{set} + 2^{\circ}\text{C}$, the electrical heater stop and will restart after 2min.

4) Fanning mode:

The indoor unit fan motor runs in the set speed:



The range of set temperature $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

5) Auto mode:

It runs, according the T_{in} .

If $T_{in} > 26^{\circ}\text{C}$, cooling mode act, the T_{set} is 26°C automatically;

If $20^{\circ}\text{C} \leq T_{in} \leq 26^{\circ}\text{C}$, drying mode act, the T_{set} is 24°C automatically;

If $T_{in} < 20^{\circ}\text{C}$, heating mode act, the T_{set} is 20°C automatically till $T_{in} \geq 24^{\circ}\text{C}$.

If the unit is cooling only, when $T_{in} < 20^{\circ}\text{C}$, fanning mode act, the T_{set} is 20°C automatically till $T_{in} \geq 24^{\circ}\text{C}$.

Once the each mode act, it will be in 30sec to change to the auto mode according. the T_{in} .

5. Timer and sleep mode:

1) Sleep mode:

If it is cooling or drying, in 1hour of the beginning, the T_{set} will be increased 1°C automatically, and it will be increased 1°C automatically after 2hour from the beginning, then the unit runs in this temperature.

If it is heating, in 1hour of the beginning, the T_{set} will be decreased 1°C automatically, and it will be decreased 1°C automatically after 2hour from the beginning 2, then the unit runs in this temperature.

There is no sleep mode when fanning and auto mode act.

2) Timer for turn on:

The unit is stop when the timer for turn on is acted, when it is time to turn on, the controller will act in the set mode. The distance of setting twice is 0.5hour, and the range time is 0.5~24 hour.

3) Timer for turn off:

The unit is run when timer for turn off is acted, the unit is stop, when it is time to turn off. The distance of setting twice is 0.5hour, and the range time is 0.5~24 hour.

6. Other function

Cassette type

1) Sweeping:

It controlled by the “sweep” button of the remote controller. It is available when the indoor unit fan motor is run.

2) Buzzer function:

It will be acted and have a sound when the controller is turned on or received a right signal.

3) Auto fan speed of indoor unit motor:

The indoor unit fan motor will run by the rules till it runs for 30sec after the unit is turned on.

When heating act:

If $T_{in} \geq T_{set} + 2^{\circ}\text{C}$, the indoor unit fan motor runs in low fan speed;

If $T_{in} \leq T_{set} + 1^{\circ}\text{C}$, it is in middle fan speed;

If $T_{in} < T_{set} - 1^{\circ}\text{C}$, it is in high fan speed.

When cooling act:

If $T_{in} \leq T_{set}$, it is in low fan speed;

If $T_{in} \geq T_{set} + 1^{\circ}\text{C}$, it is in middle fan speed;

If $T_{in} > T_{set} + 3^{\circ}\text{C}$, it is in high fan speed.

When fanning act:

If $T_{in} \leq T_{set}$, it is in low fan speed;

If $T_{in} \geq T_{set} + 1^{\circ}\text{C}$, it is in middle fan speed;

If $T_{in} > T_{set} + 3^{\circ}\text{C}$, it is in high fan speed.

4) Indicator light:

a. Running indicate light: it turn on when the unit is turned on and turn off when the unit is turned off.

It will be flashing when:

Defrosting, avoiding the cold wind, protecting of full-water tank.

b. Timer light: it turn on when the timer is set or the unit is in the mode of sleeping except the unit is off.

It will be flashing when:

Protecting of the compressor in high-pressure, protecting of the compressor in low-pressure, protecting of the low power supply, protecting of the high-temperature of the compressor outlet pipe.

c. Compressor light: it turn on when the compressor runs, and it turn off when the compressor stop.

7. Safeguard:

1) Protecting of avoid freezing:

When cooling \ drying act:

After the compressor started and running for 5min, and detect $T_{eva} \leq -4^{\circ}\text{C}$ for 1min, running indicate light will flashing, compressor and the outdoor unit fan motor stop, the indoor fan motor and sweep fan run in old mode; when the compressor stop for 10 min, and detect $T_{eva} \geq 15^{\circ}\text{C}$, running indicate light turn off, controller runs in set mode.

When protecting of avoid freezing, button is not shielded.

2) Protecting of compressor high-pressure:

When detect protecting of high-pressure for 3sec, turn off load except water pump, shield all button and signal of remote control, timer indicate light will flashing; when detect no protecting of compressor high-pressure for 6sec, remove shielding function, timer indicate light will flashing, after press ON/OFF to turn off unit, turn off indicate light, When press ON/OFF, then restart running.

3) Protecting of compressor low-pressure:

a. After compressor start for 3min, begin to detect signal of low-pressure switch, if detect that low-pressure switch turn off for 3min, then the unit stop, timer indicate light will flashing, after 3min the unit renew to run automatically; if protecting of low-pressure switch continually appear 2 times, timer indicate light will flashing, and the unit can not renew automatically, in order to awake user that the unit leak refrigerant; after press ON/OFF, the unit turn off, press ON/OFF again, renew to run;

b. When frosting act, the unit do not detect signal of low-pressure switch. After finish frosting for 10min, to start to detect;

c. At the same time, press the force key and auto key of controller, shield to detect signal of low-pressure switch, so that reclaim refrigerant, after 6min, renew detecting automatically, or press ON/OFF key to turn off the unit, after press ON/OFF key again, renew detecting;

d. When heating act, if $T_{out} \leq -0^{\circ}\text{C}$, shield detect low-pressure switch;

e. When heating act, compressor run, and the outdoor fan motor stop (protecting of avoid high temperature), shield detect low-pressure switch, after the outdoor fan motor renew to run, start to detect signal of low-pressure switch;

f. When compressor stop, if detect that low-pressure switch turn off for 30sec, then the unit turn off, timer indicate light will flashing, can not renew automatically. After press ON/OFF key, the unit turn off, if press ON/OFF key, then renew to run unit.

4) Protecting of discharge pipe high temperature:

After compressor starts, if detect that T_{con} higher than T_2 ($T_2=120^{\circ}\text{C}$ 、 125°C 、 130°C , different jump-thread) for 30sec, or discharge pipe temperature sensor have any trouble, timer indicate light flash .

The unit stops as if T_{in} reach T_{set} .

After compressor stops for over 3min, if $T_{con} < 90^{\circ}\text{C}$, then the unit renew to run.

If this protecting phenomenon happens twice continually, and the unit can not renew automatically, timer indicate light flashes. Press ON/OFF key to turn off the unit, press ON/OFF key again, if $T_{con} < 90^{\circ}\text{C}$, the unit can run in set mode, otherwise timer indicate light still flashes.

5) Protecting of indoor exceed high temperature:

When heating act, if detect $T_{eva} \geq 56^{\circ}\text{C}$ for 5 sec, the outdoor unit fan motor stops, if $T_{eva} \leq 51^{\circ}\text{C}$, the outdoor unit fan motor startups. If $T_{eva} \geq 100^{\circ}\text{C}$, the indoor unit fan motor automatically turn to high speed; If $T_{eva} \leq 48^{\circ}\text{C}$, the indoor unit fan motor turn to old set speed.

6) Protecting of low power:

When compressor starts, if detect electric current higher than 25A for 3sec, the unit stop as if T_{in} reach to T_{set} .

Cassette type

After compressor stops for over 3min, then the unit renew old running state, protection exceed six times (if compressor runtime exceed 6min, protection time set 0), timer indicate light flashes, the unit can not renew old state automatically. After press ON/OFF key, the unit turn off. if press ON/OFF key again, then renew to run unit.

7) Protecting of water pump control and water full:

- a. When cooling or drying act, compressor runs, at the same time water pump runs.
- b. When the unit is turned off or turned off in cooling mode, or in drying, or turn to other mode, water pump is still working for 5 minutes, then drop electricity
- c. When detect water full signal, water pump must run no matter mode.
- d. When the unit is running or the unit runs in compulsory cooling or compulsory heating, if detect water full signal for 8sec, the unit runs into protecting of water full, running indicate light flashes; when cooling or compulsory cooling act, the outdoor unit fan motor and compressor stop, the indoor unit fan motor stops 1min later; when drying act, all control signal turn off; when heating or compulsory heating act, turn off all load except for 4-way valve, the indoor unit fan motor stops 1min later; when fanning act, the indoor unit fan motor stops 1min later.
- e. In water full protection, if detect no water full signal and water pump works for 10 minutes, it turns off water pump; if water pump doesn't work for 10 minutes, it works to ten minutes and cut off.

f. When water full signal is removed

Press ON/OFF button to turn off the unit, press it to restart, and exit protection state.

If water full signal can not be remove for 2hour, stop sending power to water pump.

8. Buttons:

If you use remote control, and its display mode is HEAT mode, but machine is cooling only, it will run in fanning mode.

1) TEST button:

When the unit is running , after press this button, the unit forcibly be been into cooling mode, turn on all load except for 4-way valve, the indoor unit fan motor and the outdoor unit fan motor run in high speed. If the unit is not running, after press this button for 1sec, the unit forcibly be been into heating mode, turn on all load, the indoor unit fan motor and the outdoor unit fan motor run in high speed. If detect $T_{in}(or T_{eva}) \leq -10^{\circ}C$ or $T_{in}(or T_{eva}) \geq 80^{\circ}C$, buzzer beeps, when the unit is running, after press this button, the unit turns off.

2) Auto button: when the unit is in stop state, after press this button, the unit runs in auto mode; when the unit is in running state, after press this button, the unit turns off;

9. Auto-restart function:

Memory content: mode, swing, set temperature, set speed.

The unit can restart automatically according to memorizing previous state after break electricity, compressor will 3min delay in first restart.