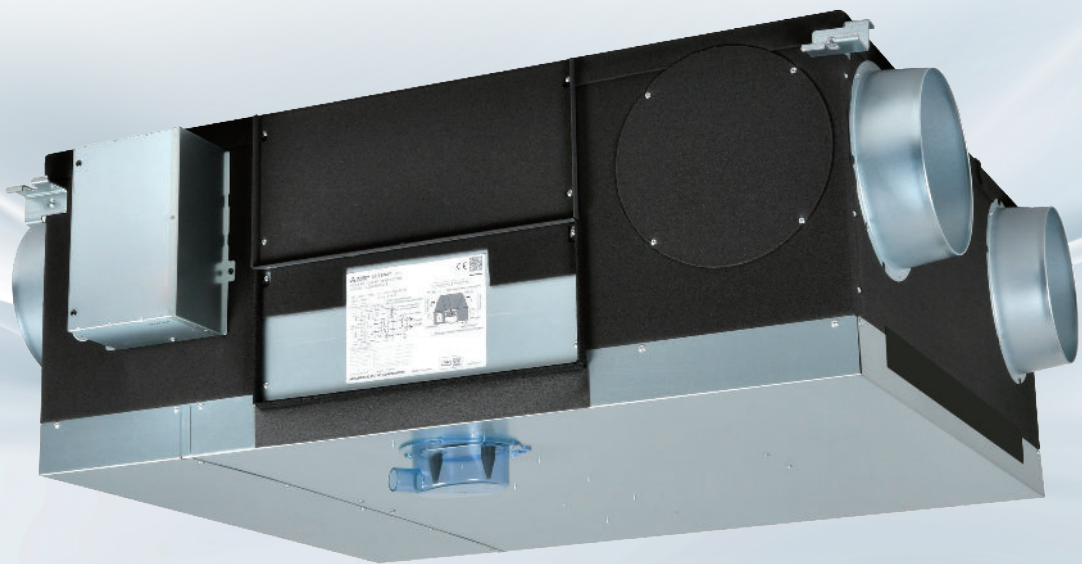




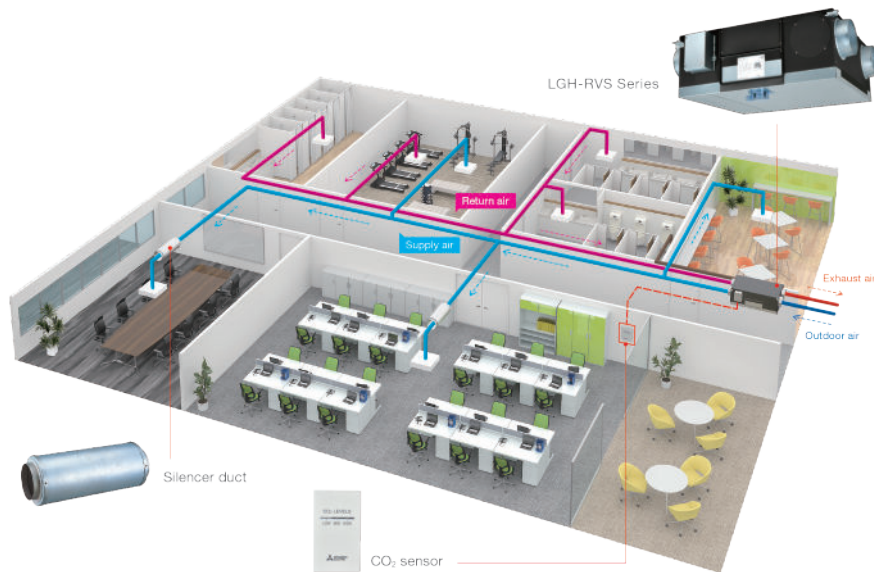
Sensible Core Lossnay

LGH-RVS Series



LGH-RVS Series

System Solution for All Area Ventilation



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!

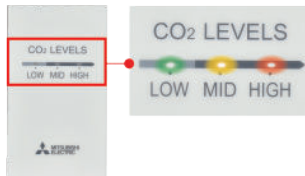
CO₂ Sensor

A CO₂ sensor connected directly to a Lossnay RVS unit assists in optimising the fan speed according to the level of CO₂ detected. It improves total heat exchange efficiency and contributes to energy saving.

PZ-70CSW-E

(Wall Mounted Type)

CO₂ levels are indicated by LED lights.



PZ-70CSB-E

(Built-In Type)



Automatic Operation with CO₂ Sensor and PZ-62DR-E

Fan speed automatically changes depending on CO₂ concentration.

Key Features

Easy Installation

Light Chassis

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
- 360° drain pipe connection
- Trap piping not required as the unit is equipped with 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.



Various Optional Parts

The LGH-RVS Series can connect with various optional parts. A CO₂ sensor is one of the solutions for optimised air volume control. The unit operates while optimising air volume in accordance with the level of CO₂ condensation in the room. Optimised ventilation can reduce the energy consumption of the air conditioner. A high-efficiency filter can be optionally installed in the unit as an easy solution for even better indoor air quality.

CO₂ Sensor



PZ-70CWS-E

PZ-70CSB-E

Filter



PZ-S50RF-E
PZ-S80RF-E
PZ-S100RF-E

PZ-S50RFM-E
PZ-S80RFM-E
PZ-S100RFM-E

PZ-S50RFH-E
PZ-S80RFH-E
PZ-S100RFH-E

Silencer Duct

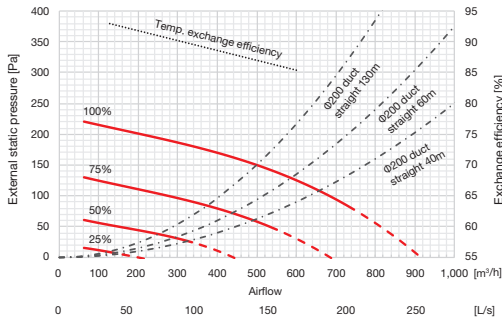


PZ-200SS-E
PZ-250SS-E

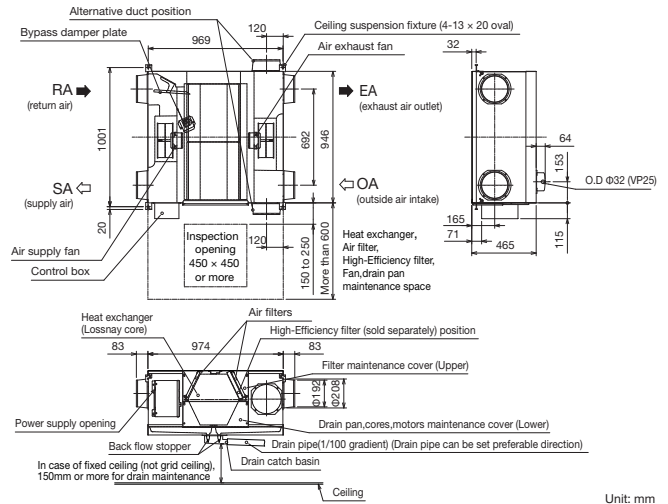
Product Specifications

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	m³/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				

Characteristic Curves



Dimensions



Unit: mm

Weight		63kg (77kg with maximum drain water)				
Electrical Power Supply		220 - 240V/50Hz, 220V/60Hz				
Fan Speed		100%	75%	50%	25%	Test condition ISO 16494 Temperature exchange efficiency is winter condition
Input Power	W	325	175	85	32	
Airflow	m³/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				

Side View (Left):

- Alternative duct position
- Bypass damper plate
- RA (return air)
- SA (supply air)
- Air supply fan
- Control box
- Inspection opening 450 x 450 or more
- Dimensions: 1179, 161, 161, 683, 997, 1051, 20, 150, 250, 161, 650, More than 600

Side View (Right):

- Ceiling suspension fixture (4-13 x 20 oval)
- Air exhaust fan
- EA (exhaust air outlet)
- OA (outside air intake)
- Heat exchanger, Air filter, High-Efficiency filter, Fan, drain pan maintenance space
- Dimensions: 55, 64, 133, 165, 45, 465, 115
- O.D. Φ 32 (VP25)

Top View:

- Heat exchanger (Lossnay core)
- Air filters
- High-Efficiency filter(sold separately) position
- Filter maintenance cover(Upper)
- Power supply opening
- Back flow stopper
- Drain pipe (1/100 gradient) (Drain pipe can be set preferable direction)
- Drain catch basin
- Drain pan,cores,motors maintenance cover (Lower)
- Dimensions: 82, 1185, 82, Φ 242, Φ 255

Notes:

- In case of fixed ceiling (not grid ceiling), 150mm or more for drain maintenance

Unit: mm

LGH-RVS Series 5

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	m³/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				

The graph displays the relationship between external static pressure, exchange efficiency, and airflow for different duct configurations. The left y-axis represents external static pressure in Pa (0 to 400), and the right y-axis represents exchange efficiency in % (55 to 95). The bottom x-axis shows airflow in L/s (0 to 400), and the top x-axis shows airflow in m³/h (0 to 1,600). Solid red lines represent constant temperature exchange efficiency (100%, 75%, 50%, 25%), while dashed black lines represent constant duct types (0250 duct straight 120m, 0250 duct straight 110m, 0250 duct straight 60m). A dotted line indicates the temperature exchange efficiency curve.

Airflow (m³/h)	Airflow (L/s)	100% Temp. efficiency (Pa)	75% Temp. efficiency (Pa)	50% Temp. efficiency (Pa)	25% Temp. efficiency (Pa)	0250 duct 120m (Pa)	0250 duct 110m (Pa)	0250 duct 60m (Pa)
0	0	350	200	100	50	0	0	0
200	50	330	180	80	40	10	5	2
400	100	310	160	60	30	20	10	5
600	150	290	140	40	20	30	15	8
800	200	270	120	20	10	40	20	12
1000	250	250	100	10	5	50	25	15
1200	300	230	80	5	2	60	30	18
1400	350	210	60	2	1	70	35	20
1600	400	190	40	1	0	80	40	22

The technical drawings illustrate the HVC-1000 unit with the following details:

- Front View (Top):** Shows the unit's profile with dimensions 1179, 161, 1279, 910, 1224, 161, 150 to 250, and 600. It includes labels for 'Alternative duct position', 'Bypass damper plate', 'RA (return air)', 'SA (supply air)', 'Air supply fan', 'Control box', 'Inspection opening 450 x 450 or more', 'Ceiling suspension fixture (4-13 x 20 oval)', 'Air exhaust fan', 'EA (exhaust air outlet)', and 'OA (outside air intake)'.
- Side View (Right):** Shows the unit's side profile with dimensions 55, 64, 153, 165, 45, 465, and 115. It includes the label 'O.D. Ø32 (VP25)'.
- Top View (Bottom):** Shows the unit's top profile with dimensions 82, 1185, 82, 82, 165, 45, 465, and 115. It includes labels for 'Heat exchanger (Lossnay core)', 'Air filters', 'High-Efficiency filter(sold separately) position', 'Filter maintenance cover(Upper)', 'Power supply opening', 'Back flow stopper', 'Drain pipe(1/100 gradient) (Drain pipe can be set preferable direction)', 'Drain catch basin', and 'In case of fixed ceiling (not grid ceiling), 150mm or more for drain maintenance'.

6 LGH-RVS Series

Controllers

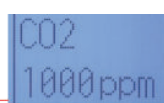
Function	PZ-62DR-E	PZ-43SMF-E
Fan Speed Selection	4 fan speeds and auto (Auto is available when using a CO ₂ sensor)	2 of 4 fan speeds
Control with a CO ₂ Sensor	Yes (Fan speed automatically changes from 25% to 100% depending on the CO ₂ concentration)	No
Ventilation Mode Selection	Energy recovery/bypass/auto	Energy recovery/bypass/auto
Night-Purge	Yes	No
Function Setting from Remote Control	Yes	No
Bypass Temperature Free Setting	Yes	No
Multi-Stage Airflow Control	Yes (Both supply and exhaust fan speeds can be set separately from 25% to 100% in 5% pitches)	No
On/Off Timer	Yes	Yes
Auto-Off Timer	Yes	No
Weekly Timer	Yes	No
Fan Speed Timer	Yes	No
Operation Restrictions (On/Off, Ventilation Mode, Fan Speed)	Yes	No
Operation Restrictions (Fan Speed Skip Setting)	Yes	No
Screen Contrast Adjustment	Yes	No
Language Selection	Yes	No (English only)
CO ₂ Concentration Indication	Yes (Available when using a CO ₂ sensor)	No
Filter Cleaning Sign	Yes (Maintenance interval can be changed)	Yes
Error Indication	Yes (Displays model name, serial number, contact information if they are input)	Yes
Error History	Yes	No
OA/RA/SA Temperature Display	Yes	No

Notes:

*When using a CO₂ sensor. Upper and lower limits may be changed.



PZ-62DR-E



CO₂ indication

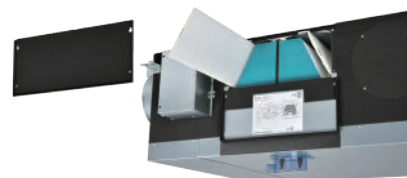


PZ-43SMF-E

Accessories

Filters

A lineup of three types of filters 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.



Standard Filter						
Filter					Lossnay	
Model	Filter Material	Classification		Included Piece/Set	Applicable Model	Required Set/Unit
		ISO 16890 (2016)	EN779 (2012)			
PZ-S50RF-E	Non-woven fabrics	Coarse 50%	G3	2	LGH-50RVS-E	1
PZ-S80RF-E					LGH-80RVS-E	
PZ-S100RF-E					LGH-100RVS-E	



Medium-Efficiency Filter						
Filter					Lossnay	
Model	Filter Material	Classification		Included Piece/Set	Applicable Model	Required Set/Unit
		ISO 16890 (2016)	EN779 (2012)			
PZ-S50RFM-E	Pleated filter	ePM ₁₀ 80%	M6	2	LGH-50RVS-E	1
PZ-S80RFM-E					LGH-80RVS-E	
PZ-S100RFM-E					LGH-100RVS-E	



High-Efficiency Filter						
Filter					Lossnay	
Model	Filter Material	Classification		Included Piece/Set	Applicable Model	Required Set/Unit
		ISO 16890 (2016)	EN779 (2012)			
PZ-S50RFH-E	Pleated filter	ePM _{1.0} 90%	F8	2	LGH-50RVS-E	1
PZ-S80RFH-E		ePM _{2.5} 75%			LGH-80RVS-E	
PZ-S100RFH-E		ePM ₁₀ 65%			LGH-100RVS-E	



Silencer Ducts

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.

Silencer Ducts										
Model	Direction	Airflow	Attenuation of Sound Power Level [dB] for Center Frequency							
			62.5Hz	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	8000Hz
PZ-200SS-E	Discharge	500 m³/h	0	1	4	7	13	18	16	9
		650 m³/h			3	8	12	17	14	6
	Suction	500 m³/h		0	4	7	11	11	12	8
		650 m³/h			3	7	10	11	12	5
PZ-250SS-E	Discharge	800 m³/h	0	2	4	12	22	21	14	13
		1000 m³/h						20		
	Suction	800 m³/h		3	5	12	18	14	11	4
		1000 m³/h						17		



Notes:

- Figures on the chart above are based on the comparison with a general steel duct of the same length.
- The silencer is placed on just before the outlet during the measurement.
- When the airflow rate differs, the insertion loss is also different from the chart above.
- Figures on the chart above are flat (no-weighted) values.