Installation Manual of Room Air Conditioner

- Read this manual before installation.
- Explain sufficiently the operating means to the user according to this manual.

Necessary Tools for Installation

- 1.Driver 5.Spanner(14,17,19 and 24mm)
- 2. Hacksaw 6. Torque wrench (17mm, 22mm, 24mm)

8.Flaring tool

- 3. Hole core drill 7. Pipe cutter
- 4.Hexagon wrench(5mm)

- 10.Nipper
- 11.Gas leakage detector or soap-and-water solution
- 12. Measuring tape
- 13.Reamer
- 14.Refrigerant oil

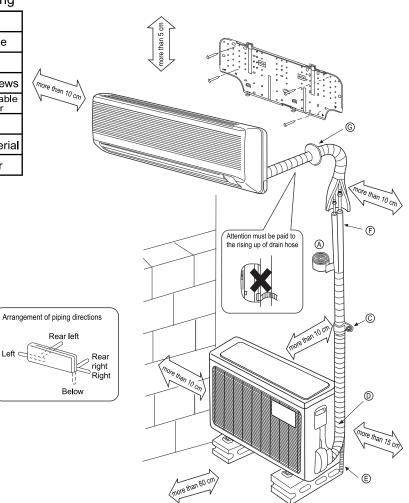
Drawing for the installation of indoor and outdoor units

The appearance is different by models.

Accessory parts				
No.	Accessory parts	Number of articles		
1	Remote controller	1		
2	R-03 dry battery	2		
3	Mounting plate	1		
4	Drain hose	1		
(5)	(==> 4X50 Steel nail, cement	8		
6	Main pipes	1		
7	Ø4x25 Plastic cap Screw	6		
8	Drain-elbow	1		
9	Cover	1		
10	Cushion	4		
11)	Plastic clamp	1		
12	Connecting cable	1		
13	Pipe supporting plate	1		

Optional parts for piping

Mark	Parts name
(A)	Non-adhesive tape
B	Adhesive tape
0	Saddle(L.S)with screws
0	Connecting electric cable for indoor and outdoor
(E)	Drain hose
Ē	Heat insulating material
G	Piping hole cover
	·

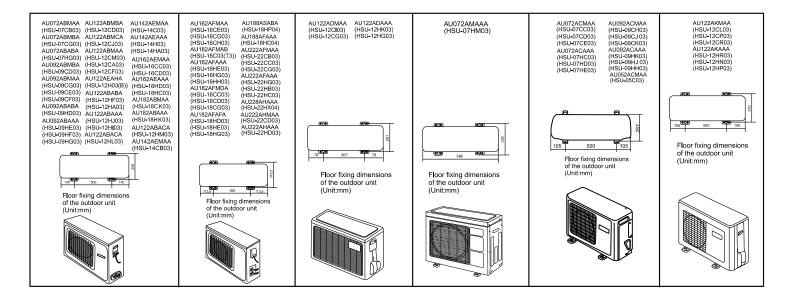


*The marks from (A) to (H) in the figure are the parts' numbers

Note: on cool only unit, drain-elbow is not available.

For series 05,07,09,12,14, AS182AYMAA(HSU-18CK03),AS182AYAAA(HSU-18HK03),pipe supporting plate is available, except for AS122AQAHA(HSU-12H03(B)) AS122AQAAA(HSU-12HG03) AS122AQMAA(HSU-12CG03) AS122APMAA(HSU-12CI03) AS122ADAAA(HSU-12HK03) For series 16,18,22 pipe supporting plate is not available. For AS122AQAHA(HSU-12H03(B)) AS122APAHA(HSU-12HC03(B)) AS122AQAIA(HSU-12HE03(B))

AS122AVAHA(HSU-12HB03(B)) AS122AYAHA(HSU-12HA03(B)) the remote controller is different from others.



Fixing of outdoor unit

- Fix the unit to concrete or block with bolts(\(\delta 10mm \)) and nuts firmly and horizontally.
- When fitting the unit to wall surface, roof or rooftop, fix a supporter surely with nails or wires in consideration of earthquake and strong wind.
- If vibration may affect the house, fix the unit by attaching a vibration-proof mat.

Indoor Unit **Selection of Installation Place**

Outdoor Unit

- Place, robust not causing vibration, where the body can be supported
 Place, which is less affected by rain or direct sunlight and is sufficiently.
- Place, not affected by heat or steam generated in the vicinity, where inlet and outlet of the unit are not disturbed.
- Place, possible to drain easily, where piping can be connected with the Place, where discharged wind and noise do not cause a nuisance outdoor unit.
- Place, where cold air can be spread in a room entirely.
- Place, nearby a power receptacle, with enough space around. (Refer to drawings).
- Place where the distance of moer than 1m from televisions, radios, wireless apparatuses and fluorescent lamps can be left.
- In case of fixing the remote controller on a wall, place where the indoor unit can receive signals when the fluorescent lamps in the room are lightened.

- sufficiently ventilated.
- Place, possible to bear the unit, where vibration and noise are not increased.
- to the neighbors.
- Place, where a distance marked \(⇒ \) is available as illustrated in the above figure.

Power Source

- Bofore inserting power plug into receptacle, check the voltage without fail. The power source is the same as the corresponded name plate.
- Install an exclusive branch circuit of the power.
- A receptacle shall be set up in distance where the power cord can be reached. Do not extend the cord by cutting it.

Selection of Pipe

- To this unit, both liquid and gas pipes shall be insulated as they become low temperature in operation.
- Use optional parts for piping set or pipes covered with equivalent in sulation material.
- For HSU-18CM03,HSU-18HM03 Liquid pipe \emptyset 6.35mm(1/4")X0.8mm Gas pipe Ø 12 7mm/1/2"\X0 8mm For HSU-16HC03,HSU-16HD03,HSU-16CC03,gas pipe diameter is 12.7mm(1/2")

	For Series 07,09	For Series 12 14 HSU-18HK03 HSU-18CK03	For Series 16,18,22
Liquid pipe(Ø)	6.35mm(1/4")X0.8mm	6.35mm(1/4")X0.8mm	6.35mm(1/4")X0.8mm
Gas pipe(Ø)	9.52mm(3/8")X0.8mm	12.7mm(1/2")X0.8mm	15.88mm(5/8")X0.8mm

Indoor Unit

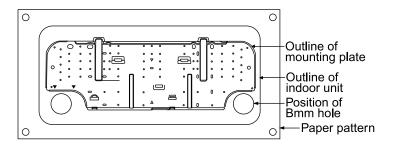
1 Fitting of the Mounting Plate and Positioning of the Wall Hole

When the mounting plate is first fixed

- 1 Carry out, based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall, then temporarily fasten the plate with one steel nail.
- 2 Make sure once more the proper level of the plate, by hanging a thread with a weight from the central top of the plate, then fasten securely the plate with theattachment steel nail.
- 3 Find the wall hole location A using a measuring tape.

When the paper pattern is used

- 1 Stick a paper pattern on the wall horizontally
- 2 Position by using the pattern then remove the pattern.



When the mounting plate is fixed to side bar and lintel

- Fix to side bar and lintel a mounting bar, Which is separately sold, and then fasten the plate to the fixed mounting bar.
- Refer to the previous article, "When the mounting plate is first fixed) "
 for the position of wall hole.

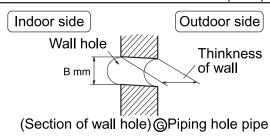
Holes for fixing the mounting plate

Fit the level line

		(, , ,		<u> </u>		
					Amm	Bmm
	AS072AXMBA (HSU-07CG03)	AS072AXAAA (HSU-07HG03)	AS092AXMBA (HSU-09CD03)	AS092AXAAA (HSU-09HD03)	180	
	AS122ANMCA (HSU-12CD03)	AS122ANAAA (HSU-12HF03)			210	
	AS122AQMAA (HSU-12CG03) AS122APMAA (HSU-12CI03) AS122AYAHA (HSU-12HA03(E	AS122AQAHA (HSU-12H03(B)) AS122AQAAA (HSU-12HG03)	AS122APAAA (HSU-12HK03) AS122APAHA (HSU-12HC03(B))	AS122AVAHA (HSU-12HB03(B)) AS122AQAIA (HSU-12HE03(B))	160	
	AS072AZMBA (HSU-07CB03) AS072AZMAA (HSU-07CC03) AS072AIMAA (HSU-07CD03) AS072AZMBA (HSU-07HC03) AS072AZABA (HSU-07HD03) AS072AIMAA (HSU-07HD03) AS072AIMAA (HSU-07HE03) AS092AIMAA (HSU-09CG03) AS092AEMBA (HSU-09CG03) AS052AZMAA (HSU-05C03) AS052AZMAA (HSU-05C03) AS052AZMAA (HSU-05C03)	AS092AMMAA (HSU-09CH03) AS092AKMAA (HSU-09CJ03) AS092ALMAA (HSU-09CK03) AS092ALMAA (HSU-09HE03) AS092AWAAA (HSU-09HE03) AS092AMAAA (HSU-09HG03) AS092AMAAA (HSU-09HG03) AS092AKAAA (HSU-09HO3) AS092AKAAA (HSU-09HO3) AS092AKAAA (HSU-09HO3) AS182AYMAA (HSU-12CA03) AS182AYMAA (HSU-12CA03) AS182AYMAA (HSU-18CK03) AS142AUMAA (HSU-14CB03)	AS122AVMAA (HSU-12CF03) AS122AMMAA (HSU-12CJ03) AS122AYMBA (HSU-12CL03) AS122AVMBA (HSU-12CM03) AS122AVMBA (HSU-12CP03) AS122AVMBA (HSU-12CP03) AS122AVAAA (HSU-12H03) AS122AVAAA (HSU-12H103) AS122AVAAA (HSU-12H103) AS122AWAAA (HSU-12H103) AS122AWAAA (HSU-12H103) AS122AWAAA (HSU-12H103) AS122AWAAA (HSU-12H103) AS122AWAAA (HSU-12H103) AS182AVAAA (HSU-18HK03)	AS122AYABA (HSU-12HN03) AS122AVABA (HSU-12HP03) AS122AUABA (HSU-12HR03) AS142AYMAA (HSU-14C03) AS142AYAAA (HSU-14H03) AS142AUAAA (HSU-14H03) AS162AYMAA (HSU-16C03) AS162AYMAA (HSU-16C03) AS162AYAAA (HSU-16H003) AS162AUAAA (HSU-16H003) AS162AUAAA (HSU-16H003) AS162AUAAA (HSU-16H003)	145	Ø60
,	AS162ARMAA (HSU-16CE03) AS162ATMAA (HSU-16CG03) AS162ASMAA (HSU-16CH03) AS162ARAAA (HSU-16H 03) AS162ATABA (HSU-16H03) AS162ASAAA (HSU-16H03)	AS182ATMAB (HSU-18C03(T3)) AS182ASMAA (HSU-18CC03) AS182ARMAA (HSU-18CD03) AS182ATMBA (HSU-18CG03) AS182ASAAA (HSU-18HD03) AS182ASAAA (HSU-18HD03)	AS222ASMAA (HSU-22CB03) AS222ARMAA (HSU-22CC03) AS222ATMBA (HSU-22CG03) AS222ASAAA (HSU-22HB03) AS222ARAAA (HSU-22HC03) AS222ARAAA (HSU-22HC03)	AS228AJAAA (HSU-22HX04) AS188ATAAA (HSU-18HC04) AS188ASABA (HSU-18HP04) AS222AJMAA (HSU-22CD03) AS222AJAAA (HSU-22HD03)	150	Ø70

2 Making a Hole on the Wall and Fitting the Piping Hole Cover

- Make a hole of Bmm in diameter, slightly descending to outside the wall.
- Install piping hole cover and seal it off with putty sfter installation.



Indoor Unit

3 Installation of the Indoor Unit

Drawing of pipe

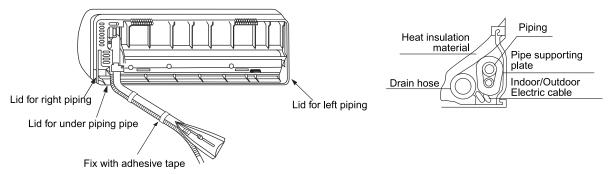
[Rear piping]

• Draw pipes and the drain hose, then fasten them with the adhesivs tape.

[Left, Left-rear piping]

- In case of left side piping, cut away, with a nipper, the lid for left piping.
- In case of left-rear piping, bend the pipes according to the piping direction to the mark of hole for Left-rear piping which is marked on heat insulation materials.
 - 1. Insert the drain hose into the dent of heat insulation materials of indoor unit.
 - 2. Insert the indoor/outdoor electric cord from backside of indoor unit, and pull it out on the front side, then connect them.
 - 3. Coat the flaring seal face with refrigerant oil and connect pipes.

 Cover the connection part with heat insulation materials closely, and make sure fixing with adhesive tape.



• Indoor/outdoor electric cord and drain hose must be bound with refrigerant piping by protecting tape.

[Other direction piping]

- Cut away, with a nipper, the lid for piping according to the piping direction and then bend the pipe according to the position of wall hole. When bending, be careful notto crash pipes.
- Connect beforehand the indoor/outdoor electric cable, and then pull out the connected to the heat insulation of connecting part specially.

Fixing the indoor unit body

- Hang surely the unit body onto the upper notches of the mounting plate.
 Move the body from side to verify its secure fixing.
- In order to fix the body onto the mounting plate, hold up the body aslant from the underside and then put it down perpendicularly.

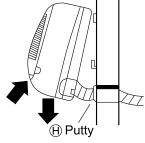
4 Connecting the indoor/outdoor Elcetric Cable

Removing the wiring cover

• Remove terminal cover at right bottom corner of indoor unit, then take off wiring cover by removing its screws.

When connecting the cable after installing the indoor unit

- Insert from outside the room cord into left side of the wall hole, in which the pipe has already existed.
- 2. Pull out the cord on the front side, and connect the cable making a loop.







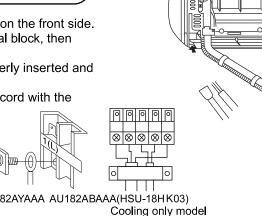
Indoor Unit

When connecting the cord before installing the indoor unit

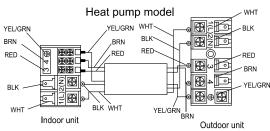
- Insert the cord from the back side of the unit, then pull it out on the front side.
- Loosen the screws and insert the cord ends fully into terminal block, then tighten the screws.
- Pull the cord slightly to make sure the cords have been properly inserted and tightened.

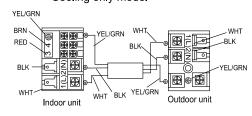
 After the cord connection, never fail to fasten the connected cord with the wiring cover.

Note: When connecting the cord, confirm the terminal number of indoor and outdoor units carefully. If wiring is not correct, proper operation can not be carried out and will cause defect.



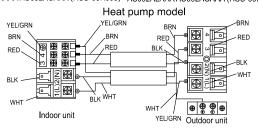
Series 07,09, 12,14, AS182AYMAA AU182ABMAA(HSU-18CK03), AS182AYAAA AU182ABAAA(HSU-18HK03)

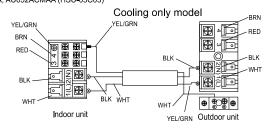




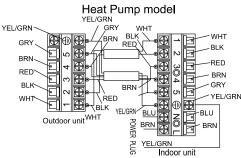
For AS162AYMAA AU162AEMAA (HSU-16CC03) AS162AUMAA AU162AEMAA (HSU-16CD03) AS162AYAAA AU162AEAAA (HSU-16HC03) AS162AUAAA AU162AEAAA (HSU-16HD03) the above two terminal wiring connection is also suitable

For AS072AEMAA AU072ACMAA (HSU-07CC03) AS072AIMAA AU072ACMAA (HSU-07CD03) AS072AWMAA AU072ACMAA (HSU-07CE03) AS092AMMAA AU092ACMAA (HSU-09CH03) AS092AKMAA AU092ACMAA (HSU-09CJ03) AS092ALMAA AU092ACMAA (HSU-09CJ03) AS092ALMAA AU092ACMAA (HSU-09H03) AS092ALAAA AU092ACAAA (HSU-09H03) AS052AZMAA, AU052ACMAA (HSU-05C03)

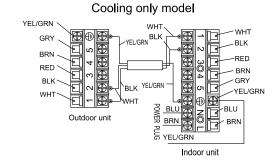


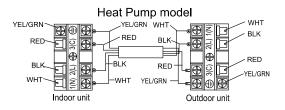


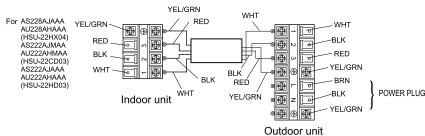
Series 16,18,22



For AS122AQAHA AU122AEAHA (HSU-12H03(B)) AS122APAHA AU122AEAHA (HSU-12HC03(B)), AS122AVAHA AU122AEAHA (HSU-12HB03(B)) AS122AQAIA AU122AEAHA (HSU-12HE03(B)) AS122AYAHA AU122AEAIA (HSU-12HA03(B))







Outdoor Unit

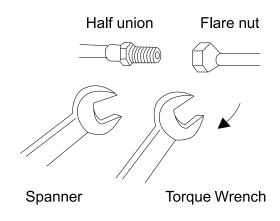
1 Installation of Outdoor Unit

Install according to

Drawing for the installation of indoor and outdoor units

2 Connection of Pipes

- Apply refrigerant oil on half union and flare nut.
- To bend a pipe, give the roundness as large as possible not to crush the pipe.
- Connecting the pipe of gas side first makes working easier.



Forced fastening without careful centering ay damage the theads and cause a leakage of gas.

Pipe Diameter(∅)	Fastening Torque
Liquid Side 6.35mm(1/4")	18N.m
Gas Side 9.52mm(3/8")	42N.m
Gas Side 12.7mm(1/2")	50N.m
Gas Side 15.88mm(5/8")	60N.m

Be careful that foreign matters, such as wastes of mands, etc.shall not enter the pipe.

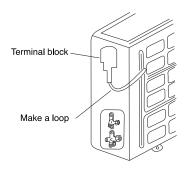
3 Connection

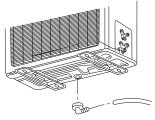
- Use the same method on indoor unit. Loosen the screws on terminal block and insert the plugs fully into terminal block, then tighten the screws.
- Insert the cable according to terminal number in the same manner as the indoor unit.
- If wiring is not correct, proper operation can not be carried out and controller may be damaged.
- Fix the cord with a clamp.

4 Attaching Drain-Elbow

 If the drain-elbow is used please attach it as figure.

Note: Only for heat pump unit.





Drain hose

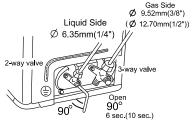
Outdoor Unit

5 Purging Method

Push the air out of the indoor unit and piping as follows:

- (1)Remove the valve cap on 2-way valve in outdoor unit.
- (2)Loosen by 1/2 turn the flare nut of gas pipe, which is connected to 3-way valve.
- (3)Loosen 2-way valve by 90° using hexagon wrench, and after approx. 6 sec tighten it up. Gas comes out through flare nut on wide pipe. if no gas is discharged, tighten flare nut with specified torque.
- (4)Open 2-way and 3-way valves using specified torque.
- (5) Tighten the caps on the valves with specified torque.

	Tightening torque N.m	
Valve rod	7-9	
Valve cap	20-25	



2-way valve

Open

(E)

Flare nut



AU162AFMAA

ALI092ABABA (HSU-09HD03) AU122ABMBA (HSU-12CD03) AU122ABMAA (HSU-12CE03) (HSU-12CA03) (HSU-12CM03) AU122ABMCA (HSU-12CJ03) AU122AFAHA (HSU-12H03(B) ÀU122ABABÀ (HSU-12HF03) AU122ABAAA (HSU-12HJ03) (HSU-12HA03) (HSU-12HI03)

AU122ABACA (HSU-12HL03) AU142AEMAA (HSU-14C03) AU142AEAAA (HSU-14H003) AU162AEMAA (HSU-16C003) AU162AEMAA (HSU-16C03) AU162AEAAA (HSU-16HC03) (HSU-16HC03) AU122AEAIA (HSU-12HB03(B)) AU182ABMAA (HSU-12HBCK03) AU182ABMAA (HSU-18HK03)

Liquia Olao	ACTOZALIVIAA
6.35mm(1/4")	(HSU-16CE03)
9.52mm(3/8")	(HSU-16CG03)
Gas Side	(HSU-16CH03)
Ø 15.88mm(5/8")	AU162AFAAA
× 13.00mm(3/0)	(HSU-16HE03)
	(HSU-16HG03)
	(HSU-16HH03)
	AU182AFMAB
	(HSU-18C03(T3))
	AU222AHAAA
	(HSU-22HD03)

Liquid Side

Gas Side

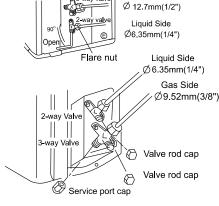
(HSU-18CC03) (HSU-18CC03) (HSU-18CG03) AU182AFAFA (HSU-18HD03) (HSU-18HE03) AU222AFMAA (HSU-22CB03) (HSU-22CC03) (HSU-22CG03)

AU182AFMDA

AU222AFAAA (HSU-22HB03) (HSU-22HC03) (HSU-22HC03) AU188AFAAA (HSU-18HC04) AU188AFAFA (HSU-18HP04) AU228AHAAA (HSU-22CX04) AU222AHMAA (HSU-22CD03)

<i>y</i>	90° <u> </u> Open		valve valve	Liquid Side
Ŋ	Open	Flare	nut	√ 12./mm(1/2")

AU122ADMAA AU122ADAAA (HSU-12CG03) (HSU-12HG03) (HSU-12HK03)



AU122AKMAA AU122AKAAA (HSU-12CL03) (HSU-12HN03) (HSU-12CP03) (HSU-12HP03) (HSU-12CR03) (HSU-12HR03) AU052ACMAA AU092ACMAA (HSU-05C03) (HSU-09CJ03) ÀU072ACMÁA (HSU-09CH03) (HSU-07CC03) (HSU 09CK03) (HSU-07CD03) ÀU092ACAAA (HSU-07CE03) (HSU-09HH03) AU072ACAAA (HSU-09HJ03) (HSU-07HC03) (HSU-09HK03) (HSU-07HD03) AU072AMAAA

(HSU-07HM03)

 When connecting pipe exceeds 5 meters, 16g refrigerant shall be added per exceeding meter. Charge according to the following list.

F	Piping length	5m	7m	10m
Add	litional amount	No need	32g	80g

 Note: When extending piping, air inside piping shall be removed by using external refrigerant gas, then discharge excess refrigerant by air purging.

Brand new outdoor unit is charged 50g more refrigerant than regulated weight. Only for first installation, this extra 50g can be used to purge air in the pipes.

1 During this procedure, 50g refrigerant will be discharged in piping.

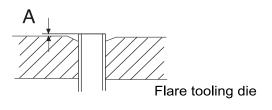
(This must be strictly controlled within 90° and 6sec.)

1 Power Source Installation

- The power source must be exclusively used for air conditioner. (Over 10A)
- In the case of installing an air conditioner in a moist place, please install an earth leakage breaker.
- For installation in other places, use a circuit breaker as far as possible.

2 Cutting and Flaring Work of Piping

- Pipe cutting is carried out with a pipe cutter and burs must be removed.
- After inserting the flare nut, flaring work is carried out.

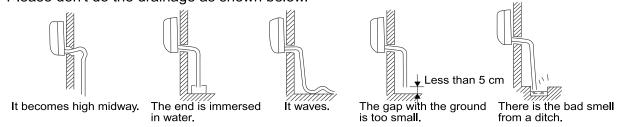


	Pipe diameter⊘	Size A (mm)
Liquid side	6.35mm(1/4")	0.8~1.5
Gas side	12.7mm(1/2") 15.88mm(5/8")	1.2~2.0
Gas side	9.52mm(3/8")	1.0~1.8

Correct	Incorrect				
	Lean	Damage of flare	Crack	Partial	Too outside

3 On Drainage

- Please install the drain hose so as to be downward slope without fail.
- Please don't do the drainage as shown below.



- Please pour water in the drain pan of the indoor unit, and confirm that drainage is carried out surely to outdoor.
- In case that the attached drain hose is in a room, please apply heat insulation to it without fail.

Check for Installation and Test Run

Please kindly explain to our customers how to operate through th instruction manual.

Check Items for Test Run	Deut check mark √ in boxes	3
 ☐ Gas leaks from pipe connecting? ☐ Heat insulation of pipe connecting? ☐ Are the connecting wirings of indoor and outdoor firmly inserted to the terminal block? ☐ Is the connecting wiring of indoor and outdoor firmly fixed? 		 ☐ Is the lamp normally lightening? ? ☐ Are cooling and heating(When in heatpump)performed normally? ☐ Is the operation of room temperature regulator normal?

AS162AUAAA (HSU-16HD03) AS052AZMAA (HSU-05C03) AS182AYMAA (HSU-18CK03) AS182AYAAA (HSU-18HK03)
AS142AUAAA (HSU-14HA03) AS162AYMAA (HSU-16CC03) AS162AVMAA (HSU-16CD03) AS162AYAAA (HSU-16HC03)
ASS122AVABA (HSU-12HP03) AS122AUABA (HSU-12HR03) AS142AYMAA (HSU-14C03) AS142AYAAA (HSU-14H03)
AS122AVAAA (HSU-12HI03) AS122AUAAA (HSU-12HJ03) AS122AMAAA (HSU-12HL03) AS122AYABA (HSU-12HN03)
AS122AUMAA (HSU-12CM03) AS122AVMBA (HSU-12CP03) AS122AUMBA (HSU-12CR03) AS122AYAAA (HSU-12HA03)
AS122AYMAA (HSU-12CA03) AS122AVMAA (HSU-12CF03) AS122AMMAA (HSU-12CJ03) AS122AYMBA (HSU-12CL03)
AS092AZABA (HSU-09HG03) AS092AMAAA (HSU-09HH03) AS092AKAAA (HSU-09HJ03) AS092ALAAA (HSU-09HK03) AS142AUMAA (HSU-14CB03)
AS072AZABA (HSU-07HC03) AS072AIAAA (HSU-07HD03) AS092AIAAA (HSU-09HE03) AS092AWAAA (HSU-09HF03) AS122ALAAA (HSU-12HM03)
AS072AZMBA (HSU-07CB03) AS072AZMAA (HSU-07CC03) AS072AIMAA (HSU-07CD03) AS072AWMAA (HSU-07CE03) AS072A I ACA (HSU-07HM03)

 Paper pattern for Indoor Unit Installation Please use this sheet to site the unit

Leave at Least 50mm between the top of the unit and the ceiling

