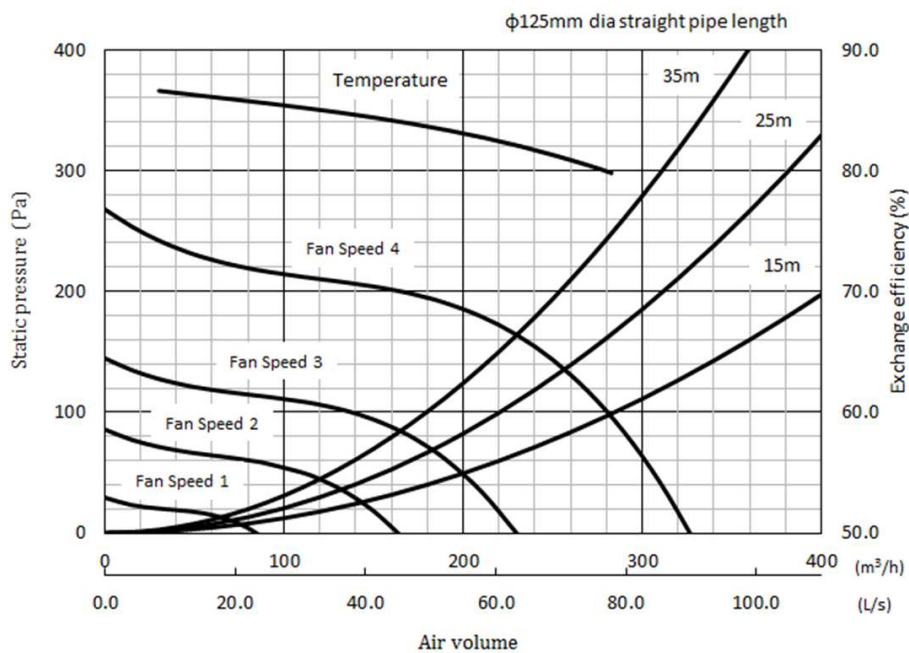


MODEL	VL-220CZGV-E			SIGN	
Heat exchange system	Heat recovery ventilating system				
Heat exchanger material	water-resistant paper sensible heat exchanger				
Cladding	Galvanized steel sheet				
Heat insulation material	Noncombustibility polyethylene foam				
Motor	EC motor				
Blower	200mm diameter centrifugal fan				
Filter	Non-woven fabrics filter (Gravitational method 82% , EN779:2012 : G3)				
Duct connecting	Synthetic resin				
Duct connecting cover	Styrene foam				
Surrounding air condition	Shall be between 0°C and 40°C, 80%RH or less				
Return(Suction) air condition	Shall be lower than 40°C, 95%RH				
Supply fan operation under low outdoor temperature	0°C to -5°C : Intermittent operation 24 min ON, 6 min OFF. -5°C or less : Continuous supply air stopped				
Function	Heat recovery ventilation/ Bypass ventilation, Fan speed 1,2,3,4 (When the optional motorized damper (P-133DUE-E) is used, bypass ventilation mode can be switched.)				
Weight	31kg				
Electrical power supply	220-240V/50Hz, 220V/60Hz				
Ventilation mode	Heat recovery mode				
Fan speed	Fan Speed 4	Fan Speed 3	Fan Speed 2	Fan Speed 1	
Running current [A]	0.60	0.29	0.18	0.11	
Input power [W]	80	35	18.5	8.5	
Air volume [m ³ /h]	230	165	120	65	
[L/s]	64	46	33	18	
External static pressure [Pa]	164	84	44	13	
Temperature exchange efficiency [%]	82.0	84.0	85.0	86.0	
Noise [dB]	31.0	25.0	19.0	14.0	
Insulation resistance	10MΩ or more				
Dielectric strength	AC 1000V 1 minute				
Maximum current [A]	0.8				

■Characteristic curve



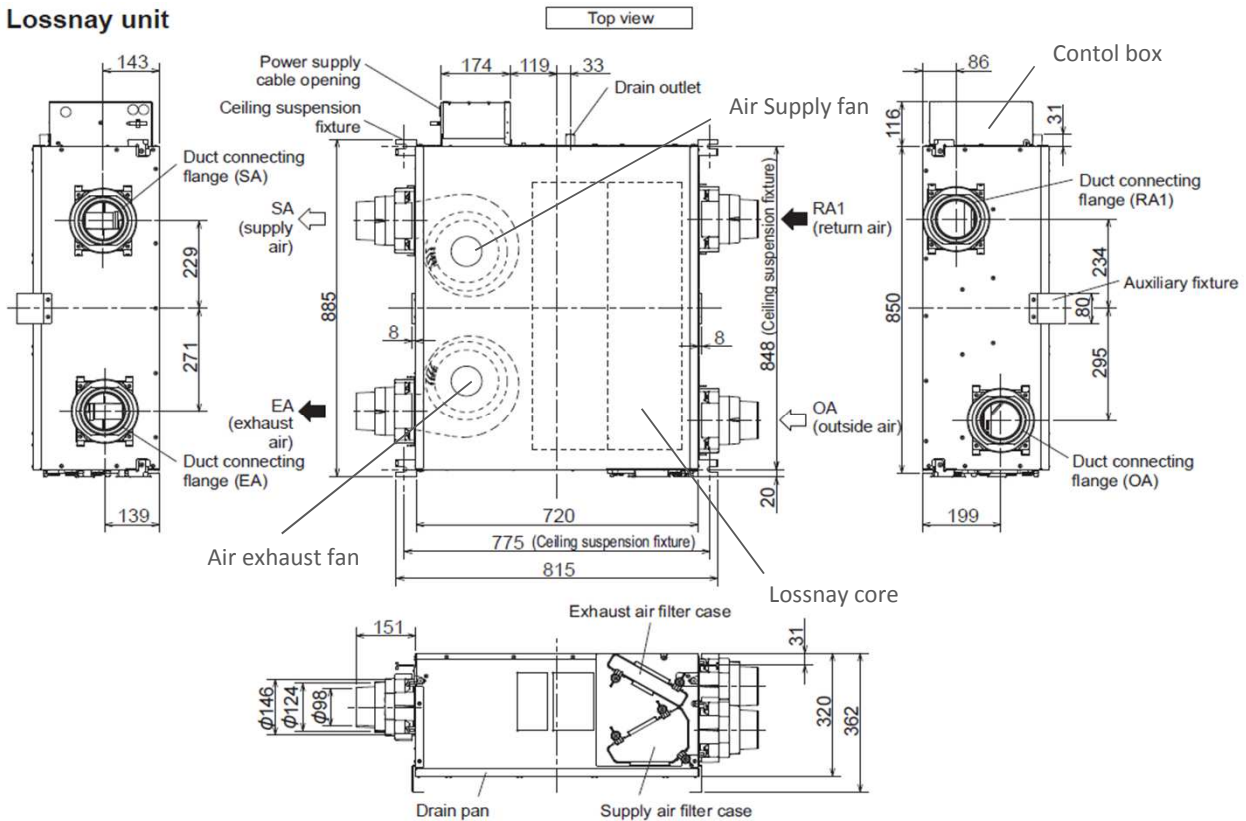
■Attention

1. The running current, the input power, the efficiency and the noise are based on the rating air volume, and 230V/50Hz. The noise is measured at 1.5m under the center of the unit in an anechoic chamber.
2. Temperature exchange efficiency (%) is based on winter condition.
3. Mitsubishi Electric measures figures in the chart according to Japan Industrial Standard (JIS B 8628), therefore 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-220CZGV-E	
	5-Nov-2015	NUMBER	N15SGGD0004A	1/5

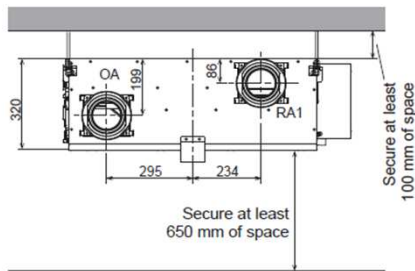
■ Outline drawings

Lossnay unit

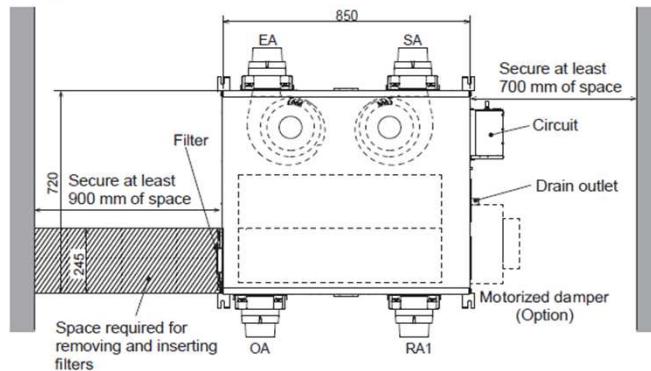


Working space (required space around Lossnay unit)

■ OA-RA side



■ Top side



	UNIT	SCALE
	mm	N.T.S

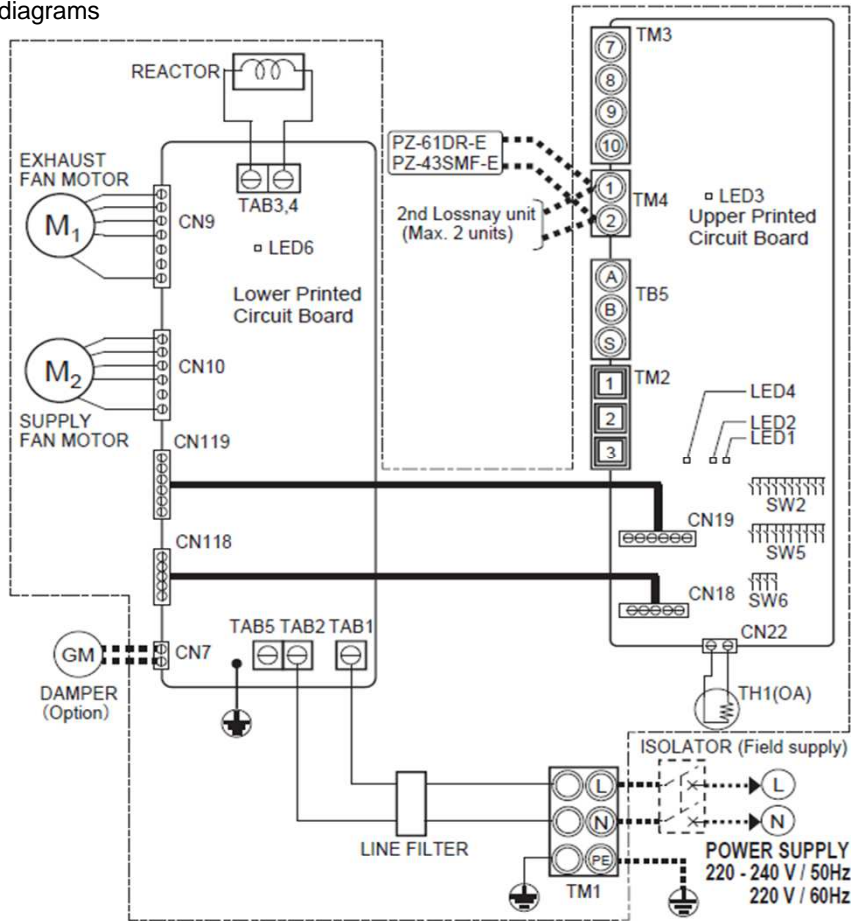
■ Attention

- Do not install the product at regions or locations that exceed the following operating conditions. (If these operating conditions are exceeded, dew condensation water might drip.)
 - Outdoor air temperature is -15 to 40 °C.
 - Surrounding air condition is 0 to 40 °C 80%RH, or less
 - Absolute humidity of Surrounding air or less where the dew point temperature of 12 °C (ex.20 °C 60%RH) is reached under the above minimum outdoor air temperature conditions.
- Do not install Lossnay unit vertically or on an incline.
- Do not install the Lossnay unit upside down.
- Provide an inspection opening at least 745 × 530 mm in size. (Locate the inspection opening at a position that allows the Lossnay unit to be carried to its installation site to perform installation work and that allows the worker to go to the installation site to perform maintenance.)
- When connecting the RA (return air) to a bathroom, be sure to branch into two lines and return air from two locations, the bathroom and living room.
- The duct connecting flange of the Lossnay unit can accommodate 100, 125 and 150 mm dia. ducts.
- For installation work parts, be sure to use only accessories and designated parts.
- Please note a clear working space is required around the installed product to allow the cover to be removed and provide sufficient access for maintenance such as filter change.
- The product must be installed indoors.

※Specification may be subject to change without notice.

OUTLINE DRAWINGS			
	DATE	TYPE	Heat Recovery Ventilator LOSSNAY
	5-Nov-2015	MODEL	VL-220CZGV-E
		NUMBER	N15SGGD0004A
			2/5

■ Wiring diagrams



Definition of symbols

M1: Motor for exhaust fan	TB5: Not in use	CN19: Connector
M2: Motor for supply fan	TAB1, TAB2, (TAB5): Connector (Power supply)	CN119: Connector
GM: Motor for By-pass damper	TAB3, TAB4: Connector (Reactor)	CN22: Connector (Thermistor OA)
TH1: Thermistor for outside air	CN7: Connector (Motor for By-pass damper)(Option)	LED1 to LED3: Inspection indicator lamp
SW2,5: Switch (Function selection)	CN9: Connector (Fan motor)	LED4, LED6: Power supply indicator lamp
SW6: Switch (Motorized damper (option) selector)	CN10: Connector (Fan motor)	SYMBOL : Terminal block
TM1: Terminal block (Power supply)	CN18: Connector	: Connector on PCB
TM2: Not in use	CN118: Connector	
TM3: Not in use		
TM4: Terminal block (Transmission cable)		

■ Attention

- Electrical work must be carried out safely and reliably by a professional electrical contractor (properly qualified electrician) in accordance with internal wiring provisions and electrical-equipment technical standards.
- Use 220 to 240 V AC power. Do not apply a different boltage to this product.
- Use the designated electric wires, and connect them securely so that they do not come loose.
- Be sure to install the ground wire.
- Limit the total wiring length between the Lossnay unit and the remote controller to 50m.
- Always use double insulated PVC cable for the transmission cables.
- All supply circuits must be disconnected before obtaining access to the terminal devices.
- TM1, TM4 shown in dotted lines are field work.
- CN7 (DAMPER) is optional. (the optional damper is P-133DUE-E)
- An all-pole power supply isolator must be installed.
- Always use an isolator for the main switch power connection.
- Use the remote controller. (PZ-61DR-E or PZ-43SMF-E)
- Up to two Lossnay units can be connected.
- Only one remote controller can be connected to the Lossnay unit. Two or more remote controllers cannot be connected.
- When using optional dampers (P-133DUE-E) and operating two Lossnay units with a remote controller, be sure to mount the damper on each Lossnay unit. Otherwise, the Lossnay units cannot operate properly.
- PZ-61DR-E and PZ-43SMF-E cannot be used together.
- Please understand that expenses incurred in recovery work shall be borne by the contractor.
- Select proper circuit breaker according to the electrical current information in the chart below.

Inrush current after power supply ON [A]	10 ms	6.1
	100 ms	3.6

WIRING DIAGRAMS

※Specification may be subject to change without notice.



DATE

5-Nov-2015

TYPE

MODEL

NUMBER

Heat Recovery Ventilator LOSSNAY
VL-220CZGV-E

N15SGGD0004A

3/5

■ Features of Lossnay

1. Effective ventilation routes can be achieved in the entire house by the supply air vent and the exhaust vent being installed at locations away from each other depending on the duct connection method.
2. Built-in filters reduce the influx of dust, pollen, etc, in outside air before the air is supplied to rooms.
3. Lossnay unit has three ventilation mode: heat exchanger mode, By-pass mode and Auto mode.
(By-pass mode and Auto mode can be used only when the optional motorized damper (P-133DUE-E) is used.)
(Initial preset temperature of Auto mode : At 22°C to 28°C, the by-pass mode is used.)
4. A filter maintenance sign is indicated on the remote controller.
(To use the function, change the initial setting according to the Installation Manual for VL-220CZGV-E)
5. The default fan speed value can be adjusted slightly. Use the PZ-61DR-E remote controller to reset the speed. After the unit is installed, when if the air volume is slightly lower or bigger than the desired airflow, it is possible to make fine adjustments. (Fan Speed 4 is available only 1 down and 2 down.)

■ 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 near bedrooms.
3. 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.
4. Install supply air and exhaust air grills at locations where they are less likely to reverberate.
5. 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.
6. Install the product so that discharged gas or exhaust air from burning appliances and equipment does not flow back inside the product.
7. At regions where salt damage is a concern, use an exclusive outdoor hood.
8. At regions where salt damage is a concern, parts may have to be replaced sooner because of the deterioration of materials that are used.
9. Use an exhaust air filter that has a net or a non-woven fabric type filter.
10. When ventilating a bathroom, operate the product for 24 hours.
11. Recommended to use optional high efficiency filter (P-220SHF-E) to improve in the collecting capacity of the supply air side filter.
12. Recommended to use optional middle efficiency filter (P-220EMF-E) to improve in the collecting capacity of the exhaust air side filter.

【Installing the Lossnay unit】

1. This product must be correctly installed to ensure that its performance and functions are properly demonstrated and to ensure its safe use and operation. Before installation, read this installation manual thoroughly. Before
2. Install the product and the duct piping on the indoor side of the insulation layer/airtight layer.
3. Install the product (on the ceiling) in the direction of the duct connecting flange so that it is horizontal (within $\pm 1^\circ$).
4. Be sure to install the product (on the ceiling) tilted at a downward pitch of 0 to 1° towards the side where the drain hose is installed.
5. Securely install parts so that they are not twisted or deformed.

【Duct piping】

1. Be sure to insulate ducts down to the base of the duct connecting flanges.
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. Do not allow duct piping to contact the inspection opening, ceiling hanging bolts, beams, pillars, and other duct piping.
4. 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.
5. 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.)
6. When installing the duct connecting flange (RA1,EA), fill in any gaps between the duct connecting flange openings and the openings (RA1,EA) of the duct connecting flange with caulking compound.(entire circumference of opening) (commercially available)
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.

SAFTY NOTES

※Specification may be subject to change without notice.



DATE

5-Nov-2015

TYPE
MODEL

NUMBER

Heat Recovery Ventilator LOSSNAY
VL-220CZGV-E

N15SGGD0004A

4/5

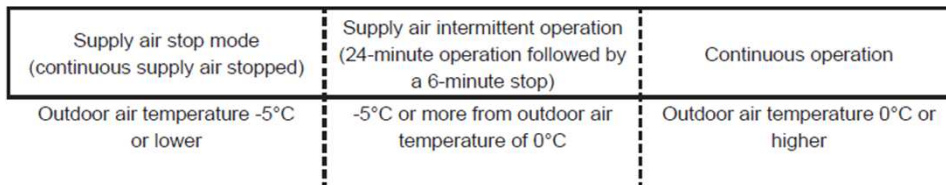
【Drain piping】

1. Firmly insert the drain hose (supplied) down to the base of the drain outlet. Connect the other end of the drain hose to a commercially available drain pipe (building side drain pipe : VP16 (outside diameter : φ22mm) hard PVC pipe).
2. 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 draining 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)
3. Be sure to connect the drain piping by the following procedure to prevent the noise of drain discharge water from occurring.
 - Make the opening at the end of the drain piping face down so that water drains well.
 - Ensure that the drain piping is at least 5m long.
 - Ensure that the number of bends in the drain piping and drain piping downward pitch are as indicated in the following table.
(Drain water that occurs inside the ventilation unit builds up due to the intake air pressure of the exhaust fan. This sometimes causes a knocking noise and the sound of water discharge.)

Piping length	Number of bends in pipe	Piping downward pitch
5 m or more, less than 6 m	2 locations or more	3° or more
6 m or more	1 location or more	1° or more

■ 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 controlled to approximately the following temperatures.
(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

※Specification may be subject to change without notice.



DATE

5-Nov-2015

TYPE
MODEL

NUMBER

Heat Recovery Ventilator LOSSNAY
VL-220CZGV-E

N15SGGD0004A

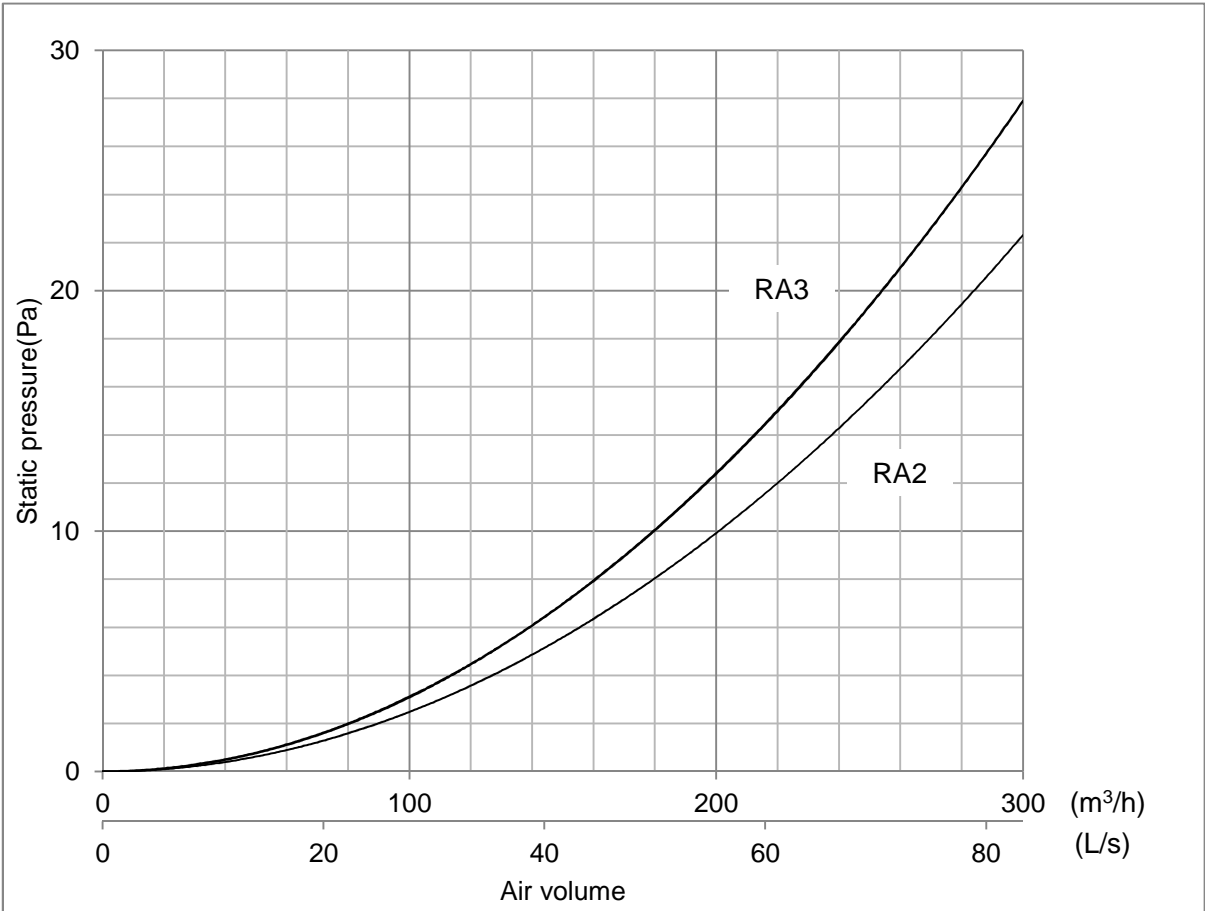
5/5

MODEL	P-133DUE-E	SIGN	
-------	------------	------	--


■ Characteristic table

Electrical power supply		220V 50Hz	230V 50Hz	240V 50Hz	220V 60Hz
Running current [A]		0.014	0.014	0.015	0.012
Input power [W]		2.6	2.8	3.1	2.2
Pressure loss (220m ³ /h at the time) [Pa]		RA2:12 RA3:15			
Weight [kg]		2.3			
Apply duct diameter [mm]		φ100, φ125, φ150			

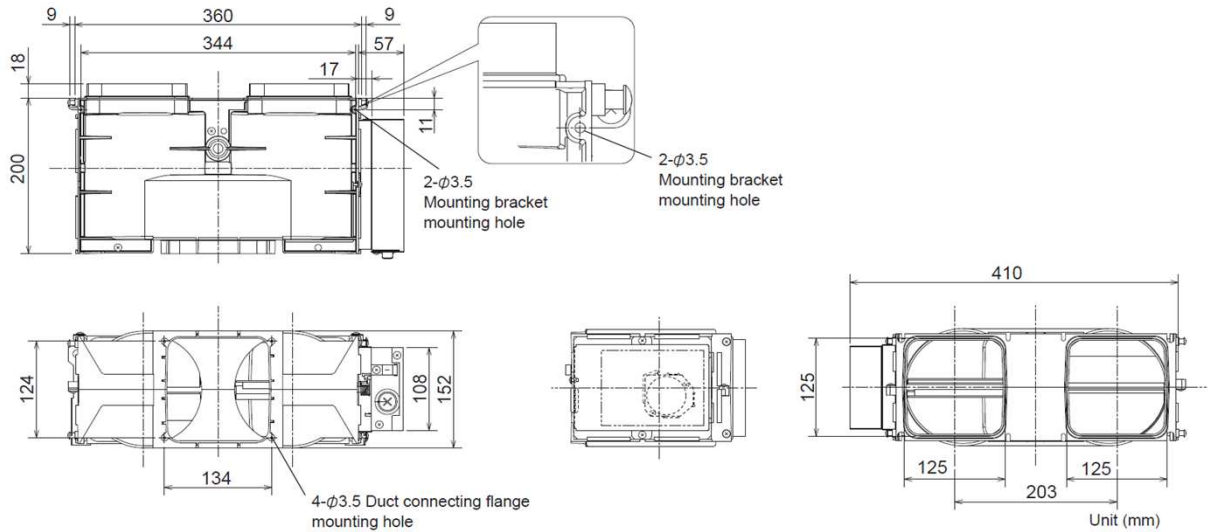
■ Pressure loss characteristic



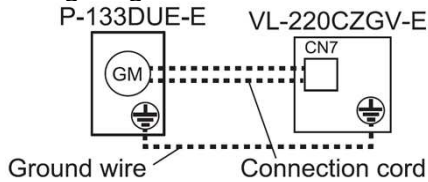
※Specification may be subject to change without notice.

SPECIFICATIONS	DATE	TYPE MODEL	Air Duct Switching Damper	
	27-Oct-2015	NUMBER	N15SGGD0006	1/3

■ Outline drawings



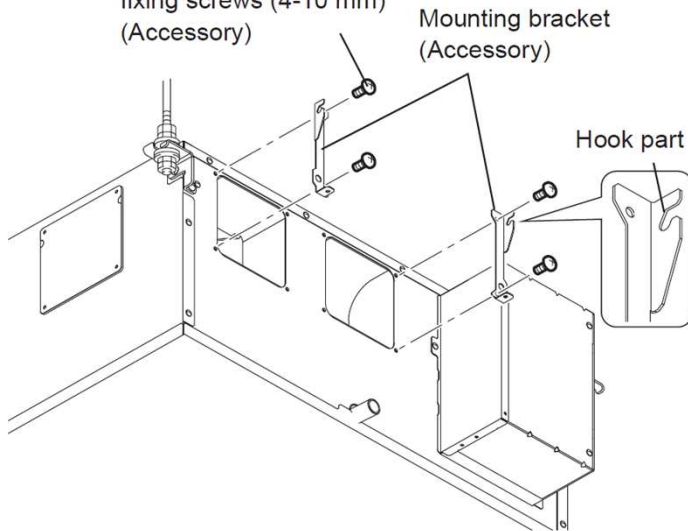
■ Wiring diagrams



- Connect the connector of P-133DUE-E connection cord to CN7 on the PCB of VL-220CZGV-E.
- Connect the ground wire of the damper to VL-220CZGV-E.

■ Mounting bracket fixing method

Four mounting bracket fixing screws (4-10 mm)
(Accessory)



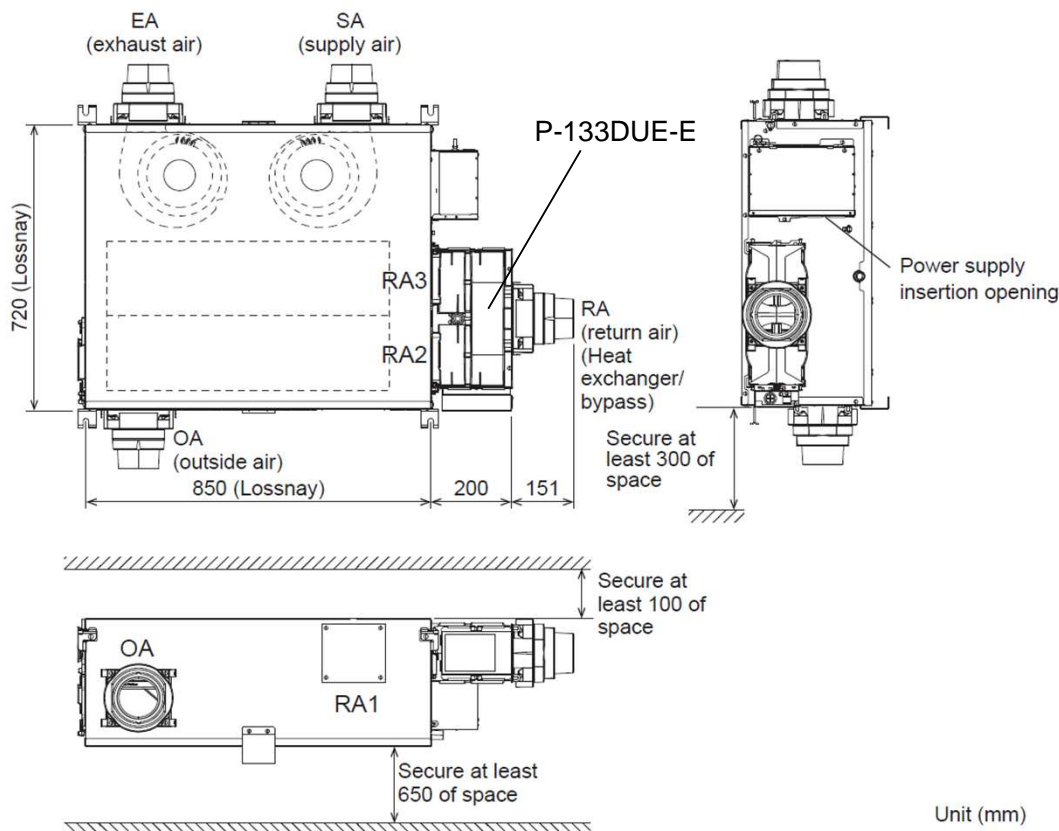
■ Accessories

Mounting brackets: 2 (One for each of left and right)	Mounting bracket fixing screws: 4 (4-10 mm)	Air duct switching damper fixing screws: 4 (4-10 mm)	Cord clip: 1	Cord clip fixing screw: 1 (4-10 mm)

※Specification may be subject to change without notice.

OUTLINE DRAWINGS	DATE	TYPE MODEL	Air Duct Switching Damper	
	27-Oct-2015	NUMBER	N15SGGD0006	2/3

■ Standard installation examples




■ General information

1. The damper is for installation between Lossnay and the return air (RA) side duct, and switches the air duct between the heat exchanger and bypass ventilation. Do not use it for any other purpose (commercial use, etc.). The incorrect operation may be a cause of a malfunction.
2. The operation sound of the damper for air duct switching is not abnormal.

■ Caution for installation

1. The damper must be correctly installed to ensure that its performance and functions are properly demonstrated and to ensure its safe use and operation. Please read the Installation and Instruction Manual carefully before installation.
2. Securely install the damper without twist or deformation.
3. When installing the damper, please read also the instruction manuals for Lossnay
4. When connecting the return air (RA) to a bathroom, be sure to branch into two lines and return air from two locations, the bathroom and living room.
5. When installing the damper, fill in any gaps between the damper openings and the openings (RA2•RA3) of Lossnay (entire circumference of opening) and between the damper opening(RA) and the opening of the duct connecting frange (entire circumference of opening) with caulking compound (commercially available).
6. The damper must be installed indoors.

※Specification may be subject to change without notice.

SAFTY NOTES	DATE	TYPE MODEL	Air Duct Switching Damper	
	27-Oct-2015	NUMBER	N15SGGD0006	3/3