

FRESH AIR KIT NATURE Series



CH-HRV030S-BL
CH-HRV030S-WP

For proper operation, please read and keep this manual carefully.
Designed by Cooper&Hunter International Corporation, FL Miami, USA

Product Introduction

Two-way ventilation system is a new kinds of fresh air equipment. It's equipped with a HEPA filter and a total heat exchange element sub-assy. In the normal air supply process, outdoor air passes through the fresh air pipe, the total heat exchange element sub-assy and the HEPA filter in turn to ensure indoor air quality. Indoor exhaust air and outdoor fresh air conduct the heat exchange through the total heat exchange element sub-assy, which has greatly decreased the load of fresh air supply.

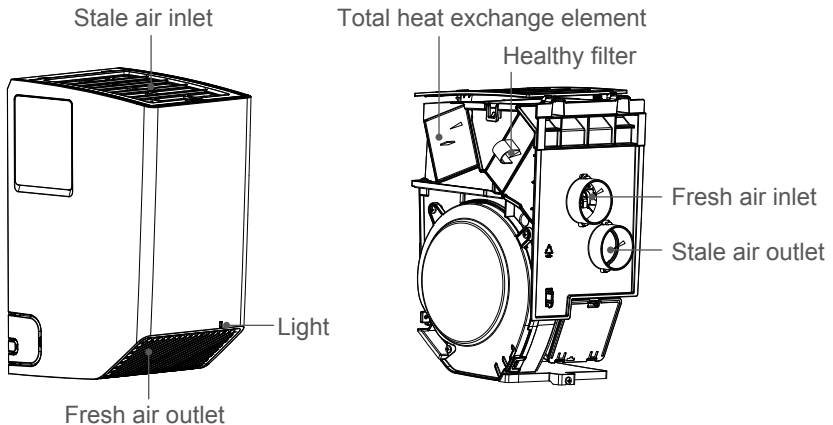
Table 1 Function list

Function	Model	Remark
	CH-HRV030S	
Operation control	○	—
Linkage control	○	—
Fan speed	○	—
Heat exchange mode	○	Total heat exchange
Air purify	○	—
Positive pressure air supply	○	—
Timer	○	—

Note: ○ standard function — unavailable

Main structure

Schematic diagram of unit structure



Note: • The structure diagram is subject to change without notice. Please refer to the actual product. It's only for reference. Please refer to the actual product.
 • Light on: the unit is turned on; Light off: the unit is turned off; Light flashing: the unit has errors.

Outline dimensions

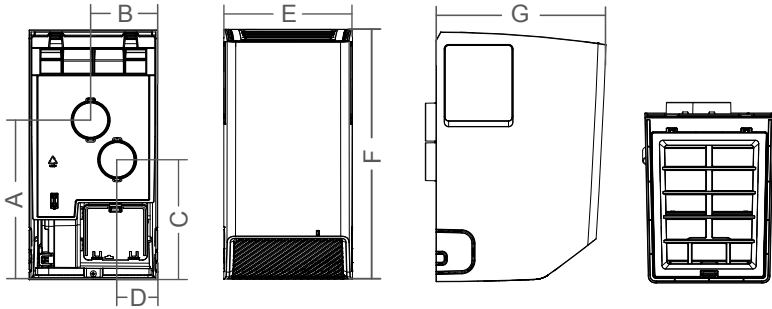


Table 1 Outline dimension

Unit: mm

Model	A	B	C	D	E	F	G
CH-HRV030S	187	79	141	49	151	293	200

Note: There may be some errors for above parameters due to production or assembly errors or individual errors. Please refer to the actual size.

After the power cord passing through the cable-cross loop on the base plate, it can be led out from the knockout holes at both sides.

Product specification parameters

Table 2 Specification parameters

Model	CH-HRV030S	
Rated Voltage(V)	12±0.5	
Power Input(W)	13	
Enthalpy (total heat) heat exchange efficiency	Winter	—
	Summer	—
Max noise(dB(A))	42	
Weight(kg)	1.8	

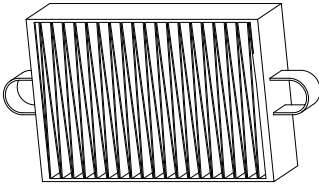
Note: Air volume data is measured under the turbo fan speed.

During actual use, the fan speed can be adjusted according to the speed of air conditioner (can also be adjusted on demand). When the indoor and outdoor ambient temperature and humidity exceed the design range of the system, the fan speed may decrease, or the unit operates interruptedly or even shuts down.

Filter and element parameters

Schematic diagram of filter and heat exchange element

Healthy filter



Total heat exchange element sub-assy

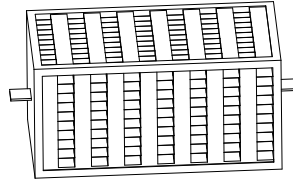
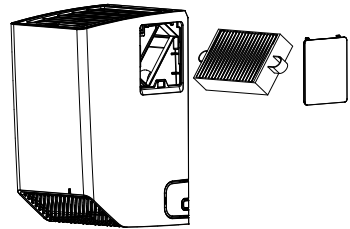


Table 3 Parameters of filter and heat exchange element sub-assy

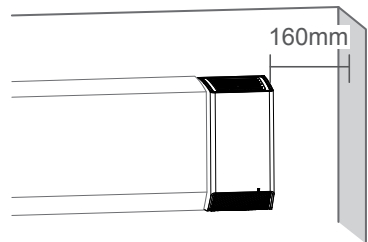
Name	Specification (mm)	Whether it can be washed with water	Recycle or not	Suggested replacement time
Healthy filter	124×77×30	NO	NO	3 months

Note: The suggested replacement period is based on defaulted outdoor pollution grade. The detailed replacement period is depend on the actual operation status.

- As for replacing the filter, open the right side plate of the two-way ventilation system at first, pull out the filter by using the upper handle of the filter, and then reinstall the new filter and close the right side plate.

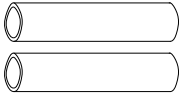
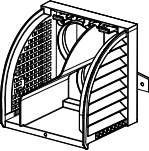
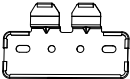

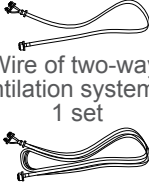
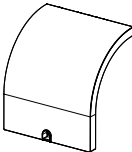


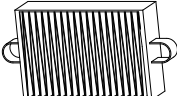




- The allowable minimum distance between the two-way ventilation system and the right side wall is 160mm.



Note: If it needs to be installed on the left side, please hang the two-way ventilation system on the left wall, and open the left side board to install or replace the filter.

Accessories list

 <p>Fresh air pipe (include the insulation cotton \varnothing55mm)</p>	 <p>Rainproof joint 1 set</p>	 <p>Mounting plate 1 piece</p>	 <p>Expansion pipe sub-assy 1 set</p>
 <p>Wire of two-way ventilation system(A) 1 set</p> <p>Wire of two-way ventilation system(B) 1 set</p>	 <p>Rainproof joint 1 set</p>	 <p>Joint sub-assy 2 (air in) 2 sets</p>	 <p>Screw accessory 1 set</p>
		 <p>Healthy filter 1 set</p>	 <p>Wire cross plate 1 piece</p>
			 <p>Connection line</p>

Note: The package base of the unit can be used for guiding the installation of Two-way ventilation system.

Equipment Installation

General instruction

Users should consign professional HVAC engineers to conduct model selection and project design and ask for the experienced construction company to carry out the project construction. Design and construction must be conducted in accordance with related national regulations. In case of engineering accident caused by incorrect installation, users should bear all responsibilities. If the equipment is not installed according to the regulation, the equipment may can't operate normally. After that, if after-sales service is required, users should bear the corresponding expenses.

Engineering design

This product should be installed according to the suggested principle as below:

- The air pipe should adopt nonflammable and incombustible materials.
- The inner surface of pipe should be smooth; outdoor air inlet should be installed at the place where is convenient for maintenance.
- The unit adopts wall-mounted vertical installation method. The back side is fixed by the mounting plate.
- When installing the unit, open the panel at first, remove the cover plate, take out the inner air outlet from the packing accessories and then install it well. Refer to figure 3.3 for the installation method.

- The connection pipe should be stick with insulation cottons. The air duct should incline downwards toward the outside for $1^{\circ} \sim 1.5^{\circ}$ to prevent condensate water and the rain getting into the unit.
- When installing the unit, select the installation position for the mounting plate on the external wall, leave enough space around the mounting plate and then place the wall-mounted plate horizontally. Use two plastic expansion sleeves to fix the mounting plate at the disposed wall (such as embed colloidal particles). When the mounting plate is installed, pull it with hand to see whether it's fixed tightly.
- When installing the mounting plate, users should purchase and install the plastic expansion sleeves (screw-in plastic expansion sleeves for buildings). Use the equipped screws and make sure sleeves are completely entering into the wall for ensuring the steadiness.
- Before installing the unit, ask professionals to drill one hole ($\Phi 110$) or two holes ($\Phi 60$) on the external wall. Please note that the relative position between the hole(s) and the mounting plate should be fixed. Refer to the diagram on the carton box for details. The installation holes should be away form beams, pillars and load bearing walls to prevent damaging the structure of building.
- The holes used for installing air ducts on indoor unit should be sealed with foaming sealant to prevent wind leakage or water.
- The installation height of air outlet should be about 2m.
- As the filter inside the unit should be replaced in time, the maintenance space in front of the unit should be reserved during design and installation process. Moreover, a certain space at both sides of the unit should also be reserved for air discharge and air return. The maintenance space should be no less than the size as shown in below figure.

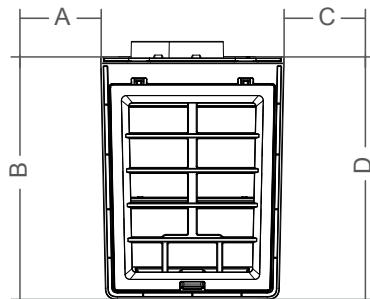


Figure 4 Service access port position

Unit: mm

Model	A	B	C	D
CH-HRV030S	160	200	160	200

- This fresh air unit should not be installed at below places:
 - 1) The unit can't be installed at the places where is close to high-temperature areas or naked fire. Otherwise, it may cause overheating or even fire hazard.

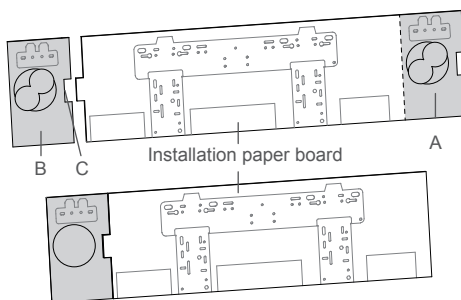
- 2) The unit can't be installed at the places where is with oil mist or oi gas, such as kitchen. Otherwise, it may cause fire hazard.
- 3) The unit shouldn't be installed at the places where is wet or closing to bathroom room. Otherwise, it may cause current leakage or electric shock.
- 4) The unit can't be installed at the places where is close to the machine that can radiate the electromagnetic wave. Otherwise, the unit may be not able to work normally.

● Installation schematic diagram of two-way ventilation system

1.

Please check whether the pasteboard is correct (check whether the pasteboard is consistent with the length of the air conditioner, the printing side, the wall-mounted plate structure and the pattern) and then drill holes for installation.

When the two-way ventilation system is installed on the right side (when on left side, cut and tear the paper board along the dotted line, move the paper board from A to B and C to align with the installation paper board), stick the installation paper board on a proper position of wall, and mark the punching position, remove the paper board, and then punch according to the marks.

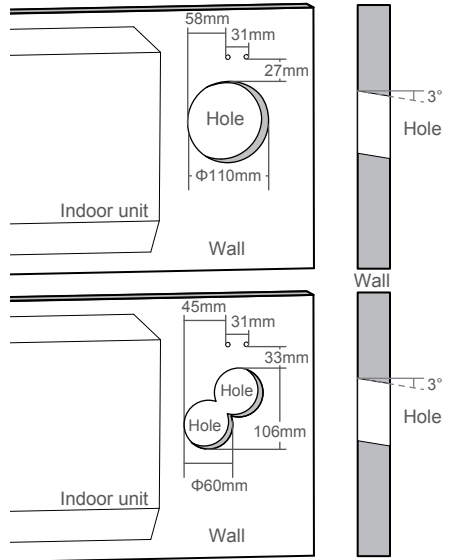


Note: The outdoor hole of fresh air pipe should be far away from the air outlet of outdoor unit, keeping good ventilation.

2.

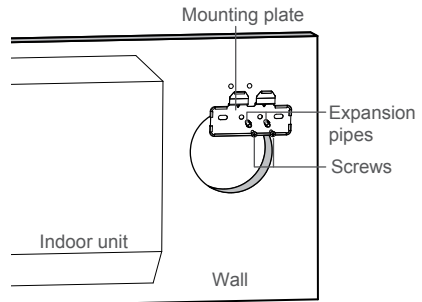
First punch a $\phi 110\text{mm}$ large air duct hole on the wall (or punch two $\phi 60\text{mm}$ small air duct holes), and two $\phi 6\text{mm}$ wall-mounted plate holes. When drilling the air duct hole, the drill bit should tilt downward at an angle of 3° . The indoor side is about 5mm-10mm higher than the outdoor side when the holes are done.

Note: Not following the above instruction may cause inconvenience in use, which is not the responsibility of the company.



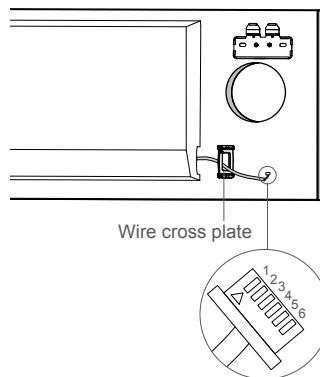
3.

Knock expansion pipes into the holes used for installing the wall-mounted plate, and then use tapping screws to fix the wall-mounted plate on the wall.



4.

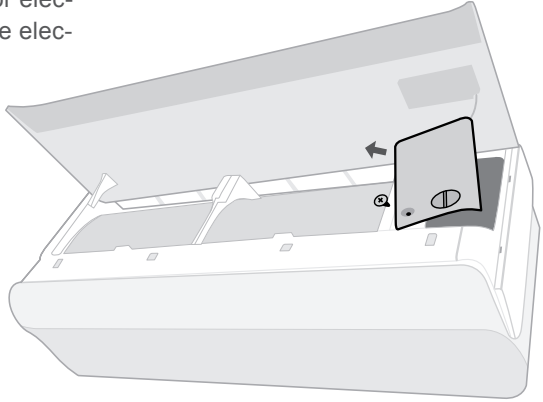
Knock out the knockout holes at the right side of the air conditioner and the left side of the two-way ventilation system; take out the control wire of two-way ventilation system from the knockout hole at the right side plate of the air conditioner, pass it through the wire cross plate, and then slide the wire cross plate into the knockout hole of the air conditioner; fix the control wire and the terminal at the two-way ventilation system side with a clasp.



Note: If the indoor unit is without connecting wire, please connect the wire with the main board of indoor unit according to the following steps.

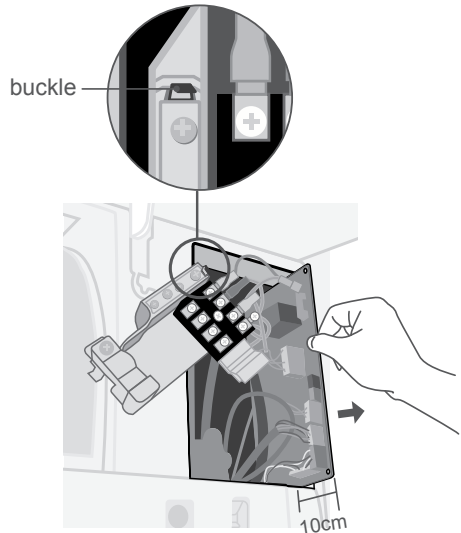
A.

In power-off status, open the panel of the unit, remove the screws for electric box cover, and take out the electric box cover.



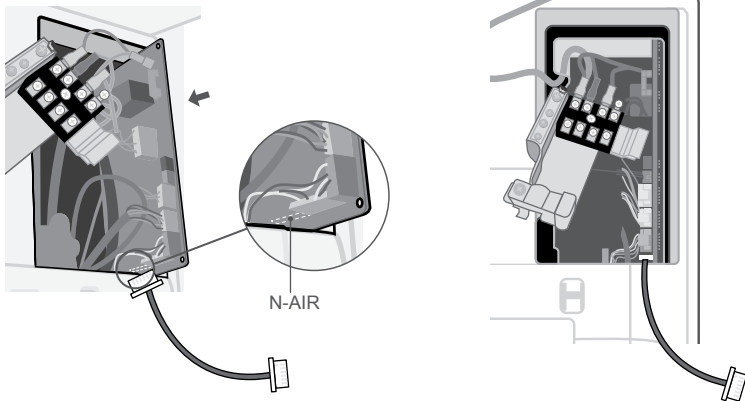
B.

Press the upper buckle, remove the support of wiring board; draw out the main board of controller, which is about 10cm higher than the electric box.



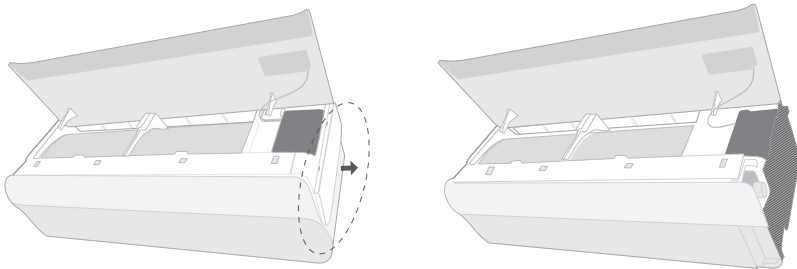
C.

Insert the blue terminal of connecting wire into the wiring port (N-AIR), after ensuring there is no winding between the connecting wire and left and right swing wires and other wires (prevent the other wires from being pulled), insert the main board of controller back to the original position.



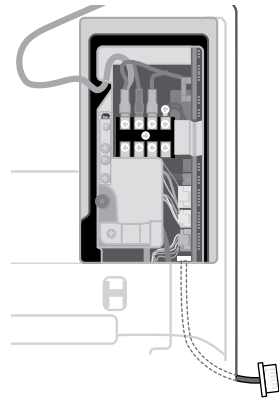
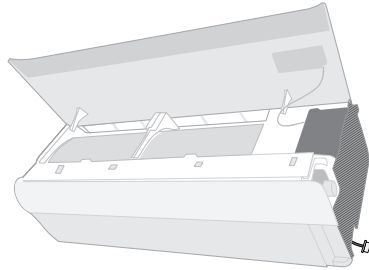
D.

Remove the screws for right side board, take out the right side board. This step is only applicable to the model with right side board.



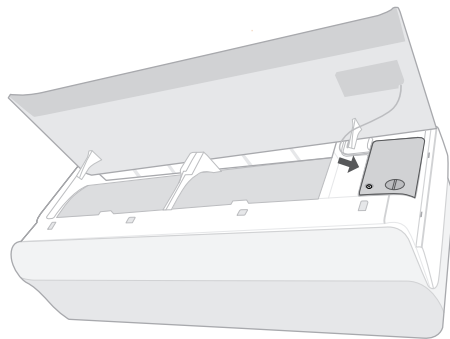
E.

After arranging the connecting wire, thread it through the wire outlet and it should be completely clipped into the wire slot. Lead the wire from the side knock-down hole, and install the support of wiring board back to the electric box.



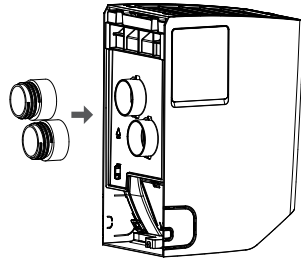
F.

In order to prevent the wire from being pressed by the electric box cover, please check the connecting wire again that the wire should not be out of the wiring slot. Reinstall the right side board and electric box cover, and install the screws, and then cover the panel.



5.

Align the clasp of air duct joint with fresh air inlet and stale air outlet, and press the air duct joint forcibly to tighten the clasps of air duct joint, fresh air inlet and stale air outlet firmly.



6.

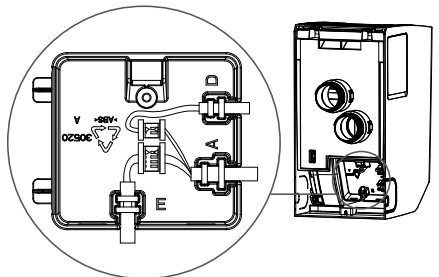
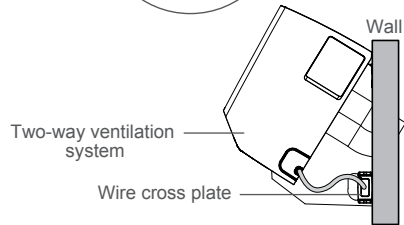
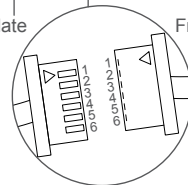
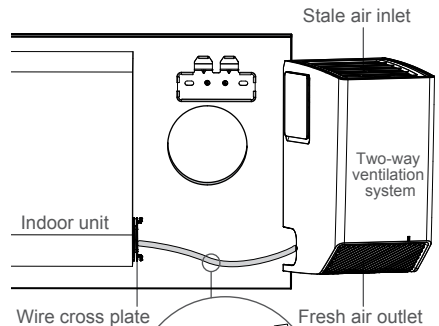
Take out the wire of two-way ventilation system, open the electric box cover and then set the clasp of wire into to the slot of electric box.

Connect the motor wire of two-way ventilation system with the wire of display well and then close the electric box cover.

Connect the other end of the wire of two-way ventilation system with the wiring terminal of indoor unit of two-way ventilation system.

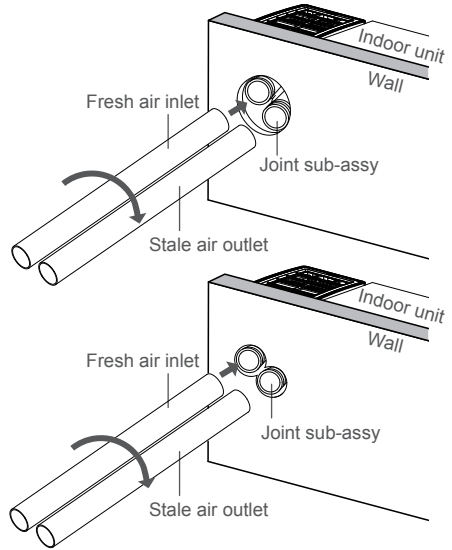
Extend the air duct of two-way ventilation system into the opening of air duct, and make 30° with the wall to install the two-way ventilation system at the wall-mounted plate; make the wall-mounted plate as the axis, align the knockout hole of two-way ventilation system with the sliding chute of wire cross plate and set it, and then make the two-way ventilation system stick to the indoor unit and the wall.

Note: If it needs to repair or arrange the electric wires, please pay attention to the screw bolt to prevent the electric box cover pressing the wires.



7.

Insert the fresh air pipe along with the air duct hole; rotate the air pipe hole in a clockwise direction when inserting it, and then tighten the fresh air pipe and the air duct joint together. When the fresh air pipe can't be rotated and pull out, it's installed well.

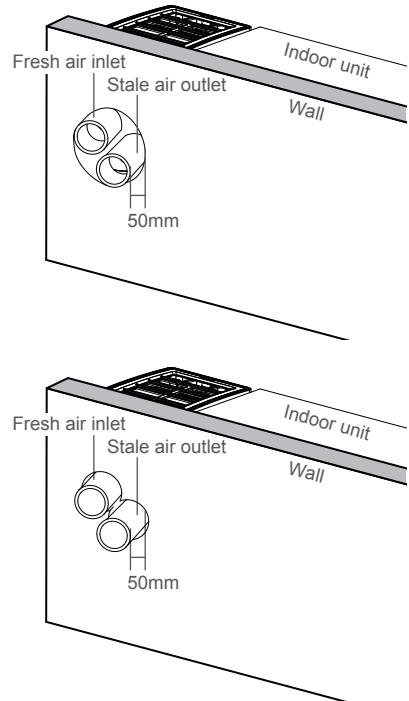


8.

Extend the fresh air duct into the wall for 50mm, and cut off the residual part.

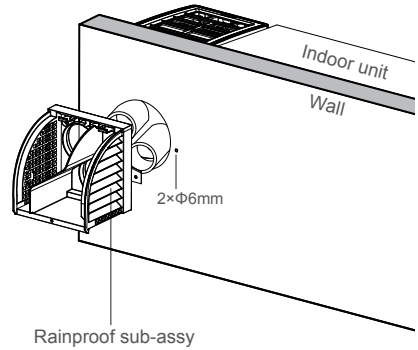
Fill the gap between the air duct and air duct holes (for two small holes, it is recommended to fill with sealant, for a big hole it is recommended to fill with foaming agent).

Note: The recommended filling material is for reference only.



9.

Set the rainproof joint into the fresh air pipe, stick the rainproof joint at the wall to confirm the position of that two $\Phi 6\text{mm}$ holes and then make holes. At the same time, knock the expansion pipe into the hole.



10.

Fix the rainproof joint with screws, cover the rainproof cover and tighten the screws to complete the installation at the outdoor side.

Note: If rain sound is too loud, please ask for the dealer to provide sound insulation cotton.

