2105876H63701

English

MITSUBISHI ELECTRIC

# Lossnay Heat Recovery Ventilator

**MODELS:**

## LGH-50RVS-E
## LGH-80RVS-E
## LGH-100RVS-E

# Operating Instructions

**For the user**

Please read this manual carefully before use for proper and safe use.

Do not attempt to install the product by yourself.

## Contents



# 1. Safety precautions

The following signs indicate that death or serious injury may be caused by failure to heed the precautions described below.

| ⚠ WARNING | Incorrect handling could cause serious injury or death. |
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| Prohibited | **Do not turn the unit on or off when flammable gas has leaked.**<br>It could catch fire or cause explosion with sparks released from electric contractor.<br>Open windows to ventilate. |
| Do not disassemble | **Do not modify or disassemble.**<br>It could cause fire, electric shock or injury. |
| Do not wet | **Do not apply water to the unit and remote controller.**<br>Electrical shock can result. |
| Do not touch | **Do not poke your fingers or sticks into the air intake and outlet while the product is operating.**<br>Failure to heed this warning may result in injury. |
| Wet hands prohibited | **Do not operate with wet hands.**<br>Electrical shock can result. |
| The instructions given must be followed. | **Use the specified power supply and voltage.**<br>Use of incorrect power supply could cause fire or electric shock. |
| | **Make sure the power supply isolator is turned off on the power distribution panel before starting maintenance.**<br>It could cause electric shock or injury if it is turned on. |
| | **When any abnormal conditions (burning smell, water leakage or others) are observed, stop operation, turn off the power supply isolator on the power distribution panel and consult your dealer.**<br>Continuing operation under such conditions could cause, electric shock, fire, or damage. |
| | **Do not touch the product for at least 5 minutes after the power is shut off.**<br>Electrical shock can result. |

| ⚠ CAUTION | Incorrect handling could cause injury or damage to property or household effects. |
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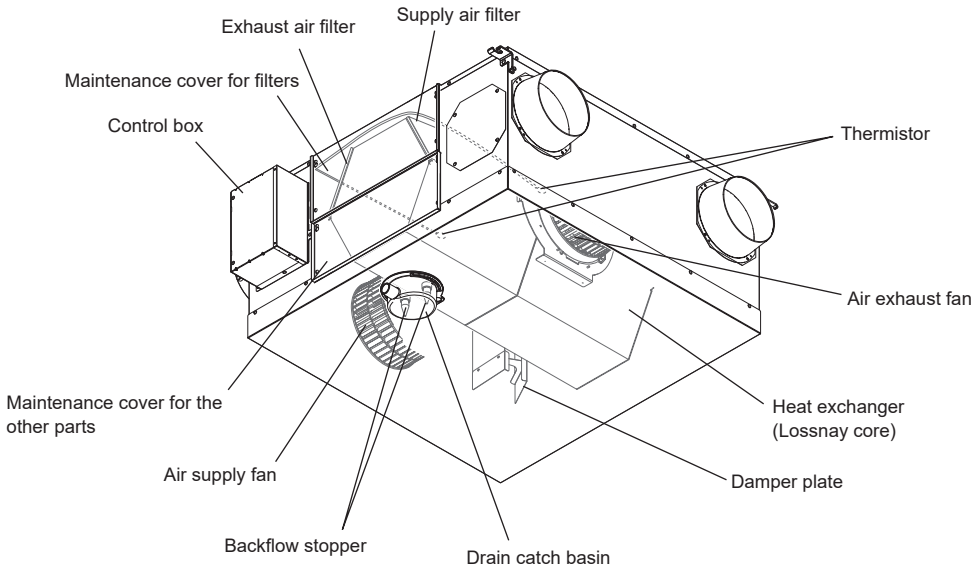
| Prohibited | **Do not place a burning appliance in a place where it is exposed directly to the wind from Lossnay.**<br>It could cause an accident as a result of incomplete combustion. |
| | **Do not operate with the "BY-PASS" when heating the room in winter.**<br>Condensed water may drip from the unit and wet the surface of ceiling. |
| | **Do not use at a place where exposed to high temperatures (40˚C or higher), naked flames, or in environment with heavy fumes.**<br>It could cause fire. |
| | **Do not use in an environment such as a chemical factory, where hazardous gases such as acidic gases, alkaline gases, organic solvent fumes, paint fumes, or gases containing corrosive components are generated.**<br>It could malfunction. |
| The instructions given must be followed. | **Securely install parts after maintenance.**<br>It could cause injury if parts fall. |
| | **Put on gloves during maintenance.**<br>It could cause injury. |
| | **Make sure the power supply isolator is turned off when Lossnay is not used for a long period of time.**<br>It could cause electric shock, power leakage, or fire as a result of deteriorated insulation. |
| | **Do not use any detergent for maintenance and cleaning the unit. It may cause the damage of the drain pan.**<br>It could cause water leakage. |
| | **When outdoor temperature becomes lower than 0˚C, the supply fan starts intermittent operation for defrosting operation.**<br>**0˚C to -5˚C : Intermittent operation 10min OFF, 30min ON.**<br>**-5˚C or less : Intermittent operation 55 min OFF, 5 min ON.**<br>**Exhaust fan changes to fan speed 4 during supply fan stopping at 0 to -5˚C, or all condition at less than -5˚C.**<br>Take precautions when using the product in a quiet location. |
| | **Rather than EU countries:**<br>**This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.**<br><br>**EU countries:**<br>**This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.** |

# 2. Names of the parts



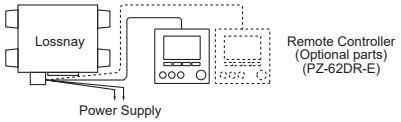

# 3. Operation

**Lossnay can be connected with Lossnay remote controller (PZ-62DR-E), and other Systems (City Multi, Mr. Slim, Central controller (MELANS) )**
**Following shows the use of PZ-62DR-E. Please refer to the manuals for the other systems.**

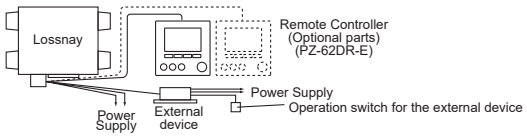
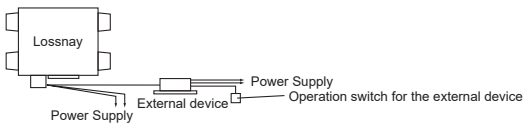
## For connection of a Lossnay remote controller (PZ-62DR-E)

If the Lossnay's operation is linked with the operation of an external device such as an air conditioner, the method of use will differ, so carry out the appropriate operation in accordance with the following table. Also, please see the installation and user manual for the Lossnay remote controller (PZ-62DR-E).

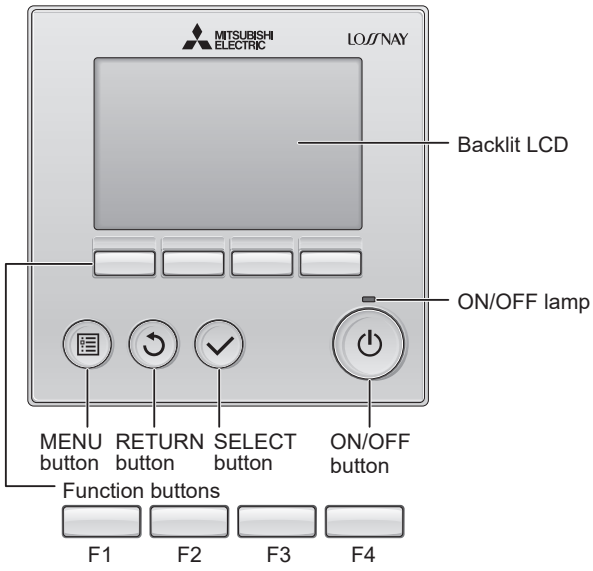
### <Not connected to an external device>

| Example of System | Operation | Function |
|---|---|---|
|  | Run using the remote controller. | If 2 remote controllers are used, the last touch has priority. |

### <Connected to an external device>

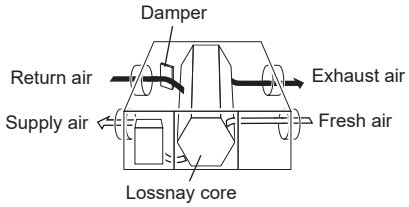
| | | |
|---|---|---|
|  | Lossnay unit can be turned ON or OFF when the signal from external device is connected to Lossnay ON/ OFF terminal. | If you would like to turn ON the Lossnay alone while the external device is OFF, operate it by the Lossnay remote controller. |
|  | | The fan speed is fixed on fan speed 4. (factory setting)<br>The ventilation mode is "Auto Ventilation Mode". |

## ■ Display and Function button (PZ-62DR-E)



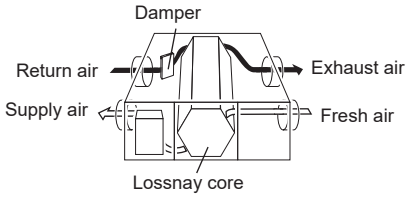

## ■ LOSSNAY HEAT RECOVERY VENTILATION setting

Both fresh air supply and return air pass through the Lossnay cores. Heat recovery ventilation makes the fresh air temperature close to the indoor temperature in the winter and the summer season.




## ■ BY-PASS VENTILATION setting

The fresh air passes through the Lossnay cores and the return room air is exhausted directly. By-pass ventilation is normally operated during the spring/autumn season.




## ■ AUTOMATIC VENTILATION setting

The automatic ventilation mode automatically provides the correct ventilation for the conditions in the room. The following shows the effect “By-pass” ventilation will have under various conditions.

**1. Reduces cooling load**
If the air outside is cooler than the air inside the building during the cooling season (such as early morning or at night), “By-pass” ventilation will draw in the cooler outside air and reduce the cooling load on the system.

**2. Night purge**
“By-pass” ventilation can be used to release hot air from inside the building that has accumulated in buildings in a business district during the hot summer season.

**3. Office equipment room cooling**
During cold season, fresh air can be drawn in and used as is to cool rooms where the temperature has risen due to the use of office equipment.

### ⚠ CAUTION

- **In the case of “By-pass” ventilation, the supply air temperature slightly rises more than the outside air temperature because of the heat effect around the ducts or the unit motors.**

# 4. Maintenance

Remove all dust and dirt on air filters and Lossnay cores at regular intervals in order to prevent a deterioration in the Lossnay functions.

Guideline:

Clean the air filters once a year. (or when ▦ are indicated on the remote controller)

Clean the Lossnay cores if they are dirty.

Clean the drain pan and Backflow stoppers once a year. (Frequency should be increased depending on their dirtiness.)

### ⚠ WARNING

- **Make sure the power supply isolator is turned off before starting maintenance.**
  It could cause electric shock or injury if it is turned on.
- **Do not touch the product for at least 5 minutes after the power is shut off.**
  Electrical shock can result.

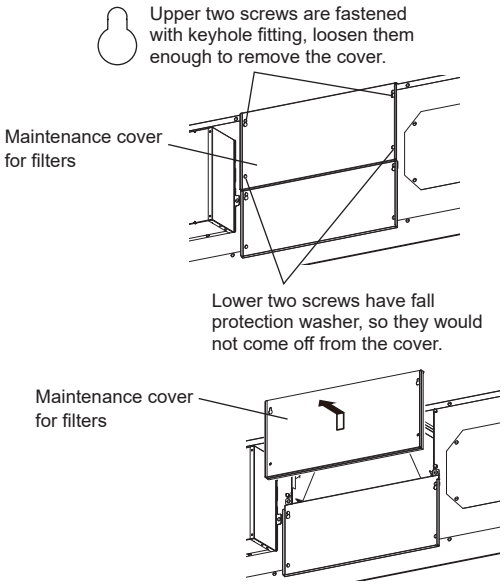
### ⚠ CAUTION

- **Put on gloves during maintenance.**
  It could cause injury.
- **Securely install parts after maintenance.**
  It could cause injury if parts fall.

## 4.1 Removing the parts

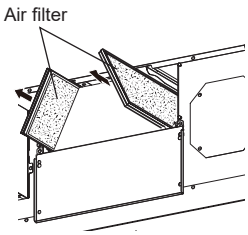
### 1) Maintenance cover for filters

Loosen four screws on the maintenance cover for filters.



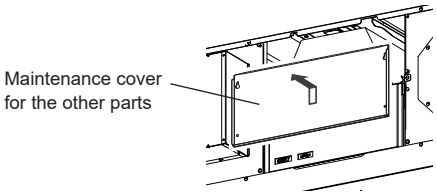

### 2) Air filters

Draw the filters out from the unit.



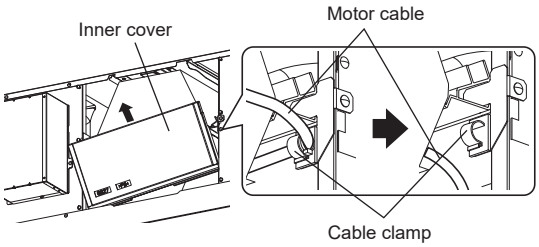

### 3) Maintenance cover for the other parts

Remove it in the same way as maintenance cover for filters. Maintenance cover for the other parts have also structure of keyhole and fall protection screws.




### 4) Inner cover and motor cable

1. Pull out the upper part of the inner cover frontward and remove it in the direction of the arrow in below picture.
2. Open the snap-in cable clamp and take out the motor cable from it.

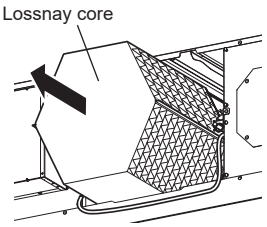



### ⚠ CAUTION

- **In case of pulling out inner cover forcibly not following the directions above, the styrol could be broken.**

### 5) Lossnay cores

Hold the handle and draw the Lossnay cores out from the unit. When pulling out the Lossnay cores, be sure the motor cable not to be hooked. Otherwise, it might damage the motor, PCB and Lossnay cores.



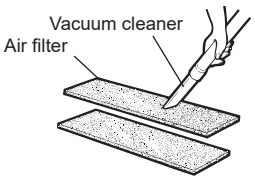

### ⚠ CAUTION

- **Do not forcibly pull out the Lossnay cores while the motor lead is hooked. The lead may be disconnected.**

## 4.2 Cleaning the parts

### 1) Air filters

Use a vacuum cleaner to remove light dust. To remove stubborn dirt, wash in a mild solution of detergent and lukewarm water. (under 40˚C)

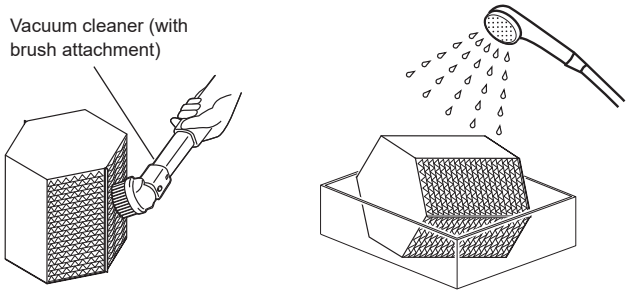



### ⚠ CAUTION

- **Never wash the filters in very hot water and never wash them by rubbing them.**
- **Do not dry the filters by exposing them to a flame.**

## 2) Lossnay cores

1. Use a vacuum cleaner to suck up the dust and dirt on the exposed surfaces of the Lossnay cores.
2. Put the Lossnay core in a suitable vessel (e. g. a small tub or the shower tray) and rinse the Lossnay core with clear water from all sides.
3. Carefully clean the air inlets and housing thoroughly with a broad soft brush.
4. Rinse the Lossnay core from all sides thoroughly with clear water.
5. Lift the Lossnay core from the vessel and remove the remaining water inside the Lossnay core by rotating the Lossnay core repeatedly.
6. Dry the Lossnay core with a dry cloth and put it back into the ventilation unit. Operate the unit at least one day for drying inside the core.

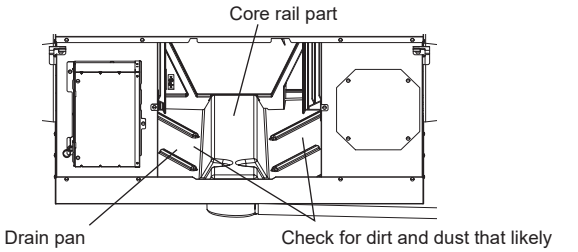



### ⚠ CAUTION

- **Do not use the hard nozzle of the vacuum cleaner. It may damage the exposed surfaces of the Lossnay cores.**
- **Do not wash with detergent or disinfect with solution. It may damage the Lossnay cores.**

## 3) Drain pan

1. Refer to ***4.1 Removing the parts***, and remove the air filters and Lossnay cores.
2. Remove dirt on the drain pan, and water and dust adhered around the drain discharge holes with a soft cloth.

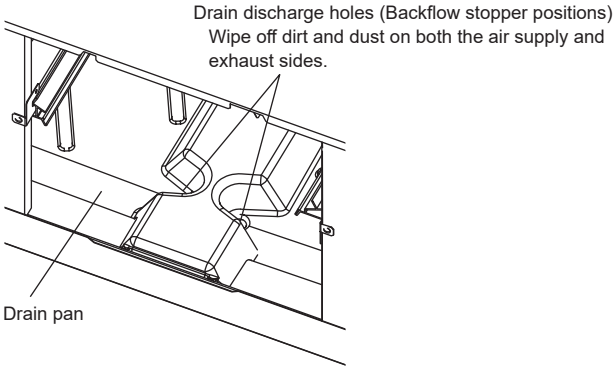



### ⚠ CAUTION

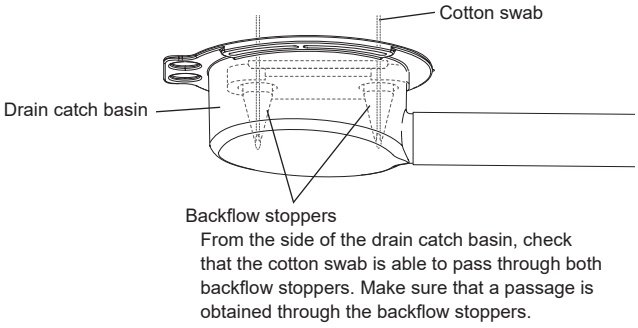
- **To prevent the materials from deteriorating, do not use paint thinner, benzene, toluene and other solvents, detergents, or nylon scrubbing brushes for cleaning.**
- **When oil or the like is adhering, wash it off with lots of water. If the drain pan is particularly dirty, wash it with warm water (40˚C or less).**
- **When wiping the drain pan for cleaning, do not apply load to the parts other than the core rail part. If a load is applied to the drain pan, it can be damaged, resulting in water leakage.**
- **After cleaning, do not leave anything including cleaning clothes or tools on the drain pan.**

## 4) Backflow stopper

1. Refer to ***4.1 Removing the parts***, and remove the air filters and Lossnay cores.
2. After cleaning the drain pan, remove dirt accumulated in the backflow stoppers with a soft cloth or the like. Besides that, remove dust if it clogged the backflow stoppers.




3. To remove clogging of the backflow stoppers, insert a cotton swab or the like into the drain discharge holes. From the side of the drain catch basin, check that the cotton swab is passing through the backflow stoppers.




### ⚠ CAUTION

- **To prevent the materials from deteriorating, do not use paint thinner, benzene, toluene and other solvents, detergents, or nylon scrubbing brushes for cleaning.**
- **Pay attention not to damage the backflow stoppers and drain catch basin with the cotton swab. Besides that, if the cotton swab is short, it can be dropped into the drain discharge holes, and it can not be taken out from there.**
- **After cleaning, pour approximately 500 ml of water into both the drain discharge holes to check that water can be drained properly. When pouring water, pay attention not to splash water inside the product, and be sure to wipe off all puddles after the work.**
- **After cleaning, do not leave anything including cleaning clothes or tools on the drain pan.**
- **If the drain discharge holes are still clogged after the cleaning, the backflow stoppers must be replaced. If the product is continuously used, it may cause defective water drainage, resulting in water leakage. Be sure to contact the dealer from whom you purchased the product.**

# 4.3 Assembly after maintenance

Bearing in mind the above points, assemble the parts following the sequence for their removal in reverse.

# 5. Specifications

| Model name | Input power (W) | Air volume | | Static pressure (Pa) | Temperature exchange efficiency (%) | Noise (dB) 1.5 m below the unit | Weight (kg) |
|---|---|---|---|---|---|---|---|
| | | ($m^3$ /h) | (L/S) | | | | |
| LGH-50RVS-E | 190 | 500 | 139 | 150 | 87 | 33 | 55 |
| LGH-80RVS-E | 325 | 800 | 222 | 170 | 82 | 36 | 63 |
| LGH-100RVS-E | 445 | 1000 | 278 | 190 | 82 | 37 | 73 |

* The above values apply during Lossnay ventilation when the fan speed is set to Fan speed 4 at the rating pressure loss and 230 V / 50 Hz.
* For the specifications at the other frequency or voltages, contact your dealer.
* The values given in the table for the noise level reflect the levels measured at a position 1.5 meters directly under the unit in an anechoic chamber.
* Noise change or increase may occur because of the Bypass-Automatic function or Automatic fan speed change by timer setting and/or other functions.
* Temperature Exchange efficiency (%) are based on winter condition.
* Mitsubishi Electric measures products according to ISO 16494:2014, therefore P-Q curves are measured by chamber method.
* On-site commissioning measurements by pitot tube method could be as much 20% different from ISO test room conditions. If the measuring point is close to sources of turbulence like bends, contractions and dampers etc, it is difficult to measure air volume correctly. A straight duct length more than 10D (D=duct diameter) from the source of turbulence is recommended for correct measurement. On-site measurement should therefore be performed in accordance with BSRIA guideline (Commissioning Air System. Application procedures for buildings AG3/89.3(2001))

# 6. After-sales servicing

Consult with your dealer about the after-sales services provided for this Lossnay product.

If you hear strange sounds, if no air is blown out or if some other trouble occurs, switch off the power and contact your dealer. Consult with your dealer concerning the cost of inspection or repair work.

## ■ Recommended inspection and maintenance

After several years of use, the following might occur. We recommend inspection and maintenance by a professional.
- Water leakage due to clogging of drain pipe
- Entry of dust due to deterioration of filters
- Abnormal noise or vibration due to the motor reaching the end of its service life
- Air leakage due to the Lossnay core reaching the end of its service life

The following are consumables:
- Motor
- Supply air filter
- Exhaust air filter
- Lossnay core
- Backflow stopper
- Circuit board
- Thermistor

## ■ Repair costs include technical fee, cost of parts, (and business trip charges), etc.

**Attentive inspection**

**Inspect your unit of good service!**

| | |
|---|---|
| Have you noticed? | ● Fan do not run when the unit is turned on.<br>● Abnormal noises or vibrations while the unit is running<br>● Retarded or irregular rotations<br>(Motors are component which requires maintenance.)<br>● Burnt odor<br>● Corroded or damaged mounting parts or location |

**Stop running.** Turn off the unit. Then, contact your dealer for prevention of failure or hazard. The dealer should appraise the possible cost.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