PREMIER®

ROOM AIR CONDITIONER

Service Manual

AA-2123

contents

1. **Range and Conditions**

1.1 Operating Range

Temperature	Temperature	Indoor inlet temperature	Outdoor inlet temperature
Cooling	Max.	32℃ DB/23℃ WB	43℃ DB/26℃ WB
	Min.	21℃ DB/15℃ WB	21℃ DB

1.2 Operating Conditions

Cooling	Indoor inlet temperature	Outdoor inlet temperature
Rated operating conditions	27℃ DB/19℃ WB	35℃ DB/24℃ WB
Max. operating conditions	32℃ DB/23℃ WB	43℃ DB/26℃ WB

DB: Dry-bulb temperature

WB: Wet-bulb temperature

2. Specifications

2.1 Unit Specifications

Model / Item	AA-2123
Rated capacity (Btu)	24000
Air circulation (high)(m^3/h)	680
Operating current (A)	12.3
Power input (W)	2650
Power factor (%)	97
EER (Btu/W)	9.0
Refrigerant / Filling amount (g)	R22 / 1390
Package dimensions (Height × Width × Depth)	762×518×742
Net weight (kg)	62
Power	220V 60Hz single phase
Power range (v)	198~242
Air filter	Anti-mold, washable

Note: Specifications are measured out under the rated operating conditions. Specifications refer to the name plate of the air conditioner when they changed.

2.2 Specifications of main parts

Fan				
	Centrifugal fan (inside)	Number….Diameter		1…… ϕ214mm
	Propeller fan (outside)			1…… ϕ389mm
Fan motor				
	Fan motor type			YSK-93-6I (Welling)
	Pole / rotation (rpm, 220V, high speed)			6/1010
	Rated power output (W)			250
	Coil resistance (Ω) (Ambient temperature 20℃)	White-gray		27.5
		White- purple		6.1
		purple - Orange		2.1
		red-Orange		19.1
	Internal protector	Safety devices operating temperature	On (℃)	85
			Off ℃)	130
		Operating capacitor	(μF)	6
			(VAC)	450
Rotary type compressor				
	Compressor type			PH360X3CS-3KUU1
	Compressor oil Type…Amount (CC)			SUNISO 4GSD…850
	Nominal power input (W)			2430
	Blocked current (A)			44.2
	Coil resistance (Ω) (Ambient temperature 20℃)	Primary		1.10
		Secondary		1.6
	Protect devices	Type		Internal
		Overload relay (OLR)		-
		Operating temperature	On(℃)	-
			Off(℃)	-
	Operating capacitor	(μF)		55
		AC (V)		450
Heat exchanger				
	Evaporator	Fin		Aluminum fin/ copper tube (female screw thead)
		Rows		3
		Fin pitch (mm)		1.5
	Condenser	Fin		Aluminum fin/ copper tube (female screw thead)
		Rows		3
		Fin pitch (mm)		1.6

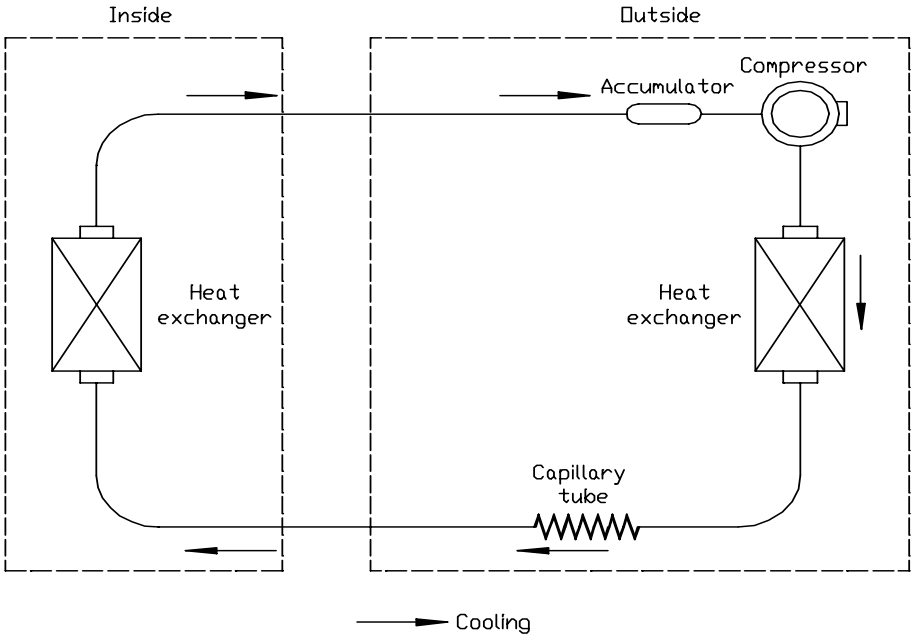
2.3 Specifications of electric control parts.

Controller			
	Part No.	PCB Ass'y	/
		Light Ass'y	
	Fuse		
Electric controller Ass 'y (Part No.)			JUZ6.100.454
Remote controller			
Power wire		Length	2.3m
		Rated value	H05VV-F 3G2.5mm^2
Louver motor			
	Synchronism motor	Type	---
		Rated voltage (Single-phase AC 50 Hz, V)	---
		Coil resistance (KΩ) (Ambient temperature 25℃)	---

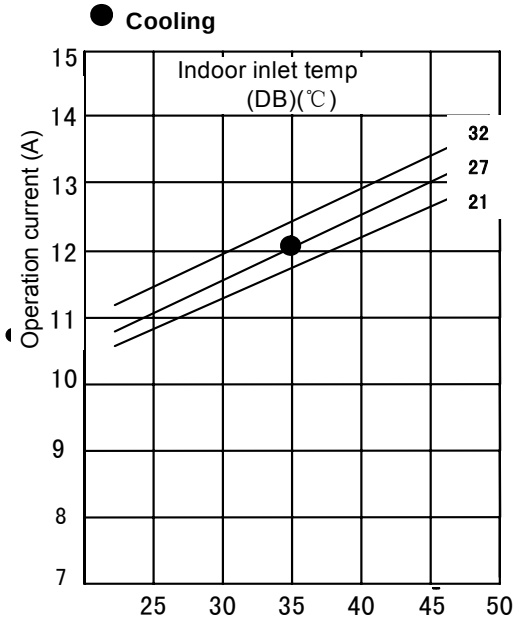
2.4 Other electric control parts.

Temperature switch			WK16G-100-160
Thermal resistor （temperature sensor）			/
Resistance （KΩ）			/
Transformer			/
Power relay			/
	Coil	rated voltage	/
		resistance（Ω）20℃	/
		Contact ratings	/

3. Refrigerant flow diagram

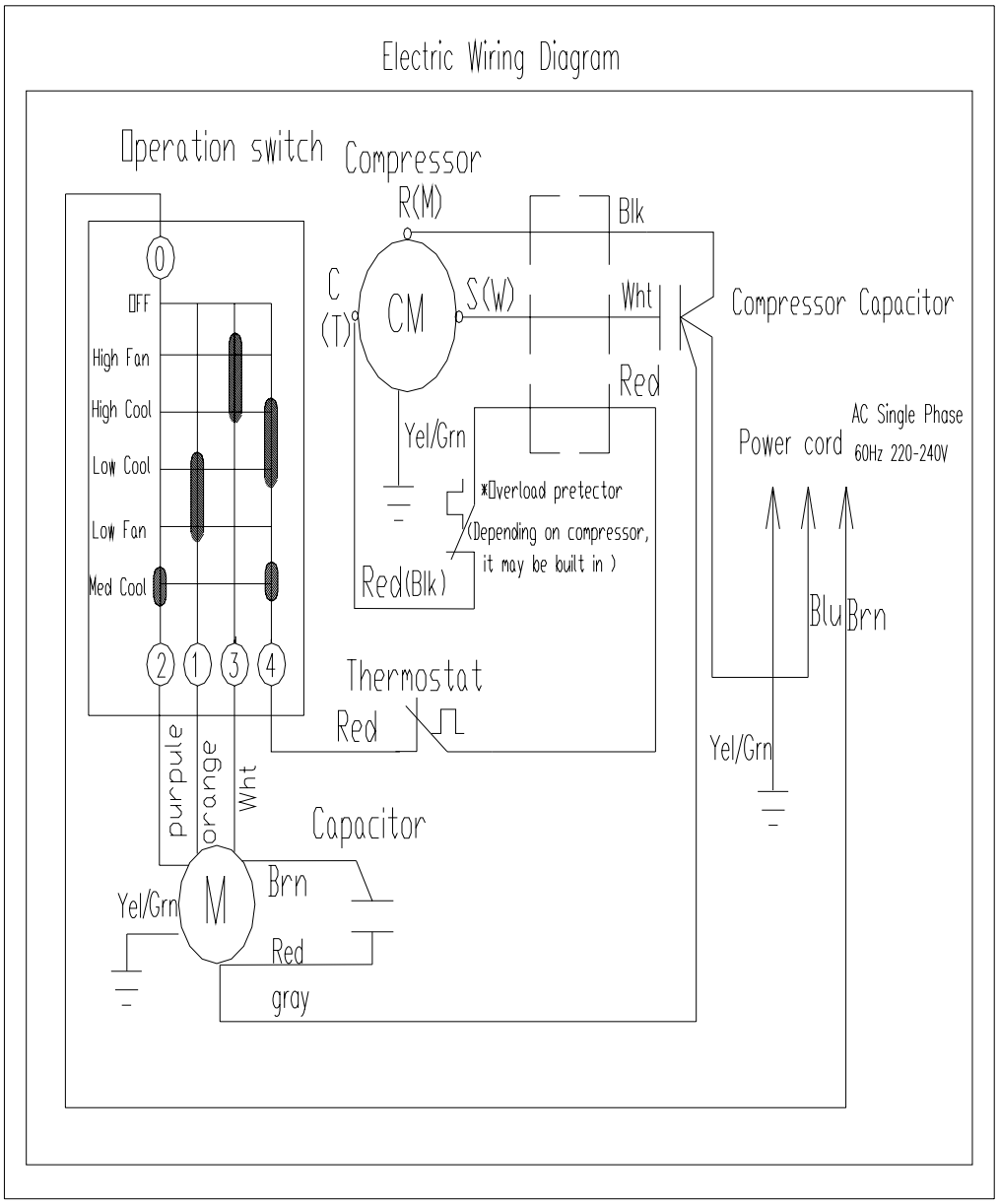


4. Performance curve



Note: ● Rated operating conditions point

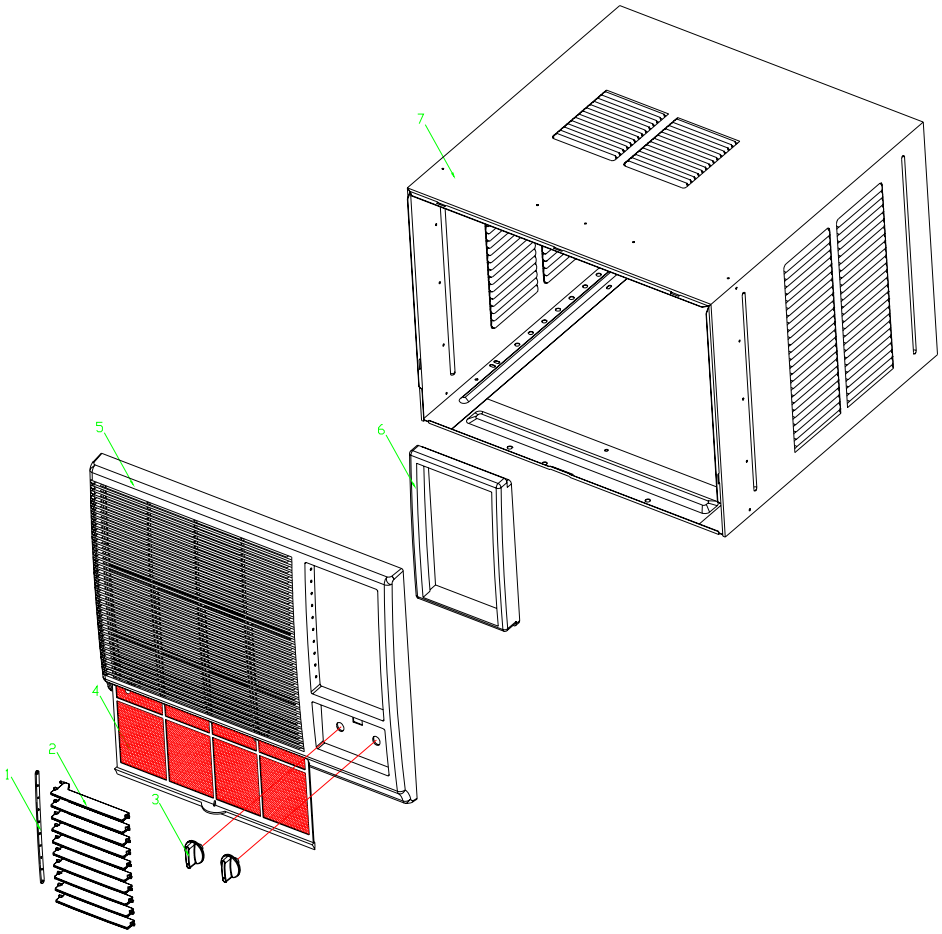
5. Electric wiring diagram



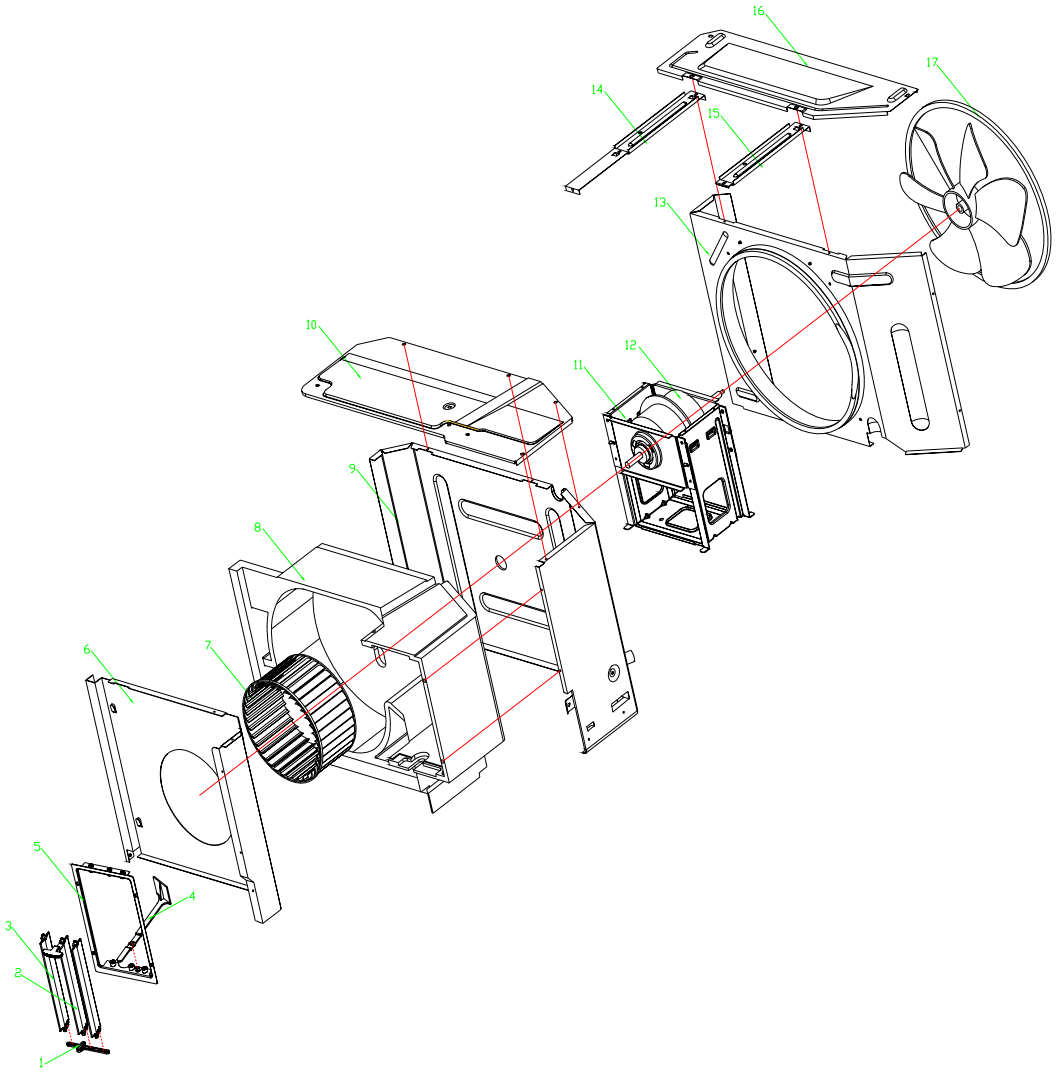
6.Exploded diagram

NO.	NAME OF PART	CODE NO.	SPECIFICATION	Q'TY	REMARK
1	Link	JUK8.088.039		1	
2	Louver-horizontal	JUK8. 078.038		10	
3	Button assembly	JUZ8.337.003		2	
4	Filter-Molded	JUK6.430.058		1	
5	Frame-front	JUZ6.153.035		1	
6	Foam	JUK8.600.645		1	
7	Cabinet	JUZ6.153.033		1	

6.1 Cabinet Front And Wrapper

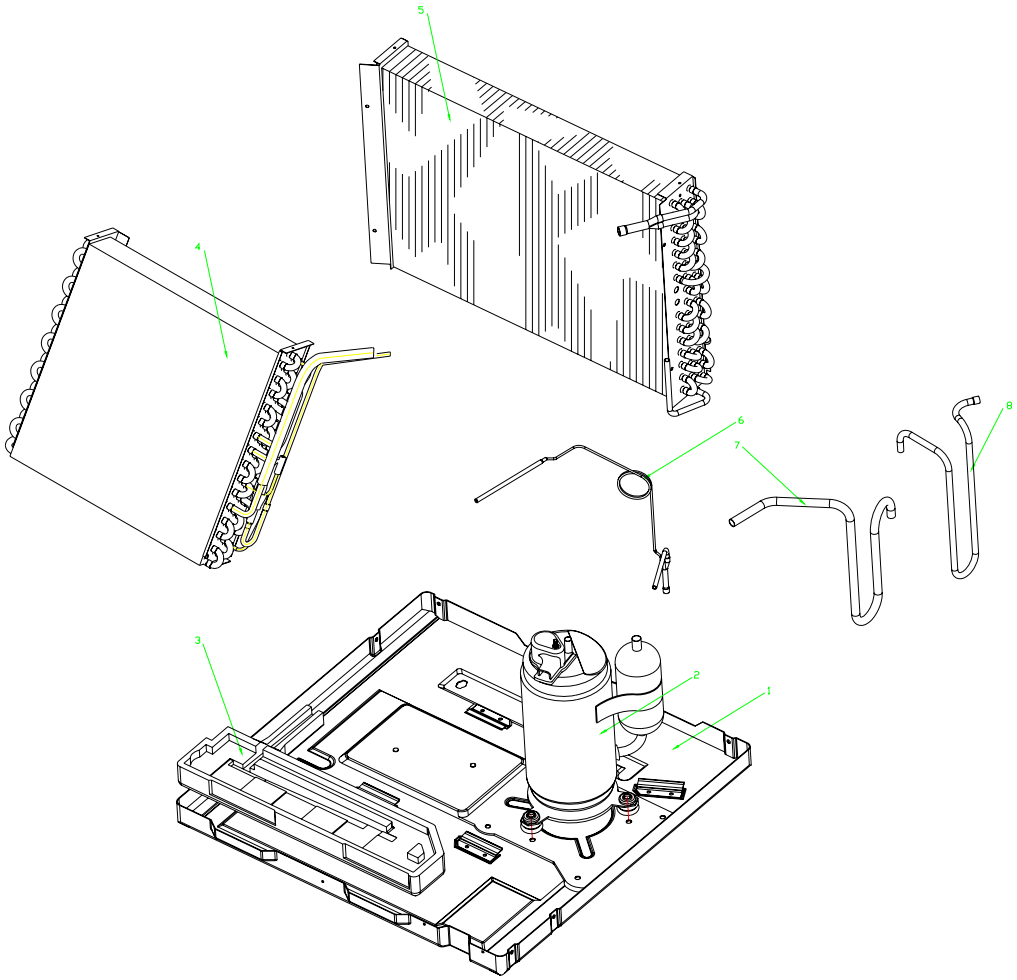


6.2 Air Handling Parts



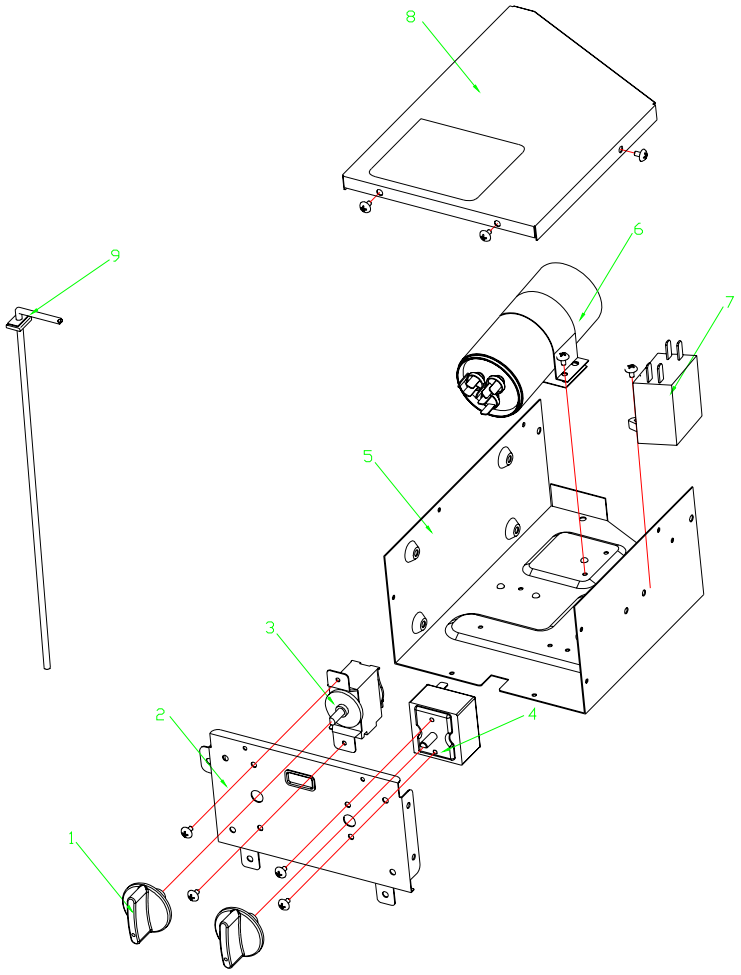
NO.	NAME OF PART	CODE NO.	SPECIFICATION	Q'TY	REMARK
1	Link	JUK8.088.038		1	
2	Louver/handle	JUK8.610.161		10	
3	Louver/Vertical	JUK8.610.162		2	
4	Handle-vent Barcelona	JUK6.346.002		1	
5	Louver Holder	JUK8.038.061		1	
6	Plate-Scroll	JUK6.212.013		1	
7	Centrifugal fan		MLD6.395.007	1	
8	Housing-blower	JUK8.610.163		1	
9	Bulkhead	JUK8.604.023		1	
10	Blower Cover	JUK8.040.071		1	
11	Motor-Fan holder	JUK8.038.059		1	
12	Motor-Fan		YSK93-6I	1	
13	Housing-fan	JUK6.212.012		1	
14	Connecting board, Left	JUK8.048.180		1	
15	Connecting board, Right	JUK8.048.181		1	
16	Blade Cover	JUK8.040.072		1	
17	Propeller fan		MLD7.396.010	1	

6.3 Compressor parts



NO.	NAME OF PART	CODE NO.	SPECIFICATION	Q'TY	REMARK
1	Base/Compressor-Stud Assy	JUZ6.123.034		1	
2	Compressor Assy		PH360X3CS-3KUU1	1	
3	Tray-Evap	JUK8.600.644		1	
4	Evap- Assy	JUZ5.861.207		1	
5	Condenser	JUZ5.869.026		1	
6	Capillary Tube	JUZ6.453.617		1	
7	Tube 1/2(suction pipe)	JUZ8.626.1393		1	
8	Tube 3/8 (discharge pipe)	JUZ8.626.1057		1	

6.4 Electric Control parts



NO.	NAME OF PART	CODE NO.	SPECIFICATION	Q'TY	REMARK
1	Button	JUZ8.337.003		2	
2	Front Board	JUK8.041.053		1	
3	Temperature Controller		WK16G-100-160	1	
4	Master Switch		DYU-3-03	1	
5	BOX-Control	JUK8.030.014		1	
6	Capacitor		CBB65A-1-450V-55MF±5%	1	
7	Capacitor		CBB61-450VAC-6.0μF±5%		
7	Cover Board	JUZ6.170.113		1	
8	Power Cord	JUZ6.604.150		1	

7. Control Specifications

7.1 Control specifications

7.1.1 Adjusting the temperature range: Turn the temperature control knob on the control panel to clockwise. Dextrorotation is from 'HIGH' to 'LOW'. The set temperature is from high to low. The set temperature range: 16℃-30℃(60-90℉).

7.1.2 When the indoor temperature is greater than the set temperature, the compressor runs.
When the indoor temperature is less than the set temperature, the compressor stops.

7.1.3 When operating maintenance or testing capacity, the temperature control knob can be turned to the maximum thermostat setting. It is in the TEST RUN position. The air conditioner gets into cooling operation forcedly.

7.1.4 There are six modes of operation.

Off (O): All functions stop.

High Fan: Fan turns at high speed and circulates filtered air without cooling;

High Cool: Fan turns at high speed and circulates filtered air. High fan speed is for rapid cooling.

Middle Cool: Fan turns at middle speed and circulates cooled, filtered air.

Low Cool: Fan turns quietly at low speed and circulates cooled, filtered air.

Low Fan: Fan turns quietly at low speed and circulates filtered air without cooling.

7.1.5 Horizontal Auto deflection: Press one end with "I" mark on the Auto deflector switch, the grille will turn automatically from side to side; press one end with "O" mark on the Auto deflector switch, Auto deflection function will be cancelled.

7.1.6 In cooling operation, the compressor will stop when the temperature set by the temperature control knob is greater than or equal to the indoor temperature. The fan is still running in former speed for keeping air circulation.

7.2 Operating mode

7.2.1 Cooling:

Temperature control range: 16℃-30℃(60-90℉); Original value: 24℃(75℉);

Temperature control precision: ±1℃(±1℉);

Characters on control:

When Tr≥Ts+1℃(±1℉),the compressor runs;

When Tr≤Ts℃, the compressor stops. The control circuit will stop compressor only after it has run at least 5minutes(Except air conditioner is turned off). The compressor can be restarted 3minutes later the turn off (Effective in any status).

Fan speed control:

Manual: Users can select the fan speed of high, medium or low level as needed in the turn-on status.

7.2.2 Dry:

Temperature control range: 16℃-30℃(60-90℉); Original value: 24℃(75℉);

Temperature control precision: ±1℃(±1℉);

Characters on control:

When Ts-1℃(1℉)< Tr, the compressor runs continuously, and the fan motor runs at low speed .

When 16℃(60℉)< Tr ≤Ts-1℃(1℉), the compressor works for 3 minutes, then stops for 9 minutes. The fan motor runs at low speed. The fan motor stops working 30 seconds later the turn-off the compressor.

When Tr≤16℃(60℉), compressor, indoor and outdoor units and grill blades all stop running.

7.3 Protect function

7.3.1 Delay-starting protection for the compressor

The compressor will restart working 3 minutes later the turn-off the compressor or power-off to keep the pressure balance of the cooling system.

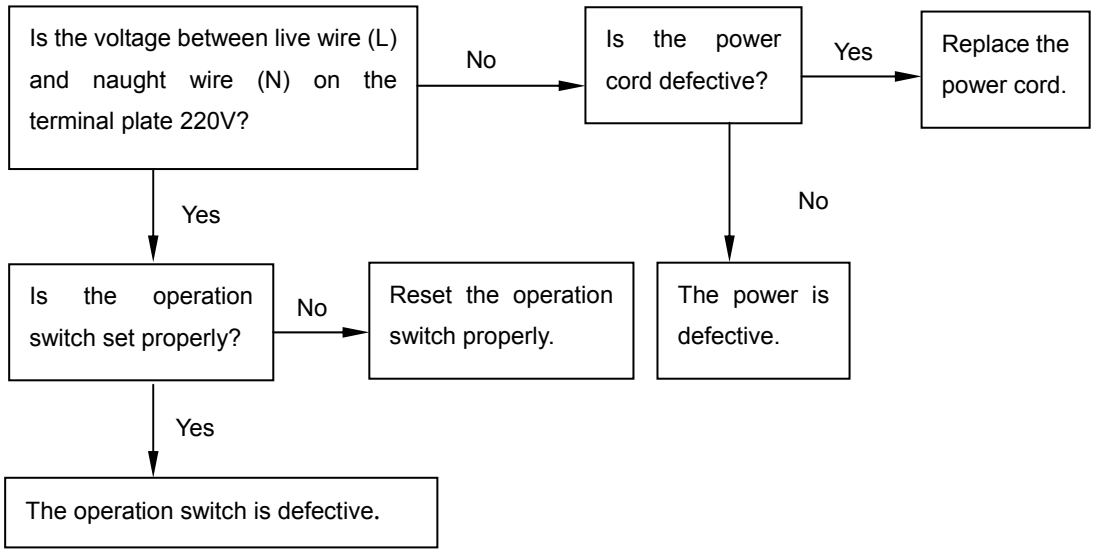
7.3.2 The protection of the temperature sensor open or short

The air conditioner is in on status; failure will be displayed when the temperature sensor is open or short.

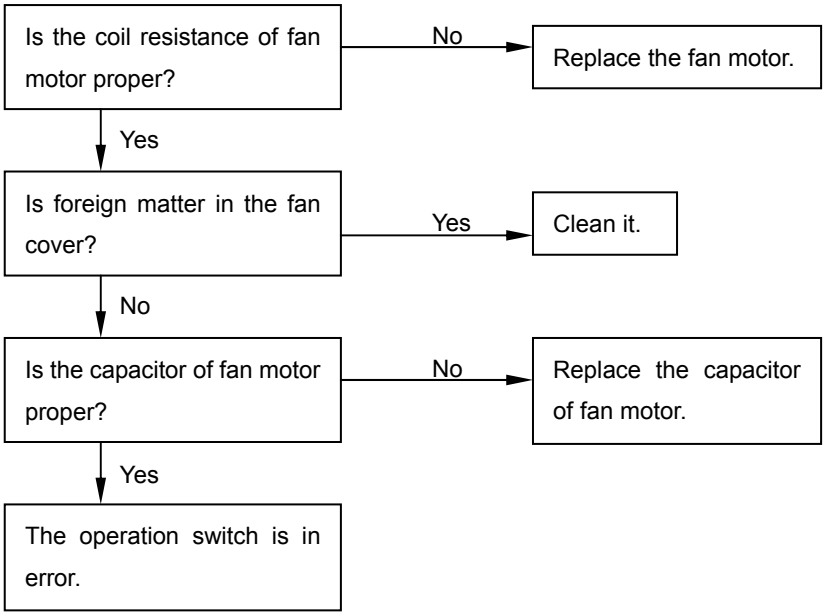
Indoor temp sensor is failure: The on/off indicator on the control panel flashes. The unit runs in 24℃.

8. Troubleshooting

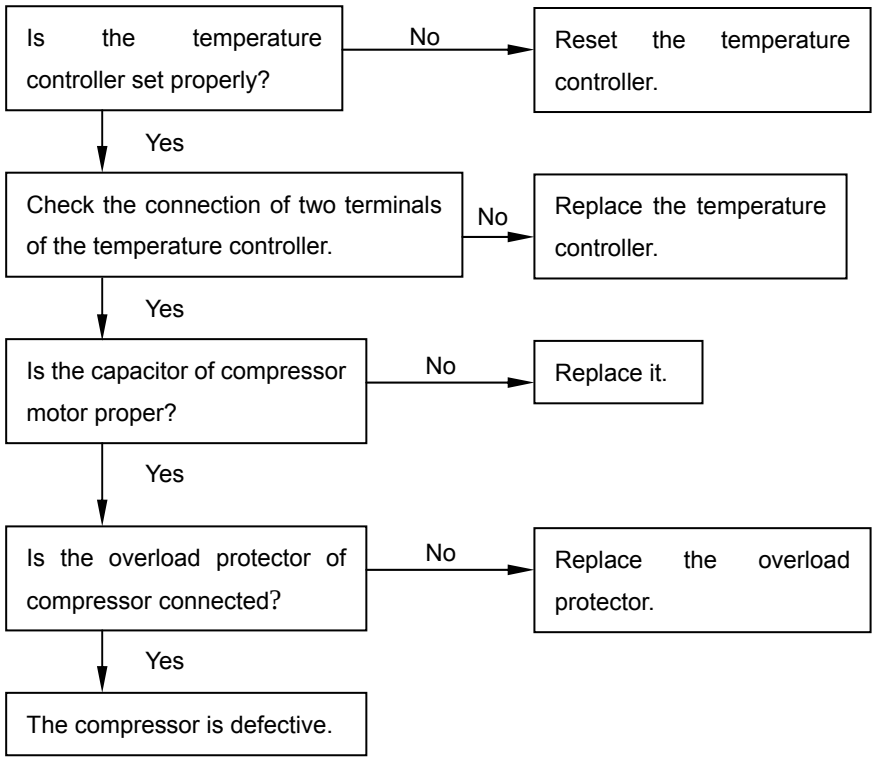
8.1 The air conditioner does not work at all



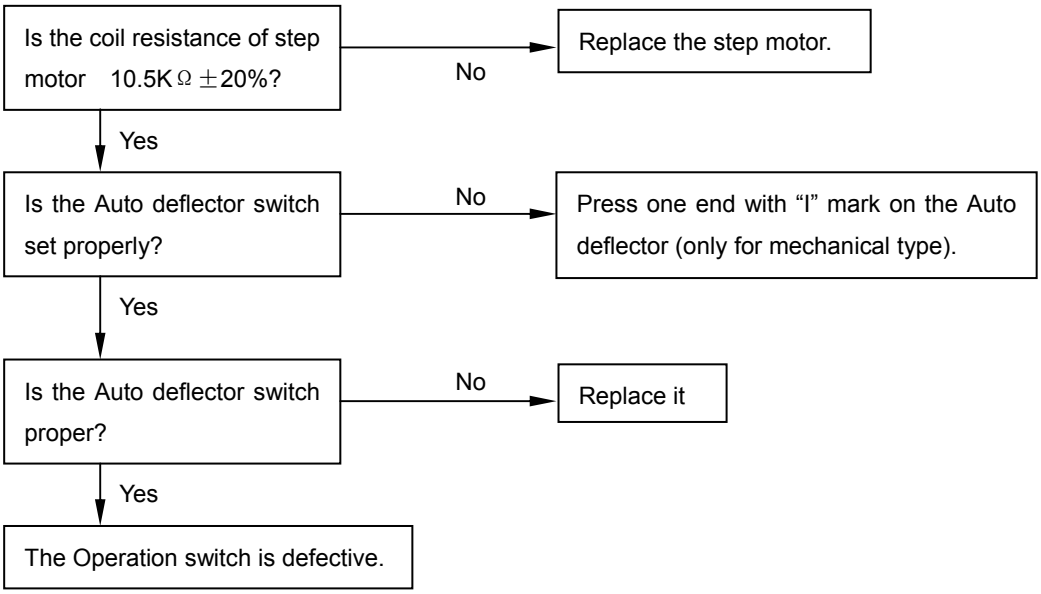
8.2 The compressor runs, but the fan motor does not run.



8.3 The fan runs, but the compressor does not work.



8.4 Horizontal Auto deflection does not work



8.5 Poor cooling