



Service Manual

JMF Hi wall Series

Indoor Units	Outdoor Units
ELSI-JMF007-N11	ELAU-VMF007-H11
ELSI-JMF009-N11	ELAU-VMF009-H11
ELSI-JMF012-N11	ELAU-VMF012-H11
ELSI-JMF018-N11	ELAU-VMF018-H11
ELSI-JMF024-N11	ELAU-VMF024-H11



REFRIGERANT

R410A

SM JMF 1-A.1 GB

HEATPUMP

SEP. 2014

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1. Precaution

1.1 Safety Precaution

- To prevent injury to the user or other people and property damage, the following instructions must be followed.
- Incorrect operation due to ignoring instruction will cause harm or damage.
- Before service the unit, be sure to read this service manual at first.

1.2 Warning

➤ Installation

- Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.

There is risk of fire or electric shock.

- For electrical work, contact the dealer, seller, a qualified electrician, or an authorized service center.

Do not disassemble or repair the product, there is risk of fire or electric shock.

- Always ground the product.

There is risk of fire or electric shock.

- Install the panel and the cover of control box securely.

There is risk of fire of electric shock.

- Always install a dedicated circuit and breaker.

Improper wiring or installation may cause fire or electric shock.

- Use the correctly rated breaker or fuse.

There is risk of fire or electric shock.

- Do not modify or extend the power cable.

There is risk of fire or electric shock.

- Do not install, remove, or reinstall the unit by yourself (customer).

There is risk of fire, electric shock, explosion, or injury.

- Be caution when unpacking and installing the product.

Sharp edges could cause injury, be especially careful of the case edges and the fins on the condenser and evaporator.

- For installation, always contact the dealer or an authorized service center.

- Do not install the product on a defective installation stand.

- Be sure the installation area does not deteriorate with age.

If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.

- Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.

- Take care to ensure that power cable could not be pulled out or damaged during operation.

There is risk of fire or electric shock.

- Do not place anything on the power cable.

There is risk of fire or electric shock.

- **Do not plug or unplug the power supply plug during operation.**
There is risk of fire or electric shock.
- **Do not touch (operation) the product with wet hands.**
- **Do not place a heater or other appliance near the power cable.**
There is risk of fire and electric shock.
- **Do not allow water to run into electrical parts.**
It may cause fire, failure of the product, or electric shock.
- **Do not store or use flammable gas or combustible near the product.**
There is risk of fire or failure of product.
- **Do not use the product in a tightly closed space for a long time.**
Oxygen deficiency could occur.
- **When flammable gas leaks, turn off the gas and open a window for ventilation before turn the product on.**
- **If strange sounds or smoke comes from product, turn the breaker off or disconnect the power supply cable.**
There is risk of electric shock or fire.
- **Stop operation and close the window in storm or hurricane. If possible, remove the product from the window before the hurricane arrives.**
There is risk of property damage, failure of product, or electric shock.
- **Do not open the inlet grill of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)**
There is risk of physical injury, electric shock, or product failure.
- **When the product is soaked, contact an authorized service center.**
There is risk of fire or electric shock.
- **Be caution that water could not enter the product.**
There is risk of fire, electric shock, or product damage.
- **Ventilate the product from time to time when operating it together with a stove etc.**
There is risk of fire or electric shock.
- **Turn the main power off when cleaning or maintaining the product.**
There is risk of electric shock.
- **When the product is not be used for a long time, disconnect the power supply plug or turn off the breaker.**
There is risk of product damage or failure, or unintended operation.
- **Take care to ensure that nobody could step on or fall onto the outdoor unit.**
This could result in personal injury and product damage.

➤ CAUTION

- **Always check for gas (refrigerant) leakage after installation or repair of product.**
Low refrigerant levels may cause failure of product.
- **Install the drain hose to ensure that water is drained away properly.**
A bad connection may cause water leakage.
- **Keep level even when installing the product.**
It can avoid vibration of water leakage.
- **Do not install the product where the noise or hot air from the outdoor unit could damage the neighborhoods.**

It may cause a problem for your neighbors.

- **Use two or more people to lift and transport the product.**
- **Do not install the product where it will be exposed to sea wind (salt spray) directly.**

It may cause corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient operation.

➤ Operational

- **Do not expose the skin directly to cool air for long time. (Do not sit in the draft).**
- **Do not use the product for special purposes, such as preserving foods, works of art etc.**

It is a consumer air conditioner, not a precision refrigerant system.

There is risk of damage or loss of property.

- **Do not block the inlet or outlet of air flow.**
- **Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.**

There is risk of fire, electric shock, or damage to the plastic parts of the product.

■ **Do not touch the metal parts of the product when removing the air filter. They are very sharp.**

- **Do not step on or put anything on the product. (outdoor units)**
- **Always insert the filter securely. Clean the filter every two weeks or more often if**

necessary.

A dirty filter reduces the efficiency of the air conditioner and could cause product malfunction or damage.

■ **Do not insert hands or other objects through air inlet or outlet while the product is operated.**

- **Do not drink the water drained from the product.**
- **Use a firm stool or ladder when cleaning or maintaining the product.**

Be careful and avoid personal injury.

■ **Replace the all batteries in the remote control with new ones of the same type. Do not mix old and new batteries or different types of batteries.**

There is risk of fire or explosion.

- **Do not recharge or disassemble the batteries. Do not dispose of batteries in a fire.**

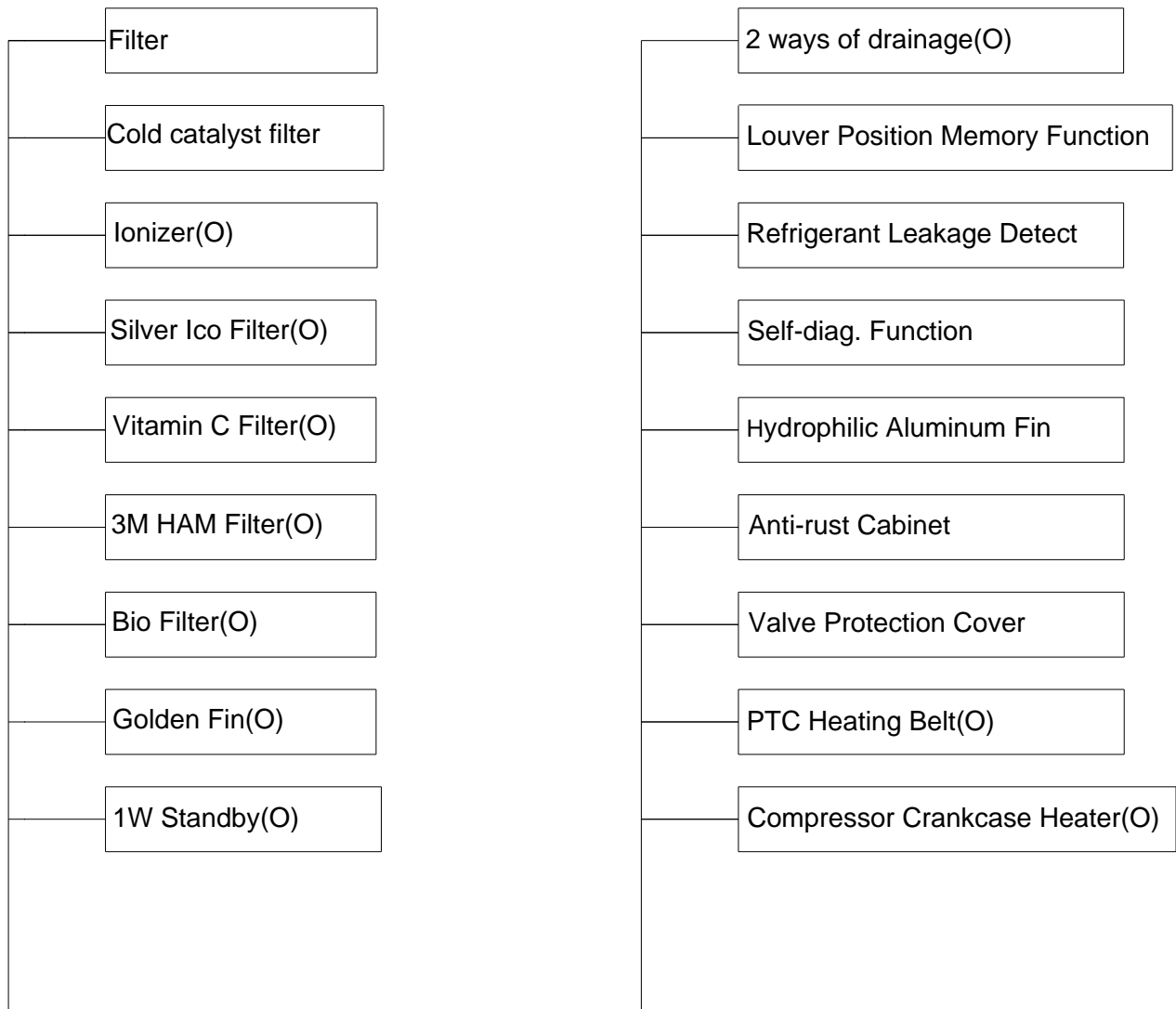
They may burn or explode.

■ **If the liquid from the batteries gets onto your skin or clothes, wash it well with clean water. Do not use the remote if the batteries have leaked.**

2. Function

Model Names of Indoor/Outdoor Units

	Capacity	Indoor units	Outdoor units
On-Off	7k	ELSI-JMF007-N11	ELAU-JMF007-H11
	9k	ELSI-JMF009-N11	ELAU-JMF009-H11
	12k	ELSI-JMF012-N11	ELAU-JMF012-H11
	18k	ELSI-JMF018-N11	ELAU-JMF018-H11
	21k	ELSI-JMF024-N11	ELAU-JMF024-H11



O:optional

3. Specification

Model Indoor Unit		ELSI-JMF007-N11	
Model Outdoor Unit		ELAU-JMF007-H11	
Installation Method of Pipe		Flared	
Characteristics	Units	Cooling	Heating
			Average
Capacity ⁽¹⁾	kW	2.198	2.344
EER /COP ⁽²⁾	W/W	3.21	3.61
Energy efficiency class		A	A
Power supply	V/Ph/Hz	220-240V/Single/50Hz	
Circuit breaker rating	A	10	
INDOOR	Fan type & quantity		Cross flow fan x1
	Fan speeds	H/M/L	RPM 1200/950/800 1200/950/800
	Air flow ⁽³⁾	H/M/L	m3/hr 460/360/300 460/360/300
	External static pressure	Min-Max	Pa 0
	Sound power level ⁽⁴⁾	H/M/L	dB(A) 50
	Sound pressure level ⁽⁵⁾	H/M/L	dB(A) 40/33/29
	Moisture removal		l/hr 0.8
	Condensate drain tube I.D		mm 16
	Dimensions	WxHxD	mm 715x250 x188
	Weight		kg 6.5
	Package dimensions	LxWxH	mm 775x324 x260
	Packaged weight		kg 8.5
	Stacking height		units 8
	OUTDOOR	Refrigerant control	
Compressor type, model		ROTARY	
Fan type & quantity		Axial x 1	
Fan speeds		H/L	RPM 800
Air flow		H/L	m3/hr 1650
Sound power level ⁽⁴⁾		H/L	dB(A) 65
Sound pressure level ⁽⁵⁾		H/L	dB(A) 55
Dimensions		WxHxD	mm 700x540 x240
Weight			kg 22
Package dimensions		LxWxH	mm 815x325x580
Packaged weight			kg 24
Stacking height			Units 8
Refrigerant type		R410A	
Refrigerant charge (standard connecting tubing length)		kg(5m) 0.52	
Additional charge per 1 meter		gr / 1m 20	
Connections between units		Liquid line	In.(mm)
	Suction line	In.(mm)	3/8" (9.52)
	Max.tubing length	m.	20
	Max.height difference	m.	8
Operation control type		Remote control	
Heating elements		kW	
Others			

Model Indoor Unit			ELSI-JMF009-N11	
Model Outdoor Unit			ELAU-JMF009-H11	
Installation Method of Pipe			Flared	
Characteristics		Units	Cooling	Heating Average
Capacity ⁽¹⁾		kW	2.637	2.784
EER /COP ⁽²⁾		W/W	3.21	3.61
Energy efficiency class			A	A
Power supply		V/Ph/Hz	220-240V/Single/50Hz	
Circuit breaker rating		A	10	
INDOOR	Fan type & quantity		Cross flow fan x1	
	Fan speeds	H/M/L	RPM	1250/1000/800 1250/1000/850
	Air flow ⁽³⁾	H/M/L	m3/hr	460/360/300 460/360/310
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽⁴⁾	H/M/L	dB(A)	51
	Sound pressure level ⁽⁵⁾	H/M/L	dB(A)	41/33/29
	Moisture removal		l/hr	0.8
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	715 x250x188
	Weight		kg	6.5
	Package dimensions	LxWxH	mm	775x260x324
	Packaged weight		kg	8.5
	Stacking height		units	8
	OUTDOOR	Refrigerant control		Capillary
Compressor type, model		ROTARY		
Fan type & quantity		Axial x 1		
Fan speeds		H/L	RPM	815
Air flow		H/L	m3/hr	1650
Sound power level ⁽⁴⁾		H/L	dB(A)	66
Sound pressure level ⁽⁵⁾		H/L	dB(A)	56
Dimensions		WxHxD	mm	700 x540x240
Weight			kg	24.5
Package dimensions		LxWxH	mm	815x325x580
Packaged weight			kg	26.5
Stacking height			Units	5
Refrigerant type		R410A		
Refrigerant charge (standard connecting tubing length)		kg(5m)	0.59	
Additional charge per 1 meter		gr / 1m	20	
Connections between units		Liquid line	In.(mm)	1/4"(6.35)
	Suction line	In.(mm)	3/8"(9.52)	
	Max.tubing length	m.	20	
	Max.height difference	m.	8	
Operation control type		Remote control		
Heating elements		kW		
Others				

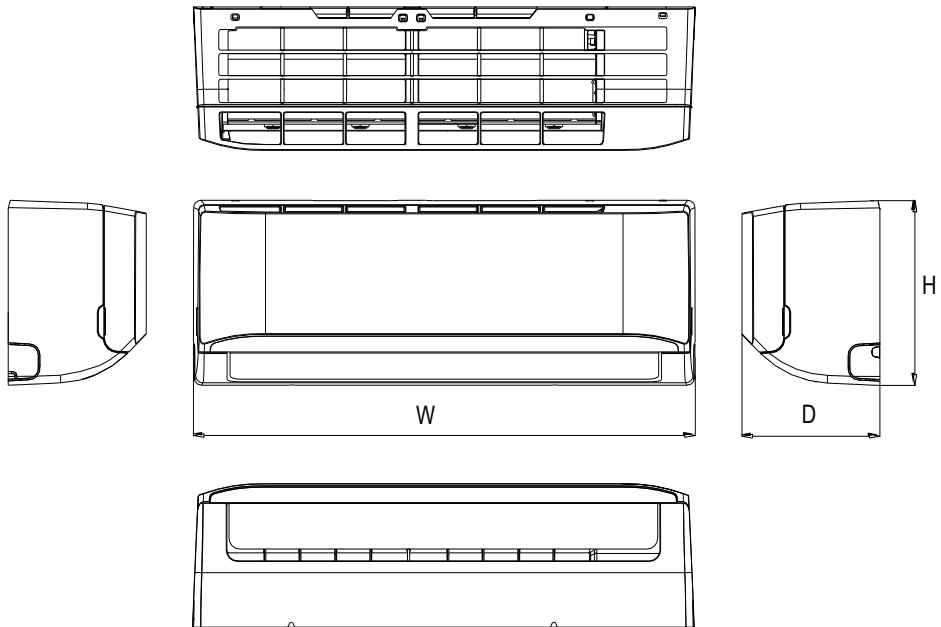
Model Indoor Unit			ELSI-JMF012-N11	
Model Outdoor Unit			ELAU-JMF012-H11	
Installation Method of Pipe			Flared	
Characteristics	Units		Cooling	Heating
				Average
Capacity ⁽¹⁾	kW		3.370	3.516
EER /COP ⁽²⁾	W/W		3.21	3.61
Energy efficiency class			A	A
Power supply	V/Ph/Hz		220-240V/Single/50Hz	
Circuit breaker rating	A		10	
INDOOR	Fan type & quantity		Cross flow fan x1	
	Fan speeds	H/M/L	RPM	1200/1050/800 1200/1050/850
	Air flow ⁽³⁾	H/M/L	m3/hr	580/500/400 580/500/410
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽⁴⁾	H/M/L	dB(A)	51
	Sound pressure level ⁽⁵⁾	H/M/L	dB(A)	41/35/30
	Moisture removal		l/hr	1.2
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	800 x275x188
	Weight		kg	8
	Package dimensions	LxWxH	mm	865x265x350
	Packaged weight		kg	10
	Stacking height		units	8
	OUTDOOR	Refrigerant control		Capillary
Compressor type, model		ROTARY		
Fan type & quantity		Axial x 1		
Fan speeds		H/L	RPM	900
Air flow		H/L	m3/hr	1800
Sound power level ⁽⁴⁾		H/L	dB(A)	67
Sound pressure level ⁽⁵⁾		H/L	dB(A)	57
Dimensions		WxHxD	mm	780 x540x250
Weight			kg	28
Package dimensions		LxWxH	mm	910x335x585
Packaged weight			kg	30
Stacking height			Units	5
Refrigerant type		R410A		
Refrigerant charge (standard connecting tubing length)		kg(5m)	0.8	
Additional charge per 1 meter		gr / 1m	20	
Connections between units		Liquid line	In.(mm)	1/4"(6.35)
	Suction line	In.(mm)	3/8"(9.53)	
	Max.tubing length	m.	20	
	Max.height difference	m.	8	
Operation control type			Remote control	
Heating elements			kW	
Others				

Model Indoor Unit			ELSI-JMF018-N11	
Model Outdoor Unit			ELAU-JMF018-H11	
Installation Method of Pipe			Flared	
Characteristics		Units	Cooling	Heating Average
Capacity ⁽¹⁾		kW	5.275	5.275
EER /COP ⁽²⁾		W/W	3.22	3.61
Energy efficiency class			A	A
Power supply		V/Ph/Hz	220-240V/Single/50Hz	
Circuit breaker rating		A	16	
INDOOR	Fan type & quantity		Cross flow fan x1	
	Fan speeds	H/M/L	RPM	1280/1100/800 1280/1100/950
	Air flow ⁽³⁾	H/M/L	m3/hr	800/700/500 800/700/590
	External static pressure	Min-Max	Pa	0
	Sound power level ⁽⁴⁾	H/M/L	dB(A)	55
	Sound pressure level ⁽⁵⁾	H/M/L	dB(A)	45/40/33
	Moisture removal		l/hr	3
	Condensate drain tube I.D		mm	16
	Dimensions	WxHxD	mm	940 x275x205
	Weight		kg	12
	Package dimensions	LxWxH	mm	1015x265x350
	Packaged weight		kg	15.5
	Stacking height		units	8
	OUTDOOR	Refrigerant control		Capillary
Compressor type, model		ROTARY		
Fan type & quantity		Axial x 1		
Fan speeds		H/L	RPM	890
Air flow		H/L	m3/hr	2300
Sound power level ⁽⁴⁾		H/L	dB(A)	70
Sound pressure level ⁽⁵⁾		H/L	dB(A)	60
Dimensions		WxHxD	mm	760x285x590
Weight			kg	44
Package dimensions		LxWxH	mm	887x355x645
Packaged weight			kg	46
Stacking height			Units	4
Refrigerant type		R410A		
Refrigerant charge (standard connecting tubing length)		kg(5m)	1.6	
Additional charge per 1 meter		gr / 1m	40	
Connections between units		Liquid line	In.(mm)	1/4(6.35)
	Suction line	In.(mm)	1/2"(12.7)	
	Max.tubing length	m.	25	
	Max.height difference	m.	10	
Operation control type		Remote control		
Heating elements		kW		
Others				

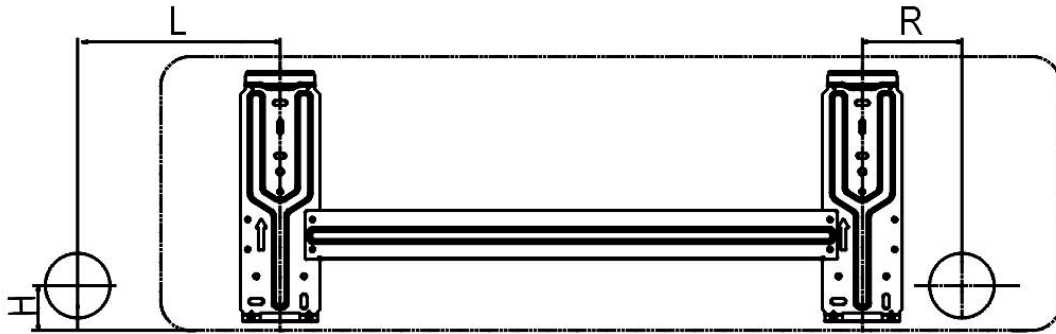
Model Indoor Unit		ELSI-JMF024-N11	
Model Outdoor Unit		ELAU-JMF024-H11	
Installation Method of Pipe		Flared	
Characteristics	Units	Cooling	Heating
			Average
Capacity ⁽¹⁾	kW	6.154	6.740
EER /COP ⁽²⁾	W/W	2.81	3.21
Energy efficiency class		C	C
Power supply	V/Ph/Hz	220-240V/Single/50Hz	
Circuit breaker rating	A	25	
INDOOR	Fan type & quantity		Cross flow fan x1
	Fan speeds	H/M/L	RPM 1180/1100/900 1180/1100/950
	Air flow ⁽³⁾	H/M/L	m3/hr 1150/1050/900 1150/1050/930
	External static pressure	Min-Max	Pa 0
	Sound power level ⁽⁴⁾	H/M/L	dB(A) 47/44/40
	Sound pressure level ⁽⁵⁾	H/M/L	dB(A) 57
	Moisture removal		l/hr 3
	Condensate drain tube I.D		mm 16
	Dimensions	WxHxD	mm 1045 x315x235
	Weight		kg 12
	Package dimensions	LxWxH	mm 1135x395x315
	Packaged weight		kg 15.5
	Stacking height		units 8
	OUTDOOR	Refrigerant control	
Compressor type, model		ROTARY	
Fan type & quantity		Axial x 1	
Fan speeds		H/L	RPM 870
Air flow		H/L	m3/hr 2500
Sound power level ⁽⁴⁾		H/L	dB(A) 62
Sound pressure level ⁽⁵⁾		H/L	dB(A) 72
Dimensions		WxHxD	mm 820 x595x330
Weight			kg 44
Package dimensions		LxWxH	mm 940x415x645
Packaged weight			kg 46
Stacking height			Units 3
Refrigerant type		R410A	
Refrigerant charge (standard connecting tubing length)		kg(5m) 1.6	
Additional charge per 1 meter		gr / 1m 40	
Connections between units		Liquid line	In.(mm)
	Suction line	In.(mm)	5/8"(15.9)
	Max.tubing length	m.	25
	Max.height difference	m.	10
Operation control type		Remote control	
Heating elements		kW	
Others			

4. Dimension

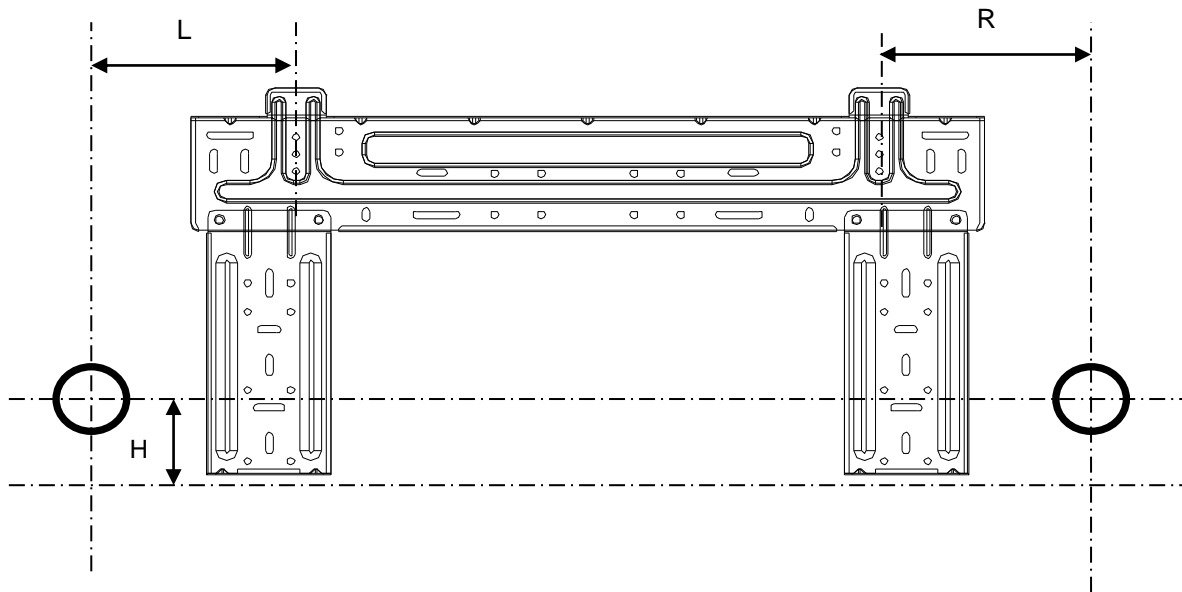
4.1 Indoor Unit



Model	W	D	H
ELSI-JMF007-N11	715	188	250
ELSI-JMF009-N11	715	188	250
ELSI-JMF012-N11	800	188	275
ELSI-JMF018-N11	940	205	275
ELSI-JMF024-N11	1045	235	315

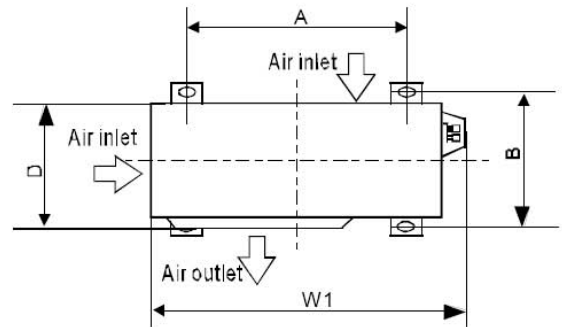
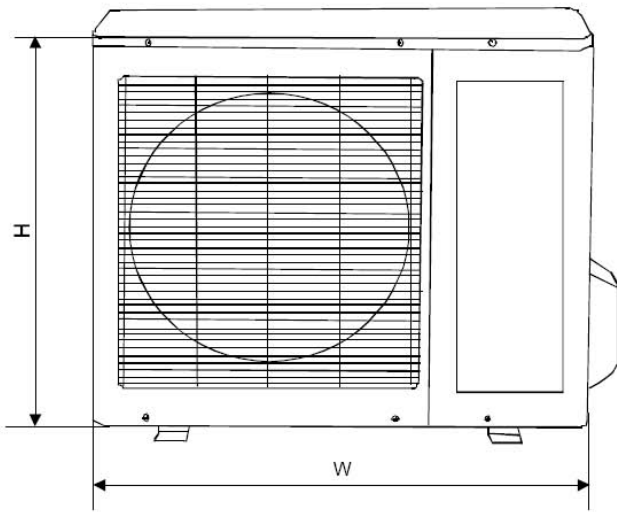
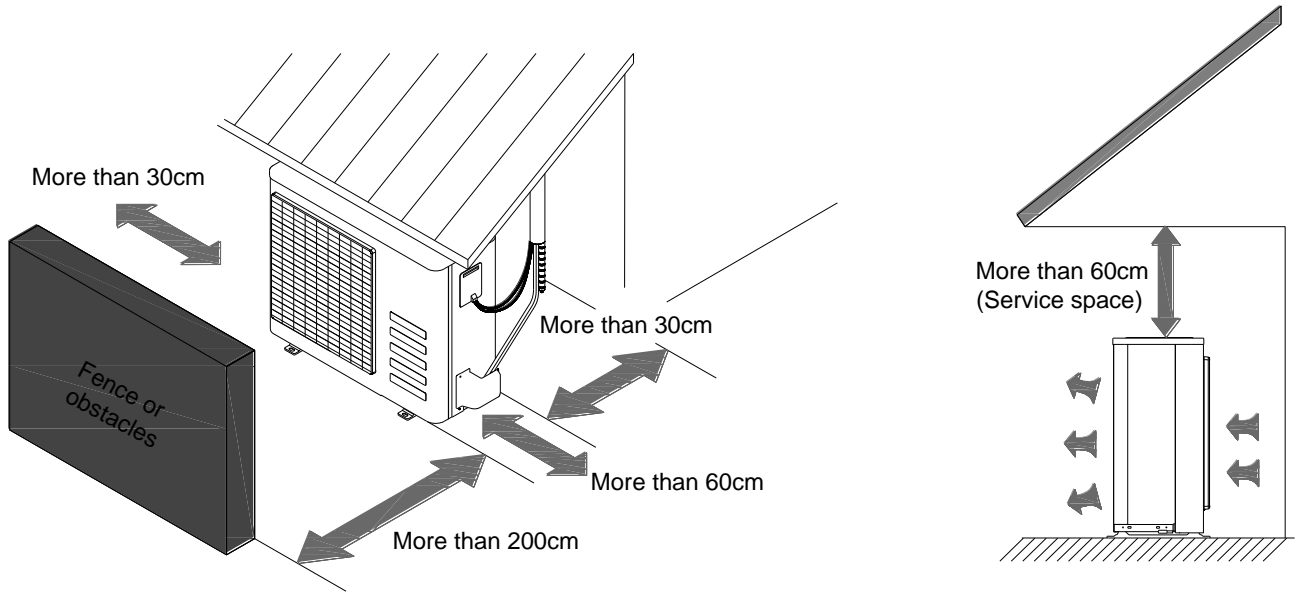


Model	L(mm)	R(mm)	H(mm)	Dimension of installation hole(mm)
ELSI-JMF007-N11	85	88	45	∅ 65
ELSI-JMF009-N11				
ELSI-JMF012-N11	100	95	45	
ELSI-JMF018-N11	110	100	45	



Model	L(mm)	R(mm)	H(mm)	Dimension of installation hole(mm)
ELSI-JMF024-N11	293	163	45	∅ 65

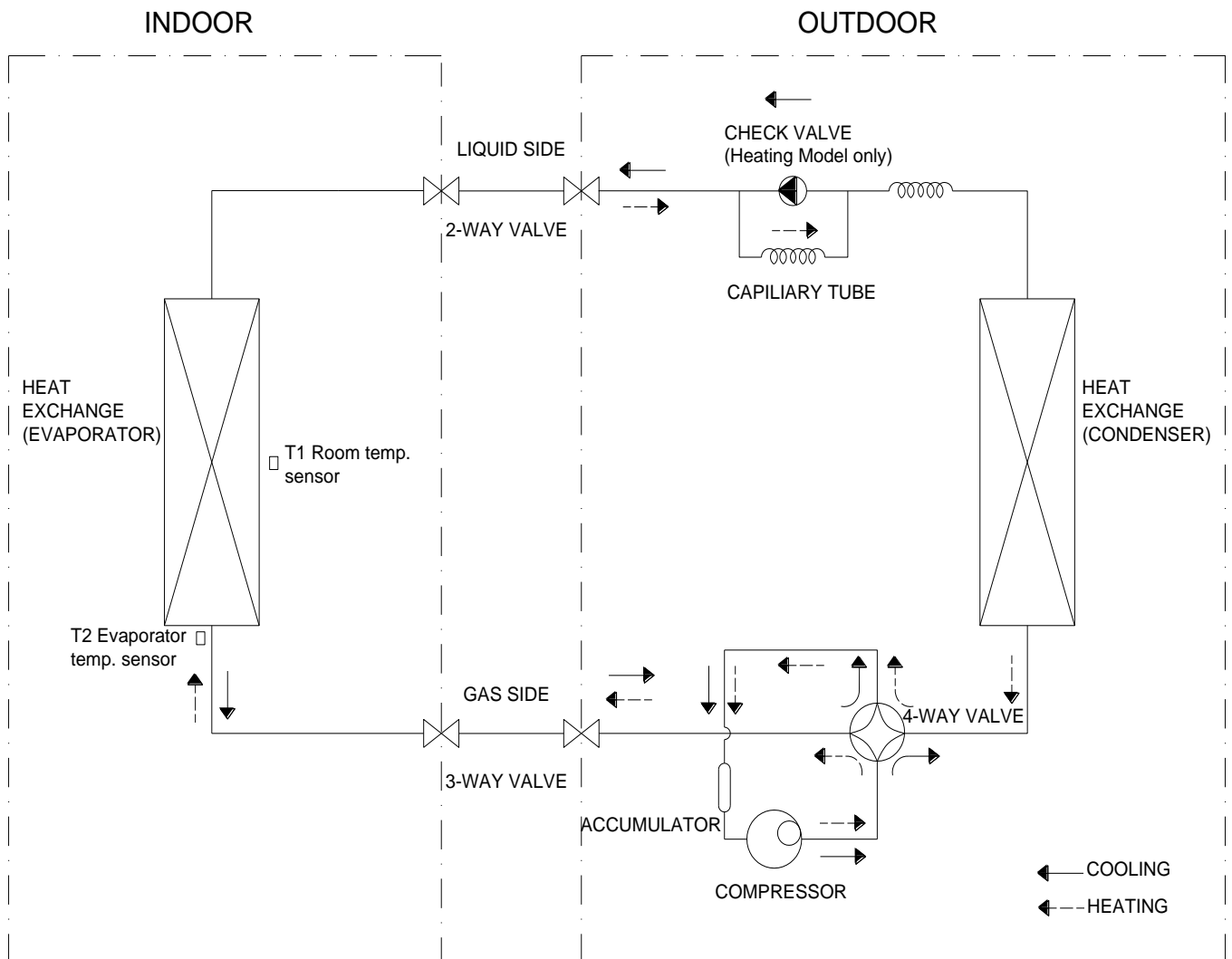
4.2 Outdoor Unit



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Model	W	D	H	W1	A	B
ELAU-JMF007-H11	700	240	540	757	458	250
ELAU-JMF009-H11	700	240	540	757	458	250
ELAU-JMF012-H11	780	250	540	843	549	276
ELAU-JMF018-H11	760	285	590	823	530	290
ELAU-JMF024-H11	820	330	595	870	523	340

5. Refrigerant Cycle Diagram

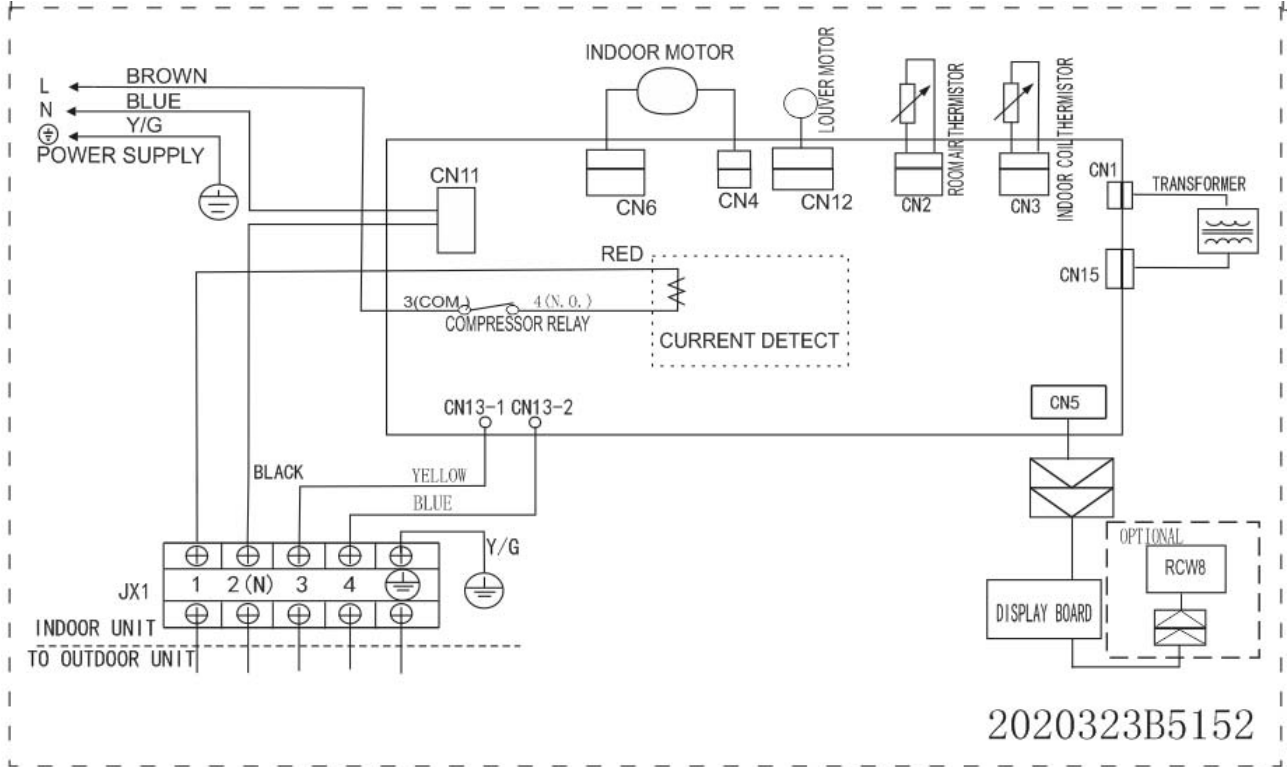


T3 temp. sensor is only for ELSI-JMF024-N11 model

6. Wiring Diagram

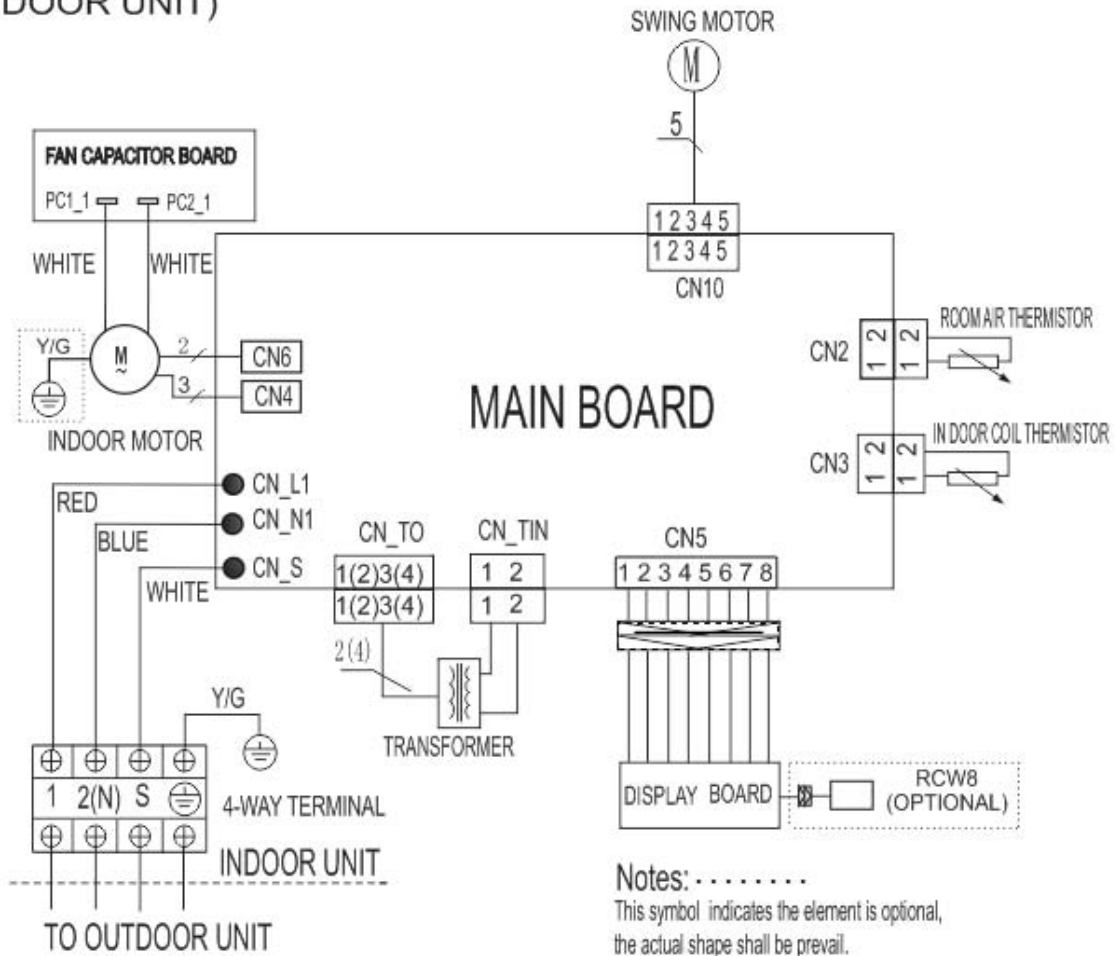
6.1 Indoor Unit

ELSI-JMF007-N11, ELSI-JMF009-N11, ELSI-JMF012-N11, ELSI-JMF018-N11,



ELSI-JMF024-N11

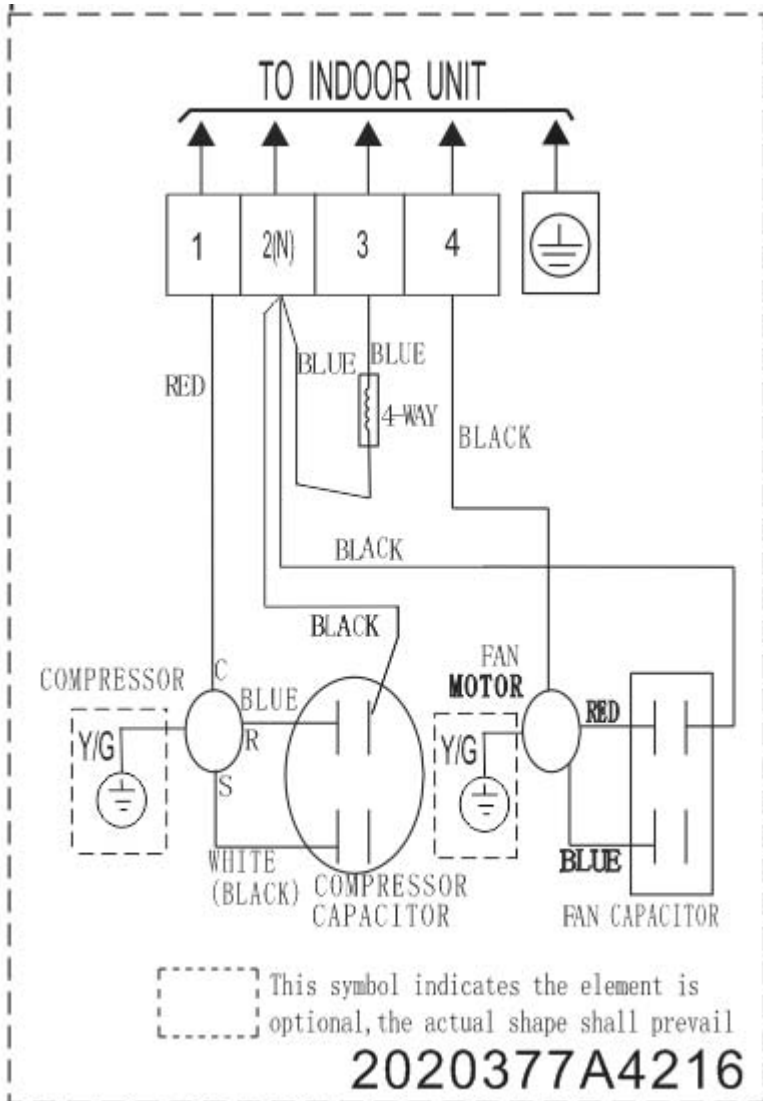
**WIRING DIAGRAM
(INDOOR UNIT)**



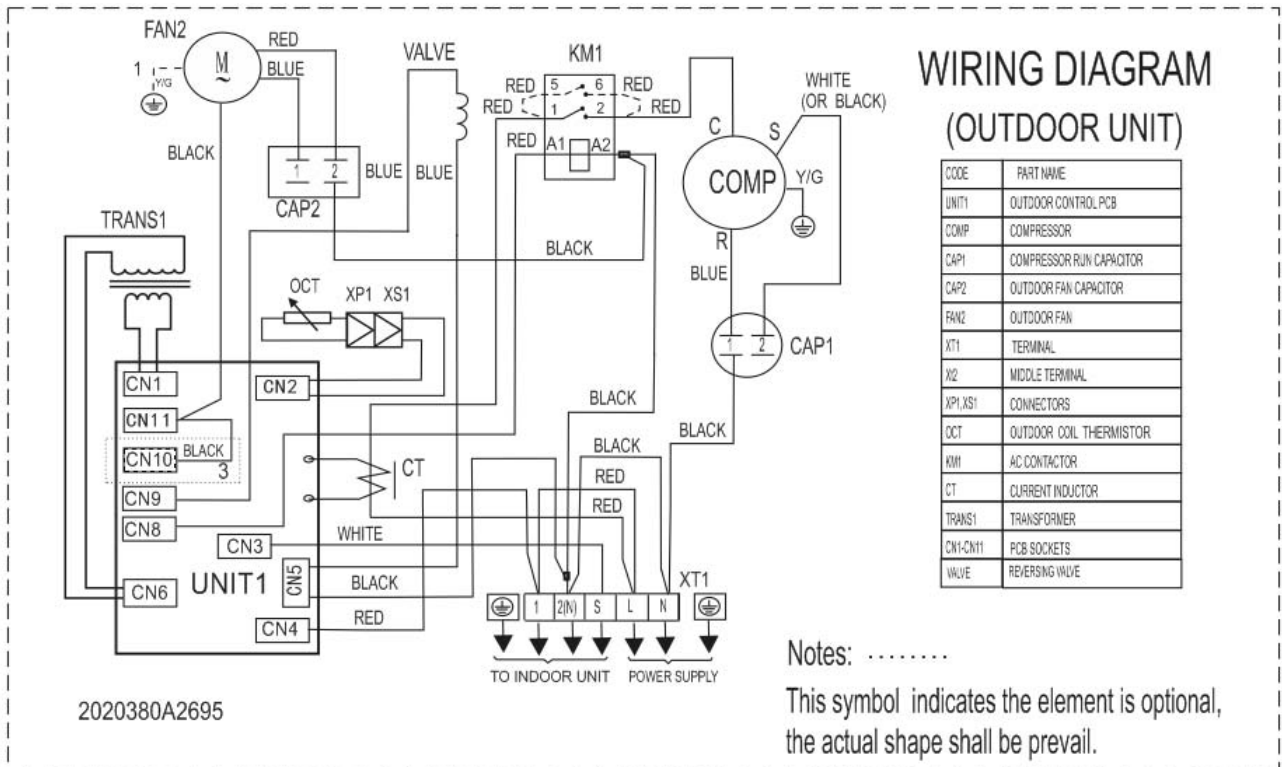
Notes:
 This symbol indicates the element is optional,
 the actual shape shall be prevail.

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ELAU-JMF018-H11



ELAU-JMF024-H11



7 Installation Details

7.1 Wrench torque sheet for installation

Outside diameter		Torque	Additional tightening torque
mm	inch	N.cm	N.cm
Φ6.35	1/4	1500(153kgf.cm)	1600(163kgf.cm)
Φ9.52	3/8	2500(255kgf.cm)	2600(265kgf.cm)
Φ12.7	1/2	3500(357kgf.cm)	3600(367kgf.cm)
Φ15.9	5/8	4500(459kgf.cm)	4700(479kgf.cm)
Φ19	3/4	6500(663kgf.cm)	6700(683kgf.cm)

7.2 Connecting the cables

The power cord of connect should be selected according to the following specifications sheet.

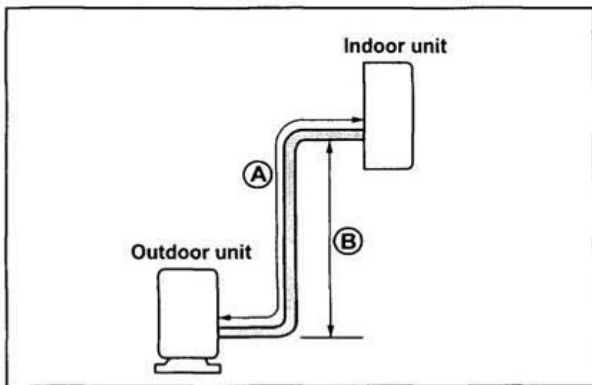
Rated current of appliance	Nominal cross-sectional area (mm ²)
>3 and ≤6	0.75
>6 and ≤10	1
>10 and ≤16	1.5
>16 and ≤25	2.5

The cable size and the current of the fuse or switch are determined by the maximum current indicated on the nameplate which located on the side panel of the unit. Please refer to the nameplate before selecting the cable, fuse and switch.

7.3 Pipe length and the elevation

The pipe length and refrigerant amount:

Model	Pipe size		Standard length (m)	Max. Elevation B (m)	Max. Length A (m)	Additional refrigerant (g/m)
	Gas	Liquid				
ELSI-JMF007-N11+ELAU-JMF007-H11	3/8" (Φ9.52)	1/4" (Φ6.35)	5	8	20	20
ELSI-JMF009-N11+ELAU-JMF009-H11	3/8" (Φ9.52)	1/4" (Φ6.35)	5	8	20	20
ELSI-JMF012-N11+ELAU-JMF012-H11	1/2" (Φ12.7)	1/4" (Φ6.35)	5	8	20	20
ELSI-JMF018-N11+ELAU-JMF018-H11	1/2" (Φ12.7)	1/4" (Φ6.35)	5	10	25	20
ELSI-JMF024-N11+ELAU-JMF024-H11	5/8" (Φ15.9)	3/8" (Φ9.52)	5	10	25	40

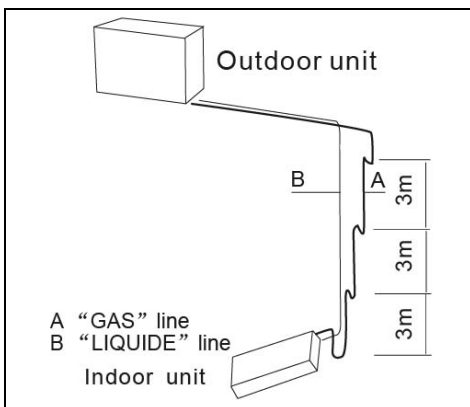


Caution:

The capacity test is based on the standard length and the maximum permissible length is based on the system reliability.

Oil trap:

When the outdoor unit is installed above the indoor unit an oil trap is required every 3m along the suction line at the lowest point. In case the indoor unit is installed above the outdoor, no trap is required.



7.4 Installation for the first time

Air and moisture in the refrigerant system have undesirable effects as below:

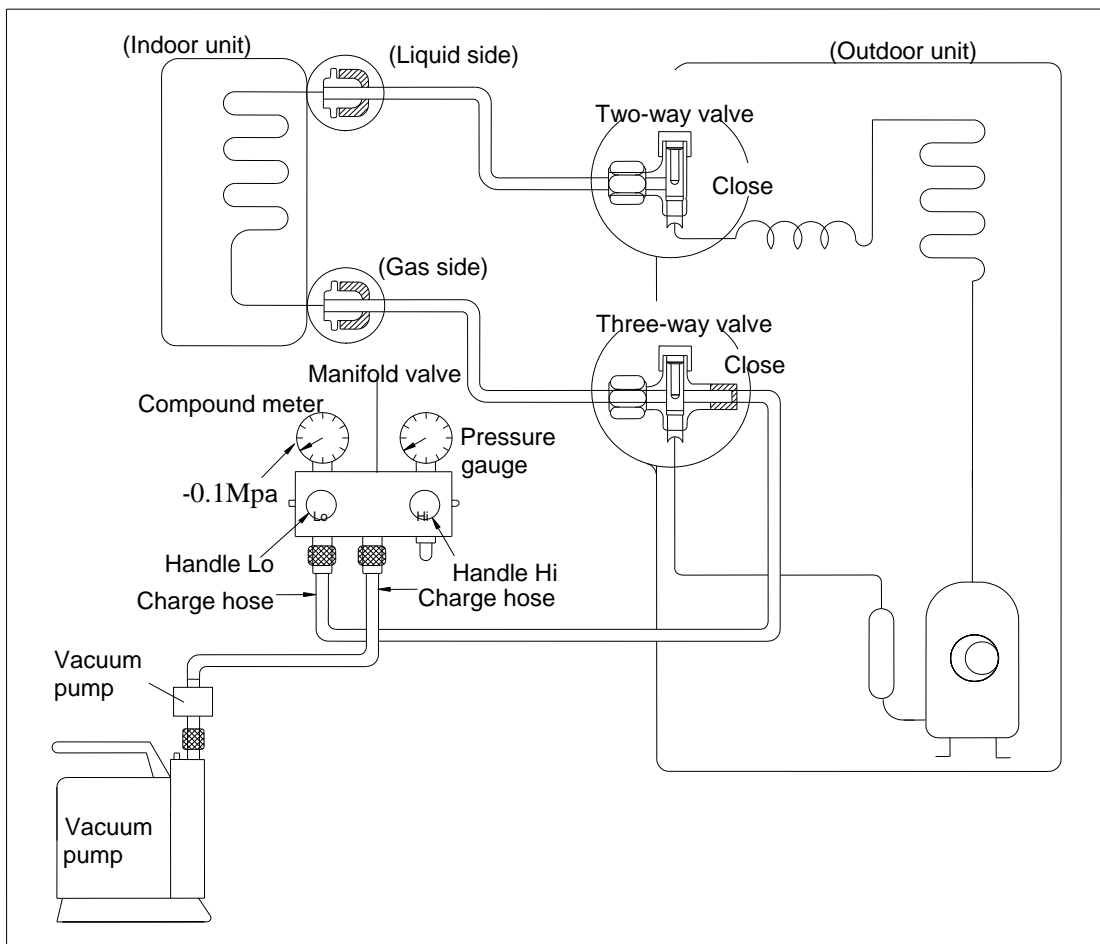
- Pressure in the system rises.
- Operating current rises.
- Cooling or heating efficiency drops.
- Moisture in the refrigerant circuit may freeze and block capillary tubing.
- Water may lead to corrosion of parts in the refrigerant system.

Therefore, the indoor units and the pipes between indoor and outdoor units must be leak tested and evacuated to remove gas and moisture from the system.

Gas leak check (Soap water method):

Apply soap water or a liquid neutral detergent on the indoor unit connections or outdoor unit connections by a soft brush to check for leakage of the connecting points of the piping. If bubbles come out, the pipes have leakage.

1. Air purging with vacuum pump



- 1) Completely tighten the flare nuts of the indoor and outdoor units, confirm that both the 2-way and 3-way valves are set to the closed position.
- 2) Connect the charge hose with the push pin of handle lo to the 3-way valves gas service port..
- 3) Connect the charge hose of handle hi connection to the vacuum pump.
- 4) Fully open the handle Lo of the manifold valve.
- 5) Operate the vacuum pump to evacuate.
- 6) Make evacuation for 30 minutes and check whether the compound meter indicates -0.1Mpa. If

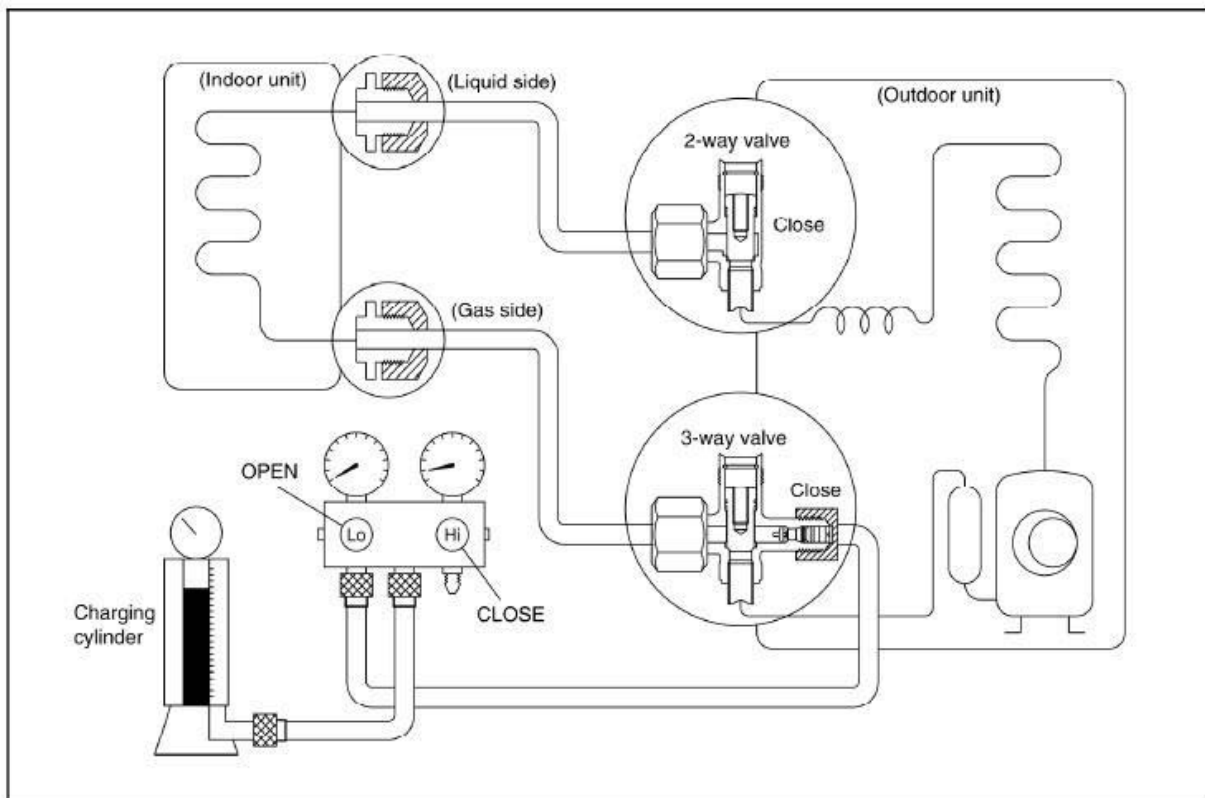
the meter does not indicate -0.1Mpa after pumping 30 minutes, it should be pumped 20 minutes more. If the pressure can't achieve -0.1Mpa after pumping 50 minutes, please check if there are some leakage points.

Fully close the handle Lo valve of the manifold valve and stop the operation of the vacuum pump. Confirm that the gauge needle does not move (approximately 5 minutes after turning off the vacuum pump).

7) Turn the flare nut of the 3-way valves about 45° counterclockwise for 6 or 7seconds after the gas coming out, then tighten the flare nut again. Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure. Then remove the charge hose from the 3 way valve.

8) Fully open the 2 way valve and 3 way valve and securely tighten the cap of the 3 way valve.

2. Air purging by refrigerant



Procedure:

1). Confirm that both the 2-way and 3-way valves are set to the closed position.

2). Connect the charge set and a charging cylinder to the service port of the 3-way valve.

3). Air purging.

Open the valves on the charging cylinder and the charge set. Purge the air by loosening the flare nut on the 2-way valve approximately 45° for 3 seconds then closing it for 1 minute; repeat 3 times.

After purging the air, use a torque wrench to tighten the flare nut on the 2-way valve.

4). Check the gas leakage.

Check the flare connections for gas leakage.

5). Discharge the refrigerant.

Close the valve on the charging cylinder and discharge the refrigerant by loosening the flare nut on the 2-way valve approximately 45° until the gauge indicates 0.3 to 0.5 Mpa.

6). Disconnect the charge set and the charging cylinder, and set the 2-way and 3-way valves to the open position.

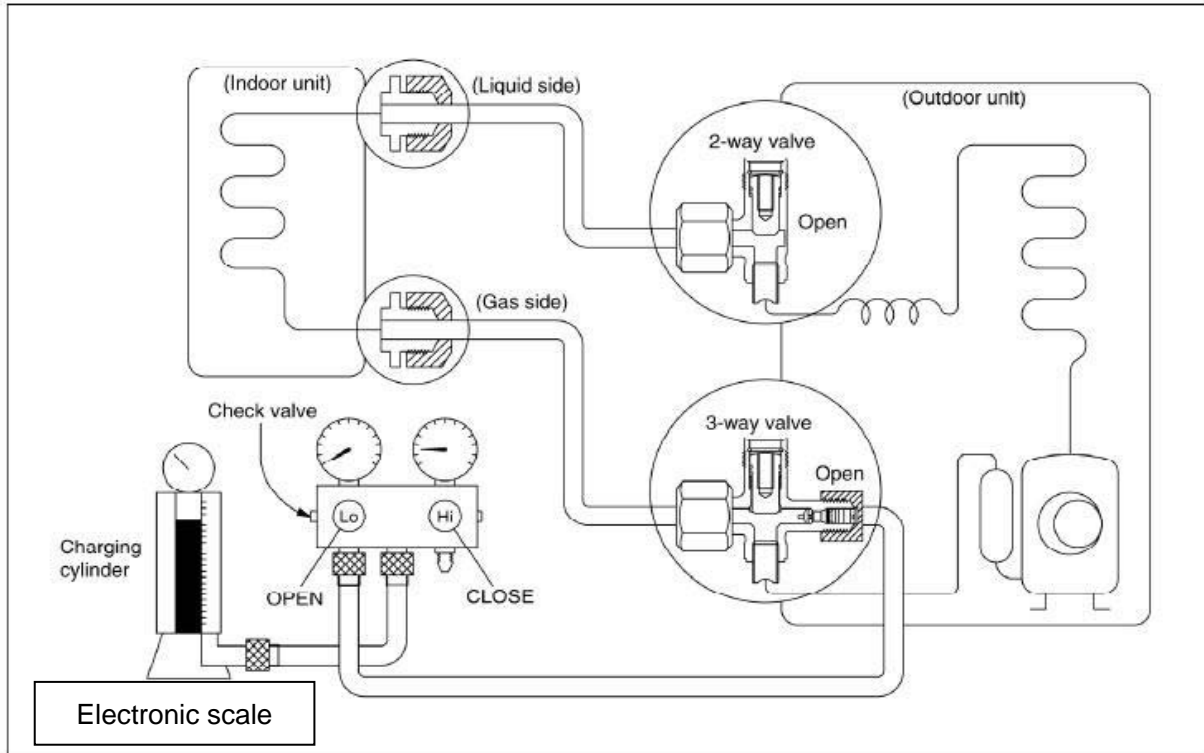
Be sure to use a hexagonal wrench to operate the valve stems.

7). Mount the valve stems nuts and the service port cap.

Be sure to use a torque wrench to tighten the service port cap to a torque 18N·m.

Be sure to check the gas leakage.

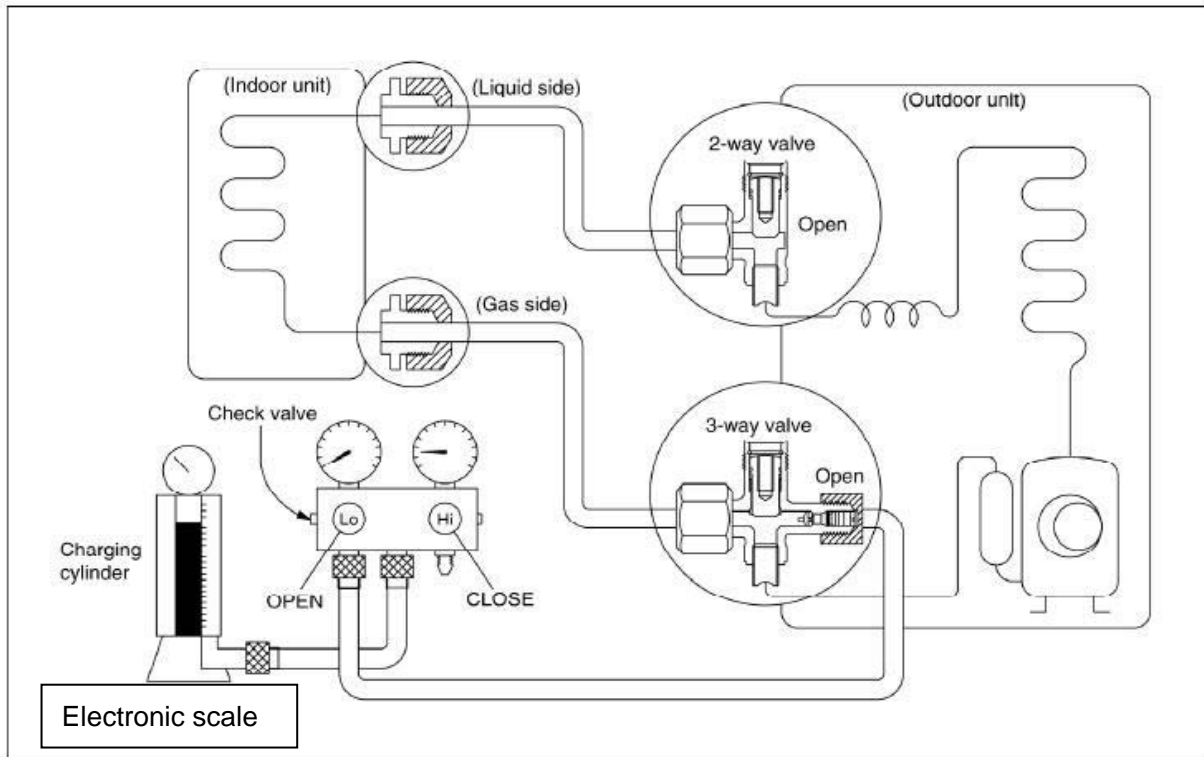
3. Adding the refrigerant if the pipe length >5m



Procedure:

- 1). Connect the charge hose to the charging cylinder, open the 2-way valve and the 3-way valve. Connect the charge hose which you disconnected from the vacuum pump to the valve at the bottom of the cylinder. If the refrigerant is R410A, make the cylinder bottom up to ensure the liquid charge.
- 2). Purge the air from the charge hose.
Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air (be careful of the liquid refrigerant).
- 3) Put the charging cylinder onto the electronic scale and record the weight.
- 4) Operate the air conditioner at the cooling mode.
- 5) Open the valves (Low side) on the charge set and charge the system with liquid refrigerant.
- 6).When the electronic scale displays the proper weight (refer to the table), disconnect the charge hose from the 3-way valve's service port immediately and turn off the air conditioner before disconnecting the hose.
- 7). Mount the valve stem caps and the service port
Use torque wrench to tighten the service port cap to a torque of 18N.m.
Be sure to check for gas leakage.

7.5 Adding the refrigerant after running the system for many years

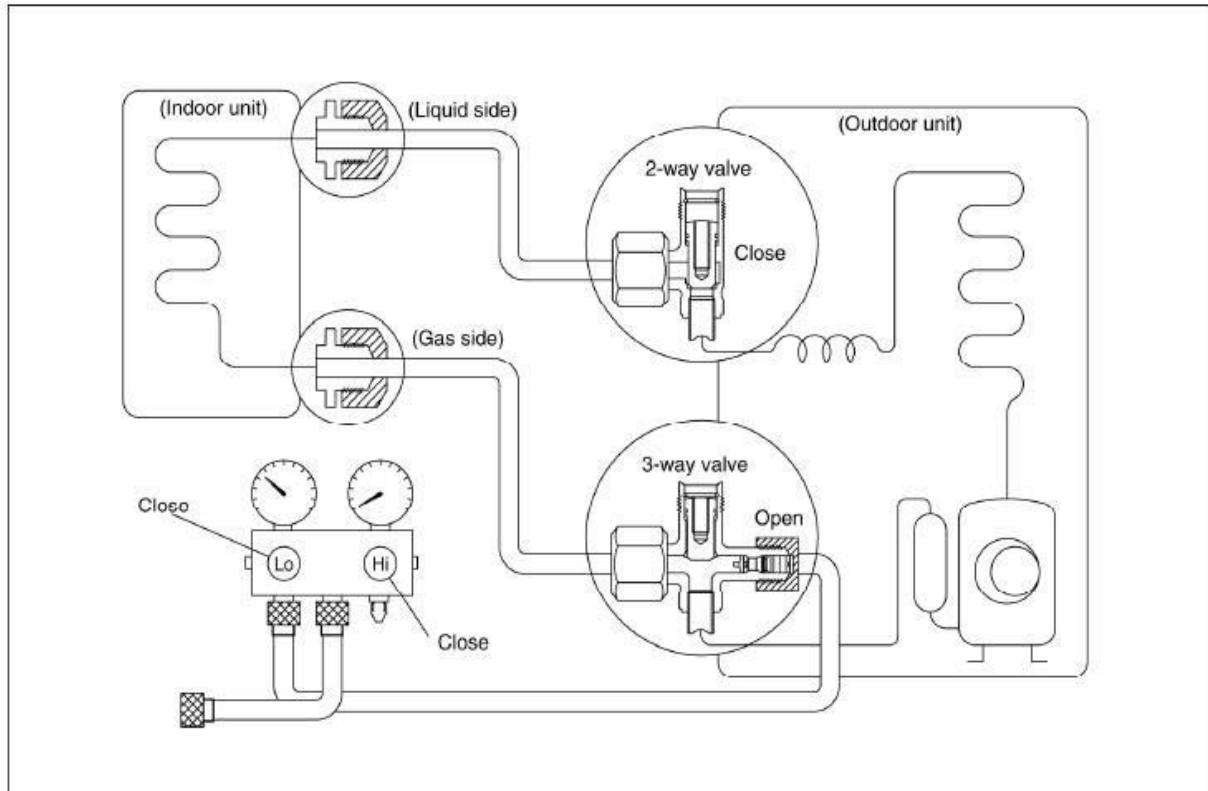


Procedure:

- 1). Connect the charge hose to the 3-way service port, open the 2-way valve and the 3-way valve. Connect the charge hose to the valve at the bottom of the cylinder. If the refrigerant is R410A, make the cylinder bottom up to ensure liquid charge.
- 2). Purge the air from the charge hose.
Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air (be careful of the liquid refrigerant).
- 3) Put the charging cylinder onto the electronic scale and record the weight.
- 4) Operate the air conditioner at the cooling mode.
- 5) Open the valves (Low side) on the charge set and charge the system with liquid refrigerant.
- 6).When the electronic scale displays the proper weight (refer to the gauge and the pressure of the low side), disconnect the charge hose from the 3-way valve’s service port immediately and turn off the air conditioner before disconnecting the hose.
- 7). Mount the valve stem caps and the service port
Use torque wrench to tighten the service port cap to a torque of 18N.m.
Be sure to check for gas leakage.

7.6 Re-installation while the indoor unit need to be repaired

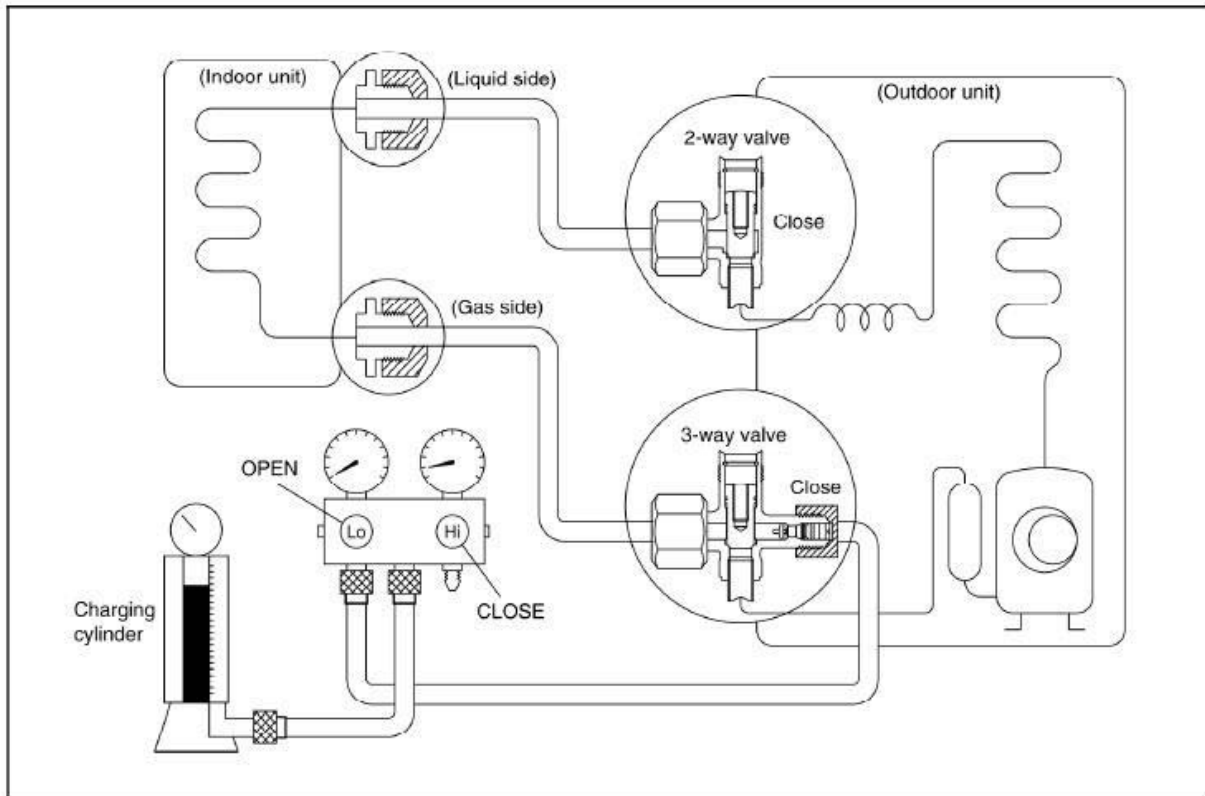
1. Collecting the refrigerant into the outdoor unit



Procedure

- 1). Confirm that both the 2-way and 3-way valves are set to the opened position
Remove the valve stem caps and confirm that the valve stems are in the opened position.
Be sure to use a hexagonal wrench to operate the valve stems.
- 2). Connect the charge hose with the push pin of handle lo to the 3-way valves gas service port.
- 3). Air purging of the charge hose.
Open the handle Lo valve of the manifold valve slightly to purge air from the charge hose for 5 seconds and then close it quickly.
- 4). Set the 2-way valve to the close position.
- 5). Operate the air conditioner at the cooling cycle and stop it when the gauge indicates 0.1MPa.
- 6). Set the 3-way valve to the closed position immediately
Do this quickly so that the gauge ends up indicating 0.3 to 0.5Mpa.
Disconnect the charge set, and tighten the 2-way and 3-way valve's stem nuts.
Use a torque wrench to tighten the 3-way valves service port cap to a torque of 18N.m.
Be sure to check for gas leakage.

2. Air purging by the refrigerant

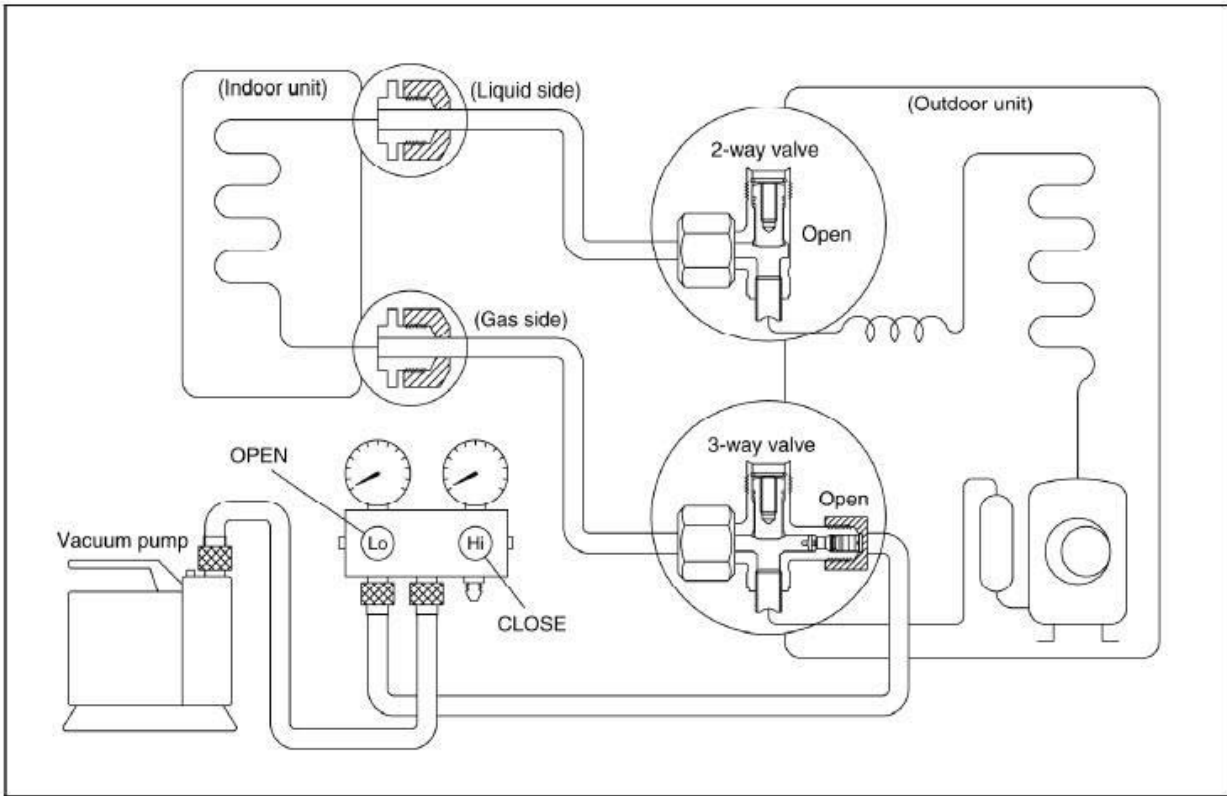


Procedure:

- 1). Confirm that both the 2-way and 3-way valves are set to the closed position.
- 2). Connect the charge set and a charging cylinder to the service port of the 3-way valve
Leave the valve on the charging cylinder closed.
- 3). Air purging.
Open the valves on the charging cylinder and the charge set. Purge the air by loosening the flare nut on the 2-way valve approximately 45° for 3 seconds then closing it for 1 minute; repeat 3 times.
After purging the air, use a torque wrench to tighten the flare nut on the 2-way valve.
- 4). Check the gas leakage
Check the flare connections for gas leakage.
- 5). Discharge the refrigerant.
Close the valve on the charging cylinder and discharge the refrigerant by loosening the flare nut on the 2-way valve approximately 45° until the gauge indicates 0.3 to 0.5 Mpa.
- 6). Disconnect the charge set and the charging cylinder, and set the 2-way and 3-way valves to the open position
Be sure to use a hexagonal wrench to operate the valve stems.
- 7). Mount the valve stems nuts and the service port cap
Be sure to use a torque wrench to tighten the service port cap to a torque 18N.m.
Be sure to check the gas leakage.

7.7 Re-installation while the outdoor unit need to be repaired

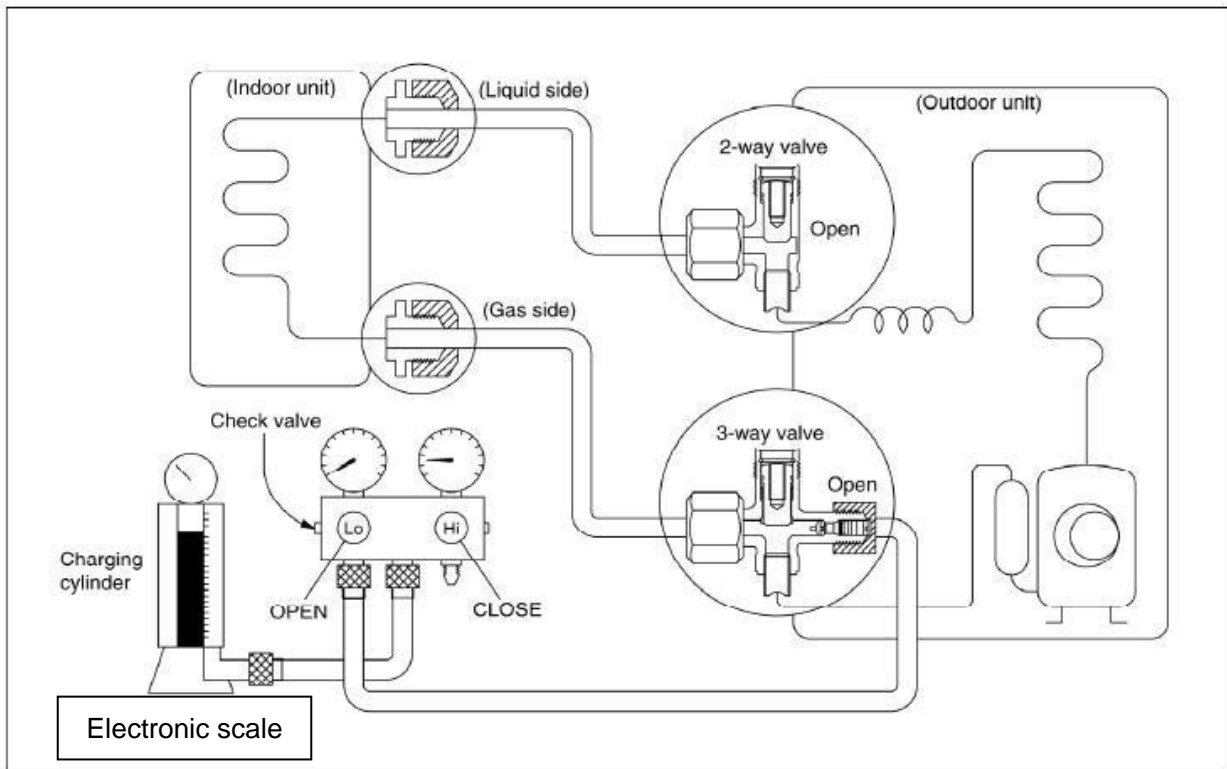
1. Evacuation for the whole system



Procedure:

- 1). Confirm that both the 2-way and 3-way valves are set to the opened position.
- 2). Connect the vacuum pump to 3-way valve's service port.
- 3). Evacuation for approximately one hour. Confirm that the compound meter indicates -0.1Mpa.
- 4). Close the valve (Low side) on the charge set, turn off the vacuum pump, and confirm that the gauge needle does not move (approximately 5 minutes after turning off the vacuum pump).
- 5). Disconnect the charge hose from the vacuum pump.

2. Refrigerant charging



Procedure:

- 1). Connect the charge hose to the charging cylinder, open the 2-way valve and the 3-way valve
Connect the charge hose which you disconnected from the vacuum pump to the valve at the bottom of the cylinder. If the refrigerant is R410A, make the cylinder bottom up to ensure liquid charge.
- 2). Purge the air from the charge hose
Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air (be careful of the liquid refrigerant).
- 3) Put the charging cylinder onto the electronic scale and record the weight.
- 4). Open the valves (Low side) on the charge set and charge the system with liquid refrigerant
If the system cannot be charge with the specified amount of refrigerant, or can be charged with a little at a time (approximately 150g each time) , operating the air conditioner in the cooling cycle; however, one time is not sufficient, wait approximately 1 minute and then repeat the procedure.
- 5).When the electronic scale displays the proper weight, disconnect the charge hose from the 3-way valve's service port immediately
If the system has been charged with liquid refrigerant while operating the air conditioner, turn off the air conditioner before disconnecting the hose.
- 6). Mounted the valve stem caps and the service port
Use torque wrench to tighten the service port cap to a torque of 18N.m.
Be sure to check for gas leakage

8. Operation Characteristics

Model Temperature	Cooling operation	Heating operation	Drying operation
Room temperature	17°C~32°C	0°C~30°C	10°C~32°C 17°C~32°C
Outdoor temperature	18°C~43°C	-7°C~24°C	11°C~43°C 18°C~43°C
	(-7°C~43°C: For the models with low temperature cooling system)		18°C~52°C (For special tropical models)
	(18°C~52°C: For special tropical models)		

CAUTION:

1. If the air conditioner is used beyond the above conditions, certain safety protection features may come into operation and cause the unit to operate abnormally.

2. The room relative humidity should be less than 80%. If the air conditioner operates beyond this figure, the surface of the air conditioner may attract condensation. Please set the vertical air flow louver to its maximum angle (vertically to the floor), and set HIGH fan mode.

3. The optimum performance will be achieved during this operating temperature zone.

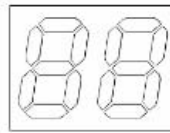
9. Electronic function

9.1 Abbreviation

- T1: Indoor room temperature
- T2: Coil temperature of evaporator
- T3: Coil temperature of condenser
- T4: Outdoor ambient temperature
- T5: Compressor discharge temperature

9.2 Display function

8.2.1 Icon explanation on indoor display board.



<p>2* 7 segments display</p>	<ol style="list-style-type: none"> 1. In normal situation, the setting temperature is displayed. (No temp. display in fan mode.) 2. Shows "SC" when self clean function is activated, "FP" when 8°C heating function is activated. 3. Shows the alarm code whenever there is an alarm.
<p>ION INDICATOR (optional)</p>	<p>Lights up when ionizer or plasma function is activated.</p>
<p>DEFROSTING INDICATOR</p>	<p>Lights up when the unit is under defrosting operation or when the anti-cold air function is activated.</p>
<p>RUN INDICATOR</p>	<p>Lights up when the unit is in operation.</p>
<p>TIMER INDICATOR</p>	<p>Lights up when TIMER function is activated.</p>

9.3 Main Protection

9.3.1 Time Delay at restart for compressor.

9.3.2 Sensor protection at open circuit and breaking disconnection.

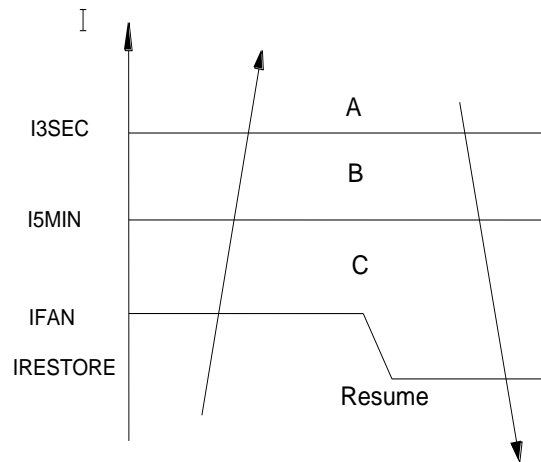
9.3.3 Zero crossing detection error protection

If AC can not detect zero crossing signal for 4 minutes or the zero crossing signal time interval is not correct, the unit will stop and the LED will display the failure. The correct zero crossing signal time interval should be between 6-13ms.

9.3.4 Fan Speed is out of control

When Indoor Fan Speed is too low(lower than 300RPM) lasting 2 minutes, the unit stops and LED displays failure information and can't returns to normal operation automatically.

9.3.5 Current protection



A zone : The current exceeds I_{3SEC} for 5 seconds, the compressor and outdoor fan will shut off.

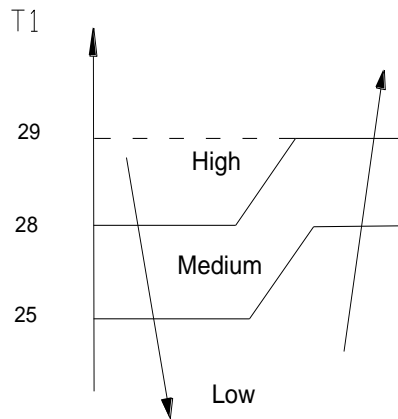
B zone: The current exceeds I_{5min} for 5 minutes, the compressor and outdoor fan will shut off.

C zone: The current exceeds I_{FAN} , the outdoor fan will shut off if AC is in heating mode. If AC is in cooling mode, the indoor fan will run at low speed.

9.4 Operation Modes and Functions

9.4.1 Fan mode

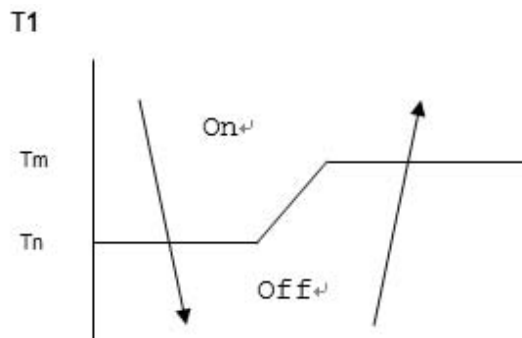
- (1) Outdoor fan and compressor stop.
- (2) Temperature setting function is disabled, and no setting temperature is displayed.
- (3) Indoor fan can be set to high/med/low/auto.
- (4) The louver operates the same as in cooling mode.
- (5) Auto fan:



9.4.2 Cooling Mode

9.4.2.1 Compressor running rules

Once the compressor starts up, it will run 5.5 minutes. And then it will follow the below rules:
 When indoor room temp. T1 is lower than Tn, the compressor and outdoor fan will shut off. When T1 is higher than Tm, the compressor and outdoor fan will start up.



$T_m = T_s, T_n = T_s - 2.$

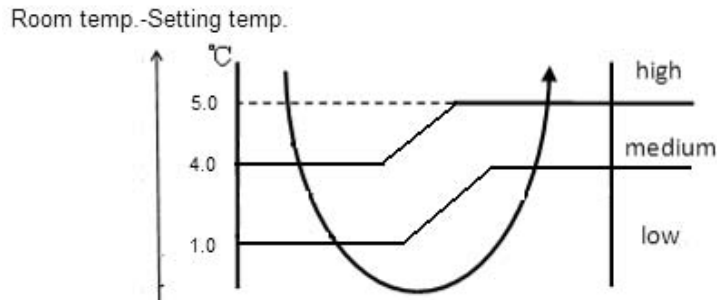
9.4.2.2 Outdoor fan running rules

The On-off outdoor units have single fan speed. The outdoor fan will run following the compressor except when AC is in evaporator high temp. protection in heating mode, condenser high temp. protection in cooling mode, defrosting mode and the current protection.

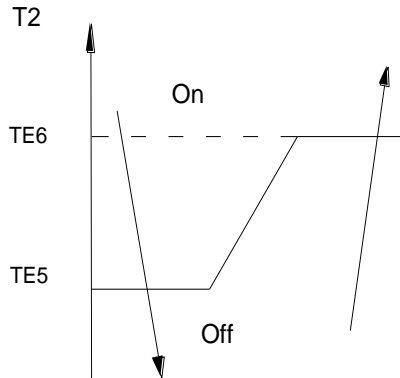
9.4.2.3 Indoor fan running rules

In cooling mode, indoor fan runs all the time and the speed can be selected as high, medium, low and auto.

The auto fan:



9.4.2.4 Low evaporator coil temperature T2 protection



When the evaporator coil temp. T2 keeps lower than TE5 for 5 minutes, the compressor and outdoor fan will shut off. When T2 is higher than TE6, the compressor and outdoor fan will restart up.

9.4.2.5 High condenser temperature T3 protection (only for ELSI-JMF024-N11)

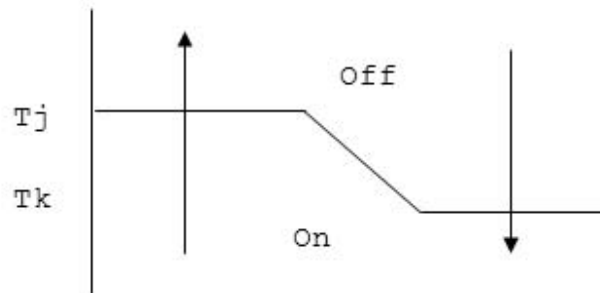
When $T3 \geq TE10$, the compressor will stop and restart until $T3 < TE11$.

During the protection, the outdoor fan keeps working.

9.4.3 Heating Mode

9.4.3.1 Compressor running rules:

Once the compressor starts up, it will run 7 minutes. And then it will follow the below rules: When indoor room temp. T_1 is higher than T_j , the compressor and outdoor fan will shut off. When T_1 is lower than T_k , the compressor and outdoor fan will start up.



While $T_j = T_s + T_B$; $T_k = T_s + T_B - 2$

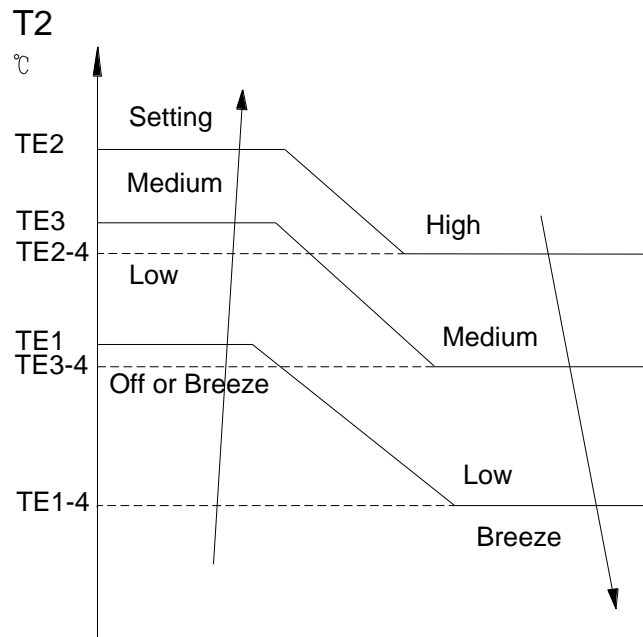
9.4.3.2 Outdoor fan running rules:

The outdoor units have single fan speed. The outdoor fan will run following the compressor except when AC is in evaporator high temp. protection in heating mode, condenser high temp. protection in cooling mode, defrosting mode and the current protection.

9.4.3.3 Indoor fan running rules:

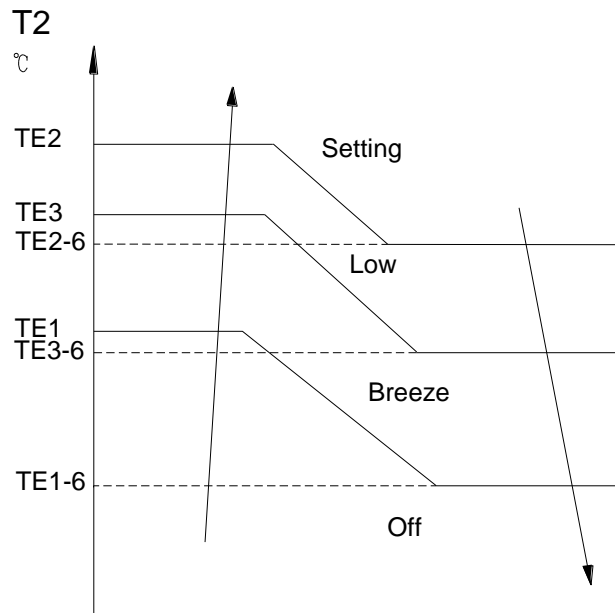
Anti-cold wind function:

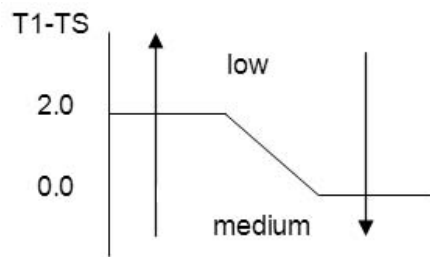
When the compressor is on, the indoor fan can be set to high/med/low/auto. And the anti-cold wind function has the priority. If the compressor stops caused by the room temperature rising and $T_2 \geq TE1-4$, the indoor fan will be forced to run at breeze for 127 seconds, if $T_2 < TE1-4$, the indoor fan will stop immediately.



For ELSI-JMF024-N11:

When the compressor is on, the indoor fan can be set to high/med/low/auto. And the anti-cold wind function has the priority. If the compressor stops caused by the room temperature rising and $T2 \geq TE1-6$, the indoor fan will be forced to run at breeze for 127 seconds, if $T2 < TE1-6$, the indoor fan will stop immediately.



Auto fan action:

When $T1-Ts > 2^{\circ}\text{C}$, the indoor fan will run at low speed.

When $T1-Ts \leq 0^{\circ}\text{C}$, the indoor fan will run at medium speed.

9.4.3.4 Defrosting mode:

- **Defrosting action:**

For ELSI-JMF024-N11:

- **Condition of defrosting:**

AC will enter defrosting mode if any of the following items is satisfied.

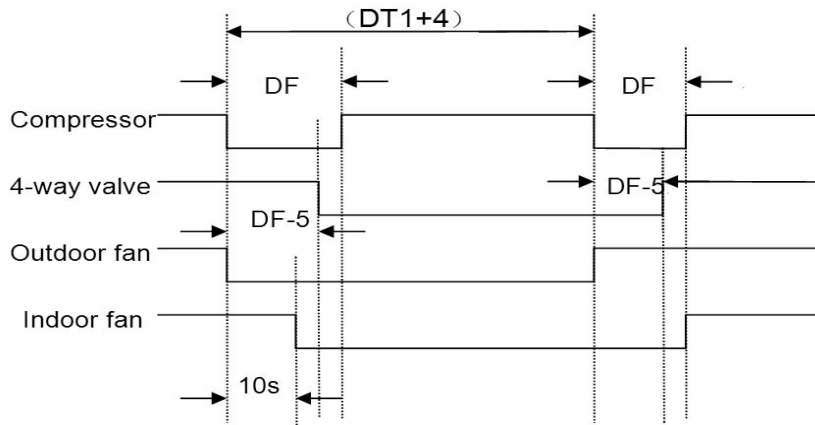
- (1) If $T3 < TC1$ and the compressor keeps running over 45 minutes. Meanwhile $T3 < TC3$ for 5 minutes
- (2) After the last defrosting, the time that the outdoor fan is off but the compressor is on in high T2 protection cumulates up to 90 minutes.

- **Condition of ending defrosting:**

If any one of the following items is satisfied, the defrosting will terminate and the machine will turn to normal heating mode.

- (1) $T3$ rises to be higher than $TC2$.
- (2) The machine has run for 10 minutes in defrosting.

● Defrosting action:



For other models:

● Condition of defrosting:

1, AC will enter defrosting mode if all of the following items is satisfied.

1.1 After the compressor keeps running 8 minutes, $\Delta T_{max} - \Delta T_{min} \geq 4^{\circ}C$ ($\Delta T = T_2 - T_1$)

1.2 AC meets A1 or A2.

A1: The cumulative compressor running time is between 45~120 minutes. Meanwhile the value of $T_2 - T_1$ meets the below table.

$^{\circ}C$	ΔT
High speed	$< TH_{DEFROST}$
Medium speed	$< TM_{DEFROST}$
Low speed	$< TL_{DEFROST}$
Breeze/off	No need to compare the T_2 and T_1

A2: The cumulative compressor running time is over 120 minutes. Meanwhile the value of ΔT meets the below table.

$^{\circ}C$	ΔT
High speed	$< TH_{DEFROST} + 2$
Medium speed	$< TM_{DEFROST} + 2$
Low speed	$< TL_{DEFROST} + 2$

1.3

$^{\circ}C$	T_2
High speed	$< 43^{\circ}C$
Medium speed	$< 46^{\circ}C$
Low speed	$< 48^{\circ}C$

About the setting defrosting time:

	runtime (minute)	Defrosting time (minute)

Case 1	Runtime=45	10
Case 2	45<runtime≤60	7.5
Case 3	60<runtime≤90	8.5
Case 4	90<runtime≤120	10
Case 5	120<runtime	12

2, The cumulative compressor running time is over 45 minutes .Meanwhile the indoor fan off or run in breeze mode automatically (for Anti-cold wind function), AC will enter defrosting mode and the defrosting time is ten minutes.

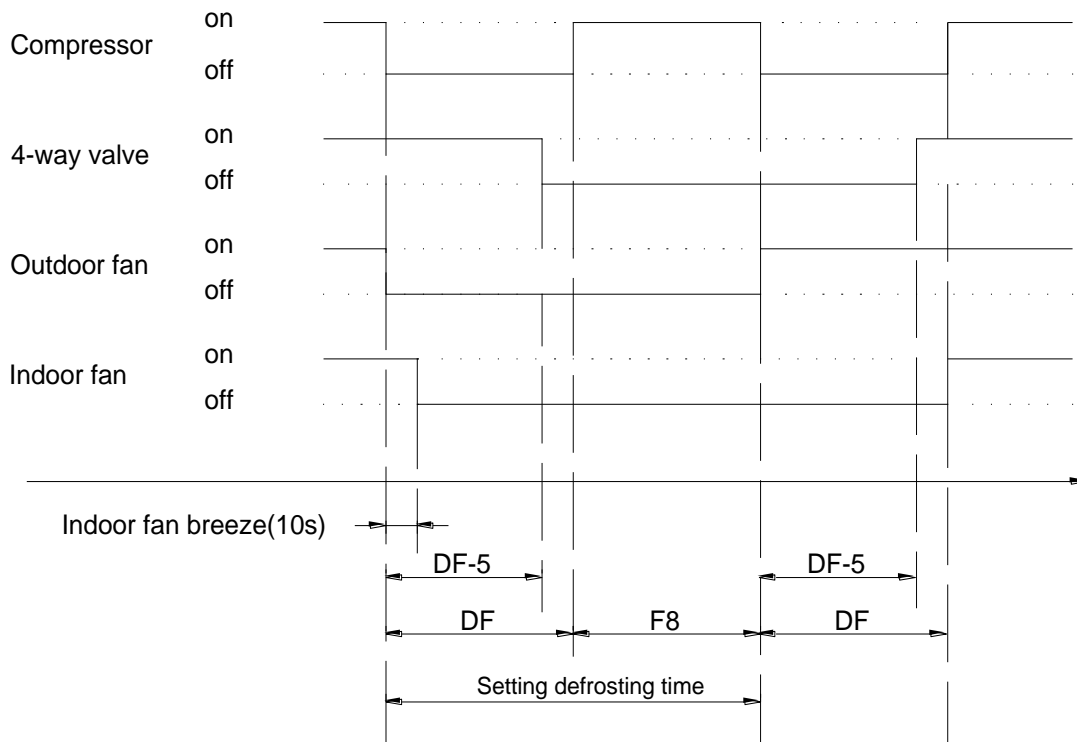
3, If the AC haven't defrost before running and the indoor fan running in slow mode over 2 minutes, meanwhile 1.2 and 1.3 is satisfied and the cumulative compressor running time is over 45 minutes, AC will enter defrosting mode and the defrosting time is ten minutes.

● **Condition of ending defrosting:**

If any one of the following items is satisfied, the defrosting will terminate and the machine will turn to normal heating mode.

- (1) The defrosting time is reached to the setting value.
- (2) After defrosting for 3 minutes, $T_2 \geq 2^\circ\text{C}$.
- (3) If the defrosting time is between 2 and 4 minutes, $T_{2\text{max}} - T_{2\text{min}} \geq 2^\circ\text{C}$.

● **Defrosting action:**



9.4.4 Auto-mode

This mode can be chosen with remote controller and the setting temperature can be changed between 17~30°C.

In auto mode, the machine will choose cooling, heating or fan-only mode according to ΔT ($\Delta T = T1 - Ts$).

$\Delta T = T1 - Ts$	Running mode
$\Delta T > 2^\circ C$	Cooling
$-3 \leq \Delta T \leq 2^\circ C$	Fan-only
$\Delta T < -3^\circ C$	Heating(For cooling only models, they will run at fan speed)

AC will run in auto mode in the below cases:

- (1) Pressing the forced auto button.
- (2) If AC is off, it will run in auto mode when the timer on function is active.
- (3) After setting the mode, AC will run in auto mode if the compressor keeps not running for 20 minutes.

9.4.5 Drying mode

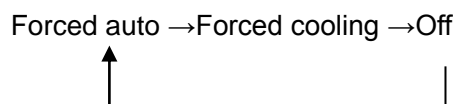
8.4.5.1 The compressor is cycled running with 10 minutes on and then 5 minutes off. The indoor fan will keep running at low speed.

8.4.5.2 In drying mode, if room temperature is lower than 10°C, the compressor will stop and not resume until room temperature exceeds 13°C.

8.4.5.3 The evaporator anti-freezing protection is the same as that in cooling mode.

9.4.6 Forced operation function

Press the touch button continually, the AC will run as below sequence:



Forced cooling mode:

The compressor and outdoor fan keep running and the indoor fan runs at low speed. After running for 30 minutes, AC will turn to auto mode with 24°C setting temperature.

Forced auto mode:

The action of forced auto mode is the same as normal auto mode with 24°C setting temperature.

- When AC receives signals, such as switch on, switch off, timer on, timer off, mode setting, fan speed setting, sleeping mode setting, follow me setting, it will quit the forced operation.
- The forced operation function can not be memorized if power off.

9.4.7 Timer function

8.4.7.1 Timing range is 24 hours.

8.4.7.2 Timer on. The machine will turn on automatically when reaching the setting time.

- 8.4.7.3 Timer off. The machine will turn off automatically when reaching the setting time.
- 8.4.7.4 Timer on/off. The machine will turn on automatically when reaching the setting “on” time, and then turn off automatically when reaching the setting “off” time.
- 8.4.7.5 Timer off/on. The machine will turn off automatically when reaching the setting “off” time, and then turn on automatically when reaching the setting “on” time.
- 8.4.7.6 The timer function will not change the AC current operation mode. Suppose AC is off now, it will not start up firstly after setting the “timer off” function. And when reaching the setting time, the timer LED will be off and the AC running mode has not been changed.
- 8.4.7.7 The setting time is relative time.
- 8.4.7.8 The AC will quit the timer function when it has malfunction.

9.4.8 Sleep function mode

- 8.4.8.1 Operation time in sleep mode is 7 hours. After 7 hours the AC quits this mode and turns off.
- 8.4.8.2. Operation process in sleep mode is as follow:
When cooling, the setting temperature rises 1°C (be lower than 30°C) every one hour, 2 hours later the setting temperature stops rising and indoor fan is fixed as low speed.
When heating, the setting temperature decreases 1°C (be higher than 17°C) every one hour, 2 hours later the setting temperature stops rising and indoor fan is fixed as low speed. (Anti-cold wind function has the priority)
- 8.4.8.3 Timer setting is available
- 8.4.8.4 When user uses timer off function in sleep mode (or sleep function in timer off mode), if the timing is less than 7 hours, sleep function will be cancelled when reaching the setting time. If the timing is more than 7 hours, the machine will not stop until reaches the setting time in sleep mode.

9.4.9 Auto-Restart function

The indoor unit is equipped with auto-restart function, which is carried out through an auto-restart module. In case of a sudden power failure, the module memorizes the setting conditions before the power failure. The unit will resume the previous operation setting (not including swing function) automatically after 3 minutes when power returns.

If the memorization condition is forced cooling mode, the unit will run in cooling mode for 30 minutes and turn to auto mode as 24°C setting temp.

If AC is off before power off and AC is required to start up now, the compressor will have 1 minute delay when power on. Other conditions, the compressor will have 3 minutes delay when restarts.

9.4.10 Refrigerant Leakage Detection

With this new technology, the display area will show “EC” when the outdoor unit detects refrigerant leakage.

9.4.11 Louver Position Memory Function

When starting the unit again after shutting down, its louver will restore to the angle originally set by the user, but the precondition is that the angle must be within the allowable range, if it exceeds, it will memorize the maximum angle of the louver. During operation, if the power fails or the end user shuts down the unit in the turbo mode, the louver will restore to the default angle.

9.4.12 8°C Heating

In heating operation, the preset temperature of the air conditioner can be as low as 8°C, which keeps the room temperature steady at 8°C and prevents household things from freezing when the house is unoccupied for a long time in severe cold weather.

10. Troubleshooting

10.1 Indoor Unit Error Display

Operation lamp	Timer lamp	Display	LED STATUS
☆ 1 time	X	E1	EEPROM parameter error
☆ 2 times	X	E2	Zero-crossing signal detection error
☆ 3 times	X	E3	Indoor fan speed has been out of control
☆ 5 times	X	E5	Indoor room temperature sensor T1 open circuit or short circuit
☆ 6 times	X	E6	Evaporator coil temperature sensor T2 open circuit or short circuit
☆ 7 times	X	E7	Condenser coil temperature sensor T3 open circuit or short circuit(only for ELSI-JMF024-N11)
☆ 2 times	O	EC	Refrigerant Leakage Detection
☆ 9 times	X	E9	Indoor / outdoor units communication error(only for ELSI-JMF024-N11)

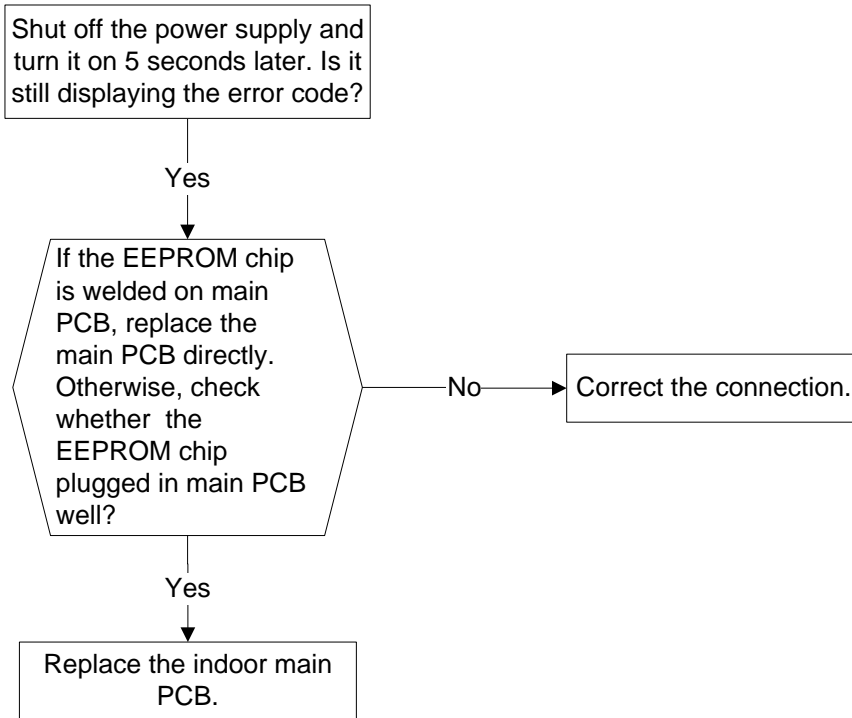
O (light)

X (off)

☆ (flash)

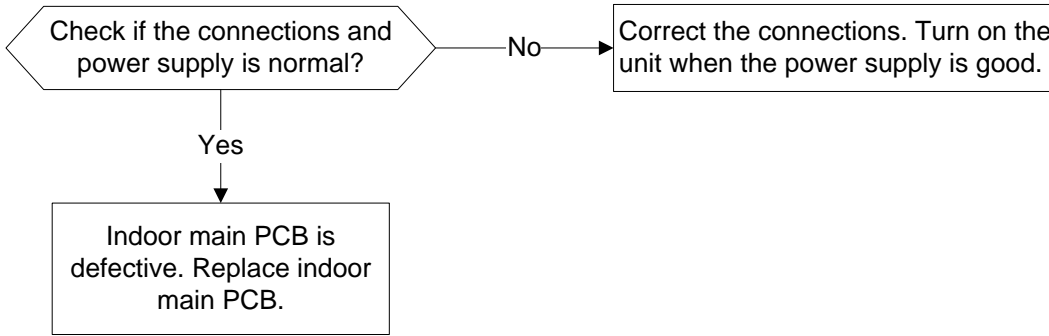
10.2 Diagnosis and Solution

10.2.1 EEPROM parameter error diagnosis and solution

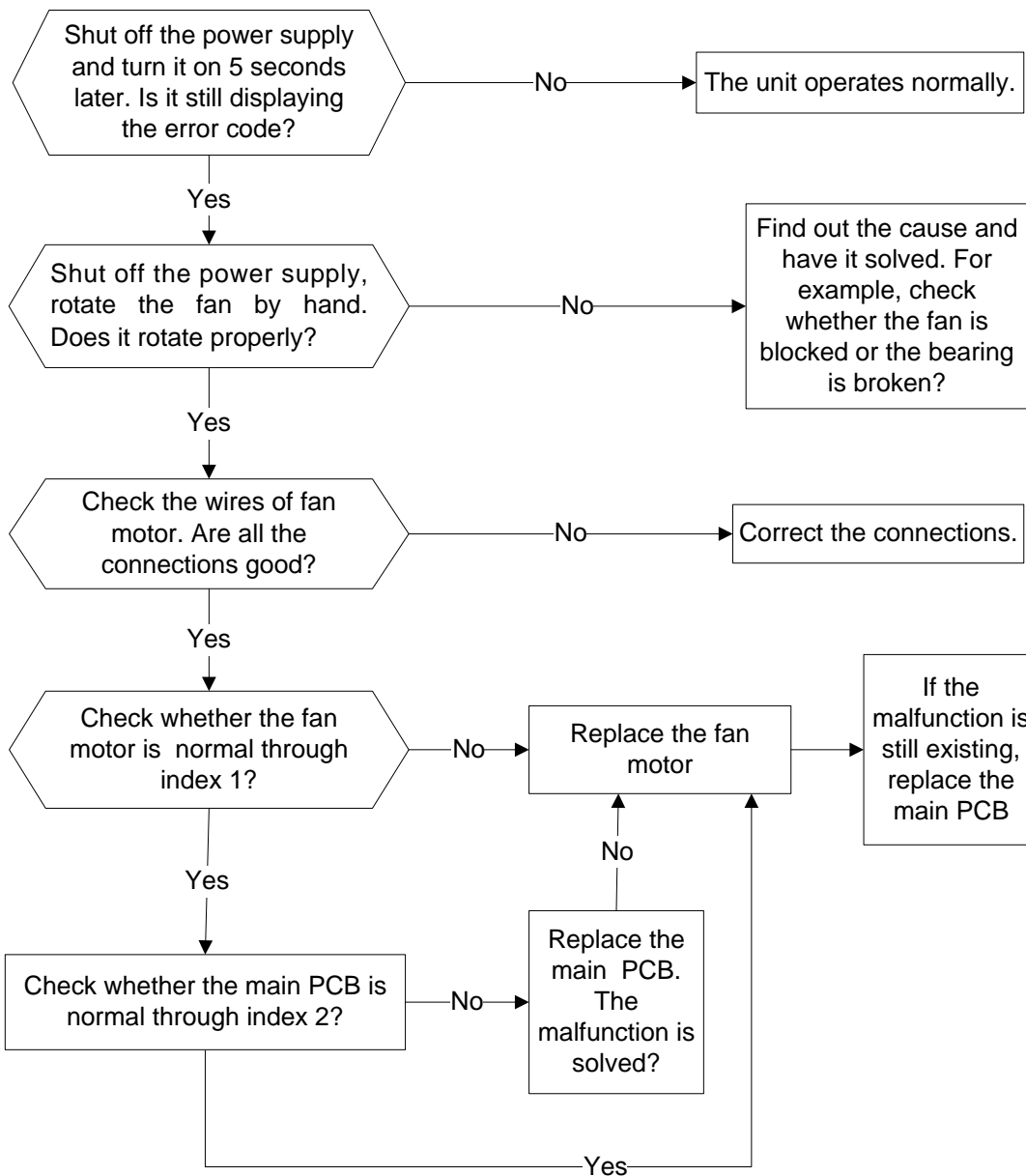


EEPROM: a read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

10.2.2 Zero crossing detection error diagnosis and solution



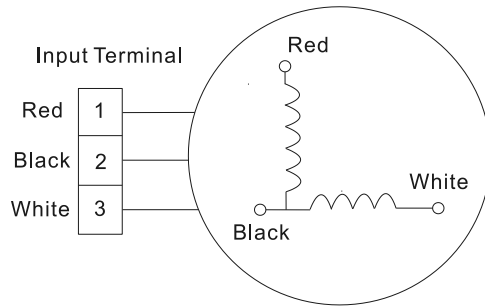
10.2.3 Indoor fan speed has been out of control diagnosis and solution



Index 1:

1:Indoor AC Fan Motor

Measure the resistance value of each winding by using the tester.

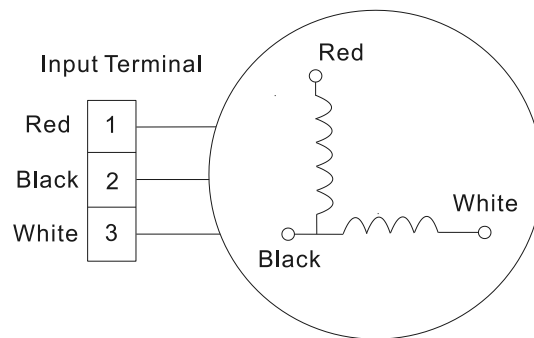


For the resistance value of the motor, please contact the technical engineer.

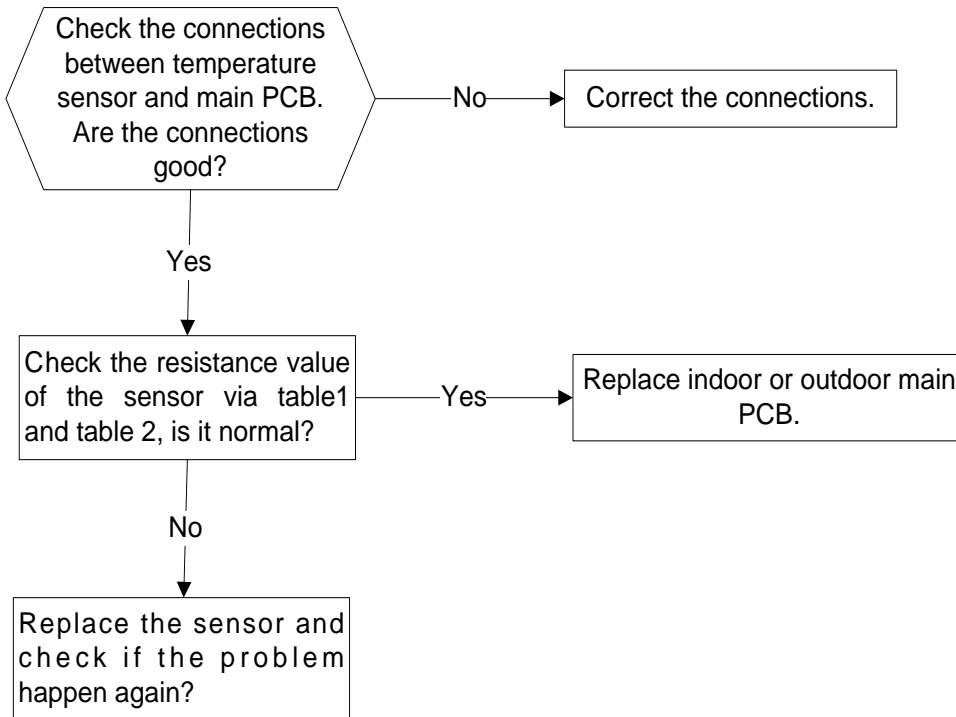
Index2:

1: Indoor AC Fan Motor

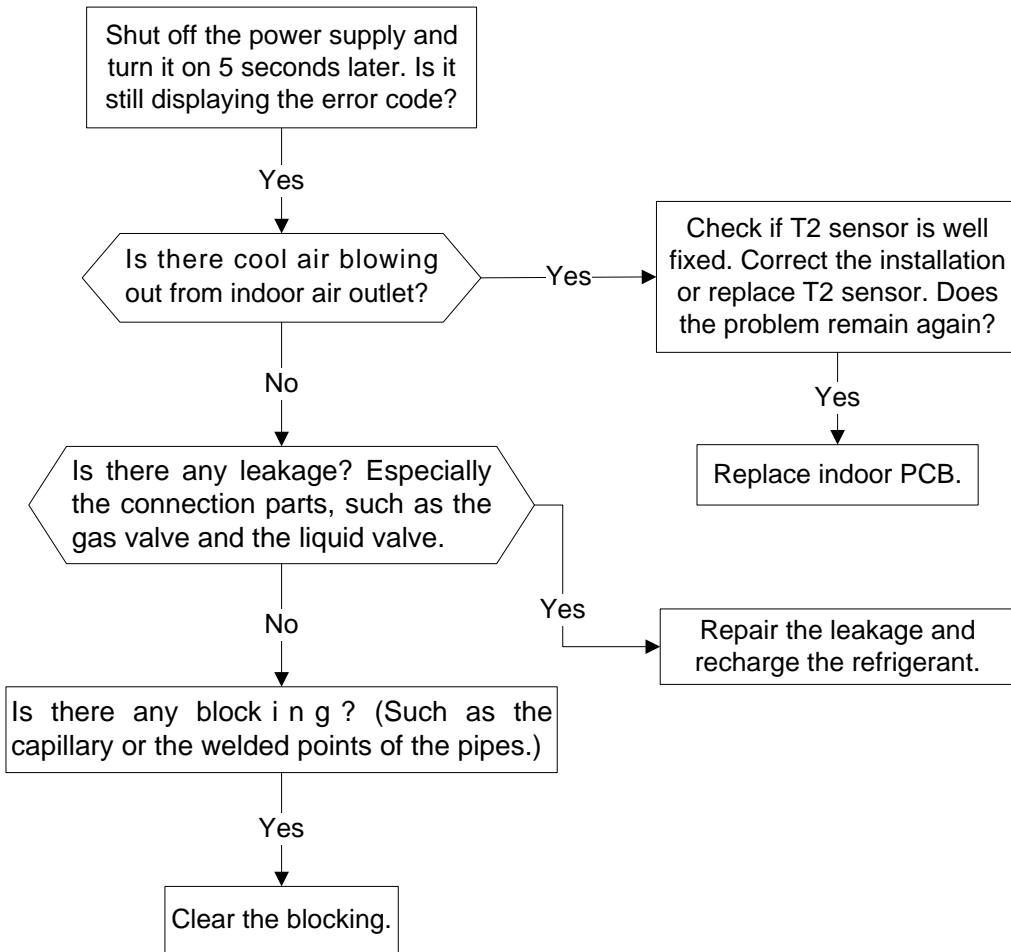
Power on and set the unit running in fan mode at high fan speed. After running for 15 seconds, measure the voltage of pin1 and pin2. If the value of the voltage is less than 100V(208~240V power supply)or 50V(115V power supply), the PCB must has problems and need to be replaced.



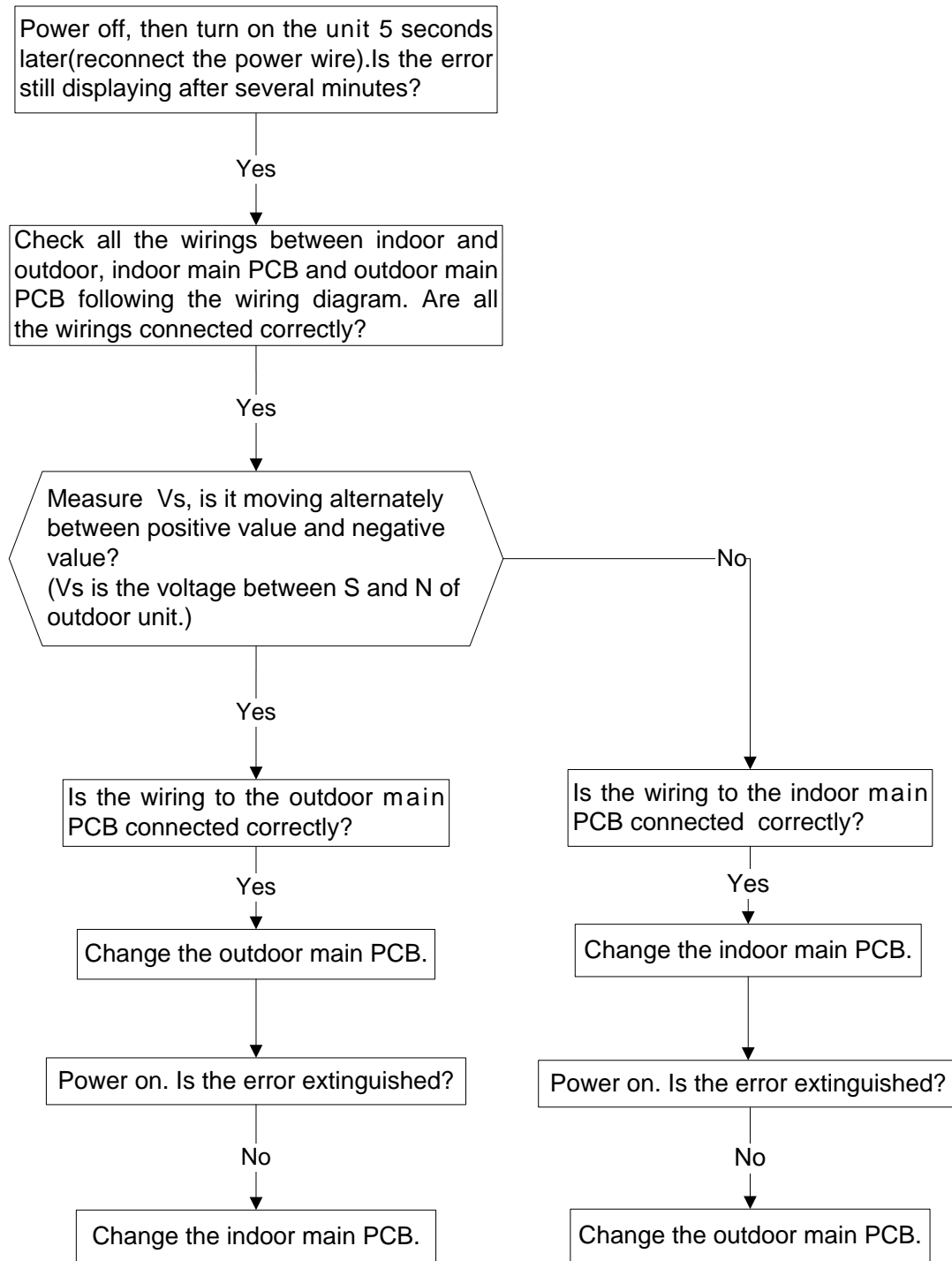
10.2.4 Open circuit or short circuit of temperature sensors diagnosis and solution



10.2.5 Refrigerant Leakage Detection diagnosis and solution



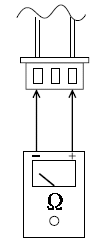
10.2.6 Indoor / outdoor units communication error diagnosis and solution



Main parts check

1. Temperature sensor checking

Disconnect the temperature sensor from PCB, measure the resistance value with a tester.



Tester

Temperature Sensors.

Room temp.(T1) sensor,

Indoor coil temp.(T2) sensor,

Outdoor coil temp.(T3) sensor,

Outdoor ambient temp.(T4) sensor,

Compressor discharge temp.(T5) sensor.

Measure the resistance value of each winding by using the multi-meter.

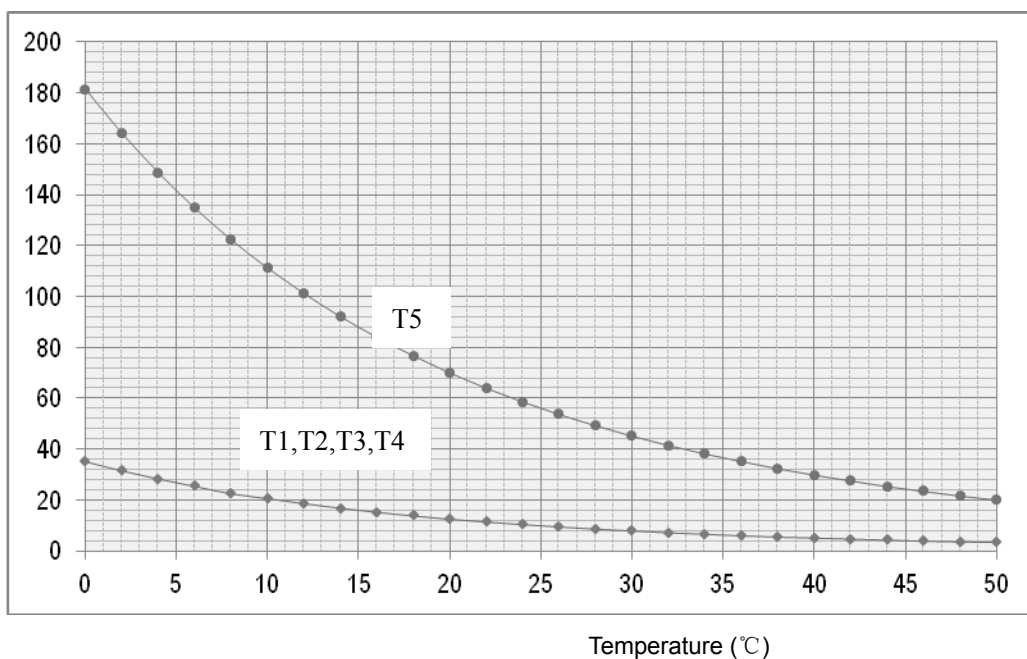
Table1:Some frequently-used R-T data for T1,T2,T3 and T4 sensor:

Temperature (°C)	5	10	15	20	25	30	40	50	60
Resistance Value (KΩ)	26.9	20.7	16.1	12.6	10	8	5.2	3.5	2.4

Table2:Some frequently-used R-T data for T5 sensor:

Temperature (°C)	5	15	25	35	60	70	80	90	100
Resistance Value (KΩ)	141.6	88	56.1	36.6	13.8	9.7	6.9	5	3.7

Resistance value (KΩ)

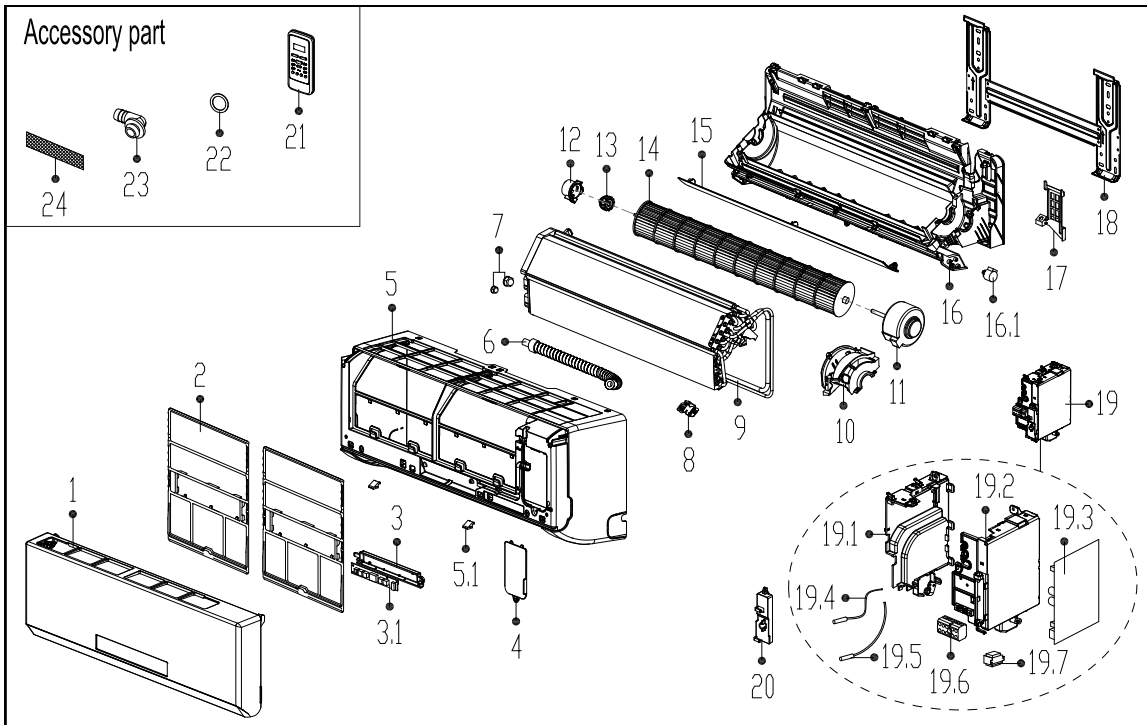


11. Exploded View

11.1 Indoor unit

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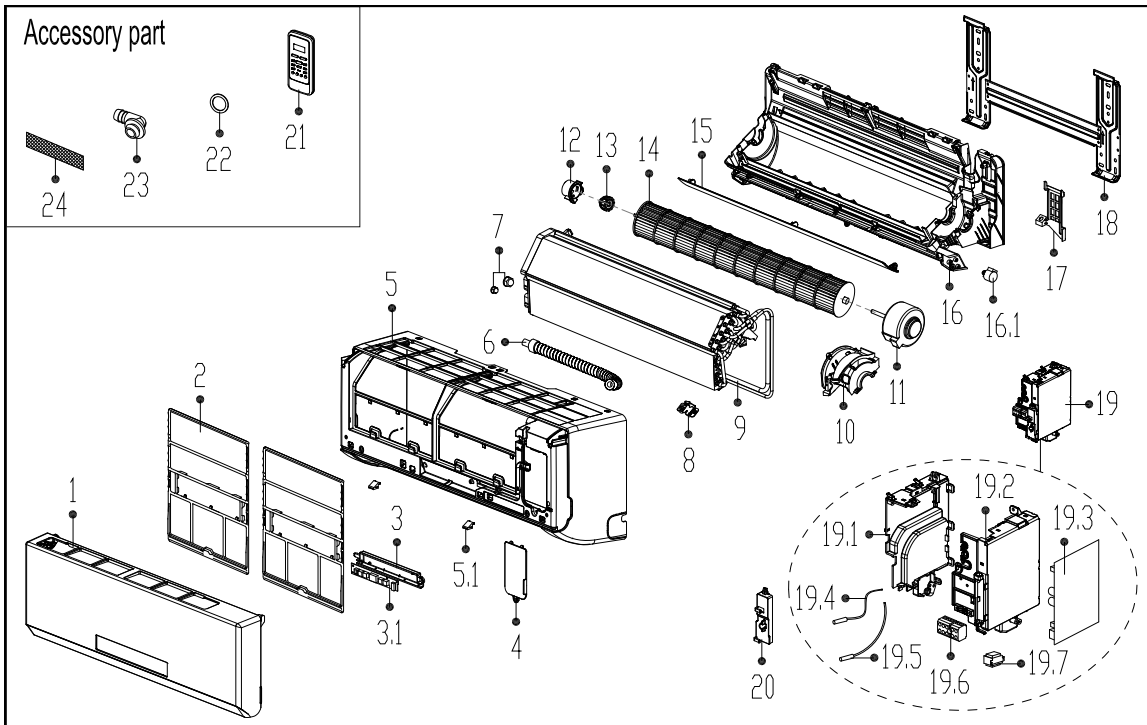
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Panel assembly	1	
2	Air filter	2	201132391075
3	Display box assembly	1	203332591125
3.1	Display board assembly	1	201333090687
4	Cover of electrical equipment	1	201119901024
5	Panel frame assembly	1	201132391077
5.1	Screw cap	2	201119900950
6	Drain hose	1	201101020038
7	Pipe Nut	1	201600330002
7	Pipe Nut	1	201600330001
8	Fix clamp of temperature sensor	1	201102000305
9	Evaporator assembly	1	201532190045
10	Fan motor cover	1	201132490127
11	Asynchronous motor	1	202400300009
12	Bearing holder	1	201119900952
13	Bearing base	1	202719900606
14	Cross flow fan	1	201100200320
15	Horizontal louver	1	201132391076
16	Chassis assembly	1	201132392599
16.1	Louver motor	1	202400200031
17	Pipe clamp board	1	201119900949
18	Installation plate	1	201232390033
19	Electronic control box assembly	1	203332190440
19.1	Electronic control box I	1	201132391080
19.2	Electronic control box II	1	201132391079
19.3	Indoor main control board assembly	1	201332190412
19.4	Ambient temperature sensor assembly	1	202433190000
19.5	Pipe temperature sensor assembly	1	202301300080
19.6	Wire joint	1	202301450119
19.7	Transformer	1	202300900099
20	Cover of electronic control box	1	201132490126
21	Remote Controller	1	203355000031
22	Seal ring	1	202720090001
23	Drain joint	1	201101020011
24	Air freshening filter	1	201131410703

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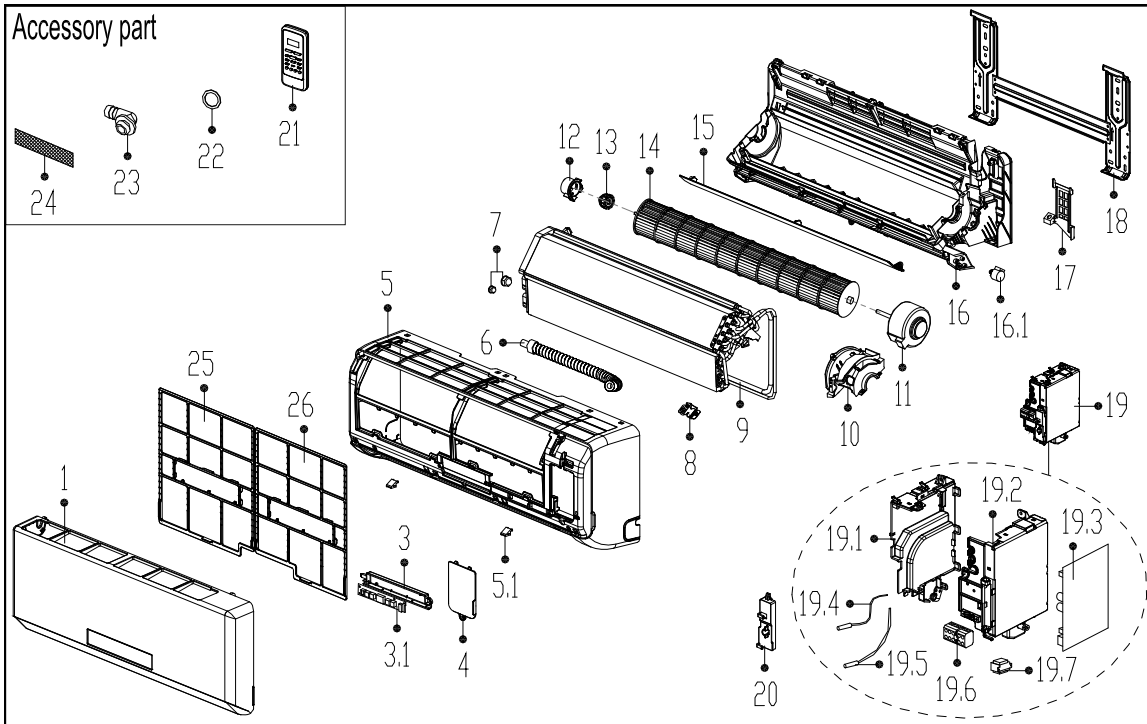
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Panel assembly	1	
2	Air filter	2	201132391075
3	Display box assembly	1	203332591125
3.1	Display board assembly	1	201333090687
4	Cover of electrical equipment	1	201119901024
5	Panel frame assembly	1	201132391077
5.1	Screw cap	2	201119900950
6	Drain hose	1	201101020038
7	Pipe Nut	1	201600330002
7	Pipe Nut	1	201600330001
8	Fix clamp of temperature sensor	1	201102000305
9	Evaporator assembly	1	201532390216
10	Fan motor cover	1	201132490127
11	Asynchronous motor	1	202400300009
12	Bearing holder	1	201119900952
13	Bearing base	1	202719900606
14	Cross flow fan	1	201100200320
15	Horizontal louver	1	201132391076
16	Chassis assembly	1	201132392599
16.1	Louver motor	1	202400200031
17	Pipe clamp board	1	201119900949
18	Installation plate	1	201232390033
19	Electronic control box assembly	1	203332391099
19.1	Electronic control box I	1	201132391080
19.2	Electronic control box II	1	201132391079
19.3	Indoor main control board assembly	1	201332391616
19.4	Ambient temperature sensor assembly	1	202433190000
19.5	Pipe temperature sensor assembly	1	202301300080
19.6	Wire joint	1	202301450119
19.7	Transformer	1	202300900099
20	Cover of electronic control box	1	201132490126
21	Remote Controller	1	203355000031
22	Seal ring	1	202720090001
23	Drain joint	1	201101020011
24	Air freshening filter	1	201131410703

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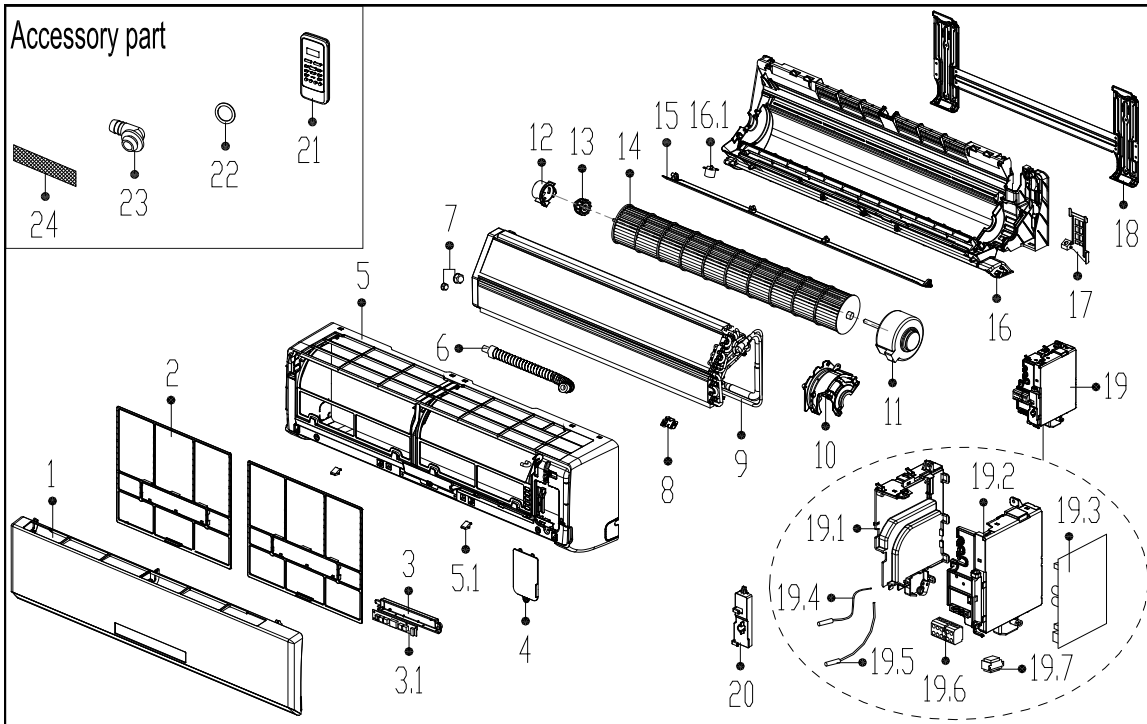
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Panel assembly	1	
3	Display box assembly	1	203332591125
3.1	Display board assembly	1	201333090687
4	Cover of electrical equipment	1	201119901024
5	Panel frame assembly	1	201132591041
5.1	Screw cap	2	201119900950
6	Drain hose	1	201101020038
7	Pipe Nut	1	201600330003
7	Pipe Nut	1	201600330001
8	Fix clamp of temperature sensor	1	201102000305
9	Evaporator assembly	1	201532490064
10	Fan motor cover	1	201132490127
11	Asynchronous motor	1	202400400213
12	Bearing holder	1	201119900952
13	Bearing base	1	202719900606
14	Cross flow fan	1	201100200306
15	Horizontal louver	1	201132591044
16	Chassis assembly	1	201132591057
16.1	Louver motor	1	202400200031
17	Pipe clamp board	1	201119900949
18	Installation plate	1	201232590037
19	Electronic control box assembly	1	203332591126
19.1	Electronic control box I	1	201132490125
19.2	Electronic control box II	1	201132490139
19.3	Indoor main control board assembly	1	201332490329
19.4	Ambient temperature sensor assembly	1	202433190000
19.5	Pipe temperature sensor assembly	1	202301300426
19.6	Wire joint	1	202301450119
19.7	Transformer	1	202300900099
20	Cover of electronic control box	1	201132490126
21	Remote Controller	1	203355000031
22	Seal ring	1	202720090001
23	Drain joint	1	201101020011
24	Air freshening filter	1	201131410703
25	Air filter(left)	1	201132591042
26	Air filter(right)	1	201132591040

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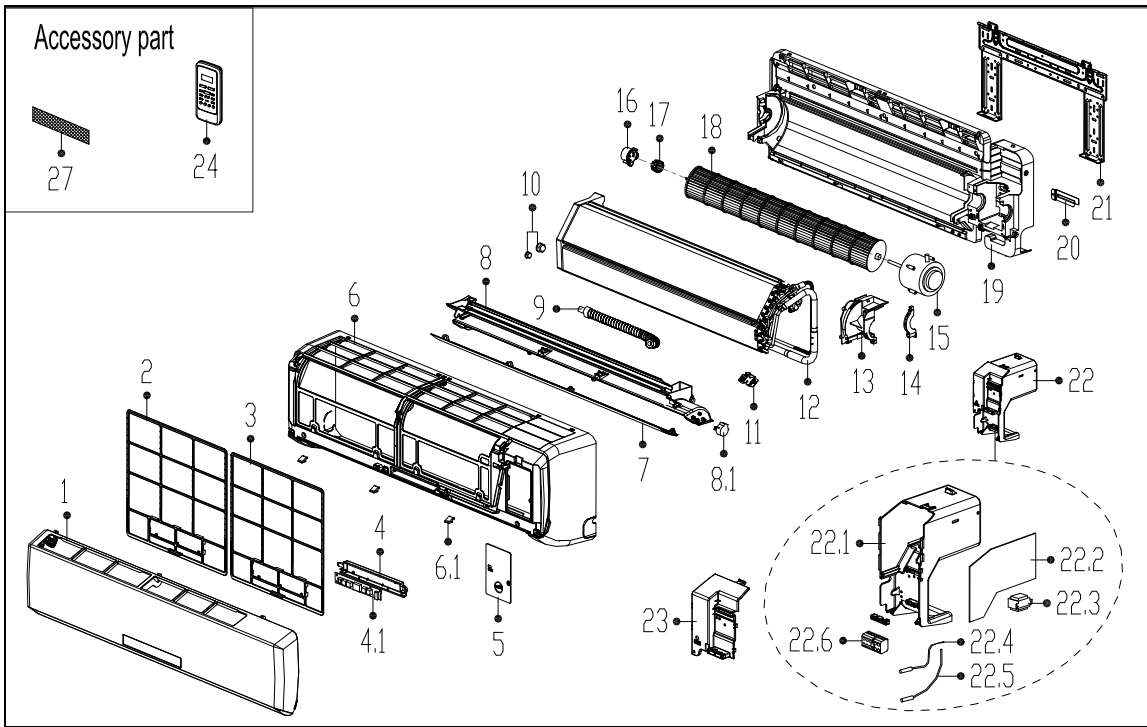
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Panel assembly	1	
2	Air filter	2	201132790664
3	Display box assembly	1	203332890588
3.1	Display board assembly	1	201333090687
4	Cover of electrical equipment	1	201119901024
5	Panel frame assembly	1	201132790667
5.1	Screw cap	2	201119900950
6	Drain hose	1	201101020038
7	Pipe Nut	1	201600330003
7	Pipe Nut	1	201600330001
8	Fix clamp of temperature sensor	1	201102000305
9	Evaporator assembly	1	201532790087
10	Fan motor cover	1	201132790663
11	Asynchronous motor	1	202400300415
12	Bearing holder	1	201119900952
13	Bearing base	1	202719900606
14	Cross flow fan	1	201100200322
15	Horizontal louver	1	201132790665
16	Chassis assembly	1	201132790680
16.1	Louver motor	1	202400200031
17	Pipe clamp board	1	201119900949
18	Installation plate	1	201232790013
19	Electronic control box assembly	1	203332890587
19.1	Electronic control box I	1	201132490125
19.2	Electronic control box II	1	201132490139
19.3	Indoor main control board assembly	1	201332890646
19.4	Ambient temperature sensor assembly	1	202433190000
19.5	Pipe temperature sensor assembly	1	202301300426
19.6	Wire joint	1	202301450119
19.7	Transformer	1	202300900099
20	Cover of electronic control box	1	201132490126
21	Remote Controller	1	203355000031
22	Seal ring	1	202720090001
23	Drain joint	1	201101020011
24	Air freshening filter	1	201131410703

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ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST

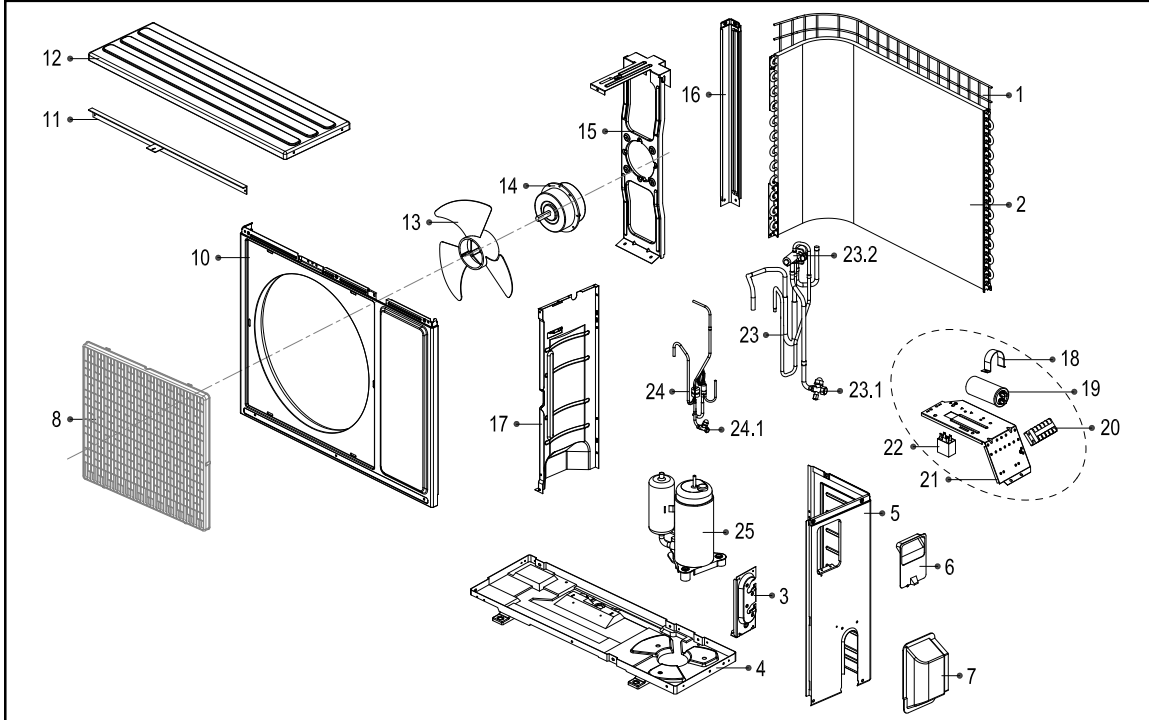


No.	Part Name	Quantity	BOM Code
1	Panel assembly	1	
2	Air filter(right)	1	201133091043
3	Air filter(left)	1	201133091044
4	Display box assembly	1	203333090474
4.1	Display board assembly	1	201333090687
5	Cover of electrical equipment	1	201133091048
6	Panel frame assembly	1	201133091041
6.1	Screw cap	3	201119900950
7	Horizontal louver	1	201133090987
8	Air outlet assembly	1	201133091126
8.1	Louver motor	1	202400200120
9	Drain hose	1	201101020038
10	Pipe Nut	1	201600330004
10	Pipe Nut	1	201600330002
11	Fix clamp of temperature sensor	1	201102000305
12	Evaporator assembly	1	201532990058
13	Fan motor cover	1	201133090980
14	Fixing board of fan motor	1	201133090167
15	Asynchronous motor	1	202400401622
16	Bearing holder	1	201119900952
17	Bearing base	1	202719900606
18	Cross flow fan	1	201100200053
19	Chassis assembly	1	201133091040
20	Pipe clamp board	1	201232800103
21	Installation plate	1	201232590038
22	Electronic control box assembly	1	203333090475
22.1	Electronic control box I	1	201133091038
22.2	Indoor main control board assembly	1	201333090701
22.3	Transformer	1	202300900166
22.4	Ambient temperature sensor assembly	1	202301300210
22.5	Pipe temperature sensor assembly	1	202301300426
22.6	Wire joint	1	202301400073
23	Cover of electronic control box	1	201133091042
24	Remote Controller	1	203355000031
25	Seal ring	1	202720090001
26	Drain joint	1	201101020011
27	Air freshening filter	1	201131410703

11.2 Outdoor unit

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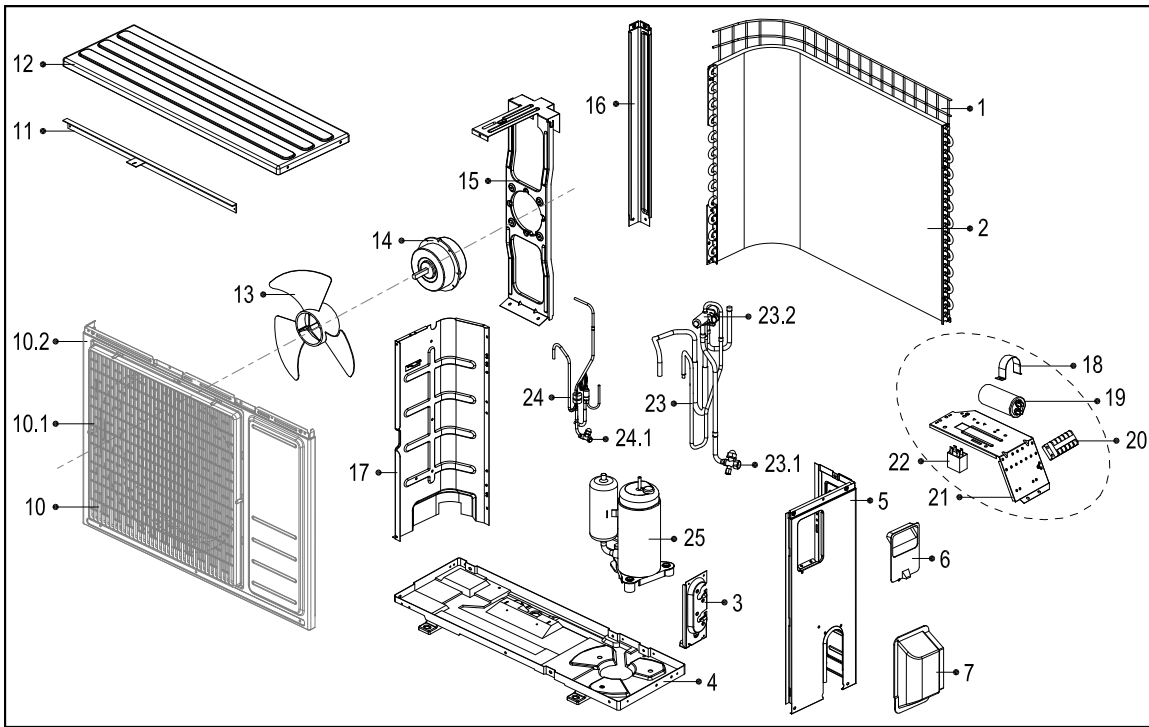
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Rear net	1	201137200145
2	Condenser assembly	1	201537490046
3	Valve plate	1	201237200299
4	Chassis assembly	1	201237200260
5	Right clapboard	1	201237200238
6	Big handle	1	201137200160
7	Water collector	1	201137390016
8	Air outlet grille	1	201137590017
10	Front panel	1	201237200293
11	Supporter of fan motor holder	1	201237200060
12	Top cover assembly	1	201237200275
13	Axial flow fan	1	201100300502
14	Asynchronous motor	1	202400400912
15	Supporter assembly of fan motor	1	201237200035
16	Left supporter	1	201237200271
17	Partition board	1	201237200291
18	Capacitor clip	1	201200100005
19	Capacitor of compressor	1	202401000873
20	Wire joint	1	202301450130
21	Supporting board	1	201237190004
22	Fan motor capacitor	1	202401190019
23	4-ways valve assembly	1	201637190724
23.1	Gas valve	1	201600720095
23.2	4-ways valve	1	201600690010
24	Liquid valve assembly	1	201637190717
24.1	Liquid valve	1	201600740523
25	Compressor	1	201400611146

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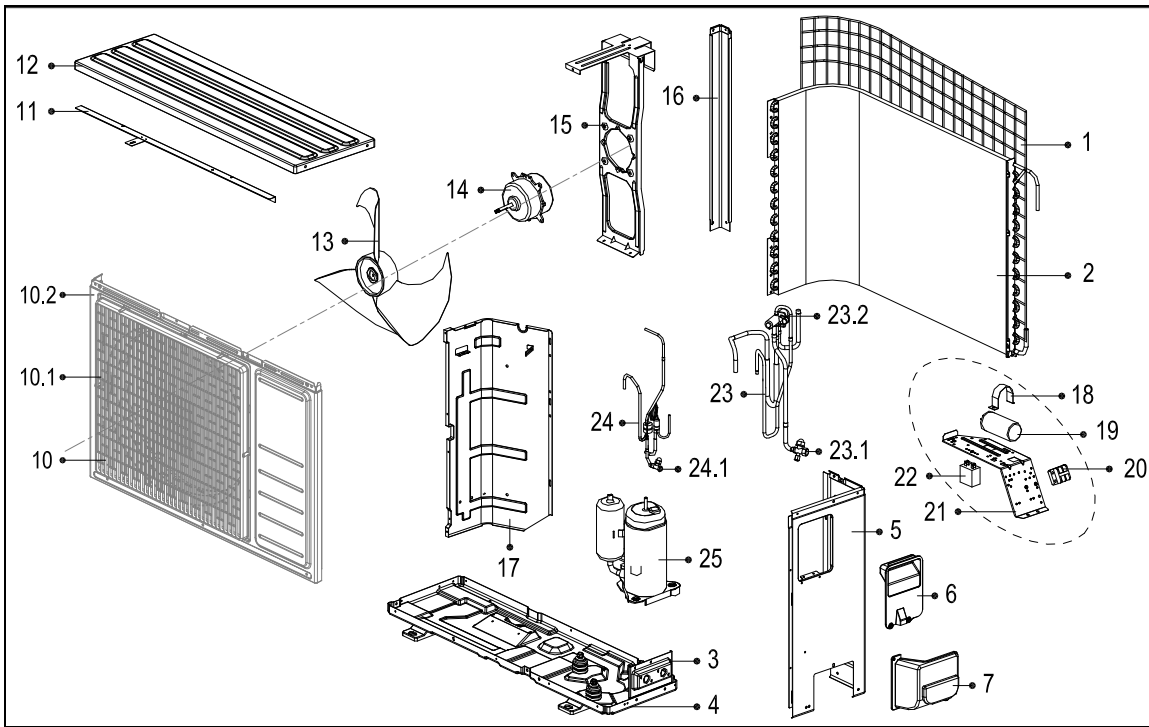
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Rear net	1	2011372G0003
2	Condenser assembly	1	201537300308
3	Valve plate	1	201237200299
4	Chassis assembly	1	201237390094
5	Right clapboard	1	201237390085
6	Big handle	1	201137200160
7	Water collector	1	201137390016
10	Front panel assembly	1	201237090030
10.1	Air outlet grille	1	201137590017
10.2	Front panel	1	201237090027
11	Supporter of fan motor holder	1	201237200037
12	Top cover assembly	1	201237200275
13	Axial flow fan	1	201100310603
14	Asynchronous motor	1	202400400492
15	Supporter assembly of fan motor	1	201237200035
16	Left supporter	1	201237200271
17	Partition board	1	201237200296
18	Capacitor clip	1	201200100005
19	Capacitor of compressor	1	202401000873
20	Wire joint	1	202301450130
21	Supporting board	1	201237190004
22	Fan motor capacitor	1	202401100353
23	4-ways valve assembly	1	201637391644
23.1	Gas valve	1	201600720095
23.2	4-ways valve	1	201600690010
24	Liquid valve assembly	1	201637390138
24.1	Liquid valve	1	201600740523
25	Compressor	1	201400600350

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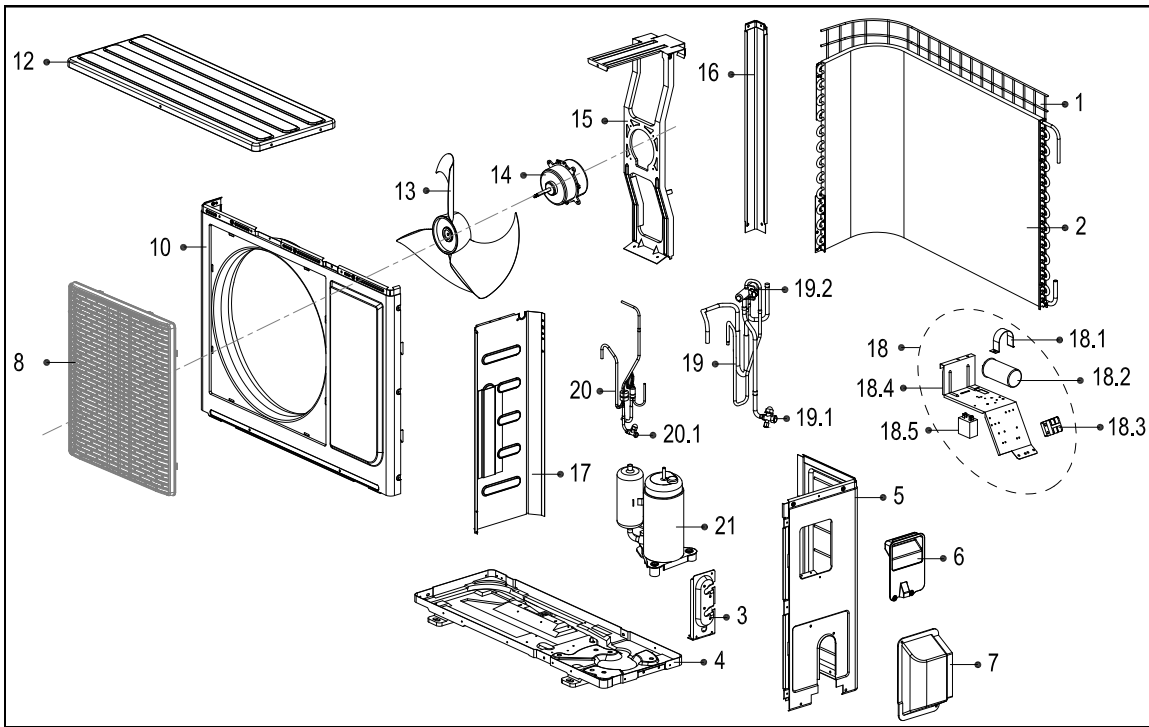
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Rear net	1	2011376G0001
2	Condenser assembly	1	201537390180
3	Valve plate	1	201237300316
4	Chassis assembly	1	201237590083
5	Right clapboard	1	201237690009
6	Big handle	1	201137400366
7	Water collector	1	201137390017
10	Front panel assembly	1	201237400429
10.1	Air outlet grille	1	201137590017
10.2	Front panel	1	201237400411
11	Supporter of fan motor holder	1	201237400055
12	Top cover assembly	1	201237400412
13	Axial flow fan	1	201100300502
14	Asynchronous motor	1	202400400723
15	Supporter assembly of fan motor	1	201237400049
16	Left supporter	1	201237400397
17	Partition board	1	201237400355
18	Capacitor clip	1	201200100025
19	Capacitor of compressor	1	202401000078
20	Wire joint	1	202301450130
21	Supporting board	1	201237790064
22	Fan motor capacitor	1	202401190019
23	4-ways valve assembly	1	201637790658
23.1	Gas valve	1	201600720194
23.2	4-ways valve	1	201600690010
24	Liquid valve assembly	1	201637490785
24.1	Liquid valve	1	201600700078
25	Compressor	1	201400602710

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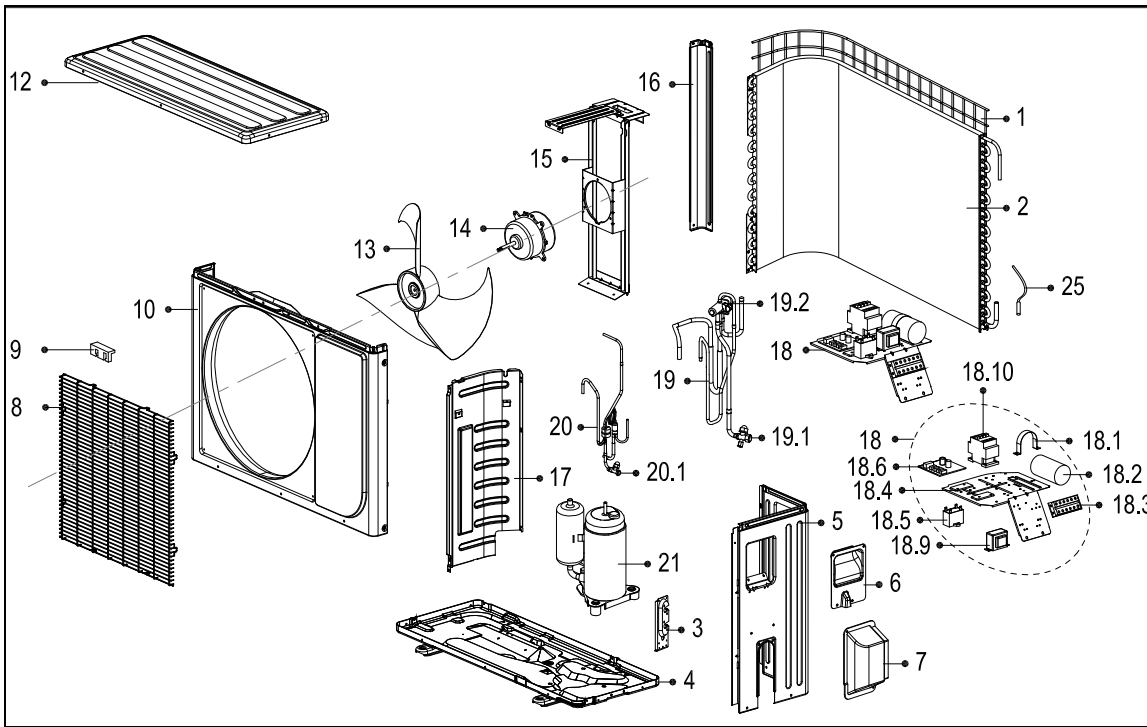
ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Rear net	1	2011374G0003
2	Condenser assembly	1	201537891080
3	Valve plate	1	201237200299
4	Chassis assembly	1	201237890107
5	Right clapboard	1	201248100369
6	Big handle	1	201148100122
7	Water collector	1	201137400000
8	Air outlet grille	1	201137890003
10	Front panel	1	201237890111
12	Top cover assembly	1	201237900028
13	Axial flow fan	1	201100300534
14	Asynchronous motor	1	202400410505
15	Supporter assembly of fan motor	1	201237890017
16	Left supporter	1	201237400400
17	Partition board	1	201237890019
18	Electronic control box assembly	1	203337790078
18.1	Capacitor clip	1	201200100011
18.2	Capacitor of compressor	1	202401000076
18.3	Wire joint	1	202301450130
18.4	Supporting board	1	201235270261
18.5	Fan motor capacitor	1	202401100353
19	4-ways valve assembly	1	201637891335
19.1	Gas valve	1	201600720195
19.2	4-ways valve	1	201600690011
20	Liquid valve assembly	1	201637891296
20.1	Liquid valve	1	201600740523
21	Compressor	1	201400600351

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ONLY FOR STANDARD BOM, CUSTOMIZED FEATURE MAY CHANGE THE PART LIST



No.	Part Name	Quantity	BOM Code
1	Rear net	1	201137990001
2	Condenser assembly	1	201537990026
3	Valve plate	1	201248300316
4	Chassis assembly	1	201237900026
5	Right clapboard	1	201237900016
6	Big handle	1	201148100123
7	Water collector	1	201138090002
8	Air outlet grille	1	201237900024
9	Clamp of front net	8	201135110801
10	Front panel	1	201237900018
12	Top cover assembly	1	201237900020
13	Axial flow fan	1	201100300054
14	Asynchronous motor	1	202400401294
15	Supporter assembly of fan motor	1	201237990016
16	Left supporter	1	201237900022
17	Partition board	1	201237990020
18	Electronic control box assembly	1	203338090130
18.1	Capacitor clip	1	201200100057
18.2	Capacitor of compressor	1	202401000074
18.3	Wire joint	1	202301450118
18.4	Supporting board	1	201237990009
18.5	Fan motor capacitor	1	202401100505
18.6	Outdoor main control board assembly	1	201337990050
18.9	Transformer	1	202300900179
18.10	AC contactor	1	202300850046
19	4-ways valve assembly	1	201638091110
19.1	Gas valve	1	201600720398
19.2	4-ways valve	1	201600690011
20	Liquid valve assembly	1	201638090934
20.1	Liquid valve	1	201600740697
21	Compressor	1	201400601130
25	Pipe temperature sensor assembly	1	202440500004

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