LGH-RVX3 NEW

HEAT RECOVERY UNIT FOR DUCTED INSTALLATIONS

BMS connectivity	Accessories
Modbus	**Procon A1M**
MELCloud connectivity	
YES with **MAC-587IF-E** interface	

Standard filter (included with unit)	Optional filter
Coarse 60% (equivalent to G4)	**ePM1** 75% (equivalent to F8)

M-NET connection | Lossnay | A classe | PRESTAZIONI CERTIFICATE

SIZE	
LGH-65RVX3-E	150 Pa @ 650 m³/h
LGH-80RVX3-E	170 Pa @ 800 m³/h
LGH-100RVX3-E	190 Pa @ 1000 m³/h
LGH-160RVX3-E	170 Pa @ 1600 m³/h
LGH-200RVX3-E	170 Pa @ 2000 m³/h

Ideal for...

Ducted indoor unit for **horizontal or vertical** (with optional accessory) installation, with inlet and exhaust fans equipped with **EC motor** with broad speed modulation range (**25-100%**), integrated filtration system, Lossnay enthalpic heat recovery module and bypass damper.

LOSSNAY – Heat recovery ventilation units

The importance of adequate air exchange

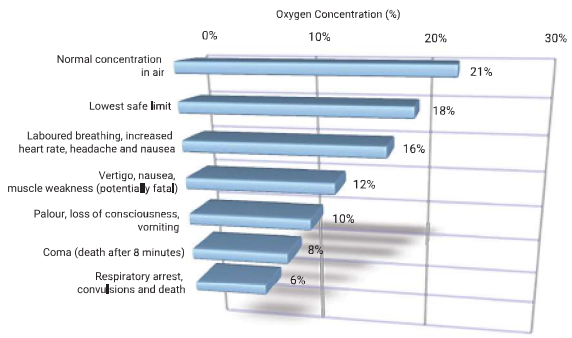
Air quality is a primary parameter for comfort.

Poor air quality in the office or at home has been proven to have a significantly detrimental influence on productivity and on the healthiness of the environment, and contribute to fatigue.

This is due to increasing concentrations of CO2 caused by inadequate air exchange. To live comfortably, every individual needs 40l of fresh air per hour.

Ensuring adequate ventilation in residential and commercial buildings is necessary to offer a healthy, comfortable environment for all occupants.

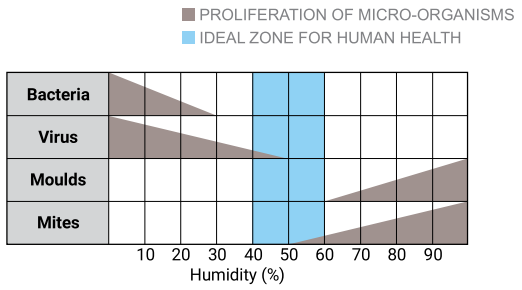
OXYGEN CONCENTRATIONS AND THE EFFECTS OF INADEQUATE OXYGEN LEVELS



The importance of correctly controlled humidity

A dry environment offers the ideal conditions for the proliferation of bacteria and viruses, and the survival rate of these micro-organisms drops rapidly at relative humidity levels above 50%. Excessively humid environments, on the other hand, encourage the proliferation of mould and mites. Precise humidity control is therefore an important factor in maintaining the ideal, healthy conditions.

ACTIVITY OF MICRO-ORGANISMS IN RELATION TO HUMIDITY



Source: ASHRAE Trans. 91 - 1B (1985)

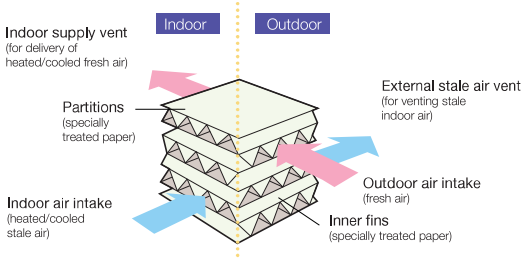
Low noise

Precise control over the flow of treated air significantly reduces the sound pressure values of the LOSSNAY unit by up to 17 dB(A). All LGH-RVX3 units ensure ideal acoustic comfort, even for residential applications, libraries, offices etc.

Simple construction

As shown in the figure, the Lossnay exchanger consists of a structure in special treated paper allowing two different air flows to cross one another and exchange thermal energy. Partitions separating the inlet and outlet channels prevent incoming fresh air from ever mixing with outgoing air.

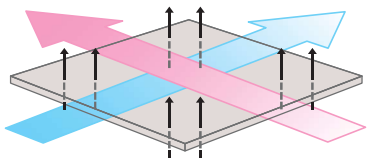
LOSSNAY EXCHANGER



Operating principle

The Lossnay exchanger performs a highly effective total exchange action for both temperature (sensible heat) and humidity (latent heat) – the system uses moisture-permeable partitions in specially treated paper to allow stale air to be vented externally and fresh outdoor air to be fed to the indoor space with absolutely no mixing between the two air flows.

WORKING PRINCIPLE



New PZ-62DR-EB dedicated remote control

NEW

The new wired remote control unit specifically for LGH-RVX3, LGH-RVS and LGH-RVXT heat recovery units boasts a fresh new look and new features:

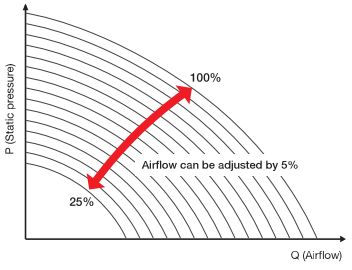
- Manage a group of up to 15 units
- Simple and intuitive.
- Backlit LCD screen
- "Lossnay" logo
- New "Pure White" colour
- Internal weekly timer
- Custom ventilation strategies for mode switching (Auto/recovery/bypass)
- Night purge function for active night-time ventilation in summer..

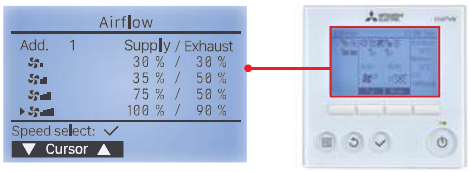
REMOTE CONTROL

Flow rate control

NEW

Both the fans of the new LGH-RVX3 can operate at 4 different pre-set ventilation speeds.
The desired speed setting can be selected independently for each of the two fans from the dedicated PZ-62DR-EB controller. Moreover, the new EC motors also allow each of the 4 set speeds to be increased or decreased within a range from 25% to 100%, letting the user fine-tune the performance of the air distribution system to perfection and reduce energy consumption.





PZ-62DR-EB

New CO_2 sensor

NEW

The optional CO2 sensor lets the controller of the unit modulate the recirculated air flow in relation to the concentration of carbon dioxide detected by the sensor itself. This also increases heat exchange efficiency and contributes to saving energy.

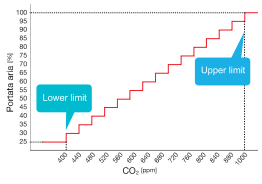
NEW CO_2 SENSOR

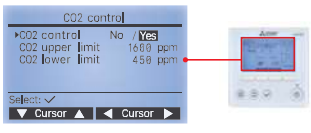
CO_2 sensor for wall-mounted installation (PZ-70CSW-E)

or

CO_2 sensor for ducted installation (PZ-70CSD-E)

Two different CO_2 sensor versions are available, one for wall-mounted installations and the other for ducted installations. The sensors receive electrical power from the board of the LGH unit. Fan speed is modulated in 16 steps within a range from 25% al 100% in relation to the CO_2 levels measured in the ambient air

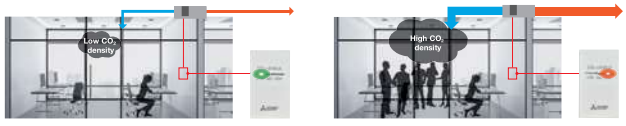




The upper and lower CO2 limits are user-settable.
Upper limit: from 600 to 2,000 ppm.
Lower limit: from 300 to (upper limit -300) ppm.
50 ppm steps.

AUTOMATIC OPERATION WITH CO_2 SENSOR

Fan speed is adjusted automatically in relation to the CO_2 concentration measured by the sensor

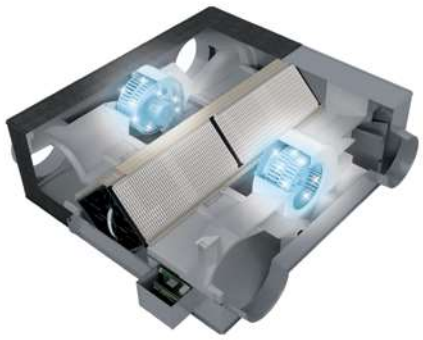


Dual Barrier Coating protective surface treatment

NEW

The new LGH-RVX3 heat recovery module uses Dual Barrier Coating technology. During operation, dust and contaminants carried by the air accumulate on the internal components of the unit, and especially on the fans, increasing energy consumption. The Dual Barrier Coating applied to both of the fans of the unit forms an additional protective layer which impedes the accumulation of dust and contaminants, even after prolonged usage, and eliminates the need for maintenance to address this problem.

Dual Barrier Coating



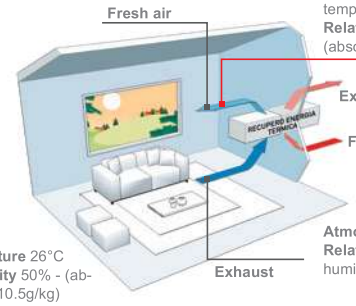
*The Dual Barrier Coating treatment is applied to both the inlet and exhaust fans

Comfortable air renewal action in either cold or hot outdoor conditions

Summer - Difference in temperature between new fresh air and air already in room of only 1.7°C.
- Incoming fresh air is brought to the same conditions as the cooled (and dehumidified) air in the room.

Winter - 4 kg/h humidity recovered.
- Incoming fresh air is brought to the same conditions as the warmed (and humidified) air in the room.

AIR RENEWAL IN SUMMER

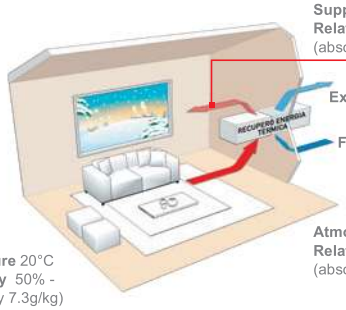


Supply air temperature 27.7°C
The incoming air lowers the temperature by approximately 6°C
Relative humidity 58% (absolute humidity 13.4 g/kg)

Atmospheric temperature 33°C
Relative humidity 63% (absolute humidity 20.1g/kg)

Room temperature 26°C
Relative humidity 50% - (absolute humidity 10.5g/kg)

AIR RENEWAL IN WINTER



Supply air temperature 16°C
Relative humidity 46% (absolute humidity 5.2g/kg)

Atmospheric temperature 0°C
Relative humidity 50% (absolute humidity 1.9g/kg)

Room temperature 20°C
Relative humidity 50% - (absolute humidity 7.3g/kg)

Horizontal or vertical installation

NEW

The LGH-RVX3 offers even more flexibility for installation.
The optional new dedicated mounts allow the unit to also be installed in a vertical position, so it can be installed not only in false ceilings but also in spaces such as alcoves, wall cavities and utility rooms.

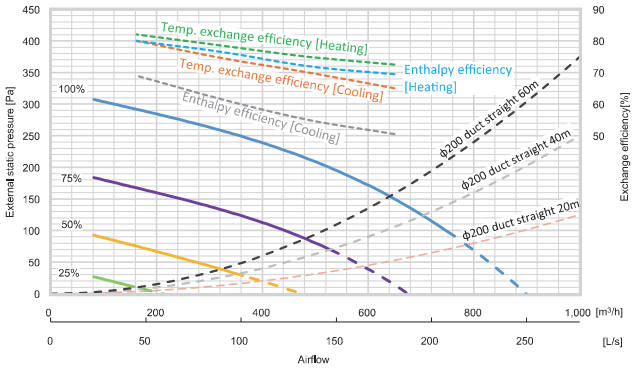
MODEL CODE FOR VERTICAL INSTALLATION	LOSSNAY
PZ-1VS-E	LGH-50RVX3-E
PZ-2VS-E	LGH-65RVX3-E
	LGH-80RVX3-E
	LGH-100RVX3-E

VERTICAL INSTALLATION

Technical specifications

MODEL			LGH-65RVX3-E			
Power supply	V/Phases/Hz		220-240 / SINGLE PHASE /50; 220-240 / SINGLE PHASE / 60			
Specific energy consumption class [1] (SEC)						
ErP data[1]	Max. air flow	m³/h	650			
Fan speed			SP4	SP3	SP2	SP1
Factory flow rate setting (modifiable)			100%	75%	50%	25%
Power consumption		W	245	120	51	20
Treated air volume		m3/h	650	488	325	163
Static external pressure		Pa	150	85	38	10
Sensible heat exchange efficiency	Cooling	%	65	70	74,5	80
	Heating	%	72,5	75	78,5	82
Enthalpic exchange efficiency	Cooling	%	50,5	55	61,5	69
	Heating	%	69,5	72	76,5	80
Standard filter	ISO 16890		Coarse 60%			
Sound pressure		dB(A)	37,5	31,5	24	17,5
No. and diameter of channels		mm	4 x 200			
Weight		kg	41			
Dimensions	HxLxW	mm	404 x 954 x 908			
Continuous operation range*	Outd. Temp.	°C	-10 ~ +40			
	Max. outd. RH	%	80			
	Max. ind. Temp.	°C	40			
	Max. ind. RH	%	80			

DIAGRAM LGH-65RVX3-E



*The dotted ventilation curves are for reference values which cannot be measured

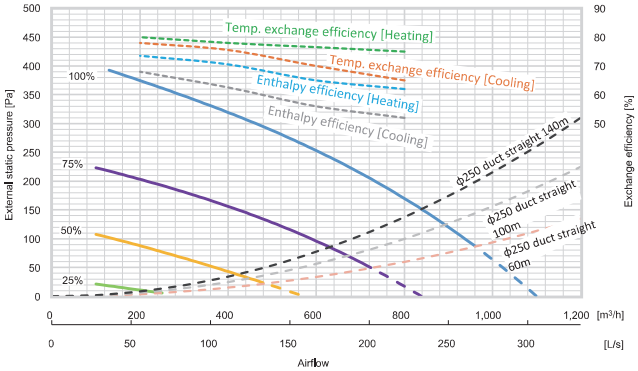
For LGH-RVX3 series
The values for power consumption, efficiency and noise are determined for the reference conditions specified with a mains power supply of 230V/50Hz and with the unit in a horizontal installation configuration.

Technical specifications

MODEL			LGH-80RVX3-E			
Power supply	V/Phases/Hz		220-240 / MONOFASE /50; 220-240 / MONOFASE / 60			
Specific energy consumption class [1] (SEC)						
ErP data[1]	Max. air flow	m³/h	800			
Fan speed			SP4	SP3	SP2	SP1
Factory flow rate setting (modifiable)			100%	75%	50%	25%
Power consumption		W	343	160	64	23
Treated air volume		m3/h	800	600	400	200
Static external pressure		Pa	170	96	43	11
Sensible heat exchange efficiency	Cooling	%	65	70	75,5	78
	Heating	%	75	76,5	78	80
Enthalpic exchange efficiency	Cooling	%	52	56	62,5	68
	Heating	%	62	65	70,5	73,5
Standard filter	ISO 16890		Coarse 60%			
Sound pressure		dB(A)	39	33,5	25	18
No. and diameter of channels		mm	4 x 250			
Weight		kg	47			
Dimensions	HxLxW	mm	404 x 1004 x 1144			
Continuous operation range*	Outd. Temp.	°C	-10 ~ +40			
	Max. outd. RH	%	80			
	Max. ind. Temp.	°C	40			
	Max. ind. RH	%	80			

[1]According to EU Regulation 1254/2014
*At temperatures <-10°C, the fan functions intermittently. In these conditions, we recommend using a heater unit that may be controlled by the LOSSNAY unit

DIAGRAM LGH-80RVX3-E



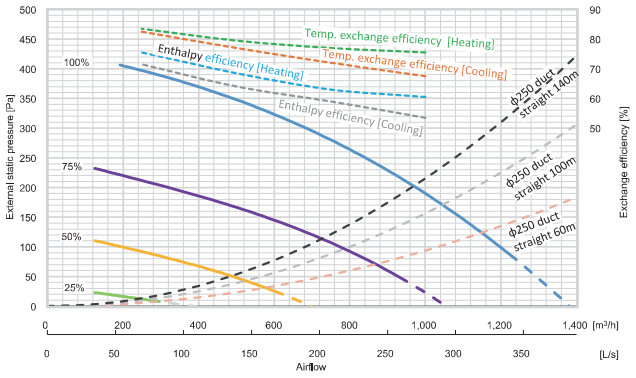
*The dotted ventilation curves are for reference values which cannot be measured

For LGH-RVX3 series
The values for power consumption, efficiency and noise are determined for the reference conditions specified with a mains power supply of 230V/50Hz and with the unit in a horizontal installation configuration.

Technical specifications

MODEL			LGH-100RVX3-E			
Power supply	V/Phases/Hz		220-240 / MONOFASE /50; 220-240 / MONOFASE / 60			
Specific energy consumption class [1] (SEC)			A (Average: -39.7 kWh/(m2.a))			
ErP data[1]	Max. air flow	m³/h	1000			
Fan speed			SP4	SP3	SP2	SP1
Factory flow rate setting (modifiable)			100%	75%	50%	25%
Power consumption		W	438	210	83	27
Treated air volume		m3/h	1000	750	500	250
Static external pressure		Pa	190	107	48	12
Sensible heat exchange efficiency	Cooling	%	67,5	72	77	82,5
	Heating	%	75,5	77	79,5	83,5
Enthalpic exchange efficiency	Cooling	%	53,5	59	64	71,5
	Heating	%	60,5	63	68,5	75,5
Standard filter	ISO 16890		Coarse 60%			
Sound pressure		dB(A)	40	35	27	18,5
No. and diameter of channels		mm	4 x 250			
Weight		kg	53			
Dimensions	HxLxW	mm	404 x 1231 x 1144			
Continuous operation range*	Outd. Temp.	°C	-10 ~ +40			
	Max. outd. RH	%	80			
	Max. ind. Temp.	°C	40			
	Max. ind. RH	%	80			

DIAGRAM LGH-100RVX3-E



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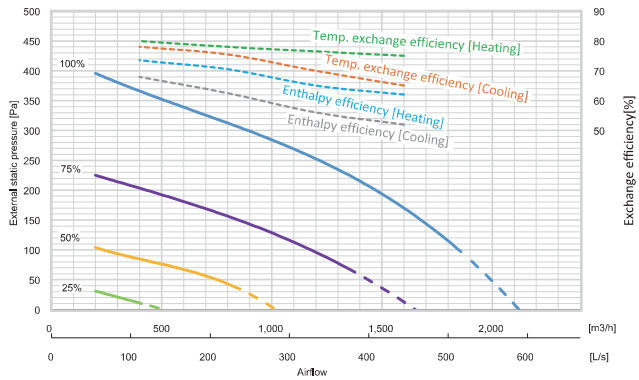
For LGH-RVX3 series
The values for power consumption, efficiency and noise are determined for the reference conditions specified with a mains power supply of 230V/50Hz and with the unit in a horizontal installation configuration.

Technical specifications

MODEL			LGH-160RVX3-E			
Power supply	V/Phases/Hz		220-240 / MONOFASE /50; 220-240 / MONOFASE / 60			
Specific energy consumption class [1] (SEC)			A (Average: -39.0 kWh/(m2.a))			
ErP data[1]	Max. air flow	m³/h	1600			
Fan speed			SP4	SP3	SP2	SP1
Factory flow rate setting (modifiable)			100%	75%	50%	25%
Power consumption		W	687	324	128	45
Treated air volume		m3/h	1600	1200	800	400
Static external pressure		Pa	170	96	43	11
Sensible heat exchange efficiency	Cooling	%	65	70	75,5	78
	Heating	%	75	76,5	78	80
Enthalpic exchange efficiency	Cooling	%	52	56	62,5	68
	Heating	%	62	65	70,5	73,5
Standard filter	ISO 16890		Coarse 60%			
Sound pressure		dB(A)	41	35	26	18
No. and diameter of channels		mm	4 x 250			
Weight		kg	98			
Dimensions	HxLxW	mm	690 x 690 x 1004			
Continuous operation range*	Outd. Temp.	°C	-10 ~ +40			
	Max. outd. RH	%	80			
	Max. ind. Temp.	°C	40			
	Max. ind. RH	%	80			

[1]According to EU Regulation 1254/2014
*At temperatures <-10°C, the fan functions intermittently. In these conditions, we recommend using a heater unit that may be controlled by the LOSSNAY unit

DIAGRAM LGH-160RVX3-E



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For LGH-RVX3 series
The values for power consumption, efficiency and noise are determined for the reference conditions specified with a mains power supply of 230V/50Hz and with the unit in a horizontal installation configuration.