

INSTALLATION MANUAL

MODELS

Wall-mounted type

PNV 007 PNV 015


PNV 009 PNV 018


PNV 012 PNV 021



SAFETY PRECAUTIONS

- Read the following "SAFETY PRECAUTIONS" carefully before installation.
- Carry out test running to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated in instructions. Please remind the customer to keep the operating instructions for future reference.

 WARNING	This indication shows the possibility of causing death or serious injury.
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 CAUTION	This indication shows the possibility of causing harm or damage the equipment.
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WARNING

- 1) Use qualified installer and follow carefully this instructions. Otherwise it will cause electrical shock, water leakage, or esthetic problem.
- 2) Install at a strong and firm location which is able to withstand the set's weight. If the strength is not enough or installation is not properly done, the set will drop and cause injury.
- 3) For electrical work, follow the local national wiring standard, regulation and this installation instruction. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.
- 4) Use the specified cable and connect tightly for indoor connection. Connect tightly and clamp the cable so that no external force will be acted on the terminal. If connection or fixing is not perfect, it will cause heat-up or fire at the connection.
- 5) Wire routing must be properly arranged so that control board cover is fixed properly. If control board cover is not fixed perfectly, it will cause heat-up at connection point of terminal, fire or electrical shock.
- 6) When carrying out piping connection, take care not to let air substances other than the specified refrigerant go into refrigeration cycle. Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle, explosion and injury.
- 7) Do not damage or use unspecified power supply cord. Otherwise, it will cause fire or electrical shock.
- 8) This equipment must be earthed. It may cause electrical shock if the grounding is not perfect.
- 9) Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.

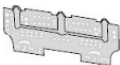


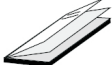
CAUTION

- 1) Selection of the installation location.
Select a installation location which is rigid and strong enough to support or hold the unit, and select a location for easy maintenance.
- 2) Do not release refrigerant.
Do not release refrigerant during piping work for installation, reinstallation and during repairing a refrigeration parts. Take care of the liquid refrigerant. it may cause frostbite.
- 3) It may need two people to carry out the installation work.
- 4) Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.
- 5) Carry out drainage pipes as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture.

Required tools for Installation

NO.	TOOI	NO.	TOOI.
1	Screw driver	7	Knife
2	Electric drill, hole core drill (60 mm)	8	Measuring tape
3	Hexagonal wrench	9	Torque wrench
4	Spanner		
5	Pipe cutter		
6	Reamer		

Attached accessories

No.	Accessories part	Qty.
1	Mounting plate 	1
2	Air purifying filter (optional) 	1
3	Swrews washer dowels 	4
4	Unit operation manual Installation manual 	1

1

SELECT THE BEST LOCATION

- There should not be any heat source or steam near the unit.
- There should not be any obstacles blocking the air circulation.
- A place where air circulation in the room is good.
- A place where drainage can be easily done.
- Do not install the unit near the door way.
- Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.(Fig 1)
- The appliance shall be installed over 2.3m high.

2

HOW TO FIX INSTALLATION PLATE

- The mounting wall is strong and solid enough to prevent it from the vibration.
 - The edge of installation carton board should be at more than 50mm at right and left of the wall.
1. Locate the mounting plate on the wall in a horizontal position.
 2. Mark the position of the four mounting holes on the wall and drill four holes to accommodate the dowels.
 3. Mount the mounting plate on the wall by the four screws. Ensure screws are tightened properly.
 4. Mark the location of the piping hole on either side of the mounting plate as shown.
 5. The piping hole is drilled at a 5° down-ward angle to prevent condensed or rain water from penetrating back into the room.
 6. Trim the hole in the wall with a 70mm commercial plastic tube.

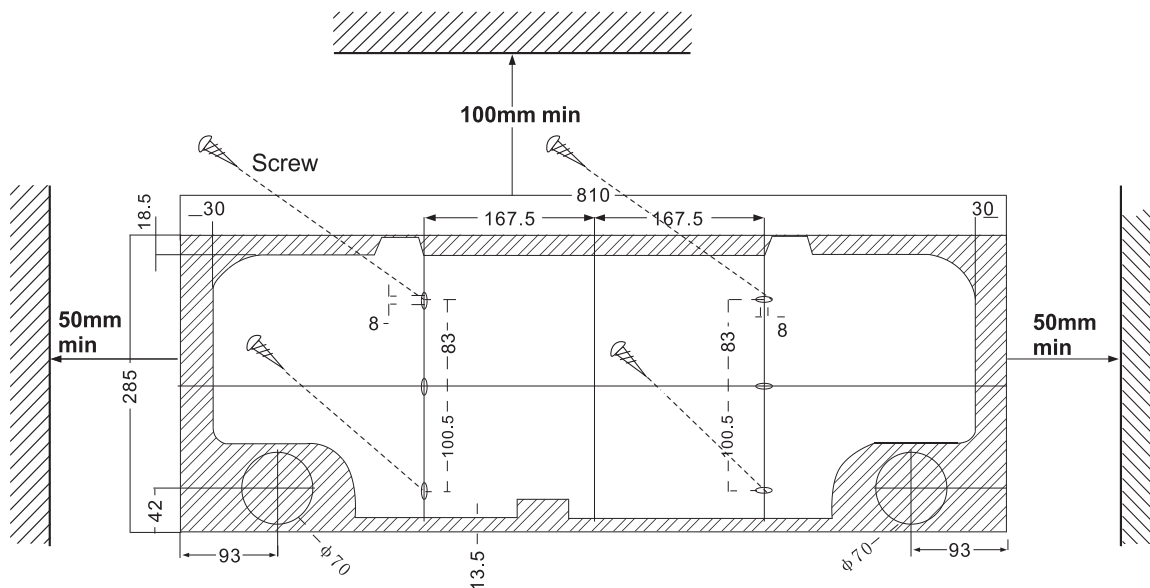
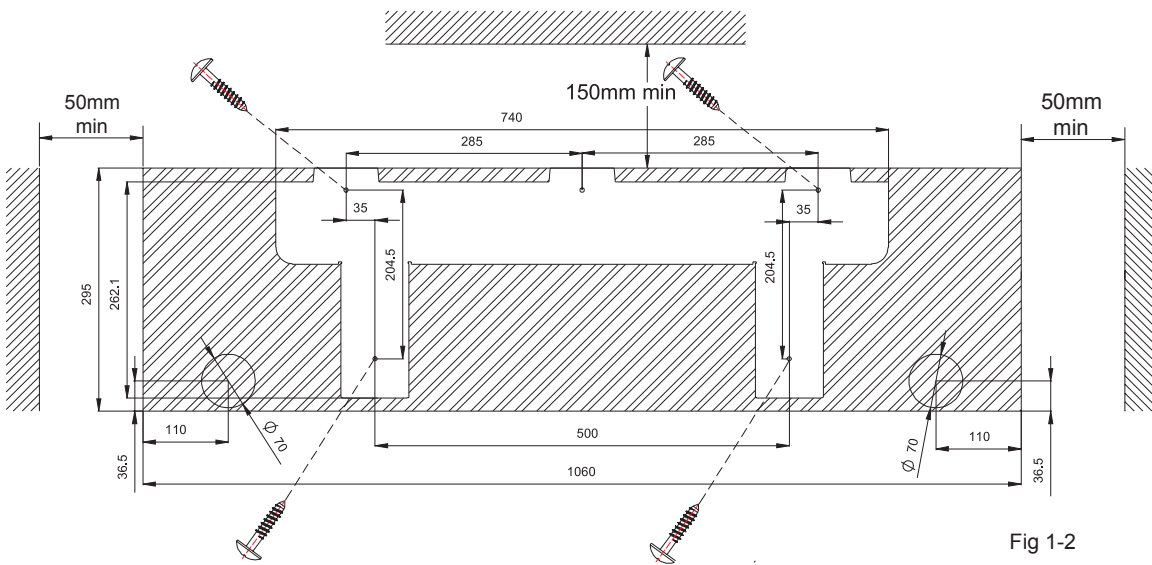


Fig 1-1

PNV 007
PNV 009
PNV 012



PNV 015
PNV 018
PNV 021

Fig 1-2

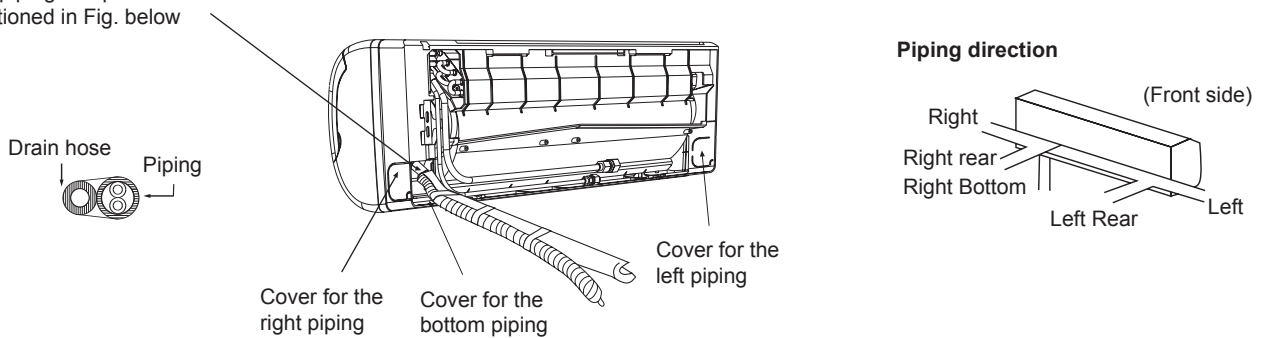
3 UNIT INSTALLATION

Unit offers five directions for installing refrigerant pipe, please installing the unit according to following installation:

1. Knockout hole and pull out the pipes.
2. Install the unit to wall.
3. Secure the unit.
4. Purifying filter installation (optional).
5. Check the drainage.

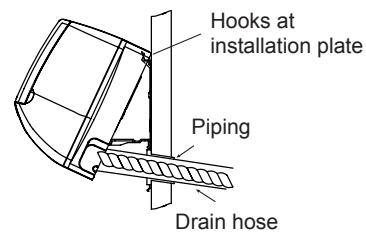
Pull out the piping and hose

Move the drain hose near to arrow mark and tape it with piping in a position as mentioned in Fig. below




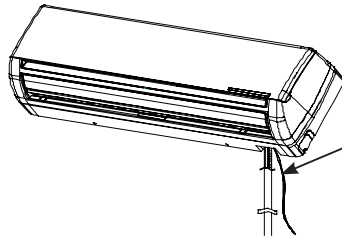
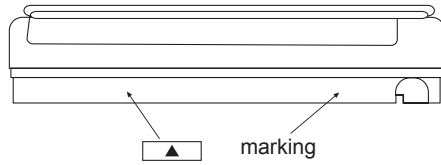
Install the Indoor Unit

1. Hook the indoor unit onto the upper portion of installation plate (Engage the indoor unit with the upper edge of the installation plate). ensure the hooks are properly seated on the installation plate by moving in left and right.
2. Used the installation support that assemble to the unit housing to support the indoor unit in a angle about 25°, then connected the piping and power supply cord.



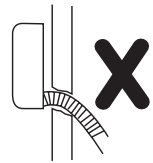
Install the Indoor Unit(Continue)

To take out the unit, pull the  marking at the bottom unit, and pull it slightly towards you to disengage the hooks from the unit.



- 1 Bend the pipe as closely on the wall as possible, but be careful that it doesn't break.
- 2 Do not wiring the power wire and communication wire together.

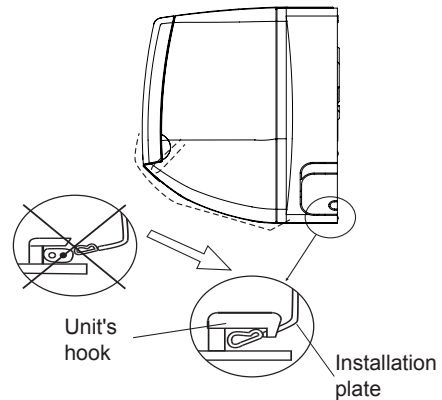
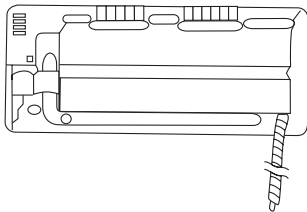
Attention not to bend up drain hose



Secure the Indoor Unit

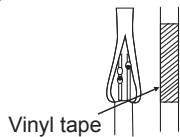
1. Tape the extra connecting cable in a bundle and keep it behind the chassis. Ensure that the connecting cable is not clamped in between the unit's hook (2 positions) and installation plate.
2. Press the lower left and right side of the unit against the installation plate until hooks engages with their slots (sound click).

Rear view

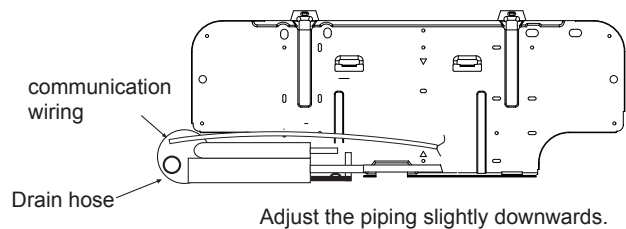


Insulation of piping connections

- Carry out insulation after checking for gas leaks and secure with vinyl tape.

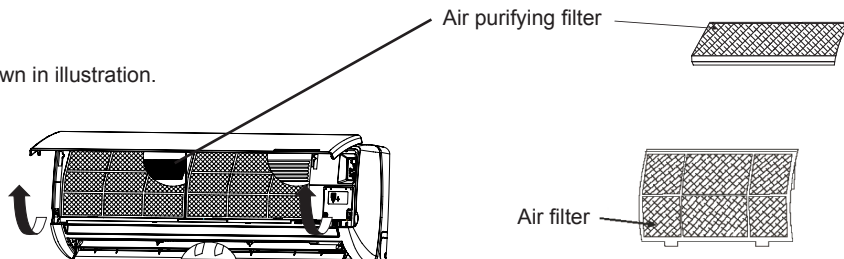


Collaborate the piping



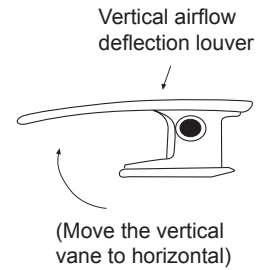
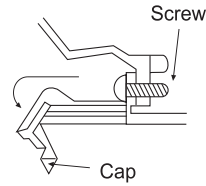
Purifying filter installation (optional)

1. Open the grille.
2. Remove the air filters.
3. Put air purifying filter into place as shown in illustration.



How to take out front grille

- Please follow the steps below to take out front grille if necessary during servicing.
1. Set the vertical airflow direction louver to the horizontal position.
 2. Slide down the two caps of PNV 007/009/012 on the front grille as shown in the illustration at right, then remove the two mounting screws. (If the unit is PNV015/018/021, it has three caps).
 3. Pull the lower section of the front grille towards you to remove the front grille.

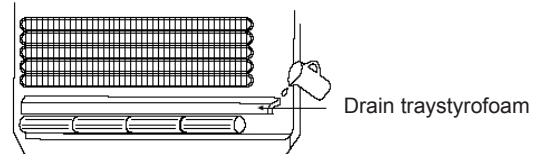


Connect the drainage pipe

1. Use standard hard PVC pipe (19mm) for the drain pipe.
2. Use the drain hose to change the direction.
3. Insert the drain hose until it connects the drain port very well, and then secure it tightly with the hose clamp.
4. After checking the drainage, wrap the drain hose with the insulation and clamps.

Check the drainage

1. Open front panel and remove air filters. (Drainage checking can be carried out without removing the front grill).
2. Pour a glass of water into the drain tray-styrofoam.
3. Ensure that water flows out from drain hose of the indoor unit.



Height Compensation Setting

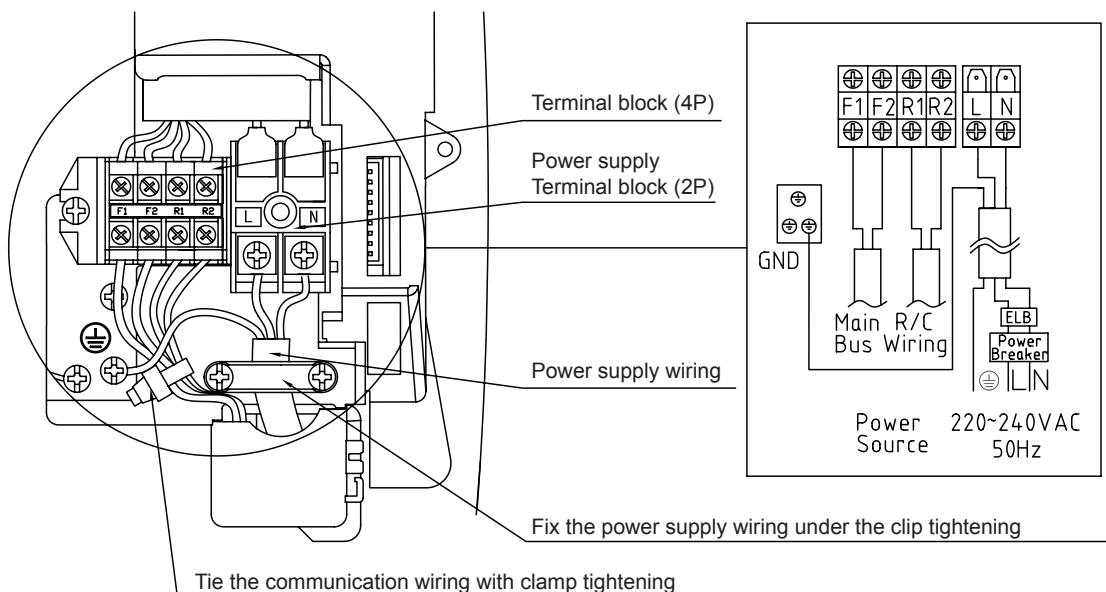
The Compensation setting according to installation height can be done by using the dip switch 11 and 12 on controller PCB.

Installation Height	Height Code	DS11	DS12
2.3-2.7(m)	H0	OFF	OFF
2.7-3.1(m)	H1	OFF	ON
3.1-3.5(m)	H2	ON	OFF
>3.5(m)	H3	ON	ON

Note

1. Please disconnect the unit from power supply when change these settings.
2. If you feel too noisy, please set DS11 and DS12 to lower height code level.

4 ELECTRICAL WIRING CONNECTION



Power supply wiring

1. Unscrew and remove the service lid.
2. Connect the power supply wiring to the power supply terminal block.
3. When doing this, press the power supply wiring under the wire clip tightly.

NOTE: For how to connect the power wire and communication wire between outdoor unit and indoor units, please refer to chapter 9 "Field Wiring" in outdoor unit installation manual.

Mainbus and R/C communication wiring

1. Unscrew and remove the service lid.
2. Connect the R/C wirings to R1,R2 terminal block and the mainbus wirings to F1,F2 terminal block.
3. Press the wirings under the wire clip tightly.

Tightening to torque for the terminal screws

1. Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
2. If the terminal screws are tightened too hard, screws might be damaged.
3. Refer to the table below for the tightening torque of the terminal screws.

Terminal	Size	Tightening torque
Remote controller, Transmission wiring and forced off terminal block(4P)	M3.5	0.8~1.0N.m
Power supply and Ground terminal block(3P)	M4	1.2~1.5N.m

Electrical characteristic

Unit			Power supply		Fan motor	
Model	Hz	Volts	MCA	MFA	KW	FLA
LEV22	50	220~240	0.23	16	0.02	0.06
LEV28			0.23	16	0.02	0.06
LEV36			0.23	16	0.02	0.06
LEV45			0.23	16	0.02	0.07
LEV56			0.23	16	0.02	0.07
LEV63			0.23	16	0.02	0.07

MCA : Min. Circuit Amps (A)
MFA : Max. Fuse Amps(A)
KW : Fan Motor Rated output(KW)
FLA : Full Load Amps(A)

Specifications for field supplied ELB and wire

Model	Power supply wiring		Remote controller wiring communication wiring	
	Field ELB	Wire and Size	Wire	Size
PNV007	16A	Must comply with maximum current and local codes($\geq 0.75\text{mm}^2$)	Twisted-pairwires	$\geq 1.0\text{mm}^2$
PNV009				
PNV012				
PNV015				
PNV018				
PNV021				

- All field supplied parts and materials and electric works must conform to local codes.
- Use copper wire only.
- All wiring must be performed by an authorized electrician.
- Every indoor unit must have a sub circuit breaker and the whole system must have a main circuit breaker.
- Be sure to ground the air conditioner.
- The appliance shall be installed in accordance with national wiring regulations, and shall be provided to ensure all-pole disconnection from the supply mains, and distance between the poles shall be more than 3 mm .

NOTE: For the piping and wiring methods, leakage test, vacuum process and installation setting through HMI, please refer to "Outdoor unit Installation Manual".

CHECK ITEMS

BEFORE POWER ON

- Is there any gas leakage at flare nut connections?
- Has the heat insulation been carried out at flare nut connection?
- Is the connecting cable being fixed to terminal board firmly? Is the connecting cable being clamped firmly?
- Is the drainage ok?
- (Refer to "Check the drainage" section)
- Is the earth wire connection properly done?
- Is the indoor unit properly hooked to the installation plate?
- Is the power supply voltage complied with rated value?

AFTER POWER ON

- Is there any abnormal sound?
- Is the cooling operation normal?
- Is the thermostat operation normal?
- Is the remote control's LCD operation normal?