

|       |                 |
|-------|-----------------|
| MODEL | VL-250CZPVU-R-E |
|-------|-----------------|

|                                                    |                                                                                                                   |  |                         |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--|-------------------------|
| Heat exchange system                               | Heat recovery ventilating system                                                                                  |  |                         |
| Heat exchanger material                            | Sensible heat exchanger                                                                                           |  |                         |
| Cladding                                           | Steel sheet                                                                                                       |  |                         |
| Heat insulation material                           | Polyethylene foam                                                                                                 |  |                         |
| Motor                                              | DC motor                                                                                                          |  |                         |
| Blower                                             | 180mm diameter centrifugal fan                                                                                    |  |                         |
| Filter                                             | Non-woven fabrics filter                                                                                          |  |                         |
| Duct connecting                                    | Synthetic resin                                                                                                   |  |                         |
| Duct connecting cover                              | Styrene foam                                                                                                      |  |                         |
| Outside air condition                              | Shall be higher than -15°C                                                                                        |  |                         |
| Return(Suction) air condition                      | Shall be lower than 40°C, 95%RH                                                                                   |  |                         |
| Surrounding air condition                          | Indoor temperature and humidity should not exceed the dew point temperature 12°C (e.g. RH60% / 20°C)              |  |                         |
| Supply fan operation under low outdoor temperature | -3°C to -15°C : Intermittent operation<br>-15°C or less : Continuous supply air stopped.                          |  | ※Continuous exhaust air |
| Function                                           | Heat recovery ventilation/ Bypass ventilation, Fan speed 1,2,3,4<br>The air flow increment by 1% from 25% to 100% |  |                         |
| Dimensions (Height x Width x Depth)                | 565mm x 595mm x 356mm                                                                                             |  |                         |
| Weight                                             | 26kg                                                                                                              |  |                         |
| Electrical power supply                            | 220-240V~ 50Hz / 220V~ 60Hz                                                                                       |  |                         |
| Insulation resistance                              | 10MΩ or more                                                                                                      |  |                         |
| Dielectric strength                                | AC 1000V 1 minute                                                                                                 |  |                         |
| Maximum current [A]                                | 1.0                                                                                                               |  |                         |

#### ■ Specification

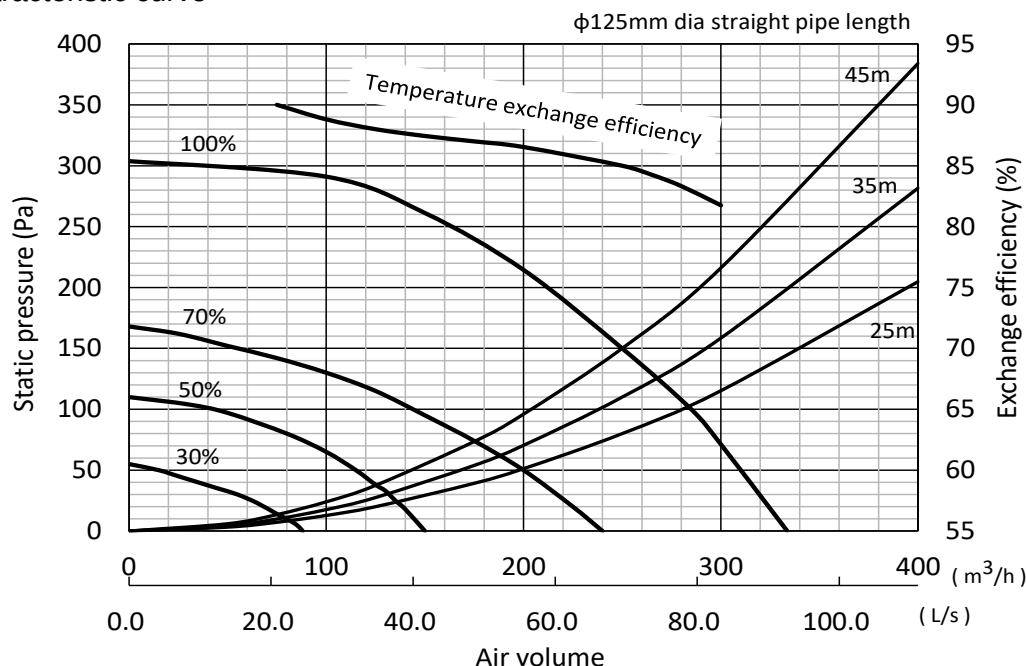
| Ventilation mode                    |                     | Heat recovery mode |                   |                   |                   |
|-------------------------------------|---------------------|--------------------|-------------------|-------------------|-------------------|
| Fan speed                           |                     | Fan Speed 4 (100%) | Fan Speed 3 (70%) | Fan Speed 2 (50%) | Fan Speed 1 (30%) |
| Running current [A]                 |                     | 0.76               | 0.35              | 0.20              | 0.12              |
| Input power [W]                     |                     | 106                | 44                | 23                | 11                |
| Air volume                          | [m <sup>3</sup> /h] | 250                | 175               | 125               | 75                |
|                                     | [L/s]               | 69                 | 49                | 35                | 21                |
| External static pressure [Pa]       |                     | 150                | 74                | 38                | 14                |
| Temperature exchange efficiency [%] |                     | 85                 | 87                | 88                | 90                |
| Sound pressure level @3m [dB]       |                     | 31                 | 22                | 16                | 15 >              |
| ErP Class                           |                     | A+                 |                   |                   |                   |

#### ■ Attention

1. The above values are at factory default.
2. The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz.
3. The sound pressure level at 3m is spherical.
4. Temperature exchange efficiency (%) is based on winter condition.
5. Mitsubishi Electric measures figures in the chart according to EN13141-7:2010, and the characteristic curves are measured by chamber method.

| SPECIFICATIONS                                                                      |           | ※Specification may be subject to change without notice. |                                                  |     |
|-------------------------------------------------------------------------------------|-----------|---------------------------------------------------------|--------------------------------------------------|-----|
|  | DATE      | TYPE MODEL                                              | Heat Recovery Ventilator LOSSNAY VL-250CZPVU-R-E |     |
|                                                                                     | 12-Jan-21 | NUMBER                                                  | N19SGGD0001B                                     | 1/6 |

## ■ Characteristic curve



## ■ Attention

- Mitsubishi Electric measures figures in the chart according to EN13141-7:2010, and the characteristic curves are measured by chamber method.

## ■ Sound data

| Fan speed | Point    | Sound power (Lw), octave band centre frequency Hz (dB) |     |     |     |      |      |      |      | Total LwA<br>dB(A) |
|-----------|----------|--------------------------------------------------------|-----|-----|-----|------|------|------|------|--------------------|
|           |          | 63                                                     | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |                    |
| 100%      | Inlet    | 67                                                     | 68  | 55  | 53  | 50   | 39   | 33   | 22   | 55                 |
|           | Outlet   | 79                                                     | 73  | 69  | 64  | 61   | 55   | 48   | 40   | 67                 |
|           | Breakout | 46                                                     | 56  | 53  | 50  | 47   | 38   | 32   | 26   | 52                 |
| 70%       | Inlet    | 60                                                     | 64  | 48  | 46  | 43   | 31   | 24   | 12   | 49                 |
|           | Outlet   | 74                                                     | 68  | 61  | 56  | 53   | 44   | 37   | 28   | 59                 |
|           | Breakout | 40                                                     | 47  | 44  | 41  | 38   | 26   | 19   | 13   | 43                 |
| 50%       | Inlet    | 55                                                     | 58  | 41  | 40  | 36   | 22   | 15   | 6    | 43                 |
|           | Outlet   | 70                                                     | 61  | 52  | 50  | 46   | 35   | 26   | 16   | 52                 |
|           | Breakout | 37                                                     | 42  | 38  | 36  | 31   | 18   | 10   | 7    | 37                 |
| 30%       | Inlet    | 48                                                     | 48  | 31  | 31  | 24   | 8    | 4    | 5    | 33                 |
|           | Outlet   | 62                                                     | 51  | 43  | 39  | 32   | 19   | 9    | 6    | 42                 |
|           | Breakout | 33                                                     | 32  | 32  | 27  | 19   | 7    | 5    | 6    | 27                 |

## ■ Attention

- Measurements of sound power were undertaken in accordance with the direct method as described in BS EN ISO 3741:2010, BS EN ISO 13141-6:2014 and BS EN ISO 5135:1999.
- Reverberation time measurements were undertaken for case radiated noise and duct noise, including measurements of representative background noise. The data was processed to calculate casing radiated and in-duct sound power levels in third octave bands.
- In-duct sound power levels were calculated in accordance with BS EN ISO 5135:1999.

## ■ SAP Appendix Q Table

| Application           | Air flow rate (l/s) | SFP (W/l/s) | Thermal efficiency (%) |
|-----------------------|---------------------|-------------|------------------------|
| Kitchen + 1 wet room  | 21                  | 0.62        | 90                     |
| Kitchen + 2 wet rooms | 29                  | 0.67        | 89                     |
| Kitchen + 3 wet rooms | 37                  | 0.79        | 88                     |
| Kitchen + 4 wet rooms | 45                  | 1.00        | 87                     |
| Kitchen + 5 wet rooms | 53                  | 1.19        | 87                     |

## SPECIFICATIONS



DATE

12-Jan-21

TYPE  
MODEL

NUMBER

※Specification may be subject to change without notice.

Heat Recovery Ventilator LOSSNAY  
VL-250CZPVU-R-E

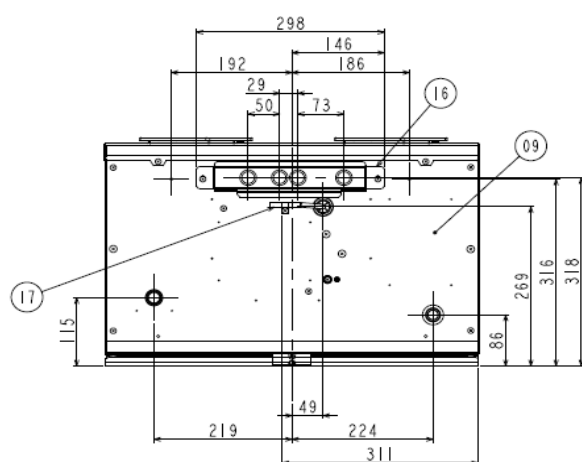
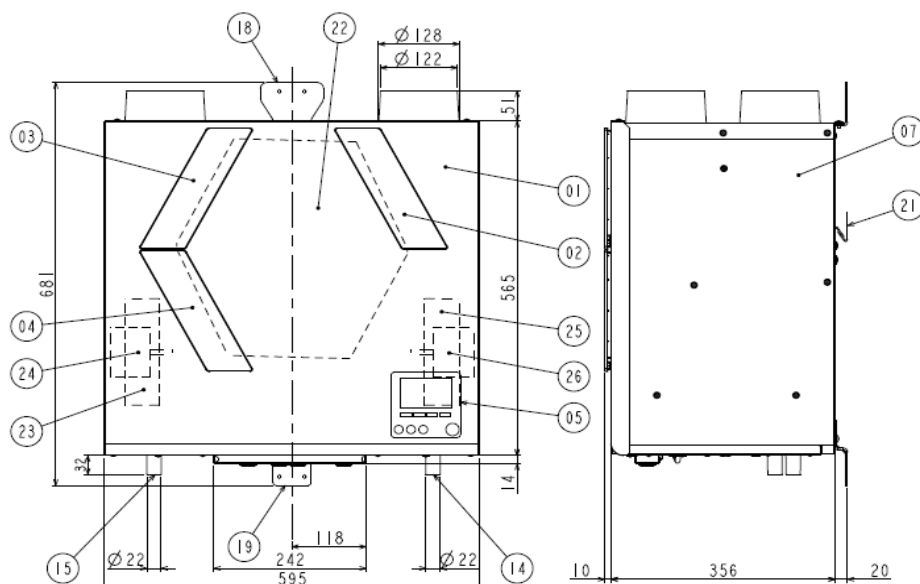
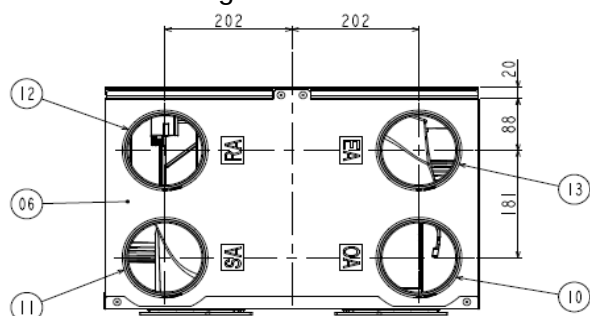
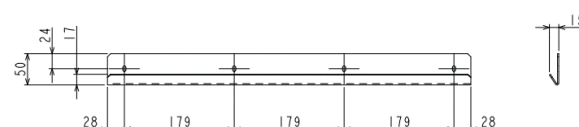
N19SGGD0001B

2/6

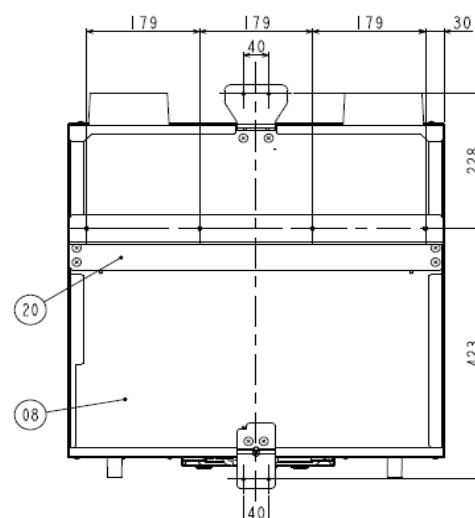
## ■ Outline drawings

|  | UNIT | SCALE |
|--|------|-------|
|  | mm   | N.T.S |

Wall bracket



Back side of the unit



### Parts List

| No. | PARTS NAME        | MATERIAL               | REMARKS               | No. | PARTS NAME             | MATERIAL         | REMARKS               |
|-----|-------------------|------------------------|-----------------------|-----|------------------------|------------------|-----------------------|
| 01  | Front Casing      | Painted metal          | Munsell 6.2PB 8.8/1.6 | 14  | Drain pipe (EA)        | Synthetic Resin  |                       |
| 02  | Filter Cover (OA) | Synthetic Resin        |                       | 15  | Drain pipe (SA)        | Synthetic Resin  |                       |
| 03  | Filter Cover (RA) | Synthetic Resin        |                       | 16  | PCB Under Cover        | Steel sheet      | Munsell 6.2PB 8.8/1.6 |
| 04  | Filter Cover (SA) | Synthetic Resin        |                       | 17  | Power Supply Cord      | —                |                       |
| 05  | Controller        | —                      |                       | 18  | Wall Mount Hook Top    | Galvanized Steel |                       |
| 06  | Top Casing        | Painted metal          | Munsell 6.2PB 8.8/1.6 | 19  | Wall Mount Hook Down   | Galvanized Steel |                       |
| 07  | Side Casing       | Painted metal          | Munsell 6.2PB 8.8/1.6 | 20  | Wall Mount Hook Center | Galvanized Steel |                       |
| 08  | Back Casing       | Galvanized Steel Sheet |                       | 21  | Wall Bracket           | Galvanized Steel |                       |
| 09  | Bottom Casing     | Painted metal          | Munsell 6.2PB 8.8/1.6 | 22  | Heat Exchanger         | Synthetic Resin  |                       |
| 10  | Pipe Guide (OA)   | Synthetic Resin        |                       | 23  | Air Supply Fan         | Synthetic Resin  |                       |
| 11  | Pipe Guide (SA)   | Synthetic Resin        |                       | 24  | Air Supply Fan Motor   | DC               |                       |
| 12  | Pipe Guide (RA)   | Synthetic Resin        |                       | 25  | Air Exhaust Fan        | Synthetic Resin  |                       |
| 13  | Pipe Guide (EA)   | Synthetic Resin        |                       | 26  | Air Exhaust Fan Motor  | DC               |                       |

※OA : Outdoor Air, SA : Supply Air, RA : Return Air, EA : Exhaust Air

### OUTLINE DRAWINGS



DATE

12-Jan-21

TYPE  
MODEL

NUMBER

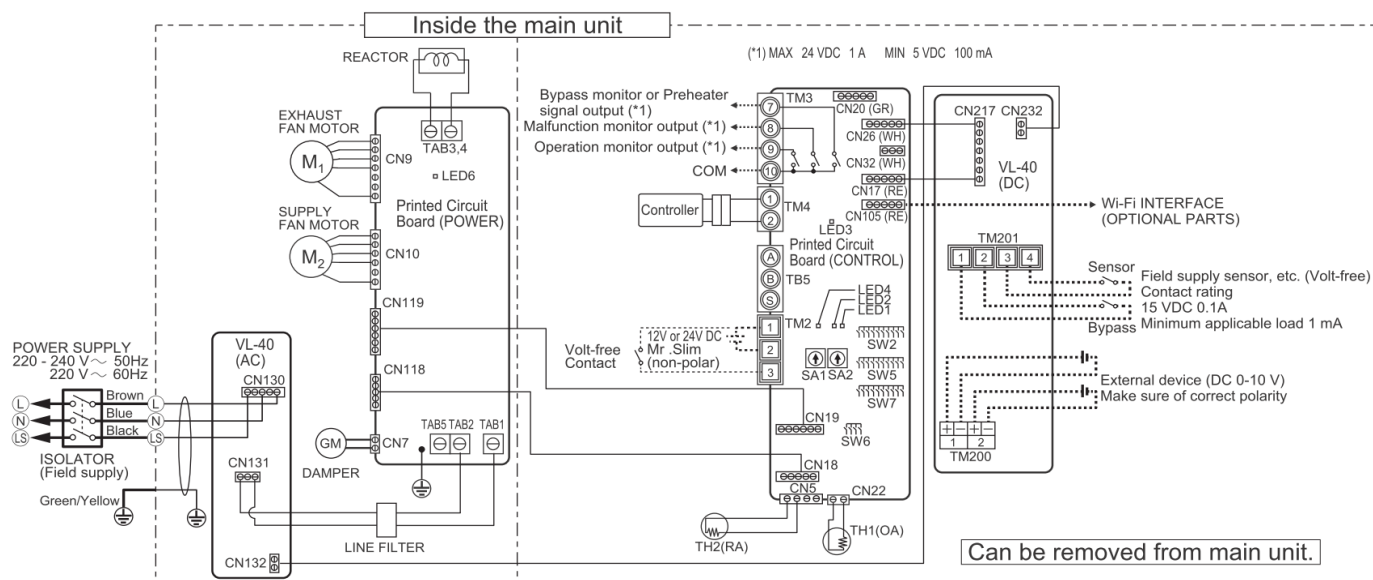
※Specification may be subject to change without notice.

Heat Recovery Ventilator LOSSNAY  
VL-250CZPVU-R-E

N19SGGD0001B

3/6

## ■ Wiring diagrams



## ■Features of Lossnay

1. A Lossnay unit provides 24-hour ventilation for the entire house. The heat recovery system provides fresh air at a comfortable air temperature.
2. With simple wall-mount design, the units can be easily installed in compact places in houses such as the roof space, hallway cupboard, kitchen, etc.
3. Airflow can be adjusted within the range between 25% and 100% by 1% to meet the designed airflow rate.
4. Lossnay can be monitored and controlled via MELCloud from anywhere an internet connection is available.  
\*MELCloud is a Cloud-based solution for controlling Lossnay either locally or remotely by computer, tablet or smartphone via internet.
5. The quiet operation is achieved with the fan designed for only this model.
6. Optional high efficiency filters can be installed inside the unit without any filter box, which saves space.
7. By using 0-10V signal from the controller(local supply) such as the humidistats and CO2 sensors, the airflow of the Lossnay unit can be changed. It is also connected to the light switch(local supply) and can change to the boost operation(Input 220-240V). It allows the fan speed to automatically change according to the bathroom occupation, the CO2 level, and the humidity level.
8. It is possible to select manual switching or automatic switching between "Lossnay ventilation (with heat exchange)" and "By-pass ventilation (without heat exchange)".
9. Operating temperature range is down to -15°C. With a pre-heater, it is available down to -25°C.

## ■Caution for installation

### 【Ventilation design】

1. For the outside air intake vent, choose a position where combustion gas or other similar exhaust air is not sucked in and the vent is not buried by snow.
2. Do not install the product at locations where the product is prone to be damaged from salt or hot springs. Failure to heed this warning may result in malfunction of product.
3. Do not install the product at locations where toxic gas or gas containing corrosive components such as acids, alkaline, organic solvents, or paints is generated.
4. Do not install the product near bedrooms.
5. For living rooms (e.g. bedrooms) where it is anticipated that building ambient noise will be below 30 dB(A), use commercially available ducts that have sound deadening qualities on the supply air side.
6. Install supply air and exhaust air grills at locations where they are less likely to reverberate.
7. In cold regions or regions with strong winds, wind outside sometimes gets inside when operation of the product is stopped. So, we recommend providing a motorized shutter midway along the supply air and exhaust air ducts.
8. Install the product so that discharged gas or exhaust air from burning appliances and equipment does not flow back inside the product.
9. Use an outdoor hood, that makes it less likely for rain water, snow or small animals (e.g. bats) from entering the ends of the supply air and exhaust air ducts.
10. At the outdoor hood installation position, allow at least 3x the diameter of the duct through holes between the outdoor hood and the ducts so that exhaust air is not mixed in with supply air. (Preferably a distance of 450 mm or more should be ensured between the outdoor hood and the ducts.)
11. In areas where the outdoor air is below -20°C, electric shutters(local supply) is required in the OA duct in addition to the pre-heater. With the pre-heater, the OA temperature must be higher than -15°C.
12. Do not use duct booster fan on the RA/EA duct or the OA/SA duct. If an external force is applied to the built-in bypass damper, the damper may be fixed on the bypass side, when it is switching between Lossnay mode and Bypass mode, and heat recovery may be prevented.

### 【Installing the Lossnay unit】

1. The unit is exclusively vertical mounting type.
2. Do not install the product in hot places in the direct sunlight and in smoky places.
3. Do not install the Lossnay unit or the remote controller in a bathroom or other humid location.
4. Install the product and the duct piping on the indoor side of the insulation layer/airtight layer.
5. Install the product (on the wall) in the direction of the duct connecting flange so that it is horizontal (within  $\pm 1^\circ$  ).

#### SAFETY NOTES



DATE

12-Jan-21

TYPE  
MODEL

NUMBER

※Specification may be subject to change without notice.

Heat Recovery Ventilator LOSSNAY  
VL-250CZPVU-R-E

N19SGGD0001B

5/6

### 【Duct piping】

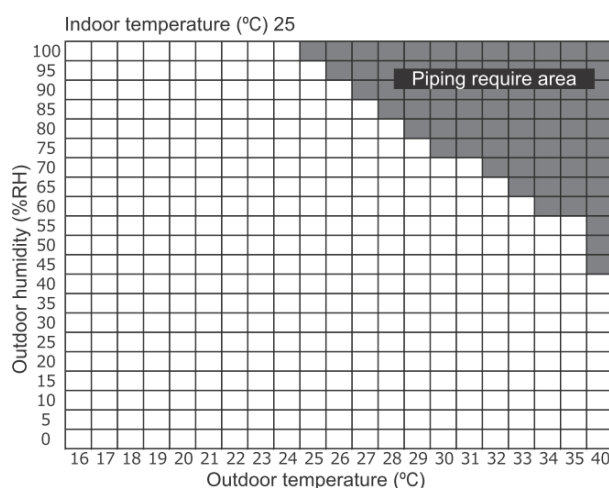
1. When metal ducts penetrate through metal-sheeted wooden buildings or structures, install the product so that there is no electrical contact between the metal ducts and the metal sheeting.
2. Secure duct piping with commercially available fixing bands, aluminum tape, etc. to prevent piping from coming loose. Install outdoor piping from the product so that it is tilted at a downward pitch of at least 1/30 towards the outside.
3. Be sure to insulate ducts down to the base of the duct connecting flanges.
4. Do not allow duct piping to contact the inspection opening, ceiling hanging bolts, beams, pillars, and other duct piping.
5. When discharging the air from a bathroom, use ducts made of a material that does not allow water to leak.
6. When using PCV ducts or metal ducts for the SA side ducts, be sure to connect ducts having silencer before the grill.
7. Calk the duct connecting flanges that discharge air from the bathroom with calking compound. When using calking compound, take care to prevent it from oozing from the ducts.

### 【Duct heater】

1. When using duct heaters (supply air preheaters, supply air after-heaters), make sure to use safety devices that do not have self-return functions. Do not supply the duct heaters with electricity directly from the product.
2. When using duct heaters (supply air preheaters, supply air after-heaters) that do not have temperature control functions, select duct heaters that have the appropriate capacity according to the airflow passing through the heaters.

### 【Drain piping】

1. Be sure to connect drain piping by the following procedure to prevent freezing and dew condensation forming on the surface of the piping.
  - Connect the drain piping on the indoor side of the insulation layer.
  - Insulate the drain piping up to the end of the piping
  - Do not let the end of draing piping be immersed in the rain gutter, etc.(At times of heavy snow, the rain gutter freezes and drain water is not discharged, which results in water leaking from the Lossnay unit)
2. Connect the drain pipe so that it has at least three degree of downward gradient from the lower part of the unit.
3. Be sure to attach commercially available check valves.
4. This unit has two drain pipes for EA and SA.
  - Drain pipe (EA) : Piping required.
  - Drain pipe (SA) : Depend on temperature and humidity, see the following conditions.



### ■Care and attention on the use of Lossnay unit

1. To ensure correct and safe use, read the instruction manual thoroughly.
2. To keep the Lossnay functions in good condition for a long time, clean dirt or dust from the filters periodically.
3. To prevent dew condensation forming on the Lossnay core and water droplets from adhering to the product when there is a drop in the temperature of the outside air, operation of the supply air fan is changed automatically.  
(The exhaust fan runs continuously regardless of outdoor air temperature.)  
(Even while the supply air fan has stopped, the Lossnay unit sometimes operates periodically to measure the outdoor air temperature)

#### SAFETY NOTES



#### DATE

12-Jan-21

#### TYPE MODEL

#### NUMBER

※Specification may be subject to change without notice.

Heat Recovery Ventilator LOSSNAY  
VL-250CZPVU-R-E

N19SGGD0001B

6/6