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LG

LG Ventilation Kit

INSTALLATION MANUAL

Model: PTVK410 / PTVK420

IMPORTANT

- Please read this installation manual completely before installing the product.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Please retain this installation manual for future reference after reading it thoroughly.

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1. Safety Precautions



To prevent injury to the user or other people and property damage, the following instructions must be followed.

- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠ WARNING This symbol indicates the possibility of death or serious injury.

⚠ CAUTION This symbol indicates the possibility of injury or damage.

- Meanings of symbols used in this manual are as shown below.

	Be sure not to do.
	Be sure to follow the instruction.

Warning

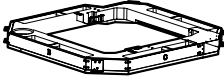



1. Electric works should be carried out according to 'The technology requirement on the electric installation', The wiring standard and this manual by a qualified personnel.
2. If the installation isn't complete, electric shock or fire may occur, or death or injury can be caused.
3. If the capacity of the power circuit is insufficient or its installation wasn't done completely, this may cause electric shock, fire or etc..
4. If the installation was done by a user, there may be incompleteness, which may cause electric shock, fire, injury and death.
5. When operating the machine (applying power to the machine), do not carry out any electric work and do not put hand or finger into it. This may cause electric shock, injury and death.

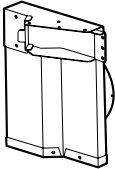

Caution

1. Before installation, read this manual and carry out the works according to it.
2. This machine can be installed on the ceiling air conditioner cassette type unit. (However, please check the applicable models with PDB.)
3. When installing, the diameter of the duct connected to the flange, PTVK-420, is $\varnothing 150$
4. Before installation, be sure to check all the included items. (However, be sure to use all kinds of certified products when purchasing the items other than those provided by LG at your local store.)
5. Be sure to carry out the earth work. (However, do not connect the unit to gas pipe, water pipe, a lightning rod and a phone earth line. In addition, if the earth wasn't completely done, this may cause electric shock and fire.)

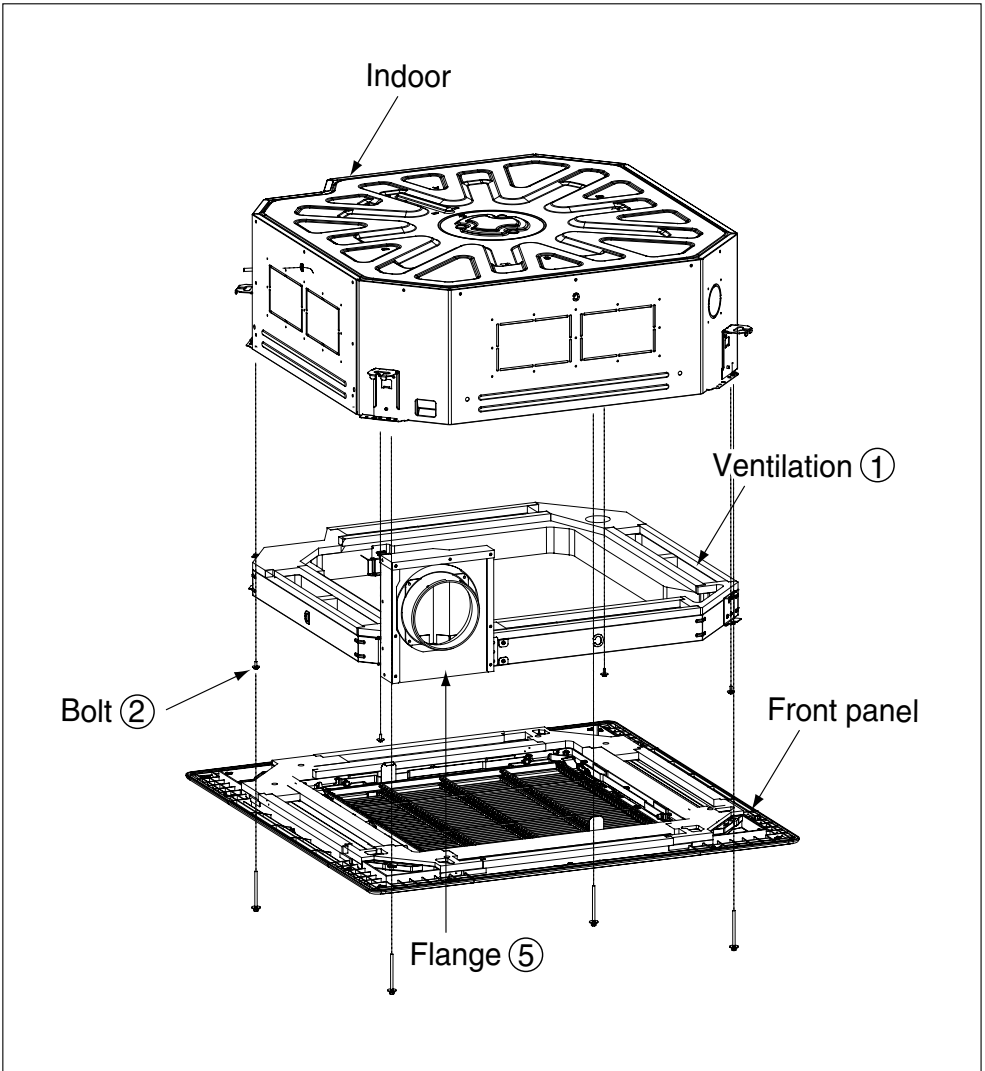
2. Included Items

※ Provided by LG.

PTVK410				
Item	① Ventilation kit	② Bolt	③ Bolt	④ Insulation
Q'ty	1	4	4	1
Figure	① 	② 	③ 	④ 

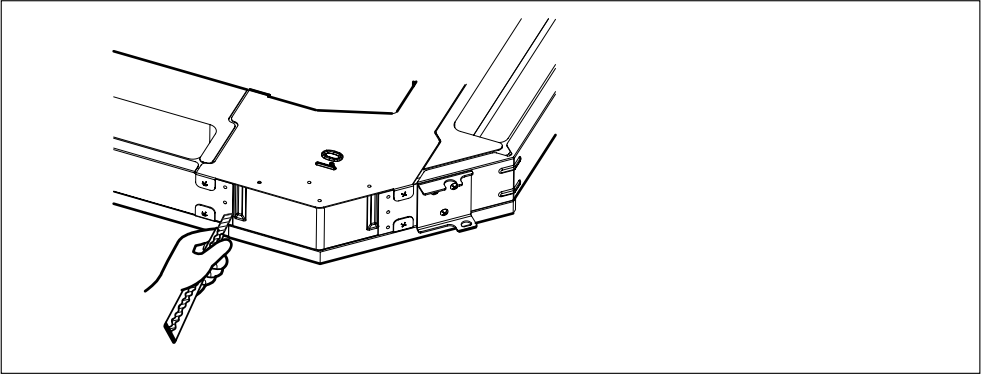
PTVK420		
Item	Flange	Screw
Q'ty	1	7
Figure	⑤ 	⑥  M4 x 10

3. Assembly Diagram



4. Ventilation Kit Installation (PTVK410)

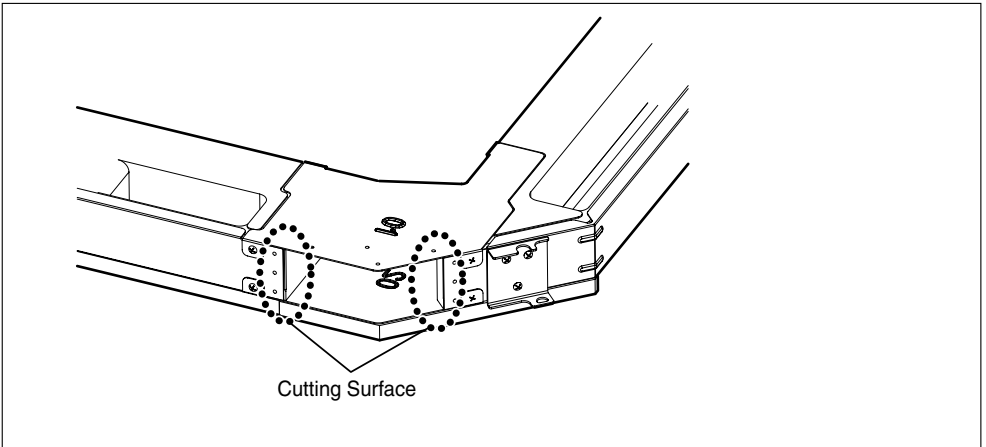
4.1 Cut the styrofoam's groove for ventilation kit⁽¹⁾



Caution

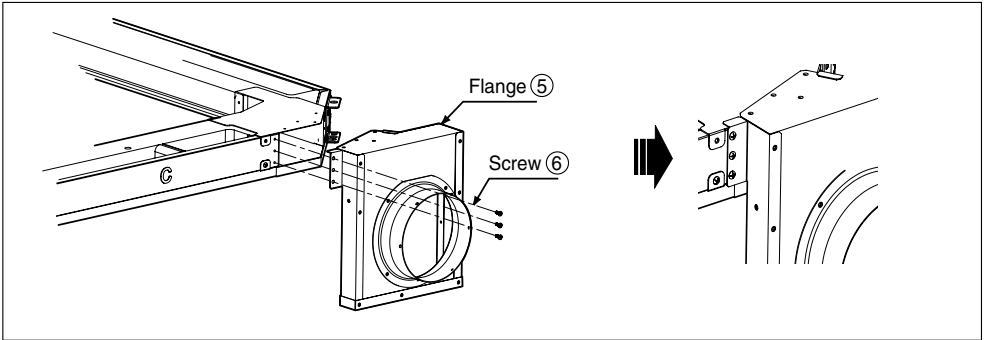
4-1 and 4-2 are intended to obtain the air inflow path for ventilation. If not used, do not cut the styrofoam.

4.2 Trim the cutting surface

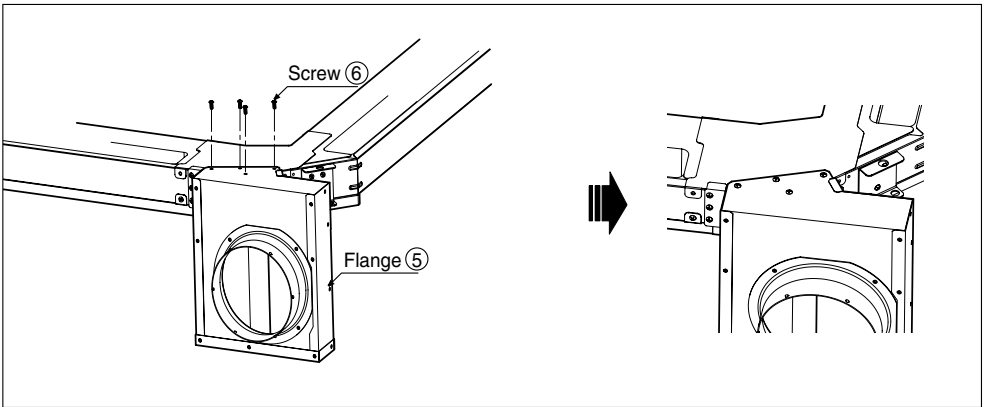


5. Flange Installation (PTVK420)

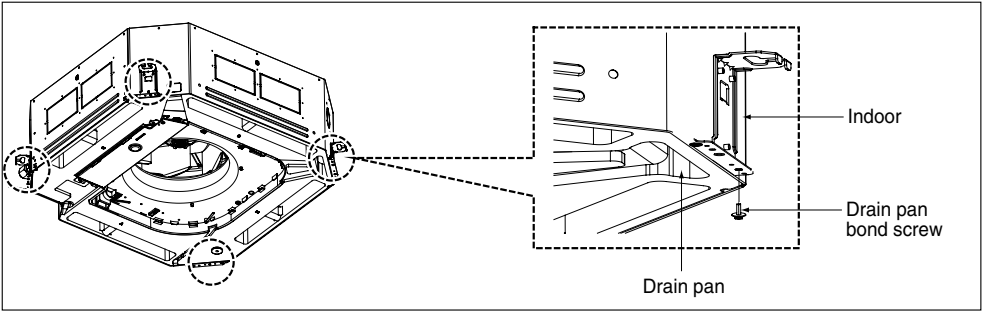
5-1. Use screws (⑥) to fix 3 points on the side of the flange (⑤).



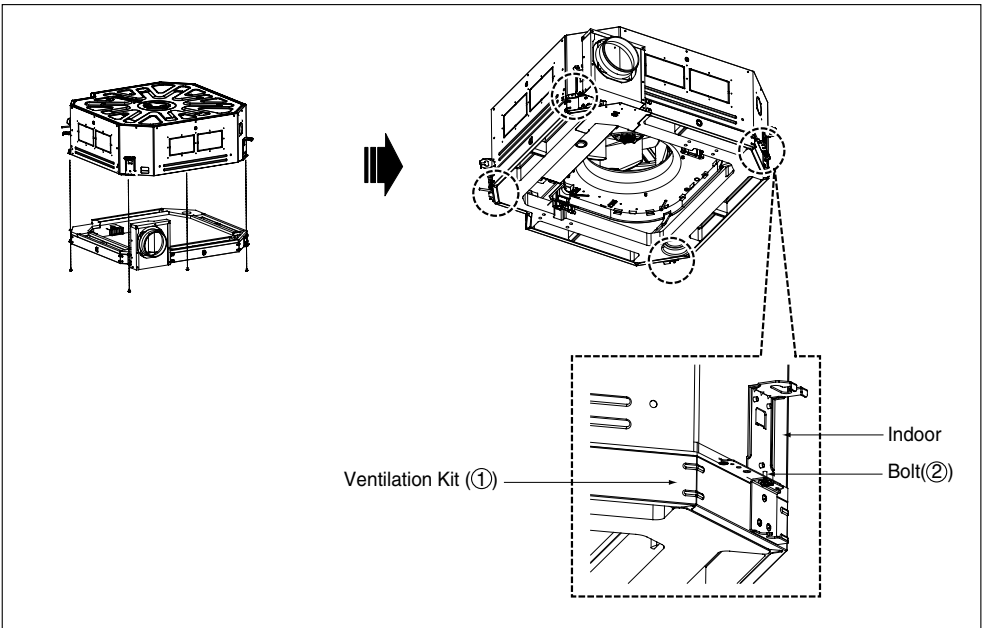
5-2. Use screws (⑥) to fix 4 points on the upper surface of the flange (⑤).



5-3. Remove four screws which bond drain pan.



5-4. Attach ventilation kit (①) to air conditioner with bolt (②)

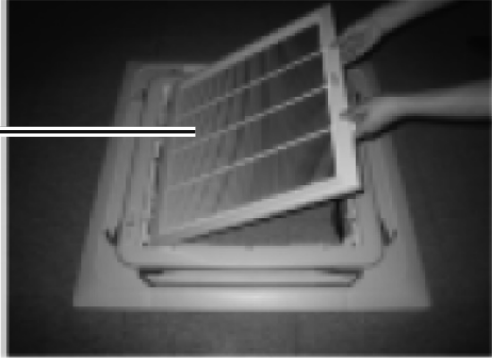


6. Front Panel Installation

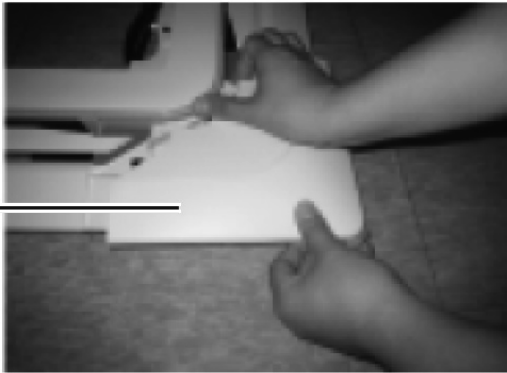
※ Part of this instruction is the same as the installation manual.

6-1. Disassemble the front panel packing and remove the front grill and checking edge cover from the front panel.

Front grill

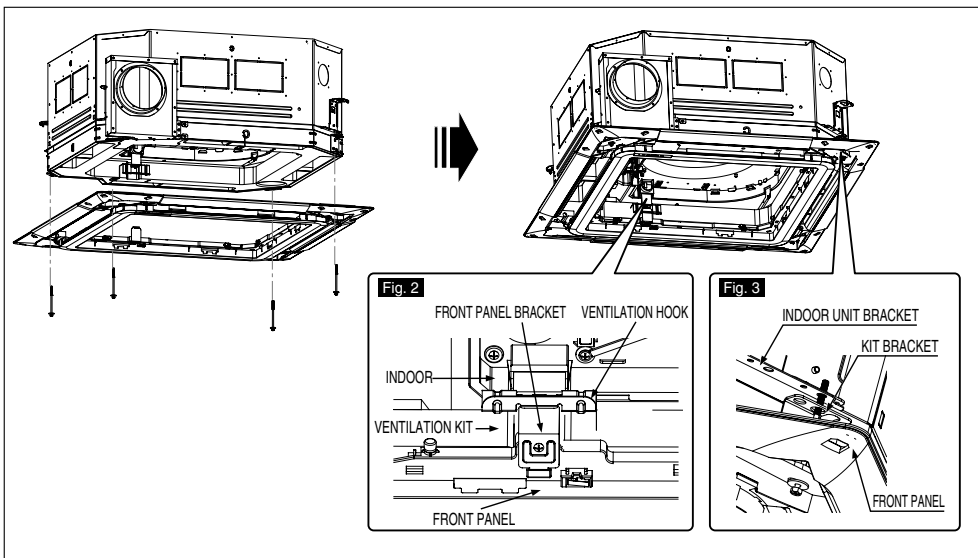


Edge cover



6-2. Attach the front panel to the assembly(① + ⑤ + ⑥ + indoor unit) and use bolt(②) to fix both the front panel and the assembly to the indoor unit.

When attaching, get the bracket of the front panel to the hanger of the ventilation kit(①).[Fig.2]
Be sure to assemble the bolts tightly, so that they are tightened to the upper part of the indoor unit. [Fig.3]



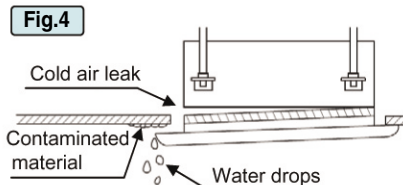
※ Front panel installation

Firstly, insert 1/3 of bolt (③) into 2 diagonal places. After checking the position with the ceiling, insert them into all of 4 places. Through the edge hole, adjust the ceiling fixing bolts to fit the ceiling and the front panel.



Caution

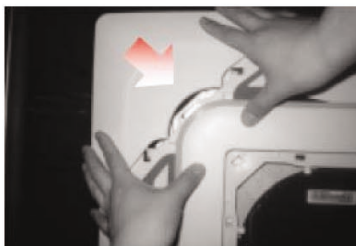
During above 6-2, the bolts(③) are only used for PTVK use the bolts in the front panel package box. For details, see the section of the front panel in the air conditioner installation manual. When the machine + ventilation kit + front panel are not closely assembled, cold air may leak and cooling/heating gets weak and water drops may fall. [Fig. 4]



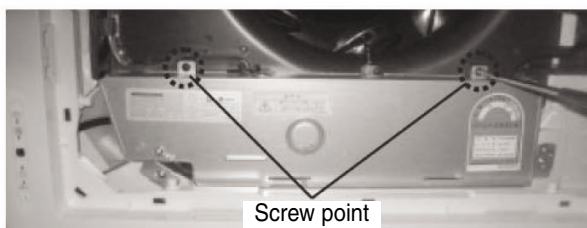
Warning

Be sure to completely mount the fixing hanger on the ventilation kit hanger, so that the front panel doesn't fall. If this isn't assembled completely, fall, injury and accident may occur.

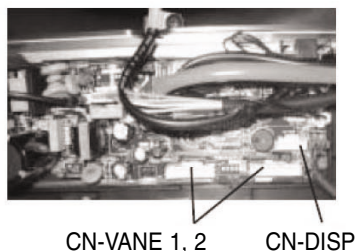
6-3. Close the checking edge.



6-4. Loosen 2 screws and open the cover of the control box. .



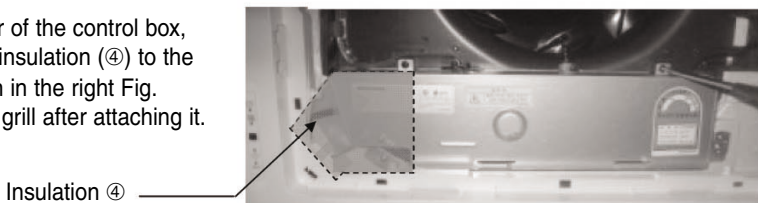
6-5. Connect 1 display connector connected to the front panel and 2 wind direction adjusters to the specified area of the indoor unit PCB.



Caution

- Be sure to check the wiring diagram on the control box cover and connect them.
- Display connector : CN-DISP
- Wind direction adjustment connector : CN-VANE 1, 2.

6-6. Close the cover of the control box, and attach the insulation (④) to the cover as shown in the right Fig. Close the front grill after attaching it.

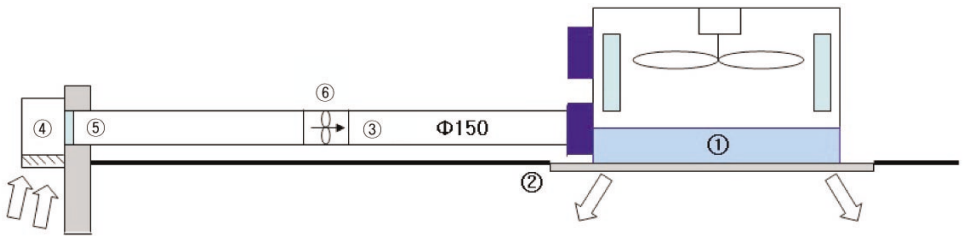


→ Attach to the upper part of the ventilation inflow inlet and the control box.



Warning

- When the insulation (④) isn't attached, water drops may gather in the control box and fall.
- When attaching and detaching the control box, attach it in the way that the insulation (④) isn't detached.



Supplies	①Ventilation Kit (PTVK410) ②Ventilation Kit connection flange (PTVK420)
Purchased items	③Duct ④Hood ⑤Filter ⑥Fan motor

1. Ventilation duct(③)

Diameter, Ø150 and length, 4m is the requirement and middle duct bending should be less than once. When using the duct not insulated(spiral, flat duct and etc.), the insulation should be done and the thickness of the insulation should be more than 13mm.





2. Ventilation fan motor(⑥)


The fan motor should have 160CMH of wind, and less than 1A of operation current at 15mmAq and should be installed in the middle of the duct(2m). (This measurement is based on the duct diameter, Ø150mm and length, 4m) Fan motor should be insulated or the insulation work should be done and the thickness of the insulation should be more than 13mm.

3. Filter(⑤)

Less than 4~5 Mesh recommended.

* Hood and ventilation fan motor, filter and duct should be purchased and installed by a user(an installer).

 <p>Caution</p>	<ol style="list-style-type: none"> 1. All the components of the duct should be precisely insulated and when connecting between each component, sealing must be done precisely. 2. The outdoor duct should be installed to bend downward to outdoor, so that rainfalls couldn't come in. (The inclination should be 1/100 to 1/50) 3. To prevent small animals like birds, mice and etc. or insects, please install net to the outdoor air inflow inlet. 4. When the metal duct penetrates the wooden wall, please electrically insulate between duct and the wall. (Please install plastic sleeve and etc. to insulate.) 5. Consider surroundings since the contaminated substances and bad smell from outside may come inside through the duct. 6. When installing the duct, do not install as below. <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>1) To bend the duct excessively</p>  </div> <div style="text-align: center;"> <p>2) To bend the duct too many times</p>  </div> <div style="text-align: center;"> <p>3) To reduce the duct diameter</p>  </div> </div>
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 <p>Warning</p>	<ul style="list-style-type: none"> • If a wrong fan motor was chosen, decrease of ventilation, damage to the machine and fire may occur. • Be sure to use the fan motor with the safety certification specification.
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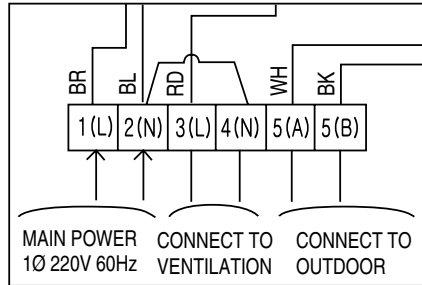
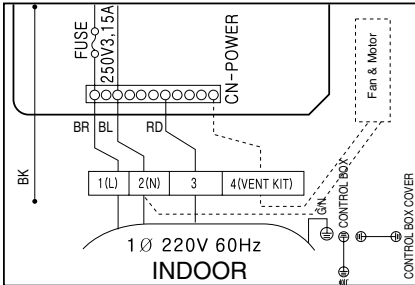
7. Electrical Wiring To The Indoor Unit

7-1. The wiring of the fan motor should be done as below to connect to the indoor unit terminal.

7-2. The wire of the fan motor shouldn't be exposed. (Use CD pipe and etc. to protect the wire.)

① CST Single machine : Connect to 2, 4

② Multi V machine : Connect to 3, 4



Warning

- When the wire is exposed, the malfunction of the machine and fire may occur due to damage to the wire.
- Wrong wiring may cause damage to the machine, malfunction and fire.

※ For setting the ventilation mode of the CST remote controller, please refer to the user manual.

