

# Central Heating and Ventilation

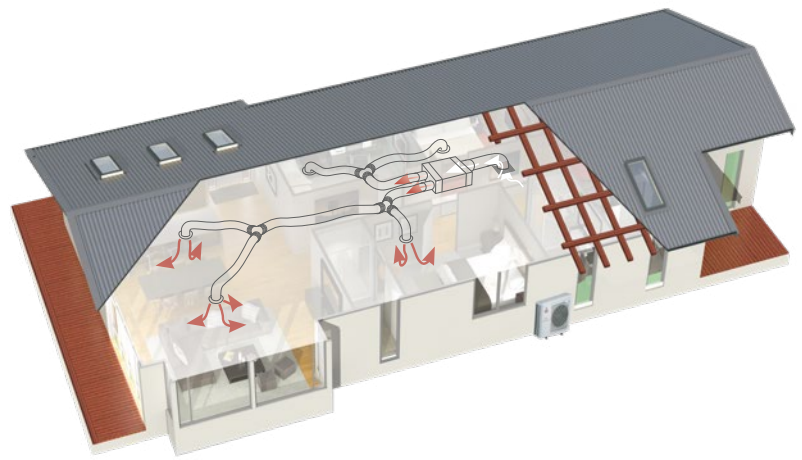
Highly Efficient Ducted Heating, Cooling and Ventilation



Quiet, Unobtrusive Year-Round Comfort for Your Whole Home

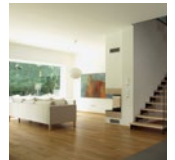
# Experience Year-Round Comfort With a Whole Home Ducted Heat Pump System

A Mitsubishi Electric Ducted Heat Pump System is designed to provide whole home central heating or cooling at a constant temperature throughout the house. Ideal for installing in new builds or retrofitted into existing homes, it is a cost-effective and energy efficient solution for year-round comfort. Mitsubishi Electric Ducted Systems are whisper quiet, and with only its grilles visible, it is the perfect unobtrusive solution for whole home heating or cooling at the same time.



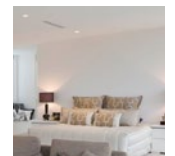
## Hidden From View

Installed in the ceiling with only subtle grilles visible, a ducted system lets your interior design style take centre stage. Not only does a ducted system provide a whole home heating or cooling solution, it offers a sleek installation for the design-conscious.



## Grille Options to Compliment Your Interior Design

Mitsubishi Electric Ducted Heat Pump Systems allow for a wide range of grille options to best suit your installation needs. From ceiling and wall installations, to underfloor grille options, talk to your installer about what's right for you.



## Easy to Use 7-Day Wall Controller to Maximise Energy Efficiency

This attractive full dot liquid crystal display incorporates a large backlit screen and simple menus for easy operation. You can set up to eight temperature and airflow patterns per day for seven days, maximising energy efficient operation – saving you both time and money.



## Optional Wi-Fi Control – Never Return to a Cold Home Again

Pre-heat or cool the whole home no matter where you are. On the way home, running late, coming home early, or even when you're in a different country, with optional Wi-Fi Control you'll always arrive home to total comfort.



## Optional Zone Control

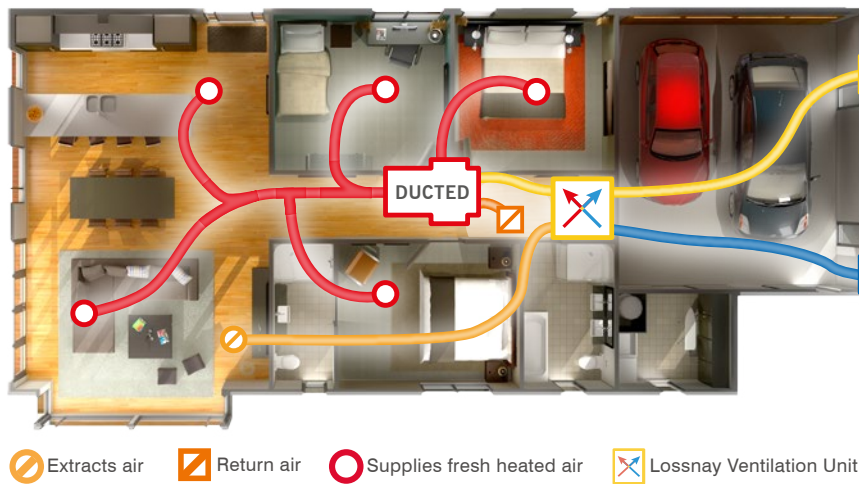
Program and control up to 4 or up to 8 individual zones, providing heating or cooling only to the rooms that require it.

Built-in sensor functions monitor room temperature, brightness and occupancy to maximise energy efficient use of the whole system throughout the home or just those rooms where it's needed most.



Note: All images are for illustrative purposes only.

# Combine a Ducted System with Fresh Air Heat Recovery Ventilation



Maximise comfort by combining our ducted system with Lossnay Balanced Pressure Ventilation. Mitsubishi Electric Lossnay Ventilation can be integrated with a PEAD Ducted Heat Pump System offering a complete home heating, cooling and ventilation solution.

The Lossnay Balanced Pressure Ventilation System recovers heat from the stale, damp air it extracts from your home – and then uses that energy to pre-warm or pre-cool the incoming filtered fresh air. This means that when Lossnay is combined with your ducted system, your home can be brought to the desired temperature faster because the heating system is not required to work as hard to do so.

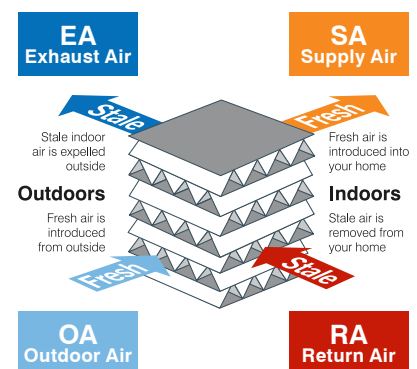
By having a well ventilated home the air is also much drier, further speeding up the efficient heating process. In addition, because fresh air is brought in from the outside and not from the attic, air quality is maximised.

When these two systems are combined to work together, it will ultimately create a drier, healthier environment for you and your family.

	Heat Pump	Ventilation	Ducted Heat Pump + Ventilation
Heating/Cooling	✓	-	✓
Fresh Outside Air	-	✓	✓
Filtered Air (dust etc. removed)	✓	✓	✓
Energy Efficient	✓	✓	✓
Heat/Energy Recovery (Heat Exchange)	-	✓	✓

## How the Lossnay Core Works

- RA Return Air**  
 The stale air extracted from your home is Return Air (RA). Return Air can contain high levels of CO<sub>2</sub>, odours and other pollutants. This Return Air stream also contains heat energy that Lossnay can recover, which is not the case with positive pressure ventilation systems.
- EA Exhaust Air**  
 As the stale Return Air is removed, the Lossnay Core 'recovers' the useful heat energy from it. The air is then exhausted (EA) outside along with the unwanted pollutants.
- OA Outdoor Air**  
 Outdoor Air (OA) is introduced to provide fresh air. It is first filtered, then passed through the Lossnay Core. This allows it to be pre-heated in winter (or pre-cooled in summer) using the energy recovered from the Return Air.
- SA Supply Air**  
 Supply Air (SA) then enters your house as fresh pre-heated or pre-cooled air.



# The Lossnay Difference

The Mitsubishi Electric Lossnay System is a patented heat recovery ventilation solution that uses fresh air (not attic air) to ventilate your home. The system works by extracting stale air from inside your house and replacing it with allergen-reduced fresh air from outside.

Furthermore, Lossnay also recovers heat energy from the outgoing stale air to pre-warm (or pre-cool) the fresh air being drawn into your home.

## Recovers Energy to Pre-warm or Pre-cool Incoming Fresh Air

Lossnay's unique Heat Recovery Technology collects up to 92% of the heat energy in outgoing air to pre-warm or pre-cool the incoming fresh air.



## Energy Efficient, Save on your Power Bill\*<sup>1</sup>

With Lossnay's Heat Recovery Technology, less additional heating/cooling of incoming air is required to achieve your ideal home temperature – saving you money.



## Moisture and Condensation Control

Effectively reduces moisture in your home by directly removing stale air that causes condensation.



## Automatic Free Cooling\*<sup>2</sup> Mode

When specific conditions are met\*<sup>3</sup>, Lossnay will automatically enter Automatic Free Cooling Mode. As a result, cooler fresh air is introduced and stale air is extracted, bypassing the Lossnay Core. This is ideal for cooling down a dwelling that may have overheated during the day, once the outside temperature has dropped in the evening.



## Now You Can See and Feel the Lossnay Difference!

The Lossnay Wi-Fi Control App lets you see by how many degrees Lossnay is pre-warming or pre-cooling your home and reminds you to clean the unit's filters, maximising cost efficiency and health benefits.



## Fresh Air Without Open Windows

Lossnay ensures a well-ventilated home without opening windows, enhancing safety and minimising outdoor noise for your family.



## Improved Air Quality

By drawing in fresh outdoor air and not attic air, indoor air quality is improved as high levels of CO<sub>2</sub>, odours, pollen and other pollutants are removed – ideal for allergy and asthma sufferers.



## Whisper Quiet Operation

From an ultra quiet 14dB<sup>4</sup>, Lossnay is the ideal solution for residential homes and apartments where quiet comfort is key.



## Easy To Clean

The standard filters can be removed for regular cleaning to keep the unit in optimal working condition.



\*<sup>1</sup> Compared to the use of a 100% fresh air, conventional ventilation system.

\*<sup>2</sup> In comparison to using a dedicated cooling device. The unit will continue to use a small amount of power to bring colder fresh air from outside.

\*<sup>3</sup> Lossnay must be in Auto Mode, and the outdoor air is cooler than the desired set temperature inside your home.

\*<sup>4</sup> VL-220CZGV-E on lowest fan speed. Measured at 1.5m.

# Fresh Air Heat Recovery Ventilation for all Types of Applications

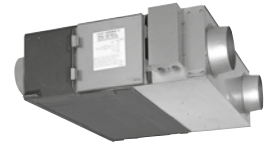
Ventilating your home is vital as it maintains air quality and reduces moisture, creating a healthier and more comfortable environment. There is a Lossnay solution to suit most New Zealand homes, from whole home ducted to single room applications.

Lossnay is specifically designed for more airtight homes built to the current New Zealand Building Code; delivering the optimum amount of fresh air without creating draughts and minimising indoor temperature fluctuations.

## Whole Home Ventilation

### In-Ceiling Solutions

These ducted whole home balanced pressure Lossnay Heat Recovery Ventilation Systems are designed for installation in homes that have available roof or attic space to accommodate the heat exchanger and corresponding ducting.



### Vertical Solutions

The slimline, Vertical Lossnay Series features a small, upright footprint that can be placed in the garage or a utility cupboard and is not limited to an in-roof installation.



## Single Room Ventilation

### In-Ceiling Single Room Solutions

This cost effective ventilation system is specifically designed to provide fresh filtered air to a single room with the additional benefit of energy efficient heat recovery at the same time. The ducted design means the system can be installed in the roof or attic space, so it is unobtrusive and hidden away.



### Wall Mounted Single Room Solutions

This easy to install back-to-back wall mounted system is designed to provide cost effective energy recovery ventilation to one specific area in the home. The ductless design means the system is ideal for homes and buildings where there is no roof space to install a heat exchanger.



ADVANCED  
**Wi-Fi**  
CONTROL



## Make Heat Recovery Ventilation Visible – with Advanced Lossnay Wi-Fi Control

Elevating air quality and maximising energy efficiencies has never been easier, because now the power is in your hands.

See by how many degrees<sup>\*5</sup> Lossnay is pre-warming or cooling your home in real time, helping you save on your power bill because less additional heating is required to get a room up to temperature.

And in summer, monitor by how many degrees Lossnay can reduce the average temperature in your home, using Automatic Free Cooling<sup>\*2</sup> Mode.

The app will also proactively remind you when it is time to clean your filters to maximise both cost efficient operation and health benefits.

Lossnay Wi-Fi Control truly is the smart evolution in fresh air ventilation.

<sup>\*2</sup> In comparison to using a dedicated cooling device. The unit will continue to use a small amount of power to bring colder fresh air from outside.

<sup>\*5</sup> The outside 'Fresh Air' and the inside 'Avg Temp' air temperatures are measured by the built-in sensors that are centrally located in the main Lossnay Ventilation unit.

# Zone Controller



Zone Control will enable your Mitsubishi Electric Ducted Central Heat Pump System to program and control either up to 4 or up to 8 individual zones, providing heating or cooling only to the rooms that require it. Built-in sensor functions monitor room temperature, brightness and occupancy to maximise energy efficient use of the whole system throughout the home or just those rooms where it is needed.\*

## Features

### Temperature Sensor

With an inbuilt thermostat (PAR-ZC01ME-E wall controller), the Zone Controller allows the actual usable space temperature to be measured, offering a more realistic and timely temperature measurement where it is needed most.

### Occupancy Sensor

The Zone Controller (via the PAR-ZC01ME-E wall controller) constantly monitors the usable area to detect vacancy. Once detected, one of four user defined energy-save control options can be implemented to reduce energy consumption: turn the unit on/off, lower the fan speed, temperature offset, or turn user designated zones on/off.

### Brightness Sensor

Working in conjunction with the Occupancy Sensor, the Brightness Sensor can be set to maximise energy savings when it detects user defined "Light" or "Dark" conditions (lux values).

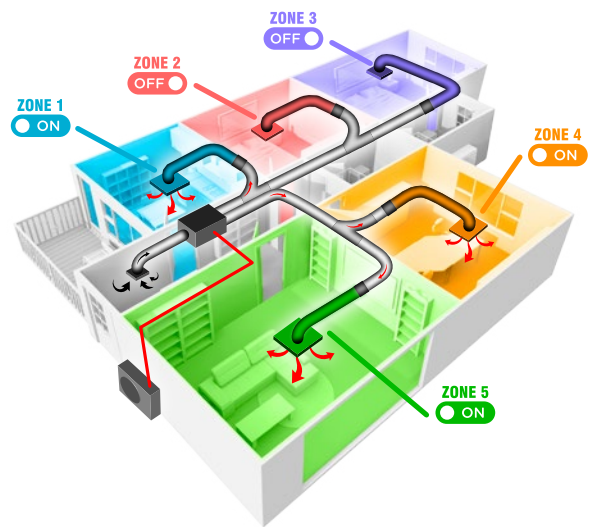
### Backlit LCD Touch Screen

Featuring a liquid-crystal display (LCD), back lit for operation in dark conditions. For ease of use, the user defined coloured LED indicator (at the bottom of the controller) lights up to indicate the current operation mode i.e. red for Heating, blue for Cooling, green for Night Setback.

### Intuitive Airflow Control

Where traditional ducted systems require manual adjustment of the indoor fan speed, the PAC-ZC40/80, equipped with the exclusive Mitsubishi Electric Intuitive Airflow Control, intuitively detects which zones you have open/closed and adjusts the fan speed accordingly. When zones are not in use the fan speed is lowered automatically, leading to increased overall energy savings.

\* Allows connection of up to 2x optional thermistors (PAC-SE41TS-E).



# Optional Wi-Fi Control

Advanced temperature monitoring and management. Now you can control, monitor and schedule which zones your ducted heat pump is controlling in real time from anywhere via your smart phone, tablet or online account.



# Specifications

## Ducted PEAD Series

Specifications: Ceiling-Concealed (PEAD)

REFRIGERANT		R32											
Indoor Unit		PEAD-M50		PEAD-M60		PEAD-M71JAA		PEAD-M100JAA		PEAD-M125JAA		PEAD-M140JAA	
Function		Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating	Cooling	Heating
Capacity (min.-max.)	(kW)	5.0 (2.3-6.2)	6.0 (1.7-7.4)	6.0 (2.3-6.5)	7.0 (2.8-8.0)	7.1 (2.8-8.1)	8.0 (2.6-10.2)	10.0 (4.9-11.4)	11.2 (4.5-14.0)	12.5 (5.5-14.0)	14.0 (5.0-16.0)	14.0 (6.2-15.3)	16.0 (5.7-18.0)
Power Input	(kW)	1.33	1.44	1.72	1.85	1.98	2.00	2.67	2.80	3.66	3.52	4.37	4.18
Rated EER/COP		3.75	4.16	3.48	3.78	3.58	4.00	3.74	4.00	3.41	3.97	3.20	3.82
Rated AEER/ACOP		3.70	4.09	3.43	3.72	3.53	3.93	3.61	3.86	3.32	3.86	3.13	3.73
Power Supply Outdoor Unit		230V, Single-phase, 50Hz											
Airflow	(m <sup>3</sup> /h)	12 - 14.5 - 17		14.5 - 18 - 21		1051-1260-1501		1440-1738-2041		1771-2131-2520		1918-2340-2761	
	(L/s)	200 - 242 - 283		242 - 300 - 350		292-350-417		400-483-567		492-592-700		533-650-767	
External Static Pressure	(Pa)	35/50/70/100/125											
Sound Pressure Level	(dBA)	30 - 35 - 39		30 - 32 - 36		30-33-38		33-38-42		36-40-44		40-44-49	
Dimensions W x D x H	(mm)	900 x 732 x 250		1,100 x 732 x 250				1,400 x 732 x 250				1,600 x 732 x 250	
Weight	(kg)	26		29		30		39		40		44	
Outdoor Unit		SUZ-M50VAD		SUZ-M60VAD		SUZ-M71VAD		PUZ-ZM100VKA2		PUZ-ZM125VKA2		PUZ-ZM140VKA2	
Dimensions	Height	(mm)	714		880				1338				
	Width	(mm)	800		840				1050				
	Depth	(mm)	285		330		330 (+25)		330 (+40)				
Weight	(kg)	41		54		55		114		114		114	
Operation Range Outdoor	Cooling	[°C]	-15 ~ 52				-5 (-15*) / 52						
	Heating	[°C]	-15 ~ 24				-20 / 21						

\*With optional air protection guide

## VL Whole Home Range

Specifications: Fresh Air Home Ventilation

Type	In-Ceiling Concealed Ducted								Vertical Wall Mounted Ducted											
Model	VL-220CZGV-E								VL-250CZPVU-L/R-E				VL-350CZPVU-L/R-E				VL-500CZPVU-L/R-E			
Ventilation Modes	Heat Recovery Mode								Heat Recovery Mode				Heat Recovery Mode				Heat Recovery Mode			
Heat Exchange System	Heat Recovery Ventilating System								Heat Recovery Ventilating System				Heat Recovery Ventilating System				Heat Recovery Ventilating System			
Heat Exchange Material	Water-Resistant Paper Sensible Heat Exchanger								Synthetic Resin Sensible Heat Exchanger				Synthetic Resin Sensible Heat Exchanger				Synthetic Resin Sensible Heat Exchanger			
Surrounding Air Condition	Between 0°C and 40°C, 80%RH or less								Indoor temperature and humidity should not exceed the dew point temperature 12°C				Indoor temperature and humidity should not exceed the dew point temperature 12°C				Indoor temperature and humidity should not exceed the dew point temperature 12°C			
Return (Suction) Air Condition	Up to 40°C, 95%RH								Up to 40°C, 95%RH				Up to 40°C, 95%RH				Up to 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.								-3°C to -15°C: Intermittent operation. -15°C or less: Continuous supply air stopped				-3°C to -15°C: Intermittent operation. -15°C or less: Continuous supply air stopped				-3°C to -15°C: Intermittent operation. -15°C or less: Continuous supply air stopped			
Electrical Power Supply	220-240V / 50Hz								220-240V / 50Hz				220-240V / 50Hz				220-240V / 50Hz			
Fan Speed	Fan Speed 4	Fan Speed 3	Fan Speed 2	Fan Speed 1	Fan Speed 4	Fan Speed 3	Fan Speed 2	Fan Speed 1	Fan Speed 4	Fan Speed 3	Fan Speed 2	Fan Speed 1	Fan Speed 4	Fan Speed 3	Fan Speed 2	Fan Speed 1				
Input Power	(W)	80	35	18.5	8.5	106	44	23	11	155	71	37	19	275	104	49	21			
Air Volume - Heat Recovery Mode	(m <sup>3</sup> /h)	230	165	120	65	250	175	125	75	320	224	160	96	500	350	250	150			
	(L/s)	64	46	33	18	69	49	35	21	89	62	44	27	139	97	69	42			
External Static Pressure	(Pa)	164	84	44	13	150	74	38	14	150	74	38	14	200	98	50	18			
Temperature Exchange Efficiency (%)		82	84	85	86	85	87	88	90	85	87	88	90	85	87	89	92			
Noise (dBA) (Measured at 1.5m under the centre of the unit in an anechoic chamber)		31	25	19	14	31	22	16	15>	35	26	19	15>	37	29	22	15>			
Duct Size	(mm)	150				122				145				183						
Interlock Cable Included (CN2L)		No				Yes				Yes				Yes						
Dimensions W x D x H	(mm)	850 x 720 x 320				595 x 356 x 565				658 x 432 x 623				725 x 556 x 632						
Weight	(kg)	31				26				32				39						

# LGH Whole Home Range

## Specifications: Fresh Air Home Ventilation

Type	In-Ceiling Concealed Ducted								
Model	LGH-15RVX3-E		LGH-25RVX3-E		LGH-35RVX3-E		LGH-50RVX3-E		
Ventilation Modes	Energy Recovery Mode, Bypass Ventilation Mode		Energy Recovery Mode, Bypass Ventilation Mode		Energy Recovery Mode, Bypass Ventilation Mode		Energy Recovery Mode, Bypass Ventilation Mode		
Heat Exchange System	Energy Recovery Ventilation System		Energy Recovery Ventilation System		Energy Recovery Ventilation System		Energy Recovery Ventilation System		
Heat Exchange Material	Specially Treated Paper Plate Heat Exchanger		Specially Treated Paper Plate Heat Exchanger		Specially Treated Paper Plate Heat Exchanger		Specially Treated Paper Plate Heat Exchanger		
Surrounding Air Condition	Between 0°C and 40°C, 80%RH or less		Between 0°C and 40°C, 80%RH or less		Between 0°C and 40°C, 80%RH or less		Between 0°C and 40°C, 80%RH or less		
Return (Suction) Air Condition	Up to 40°C, 80%RH		Up to 40°C, 80%RH		Up to 40°C, 80%RH		Up to 40°C, 80%RH		
Supply Fan Operation Under Low Outdoor Temperature	-10°C to -15°C: Intermittent operation 60 min ON, 10 min OFF. -15°C or less: Intermittent operation 55min OFF, 5 min ON.		-10°C to -15°C: Intermittent operation 60 min ON, 10 min OFF. -15°C or less: Intermittent operation 55min OFF, 5 min ON.		-10°C to -15°C: Intermittent operation 60 min ON, 10 min OFF. -15°C or less: Intermittent operation 55min OFF, 5 min ON.		-10°C to -15°C: Intermittent operation 60 min ON, 10 min OFF. -15°C or less: Intermittent operation 55min OFF, 5 min ON.		
Electrical Power Supply	220-240V / 50Hz		220-240V / 50Hz		220-240V / 50Hz		220-240V / 50Hz		
Fan Speed	Fan Speed: High	Fan Speed: Low	Fan Speed: High	Fan Speed: Low	Fan Speed: High	Fan Speed: Low	Fan Speed: High	Fan Speed: Low	
Input Power	(W)	55	10	75	11	120	15	185	15
Air Volume - Heat Recovery Mode	(m <sup>3</sup> /h)	150	38	250	63	350	88	500	125
	(L/s)	42	10	69	17	97	24	139	35
External Static Pressure	(Pa)	120	8	120	8	160	10	150	10
Temperature Exchange Efficiency (%)		73.5	81.5	75.5	88.0	75.0	82.0	70.5	75.0
Noise (dBA) (Measured at 1.5m under the centre of the unit in an anechoic chamber)		27.0	17.0	30.5	17.0	30.5	17.0	35.0	17.0
Duct Size	(mm)	100		150		150		200	
Interlock Cable Included (CN2L)		Yes		Yes		Yes		Yes	
Dimensions W x D x H	(mm)	780 x 610 x 289		780 x 735 x 289		888 x 874 x 331		888 x 1016 x 331	
Weight	(kg)	20		22		30		33	

Note: Other models of the LGH Range are available (air volume from 38–2,000 m<sup>3</sup>/h).

# Lossnay VL100 Single Room Range

## Specifications: Single Room Ventilation

Type	Wall Mounted Single Room			In-Ceiling Single Room		
Model	VL-100EU5-E			VL-100ZSKRT-E		
Ventilation Modes	Energy Recovery Mode			Energy Recovery Mode		
Heat Exchange System	Energy Recovery Ventilation System			Energy Recovery Ventilation System		
Heat Exchange Material	Specially Treated Paper Plate Heat Exchanger			Specially Treated Paper Plate Heat Exchanger		
Surrounding Air Condition	Between -10°C and 40°C, 80%RH or less			Between -10°C and 40°C, 80%RH or less		
Return (Suction) Air Condition	Up to 40°C, 80%RH			Up to 40°C, 80%RH		
Electrical Power Supply	230V / 50Hz			230V / 50Hz		
Fan Speed	Fan Speed: High		Fan Speed: Low	Fan Speed: High	Fan Speed: Low	
Input Power	(W)	31	15	32	15	
Air Volume - Heat Recovery Mode	(m <sup>3</sup> /h)	105	60	78	42	
	(L/s)	29.1	16.6	21.7	11.7	
Temperature Exchange Efficiency (%)*		73	80	49	62	
Noise (dBA) (Measured at 1.5m under the centre of the unit in an anechoic chamber)		37	25	40	25.5	
Duct Size	(mm)	-			100	
Dimensions W x D x H	(mm)	620 x 200 x 265			Unit:	386 x 386 x 204
					Grille:	455 x 455 x 9
Weight	(kg)	7.5			6	

\*In heating mode

**Please note:** When deciding on the best place to position the Lossnay Ventilation System, care needs to be taken to not have incoming air intake near or close to a wood burner flue.