Ventilation

All fresh air (AFA)

Lossnay enthalpy heat recovery (LGH)

Outdoor air treatment indoor units (GUF)

TYPE	MODEL NAME	MODEL
All fresh air (AFA)	**PEFY-P125VMHS-E-F** **PEFY-P200VMHS-E-F** **PEFY-P250VMHS-E-F**	
Lossnay Enthalpy heat recovery (LGH)	**LGH-RVS-E**	 NEW
	LGH-50RVX-E **LGH-65RVX-E** **LGH-80RVX-E** **LGH-100RVX-E**	
	LGH-150RVX-E **LGH-200RVX-E**	
	LGH-150RVXT-E **LGH-200RVXT-E** **LGH-250RVXT-E**	
Outdoor air treatment indoor units (GUF)	**GUF-50RD(H)4** **GUF-100RD(H)4**	

	Air flow (mc/h)						
	500	600	800	1000	1500	2000	2500
				•	•	•	
	•		•	•			
	•	•	•	•			
					•	•	
					•	•	•
	•			•			

PEFY-P VMHS-E-F

OUTDOOR FRESH AIR INTAKE UNIT (AFA)

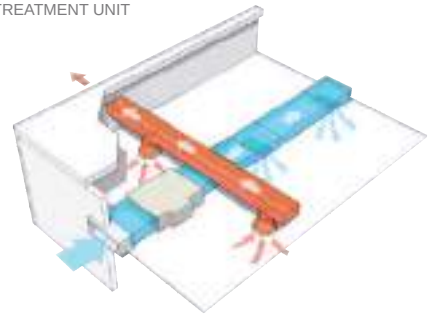
Ideal for...

...feeding temperature-controlled fresh outdoor air into building. The ideal solution for offices, large stores and restaurants.

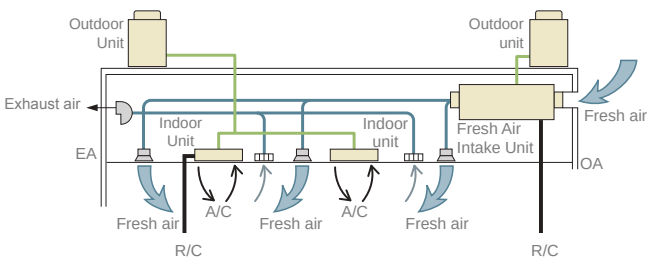
Enables intake of outside air

The indoor purified air delivery unit may be installed anywhere. The purified air delivery unit may be used to feed fresh, purified outdoor air into any building, in any place and at any time.

INSTALLATION OF INDOOR FRESH OUTDOOR AIR TREATMENT UNIT



OPERATING SCHEME - EXAMPLE



Controllable outlet air temperature

With new PEFY-P VMHS-E-F is possible to operate **Supply Air** temperature control.

OPERATION MODE	TEMPERATURE RANGE SETTABLE
COOL mode	14°C - 30°C
HEAT mode	17°C - 28°C
AUTO mode (single set point)	17°C - 28°C
FAN	Not settable

* In some cases the temperature of the air introduced into the ambient may be subject to fluctuations due to the conditions of the external air and to the operating conditions of the system.

Equipped with new DC fan motor

Fan motor has been changed to higher efficiency DC motor. Power source has been changed from three-phase power supply to **single-phase** power supply for all sizes.

Maximum connectable indoor units capacity to outdoor unit

Max. 110% of outdoor unit capacity (100% in case of heating below -5°C).

Flexible air-flow setting

4 levels of external static pressure to choose. External static pressure can be set also by remote controller (PAR-33/40MAA, PAR-U02MEDA and PAR-CT01MA).

MODEL	P125	P200	P250
External Static Pressure (Pa)	<100>-<150>-200-<250>		

* The factory setting of external static pressure is shown without chevrons "< >;".

Two types of air-flow modes are available, each of which has three air-flow rates to choose from:
- Normal Airflow rate
- High Airflow rate

Air-flow rates are accesible from the remote controller (PAR-33/40MAA, PAR-U02MEDA and PAR-CT01MA).

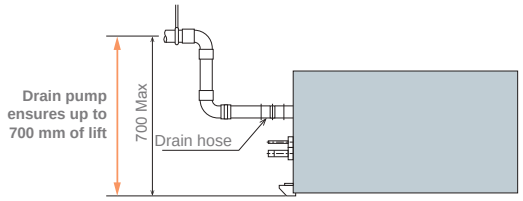
Mode	Normal-airflow rate	High-airflow rate
Air-flow rate	Low-Medium-High	Low-Medium-High

Drain pump (optional)

Greater design flexibility made possible by the increased head height (700 mm max).

UNIT MODEL	DRAIN PUMP MODEL
PEFY-P125 VMHS-E-F	PAC-DRP10DP-E2
PEFY-P200 VMHS-E-F	PAC-KE06DM-F
PEFY-P250 VMHS-E-F	PAC-KE06DM-F

DRAIN PUMP (OPTIONAL)



Specifications

MODEL			PEFY-P125VMHS-E-F		PEFY-P200VMHS-E-F		PEFY-P250VMHS-E-F	
Power source	V/phase/Hz		1 phase, 220-230-240V 50/60 Hz					
Cooling capacity *1		kW	14.0		22.4		28.0	
		Btu/h	47,800		76,400		95,500	
Heating capacity *2		kW	8.9		13.9		17.4	
		Btu/h	30,400		47,400		59,400	
Temperature range	Cooling		17°C D.B./15.5°C W.B. ÷ 43°C D.B./35°C W.B. Thermo-off (FAN-mode) automatically starts if the outdoor temperature is lower than 17°CD.B.					
	Heating		'-10°C D.B. ÷ 20°C D.B. Thermo-off (FAN-mode) automatically starts if the outdoor temperature is higher than 20°CD.B.					
Power input *3	Cooling	kW	0.220		0.260		0.350	
	Heating	kW	0.230		0.270		0.360	
Current input *3	Cooling	A	1.43		1.66		2.16	
	Heating	A	1.52		1.85		2.38	
External finish			Galvanized					
External dimension HxWxD		mm	380x1195x900		470x1250x1120		470x1250x1120	
Net weight		kg	49		78		81	
Heat exchanger			Cross fin (aluminum fin and copper tube)					
Motor	Type		DC Motor					
	Output	kW	0.244		0.375		0.375	
Refrigerant piping diameter	Gas (brazed)	mm	15.88		19.05		22.22	
	Liquid (brazed)	mm	9.52		9.52		9.52	
Field drain pipe size		mm	O.D. 32		O.D. 32		O.D. 32	
Fan	Type x Quantity		Sirocco fan x 1		Sirocco fan x 2		Sirocco fan x 2	
	External static press.*4	Pa	<100> - <150> - 200 - <250>					
	Air flow rate *5		Normal Airflow rate mode	High Airflow	Normal Airflow	High Airflow	Normal Airflow	High Airflow
		m^3/min	14.0 - 15.5 - 18.0	15.5 - 18.0 - 20.0	22.5 - 25.0 - 28.0	25.0 - 28.0 - 32.0	28.0 - 31.0 - 35.0	31.0 - 35.0 - 40.0
		L/s	233 - 258 - 300	258 - 300 - 333	375 - 417 - 467	417 - 467 - 533	467 - 517 - 583	517 - 583 - 667
		cfm	494 - 547 - 636	547 - 636 - 706	794 - 883 - 898	883 - 989 - 1,130	989 - 1,095 - 1,236	1,095 - 1,236 - 1,412
Sound pressure level *2 (Low-Mid-High)			Normal Airflow	High Airflow	Normal Airflow	High Airflow	Normal Airflow	High Airflow
		dB(A)	34-37-41	36-40-42	35-38-41	36-39-42	38-40-44	38-41-45

*1 Cooling capacity indicates the maximum value at operation under the following condition. Cooling: Indoor 33°CDB/28°CWB, Outdoor 33°CDB. The set temperature of the remote controller is 18°C.
*2 Heating capacity indicates the maximum value at operation under the following condition. Heating: Indoor 0°CDB/-2.9°CWB, Outdoor 0°CDB/-2.9°CWB. The set temperature of the remote controller is 25°C.
*3 The value are measured at the factory setting of airflow mode and external static pressure.
*4 The factory setting of airflow mode and external static pressure mode is shown without < >. Refer to "Fan characteristics curves", according to the external static pressure, in DATA BOOK for the usable range of air flow rate.
*5 If the airflow rate is over the usable range, dew drop can be caused from the air outlet and the air flow rate is changed automatically because of the output down by the fan motor control. If the air flow rate is less than the usable range, condensation from the unit surface can be caused.

- The combination of fresh air intake type indoor units with other types of indoor units to handle internal thermal load which may cause the conflict of operation mode. It is not recommended when fresh air intake type indoor unit is connected to the Y or WY series.
- Depending on the air conditioning load, outside temperature, and due to the activation of protection functions, the desired preset temperature may not always be achieved and the discharge temperature may swing. Note that untreated outside air may be delivered directly into the room upon the activation of protection functions.
- Fresh air intake type indoor units cannot be connected to PUMY and cannot be connected to an outdoor unit together with PWFY series.
- The maximum connectable indoor units to 1 outdoor unit are 110% (100% in case of heating below -5°C).
- When fresh air intake type indoor units connect to an outdoor unit together with other types of indoor unit, the total capacity of fresh air intake type indoor units needs to be 30% or less of the connected outdoor unit capacity.
- The AUTO mode on the local remote controller is available only when fresh air intake type indoor unit is connected to the R2 or WR2 series of outdoor unit.
- The system changeover function is available only when all the connected indoor units are fresh air intake type indoor units.
- The fan temporary stops during defrost.
- The cooling and heating capacities are the maximum capacities that were obtained by operating in the above air conditions and with a refrigerant pipe of about 7.5 m and a level difference of 0 m.
- The actual capacity characteristics vary with the combination of indoor and outdoor units. See the technical information in DATA BOOK for the details.
- Thermo off (Fan) operation automatically starts either when temperature is lower than 17°CDB in cooling mode or when the temperature exceeds 20°CDB in heating mode.
- Dry mode is not available.
- When this unit is used as sole A/C system, be careful about the dew in air outlet grilles in cooling mode.
- Un-conditioned outdoor air such as humid air or cold air blows to the indoor during thermo off operation. Please be careful when positioning indoor unit air outlet grilles, ie take the necessary precautions for cold air, and also insulate rooms for dew condensation prevention as required.
- Air filter must be installed in the air intake side. The filter should be attached where easy maintenance is possible in case of usage of field supply filters.

LGH-RVS NEW

DUCTED SENSIBLE HEAT RECOVERY UNIT

SIZES	
LGH-50RVS	500 mc/h @ 150 Pa
LGH-80RVS	800 mc/h @ 170 Pa
LGH-1000RVS	1000 mc/h @ 190 Pa

Standard filter (provided with the unit)	Optional filter
G3 (Coarse 50%)	F8 (ePM1 65%)

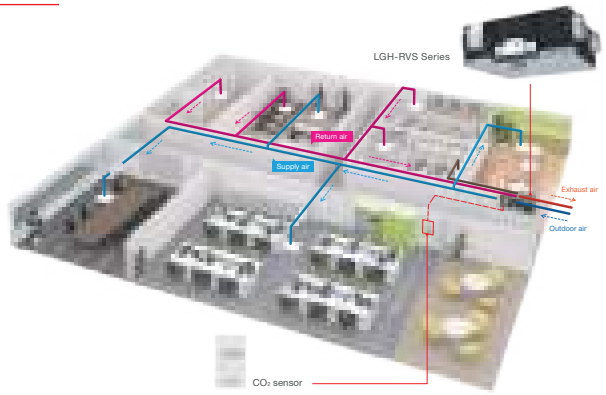
Ideal for...

Ducted indoor unit equipped with fresh air intake fan, exhaust fan, filtering system, Lossnay sensitive heat recovery system and bypass damper.

Sensible heat recovery unit

The new Lossnay LGH-RVS sensible heat recovery unit caters to different needs thanks to its features and accessories.
Ease of installation, ultra-quiet operation and recovery efficiency are the three key features of this model.

DUCTABLE SENSIBLE HEAT RECOVERY UNIT



CO_2 sensor (optional)

A CO_2 sensor connected directly to the unit means that the airflow rate can be optimised according to the level of carbon dioxide detected in the room, improving heat exchange efficiency and contributing to energy saving.

AIRFLOW MODULATION WITH CO_2 SENSOR

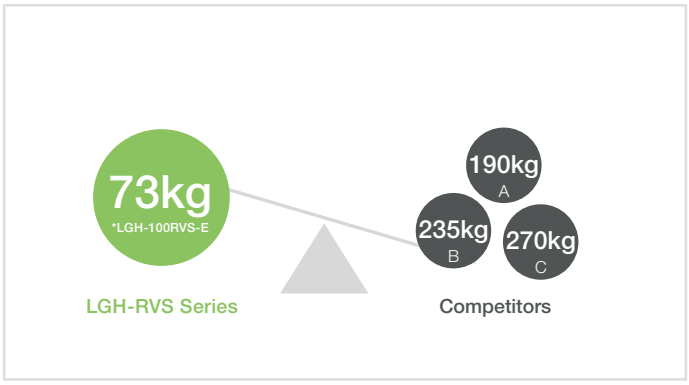
OPTIONAL CO_2 SENSOR

PZ-70CSW-E (sensor for wall-mounted installation). The CO2 levels are indicated by the LEDs on the sensor.

PZ-70CSB-E (sensor built into the unit)

Easy installation

Lighter weight
Being lightweight is one of the most important factors in installation. The lightweight frame of the LGH-RVS series can provide a huge advantage in terms of installation cost and safety.

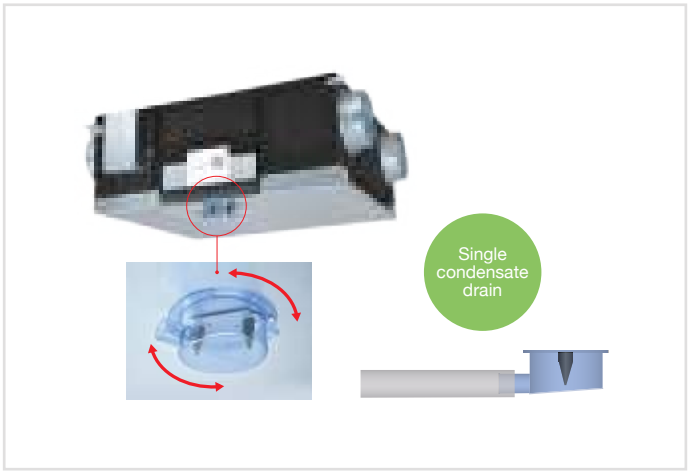


Silent and efficient operation

The new LGH-RVS recovery unit has extremely low noise emissions thanks to the special sirocco fan produced by Mitsubishi Electric coupled with a high-efficiency motor.

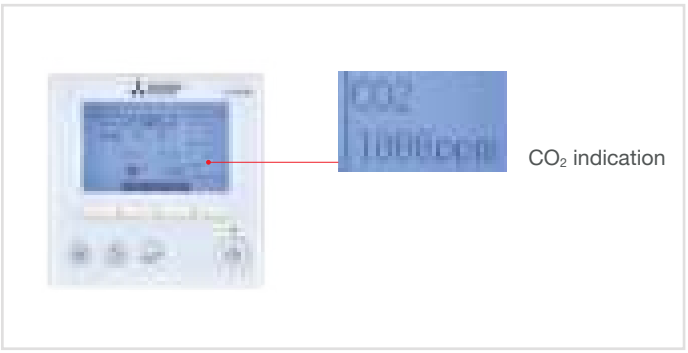
Single condensate drain

The LGH-RVS unit is equipped with a special condensate drain that allows the connection of a single condensate evacuation pipe. Connection to the pipeline is made easy thanks to the rotating connection system. Furthermore, thanks to the special design of the new drainage system, there is no need for an external siphon.



Dedicated PZ-62DR-EB wired controller

The new PZ-62DR-EB controller can be used to control all the functions of the LGH-RVS unit.
If the PZ-70CSW-E (optional) or PZ-70CSB-E (optional) CO_2 sensor is used, the carbon dioxide concentration in the room can be displayed on the control unit's display.



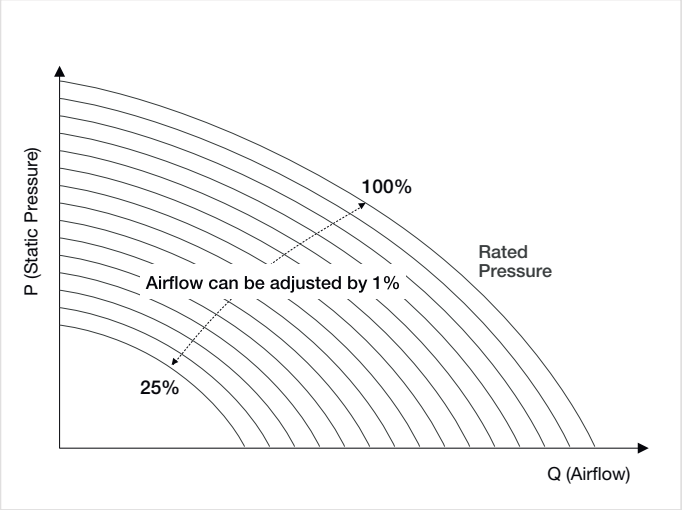
Customisable filtration level

The new LGH-RVS is fitted with G3 filters (Coarse 50%) as standard. F8 filters can be used for higher performance filtration

Filter Model	Class. EN779:2012	Class. ISO16890:2016	No. filters per set	Compatible VL model	Filter position	Maintenance	Filter life*
PZ-S50RF-E	**G3**	**Coarse 55%**	2	LGH-50RVS-E	**RA, OA**	Clean the air filter once a year	Approx. 5 years with periodic cleaning/maintenance
PZ-S80RF-E				LGH-80RVS-E			
PZ-S100RF-E				LGH-100RVS-E			
PZ-S50RFH-E	**F8**	**ePM1 65%**	2	LGH-50RVS-E	**SA**	Disposable filter. No cleaning/washing	Approximately one year or when blocked
PZ-S80RFH-E				LGH-80RVS-E			
PZ-S100RFH-E				LGH-100RVS-E			

Airflow modulation

The fan inverter motor, designed and manufactured directly by Mitsubishi Electric, guarantees maximum performance with minimum energy consumption and allows **inlet and outlet ventilation speed modulation from 25% to 100%** (+/- 5% increments/decrements).



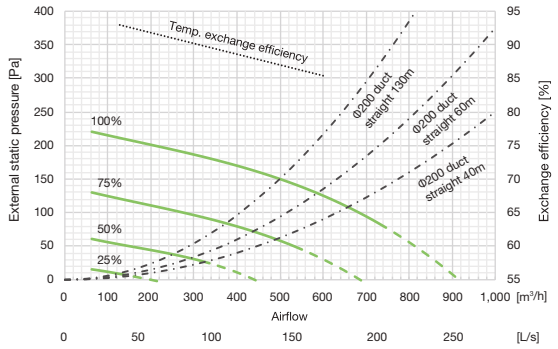
MELCloud connection (optional)

The unit can be controlled and monitored remotely via the **MelCloud** platform. This requires the installation of the optional **MAC-587IF-E** interface card.

Technical data LGH-50RVS-E

MODEL			LGH-50RVS-E			
Electrical power supply	V/Phase/Hz		220-240/MONOFASE /50			
Fan speed			100%	75%	50%	25%
Input power		W	190	110	60	25
Air volume		m³/h	500	375	250	125
		L/s	139	104	69	35
External static pressure		Pa	150	84	38	9
Sensible heat exchange efficiency		%	87	89	91	93
Standard filter	EN 779 (ISO 16890)		G3 (Coarse 35%)			
Noise		dB(A)	33	27	22	18
Weight		kg	55			
Dimensions	HxLxD	mm	529 x 974 x 946			
Guaranteed field of operation (continuous operation)*	Outdoor temp.	°C	0 ~ +40			
	Max. indoor temp.	%	40			
	Max. indoor RU	°C	90			
	Max. indoor AH	%	0.0139			

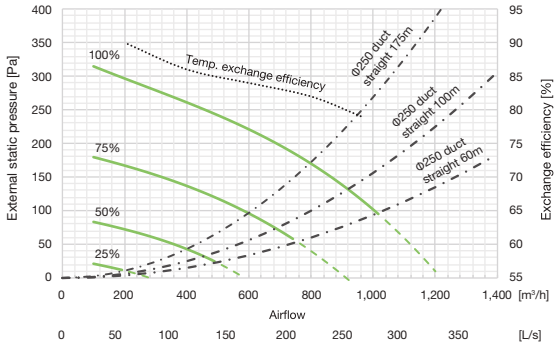
DIAGRAM LGH-50RVS-E



Technical data LGH-80RVS-E

MODEL			LGH-80RVS-E			
Electrical power supply	V/Phase/Hz		220-240/MONOFASE /50			
Fan speed			100%	75%	50%	25%
Input power		W	325	175	85	32
Air volume		m³/h	800	600	400	200
		L/s	222	167	111	56
External static pressure		Pa	170	96	43	11
Sensible heat exchange efficiency		%	82	84	86	90
Standard filter	EN 779 (ISO 16890)		G3 (Coarse 35%)			
Noise		dB(A)	36	30	25	18
Weight		kg	63			
Dimensions	HxLxD	mm	529 x 1185 x 997			
Guaranteed field of operation (continuous operation)*	Outdoor temp.	°C	0 ~ +40			
	Max. indoor temp.	%	40			
	Max. indoor RU	°C	90			
	Max. indoor AH	%	0.0139			

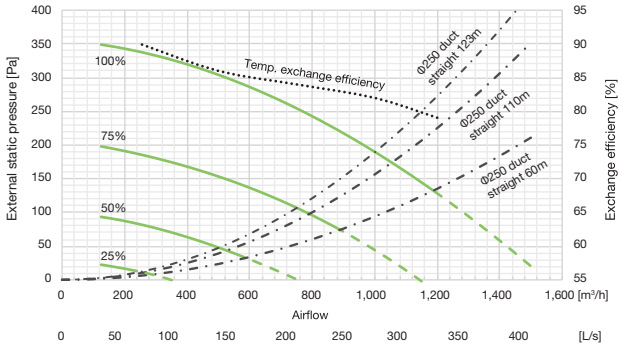
DIAGRAM LGH-80RVS-E



Technical data LGH-100RVS-E

MODEL			LGH-100RVS-E			
Electrical power supply	V/Phase/Hz		220-240/MONOFASE /50			
Fan speed			100%	75%	50%	25%
Input power		W	445	225	100	35
Air volume		m³/h	1000	750	500	250
		L/s	278	208	139	69
External static pressure		Pa	190	107	48	12
Sensible heat exchange efficiency		%	82	84	86	90
Standard filter	EN 779 (ISO 16890)		G3 (Coarse 35%)			
Noise		dB(A)	37	32	24	18
Weight		kg	73			
Dimensions	HxLxD	mm	529 x 1185 x 1224			
Guaranteed field of operation (continuous operation)*	Outdoor temp.	°C	0 ~ +40			
	Max. indoor temp.	%	40			
	Max. indoor RU	°C	90			
	Max. indoor AH	%	0.0139			

DIAGRAM LGH-100RVS-E



LGH-RVX(T)

LOSSNAY - Heat recovery ventilation unit

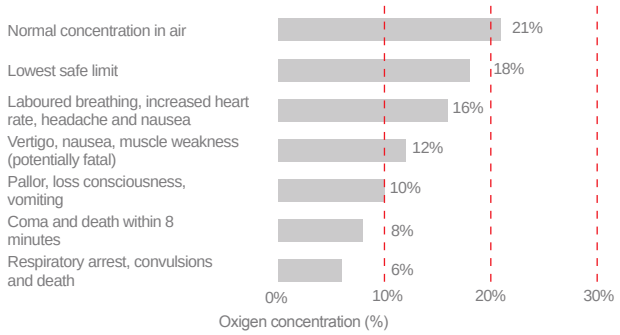
Lossnay – Heat recovery ventilation units

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 400l of fresh air per hour.**Ensuring **adequate ventilation** in residential and commercial buildings is necessary **to offer a healthy, comfortable environment for all occupants.**

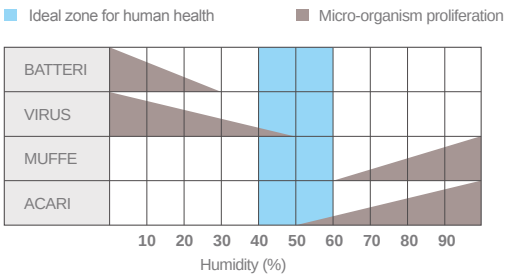
The importance of correctly controlled humidity

OXYGEN CONCENTRATIONS AND THE EFFECTS OF INADEQUATE OXYGEN LEVELS



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 ideal, healthy conditions.

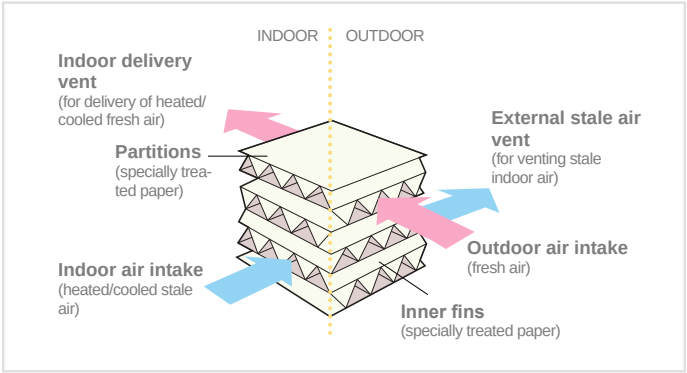
ACTIVITY OF MICRO-ORGANISMS IN RELATION TO HUMIDITY



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

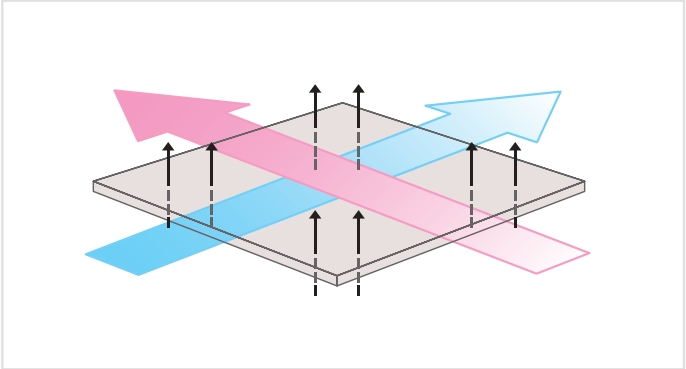
Simple construction

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.



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.



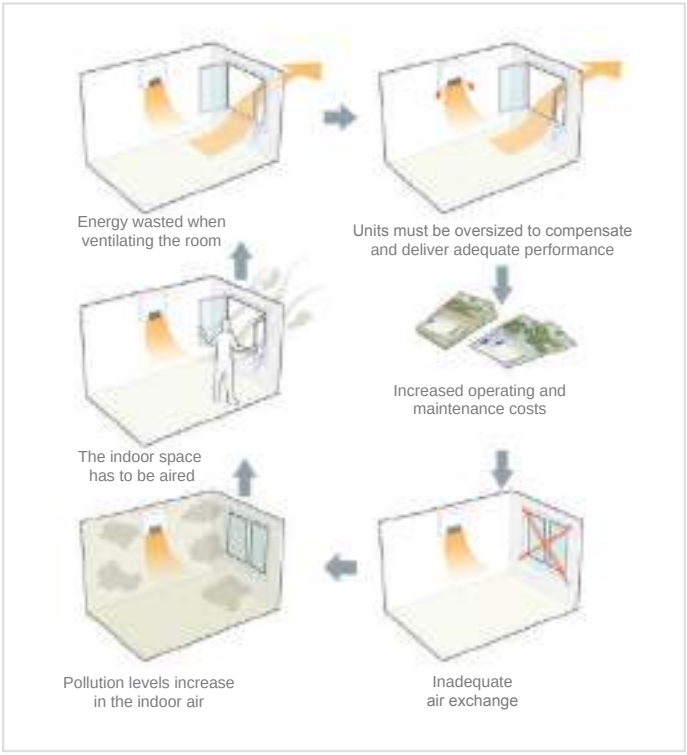
Energy recovery

Comfort and energy savings

With universally recognised efficiency, Lossnay heat exchanger ventilation units use energy recovery to offer significant energy savings.

A conventional ventilation system vents treated indoor air into the outdoor environment and replaces this air with outdoor air, causing the room to lose heat in winter and heat up in summer. This loss of heated/cooled air means that energy must be expended to restore comfortable temperature conditions in the indoor space. The result of this is notably higher air conditioning costs. To solve this problem while still ensuring the necessary air exchange, Mitsubishi Electric offers a range of thermal energy recovery ventilation systems, which minimise air conditioning costs.

All Lossnay units are equipped with class "G3" air filter as standard (Coarse 35% based on ISO 16890). LGH-RVX models may also be equipped with a class "M6" high efficiency filter (ePM10 75% based on ISO 16890).



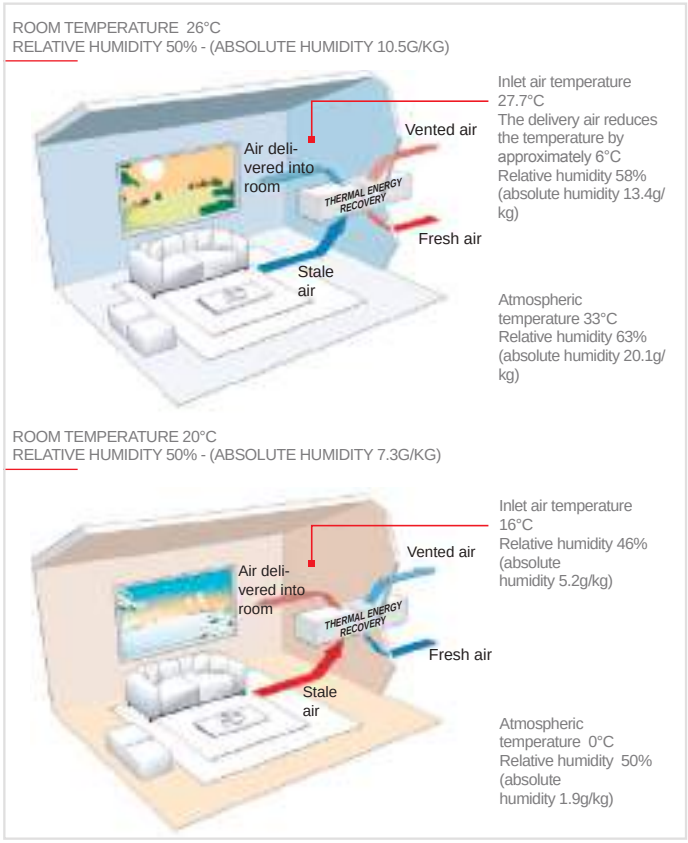
Comfortable air exchange action, in either cold or hot outdoor conditions

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.



Low noise

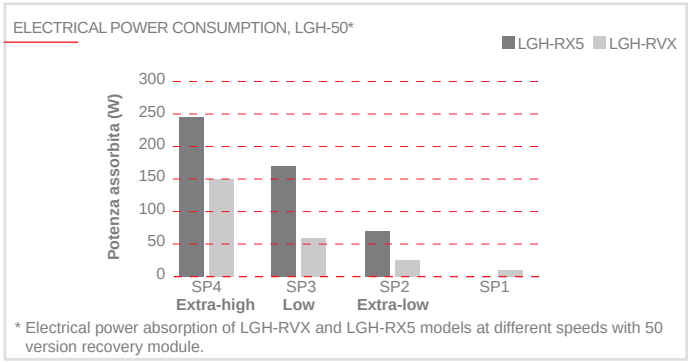
Precise control over the flow of treated air significantly reduces the sound pressure values of the LOSSNAY unit by up to 18 dB(A). All LGH-RVX units ensure ideal acoustic comfort, including for residential applications, libraries, offices etc.

Lossnay for energy savings

New DC FAN Motor

The new **DC motor** used throughout the new LGH-RVX series offers a number of advantages:

- **Very low electric power consumption**, especially at low speeds
- Lower noise emissions
- Increased flexibility and fine air flow adjustment from remote control.



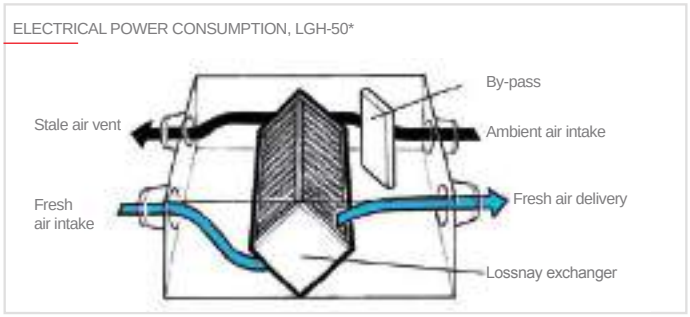
* Electrical power absorption of LGH-RVX and LGH-RX5 models at different speeds with 50 version recovery module.

Bypass shutter

The LGH-RVX series is equipped with a bypass shutter:

When the shutter is open, fresh air is fed to the interior space with no heat recovery, passing through the filter only.

The bypass shutter may be activated manually from the remote control, or automatically in specific thermal conditions (Free-Cooling).



New PZ-62DR-E dedicated remote control

The new wired remote control unit specifically for LGH-RVX heat recovery units boasts a fresh new look and new features.

- Possibility of managing a group of up to 15 units
- Simple and intuitive
- Backlit LCD screen
- Internal weekly timer
- Custom ventilation strategies for mode switching (Auto/recovery/bypass)
- Night purge function for active night-time ventilation in summer.

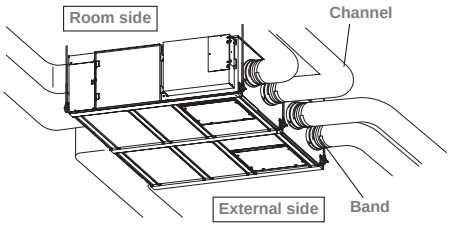
Easy installation

High air volumes and low height.

Three new models with important innovations have supplemented the LGH enthalpic recuperators line.

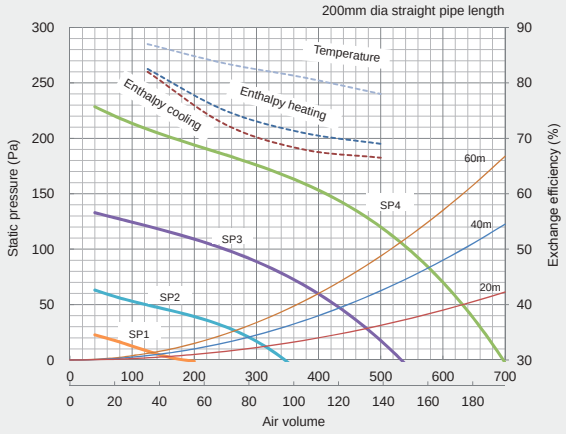
The RVXT models treat high volumes of air (up to 250m3/h) and are extremely low in height (only 500mm), a feature that makes them exceptionally flexible during installation, especially where the height of the false ceiling does not allow the use of RVX models.

The RVXT models are also equipped with an enthalpy exchange package in treated paper and are fitted with "G3" filters as standard (Coarse 35% based on ISO 16890).



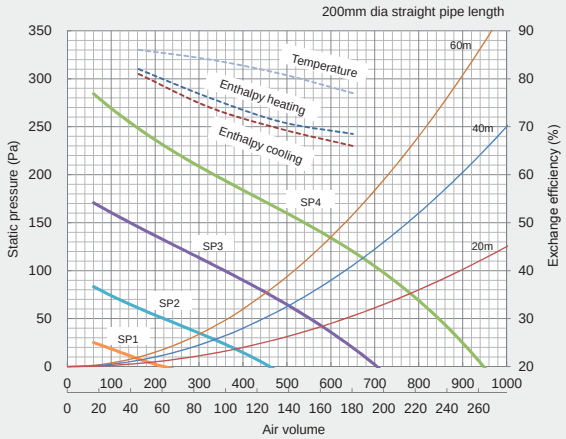
Technical specifications

MODEL			LGH-50RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	1.15	0.59	0.26-0.27	0.13
Power input		W	165-173	78-81	32-35	12-14
Air volume		m³/h	500	375	250	125
		L/s	138.9	104.2	69.4	34.7
External static pressure		mmH_2O	12.24	6.93	3.06	0.82
		Pa	120	68	30	8
Temp. heat exch. Efficiency		%	78.0	81.0	83.5	87.0
Total heat exch. Efficiency	Cooling	%	66.5	68.0	72.5	82.0
	Heating	%	69.0	71.0	75.0	82.5
Sound pressure level		dB(A)	34-35	28-29	19-20	18
Duct qty x diameter		mm	4 x 200	4 x 200	4 x 200	4 x 200
Wheight		kg	33	33	33	33
Dimensions	HxLxD	mm	331x1016 x888	331x1016 x888	331x1016 x888	331x1016 x888
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



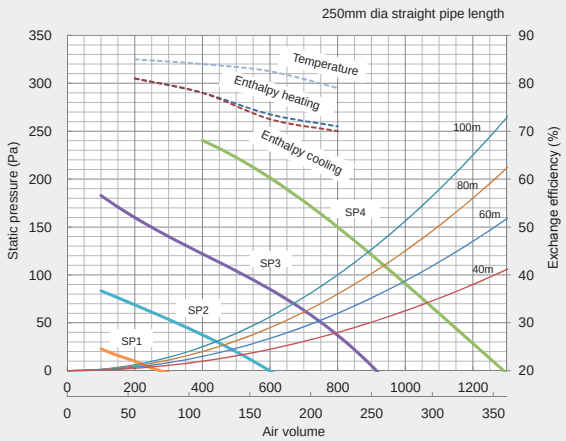
Technical specifications

MODEL			LGH-65RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	.65-1.72	0.90-0.86	0.39-0.38	0.15-0.16
Power input		W	252-262	131	49-47	15-17
Air volume		m³/h	650	488	325	163
		L/s	180.6	135.4	90.3	45.1
External static pressure		mmH_2O	12.24	6.93	3.06	0.82
		Pa	120	68	30	8
Temp. heat exch. Efficiency		%	77.0	81.0	84.0	86.0
Total heat exch. Efficiency	Cooling	%	66.0	69.5	74.0	81.0
	Heating	%	68.5	71.0	76.0	82.0
Sound pressure level		dB(A)	34.5-35.5	29	22	18
Duct qty x diameter		mm	4 x 200	4 x 200	4 x 200	4 x 200
Wheight		kg	38	38	38	38
Dimensions	HxLxD	mm	404x954 x908	404x954 x908	404x954 x908	404x954 x908
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



Technical specifications

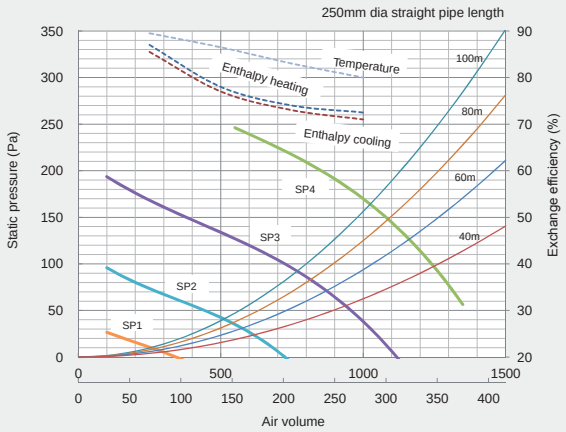
MODEL			LGH-80RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	1.82-1.97	0.83-0.86	0.36-0.40	0.15-0.16
Power input		W	335-340	151	60-64	18-20
Air volume		m³/h	800	600	400	200
		L/s	222.2	166.7	111.1	55.6
External static pressure		mmH_2O	15.30	8.67	3.82	1.02
		Pa	150	85	37.5	10
Temp. heat exch. Efficiency		%	79.0	82.5	84.0	85.0
Total heat exch. Efficiency	Cooling	%	70.0	72.5	78.0	81.0
	Heating	%	71.0	73.5	78.0	81.0
Sound pressure level		dB(A)	34.5-36.0	30.0	23	18
Duct qty x diameter		mm	4 x 250	4 x 250	4 x 250	4 x 250
Wheight		kg	48	48	48	48
Dimensions	HxLxD	mm	404x1004 x1144	404x1004 x1144	404x1004 x1144	404x1004 x1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



* In case of temperature < -10°C fan will work discontinuously. Lossnay controlled heat generator is recommanded in this condition.

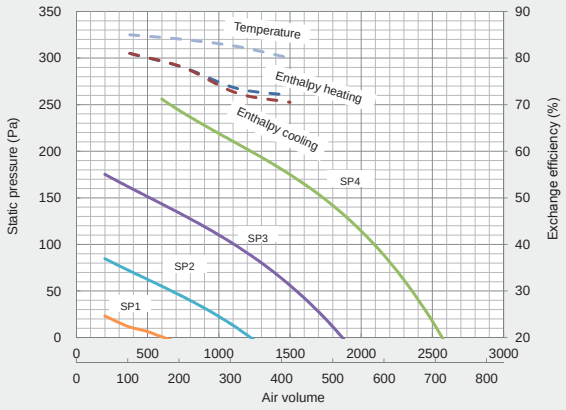
Technical specifications

MODEL			LGH-100RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	2.50	1.20	0.50-0.51	0.17-0.19
Power input		W	420	200	75	21
Air volume		m^3/h	1000	750	500	250
		L/s	277.8	208.3	138.9	69.4
External static pressure		mmH_2O	17.34	9.75	4.33	1.08
		Pa	170	95.6	42.5	10.6
Temp. heat exch. Efficiency		%	80.0	83.0	86.5	89.5
Total heat exch. Efficiency	Cooling	%	71.0	73.0	77.0	85.5
	Heating	%	72.5	74.0	78.0	87.0
Sound pressure level		dB(A)	37-38	31-32	23-24	18
Duct qty x diameter		mm	4 x 250	4 x 250	4 x 250	4 x 250
Wheight		kg	54	54	54	54
Dimensions	HxLxD	mm	404x1231 x1144	404x1231 x1144	404x1231 x1144	404x1231 x1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



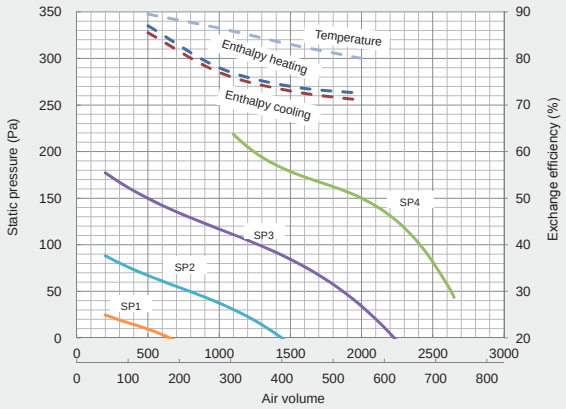
Technical specifications

MODEL			LGH-150RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	3.71-3.85	1.75-1.78	0.70-0.78	0.29-0.30
Power input		W	670-698	311	123-124	38-44
Air volume		m^3/h	1500	1125	750	375
		L/s	416.7	312.5	208.3	104.2
External static pressure		mmH_2O	17.85	10.03	4.47	1.11
		Pa	175	98.4	43.8	10.9
Temp. heat exch. Efficiency		%	80.0	82.5	84.0	85.0
Total heat exch. Efficiency	Cooling	%	70.5	72.5	78.0	81.0
	Heating	%	72.0	73.5	78.0	81.0
Sound pressure level		dB(A)	39.0-40.5	32-33	24-26	18
Duct qty x diameter		mm	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)
Wheight		kg	98	98	98	98
Dimensions	HxLxD	mm	808x1004x 1144	808x1004x 1144	808x1004x 1144	808x1004x 1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



Technical specifications

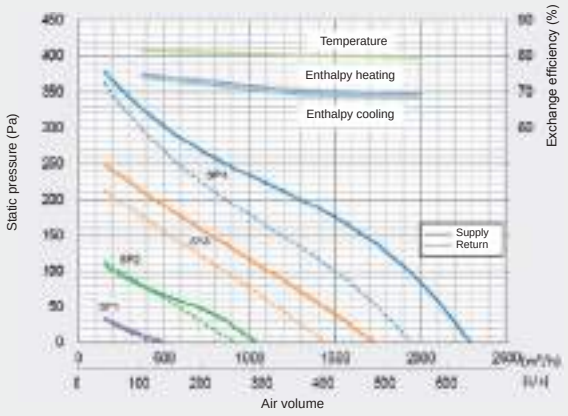
MODEL			LGH-200RVX-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	4.88-4.54	2.20-2.06	0.88-0.87	0.33-0.35
Power input		W	850-853	400-372	153-150	42-49
Air volume		m^3/h	2000	1500	1000	500
		L/s	555.6	416.7	277.8	138.9
External static pressure		mmH_2O	15.30	8.61	3.82	0.97
		Pa	150	84.4	37.5	9.5
Temp. heat exch. Efficiency		%	80.0	83.0	86.5	89.5
Total heat exch. Efficiency	Cooling	%	71.0	73.0	77.0	85.5
	Heating	%	72.5	74.0	78.0	87.0
Sound pressure level		dB(A)	40-41	40-41	40-41	40-41
Duct qty x diameter		mm	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)	4 x 250 / 2 x (270x700)
Wheight		kg	110	110	110	110
Dimensions	HxLxD	mm	808x1231 x1144	808x1231 x1144	808x1231 x1144	808x1231 x1144
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



* In case of temperature < -10°C fan will work discontinuously. Lossnay controlled heat generator is recommanded in this condition.

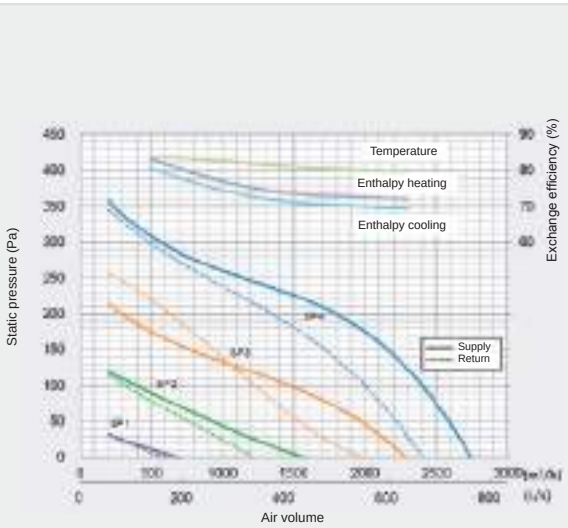
Technical specifications

MODEL			LGH-150RVXT-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	4.30 - 3.40	2.40 - 1.80	1.10 - 0.77	0.36 - 0.31
Power input		W	792 - 625	421 - 334	176 - 134	48 - 37
Air volume		m^3/h	1500	1125	750	375
		L/s	417	313	208	104
External static pressure		mmH_2O	175	98	44	11
		Pa	100	56	25	6
Temp. heat exch. Efficiency		%	80.0	80.5	81.0	81.5
Total heat exch. Efficiency	Cooling	%	69.0	70.0	72.0	74.0
	Heating	%	70.0	71.0	73.0	75.0
Sound pressure level		dB(A)	39.5	35.5	29.5	22.0
Duct qty x diameter		mm	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)
Wheight		kg	156	156	156	156
Dimensions	HxLxD	mm	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



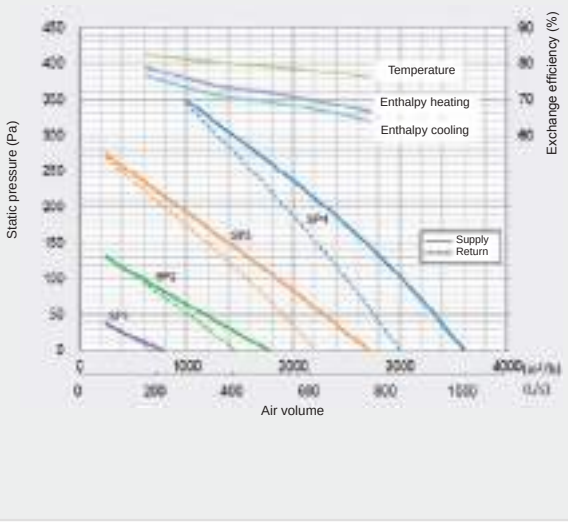
Technical specifications

MODEL			LGH-200RVXT-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	5.40 - 5.00	2.70 - 2.20	1.10 - 0.85	0.39 - 0.34
Power input		W	1000 - 916	494 - 407	197 - 150	56 - 45
Air volume		m^3/h	2000	1500	1000	500
		L/s	556	417	278	139
External static pressure		mmH_2O	175	98	44	11
		Pa	100	56	25	6
Temp. heat exch. Efficiency		%	80.0	81.0	82.5	84.0
Total heat exch. Efficiency	Cooling	%	70.0	71.0	74.5	80.5
	Heating	%	72.5	73.5	77.0	83.0
Sound pressure level		dB(A)	39.5	35.5	28.0	22.0
Duct qty x diameter		mm	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)
Wheight		kg	159	159	159	159
Dimensions	HxLxD	mm	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



Technical specifications

MODEL			LGH-250RVXT-E			
Power supply		V/Phase/Hz	220-240 / 1-phase /50			
Speed			SP4	SP3	SP2	SP1
Current		A	7.60 - 6.90	3.60 - 3.10	1.40 - 1.30	0.57 - 0.49
Power input		W	1446 - 1298	687 - 587	244 - 212	82 - 69
Air volume		m^3/h	2500	1875	1250	625
		L/s	694	521	347	174
External static pressure		mmH_2O	175	98	44	11
		Pa	100	56	25	6
Temp. heat exch. Efficiency		%	77.0	79.0	80.5	82.5
Total heat exch. Efficiency	Cooling	%	65.5	69.0	71.5	76.5
	Heating	%	68.0	71.5	74.0	79.0
Sound pressure level		dB(A)	43.0	39.0	32.0	24.0
Duct qty x diameter		mm	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)	4 x 250 / 2 x (250x750)
Wheight		kg	198	198	198	198
Dimensions	HxLxD	mm	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500	500 x 1980 x 1500
Operating field*	Outdoor temp.	°C	-10 ~ +40	-10 ~ +40	-10 ~ +40	-10 ~ +40
	Max outdoor RH	%	80	80	80	80
	Max indoor temp	°C	40	40	40	40
	Max indoor RH	%	80	80	80	80



* In case of temperature < -10°C fan will work discontinuously. Lossnay controlled heat generator is recommanded in this condition.

GUF-RD(H)4

MONOBLOCK INDOOR UNIT WITH FRESH AIR INTAKE FAN

Lossnay

Monoblock indoor unit with fresh air intake fan, stale air exhaust fan, filtration system, Lossnay total heat recovery module, bypass shutter, permeable film humidifier (only for RDH4 version) and direct expansion coil.

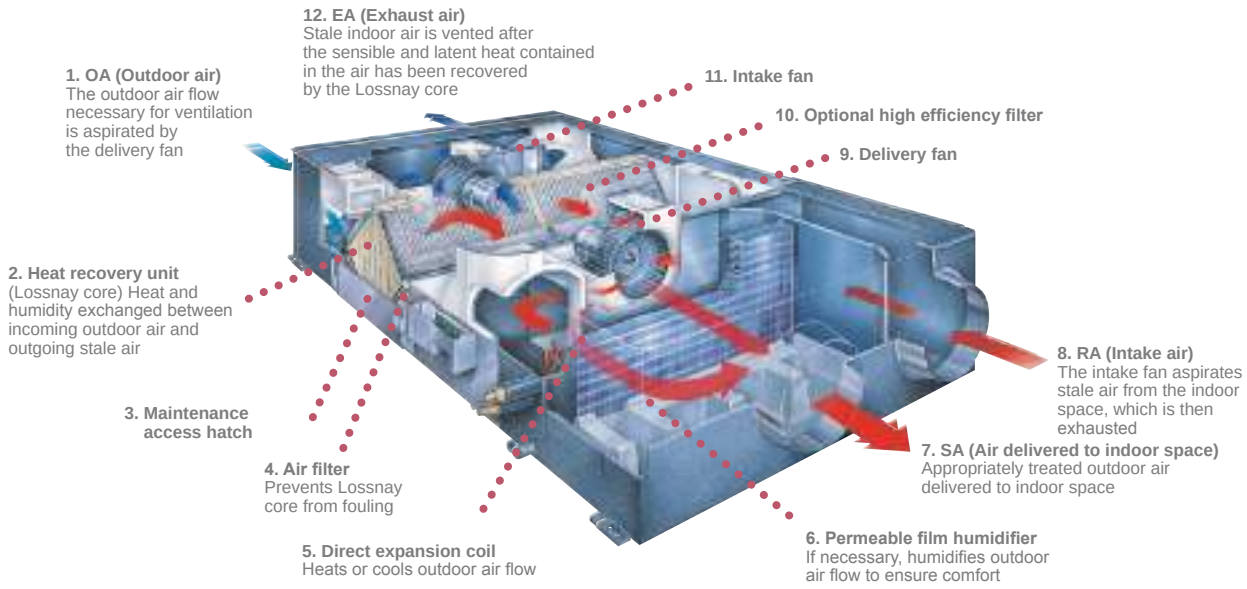
Serie RD(H)4

GUF-50RD(H)4

Cooling capacity 5.57 (DX coil: 3.63, Lossnay core: 1.94) kW Heating capacity 6.18 (DX coil: 6.21, Lossnay core: 2.04) kW 500 m³/h 220-240V 50Hz single-phase

GUF-100RD(H)4

Cooling capacity 11.44 (DX coil: 3.63, Lossnay core: 3.85) kW Heating capacity 12.56 (DX coil: 8.30, Lossnay core: 4.26) kW 500 m³/h 220-240V 50Hz single-phase



Lossnay technology

The Lossnay total heat recovery module has a cross-flow plate fin structure and heat transfer diaphragms in special treated paper. The excellent thermal transfer properties and permeability to moisture of this special paper ensure the highly efficient exchange of both sensible and latent heat between the two air flows passing through the recovery core. The result is a ventilation system with outstanding characteristics ensuring extremely high levels of comfort and wellbeing in the environment treated, which can also cut operating costs substantially.

The incoming fresh air and outgoing stale air cannot mix within the core. The diaphragm pores, which were already microscopic in previous generations, have been further reduced in size to reduce the possibility of the passage of waterborne soluble gases such as ammonia and hydrogen. To increase heat and moisture exchange, a special treatment is applied to the paper used for the diaphragms. These improvements have increased moisture permeability while reducing permeability to harmful gases, resulting in an overall increase in recovery efficiency and a more effective barrier action against the transfer of these gases.

IN GENERAL
GUF – For optimum indoor air quality
GUF = (Lossnay) + (heating & cooling)

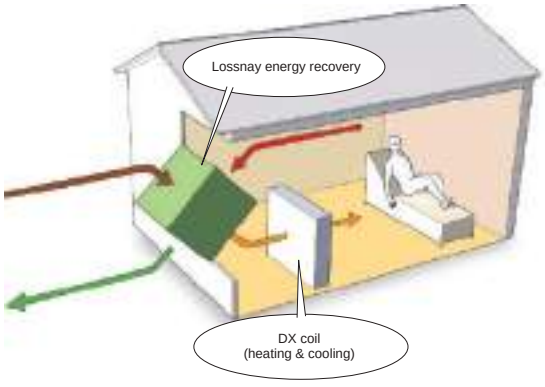
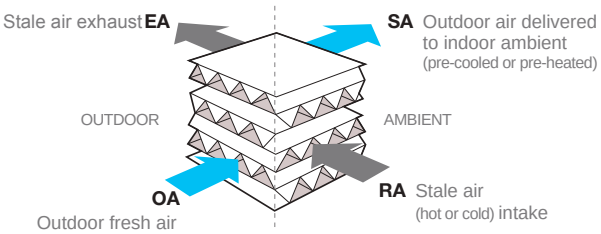


IMAGE OF GUF MODEL

CONSTRUCTION AND OPERATING PRINCIPLE OF LOSSNAY UNIT



Heat exchanger

A direct expansion coil incorporated in the unit makes it possible to cover approximately 25% of the load of the system with the GUF unit. This also means that the terminal units installed in the indoor space can be smaller. Moreover, as the GUF unit covers the entire thermal load attributable to ventilation, this means that this load and the ambient load can be managed completely separately, simplifying the design process of the installation. The treated air heats the humidifier as it passes through it, further increasing humidification efficiency.

Total comfort

Maintaining the correct humidity levels in an indoor space ensures the ideal conditions for comfort and prevents the unpleasant side-effects typical of an environment with insufficient humidity such as dry eyes and throat.

The evaporation surface area is approximately 8.5 times larger than in a comparably sized natural evaporation humidifier, while performance is 6 times greater.

Humidification - RDH4 version

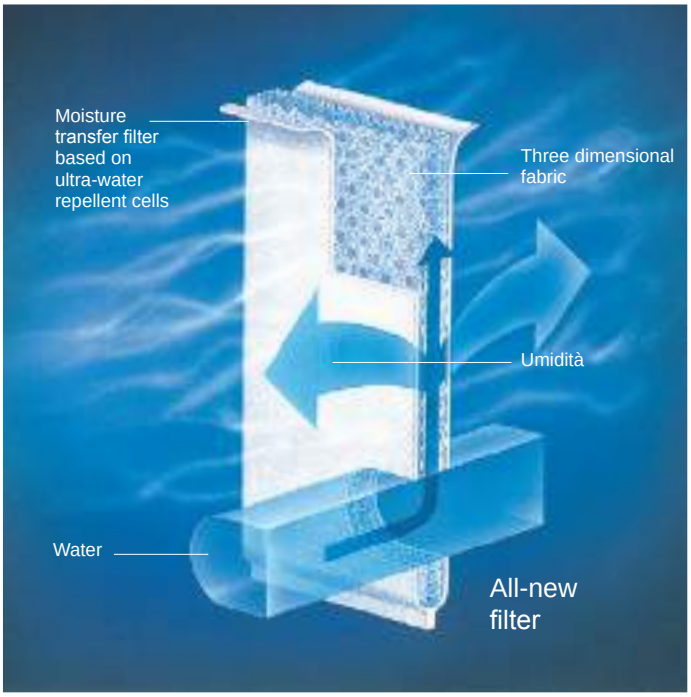
The innovative permeable film humidification system, which uses a natural evaporation process, is a particularly intelligent solution.

The efficiency with which the air is humidified has been significantly increased by reducing the resistance of the material used. A three-layer film ensures that only the necessary moisture is transferred to the air without any limescale dust release – a problem of certain conventional humidifiers.

Maintaining the correct humidity levels in an indoor space ensures the ideal conditions for comfort and prevents the unpleasant side-effects typical of an environment with insufficient humidity such as dry eyes and throat.

The evaporation surface area is approximately 8.5 times larger than in a comparably sized natural evaporation humidifier, while performance is 6 times greater.

Note: Use a demineraliser if residual total salt levels exceed 100 mg/l.



Increased efficiency of humidification process - RDH4 version

Optimised air flows within the unit together with a water injection system have significantly increased the efficiency of the humidification process. The system also controls the humidity in the outgoing stale air to effectively improve the air quality of the outdoor environment as well. This solution prevents limescale and silica dust from being carried in the air, so purer, less dusty air is vented into the outdoor environment.

Automatic free cooling

When the air conditioning is operating in cooling mode and the outdoor temperature is lower than the indoor ambient temperature (as normally occurs at night-time in summer), the GUF indoor unit recognises this condition and automatically bypasses the recovery core. The cooler outdoor air fed into the indoor space contributes to reducing the cooling demand sustained by the system.

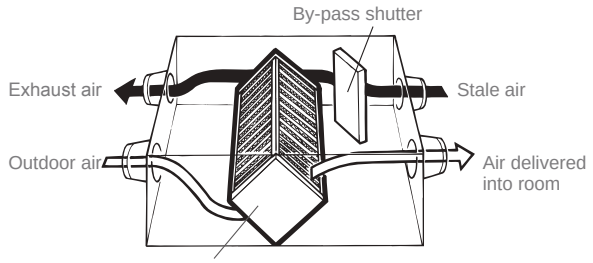
Dust suppression

An optional high efficiency filter may be used for up to 3,000 hours while maintaining a filtration efficiency (evaluated with colorimetric testing) of over 65%. The filter may also be fitted in the GUF unit after initial installation and takes up no additional precious space.

Automatic regulation

GUF ventilation and recovery units may be integrated into a Melans control and regulation system for Mitsubishi Electric air conditioner installations, as they use the same bus used for connecting indoor units.

BY-PASS

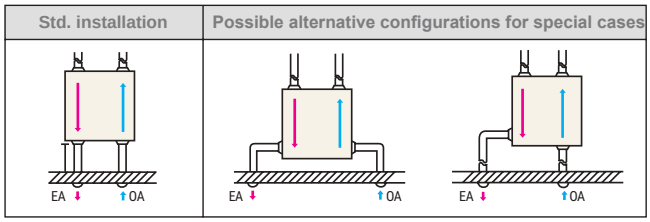


Advantages

- Reduced energy consumption
- Reduced thermal power necessary to treat outdoor air, equating to lower rated power
- Healthier environment
- Quieter operation (noise baffles in inlet and outlet)
- Free Cooling function using exclusively external air
- Humidification with film permeable to water vapour only
- Total air treatment (neutral air returned to outdoor environment)
- Custom temperature and humidity control
- Compact dimensions
- Installable in double ceilings with limited vertical space.

Flexible installation

The positions of air duct connections may be changed as needed to cater for different installation requirements.



* Changing the installation configuration causes no any additional pressure loss.

Technical specifications

MODEL			GUF-50RDH4	GUF-100RDH4	GUF-50RD4	GUF-100RD4
Power supply			1-phase 220-240V 50Hz			
Comunication system			In serie tramite rete M-NET: Mitsubishi Electric Air Conditioners Network System			
Lossnay	Mode		Air to Air Total heat recovery system			
	Material		Partition, Cross-flow structure, Special preserved paper-plate.			
Cooling capacity*1		kW	5,57 (1,94)	11,4 (4,12)	5,57 (1,94)	11,44 (4,12)
	Power input	W	235-265	480-505	235-265	480-505
	Curren	A	1,15	2,2	1,15	2,2
Heating capacity*1		kW	6,21 (2,04)	12,56 (4,26)	6,21 (2,04)	12,56 (4,26)
	Power input	W	235-265	480-505	235-265	480-505
	Current	A	1,15	2,2	1,15	2,2
Temperature heat recovery efficiency		%	77,5/80	79,5/81,5	77,5/80	79,5/81,5
Total heat recovery efficiency*2	Heating	%	68/71	71/74	68/71	71/74
	Cooling	%	65/67	69/71	65/67	69/71
Capacity index			P32	P63	P32	P63
Humidifier capacity		kg/h	2,7	5,4	-	-
Fan	Type x qty		SA: Centrifugal fan (Sirocco FAN) x 1 - EA: Centrifugal fan (Sirocco FAN) x 1			
	Static pressure	Pa	125	135	140	140
		mmH_2	12,7	13,8	14,3	14,3
	Motor		Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units			
	Flow rate (High speed)	m^3/h	500	1000	500	1000
		L/s	139	278	139	278
SPL (Low-High)		dB(A)	33,5-34,5	38-39	33,5-34,5	38-39
Ref. Piping diameter	Liquid	mm(in.)	Ø6,35(Ø1/4)	Ø9,52(Ø3/8)	Ø6,35(Ø1/4)	Ø9,52(Ø3/8)
	Gas	mm(in.)	Ø12,7(Ø1/2)	Ø15,88(Ø5/8)	Ø12,7(Ø1/2)	Ø15,88(Ø5/8)

*1 () value from Lossnay heat recovery.
*2 High/Low speed values.