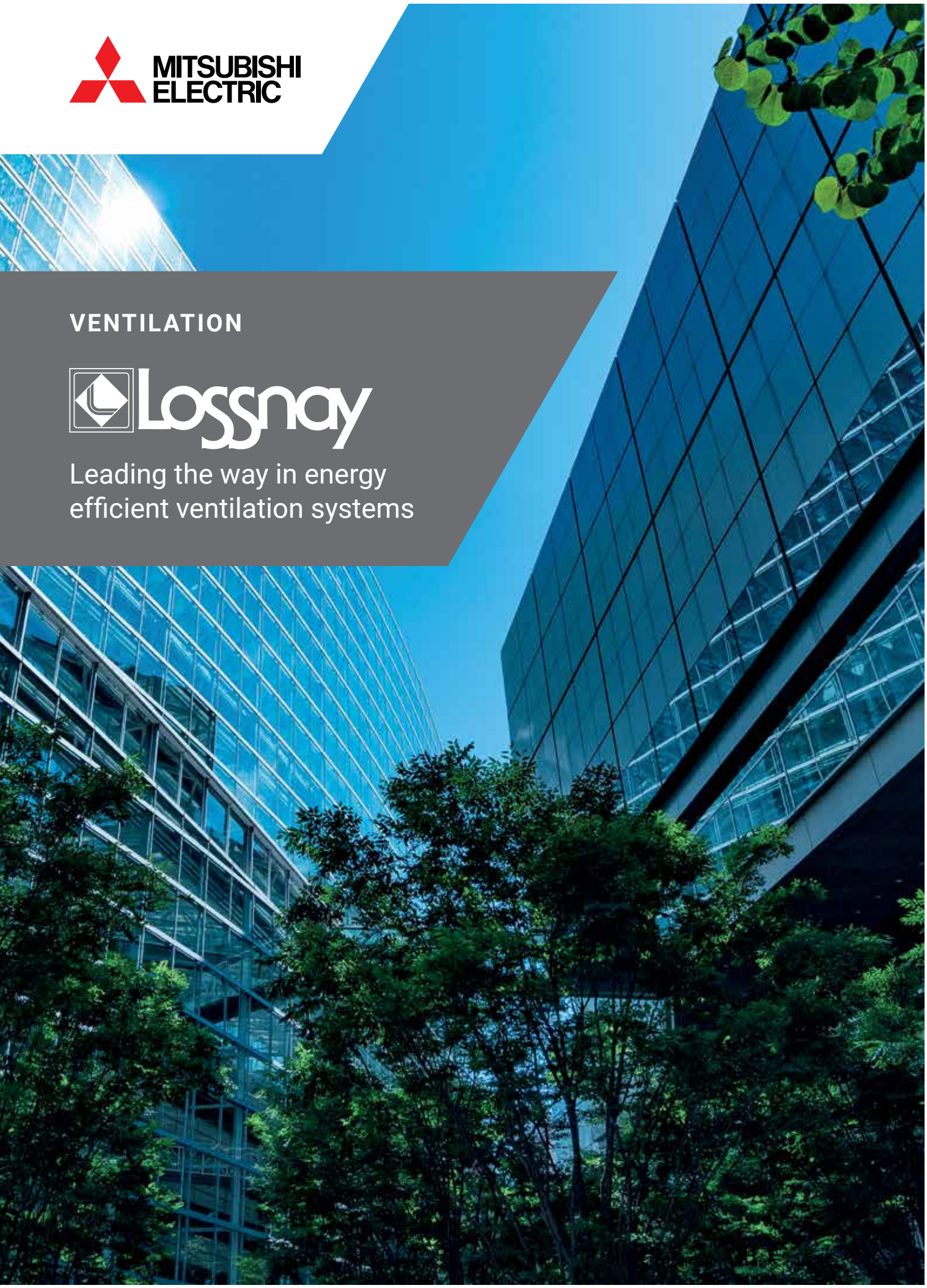
MITSUBISHI ELECTRIC

VENTILATION

Lossnay

Leading the way in energy efficient ventilation systems



Changes for the Better

Mitsubishi Electric has been an integral part of Australian businesses, and households, for more than 50 years, providing high-quality, innovative products.

We pride ourselves on being able to deliver pioneering solutions that heat, cool, ventilate and control our building.

MITSUBISHI ELECTRIC
#ALifeMoreElectric

Contents

Introducing Lossnay

The inspiration for our revolutionary Lossnay range came in 1968 when one of Mitsubishi Electric's engineers watched his young daughter playing.

She had taken a leaflet out of a newspaper and rolled it into a cylinder. She held the opening at the top up to her mouth and breathed into the hollow structure, making warm air. The engineer, watching, realised something significant: paper has heat-conducting properties. This simple observation sparked a new idea that would lead to the creation of a groundbreaking energy recovery ventilation system.

Since then, Lossnay has been developed and extended to include domestic and commercial ranges to help deliver energy efficient ventilation and improve Indoor Air Quality (IAQ) in many types of building.

Indoor Air Quality

The Foundation of Health and Wellbeing

The Department of Climate Change, Energy, the Environment and Water (DCCEEW) and World Health Organisation (WHO) recognise that the air we breathe significantly impacts our health. Poor indoor air quality is increasingly linked to long-term ill health and the transmission of cold and flu viruses.

Indoor air quality is an essential consideration at home or in the workplace.

Ventilation systems are crucial for helping ensure high indoor air quality. They work by expelling stale air and contaminants from indoor environments and replacing it with fresh outdoor air.

The principles behind ventilation are simple, but there are key factors to consider in the specification, design, and installation of these systems. Initially, the system must effectively remove old air from the building.

Subsequently, it's important that the incoming air is clean and free from pollutants. Mitsubishi Electric offers ventilation solutions equipped with filters to purify the incoming air.

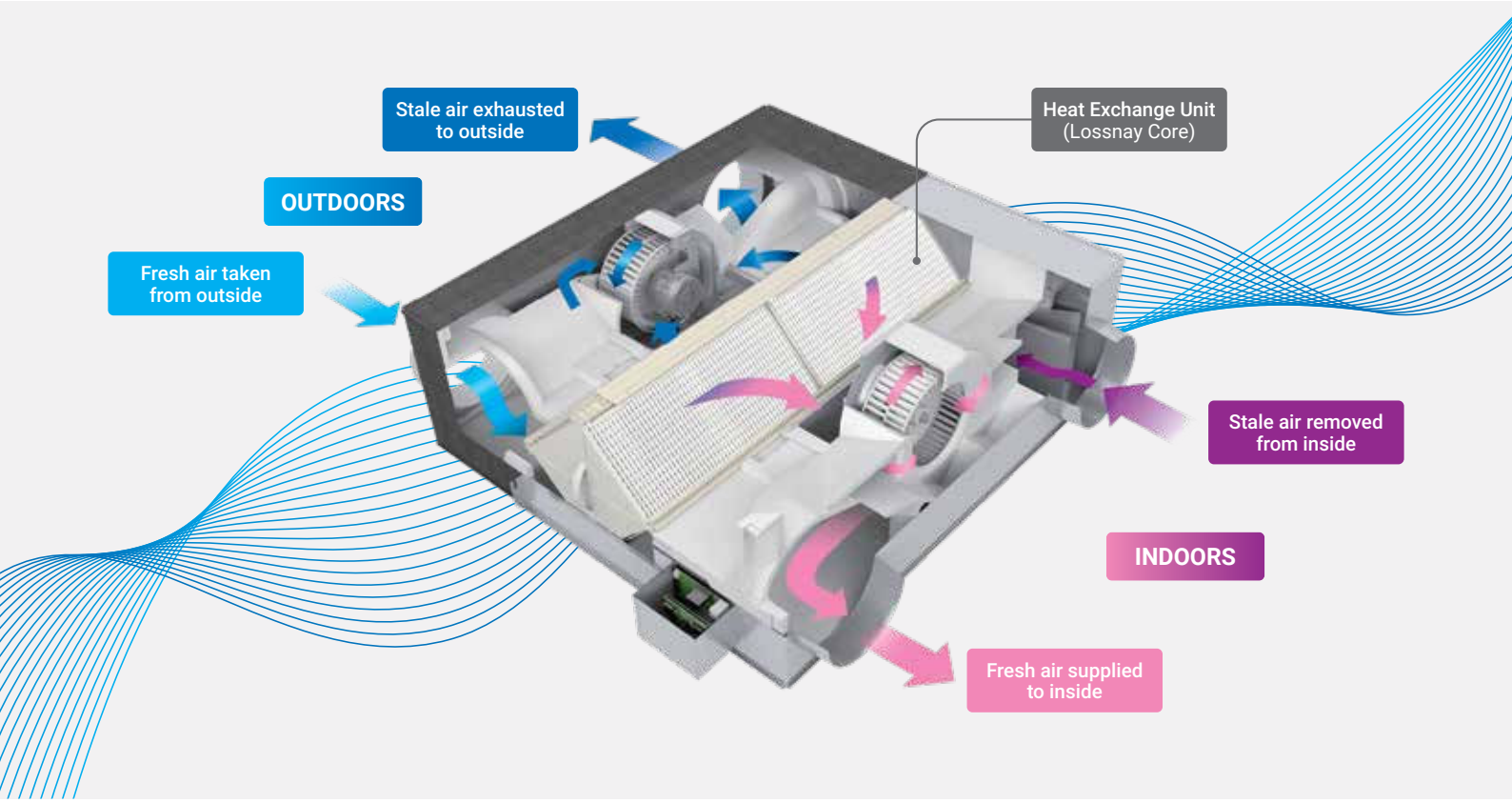
A third critical aspect is achieving a balance between maintaining excellent IAQ and optimising energy efficiency. Since outdoor air can vary in temperature, it's important to ensure that the system provides comfort while managing the energy required to regulate indoor temperature and humidity.

Mitsubishi Electric ventilation systems feature advanced technologies like heat recovery, which help to mitigate energy loss while maintaining good indoor air quality.

Heat Recovery Ventilation

The IAQ solution for today's buildings

The Mitsubishi Electric Lossnay range is centred around the principles of Heat Recovery Ventilation. HRV is a highly energy efficient technology that delivers excellent indoor air quality. With quiet operation and excellent control for easy operation, Lossnay's HRV approach is the ideal solution for today's ventilation needs in homes, offices and schools.



How does Heat Recovery Ventilation work?

Natural ventilation can be unreliable as it depends on natural currents, which may be hindered by unopenable windows. In contrast, Heat Recovery Ventilation uses fans to ensure a consistent and controllable airflow throughout a building.

Heat recovery ventilation operates with two separate airflows: one extracts stale air from inside and expels it outside, while the other brings in fresh outdoor air, which can be filtered if needed. The Mitsubishi Electric Lossnay system includes a heat exchanger that transfers heat between these two airflows, enhancing energy efficiency.

Lossnay Units are designed to provide optimal ventilation by delivering the right amount of fresh air while removing stale air efficiently. Additionally, during summer nights, the Lossnay system's night purge function brings in cooler air through a bypass damper, reducing internal temperatures and lowering the air conditioning load for the next day.

Heat Exchange

Technology at the heart of Lossnay

The heat exchanger is at the heart of the Mitsubishi Electric Lossnay range for residential and commercial buildings. It is the technology that transfers heat energy between incoming and outgoing air, which can be beneficial during all seasons. There are several heat exchanger options to suit the requirements of different applications.

Mitsubishi Electric uses two types of heat exchanger - **paper and plastic.**

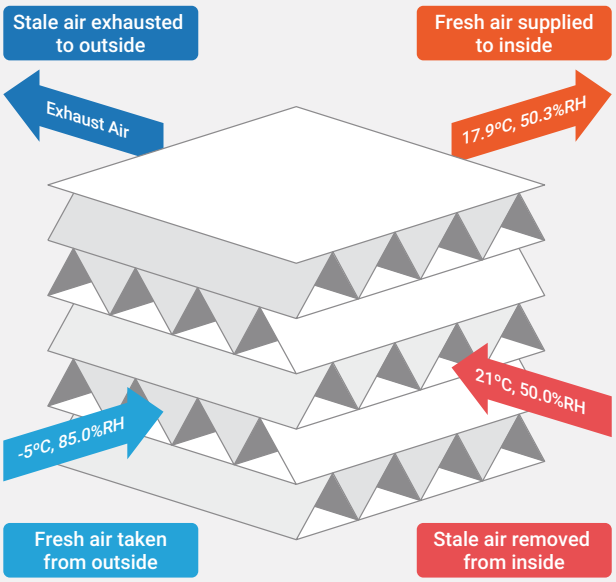
Cross-Flow Heat Exchanger

Paper

The paper cross-flow paper core is ideal for less humid extract areas such as offices, open-plan spaces and commercial buildings.

Developed and manufactured by Mitsubishi Electric, the Lossnay cross-flow heat exchanger is constructed from ultra-thin, treated paper that allows **the exchange of latent and sensible heat energy - enabling total heat exchange.**

In addition, since moisture holds **4.18 times as much energy as air**, the ability to transfer moisture through the paper core leads to much higher levels of heat exchange.



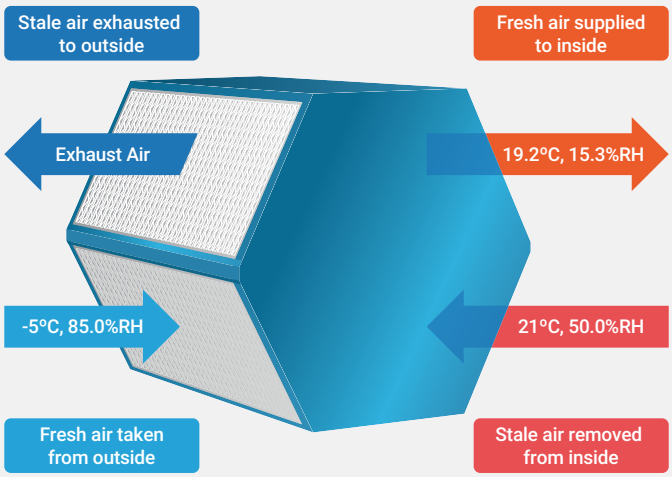
Counter Flow Heat Exchanger

Plastic

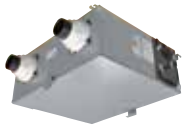
The plastic core is an excellent solution for high-humidity areas such as gyms, showers, and bathrooms. It is also ideal for residential HVR ventilation systems as it can help to reduce the build-up of moisture that can lead to mould in kitchens and bathrooms.

Mitsubishi Electric uses a plastic, counter-flow heat exchanger that allows **only sensible heat to be exchanged.** Counter flow creates high-temperature efficiency, **up to 93%.**

The plastic heat exchanger is very lightweight, removable and maintainable.



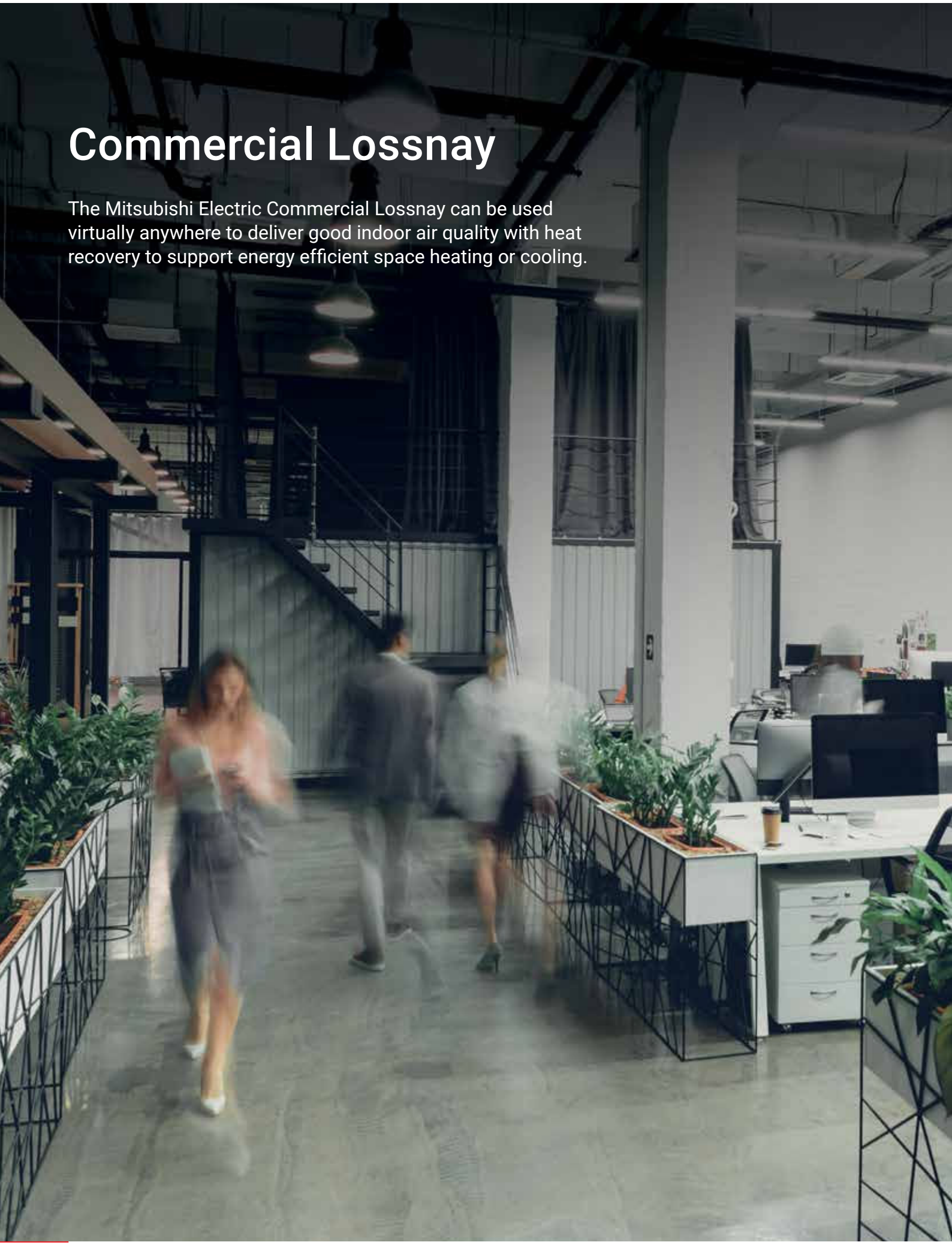
Overview

Model		 LGH-RVX3-E	 LGH-RVXT3-E	 LGH-RVS	 VL-CZPVU	 VL-220CZGV-E
Application		Commercial	Commercial	Commercial	Residential	Residential
Orientation		Horizontal / Vertical*	Horizontal	Horizontal	Vertical	Horizontal
Heat Exchanger Type (Material)		Total (Paper)	Total (Paper)	Sensible (Plastic)	Sensible (Plastic)	Sensible (Plastic)
Airflow						
100 m³/hr	**28 l/s**					●
150 m³/hr	**42 l/s**	●				
250 m³/hr	**69 l/s**	●			●	
350 m³/hr	**97 l/s**	●			●	
500 m³/hr	**139 l/s**	●		●	●	
650 m³/hr	**181 l/s**	●				
800 m³/hr	**222 l/s**	●		●		
1000 m³/hr	**278 l/s**	●		●		
1600 m³/hr	**444 l/s**	●	●			
2000 m³/hr	**556 l/s**	●	●			
2500 m³/hr	**694 l/s**		●			

*Vertical Configuration - Applicable to LGH-15RVX3 - LGH100RVX3
Requires Optional Parts

Commercial Lossnay

The Mitsubishi Electric Commercial Lossnay can be used virtually anywhere to deliver good indoor air quality with heat recovery to support energy efficient space heating or cooling.



RVX3-E Series

Heat Recovery Ventilation

The Lossnay LGH-RVX3-E Heat recovery ventilation (HRV) systems are designed to supply clean, fresh air into any commercial building, whilst simultaneously extracting stale air, ensuring good indoor air quality for occupant wellbeing. These units are also able to recover valuable heat and latent energy from inside the building, maximising energy efficiency and reducing running costs. Experience a new level of air quality with Lossnay.

Enhanced Controllability with CO_2 Sensors *Optional*

The LGH-RVX3 Series features advanced controllability with optional CO_2 sensors (PZ-70CSW-E - wall mounted & PZ-70CSD-E - duct mounted). These sensors directly connect to the unit, optimising fan speed according to detected CO_2 levels which helps improve total heat exchange efficiency and contributes to significant energy savings.

Fan speed can be adjusted in 5% increments within the 25% to 100% range from the PZ-62DR-EA controller.

Built-In Full Bypass Mode

This function allows the unit to bring in fresh air from outside without recovering the heat. This can be ideal for cooling down a dwelling that's overheated during the day when the outside temperature has dropped in the evening. Using temperature sensors, the unit can automatically enter bypass mode when it detects the space is hotter than desired and the outside air is cool enough.

Dual Barrier Coating

A feature unique to Mitsubishi Electric, the Dual Barrier Coating prevents dust and oil build-up, helping to keep the unit clean for optimal performance, and helping ensure the longevity of the product.

Space Saving Installation

With a lightweight structure that is ideal for easy ceiling installation. Vertical installation is also available for flexibility of application or retrofitting existing installations.*

Upgraded Filters

The standard filter has been improved from Coarse 35% to Coarse 60% which means that, as well as pollen and dust, the RVX3-E can also remove finer particles, bacteria and dusts from the air.

Control Compatibility

Control compatibility with Mr Slim and City Multi air conditioning systems for a complete and highly effective system operation.

* LGH-160/200RVX3 are unable to be installed vertically.

RVXT3-E Series

Heat Recovery Ventilation

The Lossnay LGH-RVXT3-E is designed to supply clean, fresh air into commercial buildings, whilst simultaneously extracting stale air. These units offer a significantly reduced height and also maintain a large airflow, allowing easy installation in ceiling voids.

Centralised Air Distribution

Multiple LOSSNAY units can be operated as a single system, with up to four units connected. Four LGH-250RVXT3-E units combined deliver a total air volume of approximately 2778 l/s, depending on system design and site conditions*.

Enhanced Static Pressure

The RVXT3 series provides higher external static pressure than previous models, with equal external static pressures for SA and EA. This simplifies the design of ventilation systems, allowing for more significant pressure drops in ductwork.

Stable Airflow with Constant Pressure Control

By integrating a field-supplied pressure sensor, LOSSNAY adjusts airflow based on the pressure level in the duct or distribution chamber. When a higher-pressure level is detected, airflow is reduced automatically, ensuring stable airflow in each room.

Optimised Space Usage

The LGH-RVXT3 series stands out with its unique ability to provide a solution for narrow ceiling spaces while ensuring a spacious indoor environment. Its slim profile allows for effective space utilisation without compromising performance, optimising room space.

Comfort and Energy Efficiency

The CO_2 sensor controls airflow in 16 steps according to the room's CO_2 levels, preventing over-ventilation while maintaining high indoor air quality. This feature helps reduce the air-conditioning load by optimising ventilation output. The CO_2 concentration can be monitored in real-time on the remote controller (PZ-62DR-EA/EB) or via LED indicators on wall-mounted sensors, with options for wall-mounted and duct-mounted sensors.

Adaptable Installation

DIP switches can be set to change airflow direction, allowing for adaptable ductwork and sufficient maintenance space. Depending on installation requirements, the indoor (SA/RA) and outdoor (OA/EA) sides can be switched. However, the unit cannot be installed upside down.

*Only identical models can be grouped together, and synchronised control requires connection to the PZ-62DR-EA/EB. Up to four LOSSNAY units can be connected in one group, consisting of one leader unit and three follower units.

LGH-RVS Series

Sensible Core Lossnay

The Sensible Core Lossnay, LGH-RVS Series is designed to simultaneously extract stale air from a building and supply filtered outside air. While doing so it recovers heat energy for increased building efficiency. The unit comes with a plastic heat exchanger rather than paper which makes it suitable for humid locations like bathrooms and wet areas. A diverse range of ventilation applications is possible now with Sensible Core Lossnay.

Light Chassis for Easy Installation

Being light in weight is one of the most important factors for installation. The light chassis of the LGH-RVS Series can prove advantageous to installers for both time and cost of installation.

Easy Drain Piping

Only one drain point for both supply and return air with a 360° drain pipe connection. Trap piping isn't required as the unit is equipped with a back-flow stopping mechanism.

Low Noise Operation and Energy Efficiency

The LGH-RVS Series operates with low noise thanks to a specialised sirocco fan produced by Mitsubishi Electric. The fan balances airflow and static pressure to minimise the noise level. The series also incorporates high-efficiency motors to reduce energy consumption. Thus high-efficiency with low noise are achieved with the LGH-RVS Series.

Filter *Optional*

A lineup of three optional filters (PZ-S**RF-E, PZ-S**RFM-E & PZ-S**RFH-E) offers excellent indoor air quality solutions. All filters are ISO and EN779:2012 certified and can be easily installed in the units. Maintenance and exchanges can also be performed easily, simply by opening the maintenance panel.

Silencer Duct *Optional*

In facilities and applications requiring quiet operations, the silencer duct that reduces noise levels is an ideal solution. It contains glass wool and attenuates sound power by absorbing the noise from the airflow or operation of the unit.

CO_2 Sensor *Optional*

A CO_2 sensor connected directly to a Lossnay RVS unit assists in optimising the fan speed according to the level of CO_2 detected. It improves total heat exchange efficiency and contributes to energy saving.

Residential Lossnay

Mitsubishi Electric Residential Lossnay heat recovery ventilation units remove stale air without significant heat loss. The range is ideal for, but not limited to modern homes that are well-insulated and airtight, providing excellent indoor air quality with outstanding energy efficiency.

VL-CZPVU Series

Heat Recovery Ventilation

Compact mechanical ventilation with heat recovery for your home. Removes both moisture & stale air and brings in fresh, filtered air from outside.

Simultaneous air supply and exhaust

Lossnay is the ultimate home ventilation system that provides fresh clean air from outside, while removing both moisture and stale indoor air at the same time. Bringing in fresh air into the house can help improve air quality by lowering the amount of CO_2.

Heat recovery ventilation

Heat is recovered from both outgoing stale air as well as from damp areas such as kitchens and bathrooms. This heat is utilised to pre-heat incoming fresh air so your heating system is not required to work as hard to maintain desired room temperature.

Removes both moisture and stale air

Ideally suited to residential buildings including multi-stories or homes located in inner-city locations concerned with localised air quality, the LOSSNAY technology continuously removes stale interior air from bathrooms, kitchens, toilets, and the laundry. Heat is then transferred to the incoming fresh air to warm the home on a cool day. This allows maximised energy efficiency of ventilated air while reducing the demands on air conditioning for heating.

Bypass mode to bring in cool, fresh outside air

Using onboard temperature sensors, the unit automatically enters bypass mode when it detects the space is hotter than desired and the outside air is cool enough. Bypass mode allows the unit to bring in fresh air from outside without recovering the heat helping to reduce the need for air conditioning cooling, such as overnight in summer.

VL-220CZGV-E Series

Heat Recovery Ventilation

The VL-220CZGV-E sensible core heat exchanger provides centralised heat recovery ventilation for residential use with sensible heat exchange.

Passive House Ventilation

Lossnay ventilators are ideal for Passivhaus/Passive House design where a Mechanical Ventilation Heat Recovery System is required. The temperature exchange efficiency for the VL-220CZGV-E sensible core Lossnay heat exchanger ranges from 82% on highest fan speed setting to 86% on lowest fan speed setting.

Bypass Damper *Optional*

The P-133DUE-E bypass damper is available as an optional part. The optional damper allows a bypass of the heat exchanger, should temperature conditions reach set levels. This can be used for free cooling during the summer months.

Use with Mr Slim Ducted Systems

Can be integrated with a Mitsubishi Electric home ducted air conditioning system. The ducted system provides heating and cooling while the Lossnay ventilator brings in fresh air into the home while expelling the stale air at the same time.

High Efficiency Supply Air Filter *Optional*

The supply filter can be upgraded to the P-220SHF-E option, a non-washable high efficiency filter (M6 grade Classification: EN779:2012)

Control Solutions

Operating an air conditioning, ventilation, or heating system without proper controls can increase energy costs and carbon emissions. This is especially important as businesses face stricter environmental regulations.

Control Solutions

Effective controls improve building performance by making systems more responsive, easier to automate, monitor, and maintain, and reducing long-term operating costs. They provide a practical solution for managing and tracking the performance of building services systems.

Modern control technology is available for buildings of all sizes, making these benefits accessible for projects of any scale.

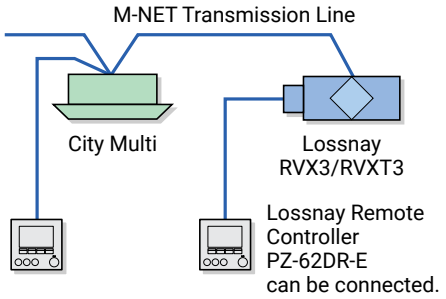
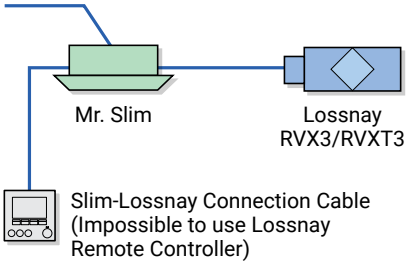
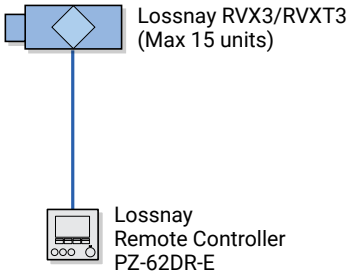
CO_2 indication

PZ-43SMF-E **PZ-62DR-E**

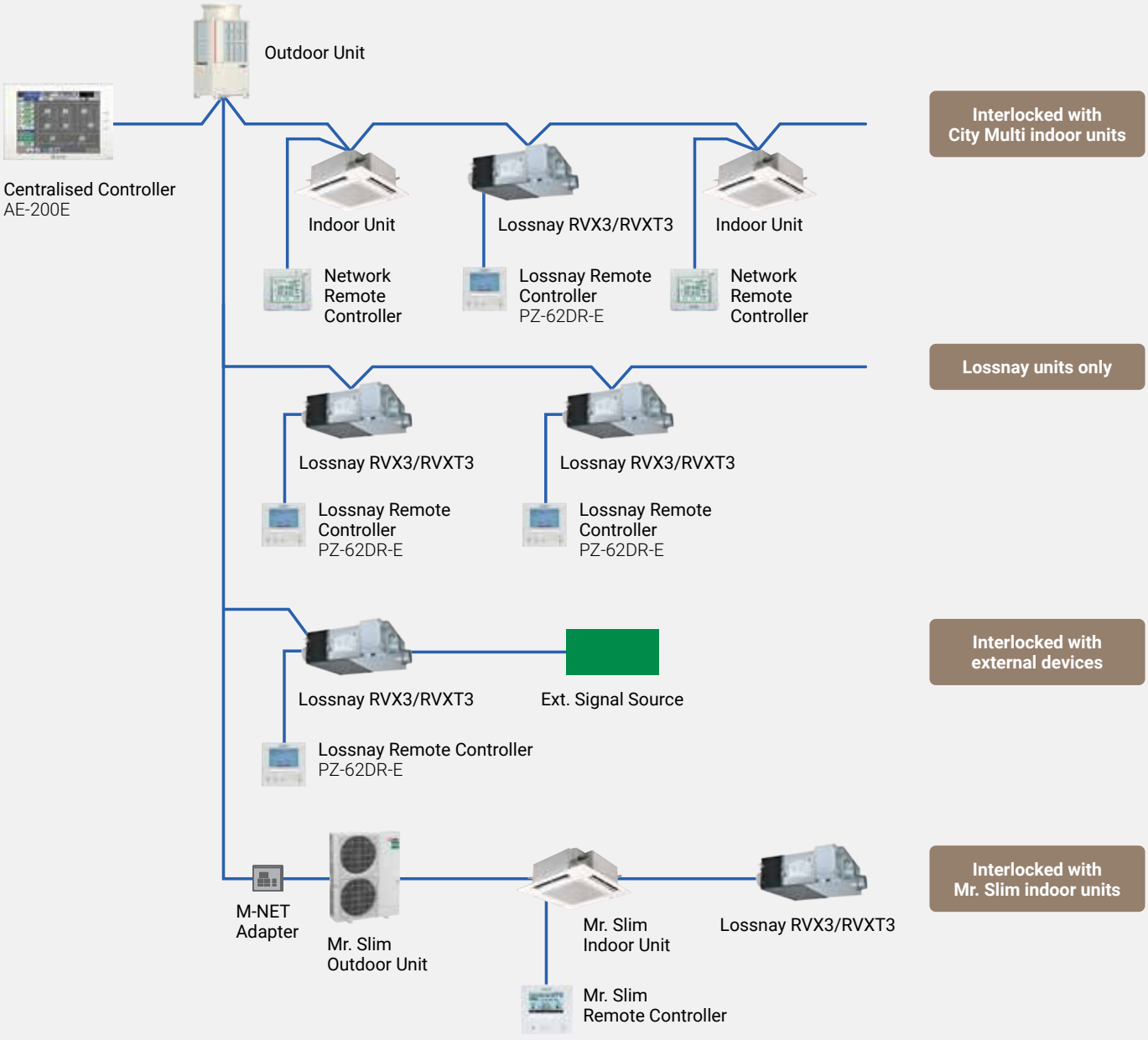
Function	PZ-43SMF-E	PZ-62DR-E
Fan speed selection	2 of 4 fan speeds	4 fan speeds and Auto (Auto is available when using a CO_2 sensor)
Ventilation mode	No	Yes (Fan speed automatically changes from 25% to 100% depending on the CO_2 concentration*)
Night purge	Energy Recovery / Bypass / Auto	Energy recovery / Bypass / Auto
Function setting from remote controller	No	Yes
Bypass temp. free setting	No	Yes
Multi-stage airflow control	No	Yes
ON/OFF timer	No	Yes (Both supply and exhaust fan speeds can be set separately from 25% to 100% in 5% pitches)
Auto-off timer	Yes	Yes
Weekly times	No	Yes
Fan speed timer	No	Yes
Operation restrictions (ON / OFF, ventilation mode, fan speed)	No	Yes
Operation restrictions (fan speed skip setting)	No	Yes
Screen contrast adjustment	No	Yes
Language selection	No (English only)	Yes
CO_2 concentration indication	No	Yes (available when using a CO_2 sensor)
Filter cleaning sign	Yes	Yes (maintenance interval can be changed)
Error indication	Yes	Yes (displays model name, serial number, contact information if they are input)
Error history	No	Yes
OA / RA / SA temp. display	No	Yes

*When using a CO_2 sensor. Upper and lower limits may be changed.

Simple control with the PZ-62DR-E Remote Controller

Interlocked with Air Conditioners		Lossnay Independent
City Multi	Mr Slim	
 (PZ-43SMF-E can be connected however function is limited)		 (PZ-43SMF-E can be connected however function is limited)

Centralised Controller System



Plug and Play CO_2 Sensors

The Mitsubishi Electric PZ-70CS(W)/(D)-E CO_2 sensors have been designed to work with the LGH-RVX3, LGH-RVXT3 and LGH-RVS range of Lossnay units.

They allow the indoor air quality of a room to be kept safe and fresh by regularly measuring the CO_2 levels and adjusting airflows accordingly, ensuring that stale air is removed from the space and fresh air is introduced in an energy efficient manner.

Features & Benefits

Plug and play solution for ease of installation

Visual LED display for quick and easy indication of CO_2 levels in the space
(Only available with PZ-70CSW-E)

Automatic 16-step control offers seamless change across the fan range for consistent and effective ventilation, and improved indoor air quality

Powered by the Lossnay unit therefore no requirement for additional power supply

Digital commissioning of setpoints and thresholds for user-friendly, tailored control

PZ-70CSW-E

PZ-70CSD-E

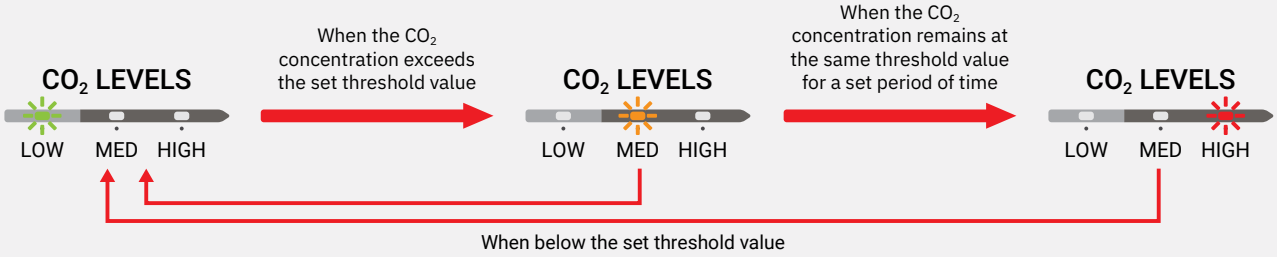
Model	PZ-70CSW-E	PZ-70CSD-E
Type	Wall Mounted	Return Air
Concentration PPM Display	On PZ-62DR-E	On PZ-62DR-E
Visual Indicator	Traffic Light Signal	–
Electrical Power Supply	From Lossnay Unit	From Lossnay Unit
Cable Length (m)	10*1	6
Dimensions (W x D x H) mm	70 x 26 x 120	117 x 75 x 65
Compatible Units	Lossnay LGH-RVX3-E, LGH-RVXT3-E and LGH-RVS-E Series	

*1 Extendable to 20m

PZ-70CSW-E LED Setting

The wall mount type CO_2 sensor PZ-70CSW-E has LEDs which indicate the concentration level.

LED Operation Overview: The LED light works in accordance with the operations shown below. Settings thresholds and lighting times can be changed on the remote controller.



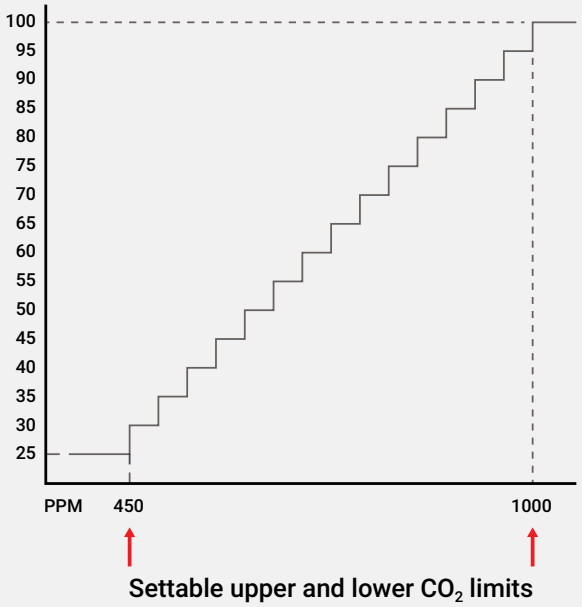
Auto Fan Speed

Setting the fan speed to **"Auto"** will start automatic fan speed control using the CO_2 sensor.

Fan Output

The lower and upper limit CO_2 levels can be set between 300ppm and 2000ppm at 50ppm increments. The difference between the lower and upper limit must be at least 300ppm.

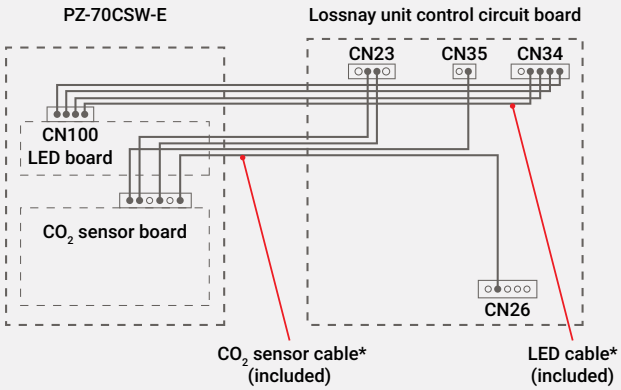
Fan Output %

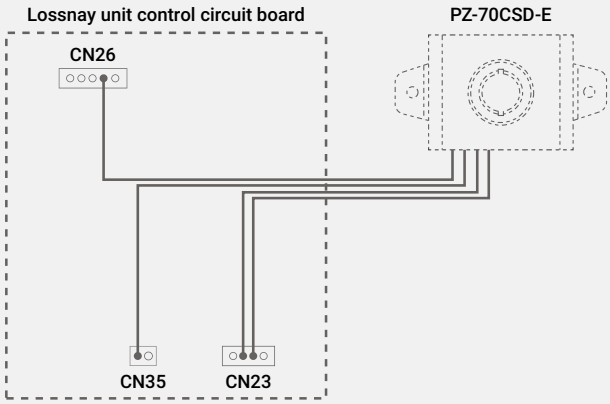


Wiring Diagram

A qualified electrical technician is to carry out connection work. Once installation work is complete, confirm again that the wiring is as per the wiring diagram, and that no parts or screws remain unused.

Do not disconnect connectors that are already connected.





RVX3-E Series			LGH-15RVX3-E	LGH-25RVX3-E	LGH-35RVX3-E	LGH-50RVX3-E	LGH-65RVX3-E
25% (Default speed 1)	Air Volume	l/s	10	17	24	35	45
	External Static Pressure	Pa	8	8	10	10	10
	Temperature Exchange Efficiency	Heating %	81.5	88	82	75	82
		Cooling %	78	85	79	73	80
	Enthalpy Exchange Efficiency	Heating %	80.5	84	80	73	80
		Cooling %	73	75	74.5	68	74
	Specific Fan Power	W/(l/s)	0.96	0.63	0.62	0.43	0.44
	Input Power	W	10	11	15	15	20
	Sound Pressure Level	dB(A)	17	17	17	17	17.5
50% (Default speed 2)	Air Volume	l/s	21	35	49	69	90
	External Static Pressure	Pa	30	30	40	38	38
	Temperature Exchange Efficiency	Heating %	78	81	79	73.5	78.5
		Cooling %	73.5	79	74	71	74.5
	Enthalpy Exchange Efficiency	Heating %	76.5	75.5	77.5	72	76.5
		Cooling %	66	68	68.5	63	66.5
	Specific Fan Power	W/(l/s)	0.72	0.6	0.6	0.49	0.56
	Input Power	W	15	21	29	34	51
	Sound Pressure Level	dB(A)	18	19.5	19	21	24
75% (Default speed 3)	Air Volume	l/s	31	52	73	104	135
	External Static Pressure	Pa	68	68	90	85	85
	Temperature Exchange Efficiency	Heating %	75.5	78.5	77	71.5	75
		Cooling %	70.5	76.5	71	67	70
	Enthalpy Exchange Efficiency	Heating %	73.5	72	74.5	69.5	72
		Cooling %	62	63.5	64.5	58	60
	Specific Fan Power	W/(l/s)	0.96	0.81	0.84	0.78	0.89
	Input Power	W	30	42	61	81	120
	Sound Pressure Level	dB(A)	22	25	24.5	27	31.5
100% (Default speed 4)	Air Volume	l/s	42	69	97	139	181
	External Static Pressure	Pa	120	120	160	150	150
	Temperature Exchange Efficiency	Heating %	73.5	75.5	75	70.5	72.5
		Cooling %	65.5	70.5	66.5	63.5	65
	Enthalpy Exchange Efficiency	Heating %	70.5	69	72	68.5	69.5
		Cooling %	58	59	60	53.5	55.5
	Specific Fan Power	W/(l/s)	1.32	1.08	1.23	1.33	1.36
	Input Power	W	55	75	120	185	245
	Sound Pressure Level	dB(A)	27	30.5	30.5	35	37.5
Duct Size		mm	ø100	ø150	ø150	ø200	ø200
Weight		kg	20	22	30	33	41
Dimensions	Width x Depth x Height	mm	888 x 769 x 289	908 x 894 x 289	1016 x 1033 x 331	1046 x 1175 x 331	1066 x 1113 x 404
Electrical Power Supply			220-240V, 50Hz				
MCA		A	0.57	0.88	1.37	1.86	2.37
Heat Exchanger			Paper with specially treated Cellulose Membrane				
Standard Filter			ISO 16890 Coarse 60%				
Exhaust Air Transfer Ratio			5%				

RVX3-E Series			LGH-80RVX3-E	LGH-100RVX3-E	LGH-160RVX3-E	LGH-200RVX3-E
25% (Default speed 1)	Air Volume	l/s	56	69	111	139
	External Static Pressure	Pa	11	12	11	11
	Temperature Exchange Efficiency	Heating %	80	83.5	80	83.5
		Cooling %	78	82.5	78	82.5
	Enthalpy Exchange Efficiency	Heating %	73.5	75.5	73.5	76
		Cooling %	70.5	73.5	70.5	71
	Specific Fan Power	W/(l/s)	0.41	0.39	0.41	0.41
	Input Power	W	23	27	45	57
	Sound Pressure Level	dB(A)	18	18.5	18	18
50% (Default speed 2)	Air Volume	l/s	111	139	222	278
	External Static Pressure	Pa	43	48	43	43
	Temperature Exchange Efficiency	Heating %	78	79.5	78	79.5
		Cooling %	75.5	77	75.5	76
	Enthalpy Exchange Efficiency	Heating %	70.5	68.5	70.5	67.5
		Cooling %	65	66	65	65
	Specific Fan Power	W/(l/s)	0.58	0.6	0.58	0.59
	Input Power	W	64	83	128	163
	Sound Pressure Level	dB(A)	25	27	26	27.5
75% (Default speed 3)	Air Volume	l/s	167	208	333	417
	External Static Pressure	Pa	96	107	96	96
	Temperature Exchange Efficiency	Heating %	76.5	77	76.5	77.5
		Cooling %	70	72	70	71.5
	Enthalpy Exchange Efficiency	Heating %	65	63	65	64
		Cooling %	58.5	61	58.5	60
	Specific Fan Power	W/(l/s)	0.96	1.01	0.97	1
	Input Power	W	160	210	324	416
	Sound Pressure Level	dB(A)	33.5	35	35	36
100% (Default speed 4)	Air Volume	l/s	222	278	444	556
	External Static Pressure	Pa	170	190	170	170
	Temperature Exchange Efficiency	Heating %	75	75.5	75	76.5
		Cooling %	65	67.5	65	66.5
	Enthalpy Exchange Efficiency	Heating %	62	60.5	62	60.5
		Cooling %	54.5	55.5	54.5	57
	Specific Fan Power	W/(l/s)	1.54	1.58	1.55	1.54
	Input Power	W	343	438	687	855
	Sound Pressure Level	dB(A)	39	40	41	41.5
Duct Size		mm	ø250	ø250	(SA,RA) 2 x ø250 (OA,EA) 270 x 700	(SA,RA) 2 x ø250 (OA,EA) 270 x 700
Weight		kg	47	53	96	108
Dimensions	Width x Depth x Height	mm	1302 x 1163 x 404	1302 x 1390 x 404	1267 x 1165 x 808	1267 x 1392 x 808
Electrical Power Supply			220-240V, 50Hz			
MCA		A	3.23	3.77	4.74	5.4
Heat Exchanger			Paper with specially treated Cellulose Membrane			
Standard Filter			ISO 16890 Coarse 60%*1			
Exhaust Air Transfer Ratio			5%			

RVXT3-E Series		LGH-160RVXT3-E				LGH-200RVXT3-E				LGH-250RVXT3-E			
Electrical Power Supply		380-415V/3N~ 50Hz				380-415V/3N~ 50Hz				380-415V/3N~ 50Hz			
Fan Speed		4	3	2	1	4	3	2	1	4	3	2	1
Default Airflow Setting		100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%
Total Input Power*1	[W]	708	368	144	46	1044	498	192	56	1448	696	284	86
Air Volume*1	[L/s]	444	333	222	111	556	417	278	139	694	521	347	174
Specific Fan Power *1	[W/(L/s)]	1.59	1.10	0.65	0.41	1.88	1.20	0.69	0.40	2.09	1.34	0.82	0.50
External Static Pressure*1	[Pa]	190	107	48	12	190	107	48	12	190	107	48	12
Temperature Exchange Efficiency [%]*2	Heating	82.0	83.0	85.5	88.0	80.0	81.0	83.0	86.0	77.0	78.0	80.0	84.0
	Cooling	70.0	75.0	79.0	83.0	67.5	73.0	78.0	82.0	65.0	70.5	76.5	81.0
Enthalpy Exchange Efficiency [%]*2	Heating	80.0	81.0	83.0	85.5	78.5	79.5	81.5	84.5	75.0	76.0	78.0	81.5
	Cooling	61.5	65.5	73.0	78.0	56.5	61.0	67.5	75.0	54.0	59.0	66.0	73.0
Sound Pressure Level	dB(A)*3	38.0	33.0	26.0	19.5	40.0	35.0	28.0	21.0	44.0	38.0	31.5	23.0
Exhaust Air Transfer Ratio [%]*4		5.0				5.0				5.0			
Duct Size	mm	(SA,EA) 250 x 650 (OA,RA) 220 x 465				(SA,EA) 250 x 650 (OA,RA) 220 x 465				(SA,EA) 250 x 650 (OA,RA) 220 x 465			
Weight	[kg]	172				172				172			
Dimensions (Width x Depth x Height)	mm	2100 x 1600 x 500				2100 x 1600 x 500				2100 x 1600 x 500			
MCA	A	2.9				3.9				5.0			
Heat Exchanger		Special treated paper plate heat exchanger											
Standard Filter		Non-woven fabrics filter (ISO 16890 Coarse 60%)											
Maximum Input Power [W] (380-415V 3N~ 50Hz)	Total	740 - 720				1060 - 1040				1480 - 1460			

*1 Measured according to EN13053: 2019
*2 Measured according to EN308: 2022
*3 A-weighted sound pressure level measured at 1.5m under the center of the unit in an anechoic chamber.
*4 Measured according to EN308: 2022 / 75% fan speed
* Input power, efficiency, and noise are based on rated airflow, 400V/50Hz.
** In bypass mode, the maximum airflow is 70% of heat recovery mode.

LGH-50RVS-E							
Weight		55kg (67kg with maximum drain water)					
Electrical Power Supply		220 - 240V/50Hz, 220V/60Hz					
Fan Speed		100%	75%	50%	25%	Test condition	
Input Power	W	190	110	60	25	ISO 16494 Temperature exchange efficiency is winter condition	
Airflow	m^3/h	500	375	250	125		
	L/S	139	104	69	35		
Specific Fan Power	W/(L/S)	1.37	1.06	0.86	0.72		
External Static Pressure	Pa	150	84	38	9		
Temperature Exchange Efficiency	%	87.0	89.0	91.0	93.0		
Noise	dB	32.0	27.0	22.0	18.0	A-weighted sound pressure level @1.5m off from the center of the unit in an anechoic chamber	
Exhaust Air Transfer Ratio	%	5				Tracer gas method @100% airflow (prEN308)	
Insulation Resistance		10MΩ or more					
Dielectric Strength		AC 1000V 1 minute					
Maximum Current	A	2.20					
Inrush Current	A	6.1A @10ms, 3.6A @100ms					

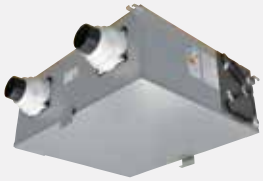
LGH-80RVS-E							
Weight		63kg (77kg with maximum drain water)					
Electrical Power Supply		220 - 240V/50Hz, 220V/60Hz					
Fan Speed		100%	75%	50%	25%	Test condition	
Input Power	W	325	175	85	32	ISO 16494 Temperature exchange efficiency is winter condition	
Airflow	m^3/h	800	600	400	200		
	L/S	222	167	111	56		
Specific Fan Power	W/(L/S)	1.46	1.05	0.77	0.58		
External Static Pressure	Pa	170	96	43	11		
Temperature Exchange Efficiency	%	82.0	84.0	86.0	90.0		
Noise	dB	36.0	30.0	25.0	18.0	A-weighted sound pressure level @1.5m off from the center of the unit in an anechoic chamber	
Exhaust Air Transfer Ratio	%	5				Tracer gas method @100% airflow (prEN308)	
Insulation Resistance		10MΩ or more					
Dielectric Strength		AC 1000V 1 minute					
Maximum Current	A	3.70					
Inrush Current	A	6.1A @10ms, 3.6A @100ms					

LGH-100RVS-E							
Weight		73kg (89kg with maximum drain water)					
Electrical Power Supply		220 - 240V/50Hz, 220V/60Hz					
Fan Speed		100%	75%	50%	25%	Test condition	
Input Power	W	445	225	100	35	ISO 16494 Temperature exchange efficiency is winter condition	
Airflow	m^3/h	1000	750	500	250		
	L/S	278	208	139	69		
Specific Fan Power	W/(L/S)	1.60	1.08	0.72	0.50		
External Static Pressure	Pa	190	107	48	12		
Temperature Exchange Efficiency	%	82.0	84.0	86.0	90.0		
Noise	dB	37.0	32.0	24.0	18.0	A-weighted sound pressure level @1.5m off from the center of the unit in an anechoic chamber	
Exhaust Air Transfer Ratio	%	5				Tracer gas method @100% airflow (prEN308)	
Insulation Resistance		10MΩ or more					
Dielectric Strength		AC 1000V 1 minute					
Maximum Current	A	4.20					
Inrush Current	A	6.1A @10ms, 3.6A @100ms					

VL-250CZPVU-R/L-E					
Electrical Power Supply		220-240V / 50Hz, 220V / 60Hz			
Ventilation Mode		Heat Recovery Mode			
Heat Exchanger Type		Sensible Heat Exchanger			
Fan Speed		FS4 (100%)	FS3 (70%)	FS2 (50%)	FS1 (30%)
Running Current	A	0.76	0.35	0.20	0.12
Input Power	W	106	44	23	11
Airflow	L/S	69	49	35	21
External Static Pressure	Pa	150	74	38	14
Temperature Exchange Efficiency	%	85	87	88	90
Sound Pressure Level at 3m	dB	31	22	16	15>
Energy Efficiency Class	ERP	A+			
Weight	kg	26			
Dimensions (H x W x D)	mm	565 x 595 x 356			

VL-350CZPVU-R/L-E					
Electrical Power Supply		220-240V / 50Hz, 220V / 60Hz			
Ventilation Mode		Heat Recovery Mode			
Heat Exchanger Type		Sensible Heat Exchanger			
Fan Speed		FS4 (100%)	FS3 (70%)	FS2 (50%)	FS1 (30%)
Running Current	A	1.08	0.52	0.31	0.18
Input Power	W	155	71	37	19
Airflow	L/S	89	62	44	27
External Static Pressure	Pa	150	74	38	14
Temperature Exchange Efficiency	%	85	87	88	90
Sound Pressure Level at 3m	dB	35	26	19	15>
Energy Efficiency Class	ERP	A+			
Weight	kg	32			
Dimensions (H x W x D)	mm	623 x 658 x 432			

VL-500CZPVU-R/L-E					
Electrical Power Supply		220-240V / 50Hz, 220V / 60Hz			
Ventilation Mode		Heat Recovery Mode			
Heat Exchanger Type		Sensible Heat Exchanger			
Fan Speed		FS4 (100%)	FS3 (70%)	FS2 (50%)	FS1 (30%)
Running Current	A	1.73	0.77	0.40	0.19
Input Power	W	275	104	49	21
Airflow	L/S	139	97	69	42
External Static Pressure	Pa	200	98	50	18
Temperature Exchange Efficiency	%	85	87	89	92
Sound Pressure Level at 3m	dB	37	29	22	15>
Energy Efficiency Class	ERP	A+			
Weight	kg	39			
Dimensions (H x W x D)	mm	632 x 725 x 556			



VL-220CZGV-E				
Electrical Power Supply	220-240V/50Hz 220V/60Hz			
Ventilation Mode	Heat Recovery Mode			
Heat Exchange System	Air to Air Sensible Heat Exchanger			
Heat Exchange Element Material	Treated Non-Permeable Resin Core			
Fan Speed	Fan Speed 4	Fan Speed 3	Fan Speed 2	Fan Speed 1
Running Current	0.6	0.29	0.18	0.11
Input Power (W)	80	35	18.5	8.5
Air Volume (L/s)	64	46	33	18
External Static Pressure (Pa)	164	84	44	13
Temperature Exchange Efficiency (%)	82	84	85	86
Noise (dB)	31	25	19	14
Weight (kg)	31			
Duct Size (mm)	150			

OPTIONAL PARTS

RVX3-E		LGH-15RVX3-E	LGH-25RVX3-E	LGH-35RVX3-E	LGH-50RVX3-E	LGH-65RVX3-E	LGH-80RVX3-E	LGH-100RVX3-E	LGH-160RVX3-E	LGH-200RVX3-E
Controller		PZ-62DR-EB								
Filters	Standard Replacement Filter (Coarse 60%)	PZ-15RF3-E	PZ-25RF3-E	PZ-35RF3-E	PZ-50RF3-E	PZ-65RF3-E	PZ-80RF3-E	PZ-100RF3-E	PZ-80RF3-E (2 sets)	PZ-100RF3-E (2 sets)
	ePM$_1$ 75%	PZ-15RFP3-E	PZ-25RFP3-E	PZ-35RFP3-E	PZ-50RFP3-E	PZ-65RFP3-E	PZ-80RFP3-E	PZ-100RFP3-E	PZ-80RFP3-E (2 sets)	PZ-100RFP3-E (2 sets)
	M6 Filter	PZ-15RFM3-E	PZ-25RFM3-E	PZ-35RFM3-E	PZ-50RFM3-E	PZ-65RFM3-E	PZ-80RFM3-E	PZ-100RFM3-E	PZ-80RFM3-E (2 sets)	PZ-100RFM3-E (2 sets)
	F8 Filter	PZ-15RFH3-E	PZ-25RFH3-E	PZ-35RFH3-E	PZ-50RFH3-E	PZ-65RFH3-E	PZ-80RFH3-E	PZ-100RFH3-E	PZ-80RFH3-E (2 sets)	PZ-100RFH3-E (2 sets)
CO_2 Sensors		PZ-70CSW-E (Wall mounted) / PZ-70CSD-E (Duct mounted)								
Vertical Mounting Brackets		PZ-1VS-E	PZ-1VS-E	PZ-1VS-E	PZ-1VS-E	PZ-2VS-E	PZ-2VS-E	PZ-2VS-E	–	–
Signal Output Terminal		PZ-4GS-E								

RVXT3-E		LGH-160RVXT3-E	LGH-200RVXT3-E	LGH-250RVXT3-E
Controller		PZ-62DR-EB		
Filters	Standard Replacement Filter (Coarse 60%)	PZ-250TRF-E		
	ePM$_1$ 75% MERV 16	PZ-250TPF-E		
	M6 Filter	PZ-250TMFR-E		
	F8 Filter	PZ-250THFR-E		
CO_2 Sensors		PZ-70CSW-E (Wall mounted) / PZ-70CSD-E (Duct mounted)		
Signal Output Terminal		PZ-4GS-E		

LGH-RVS		LGH-50RVS-E	LGH-80RVS-E	LGH-100RVS-E
Controller		PZ-62DR-EB		
Filters	G3	PZ-S50RF-E	PZ-S80RF-E	PZ-S100RF-E
	M6	PZ-S50RFM-E	PZ-S80RFM-E	PZ-S100RFM-E
	F8	PZ-S50RFH-E	PZ-S80RFH-E	PZ-S100RFH-E
CO_2 Sensors		PZ-70CSW-E (Wall mounted) / PZ-70CSD-E (Duct mounted)		
Signal Output Terminal		PZ-4GS-E		

VL-CPZVU		VL-250CZPVU-R/L-E	VL-350CZPVU-R/L-E	VL-500CZPVU-R/L-E
Filters	G3	P-250F-E	P-350F-E	P-500F-E
	G4	P-250SF-E	P-350SF-E	P-500SF-E
	M6	P-250MF-E	P-350MF-E	P-500MF-E
	PM2.5	P-250PF-E	P-350PF-E	P-500PF-E
	PM1	P-250PFH-E	P-350PFH-E	P-500PFH-E
	NOx	P-250NF-E	P-350NF-E	P-500NF-E
Remote Control Cover		P-RCC-E		

VL-220CZGV-E		VL-220CZGV-E
Filters	G3	P-220F-E
	G4	P-220EMF-E
	M6	P-220SHF-E
Remote Controller		PZ-61DR-E / PZ-43SMF-E
Air Duct Switching Damper		P-133DUE-E

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