

Mitsubishi Lossnay Ventilator

MODEL

VL-50S2-E (pull cord type)

VL-50ES2-E (wall switch type)

Installation Manual

For Dealer and Contractor

Please ensure that the separate “Operating Instructions” are handed over to the customer. Please ensure that it is delivered to the customer.

- Proper installation is necessary for the Lossnay to perform at full potential and to ensure safety. Before proceeding with the installation work, be sure to read through these instructions.
- The installation work must be done by an authorized dealer or qualified contractor. Errors in installation can lead to breakdowns and accidents.
- Installation by the customer can lead to breakdowns and accidents.
- Electrical work must be done by a qualified and licensed electrician employed by the dealer or contractor.
- The VL-50S2-E has a built-in plug and requires only a simple plug-in to an electrical outlet. Accordingly, no electrical work by a qualified and licensed electrician is necessary.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or a similarly qualified persons in order to avoid a hazard. (VL-50S2-E only)

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The explanation in this Installation Manual is mainly for horizontal mounting of the product but the unit can be mounted vertically as well.

1. Safety precautions

Hazards created by mishandling and their severity are indicated by the following markers.

Warning:

This applies to mishandling or misoperation of the product which could lead to a fatal or serious injury.

Caution:

This applies to mishandling or misoperation of the product which will lead to an injury or damage to your home, household effects, etc.

Warning



- Do not install the unit in excessively hot areas (40°C or more), near open flames, in areas prone to oily smoke, or where it could come in contact with organic solvents.
- Fire could result.



- Do not disassemble the unit more than necessary or modify it.
- Fire, electric shock or injury could result.



- Do not let the unit get wet.
- Fire or electric shock could result.


Cannot be
installed in a
bathroom


You must
follow the
instructions
given.

- **Do not install the unit and wall switch in a bathroom or other highly humid location.**
 - Electric shock or short circuits could result.
- **Use at the rated voltage.**
 - Fire or electric shock could result.
- **Make sure the outside air intake opening is positioned so that it will not take in combustion gases or other exhaust. Position the unit so that it will not become covered with snow.**
 - If intake air is not fresh, oxygen could become depleted in the room.
- **Install the unit securely to a sufficiently strong wall surface.**
 - Injuries could result if the unit falls.
- **Connect wires securely to terminal block connections so they do not come out.*1**
 - Poor connections could result in fire.
- **Electrical work must be done by an electrical contractor (a licensed electrician) in accordance with the technical standards of the equipment and local regulations to ensure safety.**
 - Bad wiring and mistakes in electrical work could result in electric shocks or fire.
- **Install an all-pole power supply isolator at the power supply side as per local electrical regulations. All supply circuits must be disconnected before obtaining access to the terminal devices. Use the specified cable size and connect the cables securely to prevent disconnection when they are pulled.**
 - If there is a defect in the connection, there is a possibility of fire.
- **Be sure to shut off circuit breakers or remove the power plug from the wall outlet if the Lossnay will not be used for a long period after installation.**
 - Failure to do so could result in electric shock from deteriorated insulation, or fire from a short circuit.

- **Always place a cover on the terminal block after construction work is complete.*1**
 - Dust, humidity and the like could cause short circuits or fire.

Caution


Prohibited


You must
follow the
instructions
given.

- **Install the unit only on a wall. Do not install it on a ceiling.**
 - Injury could result if the unit falls.
- **Wear gloves when attaching the unit.**
 - Failure to wear gloves could result in injury.
- **Attach the air supply/exhaust pipe in a downward slope toward the outdoor side and make sure to apply thermal insulation treatment.**
 - Rainwater entering the unit could result in electric shock, fire or indoor items getting wet.
- **Make sure to perform drain discharge in accordance with the Installation Manual.**
 - Failure to heed this warning could cause electric shock/fire or water damage to household property due to water leaks.
- **Install the provided weather covers.**
 - Rainwater entering the unit could result in electric shock, fire or indoor items getting wet.
- **To prevent freezing or damage to the Lossnay Core, stop the unit if the outside temperature falls below -20°C and the room's humidity rises above 40%.**

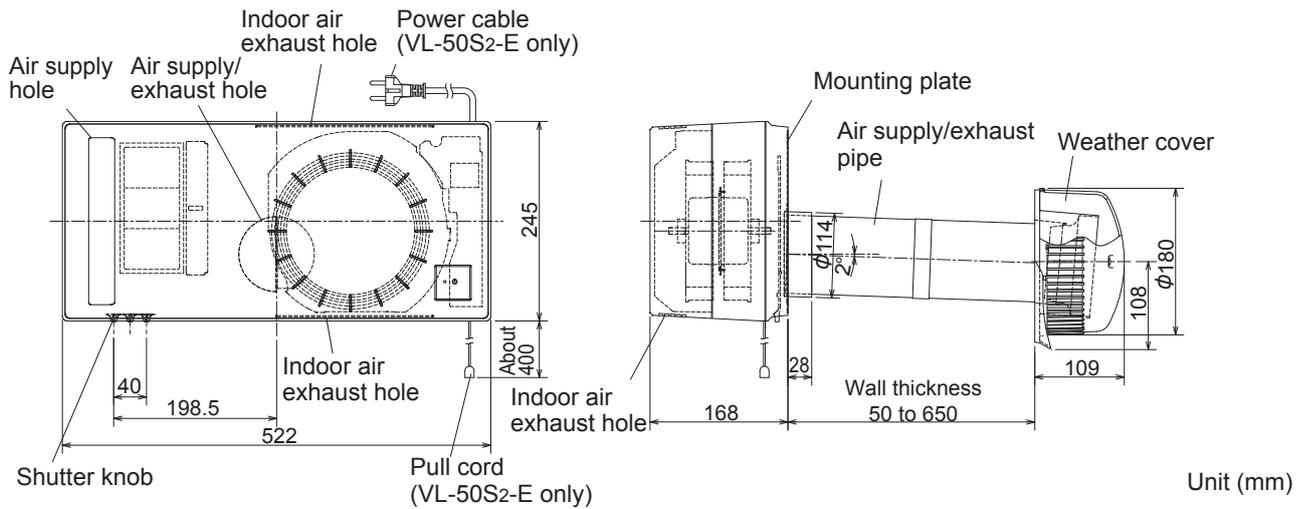
*1: VL-50ES2-E only.

Note

- **In mid-rise and high-rise buildings or in coastal and other areas prone to strong winds, wind could blow into the unit when it is not operating. Install the Lossnay where it will not be directly subject to wind.**
- **Do not use the Lossnay in areas prone to damage from salt or hot springs.**

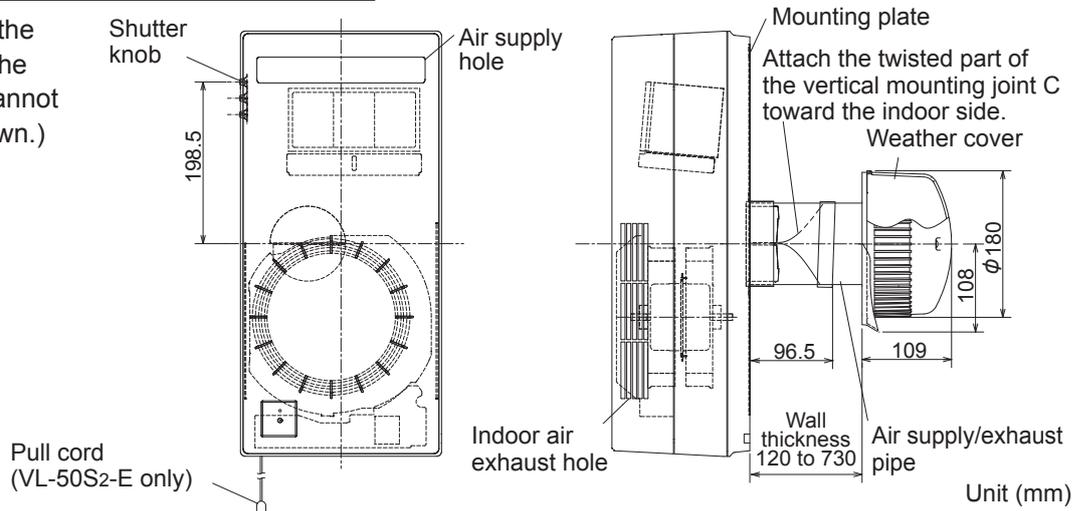
2. Dimensional outline drawing

For horizontal mounting

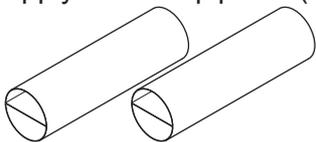
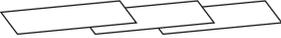


For vertical mounting

* For vertical mounting, the display part comes to the lower side. (The unit cannot be mounted upside down.)



3. List of included parts

Pipe mounting plate (1) Packing (1) 	Air supply/exhaust pipes A (2) 	Weather cover (1) Hood fixing screws (2) 
Vertical mounting joint C (1) 	Joint pipe B (1) 	Weather cover mounting plate (1) 
Aluminium tapes (large) (3) 	Aluminium tapes (small) (1) 	
Wood screws (6) (for attaching the mounting plate) 	Unit mounting screws (5) * A screwdriver with an axis length of 150 mm or longer is required. 	

4. Before installation

1. Remove the mounting plate.

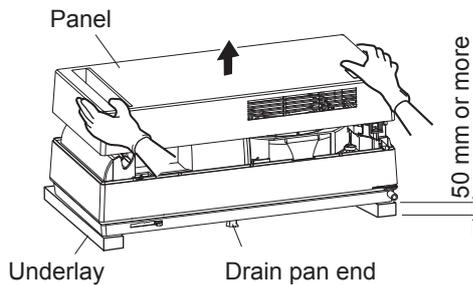
Remove the tape on the back of the unit and then remove the mounting plate.

- In order to protect the drain pan end, lay the underlay as shown in the figure below. (Use a package pad.)
- To prevent scratching of the unit, lay down a material such as cardboard.

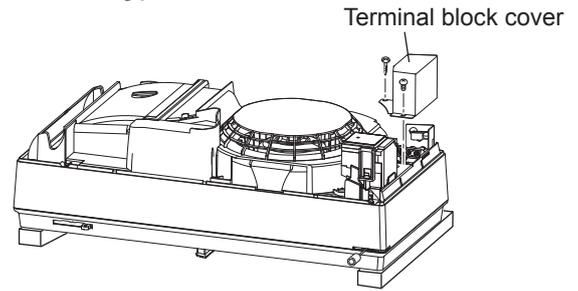
2. Remove the panel.

As shown in the figure below, hold both ends of the panel and pull toward you.

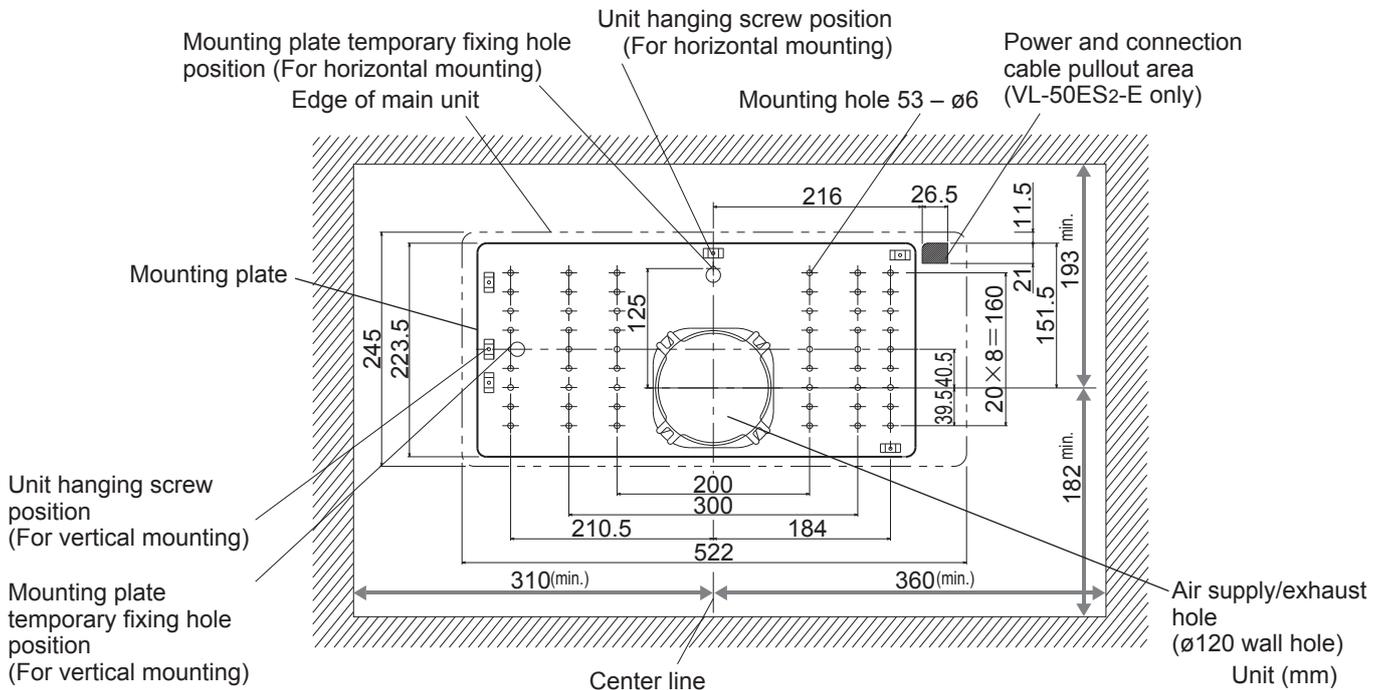
- After removing the panel, make sure screws or other items do not get inside the unit.



3. Remove the terminal block cover (VL-50ES2-E only)



■ Mounting position diagram (seen from inside)

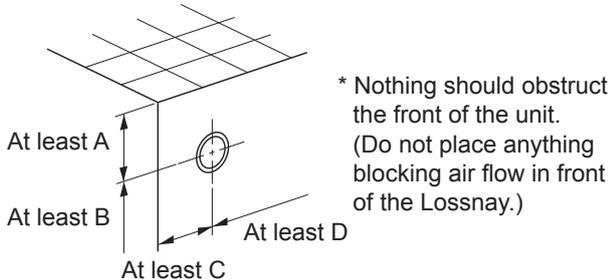


5. Mounting instructions

5.1. Wall-hole construction

5.1.1. Determine the installation position.

1. Check the necessary space distance.



	Unit (mm)			
	A	B	C	D
Horizontal mounting	193	182	310	360
Vertical mounting	310	360	182	193

- Check the position so that unpleasant odors are not picked up from outside.
- Check that the reinforcement (inside wall) is positioned properly to secure the mounting plate. (If there is no reinforcement, build in a supporting structure.)
- Maintenance cannot be performed if the required dimensions are not followed.

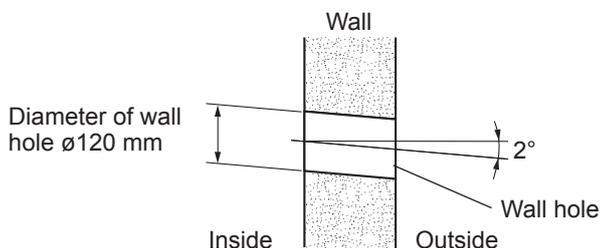
2. Mark the center of the wall hole position.

Note

- **Make sure that the mounting surface of the mounting plate is flat.**
- If it is not, Lossnay operation could generate noise or the shutter could not operate properly.

5.1.2. Drill the wall hole.

Drill the wall hole of $\phi 120$ mm.



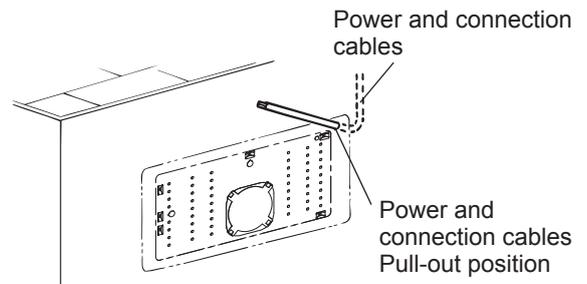
Note

- **Make the holes so they slope down as they exit the outside wall.**
- This is necessary to prevent the infiltration of rainwater.

5.1.3. Pull out the power and connection cables.

For VL-50ES2-E only

1. Determine the power and connection cable pull-out location and make a hole. (See the mounting position diagram on page 4.)
2. Pull out the power and connection cables on the indoor side.



Note

- **For VL-50S2-E, attach a power outlet within the range where the power plug can be connected (the effective cable length is about 3 m).**

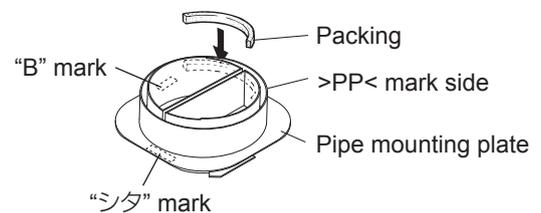
5.2. Preparation before installation

5.2.1. For horizontal mounting

1. Attach the packing to the pipe mounting plate.

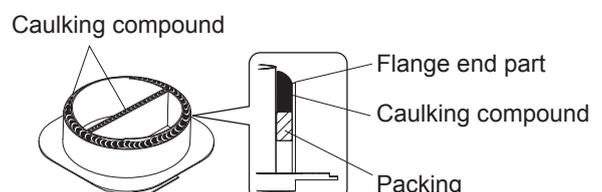
Put the packing (included in the package) in the groove of the pipe connection side of the pipe mounting plate.

- This packing is used to provide a slope to the pipe. Therefore, put the packing at the >PP< mark side.



2. Apply caulking compound.

Apply caulking compound on the pipe mounting plate.

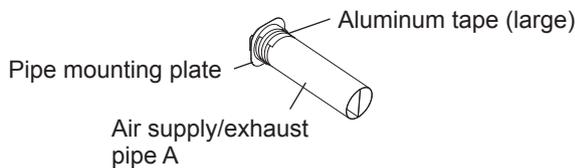


Note

- Apply caulking higher than the flange end.
- Without caulking, rainwater comes in.
- Before caulking hardens, proceed to the next procedure.

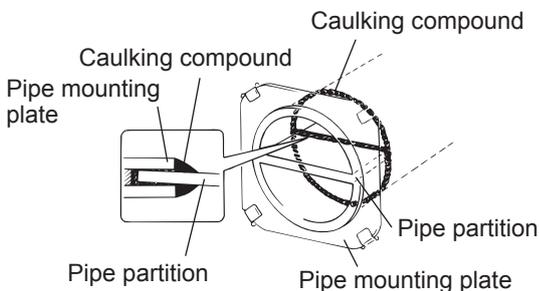
3. Attach the pipe mounting plate to the air supply/exhaust pipe A.

- Make sure to insert the air supply/exhaust pipe A deeply to the groove of the pipe mounting plate.
- Use the included aluminum tape (large) to wrap around the connection section between the pipe mounting plate and air supply/exhaust pipe A to properly secure it. If it is not properly secured, drain water may leak.



4. Apply caulking between the pipe mounting plate and pipe connection section.

Apply caulking on the connection section between the pipe mounting plate and air supply/exhaust pipe from inside.

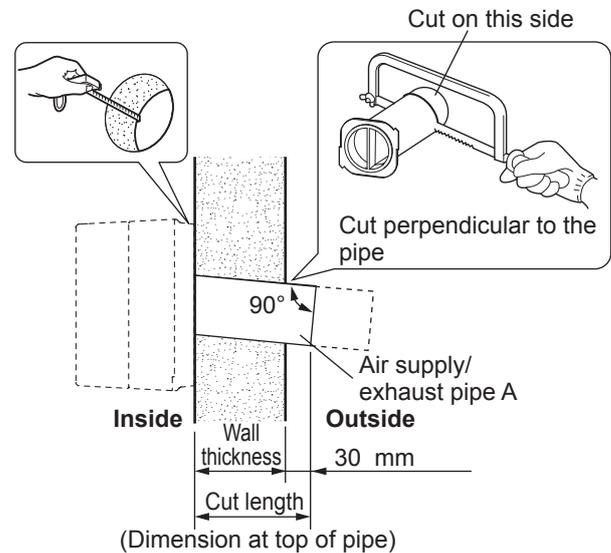


Note

- Without caulking, rainwater comes in.
- After applying the caulking compound, flatten the surface.
- Do not apply caulking compound thicker than the pipe mounting plate. (Otherwise, drain water is not discharged.)

5. Cutting air supply/exhaust pipes

Measure the wall thickness. (If the wall is more than 300 mm thick, use the provided air supply/exhaust pipe B). (See page 3, section 3, for mounting instructions.)

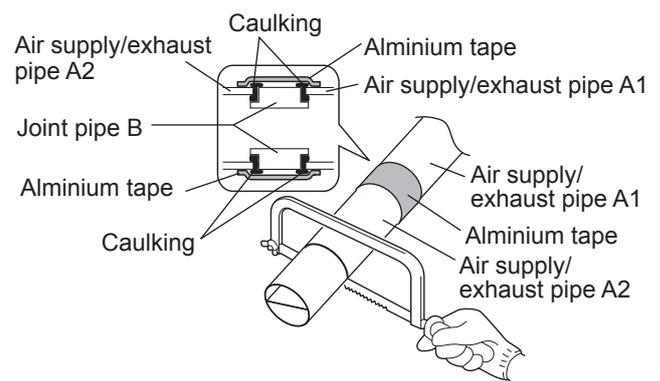


Note

- Check that each air supply/exhaust pipe A catches on all four prongs of its pipe mounting plate. (If a prong has not caught, the pipe will press against the back of the Lossnay unit and the shutter may not operate properly.)

6. If the wall is more than 300 mm thick

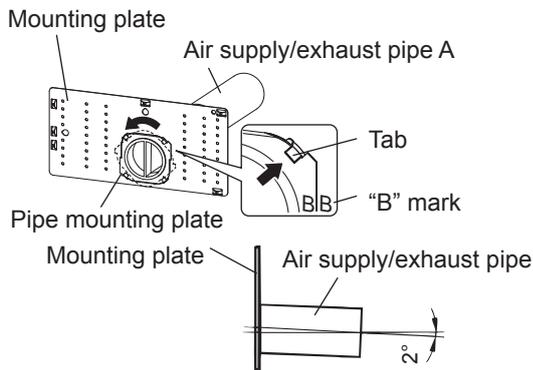
Cut air supply/exhaust pipes A2 in keeping with the cutting dimensions of step 2 (wall thickness + 30 mm).



7. Secure the air supply/exhaust pipe to the mounting plate.

- Insert the air supply/exhaust pipe A to the mounting plate.
- Turn the pipe counterclockwise to hook the pipe mounting plate with the tab.

- (c) Check that the air supply/exhaust pipe A is downward toward the outdoor side, as shown in the following figure.

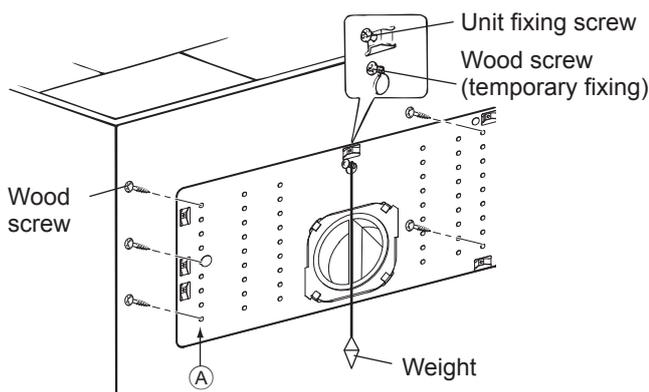


Note

- Check that all four tabs catch the flange. (Otherwise, the back of the product is pushed, causing shutter operation failure.)
- Attach the pipe in such a way that the "B" mark on the mounting plate matches the "B" mark on the flange part.
- If the air supply/exhaust pipe is not downward slanted, drain water may reflux or rainwater may come in.

8. Attach the mounting plate.

- (a) Put the air supply/exhaust pipe through the wall hole.
- (b) Use one wood screw to temporarily secure the mounting plate. (Tighten the screw at the end.)
- (c) Attach one unit fixing screw to the mounting plate for hanging the unit.
- (d) Hang a weight and check the level of the mounting plate (slope within 1°). (If the unit is inclined, water may spill from the drain pan.)
- (e) Use four wood screws to secure the mounting plate to the position where reinforcement is provided inside the wall.
- (f) Use a wood screw to secure the center of line ①



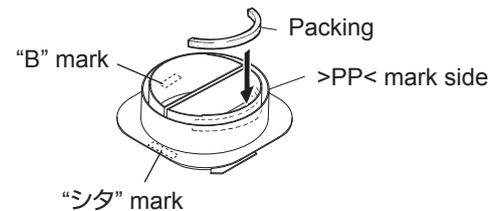
Note

- Secure the plate in an even position at the four corners.
- For a concrete wall, use concrete screws (commercially available) to secure the plate.
- Accurately find the position between the power and connection cable takeout position and the mounting plate position. (If the position of the mounting plate is displaced, the power and connection cable takeout hole will protrude from the unit.)

5.2.2. For vertical mounting

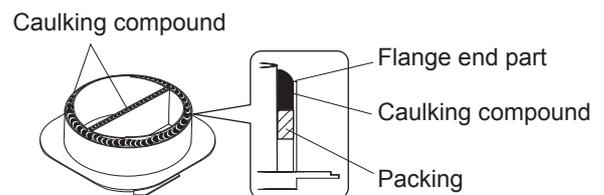
1. Attach the packing to the pipe mounting plate.

- Put the packing (included in the package) in the groove of the pipe connection side of the pipe mounting plate.
- This packing is used to provide a slope to the pipe.



2. Apply caulking compound.

- Apply caulking compound on the pipe mounting plate.



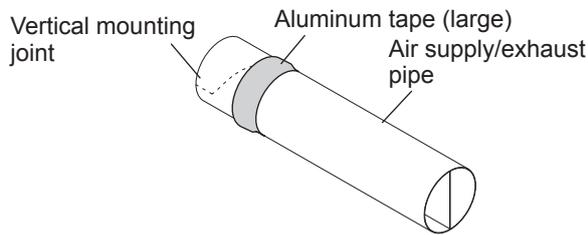
Note

- Apply caulking higher than the flange end.
- Without caulking, rainwater comes in.
- Before caulking hardens, proceed to the next procedure.

3. Attach the vertical mounting joint C to the air supply/exhaust pipe.

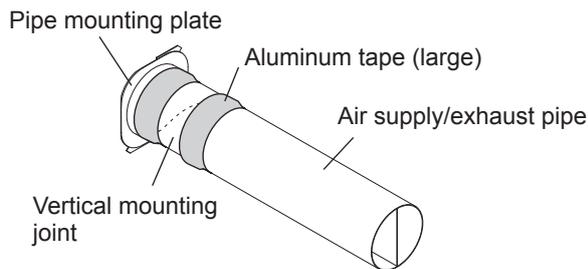
- (a) Attach the vertical mounting joint C to the air supply/exhaust pipe to apply caulking.
- (b) Use the included aluminum tape (large) to

wrap around the connection section between the vertical mounting joint C and air supply/exhaust pipe to properly secure it. If it is not properly secured, drain water may leak.



4. Attach the pipe mounting plate to the air supply/exhaust pipe.

- Make sure to insert the air supply/exhaust pipe deeply to the groove of the pipe mounting plate.
- Use the included aluminum tape (large) to wrap around the connection section between the pipe mounting plate and air supply/exhaust pipe to properly secure it. If it is not properly secured, drain water may leak.

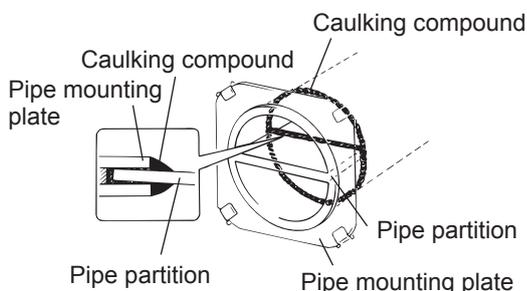


Note

- Always insert in such a way that the vertical mounting joint comes to the indoor side.

5. Apply caulking between the pipe mounting plate and pipe connection section.

Apply caulking to the connection section between the pipe mounting plate and air supply/exhaust pipe from inside.



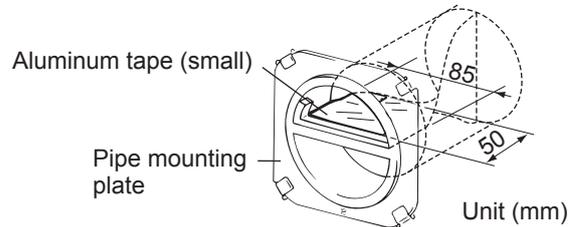
Note

- Without caulking, rainwater comes in.
- After applying the caulking compound, flatten the surface.
- Do not apply caulking compound thicker than the pipe mounting plate. (Otherwise, drain water is not discharged.)

6. Affixing aluminum tape.

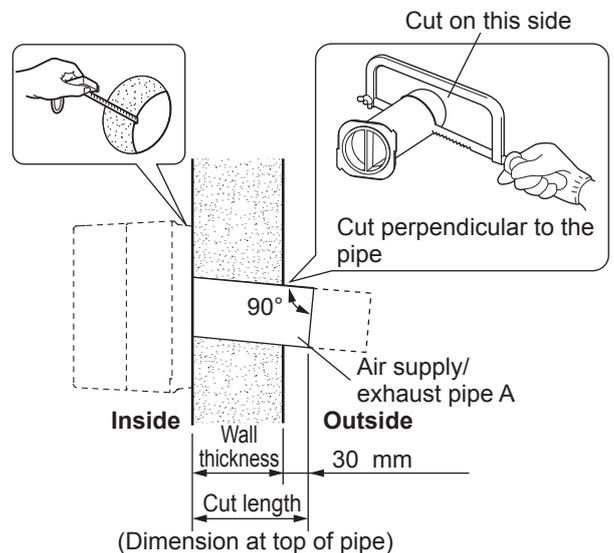
Affix the included aluminum tape (small) as shown in the figure.

- This tape is affixed to facilitate flowing of water from the drain pan end.



7. Cutting air supply/exhaust pipes

Measure the wall thickness. (If the wall is more than 300 mm thick, use the provided air supply/exhaust pipe B). (See page 4, section 4, for mounting instructions.)

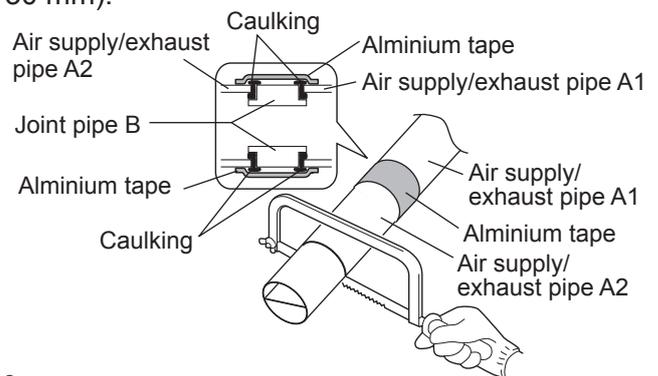


Note

- Check that each air supply/exhaust pipe A catches on all four prongs of its pipe mounting plate. (If a prong has not caught, the pipe will press against the back of the Lossnay unit and the shutter may not operate properly.)

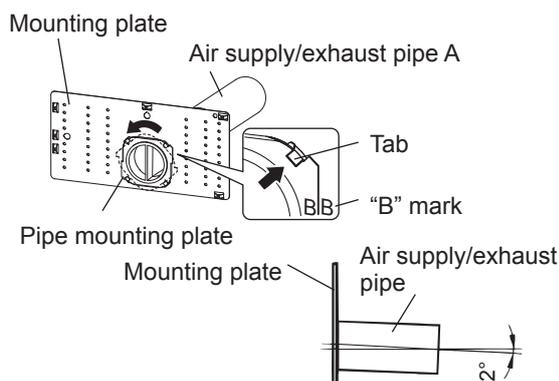
8. If the wall is more than 300 mm thick

Cut air supply/exhaust pipes A2 in keeping with the cutting dimensions of step 2 (wall thickness + 30 mm).



9. Secure the air supply/exhaust pipe to the mounting plate.

- Insert the air supply/exhaust pipe to the mounting plate.
- Turn the pipe counterclockwise to hook the pipe mounting plate with the tab.
- Check that the air supply/exhaust pipe is downward toward the outdoor side, as shown in the following figure.



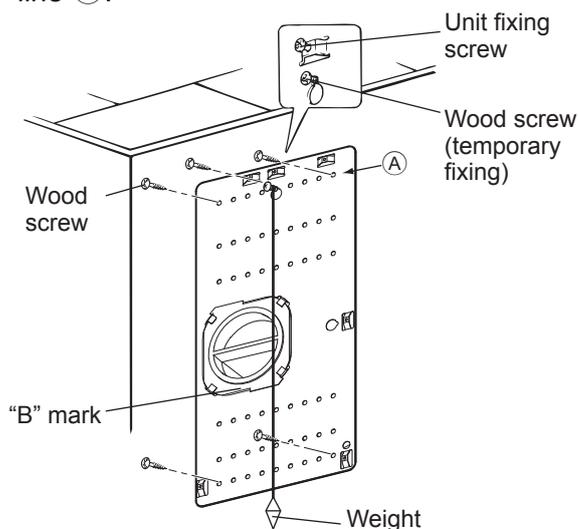
Note

- Check that all four tabs catch the flange. (Otherwise, the back of the product is pushed, causing shutter operation failure.)
- Attach the pipe in such a way that the "B" mark on the mounting plate matches the "B" mark on the pipe mounting plate.
- If the air supply/exhaust pipe is not downward slanted, drain water may reflux or rainwater may come in.

10. Attach the mounting plate.

- Put the air supply/exhaust pipe through the wall hole.
- Use one wood screw to temporarily secure the mounting plate. (Tighten the screw at the end.)
- Attach one unit fixing screw to the mounting plate for hanging the unit.
- Hang a weight and check the level of the mounting plate (slope within 1°). (If the unit is inclined, water may spill from the drain pan.)
- Use four wood screws to secure the mounting plate to the position where reinforcement is provided inside the wall.

- Use a wood screw to secure the center of line (A).

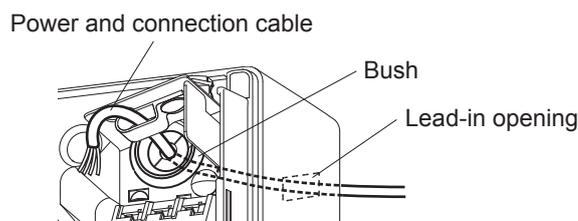


Note

- Secure the plate in an even position at the four corners.
- For a concrete wall, use concrete screws (commercially available) to secure the plate.
- Attach so that the B mark comes to the bottom side.
- Accurately find the power and connection cable takeout position and the mounting plate position. (If the position of the mounting plate is displaced, the power and connection cable takeout hole will protrude from the unit.)

5.3 Attaching the main unit

- Pull the power and connection cables through the hole in the rear of the unit.**
 - Be sure that the cable is not caught between the unit and mounting plate.
- For VL-50ES2-E, pull the power and connection cable through the lead-in opening and the bush.**

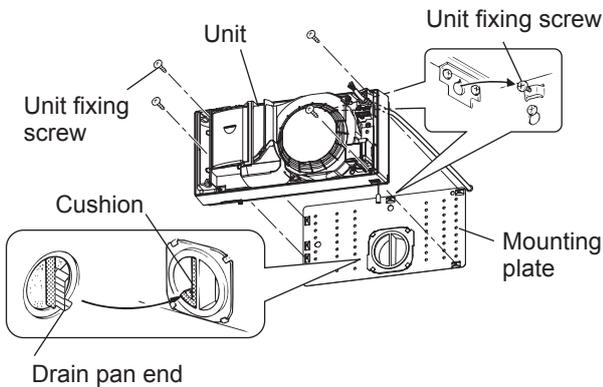


- Hook the unit to the unit fixing screw at the center of the mounting plate.**

- Insert while paying attention not to push in the cushion of the air supply/exhaust pipe by the drain pan end.

4. Press the main unit into the wall and attach it with the four screws provided.

- Use a screwdriver with an axis length of 150 mm or longer.



* The above is the case of VL-50ES2-E.

Note

- Be aware that the unit fixing screw on which the main unit is hung has been temporarily secured, thus always support the main unit with your hand and tighten the screw.

5.4 Electrical work

⚠ Warning

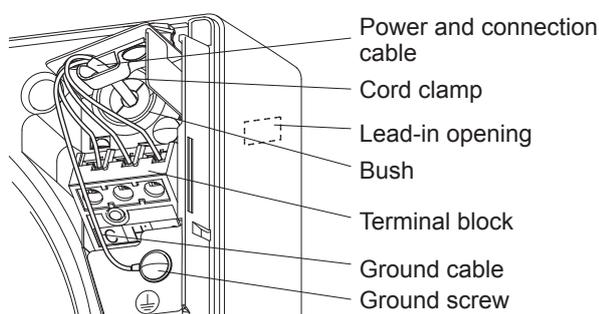
- Use at the rated voltage.
 - Fire or electric shock could result.
- Connect wires securely to terminal block connections so they do not come out.*1
 - Poor connections could result in fire.
- Electrical work must be done by an electrical contractor (a licensed electrician) in accordance with the technical standards of the equipment and local regulations to ensure safety.
 - Bad wiring and mistakes in electrical work could result in electric shocks or fire.

*1: VL-50ES2-E only.

For VL-50ES2-E

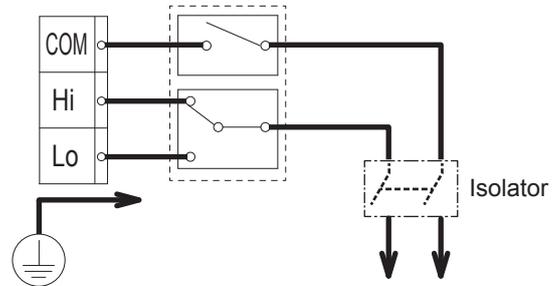
Note

- Check that the unit operates correctly.
 - Malfunctions may occur when electronic switches, including for speed switches and timers controlled by semiconductor, are used.

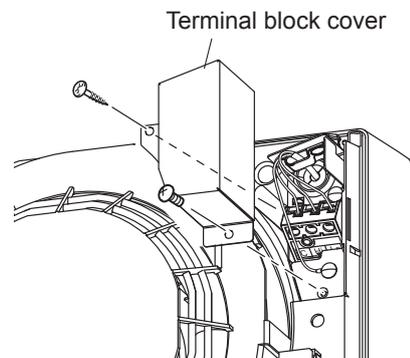


Operation requires a control switch. Have a control switch ready and connect the wiring shown in bold on the connection diagram below. Suitable cables: $\varnothing 0.5$ to $\varnothing 2.0$ mm diameter

- (1) Remove the covering from the final 10 mm of the power and connection cables and screw the ends in place on the terminal block.**

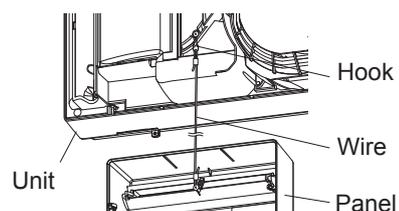


- (2) Attach a ground cable to the attaching part for ground with a ground screw to ensure the unit is grounded.
- (3) Fix the power and grounding wires in place with the cord clamp.
- (4) Make sure that the wires have not come loose from the terminal block.
- (5) Screw on terminal block cover at its original position.
- (6) Attach the terminal block cover.

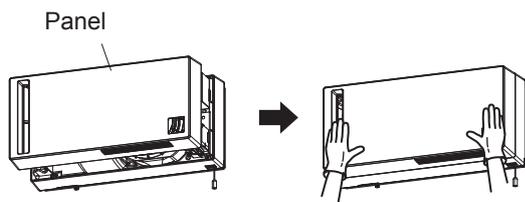


5.5 Attaching the panel

- 1. Attach the wire of the panel (fall prevention) to the hook of the unit.**



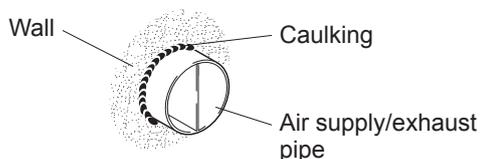
2. Fit in the panel horizontally and push.



5.6 Outdoor construction

1. Fill the wall hole.

Fill in any gaps between the air supply/exhaust pipes and the wall holes with off-the-shelf caulking.



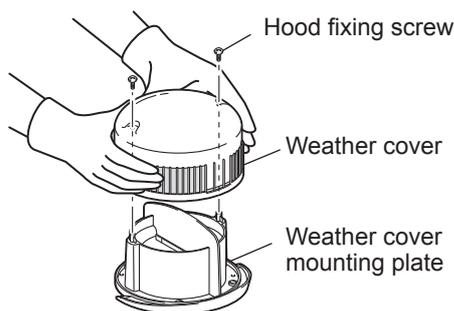
Note

- Any spaces left unfilled will allow rainwater to enter.

- Cold air may come in, causing dew condensation.

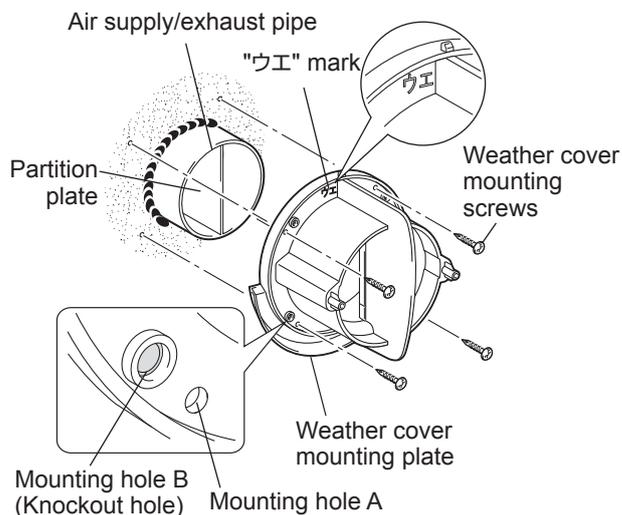
2. Attach the weather cover.

- (1) Remove the hood fixing screws (2 screws) and remove the hood part.
 - Be careful not to lose the removed screws because they are used later when attaching the hood.

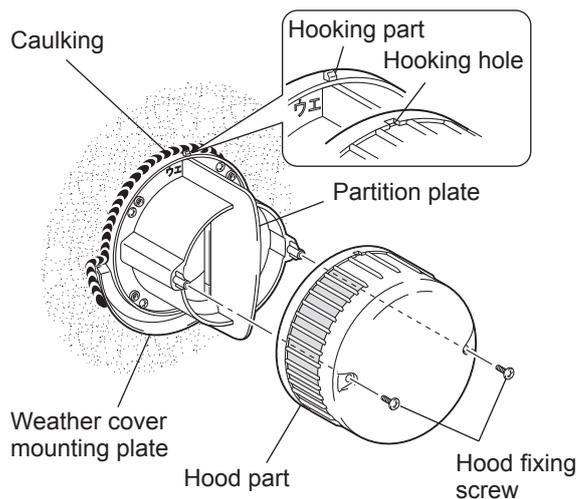


- (2) Properly insert the groove section of the hood mounting plate to the partition of the air supply/exhaust pipe so that the "ウエ" mark comes to the top.

- (3) Drive four screws into the mounting hole A ($\phi 4 \times 20$ stainless, customer supply) to secure the hood mounting plate to the wall.
 - When attaching it by using the mounting hole B ($4 \times \phi 8.5$), punch out the knockout hole.
 - For a concrete wall, use concrete screws to secure the plate.



- (4) Fill the gap between the hood mounting plate and the wall using commercially available caulking compound to prevent rainwater infiltration.
- (5) Fit in the hood part to the hood mounting plate and use hood fixing screws to properly secure the hood part.



Note

- Attach the hood part to the hood mounting plate and check that the hooking part at the top of the hood mounting plate and the hooking hole on top of the hood part match.
- Attach the hood part so that the seal comes to the lower side.

6. Checks after mounting

- After mounting is complete, check the checklist items before doing a test run.
- Be sure to correct any problems discovered. (Failure to do so will not only prevent features from operating, it will also imperil your safety.)
- Checklist

	Check items	Remedy for problem	Checked?
Installation	Is the main unit mounting strong enough?	Reinforce it.	
	Is the main unit attached securely?	Tighten the mounting screws. (4 screw locations)	
	Is the panel securely closed?	Close the panel.	
	Did you caulk? (The air supply/exhaust pipe should be caulked outside, as should the outdoor hood.)	Caulk. (Failure to caulk will allow rainwater infiltration.)	
	Did you attach the panel fall protective wire?	Attach the wire to the hook.	
Before operation	Are you using the rated voltage?	Apply the rated voltage. (Using other voltages will damage the unit.)	
Operating checks	Are switch operations consistent with Lossnay operations? (VL-50ES2-E only)	The wiring is incorrect. Correct the wiring according to the connection diagram.	
	Do you hear the blades hitting anything?	Open the panel, remove the air filter, and take out any debris (only in the areas you can see).	
	Does the unit make any unusual sounds when starting or stopping?	Attach tightly to the wall so the air supply/exhaust pipes and pipe mounting plate do not shift.	
	Does the shutter work smoothly?		

7. Test run

■ Perform test run with the customer in attendance.

1. Turn the power on.
 - 1) Turn the circuit breaker on at the distribution board.
 - 2) Insert the power plug into the wall outlet. (VL-50S2-E only)
2. Check the operating modes.

Consult the Operating Instructions for operating instructions.
Slide the shutter knob to the open position.
3. Check that there is no abnormal vibration or noise. After confirming this, stop the unit.
 - 1) When stopped, move the shutter to the closed position. (This ensures that no dust will get into the unit prior to its use by the customer.)
 - 2) Remove the power plug from the wall outlet. (VL-50S2-E only)
 - 3) Turn the circuit breaker off at the distribution board.

Please explain to customers.

- Show the customer the location of the distribution board circuit breaker and the electrical outlet or wall switch.
- Tell the customer the results of the checklist.
- Give the customer the "Installation Manual", as well as the separate "Operating Instructions".
- If the customer is not present, explain these items to the ordering party (such as the owner) or manager.