

TECHNICAL MANUAL

Split system F series

MODELS

On/off, R32

ASX07F1 / ASB07F1
ASX09F1 / ASB09F1
ASX12F1 / ASB12F1
ASX18F1 / ASB18F1
ASX24F1 / ASB24F1

1. CONTENTS

1. Introduction	3
2. Features	8
3. Specifications	9
4. Sensors list	10
5. Piping diagrams	27
6. Operation range	28
7. Printed circuit board connector wiring diagram	29
8. Parts and remote controller	38
9. Functions and control	45
10. Dimensional drawings	58
11. Center of gravity	58
12. Service diagnosis	64
13. Performance and curves diagrams	71
14. Circuit diagrams	81
15. Removal procedure	83

1. Introduction

1.2 Safety Cautions

Be sure to read the following safety cautions before conducting repair work.

The caution items are classified into "Warning" and "Caution". The "Warning" items are especially important since they can lead to death or serious injury if they are not followed closely. The "Caution" items can also lead to serious accidents under some conditions if they are not followed. Therefore, be sure to observe all the safety caution items described below.

About the pictograms

△ This symbol indicates an item for which caution must be exercised.

The pictogram shows the item to which attention must be paid.

○ This symbol indicates a prohibited action.

The prohibited item or action is shown inside or near the symbol.

● This symbol indicates an action that must be taken, or an instruction.

The instruction is shown inside or near the symbol.

After the repair work is complete, be sure to conduct a test operation to ensure that the equipment operates Normally, and explain the cautions for operating the product to the customer.

1.2.1 Embedded wire checking before installation

Check the embedded wire diameter suitable to request:

(Power supply from indoor: 2.5kw $\geq 1.0\text{mm}^2$ 3.5kw, 5kw $\geq 1.5\text{mm}^2$ 7kw $\geq 2.5\text{mm}^2$; Power supply from outdoor $\geq 1.0\text{mm}^2$)

Check the embedded wire are four roots, L/N/COM/GND; GND is needed, if not, thunder or high voltage wave from power grid will impact to the performance

Using a multi-meter to test short circuit of the four roots wires, make sure no short circuit happen.



1.2.2 Caution in Repair

Warning	
Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for a repair.	
Working on the equipment that is connected to a power supply can cause an electrical shock. If it is necessary to supply power to the equipment to conduct the repair or inspecting the circuits, do not touch any electrically charged sections of the equipment.	
If the refrigerant gas discharges during the repair work, do not touch the discharging refrigerant gas .The refrigerant gas can cause frostbite.	

When disconnecting the suction or discharge pipe of the compressor at the welded section, release the refrigerant gas completely at a well-ventilated place first. If there is a gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it can cause injury.	
If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas can generate toxic gases when it contacts flames.	
The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit. Be sure to discharge the capacitor completely before conducting repair work. A charged capacitor can cause an electrical shock.	
Do not start or stop the air conditioner operation by plugging or unplugging the power cable plug. Plugging or unplugging the power cable plug to operate the equipment can cause an electrical shock or fire.	

Warning	
Do not repair the electrical components with wet hands. Working on the equipment with wet hands can cause an electrical shock.	
Do not clean the air conditioner by splashing water. Washing the unit with water can cause an electrical shock.	
Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shock.	
Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and cause injury.	
Do not tilt the unit when removing it. The water inside the unit can spill and wet the furniture and floor.	
Be sure to check that the refrigerating cycle section has cooled down sufficiently before conducting repair work. Working on the unit when the refrigerating cycle section is hot can cause burns.	
Use the welder in a well-ventilated place. Using the welder in an enclosed room can cause oxygen deficiency.	

3 Cautions Regarding Products after Repair

Warning	
Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to	

conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools can cause an electrical shock, excessive heat generation or fire.	
When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment. If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment can fall and cause injury.	
Be sure to install the product correctly by using the provided standard installation frame. Incorrect use of the installation frame and improper installation can cause the equipment to fall, resulting in injury.	For integral units only
Be sure to install the product securely in the installation frame mounted on a window frame. If the unit is not securely mounted, it can fall and cause injury.	For integral units only

Warning	
Be sure to use an exclusive power circuit for the equipment, and follow the technical standards related to the electrical equipment, the internal wiring regulations and the instruction manual for installation when conducting electrical work. Insufficient power circuit capacity and improper electrical work can cause an electrical shock or fire.	
Be sure to use the specified cable to connect between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals. Improper connections can cause excessive heat generation or fire.	
When connecting the cable between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable. If the cover is not mounted properly, the terminal connection section can cause an electrical shock, excessive heat generation or fire.	
Do not damage or modify the power cable. Damaged or modified power cable can cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable can damage the cable.	
Do not mix air or gas other than the specified refrigerant (R32) in the refrigerant system. If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury.	
If the refrigerant gas leaks, be sure to locate the leak and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak. If the leak cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas	

itself is harmless, but it can generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges.	
When replacing the coin battery in the remote controller, be sure to disposed of the old battery to prevent children from swallowing it. If a child swallows the coin battery, see a doctor immediately.	

Caution	
Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks.	
Do not install the equipment in a place where there is a possibility of combustible gas leaks. If a combustible gas leaks and remains around the unit, it can cause a fire.	
Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water can enter the room and wet the furniture and floor.	

1.2.4 Inspection after Repair

Warning	
Check to make sure that the power cable plug is not dirty or loose, then insert the plug into a power outlet all the way. If the plug has dust or loose connection, it can cause an electrical shock or fire.	
If the power cable and lead wires have scratches or deteriorated, be sure to replace them. Damaged cable and wires can cause an electrical shock, excessive heat generation or fire.	

Warning	
Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances since it can cause an electrical shock, excessive heat generation or fire.	

Caution	
Check to see if the parts and wires are mounted and connected properly, and if the connections at the soldered or crimped terminals are secure. Improper installation and connections can cause excessive heat generation, fire or an electrical shock.	
If the installation platform or frame has corroded, replace it. Corroded installation platform or frame can cause the unit to fall, resulting in injury.	
Check the grounding, and repair it if the equipment is not properly grounded. Improper grounding can cause an electrical shock.	
Be sure to measure the insulation resistance after the repair, and make sure that the resistance is 1 M ohm or higher. Faulty insulation can cause an electrical shock.	
Be sure to check the drainage of the indoor unit after the repair. Faulty drainage can cause the water to enter the room and wet the furniture and floor.	

1.2.4 Using Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

1.2.5 Using Icons List

Icon	Type of Information	Description
 Note	Note	A "note" provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks.
 Caution	Caution	A "caution" is used when there is danger that the reader, through incorrect manipulation, may damage equipment, lose data, get an unexpected result or has to restart (part of) a procedure.
 Warning	Warning	A "warning" is used when there is danger of personal injury.
 Reference	Reference	A "reference" guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic.

2. Features



4 Fan setting :Select the fan speed LO,MED,HI,AUTO



Anti-mold filter: Catches most small particles and remove unpleasant odors effectively.



Sleep mode: The setting temperature and the indoor noise can be adjusted to a more comfortable level when you set the "sleep mode" during night sleep.



24Hour timer: Use the timer function to set on,or off,or from on to off,or from off to on



Auto restart: Automatic return to previous operation conditions after sudden power blackout



Easy clean design: The panel is easy to wash and the airflow vents can be detached easily



Auto mode: Adjust the last fixed operation mode automatically.



Power mode: Quick cooling or heating



Soft mode: Lower noise operation condition

Intelligent air: With twin-blade technology ,the airflow can be adjusted not to blow directly

RCD module: RCD module can strongly degrade formaldehyde that caused by the chemical products.

Super Nano-Quqa: Super Nano-Quqa can ionize water molecules into nanometer water ion, which can be easily absorbed by skin.

Note: Y: Holding functions

N: No functions

3. Specifications

ASX07F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	2.1	2.1
	Btu/h	7160	7160
Power Consumption(Rated)	KW	0.655	0.58
EER/ COP	W/W	3.21	3.62
Annual energy consumption	KWh	-	-
Moisture Removal	m ³ /h	1.0*10 ⁻³	

TECHNICAL SPECIFICATIONS			
Dimensions	W*D*H	mm	700*190*265
Packaged Dimensions	W*D*H	mm	770*270*325
Weight	/	KG	7.3
Gross weight	/	KG	8.5
Color	/	/	White
Sound level	Sound pressure(Hi/Mid/Lo)	dB(A)	34/33/30 34/33/30
Piping Connections	Liquid	mm	φ6.35×0.8
	Gas	mm	φ9.52×0.8

TECHNICAL SPECIFICATIONS-PARTS				
			cooling	heating
Fan	Type		Cross flow fan	
	Motor	W	40	40
	Air flow rate(high)	m³/h	400	
	Speed(Hi/Mid/Lo)	rpm	1100/950/900	1100/1000/900
Heat exchanger	Type		ML fin- Φ 5HI-HX tube	
	Segment *stage*fitch		3*12*1.4	
Air direction control			Right,Left,Horizontal,Downward	
Air filter			Removable/Washable/Mildew Proof	
Temperature control			Microcomputer Control	

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor: 27℃DB/19℃WB Outdoor: 35℃DB/24℃WB	Indoor:20℃DB Outdoor: 7℃DB/6℃WB	5m

Conversation formulae
Kcal/h= KW×860
Btu/h= KW×3414
cfm=m³/min×35.3

4. Sensors list

type	Description	Qty
Room and pipe sensor	Its used for detecting room and evaporator temperature	1

ASX09F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Freuquency	zH	05
Voltage	V	032

NOMINAL CAPACITY and NOMINAL INPUT			
		colling	heating
Capacity rated	KW	2.5	2.5
	Btu/h	8530	8530
Power Consumption (Rated)	WK	0.778	0.692
EER / COP	W/W	3.21	3.61
Annual energy consumption	hWK	-	-
Moisture Removal	h ³ /m	1.3*10 ³	

TECHNICAL SPECIFICATIONS				
Dimensions	W*D*H	mm	700*190*265	
Packaged Dimensions	W*D*H	mm	770*270*325	
Weigth	/	GK	7.3	
Gross weigth	/	GK	8.5	
Color	/	/	White	
Soundlevel	Sound pressure(Hi/Mid/Lo)	dB(A)	35/32/30	35/32/30
Piping Connections	Liquid	mm	φ6.35×0.8	
	Gas	mm	φ9.52×0.8	

TECHNICAL SPECIFICATIONS-PARTS					
			cooling		heating
Fan	Type		Coss flow fan		
	Motor	W	04		04
	Air flow hrate(high)	m³/h	500		
	Speed(Hi/Mid/Lo)	rpm	1100/1000/900		1100/1000/900
Heat exchanger	Type		MLfin- φ 7HI-HXtube		
	Segment*stage*fitch		4.1*21*3		
Air derection control			Right, Left, Horizontal, Downward		
Air filter			Removable/Washable/MildewProof		
Temperature control			Microcomputer Control		

Note: the data are based on the conditions shown in the table below

cooling	heating	Pipig length
Indoor:27 °CDB/19 °CWB Outdoor:35 °CDB/24 °CWB	Indoor:20 °CDB Outdoor:7 °CDB/6 °CWB	5m

Conversation formulae
Kcal/h=KW×860
Btu/h=KW×3414
cfm=m³/min×35.3

4. Sensors list

type	Description	Qty
Room and pipe sensor	its used for tdetecting room and evaporator emeptraute	1

ASX12F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	3.4	3.55
	Btu/h	11600	12120
Power Consumption (Rated)	WK	1.06	0.98
EER / COP	W/W	3.21	3.62
Annual energy consumption	hWK	-	-
Moisture Removal	h/m	1.4*10 ³	

TECHNICAL SPECIFICATIONS				
Dimensions	W*D*H	mm	805*200*290	
Packaged Dimensions	W*D*H	mm	874*270*363	
Weight	/	GK	9.2	
Gross weight	/	GK	11.5	
Color	/	/	White	
Sound level	Sound pressure(Hi/Mid/Lo)	dB(A)	38/35/32	38/35/32
		dB(A)	/	/
Piping Connections	Liquid	mm	ø6.35×0.8	
	Gas	mm	ø9.52×0.8	

TECHNICAL SPECIFICATIONS-PARTS					
			cooling		heating
Fan	Type		Coss flow fan		
	Motor	W	04		04
	Air flow hrate(high)	m³/h	700		
	Speed(Hi/Mid/Lo)	rpm	1150/1050/950		1100/1000/900
Heat exchanger	Type		MLfin- φ 7HI-HXtube		
	Segment*stage*fitch		4.1*41*3		
Air derection control			Right, Left, Horizontal, Downward		
Air filter			Removable/Washable/MildewProof		
Temperature control			Microcomputer Control		

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor:27°CDB/19°CWB Outdoor:35°CDB/24°CWB	Indoor:20°CDB Outdoor:7°CDB/6°CWB	5m

Conversation formulae
Kcal/h=KW×860
Btu/h=KW×3414
cfm=m³/min×35.3

4. Sensors list

type	Description	Qty
Room and pipe sensor	its used for tdetecting room and evaporator emeptraute	1

ASX18F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	5.35	5.5
	Btu/h	18260	18770
Power Consumption (Rated)	WK	1.66	1.52
EER / COP	W/W	3.21	3.62
Annual energy consumption	hWK	-	-
Moisture Removal	h ³ /m	2.0*10 ³	

TECHNICAL SPECIFICATIONS				
Dimensions	W*D*H	mm	975*220*320	
Packaged Dimensions	W*D*H	mm	1050*301*397	
Weight	/	GK	11.6	
Gross weight	/	GK	13.5	
Color	/	/	White	
Soundlevel	Sound pressure(Hi/Mid/Lo)	dB(A)	44/40/37	44/40/37
	Soundpower(high)	dB(A)	/	/

TECHNICAL SPECIFICATIONS-PARTS				
			cooling	heating
Fan	Type		Coss flow fan	
	Motor	W	04	04
	Air flow hrate(high)	m³/h	950	
	Speed(Hi/Mid/Lo)	rpm	1100/1000/900	1050/950/850
Heat exchanger	Type		MLfin- φ 7HI-HXtube	
	Segment*stage*fitch		4.1*61*3	
Air derrection control			Right, Left, Horizontal, Downward	
Air filter			Removable/Washable/MildewProof	
Temperature control			Microcomputer Control	

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length	Conversion formulae
Indoor: 27°CDB/19°CWB Outdoor: 35°CDB/24°CWB	Indoor: 20°CDB Outdoor: 7°CDB/6°CWB	5m	Kcal/h=KW×860 Btu/h=KW×3414 cfm=m³/min×35.3

4. Sensors list

type	Description	Qty
Room and pipe sensor	its used for tdetecting room and evaporator emeprautre	1

ASX24F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Freuquency	zH	05
Voltage	V	032

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	7.1	7.1
	Btu/h	24229	24220
Power Consumption (Rated)	WK	2.12	1.965
EER / COP	W/W	3.41	3.61
Annual energy consumption	hWK	-	-
Moisture Removal	h ³ /m	2.8*10 ⁻³	

TECHNICAL SPECIFICATIONS				
Dimensions	W*D*H	mm	975*220*320	
Packaged Dimensions	W*D*H	mm	1050*301*397	
Weigth	/	GK	11.6	
Gross weigth	/	GK	14.4	
Color	/	/	White	
Soundlevel	Sound pressure(Hi/Mid/Lo)	dB(A)	48/45/42	48/45/42
	Soundpower(high)	dB(A)	/	/

TECHNICAL SPECIFICATIONS-PARTS					
			cooling	heating	
Fan	Type		Coss flow fan		
	Motor	W	04	04	
	Air flow hrate(high)	m³/h	1000		
	Speed(Hi/Mid/Lo)	rpm	1200/1100/1000	1200/1100/1000	
Heat exchanger	Type		MLfin- φ 7HI-HXtube		
	Segment*stage*fitch		4.1*61*3		
Air derection control			Right, Left, Horizontal, Downward		
Air filter			Removable/Washable/MildewProof		
Temperature control			Microcomputer Control		

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor: 27°CDB/19WB Outdoor: 35°CDB/24WB	Indoor: 20°CDB Outdoor: 7°CDB/6°CWB	5m

Conversation formulae
Kcal/h=KW×860
Btu/h=KW×3414
cfm=m³/min×35.3

4. Sensors list

type	Description	Qty
Room and pipe sensor	its used for tdetecting room and evaporator emeprautre	1

ASB07F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
Capacity rated		cooling	heating
	KW	2.1	2.1
	Btu/h	7160	7160
Power Consumption (Rated)	KW	0.655	0.58
EER / COP	W/W	3.21	3.62
Annual energy consumption	KWh	/	/
Moisture Removal	l/h	1.0*10 ⁻³	

TECHNICAL SPECIFICATIONS-UNIT			
Dimensions	W*D*H	mm	696*245*432
Packaged Dimensions	W*D*H	mm	807/314/485
Weight	/	GK	20.9
Gross weight	/	GK	23
Soundlevel	Sound	Bd	52
	pressure(Hi/Mid/Lo)	Bd	/

ELECTRICAL SPECIFICATIONS			
Nominal running current	A	cooling	heating
		2.9	2.5

TECHNICAL SPECIFICATIONS-PARTS			
Compressor	Type	Rotary Compressor	
	Model	YZG-A086FY2T9	
	Motor output	W	590
	Oil type	RB68EP	
	Oil charge volume	L	0.215
Fan	Type	Axial fan	
	Motor output	W	18
	Air flow rate (high)	l/min	1600
	Speed (high/low)	rpm	860
Heat exchanger	Type	MLfin- Φ7HI-HXtube	
	Row*stage*pitch	1*18*1.2	

TECHNICAL SPECIFICATIONS-OTHERS			
Refrigerant circuit	Refrigerant type		R32
	Refrigerant charge	KG	0.35
	Maximum allowable distance between indoor and outdoor	m	15
	Maximum allowable level difference	m	10
	Refrigerant control	Capillary	
Piping connections (external diameter)	liquid	mm	Φ6.35
	gas	mm	Φ9.52
	drain	mm	Φ16
Heat insulation type		Both liquid and Gas pipes	
Max. piping Length		m	15
Max. Level Difference		m	10
Chargeless		m	7
Amount of Additional Charge of Refrigerant		g/m	20
International Protection degree		IP X4	

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor: 27°CDB/19°CWB Outdoor: 35°CDB/24°CWB	Indoor: 20°CDB Outdoor: 7°CDB/6°CWB	5m

Conversion formulae
Kcal/h=KW×860
Btu/h=KW×3414
cfm=m³/min×35.3

4. Sensors list

NONE

ASB12F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	3.4	3.55
	Btu/h	11600	12120
Power Consumption(Rated)	KW	1.06	0.98
EER/ COP	W/W	3.21	3.62
Annual energy consumption	KWh	/	/
Moisture Removal	m³/h	1.4*10³	

TECHNICAL SPECIFICATIONS-UNIT			
Dimensions	W*D*H	mm	696×256×432
Packaged Dimensions	W*D*H	mm	807/314/485
Weight	/	KG	23.5
Gross weight	/	KG	26
Sound level	Sound pr essure	dB	54
	Sound power	dB	/

ELECTRICAL SPECIFICATIONS			
		cooling	heating
Nominal running current	A	4.7	4.3

TECHNICAL SPECIFICATIONS-PARTS			
		cooling	heating
Compressor	Type	Rotary Compressor	
	Model	YZG-E125RY8T10	
	Motor output	W	770
	Oil type	FW68L	
	Oil charge volume	L	0.33
Fan	Type	Axial fan	
	Motor output	W	34
	Air flow rate(high)	m³/h	1700
	Speed(high/low)	rpm	1150
Heat exchanger	Type	ML fin-φ7HI-HX tube	
	Row*stage*fitch	1*9*1.2	

TECHNICAL SPECIFICATIONS-OTHERS			
Refrigerant circuit	Refrigerant type		R32
	Refrigerant charge	KG	0.675
	Maximum allowable distance between indoor an outdoor	m	15
	Maximum allowable level difference	m	10
	Refrigerant control	Capillary	
Piping connections (external diameter)	liquid	mm	Φ6.35
	gas	mm	Φ9.52
	drain	mm	Φ16
Heat insulation type		Both liquid and Gas pipes	
Max. piping Length		m	15
Max. Level Difference		m	10
Chargeless		m	7
Amount of Additional Charge of Refrigerant		g/m	20
International Protection degree		IP X4	

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor: 27°C DB/19°C WB Outdoor: 35°C DB/24°C WB	Indoor: 20°C DB Outdoor: 7°C DB/6°C WB	5m

Conversation formulae
Kcal/h= KW×860
Btu/h= KW×3414
cfm=m³/min×35.3

4. Sensors list

NONE

ASB18F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	5.35	5.5
	Btu/h	18260	18770
Power Consumption (Rated)	KW	1.66	1.52
EER / COP	W/W	3.21	3.62
Annual energy consumption	KWh	/	/
Moisture Removal	h ³ /m	2.0*10 ³	

TECHNICAL SPECIFICATIONS-UNIT			
Dimensions	W*D*H	mm	800×275×553
Packaged Dimensions	W*D*H	mm	902×375×614
Weight	/	GK	35.5
Gross weight		GK	36.6
Sound level	Sound	Bd	35.3
	pressure(Hi/Mid/Lo)	Bd	/

ELECTRICAL SPECIFICATIONS			
		cooling	heating
Nominal running current	A	7.3	6.7

TECHNICAL SPECIFICATIONS-PARTS			
		cooling	heating
Compressor	Type	Rotary Compressor	
	Model	GSL190CV-C7LU	
	Motor output	W	1465
	Oil type	RmM68EA or equivalent	
	Oil charge volume	L	0.39
Fan	Type	Axial fan	
	Motor output	W	30
	Air flow rate (high)	h ³ /m	900
	Speed (high/low)	rpm	1100
Heat exchanger	Type	MLfin -φ7HI-HX tube	
	Row*stage*pitch	1*12* 1.32	

TECHNICAL SPECIFICATIONS-OTHERS			
Refrigerant circuit	Refrigerant type		R32
	Refrigerant charge	KG	0.96
	Maximum allowable distance between indoor and outdoor	m	25
	Maximum allowable level difference	m	15
	Refrigerant control	Capillary	
Piping connections (external diameter)	liquid	mm	Φ6.35
	gas	mm	Φ12.70
	drain	mm	Φ16
Heat insulation type		Both liquid and Gas pipes	
Max. piping Length		m	25
Max. Level Difference		m	15
Chargeless		m	7
Amount of Additional Charge of Refrigerant		g/m	20
International Protection degree		IP X 4	

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor: 27 °C DB/19 °C WB Outdoor: 35 °C DB/24 °C WB	Indoor: 20 °C DB Outdoor: 7 °C DB/6 °C WB	5m

Conversation formulae
Kcal/h=KW×860
Btu/h=KW×3414
cfm=m³/min×35.3

4. Sensors list

NONE

ASB24F1

NOMINAL DISTRIBUTION SYSTEM VOLTAGE		
Phase	/	1
Frequency	Hz	50
Voltage	V	230

NOMINAL CAPACITY and NOMINAL INPUT			
		cooling	heating
Capacity rated	KW	7.1	7.1
	Btu/h	24229	24229
Power Consumption(Rated)	KW	2.12	1.965
EER/ COP	W/W	3.41	3.61
Annual energy consumption	KWh	/	/
Moisture Removal	m³/h	2.8*10³	

TECHNICAL SPECIFICATIONS-UNIT			
Dimensions	W*D*H	mm	890×353×697
Packaged Dimensions	W*D*H	mm	1046×460×780
Weight	/	KG	55.2
Gross weight	/	KG	60
Sound level	Sound pr essure	dB	55
	Sound power	dB	/

ELECTRICAL SPECIFICATIONS			
		cooling	heating
Nominal running current	A	9.2	8.5

TECHNICAL SPECIFICATIONS-PARTS			
		cooling	heating
Compressor	Type	Rotary Compressor	
	Model	55X563H	
	Motor output	W	1405
	Oil type	RM-LP68EP or equivalent	
	Oil charge volume	L	0.42
Fan	Type	Axial fan	
	Motor output	W	30
	Air flow rate(high)	m³/h	1000
	Speed(high/low)	rpm	1200
Heat exchanger	Type	ML fin-φ7HI-HX tube	
	Row*stage*fitch	2*12*1.32	

TECHNICAL SPECIFICATIONS-OTHERS			
Refrigerant circuit	Refrigerant type		R32
	Refrigerant charge	KG	1.3
	Maximum allowable distance between indoor an outdoor	m	25
	Maximum allowable level difference	m	15
	Refrigerant control	Capillary	
Piping connections (external diameter)	liquid	mm	Φ6.35
	gas	mm	Φ12.70
	drain	mm	Φ16
Heat insulation type		Both liquid and Gas pipes	
Max. piping Length		m	25
Max. Level Difference		m	15
Chargeless		m	7
Amount of Additional Charge of Refrigerant		g/m	20
International Protection degree		IP X 4	

Note: the data are based on the conditions shown in the table below

cooling	heating	Piping length
Indoor: 27 °C DB/19 °C WB Outdoor: 35 °C DB/24 °C WB	Indoor: 20 °CDB Outdoor: 7 °C DB/6 °C WB	5m

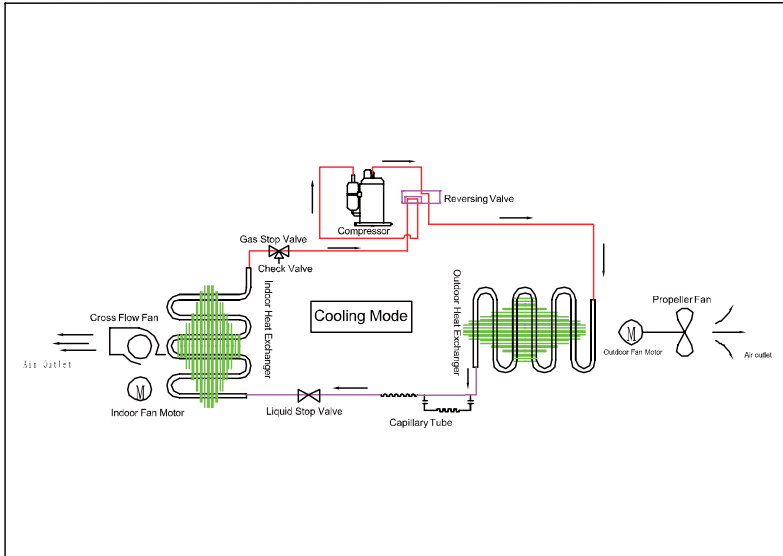
Conversation formulae
Kcal/h= KW×860
Btu/h= KW×3414
cfm=m ³ /min×35.3

4. Sensors list

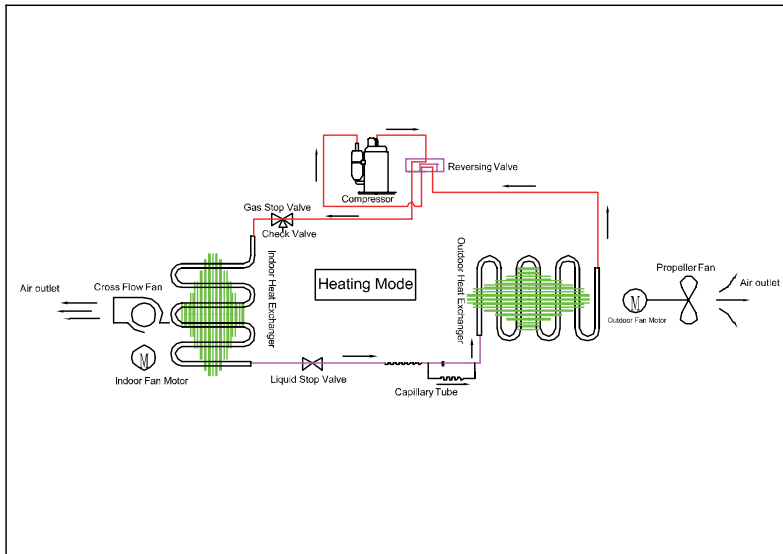
NONE

5. Piping diagrams

Cooling mode



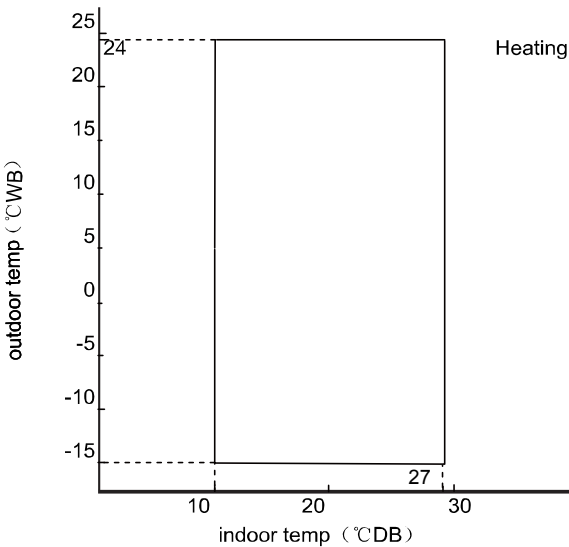
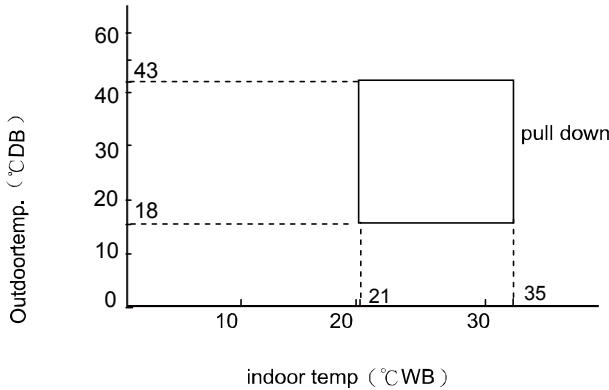
Heating mode



6. Operation range

The name of parts

Cooling



Notes:

The graphs are based on the following condition:

Equivalent piping length	5m
Level difference	0m
Air flow rate	high

7. Printed circuit board connector wiring diagram

Indoor unit ASX07F1, ASX09F1

Connectors Indoor PCB

Series	PCB connector	Connect with load
1	CN1 CN3	connector for transformer
2	CN2	connector for power line
3	CN3	connector for transformer output
4	CN501&CN502	connector for up and down step motor.
5	CN6	connector for ambient temp. sensor and piping temp.sensor.
6	CN7	connector for display board
7	CN8	connector for AC fan feedback motor.
8	CN9	connector for AC fan motor.

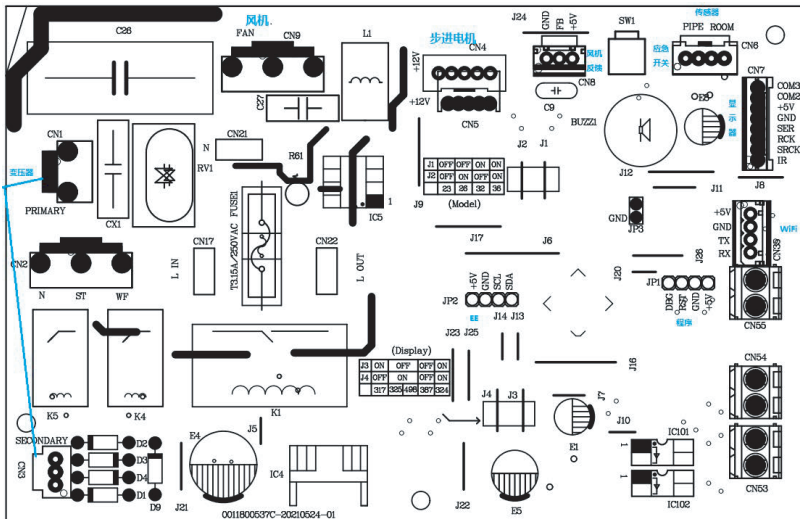
1)Pin-1: OFF-match A code remote control; ON-match B code remote control

Pin-2: OFF-no room card control; ON-with room card control

Pin-3 and Pin-4 combined control, corresponding to 23, 26,33 and 35 of the machine respectively

2)Jumper J1 and J2 combined control, corresponding to different series of display boards;

ON means keep; OFF means cut



J3	OFF	OFF	ON	ON
J4	OFF	ON	OFF	ON
	387/989	325/498	317	324

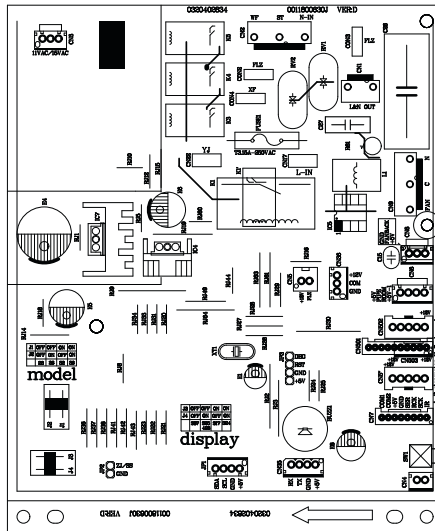
J1	OFF	OFF	ON	ON
J2	OFF	ON	OFF	ON
	23	26	32	36

UNIT MOUDLE	PCB MOUDLE	J1	J2	DISPLAY MOUDLE	J3	J4
ASX07F1	0011800537C (23)	OFF	OFF	0011800989	OFF	OFF
ASX09F1	0011800537C (26)	OFF	ON	0011800989	OFF	OFF

Indoor unit ASX12F1

Connectors Indoor PCB

Series	PCB connector	Connect with load
1	CN1 CN3	connector for transformer
2	CN2	connector for power line
3	CN3	connector for transformer output
4	CN501&CN502	connector for up and down step motor.
5	CN6	connector for ambient temp. sensor and piping temp.sensor.
6	CN7	connector for display board
7	CN8	connector for AC fan feedback motor.
8	CN9	connector for AC fan motor.
9	CN5	connector for UV Lamp



PCB:23
J1:OFF J2:OFF

DISPLAY:387
J3:OFF J4:OFF

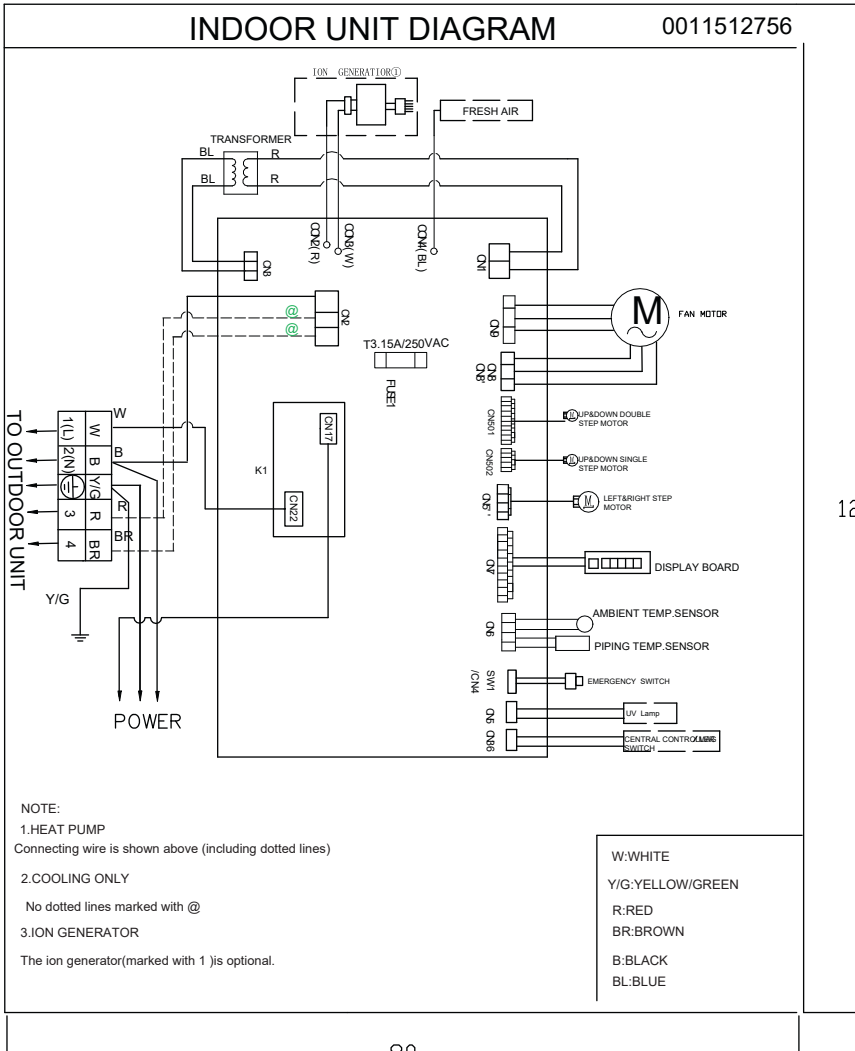
J1	OFF	OFF	ON	ON
J2	OFF	ON	OFF	ON
	23	26	32	36

J3	OFF	OFF	ON	ON
J4	OFF	ON	OFF	ON
	387/989	325/498	317	324

UNIT MOUDLE	PCB MOUDLE	J1	J2	DISPLAY MOUDLE	J3	J4
ASX12F1	0011800630N(23)	OFF	OFF	0011800989	OFF	OFF

Wiring diagrams

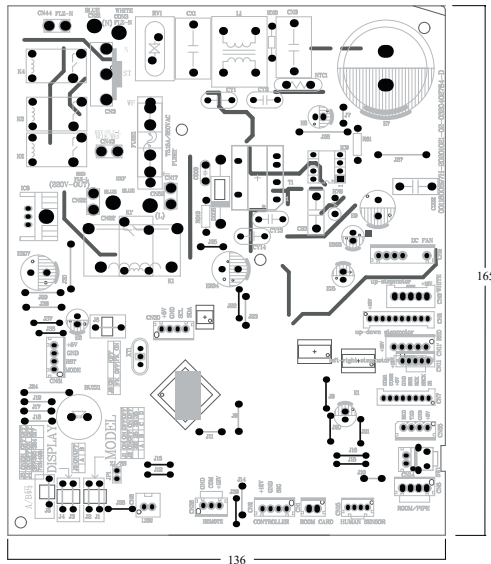
ASX07F1, ASX09F1, ASX12F1



Indoor unit ASX18F1, ASX24F1

Connectors Indoor PCB

Series	PCB connector	Connect with load
1	CN1	connector for room card
2	CN3	connector for transformer output
3	CN5/CN5'	connector for up and down step motor.
4	CN6	connector for ambient temp sensor and piping temp sensor.
5	CN7	connector for display board
6	CN8	connector for UV Lamp
7	CN9	connector for DC fan motor.
8	CN11/CN11'	connector for left and right step motor.
9	CN35	connector for wifi module.
9	CN36	connector for central controller (mag switch).
10	CN48	connector for emergency switch.



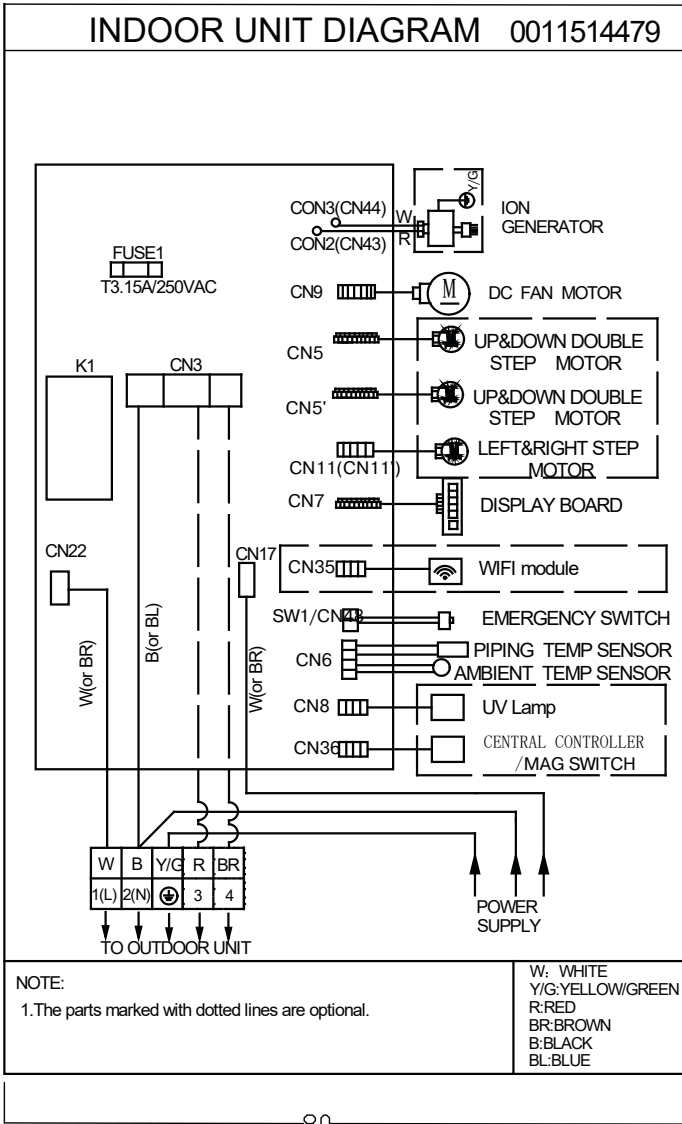
J1	ON	ON	OFF	OFF
J2	ON	OFF	ON	OFF
	22	25	33	35

J3	ON	ON	OFF	OFF
J4	ON	OFF	ON	OFF
	989/387/713	325/498	324	317

UNIT MOUDLE	PCB MOUDLE	J1	J2	DISPLAY MOUDLE	J3	J4
ASX18F1	0011800697K	ON	ON	0011800989	ON	ON
ASX24F1	0011800697K	ON	OFF	0011800989	ON	ON

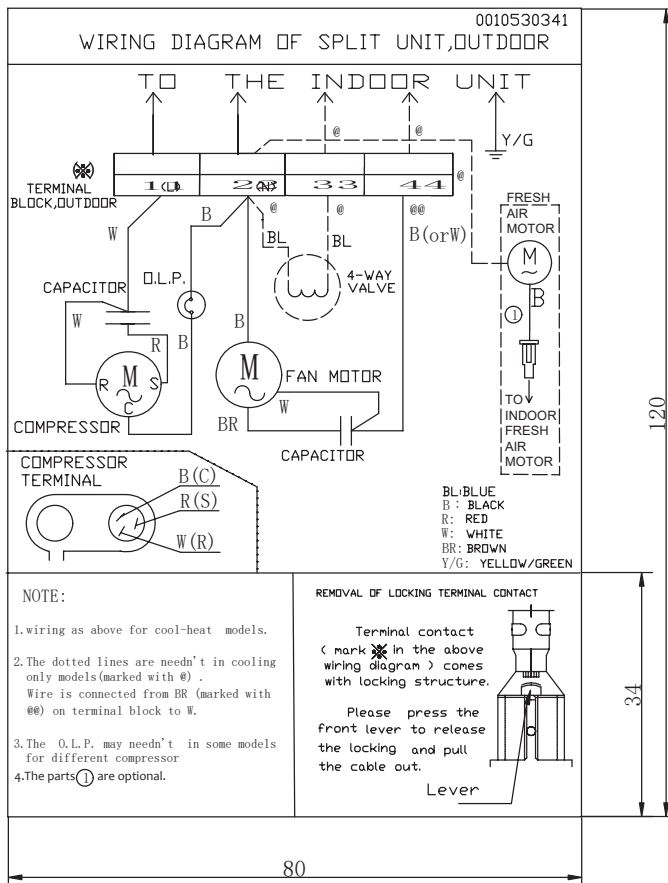
Wiring diagrams

ASX18F1



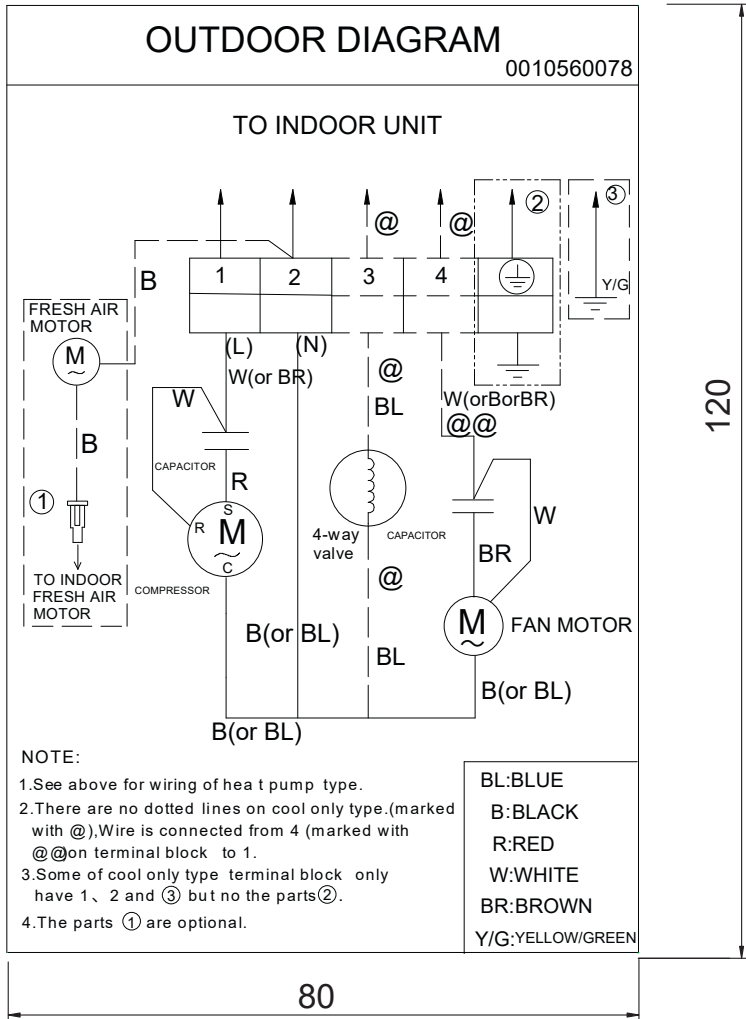
Wiring diagrams

ASB7F1, ASB9F1, ASB12F1



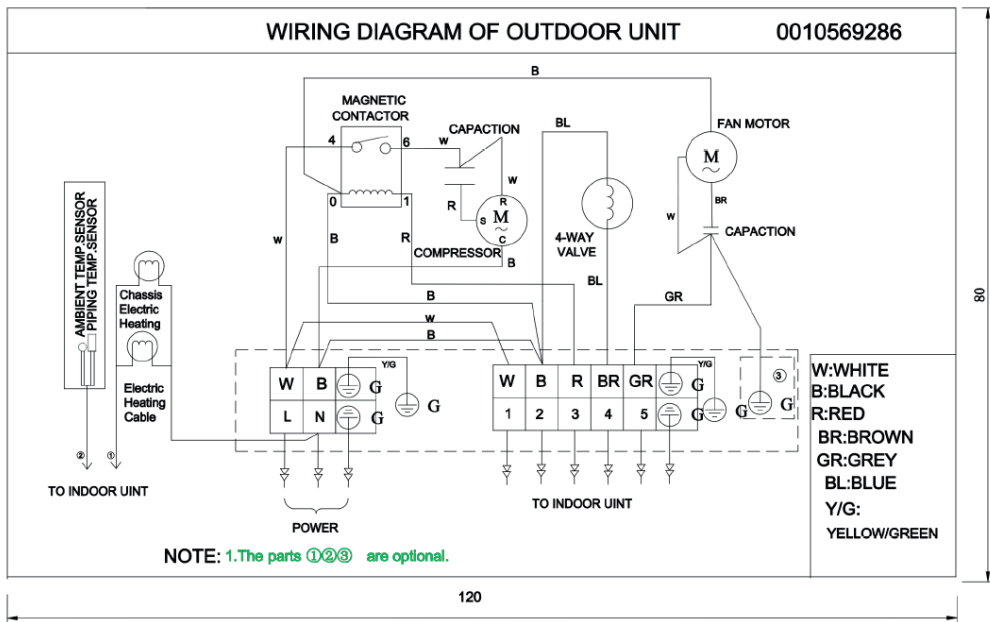
Wiring diagrams

ASB18F1



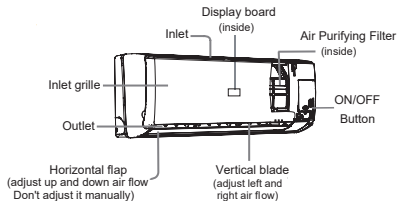
Wiring diagrams

ASB24F1



8. Parts and remote controller

Indoor Unit



NOTE:

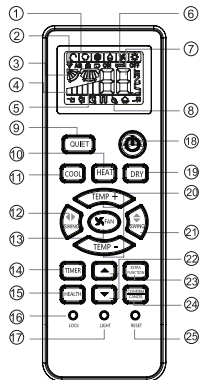
Actual inlet grille may vary from the one shown in the manual depending on the product purchased.

Display board

- 1 Signal receiver
- 2 Setting temp. display
- 3 Operation mode indicator
- 4 Wi-Fi



Remote controller



8. Additional functions display

Operation mode	QUIET	SLEEP	Supplemental function	HEALTH	TURBO
Remote control					

9. QUIET button

10. HEAT button
11. COOL button
12. SWING LEFT/RIGHT button
13. FAN SPEED button
14. TIMER button
15. HEALTH button
16. LOCK button
Used to lock buttons and LCD display
17. LIGHT button
Control the lightening and extinguishing of the indoor LED display board.
18. POWER ON/OFF button
19. DRY button
20. TEMP button
21. SWING UP/DOWN button
22. HOUR button
23. EXTRA FUNCTION button

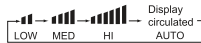
1. Mode display

Operation mode	AUTO	COOL	DRY	FAN	HEAT
Remote control					

2. Signal sending display

3. SWING display

4. FAN SPEED display



5. LOCK display

6. TIMER OFF display

7. TEMP display

Healthy function is not available for some units.

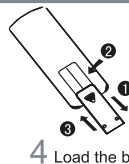
Function: Sleeping→→Healthy airflow position1→→Healthy airflow position2→→standard position→→Turbo
→→A-B yard→→AUTO→→10°C Heating

24. CANCEL/CONFIRM button
Function: Setting and cancel to the timer and other additional functions.

25. RESET button

When the remote controller appears abnormal, use a sharp pointed article to press this button to reset the remote.

Loading of the battery



- 1 Remove the battery cover;
- 2 Load the batteries as illustrated.
- 3 Be sure that the loading is in line with the "+" and "-" signs;
- 4 Load the battery, then put on the cover again.

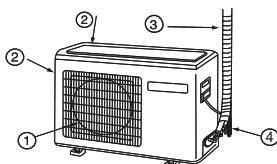
Note:

- The distance between the signal transmission head and the receiver hole should be within 7m without any obstacle as well.
- When electronic-started type fluorescent lamp or change-over type fluorescent lamp or wireless telephone is installed in the room, the receiver is apt to be disturbed in receiving the signals, so the distance to the indoor unit should be shorter.
- Full display or unclear display during operation indicates the batteries have been used up. Please change batteries.
- If the remote controller can't run normally during operation, please remove the batteries and reload several minutes later.

Hint:

Remove the batteries in case won't be in use for a long period. If there is any display after taking-out, just press reset key.

Outdoor Unit



- 1 OUTLET
- 2 INLET
- 3 CONNECTING PIPING AND ELECTRICAL WIRING
- 4 DRAIN HOSE

Please note the above picture is for reference only.
This may very depending on the unit purchased.

Operation

Base Operation

Remote controller



1. Unit start

Press ON/OFF on the remote controller, unit starts.

2. Select operation mode

COOL button: Cooling mode
HEAT button: Heating mode
DRY button: Dehumidify mode

3. Select temp. setting

Press TEMP+ / TEMP- button

TEMP+ Every time the button is pressed, temp. setting increase 1°C, if kept depressed, it will increase rapidly

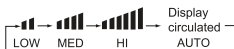
TEMP- Every time the button is pressed, temp. setting decrease 1°C, if kept depressed, it will decrease rapidly

Select a desired temperature.

4. Fan speed selection

Press FAN button. For each press, fan speed changes as follows:

Remote controller:



Air conditioner is running under displayed fan speed. When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

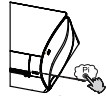
Operation Mode	Remote Controller	Note
AUTO		Under the mode of auto operation, air conditioner will automatically select Cool or Heat operation according to room temperature. When FAN is set to AUTO the air conditioner automatically adjusts the fan speed according to room temperature.
COOL		Cooling only unit do not have displays and functions related with heating
DRY		In DRY mode, when room temperature becomes lower than temp. setting+2°C, unit will run intermittently at LOW speed regardless of FAN setting.
HEAT		In HEAT mode, warm air will blow out after a short period of the time due to cold-draft prevention function. When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.
FAN		In FAN operation mode, the unit will not operate in COOL or HEAT mode but only in FAN mode. AUTO is not available in FAN mode. And temp. setting is disabled. In FAN mode, sleep operation is not available.

Emergency operation and test operation

Emergency Operation:

- Use this operation only when the remote controller is defective or lost, and with function of emergency running, air conditioner can run automatically for a while.
- When the emergency operation switch is pressed, the "Pi" sound is heard once, which means the start of this operation.
- When power switch is turning on for the first time and emergency operation starts, the unit will run automatically in the following modes:

Room temperature	Designated temperature	Timer mode	Fan speed	Operation mode
Above 23°C	26°C	No	AUTO	COOL
Below 23°C	23°C	No	AUTO	HEAT

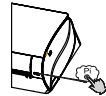


- It is impossible to change the settings of temp. and fan speed. It is also not possible to operate in timer or dry mode.

Test operation:

Test operation switch is the same as emergency switch.

- Use this switch in the test operation when the room temperature is below 16°C, do not use it in the normal operation.
- Continue to press the test operation switch for more than 5 seconds. After you hear the "Pi" sound twice, release your finger from the switch: the cooling operation starts with the air flow speed "Hi".
- Under this operation mode, the fan motor of indoor unit will run in high speed.



Air Flow Direction Adjustment

1. Vertical flap

- Pos.1
- Pos.2
- Pos.3
- Pos.4 (Autoswing)
- Pos.5

Remote controller

COOL/DRY/AUTO (Initial state):

HEAT (Initial state):

(no)

2. Press button. changes as follows: Pos.4

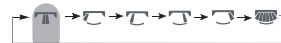
Press button again, vertical flap will stop over present position, the swing function will be cancelled.

3. Press button to choose the Pos.2 and Pos.3.

4. Left and right air flow direction

For each press of " " button, remote controller displays as follows:

remote controller:



Initial state

- When humidity is high, condensate water might occur at air outlet if all vertical louvers are adjusted to left or right.
- It is advisable not to keep horizontal flap at downward position for a long time in COOL or DRY mode, otherwise, condensate water might occur.
- As cold air flows downward in COOL mode, adjusting air flow horizontally will be much more helpful for a better air circulation.

Operation

■ Steri Clean Operation

The Steri Clean 56°C Function can be controlled only by the App hOn.

Introduction to Steri Clean

1st-stage: Self Clean to remove dirt away (It freezes the evaporator with moisture in the air, and removes away dirt in melting. The hydrophilic aluminum coating with smaller angel ($\alpha \approx 5^\circ$) helps increase water drainage efficiency.)

2nd-stage: 56°C high temperature sterilization (It utilizes smart temperature monitoring and frequency control technology to adjust the compressor operation, so that we maintain the evaporator temperature at high temperature for over 30mins to kill bacteria and virus inside the air conditioner.)

3rd-stage: Rapid evaporator cooling to enhance the sterilization performance. The foil surface is coated with silver nanoparticles whose anti-bacterial efficiency is up to 99%.

Attention:

- 1.The function lasts 60-80 minutes. Hot air may come out during the process when evaporator is heated to 56°C or maintains at 56°C in summer.
- 2.The function may result in the changes of room air temperature in winter.
- 3.When outdoor ambient temperature is above 36°C, the function cannot be performed. Instead, Self Clean function will be turned on and lasts 21mins when Steri Clean is turned on.

■ SELF-CLEAN Operation

◆ Functional description:

the purpose of this function is to clean the evaporator.

◆ Entry and exit:

If this function is needed, please check in hOn APP.

Press SELF CLEAN button to enter this function, then it will display "CL" on the panel of the indoor unit and also on the remote controller. Maximum running time not more than 21 minutes, this function will exit automatically with the "Pi" sound twice, then the unit return to original state. Under operation process of SELF CLEAN, press the button repeatedly is invalid and cannot exit, please press the "power" button or swift to other mode to exit.

◆ Note:

- 1.This function is invalid in timer / sleep mode.
- 2.After this mode starts, the air volume may reduce or even have no airflow, or even cold airflow blowing.
- 3.It is normal if the unit make some sound like expand with heat and contract with cold.
4. The "CL" display time may last differently on the remote controller and panel.
- 5.If the outside ambient temperature below zero, error code "F25" may be occurred during self-cleaning operation, which is normal protection, please turn off the power and to restart after 10 seconds.
- 6.The best condition to run this mode: the temperature is 20°C~27°C and the humidity is 35%~60% in the door, the temperature is 25°C~38°C (cooling season) out the door.
- 7.It is hard to frost if the air is too dry(humidity<20%). and if the humidity is too high(humidity>70%), the condensate water may increase, which may move away some frost.

Operation

Sleep Operation

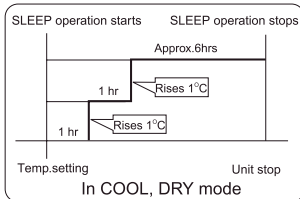
Press  button to enter additional options, when cycle display to ,  will flash. And then press  enter to sleep function.



Operation Mode

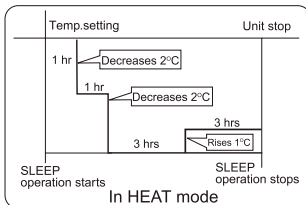
1. In COOL, DRY mode

1 hours after SLEEP mode starts, temp. will become 1°C higher than temp. setting. After another 1 hours, temp. rises by 1°C further. The unit will run for further 6 hours then stops Temp. is higher than temp. setting so that room temperature won't be too low for your sleep.



2. In HEAT mode

1 hours after SLEEP mode starts, temp will become 2°C lower than temp. setting. After another 1 hours, temp decrease by 2°C further. After more another 3 hours, temp. rises by 1°C further. The unit will run for further 3 hours then stops. Temp. is lower than temp. setting so that room temperature won't be too high for your sleep.



3. In AUTO mode

The unit operates in corresponding sleep mode adapted to the automatically selected operation mode.

4. In FAN mode

It has no SLEEP function.

5. Set the wind speed change when sleeping

If the wind speed is high or middle before setting for the sleep, set for lowering the wind speed after sleeping. If it is low wind, no change.

Note

When TIMER function is set, the sleeping function can't be set up. After the sleeping function is set up, if user resets TIMER function, the sleeping function will be cancelled; the machine will be in the state of timing-on.

TURBO/QUIET Operation

(1) TURBO Operation

When you need rapid heating or cooling, you can use this function.

Press  button to enter additional options, when cycle display to ,  will flash, and then press  enter to power function. When cancel the function, please enter additional options again and to cancel turbo function.

(2) QUIET Operation

You can use this function when silence is needed for rest or reading.

Press QUIET button, the remote controller will show , and then achieve to the quiet function. Press again this QUIET button, the quiet function will be cancelled.

Note :

During TURBO operation, in rapid HEAT or COOL mode, the room will show inhomogeneous temperature distribution. Long period QUIET operation will cause effect of not too cool or not too warm.

HEALTH Operation

(This function is unavailable on some models.)

Press HEALTH button, the remote controller will show  and then achieve to the health function.

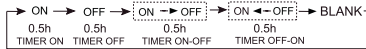
Press again this HEALTH button, the health function will be cancelled.

The anion generator in the air conditioner can generate a lot of anion effectively balance the quantity of position and anion in the air and also to kill bacteria and speed up the dust sediment in the room and finally clean the air in the room.

Operation

■ Timer On/Off On-Off Operation

- After unit starts, select your desired operation mode.
- Press **TIMER** button to change **TIMER** mode. Every time the button is pressed, display changes as follows:
Remote controller:



Then select your desired **TIMER** mode (**TIMER ON** or **TIMER OFF** or **TIMER ON-OFF**). "ON" or "OFF" will flash.

- Press **▼** / **▲** button to set time.

- ▲ Press the button for each time, setting time in the first 12 hours increased by 0.5 hour every time, after 12 hours, increased by 1 hour every time.
- ▼ Press the button for each time, setting time in the first 12 hours decreased by 0.5 hour every time, after 12 hours, decreased by 1 hour every time. It can be adjusted within 24 hours.

- Confirm timer setting

After adjust the time, press **CONFIRM/CANCEL** button and confirm the time ON or OFF button will not flash any more.

- Cancel timer setting

Press the timer button by times until the time display eliminated.

Hints:

After replacing batteries or a power failure happens, time setting should be reset.

According to the Time setting sequence of **TIMER ON** or **TIMER OFF**, either Start-Stop or Stop-Start can be achieved.

■ Healthy airflow Operation

- Press **HEALTHY** to starting

Setting the comfort work conditions.

- The setting of healthy airflow function

Press **EXTRA FUNCTION** button to enter additional options, Press this button continuously, the louvers location will cycle between in the following three locations, to choose the swing location what you needed, and then press **CONFIRM/CANCEL** button to confirm.



- The cancel of the healthy airflow function

Press **EXTRA FUNCTION** button to enter additional options, Press this button continuously, the louvers location will cycle between in the following three locations again, and then press **CONFIRM/CANCEL** button to cancel.

Notice: Do not direct the flap by hand. Otherwise, the grille will run incorrectly. If the grille is not run correctly, stop for a minute and then start, adjusting by remote controller.

Note:

- After setting the healthy airflow function, the position grill is fixed.
- In heating, it is better to select the **□** mode.
- In cooling, it is better to select the **□** mode.
- In cooling and dry, using the air conditioner for a long time under the high air humidity, condensate water may occur at the grille.

*Название программы в будущем может быть изменено.

Climate:T1 Voltage:230V

CE

All the products are in conformity with the following European provision:

2014/53/EU(RED) 2014/517/EU(F-GAS)

2009/125/EC(ENERGY) 2006/1907/EC(REACH)

RoHS

The products are fulfilled with the requirements in the directive 2011/65/EU of the European parliament and of council on the Restriction of the use of Certain Hazardous Substances in Electrical and Electronic Equipment (EU RoHS Directive)

WEEE

In accordance with the directive 2012/19/EU of the European parliament, herewith we inform the consumer about the disposal requirements of the electrical and electronic products.

DISPOSAL REQUIREMENTS:

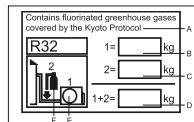
Your air conditioning product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste. Do not try to dismantle the system yourself: the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other part must be done by a qualified installer in accordance with relevant local and national legislation. Air conditioners must be treated at a specialized treatment facility for reuse, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information. Battery must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

Wi-Fi

-Wireless maximum transmit power (20dBm)

-Wireless operating frequency range (2400~2483.5MHz)

IMPORTANT INFORMATION REGARDING THE REFRIGERANT USED



This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent into the atmosphere.

Refrigerant type: R32

GWP* value: 675

GWP=global warming potential

Please fill in with indelible ink,

- 1 the factory refrigerant charge of the product
- 2 the additional refrigerant amount charged in the field and
- 1+2 the total refrigerant charge

on the refrigerant charge label supplied with the product.

The filled out label must be adhered in the proximity of the product charging port (e.g. onto the inside of the stop value cover).

A contains fluorinated greenhouse gases covered by the Kyoto Protocol

B factory refrigerant charge of the product: see unit name plate

C additional refrigerant amount charged in the field

D total refrigerant charge

E outdoor unit

F refrigerant cylinder and manifold for charging

7

Operation

■ ON/OFF operation and test operation

ON/OFF Operation:

- Use this operation only when the remote controller is defective or lost, and with function of emergency running, air conditioner can run automatically for a while.
- When the emergency operation switch is pressed, the "Pi" sound is heard once, which means the start of this operation.
- When power switch is turning on for the first time and emergency operation starts, the unit will run automatically in the following modes:

Room temperature	Designated temperature	Timer mode	Fan speed	Operation mode
Above 24 °C	24 °C	No	AUTO	COOL
Below 24 °C	24 °C	No	AUTO	HEAT



- It is impossible to change the settings of temp. and fan speed. It is also not possible to operate in TIMER or DRY mode.

Test operation:

Test operation switch is the same as emergency switch.

- Use this switch in the test operation when the room temperature is below 16 °C, do not use it in the normal operation.
- Continue to press the test operation switch for more than 5 seconds. After you hear the "Pi" sound twice, release your finger from the switch: the cooling operation starts with the air flow speed "Hi".



Operation

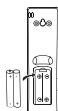
■ Loading of the battery

1



Remove the battery cover;

2



Load the batteries as illustrated. 2 R-03 batteries, resetting key (cylinder); Be sure that the loading is in line with the "+"/"-";

3



Load the battery, then put on the cover again.

9. Functions and control

9.1 main functions and control specifications

Including brief introduction to air conditioners of series models and electric control function.

9.1.1 Automatic running

Automatic running mode

When the running mode is turned to automation after starting the system, the system will first determine the running mode according to the current room temperature and then will run according to the determined mode. Tr in the following selection conditions means room temperature, Ts means setting temperature, Tp means temperature of indoor coil pipe

- a. $Tr \geq 23^{\circ}\text{C}$ running cooling mode
- b. $Tr < 23^{\circ}\text{C}$ running heating mode

After turning to the automation mode, the running mode can be switched between cooling mode, fan mode and heating mode according to the change of the indoor ambient temperature. But the automatic conversion between cooling mode and heating mode must be conducted after 15 minutes.

9.1.2 Indoor temperature control

Temperature control range : $16^{\circ}\text{C}—30^{\circ}\text{C}$

Temperature control precision: $\pm 1^{\circ}\text{C}$

Compressor can't be controlled by temperature sensor within 2 minutes after it starts

9.1.2.1 Cooling mode:

When $Tr > Ts$, outdoor fan motor and compressor on, and indoor fan motor run at fixed wind speed. When $Tr < Ts$, outdoor fan motor and compressor off, and when $Tr > Ts$, outdoor fan motor and compressor are working again .If $Tr = Ts$, the indoor fan motor , outdoor fan motor and the compressor's state will not change.

9.1.2.2 Heating mode:

When $Tr \leq Ts$, compressor, four-ways valve and outdoor fan motor is on, indoor fan motor runs as in cold blast avoidance mode, and 4°C of compensation is added after compressor is started.

When $Tr > Ts + 5^{\circ}\text{C}$, compressor is off, and the indoor fan motor runs as in cold blast avoidance mode.

When $Tr < Ts + 5^{\circ}\text{C}$, compressor, four-ways valve and outdoor fan motor is on, and the indoor fan motor runs as in the mode of avoiding cold blast.

9.1.3 Cooling run mode:

temperature control range : $16^{\circ}\text{C}—30^{\circ}\text{C}$

temperature control precision: $\pm 1^{\circ}\text{C}$

compressor can't be controlled by temperature sensor within 2 minutes after it starts.

control character: when $Tr \geq Ts$, outlet air from compressor is on and indoor fan motor run at fixed wind speed. When $Tr < Ts$, outlet air from compressor is off , and when $Tr > Ts$, outlet air from compressor is on.

wind speed control: (the temperature difference is 1°C)

auto: when $Tr \geq Ts + 3^{\circ}\text{C}$, the wind speed is high;

When $Ts + 1^{\circ}\text{C} \leq Tr < Ts + 3^{\circ}\text{C}$, the wind speed is medium.

When $Tr < Ts + 1^{\circ}\text{C}$, the wind speed is low.

When temperature sensor is off, the fan motor runs at low speed.

when the wind speed changes from low to high, there is no delay, and when it changes from high to

low, there is a 3-minutes delay before conversion.

Manual operation: When unit is on the wind speed can be set to high, medium, low or automatic as required (execute instruction 2 seconds later after receiving remote signal)

Compressor control: The compressor can't be controlled by temperature sensor within 2 minutes after start up and can be only restarted at least 3 minutes later after shutdown. There is no 3-minute protection with power on for the first time (over 3 minutes with power off). The compressor must stand by for 3 minutes before it is restarted after shut down.

There is no 2-minute limit when changing the temperature setting or shutting down the machine through the remote controller, and the machine can be shut down immediately.

Avoiding electrical shock: outlet air is available 2 seconds later after startup.

High temperature expiration prevention:

When the temp. of coil pipe is above 62°C, compressor and outlet air stop running 10 seconds later, and inlet air runs as the temp. sensor is off. When compressor stands by for 3 minute and the temp. of coil pipe is below 60°C, the unit can be started again.

Protection of frost is available (disable in test run or heating mode): In order to prevent the indoor heat exchanger from freezing (in refrigeration or dehumidifying mode), the compressor will be shut off when the temperature of the indoor coil pipe is or below 0°C and the compressor runs for over 5 minutes. When the temperature of the indoor coil pipe ascends to over 7°C, the compressor is restarted (must meet a 3-minutes delay)

Timer on, Timer off and sleep control are available.

9.1.4 Dehumidifying mode

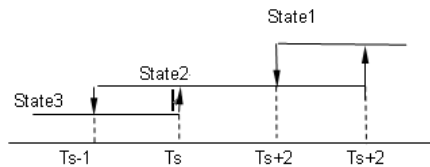
Temperature control range : 16°C—30°C

Control character:

When T_r (indoor temperature) > T_s (temperature setting) + 2°C, compressor and outdoor fan motor run continuously with indoor fan motor running in accordance with the wind speed setting (State 1).

When $T_s \leq T_r \leq T_s + 2^\circ\text{C}$, outlet air from compressor is on for 10 minutes and off for 6 minutes, the indoor fan motor is off in 3 minutes after shut down of compressor and gives breeze in other time (State 2).

When $T_r < T_s$, outlet air from compressor is unavailable, and the indoor fan motor enters breeze mode 3 minutes later after shut down of compressor (State 3).



When all the ranges alternate, there is $\pm 1^\circ\text{C}$ difference.

9.1.5 Heating mode: (cooling only have no the mode)

*Temperature control range : 16°C—30°C

*Temperature control precision: $\pm 1^\circ\text{C}$

*Control Character:

When $T_r \leq T_s$, compressor, four-ways valve and outdoor fan motor is on, indoor fan motor runs as in cold blast mode, and 4°C of compensation is added after compressor is started.

When $T_r \geq T_s + 5^{\circ}\text{C}$, compressor is off, and the indoor fan motor runs as in warm blast mode.

When $T_r < T_s + 5^{\circ}\text{C}$, compressor, four-ways valve and outdoor fan motor is on, and the indoor fan motor runs as in the mode of avoiding cold blast.

*Control of indoor fan motor:

Manual operation: The wind speed can be set to high, medium, low or automatic as required.

Automatic operation: When $T_r \geq T_s$, the wind speed is high;

When $T_s \leq T_r \leq T_s + 2^{\circ}\text{C}$, the wind speed is medium.

When $T_s + 2^{\circ}\text{C} \leq T_r$, the wind speed is low.

*Control of air door: setting the position of air door as required.

*Compressor control: The compressor can't be controlled by temperature sensor in 2 minutes after start up and also can't be started again at least 3 minutes later after shut down. There are 3-minute protection with power on for the first time (over 3 minutes with power off). The compressor must be started again 3 minutes later after shut down.

*Avoiding electrical shock: outlet air is available 2 seconds later after start up.

*Timer on, Timer off and sleep control are available.

*Control of 4-way valve: When the unit is started for the first time, the 4-way valve starts running 10 seconds earlier than compressor does. After compressor stops running, the 4-way valve continues running for 2 minutes and then stops. If changing the unit from heating to cooling, the 4-way valve is shut off 2 minutes later and compressor is started 3 minutes later.

9.1.5.1 Cold draft prevention:

9.1.5.1.1 Compressor is interrupted during the defrosting operation and continues to run after defrosting is completed. When the indoor exchanging temperature is below 23°C , the indoor fan motor is off. When the indoor exchanging temperature is above 23°C , the indoor fan motor is running at weak speed.

9.1.5.1.2 If the temperature of coil pipe can't be above 38°C 4 minutes later after start up, fan motor is running at the preset wind speed.

9.1.5.1.3 If the temperature of coil pipe is above 38°C 4 minutes later after start up, fan motor is running at the preset wind speed.

9.1.5.1.4 If coil pipe descends to the temp. lower than 38°C from 38°C , fan motor is running at the preset wind speed.

*Warm blast: If the temperature sensor is off. Compressor stops running. If the temperature of coil pipe is above 23°C , fan motor enter breeze mode; and if the temperature of coil pipe is below 20°C , fan motor stops running.

9.1.5.2 High temperature protection and high temperature expiration protection:

9.1.5.2.1 High temperature prevention: When the temp. of coil pipe is above 56°C , the outdoor fan motor stops. When the temp descends to 52°C , the outdoor fan motor is restarted and fan speed frequency is more than 45 seconds.

9.1.5.2.2 High temperature expiration prevention: When the temp. of coil pipe is above 62°C , compressor and outlet air stop running 10 seconds later, and inlet air runs as the temp. sensor is off. When compressor stands by for 3 minute and the temp. of coil pipe is below 50°C , the unit can be started again.

*Current protection and current expiration protection: (Not detecting within 60 seconds after start up)

*Overcooling protection: One and half a minutes later after compressor starts, if the temperature of

coil pipe is below -4°C , compressor and air outlet stop, and air inlet runs according to the temp. setting. Compressor can be restarted 3 minutes later.

9.1.5.3 Defrosting:

9.1.5.3.1 Entry conditions of defrosting:

The entry conditions of defrosting is classified into two types: intelligentized defrosting and sensor defrosting. Through selecting and judging, the models without outdoor sensor defrosts according to intelligentized defrosting, and others with ensor defrosts according to sensor defrosting.

Intelligentized defrosting:

9.1.5.3.1.1 Indoor unit enter overload protection and air outlet stops when air outlet has been restarted and runs over 10 minutes, and compressor runs over 45 minutes in total and over 20 minutes continuously, and the temp. of indoor coil pipe is below 38°C .

9.1.5.3.1.2 Compressor runs 20 minutes continuously, and the temp. of indoor coil pipe decreases 1°C per 6 minutes and this operation repeats 3 times, and the temp. of coil pipe is below 38°C , and 5 minutes later after compressor is restarted.

9.1.5.3.1.3 When compressor runs over 3 hours in total and over 20 minutes continuously and after the temp. of indoor coil pipe is below 38°C , the system enters defrosting mode.

9.1.5.3.1.4 The difference between the temp. of indoor coil pipe and the indoot temp. is below 16°C and lasts 5 minutes, compressor runs over 45 minutes in total and over 20 minutes continuously after the temp. of indoor coil pipe is below 38°C , the system enters defrosting mode.

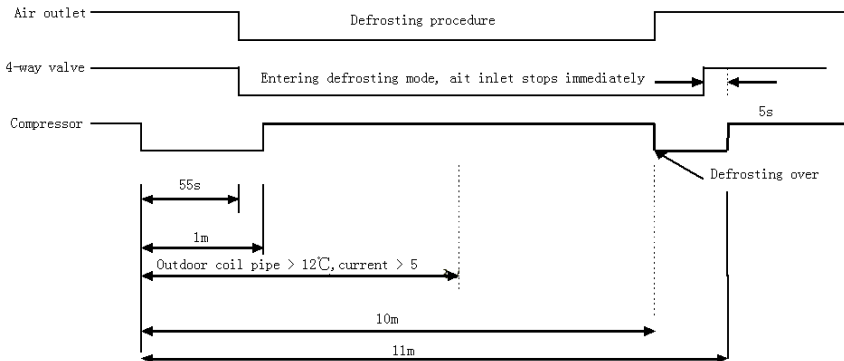
9.1.5.3.2 Exit conditions of defrosting:

Defrosting time is higher than 12 minutes (compressor is on).

9.1.5.3.2.1 During the defrosting, if current peak value is cut off, the unit quit the defrosting mode. But the protection of expiration of current peak value is unavailable with 60 senconds after compressor is started.

9.1.5.3.2.2 During the defrosting and 2 minutes After quitting the defrosting mode, abnormality of temp. sensor isn't detected.

9.1.5.3.2.3 After quitting the defrosting mode, the fan motor enter cooling prevention mode.



9.1.6 Timerfunction:

You can set 24-hour timer on or timer off as required, and the minum time unit is 1 minute. After setting, the indicator of indoor unit is on , and it is off when timer setting is completed. There are several

timer mode as follows.

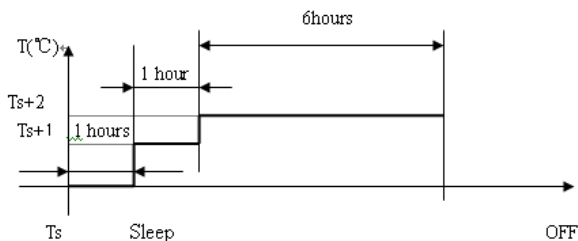
9.1.6.1 Timer on: The LED of “timer on” lights up, and unit behaves with halt status. Timer on is completed, and then unit starts running with the LED of “timer on” off. The unit starts with the the last setting receiving timer signals, and sleep setting is not allowed.

9.1.6.2 Timer off: Unit starts, timer indicator lights up; When reaching time setting, the indicator goes out, unit enters shut down mode, and sleep function can be set. If timer off and sleep are set synchronously, the one which time is short run first. Executing shutdown instruction clear timer and sleep function.

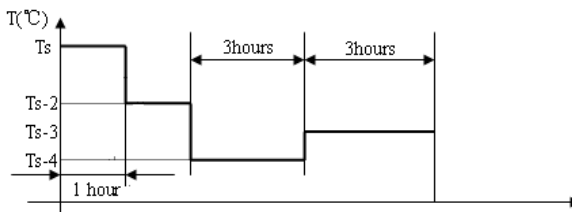
9.1.6.3 Timer on and timer off can be set synchronously.

9.1.7 Sleep function: the timer indicator lights up.

9.1.7.1 In cooling/defrosting mode, the temp. setting increases 1°C one hour later after start up. After another hour the temp. setting increase by more 1°C and then run continuously for another 6 hours and then close.



9.1.7.2 In heating mode, the temp. setting decrease 2°C one hour after start up. After another hour the temp. setting decrease by more 2°C . After 3 hours the temp. setting rise by 1°C and then run continuously for another 3 hours and then close.



9.1.7.3 If the wind speed is set to high before going to bed, the wind speed become medium after start up; If the wind speed is set to medium before going to bed, the wind speed become low after start up; If the wind speed is set to low before going to bed, the wind speed keep unchanged.

9.1.8 Emergency switch input:

9.1.8.1 Press the switch of emergency operation, then buzzer rings once and unit enters the automatic operation mode. (emergency operation)

9.1.8.2 If the switch is kept pressed for 5 seconds, buzzer ring two times and unit enter enter test run mode.

9.1.8.3 Press the switch again, and then closes.

9.1.8.4 Enter emergency operation from timer mode, then timer is cancelled.

9.1.9 Testrun:

9.1.9.1 The temperature sensor of inlet air doesn't work, and compressor starts (but subject to the limit of -minute delay excluding the first time), and high wind, cooling, and air door is open. The indoor fan motor runs, running indicator lights up, compressor relay and the one of outdoor fan motor is closed

9.1.9.2 During test run:

The prevention of freezing of evaporator doesn't work.

Current cross control doesn't work.

The control of current cross peak expiration doesn't work.

Temperature control doesn't work.

Temperature expiration control doesn't work.

9.1.10 Memory function: The memory function of power down is available, and the auto recovery function of power on is optional. (In auto, heating, cooling, or defrosting status, press the "sleeping" button 10 times within 5 seconds, and the auto recovery function of power on can be set on/off. If the buzzer rings 4 times, the auto recovery function of power on is available; If the buzzer rings 2 times, the auto recovery function of power on is unavailable.)

If there is no EEPROM, the unit is taken off the 'off' function of the memory function of power down. But the memory function of power down can also be set on/off, and the data is the default value of chip.

9.1.10.11 Alarm from indoor fan motor: 2 minutes later after the indoor fan motor is charged, and the impulse from fan motor is not detected, then send alarm signals.

9.1 Value of Thermistor

9.2.1 Indoor unit

Room sensor

R25°C=23KΩ±3.5%

B25°C/50°C=4200K±3%

Temp.(°C)	Max.(KΩ)	Normal(KΩ)	Min.(KΩ)	Tolerance(°C)	
-30	568.8372	501.0746	440.8435	-1.97	1.75
-29	530.9600	468.6491	413.1441	-1.95	1.74
-28	495.8488	438.5314	387.3645	-1.93	1.72
-27	463.2850	410.5433	363.3602	-1.91	1.71
-26	433.0683	384.5212	340.9980	-1.90	1.70
-25	405.0156	360.3153	320.1558	-1.88	1.69
-24	378.9588	337.7879	300.7211	-1.86	1.67
-23	354.7440	316.8126	282.5905	-1.84	1.66
-22	332.2300	297.2732	265.6686	-1.82	1.64
-21	311.2873	279.0627	249.8676	-1.80	1.63
-20	291.7969	262.0831	235.1067	-1.78	1.62
-19	273.6494	246.2437	221.3111	-1.76	1.60
-18	256.7445	231.4612	208.4122	-1.74	1.59
-17	240.9897	217.6590	196.3462	-1.72	1.57
-16	226.3000	204.7662	185.0545	-1.70	1.56
-15	212.5973	192.7176	174.4829	-1.68	1.54

-14	199.8093	181.4531	164.5813	-1.66	1.53
-13	187.8698	170.9169	155.3033	-1.64	1.51
-12	176.7176	161.0578	146.6059	-1.62	1.49
-11	166.2961	151.8284	138.4495	-1.60	1.48
-10	156.5532	143.1847	130.7973	-1.58	1.46
-9	147.4409	135.0863	123.6153	-1.56	1.44
-8	138.9148	127.4956	116.8717	-1.53	1.43
-7	130.9337	120.3778	110.5374	-1.51	1.41
-6	123.4597	113.7009	104.5852	-1.49	1.39
-5	116.4577	107.4349	98.9897	-1.47	1.38
-4	109.8953	101.5523	93.7278	-1.45	1.36
-3	103.7422	96.0274	88.7774	-1.43	1.34
-2	97.9708	90.8365	84.1185	-1.40	1.32
-1	92.5551	85.9574	79.7322	-1.38	1.30
0	87.4712	81.3697	75.6011	-1.36	1.29
1	82.6970	77.0544	71.7088	-1.34	1.27
2	78.2118	72.9937	68.0402	-1.31	1.25
3	73.9966	69.1712	64.5813	-1.29	1.23
4	70.0335	65.5716	61.3188	-1.27	1.21
5	66.3062	62.1807	58.2405	-1.24	1.19
6	62.7992	58.9853	55.3351	-1.22	1.17
7	59.4984	55.9729	52.5917	-1.20	1.15
8	56.3905	53.1320	50.0006	-1.17	1.13
9	53.4631	50.4521	47.5523	-1.15	1.11
10	50.7048	47.9230	45.2384	-1.13	1.09
11	48.1049	45.5355	43.0505	-1.10	1.07
12	45.6534	43.2808	40.9813	-1.08	1.04
13	43.3410	41.1509	39.0236	-1.05	1.02
14	41.1592	39.1381	37.1708	-1.03	1.00
15	39.0998	37.2355	35.4167	-1.00	0.98
16	37.1553	35.4363	33.7555	-0.98	0.96
17	35.3186	33.7344	32.1818	-0.95	0.94
18	33.5833	32.1240	30.6905	-0.93	0.91
19	31.9432	30.5997	29.2769	-0.90	0.89
20	30.3925	29.1565	27.9365	-0.88	0.87
21	28.9259	27.7895	26.6651	-0.85	0.84
22	27.5383	26.4944	25.4589	-0.83	0.82
23	26.2252	25.2670	24.3140	-0.80	0.80
24	24.9822	24.1034	23.2271	-0.78	0.77
25	23.8050	23.0000	22.1950	-0.78	0.77
26	22.7500	21.9499	21.1520	-0.78	0.78
27	21.7477	20.9536	20.1638	-0.82	0.81
28	20.7951	20.0081	19.2272	-0.86	0.85
29	19.8895	19.1104	18.3394	-0.89	0.88

30	19.0285	18.2581	17.4974	-0.93	0.92
31	18.2094	17.4484	16.6988	-0.97	0.95
32	17.4302	16.6792	15.9410	-1.00	0.99
33	16.6885	15.9480	15.2217	-1.04	1.02
34	15.9825	15.2530	14.5389	-1.08	1.06
35	15.3103	14.5920	13.8903	-1.12	1.09
36	14.6700	13.9632	13.2743	-1.16	1.13
37	14.0599	13.3650	12.6889	-1.20	1.16
38	13.4786	12.7957	12.1325	-1.23	1.20
39	12.9244	12.2537	11.6035	-1.27	1.24
40	12.3960	11.7375	11.1004	-1.31	1.27
41	11.8921	11.2459	10.6218	-1.35	1.31
42	11.4113	10.7775	10.1665	-1.39	1.34
43	10.9526	10.3311	9.7330	-1.43	1.38
44	10.5147	9.9056	9.3204	-1.48	1.42
45	10.0967	9.4999	8.9275	-1.52	1.45
46	9.6976	9.1130	8.5532	-1.56	1.49
47	9.3163	8.7439	8.1965	-1.60	1.53
48	8.9521	8.3916	7.8566	-1.64	1.57
49	8.6040	8.0554	7.5327	-1.68	1.60
50	8.2713	7.7345	7.2237	-1.73	1.64
51	7.9531	7.4280	6.9291	-1.77	1.68
52	7.6489	7.1353	6.6480	-1.81	1.72
53	7.3580	6.8556	6.3797	-1.85	1.76
54	7.0796	6.5884	6.1237	-1.90	1.79
55	6.8131	6.3329	5.8793	-1.94	1.83
56	6.5581	6.0887	5.6459	-1.99	1.87
57	6.3140	5.8552	5.4230	-2.03	1.91
58	6.0802	5.6318	5.2100	-2.07	1.95
59	5.8563	5.4181	5.0065	-2.12	1.99
60	5.6417	5.2136	4.8120	-2.16	2.03
61	5.4361	5.0178	4.6260	-2.21	2.07
62	5.2391	4.8304	4.4481	-2.25	2.11
63	5.0502	4.6510	4.2780	-2.30	2.15
64	4.8691	4.4791	4.1153	-2.35	2.19
65	4.6954	4.3145	3.9596	-2.39	2.23
66	4.5287	4.1567	3.8105	-2.44	2.27
67	4.3689	4.0055	3.6678	-2.49	2.31
68	4.2154	3.8605	3.5312	-2.53	2.35
69	4.0682	3.7216	3.4004	-2.58	2.39
70	3.9268	3.5883	3.2750	-2.63	2.43
71	3.7910	3.4605	3.1549	-2.68	2.48
72	3.6606	3.3378	3.0398	-2.73	2.52
73	3.5353	3.2201	2.9294	-2.77	2.56

74	3.4150	3.1072	2.8237	-2.82	2.60
75	3.2993	2.9987	2.7222	-2.87	2.64
76	3.1881	2.8946	2.6249	-2.92	2.68
77	3.0812	2.7946	2.5316	-2.97	2.73
78	2.9785	2.6986	2.4420	-3.02	2.77
79	2.8796	2.6063	2.3560	-3.07	2.81
80	2.7845	2.5176	2.2735	-3.12	2.86
81	2.6931	2.4324	2.1943	-3.17	2.90
82	2.6050	2.3505	2.1182	-3.22	2.94
83	2.5203	2.2717	2.0451	-3.28	2.99
84	2.4388	2.1960	1.9749	-3.33	3.03
85	2.3602	2.1231	1.9075	-3.38	3.07
86	2.2846	2.0530	1.8426	-3.43	3.12
87	2.2118	1.9856	1.7803	-3.48	3.16
88	2.1416	1.9207	1.7204	-3.54	3.20
89	2.0740	1.8582	1.6628	-3.59	3.25
90	2.0089	1.7981	1.6074	-3.64	3.29
91	1.9461	1.7402	1.5541	-3.70	3.34
92	1.8856	1.6844	1.5028	-3.75	3.38
93	1.8272	1.6307	1.4535	-3.80	3.43
94	1.7709	1.5789	1.4060	-3.86	3.47
95	1.7166	1.5291	1.3603	-3.91	3.52
96	1.6643	1.4810	1.3163	-3.97	3.56
97	1.6138	1.4347	1.2739	-4.02	3.61
98	1.5650	1.3900	1.2331	-4.08	3.66
99	1.5180	1.3470	1.1937	-4.13	3.70
100	1.4726	1.3054	1.1559	-4.19	3.75
101	1.4287	1.2654	1.1194	-4.24	3.80
102	1.3864	1.2268	1.0842	-4.30	3.84
103	1.3455	1.1895	1.0503	-4.36	3.89
104	1.3060	1.1535	1.0176	-4.42	3.94
105	1.2679	1.1188	0.9860	-4.47	3.98
106	1.2310	1.0853	0.9556	-4.53	4.03
107	1.1954	1.0529	0.9263	-4.59	4.08
108	1.1610	1.0217	0.8980	-4.65	4.13
109	1.1277	0.9915	0.8707	-4.70	4.17
110	1.0955	0.9624	0.8443	-4.76	4.22
111	1.0644	0.9342	0.8189	-4.82	4.27
112	1.0344	0.9070	0.7943	-4.88	4.32
113	1.0053	0.8807	0.7706	-4.94	4.37
114	0.9771	0.8553	0.7478	-5.00	4.41
115	0.9499	0.8307	0.7256	-5.06	4.46
116	0.9235	0.8070	0.7043	-5.12	4.51
117	0.8980	0.7840	0.6837	-5.18	4.56

118	0.8734	0.7618	0.6637	-5.24	4.61
119	0.8495	0.7404	0.6445	-5.30	4.66
120	0.8263	0.7196	0.6258	-5.36	4.71

Pipe Sensor

R25°C=10KΩ±3%

B25°C/50°C=3700K±3%

Temp.(°C)	Max.(KΩ)	Normal(KΩ)	Min.(KΩ)	Tolerance(°C)	
-30	165.2170	147.9497	132.3678	-1.94	1.75
-29	155.5754	139.5600	125.0806	-1.93	1.74
-28	146.5609	131.7022	118.2434	-1.91	1.73
-27	138.1285	124.3392	111.8256	-1.89	1.71
-26	130.2371	117.4366	105.7989	-1.87	1.70
-25	122.8484	110.9627	100.1367	-1.85	1.69
-24	115.9272	104.8882	94.8149	-1.83	1.67
-23	109.4410	99.1858	89.8106	-1.81	1.66
-22	103.3598	93.8305	85.1031	-1.80	1.64
-21	97.6556	88.7989	80.6728	-1.78	1.63
-20	92.3028	84.0695	76.5017	-1.76	1.62
-19	87.2775	79.6222	72.5729	-1.74	1.60
-18	82.5577	75.4384	68.8710	-1.72	1.59
-17	78.1230	71.5010	65.3815	-1.70	1.57
-16	73.9543	67.7939	62.0907	-1.68	1.55
-15	70.0342	64.3023	58.9863	-1.66	1.54
-14	66.3463	61.0123	56.0565	-1.64	1.52
-13	62.8755	57.9110	53.2905	-1.62	1.51
-12	59.6076	54.9866	50.6781	-1.60	1.49
-11	56.5296	52.2278	48.2099	-1.58	1.47
-10	53.6294	49.6244	45.8771	-1.56	1.46
-9	50.8956	47.1666	43.6714	-1.54	1.44
-8	48.3178	44.8454	41.5851	-1.51	1.42
-7	45.8860	42.6525	39.6112	-1.49	1.40
-6	43.5912	40.5800	37.7429	-1.47	1.39
-5	41.4249	38.6207	35.9739	-1.45	1.37
-4	39.3792	36.7676	34.2983	-1.43	1.35
-3	37.4465	35.0144	32.7108	-1.41	1.33
-2	35.6202	33.3552	31.2062	-1.38	1.31
-1	33.8936	31.7844	29.7796	-1.36	1.29
0	32.2608	30.2968	28.4267	-1.34	1.28
1	30.7162	28.8875	27.1431	-1.32	1.26
2	29.2545	27.5519	25.9250	-1.29	1.24
3	27.8708	26.2858	24.7686	-1.27	1.22
4	26.5605	25.0851	23.6704	-1.25	1.20
5	25.3193	23.9462	22.6273	-1.23	1.18

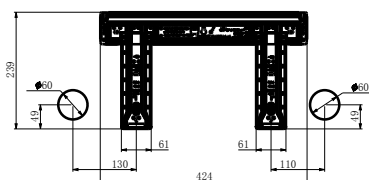
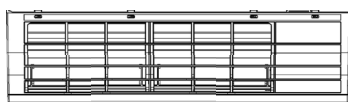
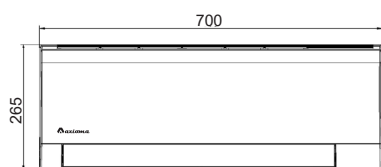
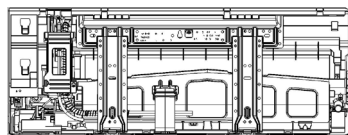
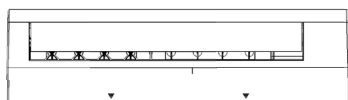
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7	23.0284	21.8398	20.6939	-1.18	1.14
8	21.9714	20.8659	19.7982	-1.15	1.12
9	20.9688	19.9409	18.9463	-1.13	1.09
10	20.0176	19.0621	18.1358	-1.11	1.07
11	19.1149	18.2270	17.3646	-1.08	1.05
12	18.2580	17.4331	16.6305	-1.06	1.03
13	17.4442	16.6782	15.9315	-1.03	1.01
14	16.6711	15.9601	15.2657	-1.01	0.99
15	15.9366	15.2770	14.6315	-0.98	0.96
16	15.2385	14.6268	14.0271	-0.96	0.94
17	14.5748	14.0079	13.4510	-0.93	0.92
18	13.9436	13.4185	12.9017	-0.91	0.90
19	13.3431	12.8572	12.3778	-0.88	0.87
20	12.7718	12.3223	11.8780	-0.86	0.85
21	12.2280	11.8126	11.4011	-0.83	0.83
22	11.7102	11.3267	10.9459	-0.81	0.80
23	11.2172	10.8634	10.5114	-0.78	0.78
24	10.7475	10.4216	10.0964	-0.75	0.75
25	10.3000	10.0000	9.7000	-0.75	0.75
26	9.8975	9.5974	9.2980	-0.76	0.76
27	9.5129	9.2132	8.9148	-0.80	0.80
28	9.1454	8.8465	8.5496	-0.84	0.83
29	8.7942	8.4964	8.2013	-0.87	0.86
30	8.4583	8.1621	7.8691	-0.91	0.90
31	8.1371	7.8428	7.5522	-0.95	0.93
32	7.8299	7.5377	7.2498	-0.98	0.97
33	7.5359	7.2461	6.9611	-1.02	1.00
34	7.2546	6.9673	6.6854	-1.06	1.04
35	6.9852	6.7008	6.4222	-1.10	1.07
36	6.7273	6.4459	6.1707	-1.13	1.11
37	6.4803	6.2021	5.9304	-1.17	1.14
38	6.2437	5.9687	5.7007	-1.21	1.18
39	6.0170	5.7454	5.4812	-1.25	1.22
40	5.7997	5.5316	5.2712	-1.29	1.25
41	5.5914	5.3269	5.0704	-1.33	1.29
42	5.3916	5.1308	4.8783	-1.37	1.33
43	5.2001	4.9430	4.6944	-1.41	1.36
44	5.0163	4.7630	4.5185	-1.45	1.40
45	4.8400	4.5905	4.3500	-1.49	1.44
46	4.6708	4.4252	4.1887	-1.53	1.47
47	4.5083	4.2666	4.0342	-1.57	1.51
48	4.3524	4.1145	3.8862	-1.61	1.55
49	4.2026	3.9686	3.7443	-1.65	1.59

50	4.0588	3.8287	3.6084	-1.70	1.62
51	3.9206	3.6943	3.4780	-1.74	1.66
52	3.7878	3.5654	3.3531	-1.78	1.70
53	3.6601	3.4416	3.2332	-1.82	1.74
54	3.5374	3.3227	3.1183	-1.87	1.78
55	3.4195	3.2085	3.0079	-1.91	1.82
56	3.3060	3.0989	2.9021	-1.95	1.85
57	3.1969	2.9935	2.8005	-2.00	1.89
58	3.0919	2.8922	2.7029	-2.04	1.93
59	2.9909	2.7948	2.6092	-2.08	1.97
60	2.8936	2.7012	2.5193	-2.13	2.01
61	2.8000	2.6112	2.4328	-2.17	2.05
62	2.7099	2.5246	2.3498	-2.22	2.09
63	2.6232	2.4413	2.2700	-2.26	2.13
64	2.5396	2.3611	2.1932	-2.31	2.17
65	2.4591	2.2840	2.1195	-2.36	2.21
66	2.3815	2.2098	2.0486	-2.40	2.25
67	2.3068	2.1383	1.9803	-2.45	2.29
68	2.2347	2.0695	1.9147	-2.49	2.34
69	2.1652	2.0032	1.8516	-2.54	2.38
70	2.0983	1.9393	1.7908	-2.59	2.42
71	2.0337	1.8778	1.7324	-2.63	2.46
72	1.9714	1.8186	1.6761	-2.68	2.50
73	1.9113	1.7614	1.6219	-2.73	2.54
74	1.8533	1.7064	1.5697	-2.78	2.58
75	1.7974	1.6533	1.5194	-2.83	2.63
76	1.7434	1.6021	1.4710	-2.88	2.67
77	1.6913	1.5528	1.4243	-2.92	2.71
78	1.6409	1.5051	1.3794	-2.97	2.75
79	1.5923	1.4592	1.3360	-3.02	2.80
80	1.5454	1.4149	1.2942	-3.07	2.84
81	1.5000	1.3721	1.2540	-3.12	2.88
82	1.4562	1.3308	1.2151	-3.17	2.93
83	1.4139	1.2910	1.1776	-3.22	2.97
84	1.3730	1.2525	1.1415	-3.27	3.01
85	1.3335	1.2153	1.1066	-3.32	3.06
86	1.2953	1.1794	1.0730	-3.38	3.10
87	1.2583	1.1448	1.0405	-3.43	3.15
88	1.2226	1.1113	1.0092	-3.48	3.19
89	1.1880	1.0789	0.9789	-3.53	3.24
90	1.1546	1.0476	0.9497	-3.58	3.28
91	1.1223	1.0174	0.9215	-3.64	3.33
92	1.0910	0.9882	0.8942	-3.69	3.37
93	1.0607	0.9599	0.8679	-3.74	3.42

94	1.0314	0.9326	0.8424	-3.80	3.46
95	1.0030	0.9061	0.8179	-3.85	3.51
96	0.9756	0.8806	0.7941	-3.90	3.55
97	0.9490	0.8558	0.7711	-3.96	3.60
98	0.9232	0.8319	0.7489	-4.01	3.64
99	0.8983	0.8088	0.7275	-4.07	3.69
100	0.8741	0.7863	0.7067	-4.12	3.74
101	0.8507	0.7646	0.6867	-4.18	3.78
102	0.8281	0.7436	0.6672	-4.23	3.83
103	0.8061	0.7233	0.6484	-4.29	3.88
104	0.7848	0.7036	0.6303	-4.34	3.92
105	0.7641	0.6845	0.6127	-4.40	3.97
106	0.7441	0.6661	0.5957	-4.46	4.02
107	0.7247	0.6482	0.5792	-4.51	4.07
108	0.7059	0.6308	0.5632	-4.57	4.12
109	0.6877	0.6140	0.5478	-4.63	4.16
110	0.6700	0.5977	0.5328	-4.69	4.21
111	0.6528	0.5820	0.5183	-4.74	4.26
112	0.6361	0.5667	0.5043	-4.80	4.31
113	0.6200	0.5518	0.4907	-4.86	4.36
114	0.6043	0.5374	0.4775	-4.92	4.41
115	0.5891	0.5235	0.4648	-4.98	4.45
116	0.5743	0.5100	0.4524	-5.04	4.50
117	0.5600	0.4968	0.4404	-5.10	4.55
118	0.5460	0.4841	0.4288	-5.16	4.60
119	0.5325	0.4717	0.4175	-5.22	4.65
120	0.5194	0.4597	0.4066	-5.28	4.70

10. Dimensional drawings

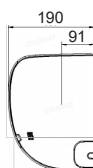
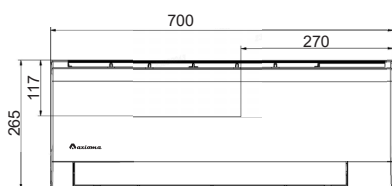
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11. Center of gravity

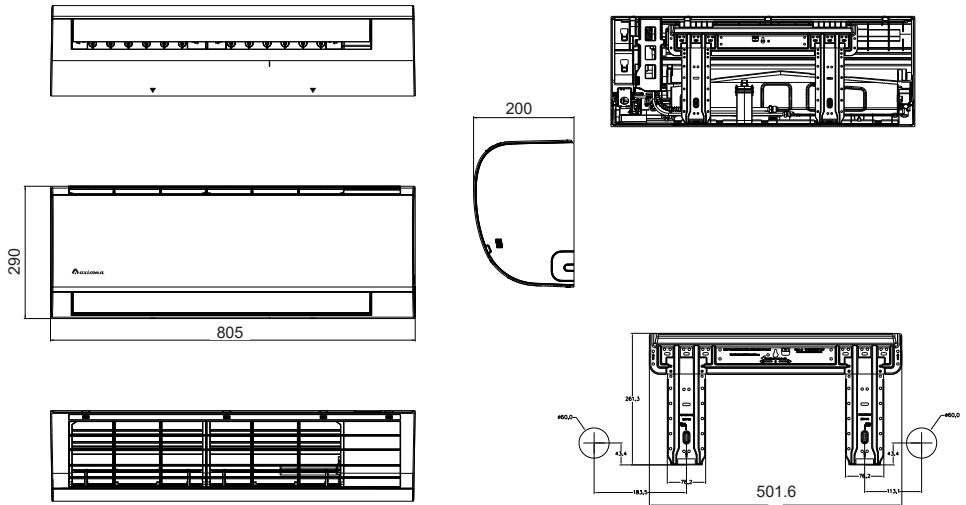
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Dimensional drawings

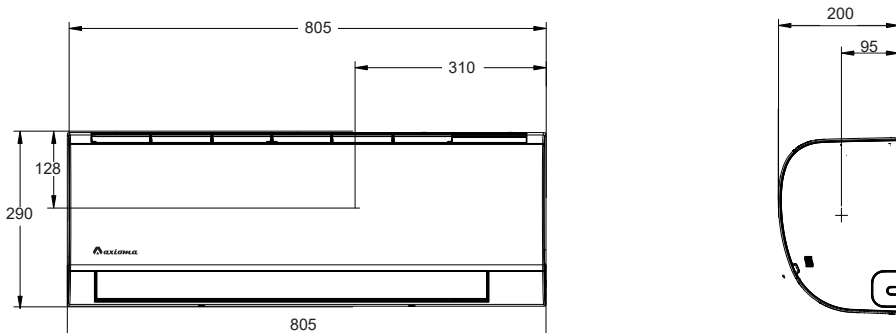
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11. Center of gravity

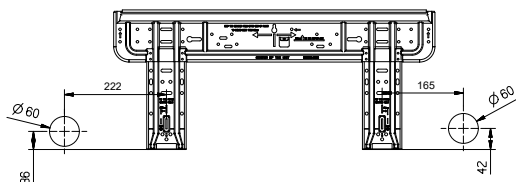
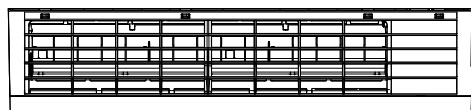
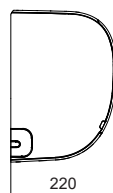
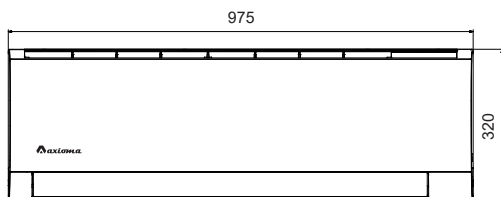
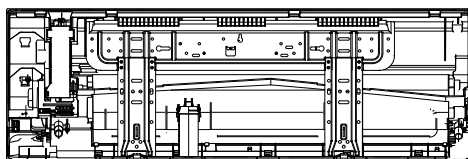
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ASX12F1



10. Dimensional drawings

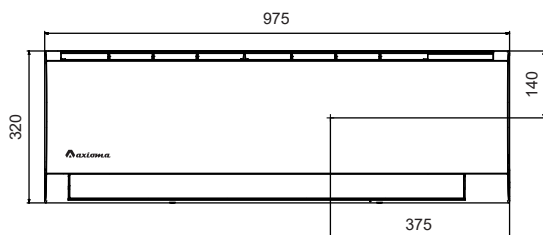
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11. Center of gravity

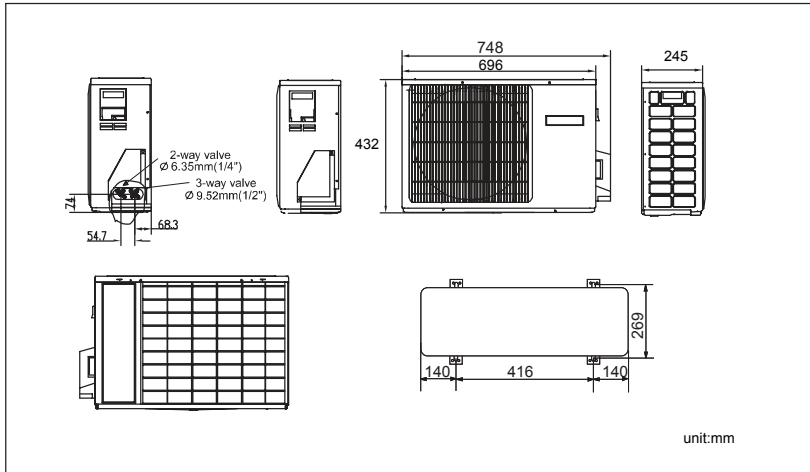
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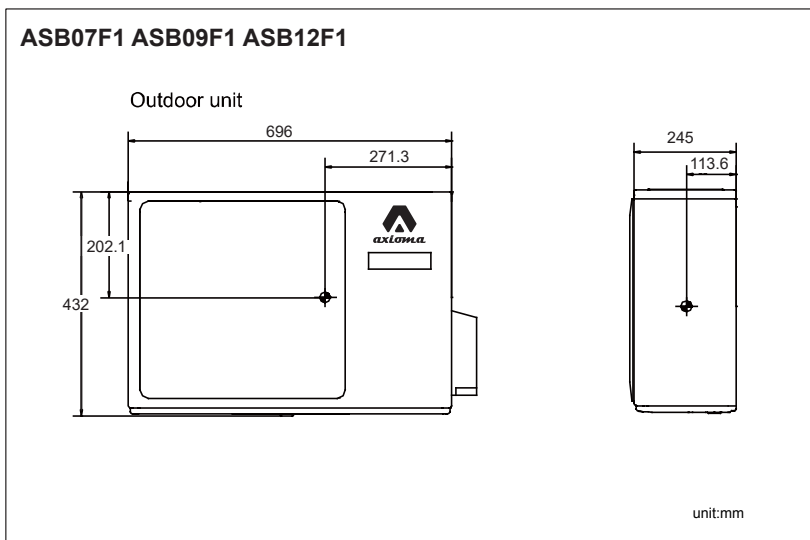
Dimensional drawings

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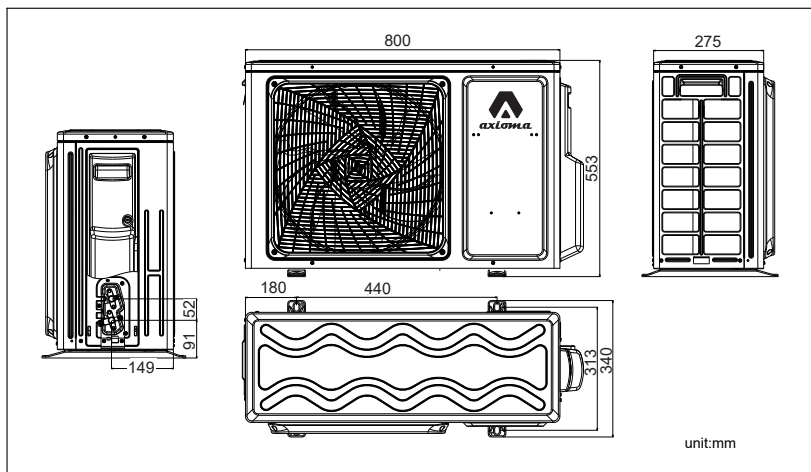
11. Center of gravity

ASB07F1 ASB09F1 ASB12F1



10. Dimensional drawings

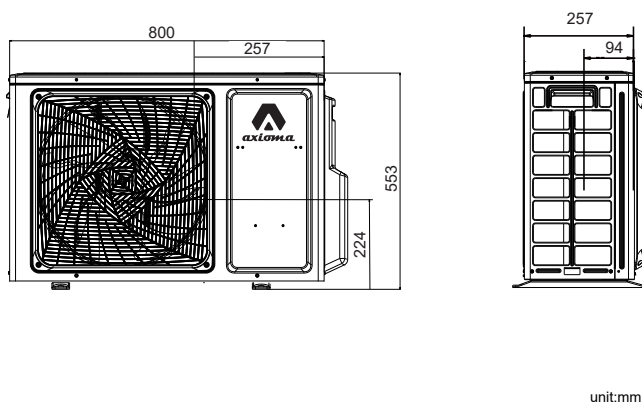
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11. Center of gravity

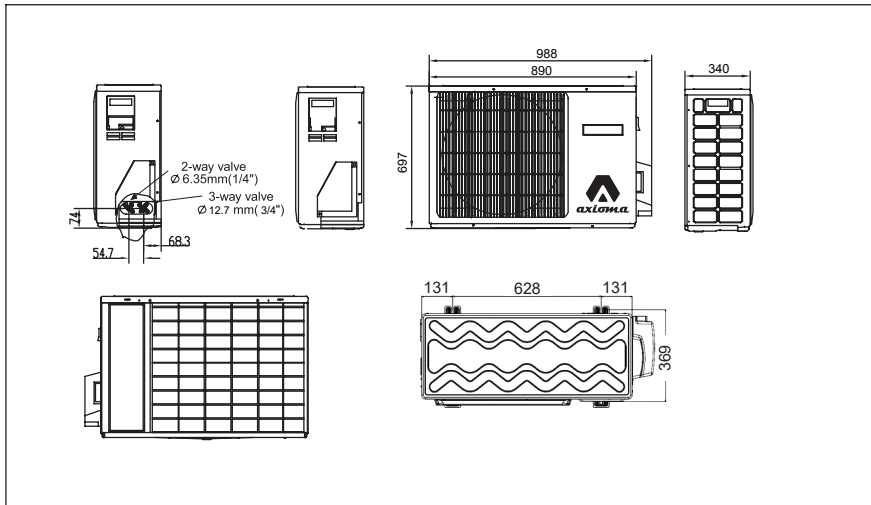
ASB18F1

Outdoor unit



Dimensional drawings

ASB24F1

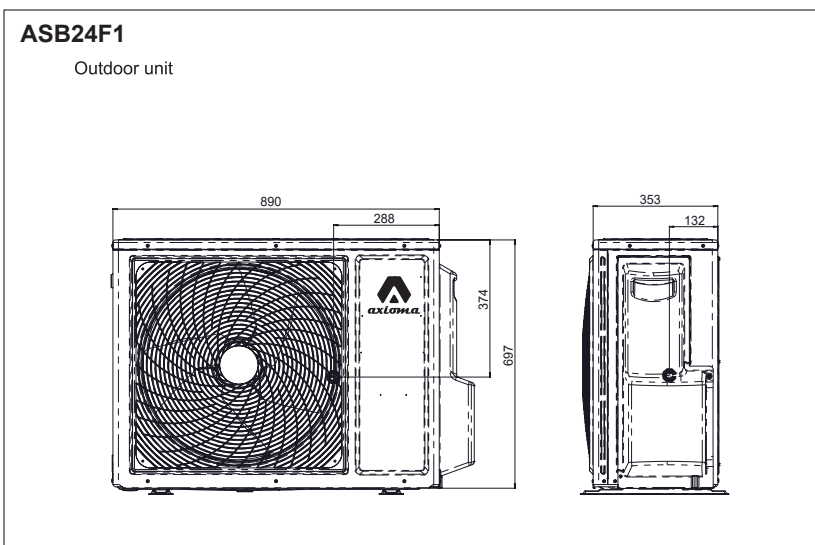


11. Center of gravity

unit:mm

ASB24F1

Outdoor unit



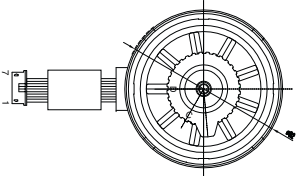
12. Service diagnosis

12.1 Caution for Diagnosis

The operation lamp flashes when any of the following errors is detected.

1. When a protection device of the indoor or outdoor unit is activated or when the thermistor malfunctions, disabling equipment operation.
2. When a signal transmission error occurs between the indoor and outdoor units. In either case, conduct the diagnostic procedure described in the following pages.

12.2 Parameter of primary electronic appliance

NO	Name	Parameter	Picture
1	Fan motor	Rated voltage:DC 310V Rated current:0.20 A Rated frequency:-- Resistance:--	

12.3 Problem Symptoms and Measures

Symptom	Check Item	Details of Measure
None of the units operates	Check the power supply.	Check to make sure that the rated voltage is supplied.
	Check the indoor PCB	Check to make sure that the indoor PCB is broken
Operation sometimes stops.	Check the power supply.	A power failure of 2 to 10 cycles can stop air conditioner operation.
Equipment operates but does not cool, or does not heat (only for heat pump)	Check for faulty operation of the electronic expansion valve.	Set the units to cooling operation, and compare the temperatures of the liquid side connection pipes of the connection section among rooms to check the opening and closing operation of the electronic expansion valves of the individual units.
	Diagnosis by service port pressure and operating current.	Check for insufficient gas.
Large operating noise and vibrations	Check the installation condition.	Check to make sure that the required spaces for installation (specified in the Technical Guide, etc.) are provided.

12.4.1.Problem Symptoms and Measures

Symptom	Check Item	Details of Measure
None of the units operates	Check the power supply.	Check to make sure that the rated voltage is supplied.
	Check the indoor PCB	Check to make sure that the indoor PCB is broken
Equipment operates but does not cool, or does not heat (only for heat pump)	Diagnosis by service port pressure and operating current.	Check for insufficient gas.
Large operating noise and vibrations	Check the installation condition.	Check to make sure that the required spaces for installation (specified in the Technical Guide, etc.) are provided.

12.4.2 Error Codes and Description indoor display

	Code indication	Description	Red/Green Time Run	SPARE PART
	indoor		On ● Off ◆ flash	
Indoor Malfunction	E1	Room temperature sensor failure	◆ ● ●	Room temperature sensor Indoor PCB
	E2	Heat-exchange sensor failure	◆ ○ ○	Heat-exchange sensor Indoor PCB
	E4	Indoor EEPROM error	◆ ○ ◆	Indoor PCB
	E14	Indoor fan motor malfunction	● ○ ◆	Indoor fan motor Indoor PCB
	FE	Refrigerant leaking detection malfunction	● ◆ ●	Refrigerant

The code indication that is listed above is the main fault

Troubleshooting

Caution: Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.

12.4.2.1 Thermistor or Related Abnormality

Indoor Display E1: Room temperature sensor failure
E2: Heat-exchange sensor failure

Method of
Malfunction
Detection

The temperatures detected by the thermistors are used to determine thermistor errors

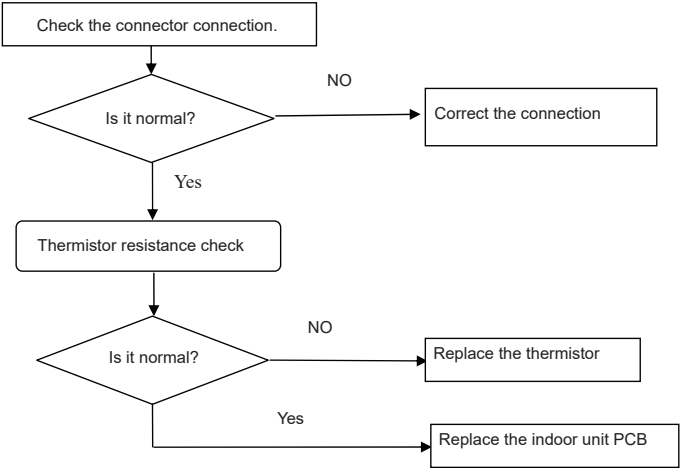
Malfunction
Detection
Conditions

when the thermistor input is more than 4.92V or less than 0.08V during compressor operation.

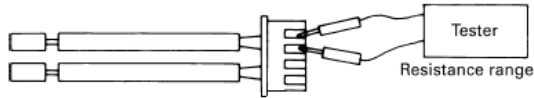
Supposed
Causes

- Note: The values vary slightly in some models
- Faulty connector connection

Troubleshooting * Caution Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



Thermistor resistance check method:
Remove the connector of the thermistor on the PCB, and measure the resistance of thermistor using tester.
The relationship between normal temperature and resistance is shown in the value of indoor thermistor.



12.4.2.2 EEPROM abnormal

Indoor Display	E4: indoor EEPROM error
Method of Malfunction Detection	The Data detected by the EEPROM are used to determine MCU
Malfunction Detection Conditions	When the data of EEPROM is error or the EEPROM is damaged
Supposed Causes	■ Faulty EEPROM data ■ Faulty EEPROM ■ Faulty PCB
Troubleshooting	* Caution Be sure to turn off power switch before connect or disconnect connector, or parts damage may be occurred.

12.4.2.3 Indoor AC fan motor malfunction

Indoor Display E14 Indoor DC fan motor malfunction

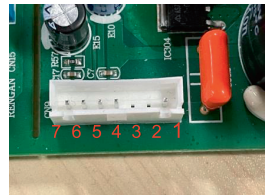
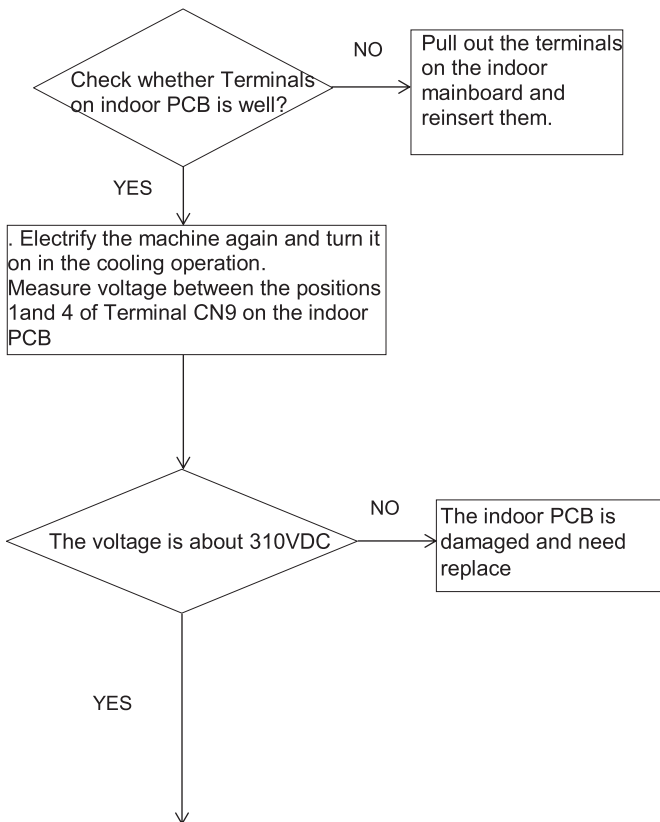
Method of Malfunction Detection
When the fan motor is running, the speed detected by the Hall IC is used to judge the abnormal operation of the fan motor

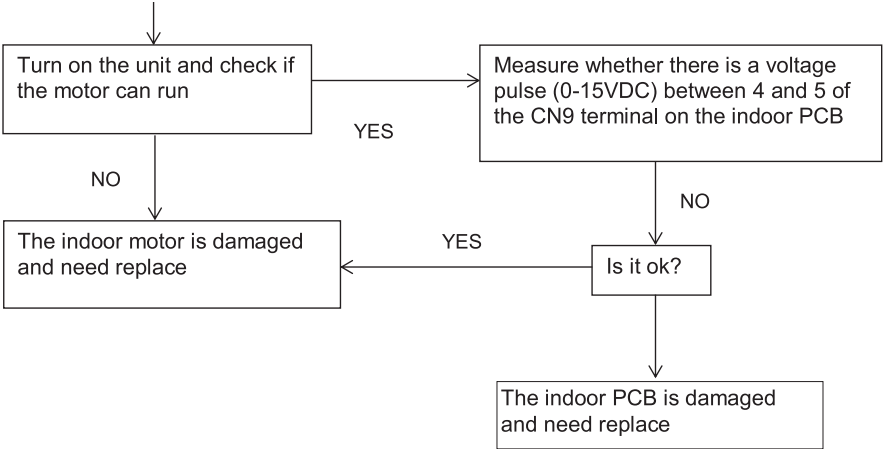
Malfunction Decision Conditions
When the detected rotation feedback signal don't received in 2 minutes

Supposed Causes

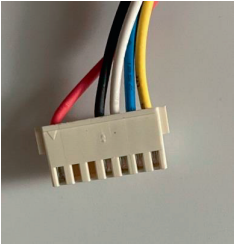
- Operation halt due to breaking of wire inside the fan motor.
- Operation halt due to breaking of the fan motor lead wires
- Detection error due to faulty indoor unit PCB

Trouble shooting
* Caution: Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.



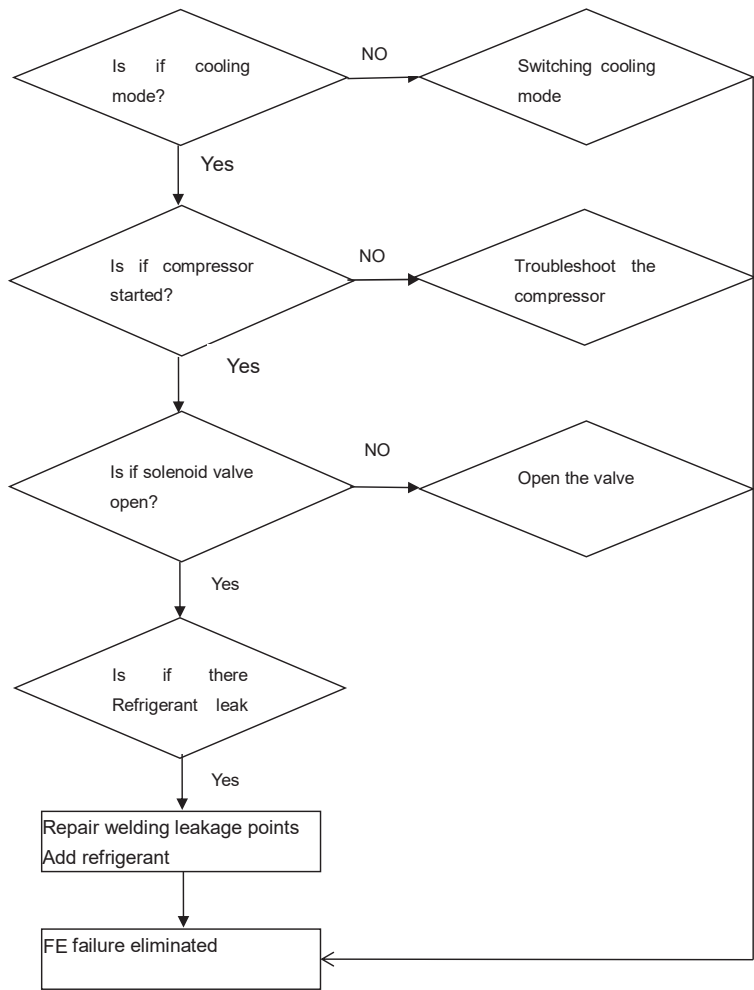


	Color	Signal	Voltage
1	Red	VDC	310V
2	---	---	---
3	---	---	---
4	Black	GND	0V
5	White	VCC	15v
6	Blue	FG	15V
7	Yellow	Vsp	0-6.5V



12.4.2.4 Refrigerant leaking detection

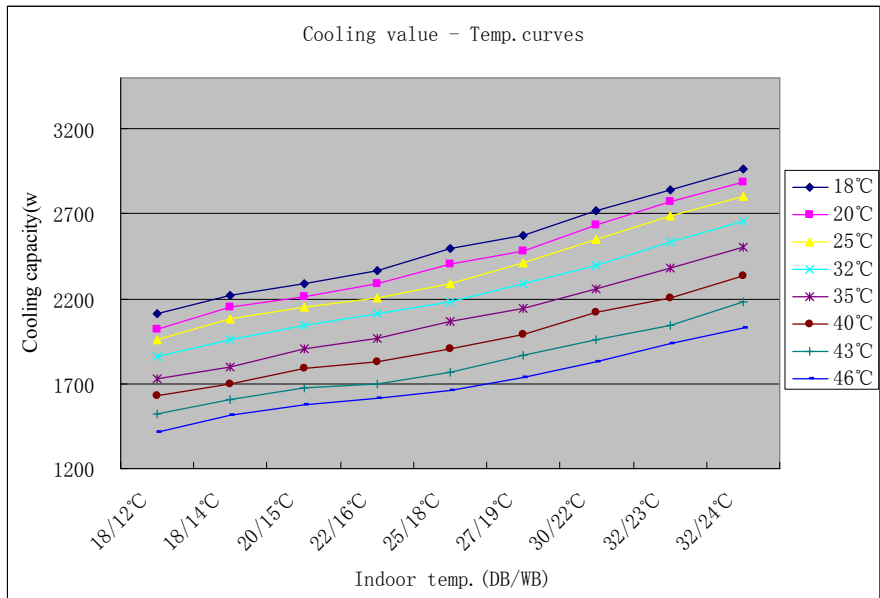
Indoor Display	FE : Refrigerant leaking detection malfunction
Method of Malfunction Detection	The temperatures variation detected by the thermistors are used to determine refrigerant leaking.
Malfunction Decision	On off model refrigerant leaking detection : this function only works under cooling mode.
Conditions	■ Each time when entering cooling mode, the memorized beginning temperature for pipe is Tp1 when compressor starts to work, Tr is environmental Temperature detected by PCB, Tp is the current temperature. 1.Tp1-Tp Real result ≤ 2 Centigrade and compressor keep running for 20mins 2.Tr-Tp1 Real result ≤ 2 Centigrade and compressor keep running for 20mins 3.Tr ≥ 25 Centigrade ■ All the conditions above meet together can be judged to refrigerant leakage and compressor stop,"FE" will display for 3mins.After 3 mins,compressor restart and make the same cycle.
Supposed Causes	■ Refrigerant leaking, need maintenance Engineer check whether cooling only function works well ■ The compressor may didn't start, need to start it for working.
Troubleshooting	* Caution Be sure to turn off power switch before connect or disconnect connector,or else parts damage may be occurred.



13. Performance and curves diagrams

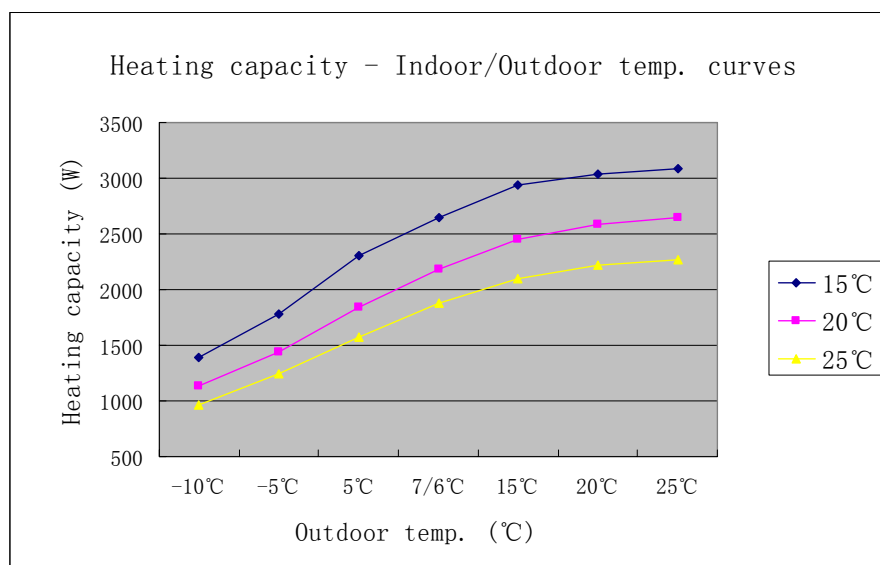
ASX07F1 ASB07F1

Cooling value - Temperature table								
Indoor temp.	Outdoor temp. (Humidity 46%)							
DB/WB	18°C	20°C	25°C	32°C	35°C	40°C	43°C	46°C
18/12°C	2112	2018	1957	1856	1732	1628	1525	1415
18/14°C	2222	2147	2082	1959	1797	1700	1606	1514
20/15°C	2288	2215	2148	2042	1902	1790	1673	1576
22/16°C	2367	2291	2204	2115	1967	1829	1700	1613
25/18°C	2496	2404	2289	2181	2063	1905	1767	1661
27/19°C	2576	2480	2412	2291	2143	1992	1870	1737
30/22°C	2718	2630	2551	2396	2258	2123	1959	1829
32/23°C	2838	2769	2685	2534	2378	2205	2043	1936
32/24°C	2963	2887	2800	2657	2500	2331	2182	2028



13. Performance and curves diagrams

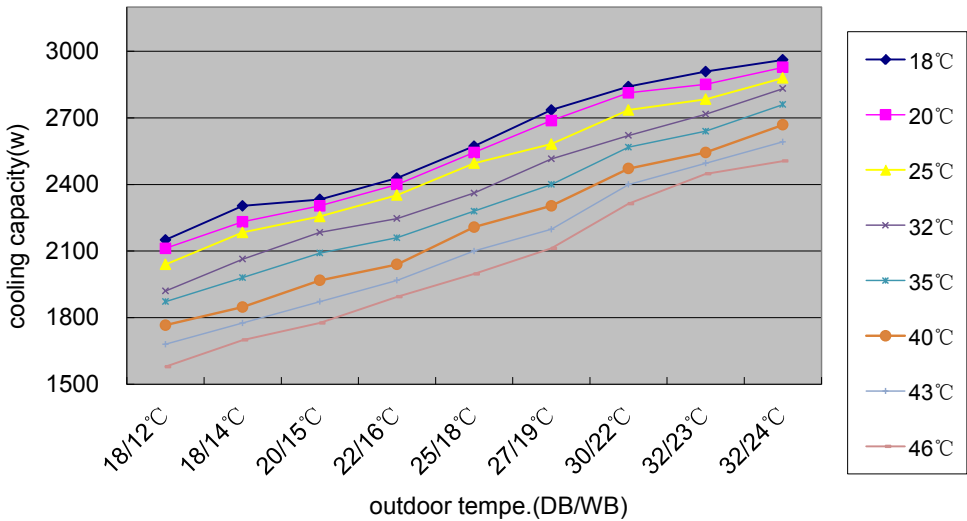
Heating capacity - Indoor/Outdoor temp. curves			
Outdoor temp.	Indoor temp. (Humidity 46%)		
DB/WB	15°C	20°C	25°C
-10°C	1389	1133	959
-5°C	1777	1440	1238
5°C	2299	1840	1577
7/6°C	2648	2179	1874
15°C	2935	2449	2100
20°C	3040	2586	2224
25°C	3083	2642	2272



ASX09F1 ASB09F1

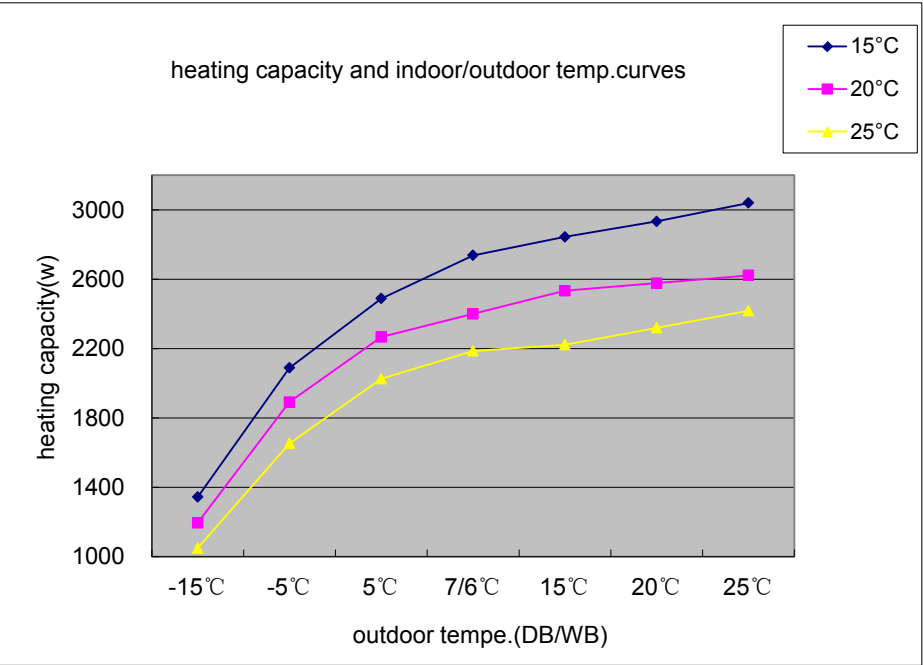
performance curves								
cooling value-temerature table								
indoor temp.	outdoor temp.(humidity 46%)							
DB/WB	18℃	20℃	25℃	32℃	35℃	40℃	43℃	46℃
18/12℃	2150	2112	2040	1920	1872	1766	1680	1579
18/14℃	2304	2232	2184	2064	1980	1848	1776	1699
20/15℃	2333	2304	2256	2184	2091	1968	1872	1776
22/16℃	2429	2400	2352	2246	2160	2040	1968	1894
25/18℃	2573	2544	2496	2362	2280	2208	2100	1997
27/19℃	2736	2688	2582	2515	2400	2304	2198	2112
30/22℃	2842	2813	2736	2621	2568	2472	2400	2314
32/23℃	2909	2851	2784	2717	2640	2544	2496	2448
32/24℃	2962	2928	2880	2832	2760	2669	2592	2506

cooling capacity and indoor/outdoor temp.curves



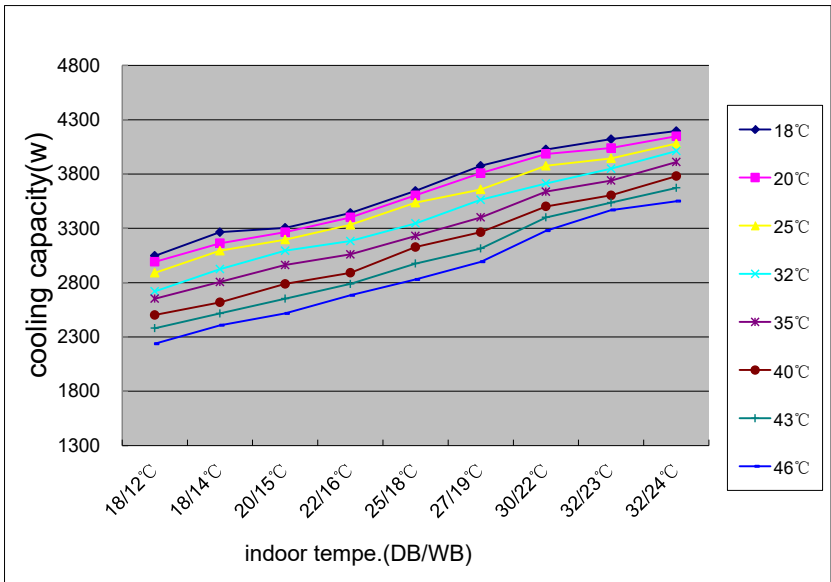
13. Performance and curves diagrams

heating capacity and indoor/outdoor temp.table			
outdoor temp.	indoor temp.(humidity 46%)		
DB/WB	15°C	20°C	25°C
-15°C	1344	1195	1049
-5°C	2089	1892	1653
5°C	2489	2267	2027
7/6°C	2738	2400	2187
15°C	2844	2533	2222
20°C	2933	2578	2320
25°C	3040	2622	2418



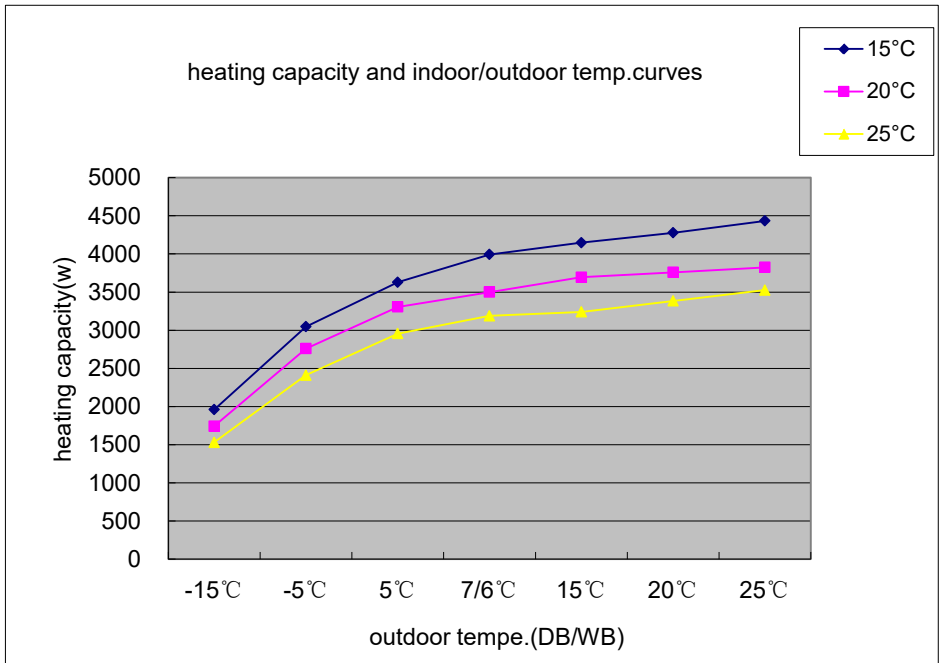
ASX12F1 ASB12F1

performance curves								
cooling value-temperature table								
indoor temp.,	outdoor temp.(humidity 46%)							
DB/WB	18℃	20℃	25℃	32℃	35℃	40℃	43℃	46℃
18/12℃	3046	2992	2890	2720	2652	2502	2380	2237
18/14℃	3264	3162	3094	2924	2806	2618	2516	2407
20/15℃	3305	3264	3196	3094	2962	2788	2652	2516
22/16℃	3441	3400	3332	3182	3060	2890	2788	2683
25/18℃	3645	3604	3536	3346	3230	3128	2976	2829
27/19℃	3876	3808	3658	3563	3400	3264	3114	2992
30/22℃	4026	3985	3876	3713	3638	3502	3400	3278
32/23℃	4121	4039	3944	3849	3740	3604	3536	3468
32/24℃	4196	4148	4080	4012	3910	3781	3672	3550



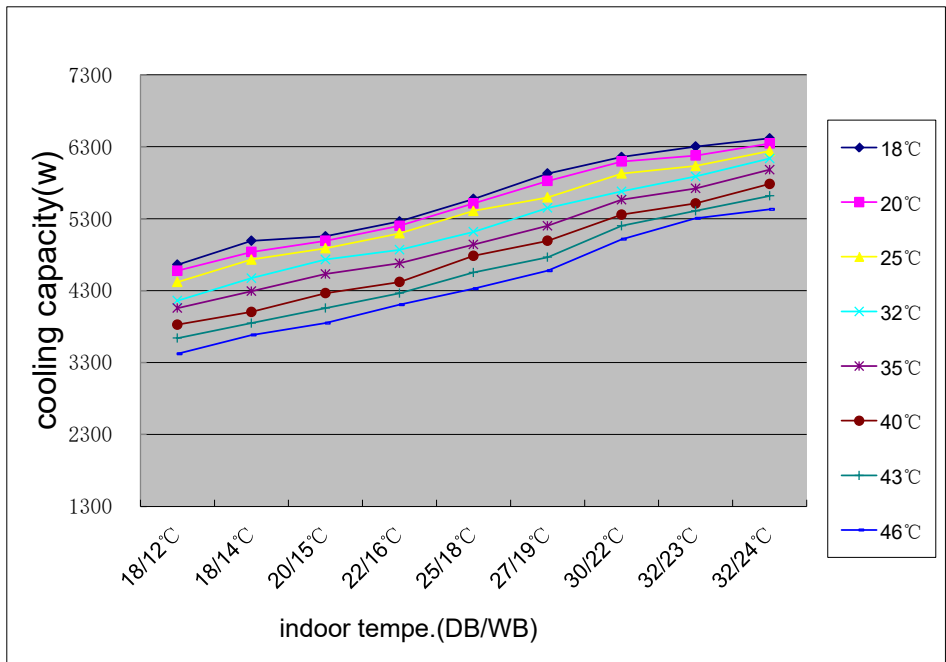
13. Performance and curves diagrams

performance curves			
heating capacity and indoor/outdoor temp.table			
outdoor temp.	indoor temp.(humidity 46%)		
DB/WB	15°C	20°C	25°C
-15°C	1960	1742	1530
-5°C	3046	2759	2411
5°C	3630	3306	2956
7/6°C	3993	3500	3189
15°C	4148	3694	3241
20°C	4278	3759	3383
25°C	4433	3824	3526



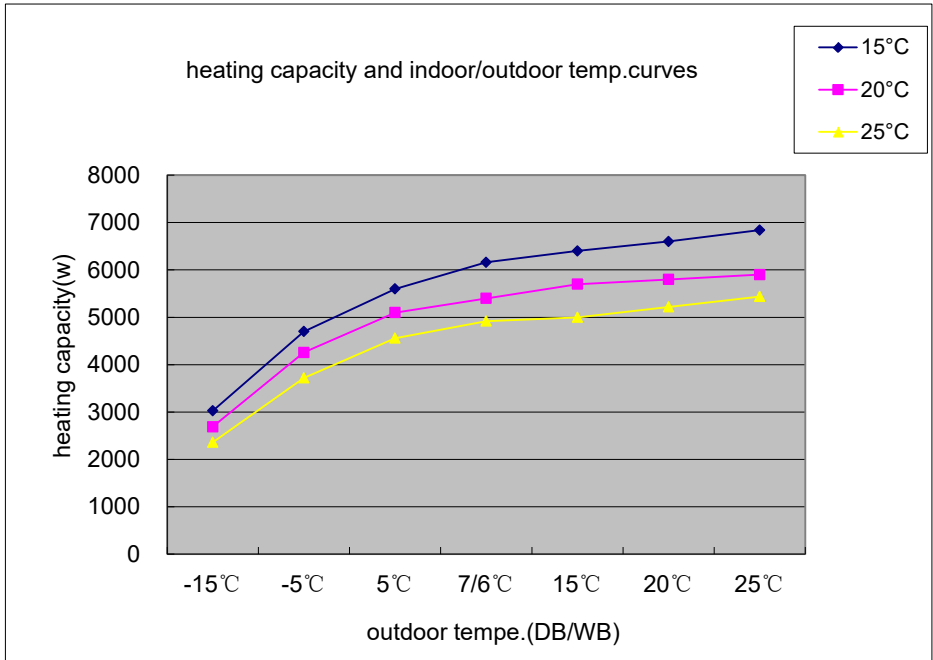
ASX18F1 ASB18F1

performance curves								
cooling value-temperature table								
indoor temp.	outdoor temp.(humidity 46%)							
DB/WB	18℃	20℃	25℃	32℃	35℃	40℃	43℃	46℃
18/12℃	4659	4576	4420	4160	4056	3827	3640	3422
18/14℃	4992	4836	4732	4472	4291	4004	3848	3682
20/15℃	5054	4992	4888	4732	4530	4264	4056	3848
22/16℃	5262	5200	5096	4867	4680	4420	4264	4104
25/18℃	5574	5512	5408	5117	4940	4784	4551	4326
27/19℃	5928	5824	5595	5450	5200	4992	4763	4576
30/22℃	6157	6094	5928	5678	5564	5356	5200	5013
32/23℃	6302	6178	6032	5886	5720	5512	5408	5304
32/24℃	6417	6344	6240	6136	5980	5782	5616	5429



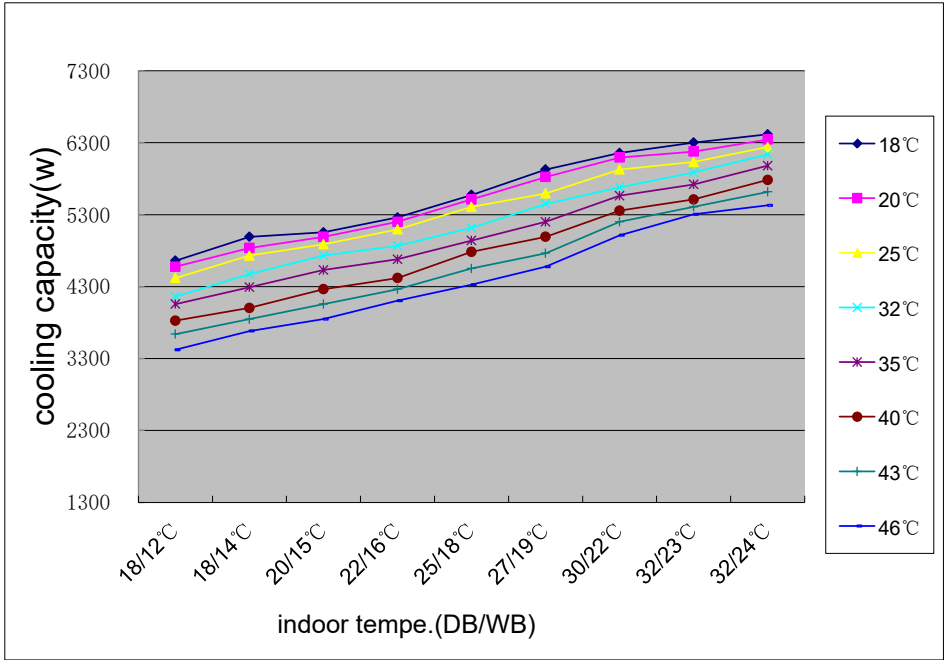
13. Performance and curves diagrams

heating capacity and indoor/outdoor temp.table			
outdoor temp.	indoor temp.(humidity 46%)		
DB/WB	15°C	20°C	25°C
-15°C	3024	2688	2360
-5°C	4700	4256	3720
5°C	5600	5100	4560
7/6°C	6160	5400	4920
15°C	6400	5700	5000
20°C	6600	5800	5220
25°C	6840	5900	5440



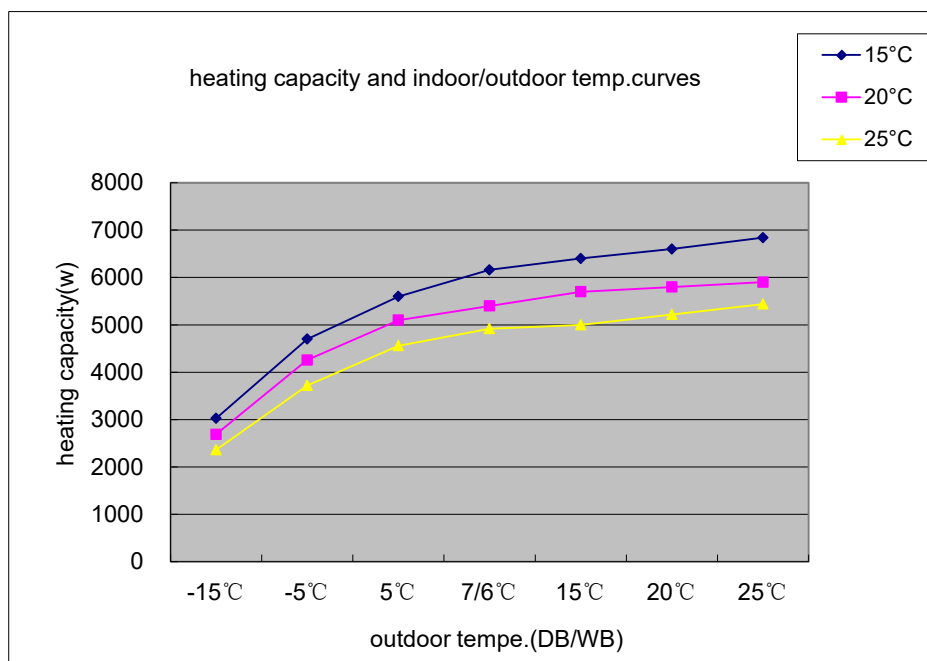
ASX24F1 ASB24F1

performance curves								
cooling value-temperature table								
indoor temp.	outdoor temp.(humidity 46%)							
DB/WB	18℃	20℃	25℃	32℃	35℃	40℃	43℃	46℃
18/12℃	4659	4576	4420	4160	4056	3827	3640	3422
18/14℃	4992	4836	4732	4472	4291	4004	3848	3682
20/15℃	5054	4992	4888	4732	4530	4264	4056	3848
22/16℃	5262	5200	5096	4867	4680	4420	4264	4104
25/18℃	5574	5512	5408	5117	4940	4784	4551	4326
27/19℃	5928	5824	5595	5450	5200	4992	4763	4576
30/22℃	6157	6094	5928	5678	5564	5356	5200	5013
32/23℃	6302	6178	6032	5886	5720	5512	5408	5304
32/24℃	6417	6344	6240	6136	5980	5782	5616	5429



13. Performance and curves diagrams

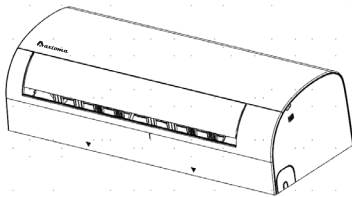
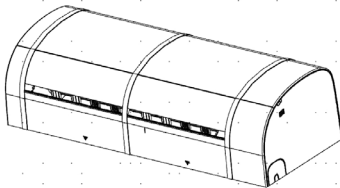
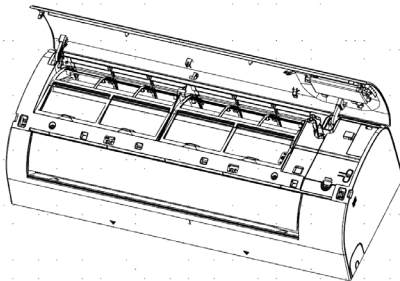
performance curves			
heating capacity and indoor/outdoor temp.table			
outdoor temp.	indoor temp.(humidity 46%)		
DB/WB	15°C	20°C	25°C
-15°C	3024	2688	2360
-5°C	4700	4256	3720
5°C	5600	5100	4560
7/6°C	6160	5400	4920
15°C	6400	5700	5000
20°C	6600	5800	5220
25°C	6840	5900	5440

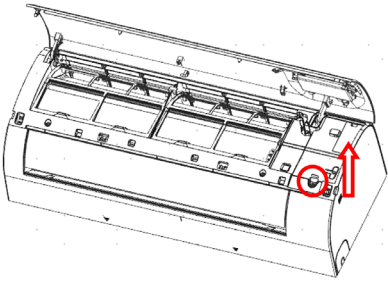
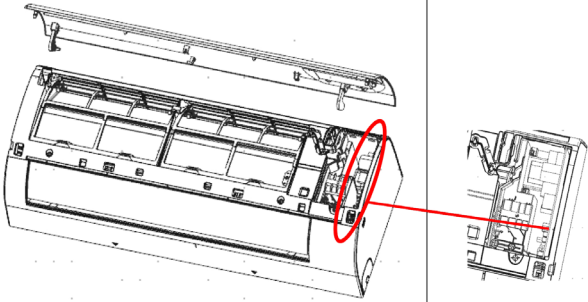




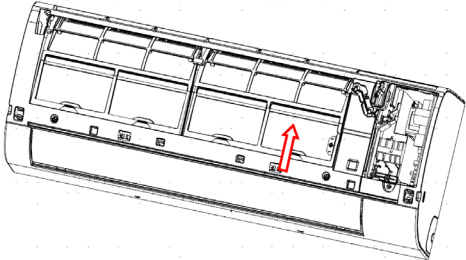
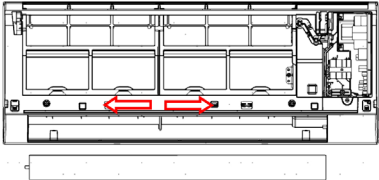
15. Removal procedure

1. Remove the front panel

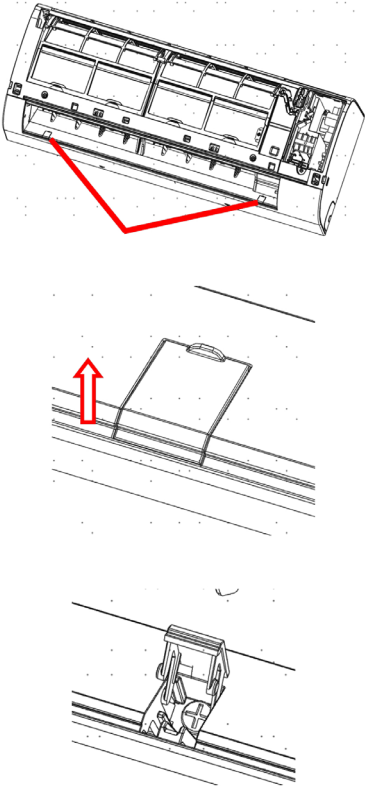
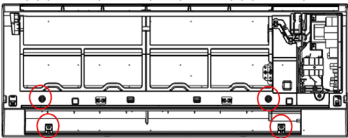
Step		Procedure	Points
1.Features			
			
2.Remove the front panel			
1	Release the four pieces of tape		
2	Hold the front panel by the tabs on the both sides and lift it until it stops with a click.		

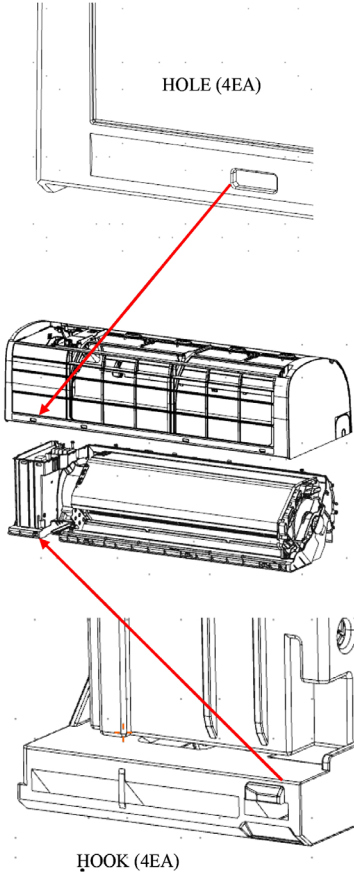
Step		Procedure	Points
3	Loosen the screw and lift up the control box cover		
4	Pull the wires out of the control box and then release the pivots on both sides of the unit to remove the front panel.		

2. Remove the air filters and horizontal flap

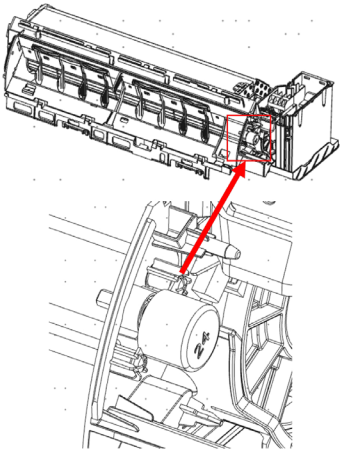
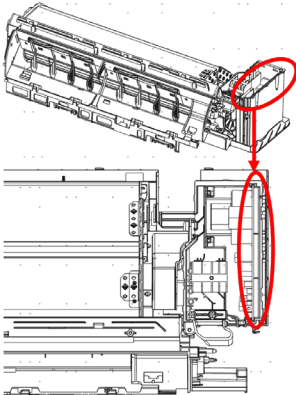
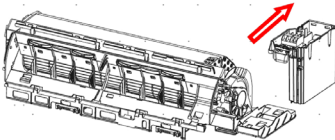
Remove the air filters		Procedure	Points
Step			
1	Lift the right air filter upwards slightly and then pull it out downwards		
2	Lift the left air filter upwards slightly and then pull it out downwards		
Remove the horizontal flap			
1	Release the side of pivot and then release the Center of the pivot. Bend the horizontal blade slightly and remove it.		

3.Remove the casing

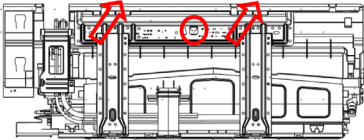
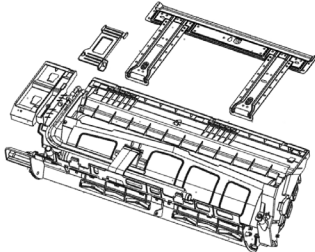
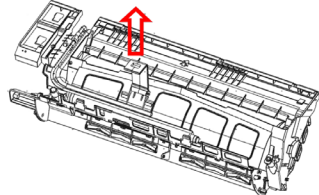
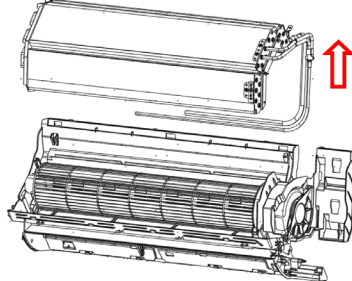
Step		Procedure	Points
1	Release the screw covers(3EA)		
2	Loosen the marked screw (4EA)		■ lift up the screw covers and then release them.

Step		Procedure	Points
3	Release the marked hooks (4EA) and then Pull the grille out Horizontally and remove it	 HOLE (4EA) HOOK (4EA)	■ When assembling, install the front grille horizontally so as not to stuff the flap inside. ■ When assembling, make sure the four hooks are caught properly.

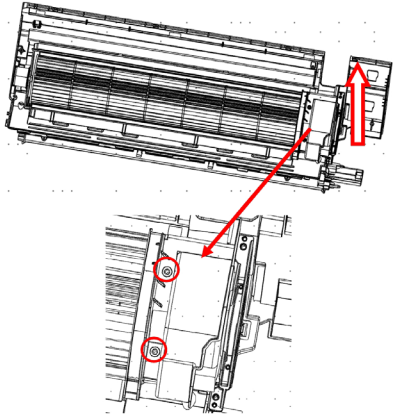
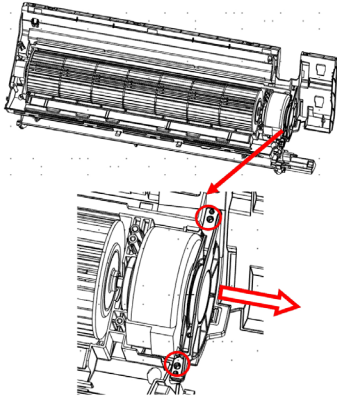
4. Release stepping motor and the control box

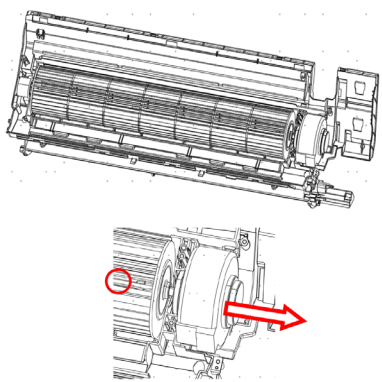
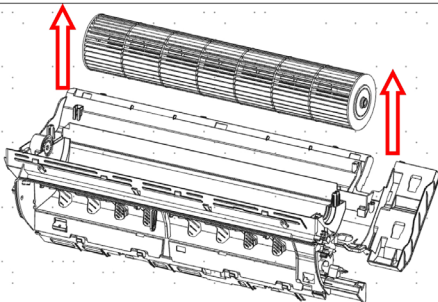
Release stepping motor			
Step		Procedure	Points
1	Loosen the stepping motor screws (2EA) and then remove the stepping motor		
Remove the control box			
1	Remove stepping motor wires and fun motor wires from the Appliance Control Board, and then Pull the of the wires out of the control box		
2	Loosen the control Box screws (1EA) and then pull it.		

5. Removal of Heat Exchanger

Step		Procedure	Points
1	Loosen the marked screws(1EA)		
2	Pull mounting plate and heat exchanger bracket, and then release them.		
3	Release the fixture plate from the base Frame hook and remove it.		
4	Loosen the marked screws(4EA),contains 1 screws on the right side		
5	Remove the heat Exchanger		

6. Removal of Fan motor and fun

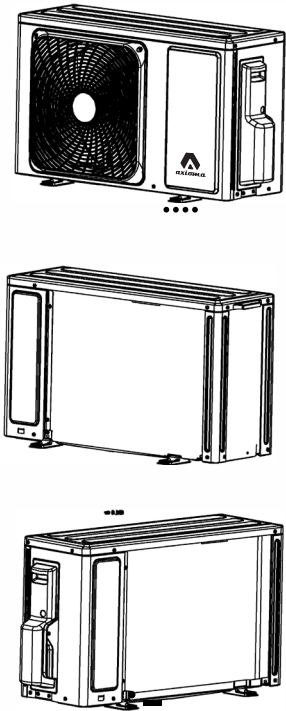
Removal of Fan motor		Procedure	Points
Step			
1	Loosen the marked screws(2EA) and release the cover of fan motor		
2	Loosen the marked screw (2EA) and remove the fan motor brackets(up&down)		

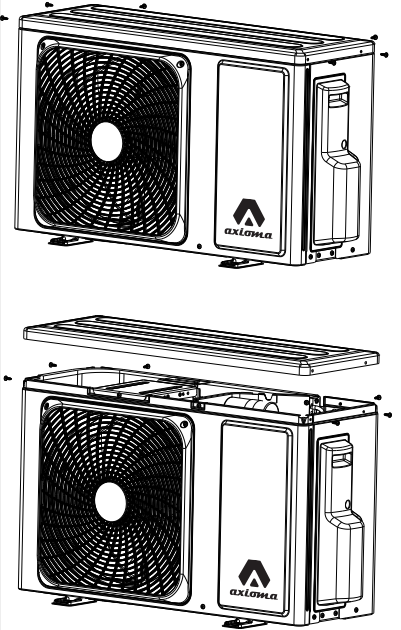
Step		Procedure	Points
3	Loosen the marked screw (1EA) and remove fan motor		
Remove of fan			
Step		Procedure	Points
1	Lift up the fan and remove it, and remove the bearing housing		

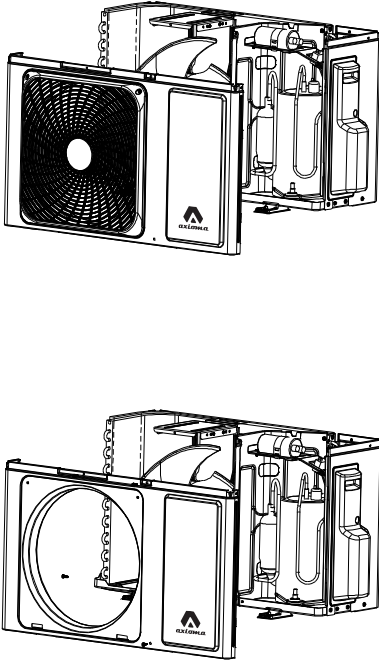
Outdoor Unit

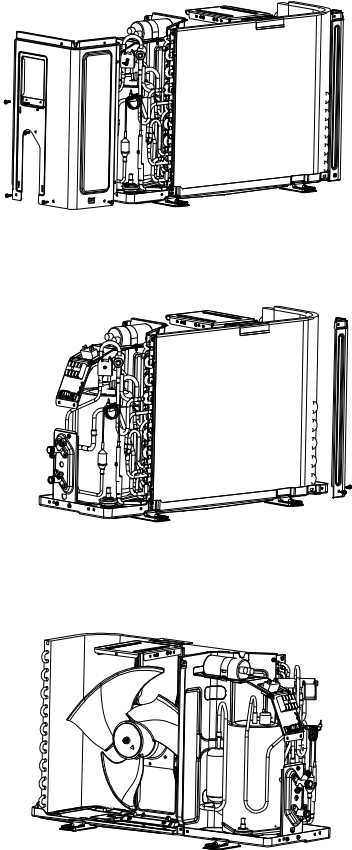
Procedure

Warning: Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points
1. Features		Be careful not to cut your finger by the fins of the heat exchanger.
1	Loosen the service cover screw and remove the service cover.	

Step	Procedure	Points
2. Remove the panels.		
1 Loosen the 6 screws and lift the top panel		

Step	Procedure	Points
2	Loosen the screws of the panel. 	

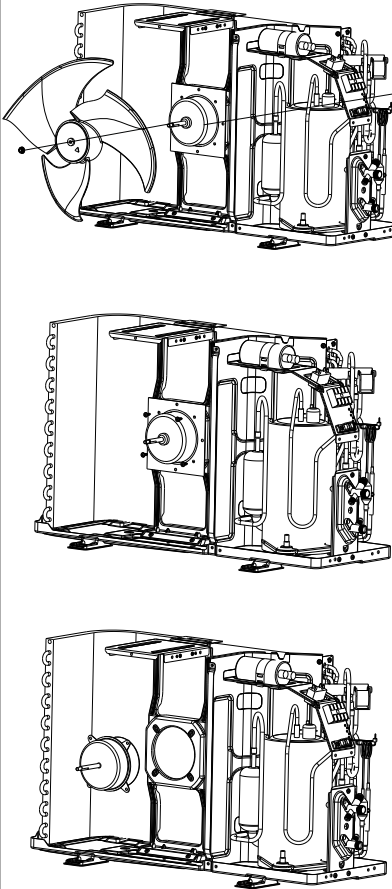
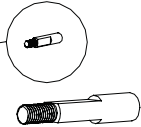
Step	Procedure	Points
3	Pull and remove the front panel.	
		

2. Removal of Fan and Fan Motor

Procedure



Warning Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

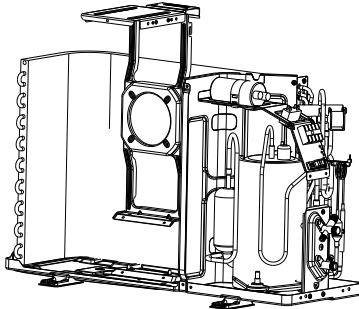
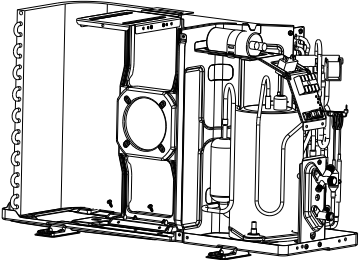
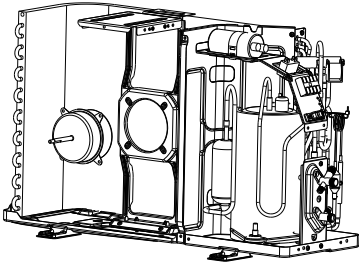
Step	Procedure	Points
1	Loosen the fixing screw and remove the fan 	 Put the lead wire through the back of the motor when assembling. (so as not to be entangled with the propeller fan)

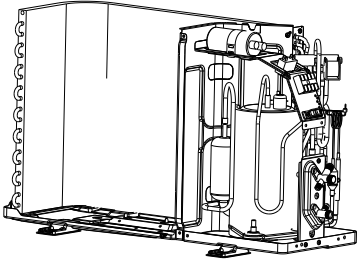
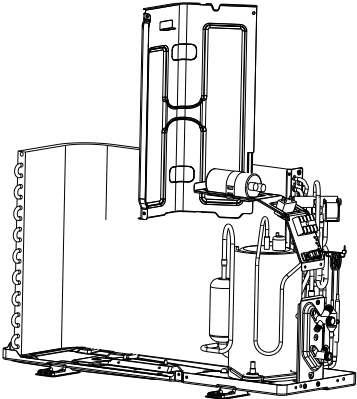
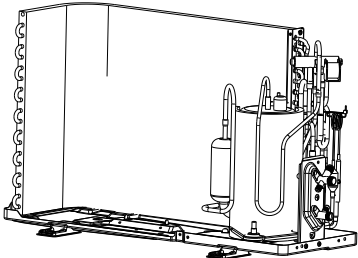
3. Removal of fan motor bracket and partition

Procedure



Warning Be sure to wait 10 minutes or more before disassembling work.

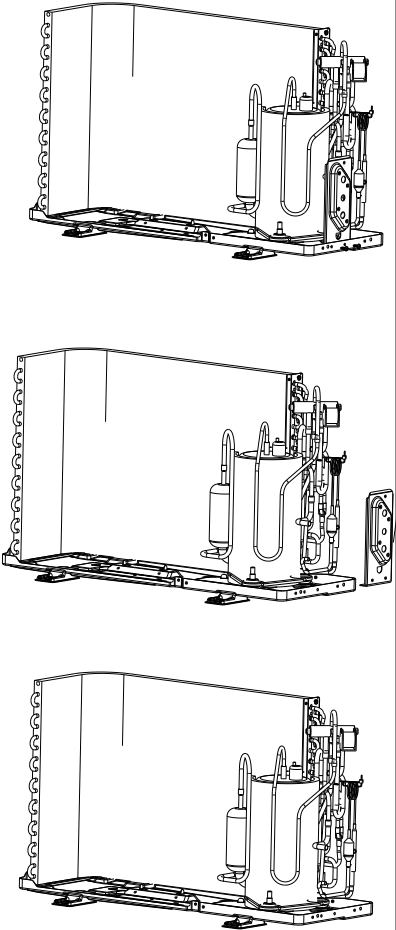
Step	Procedure	Points
1	Loosen the fixing screws and lift the fan motor bracket . 	

Step	Procedure		Points
2	Loosen the screws		
3	The partition plate has a hook on the lower side. Lift and pull the		■ When assembling ,fit the lower hook into the bottom frame .
4	Remove the fixing screws Then lift the electrical box		

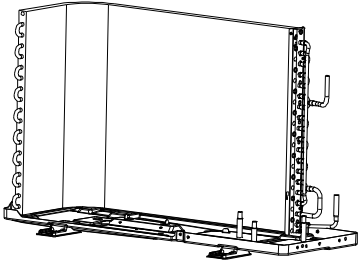
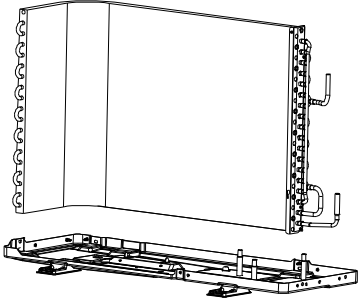
Procedure



Warning Be sure to wait 10 minutes or more after tu
before disassembling work.

Step	Procedure	Points
1	Loosen the marked screw . 	

Step	Procedure	Points
2	Cut down the connecting pipe and pull out the compressor and remove the valve bracket .	

Step	Procedure	Points
3	Loosen the marked fixing screw . 	
4	Loosen the fixing hook and remove the heat 	



 *axioma*