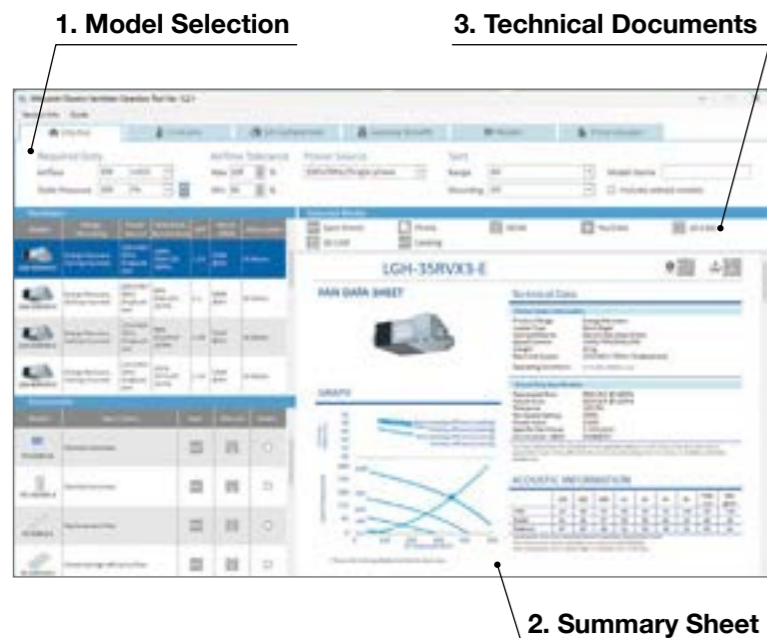## Mitsubishi Electric Ventilator Selection Tool

The Mitsubishi Electric Ventilator Selection Tool is a software for selecting optimal Mitsubishi Electric ventilation fans. In addition to supporting the selection of a sufficient model, it also provides the necessary technical documents.

1. Model Selection　　**3. Technical Documents**

2. Summary Sheet

*This image is for illustration purposes only and may differ from the actual screen.
Ratings and specifications may change due to product improvements or modifications.
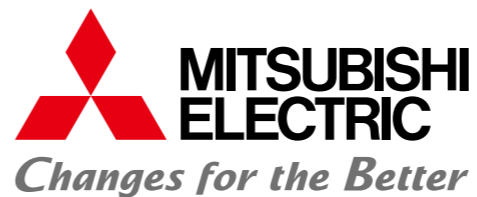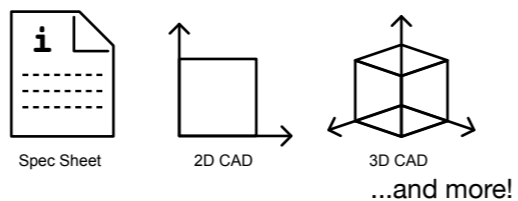
1. Model Selection

An appropriate model can be selected simply by inputting the necessary air volume and static pressure. Optional parts that go with the selected model will also be listed.

2. Summary Sheet

Data for the selected model can be downloaded in PDF format. SFP at duty point, acoustic information, and energy saving calculation can be also downloaded (varies by model).

3. Technical Documents

Other technical data needed for designing ventilation systems are also available.

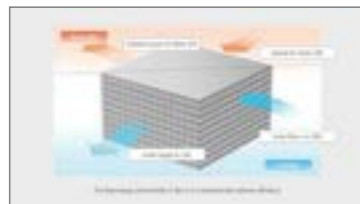Spec Sheet　　2D CAD　　3D CAD
...and more!

LOSSNAY YouTube Channel

LOSSNAY YouTube channel provides videos on LOSSNAY features, structures, and more!
Check the 2D code below for more details.

■ LOSSNAY Features　　■ LOSSNAY Structure　　■ How to select a model

SCAN ME!

MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : TOKYO BLDG., 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
www.MitsubishiElectric.com

*This catalogue is based mainly on products for Europe and may contain models that are not available in other regions.

MITSUBISHI ELECTRIC
Changes for the Better

ENERGY RECOVERY VENTILATORS

Lossnay

LGH-RVXT3 Series

Offering solutions for
better indoor air quality
and energy savings
by energy recovery ventilation.
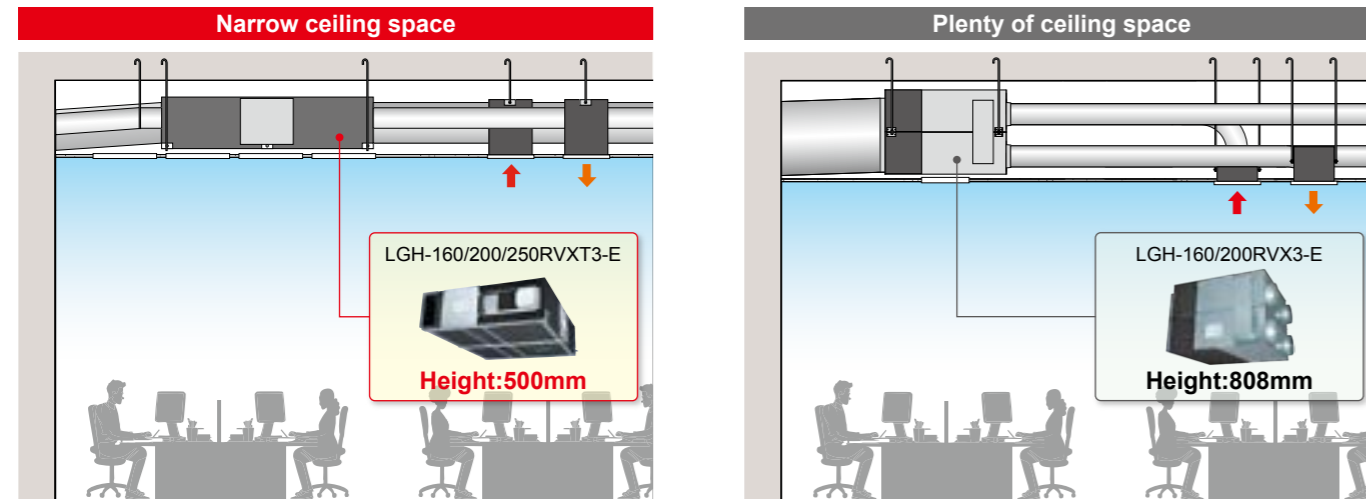
Mitsubishi Electric Commercial LOSSNAY

• The Mitsubishi Electric offers a lineup of 150-2500m³/h LOSSNAY mainly for commercial use.
• Each model delivers a wide range of airflow to suit each application or installation requirement.
• For airflows of 1600m³/h and 2000m³/h, two models can be selected depending on the installation space.

Model			Airflow(m³/h)									
			150	250	350	500	650	800	1000	1600	2000	2500
LGH-RVXT3 Series Thin Type ERV[*1]										●	●	●
LGH-RVX3 Series Standard Type ERV[*1]	(Single decker)		●	●	●	●	●	●	●			
	(Double decker)									●	●	
LGH-RVS Series Sensible Type HRV[*2]						●		●	●			

*1 : ERV=Energy Recovery Ventilation   *2 : HRV=Heat Recovery Ventilation

Selectable lineup : Large airflow range

Products with large airflow tend to become larger. The thin type, LGH-RVXT3 series, provides a solution for narrow ceiling spaces and spacious indoor space. LGH-RVXT3 series can optimize space in the room.

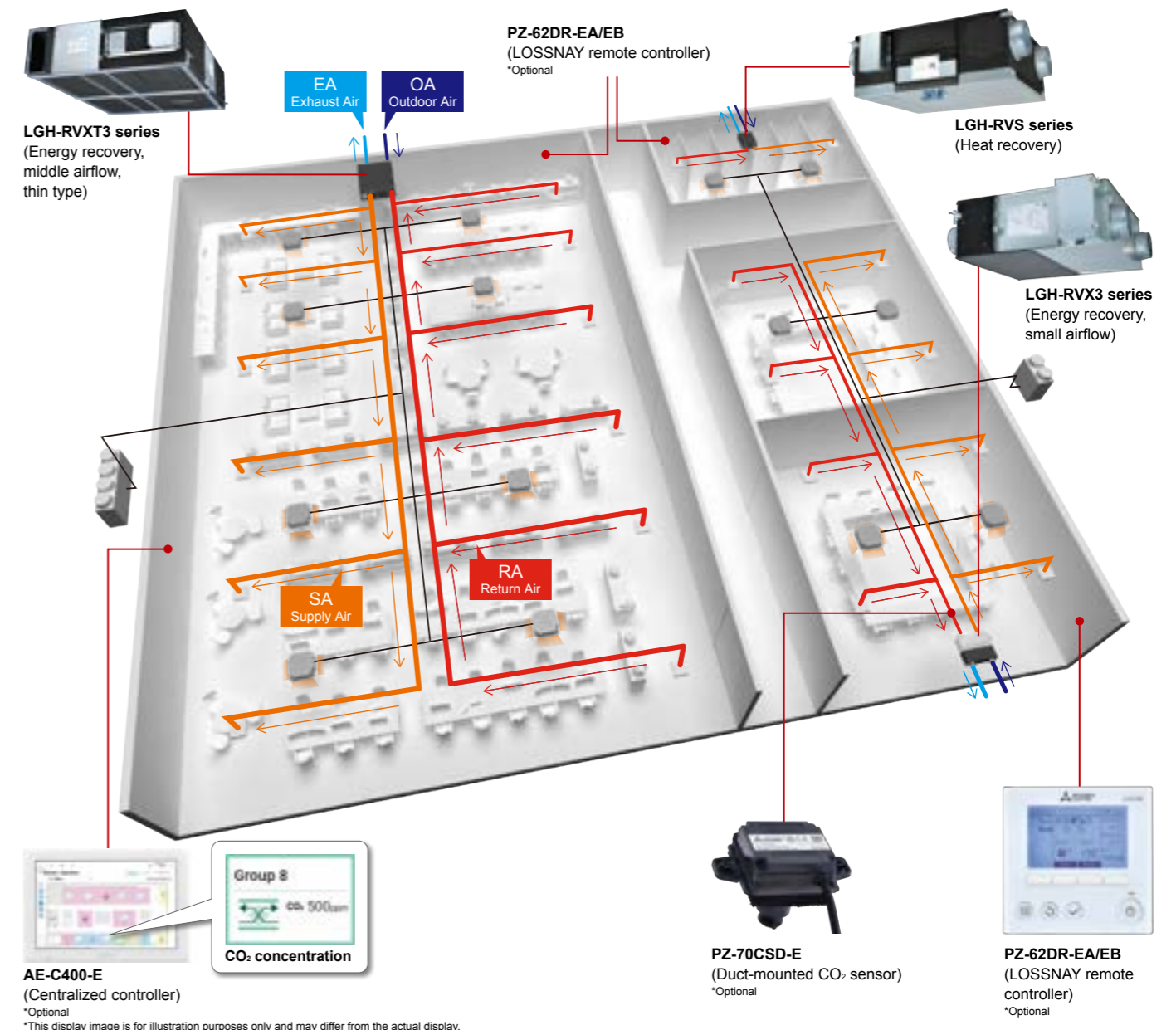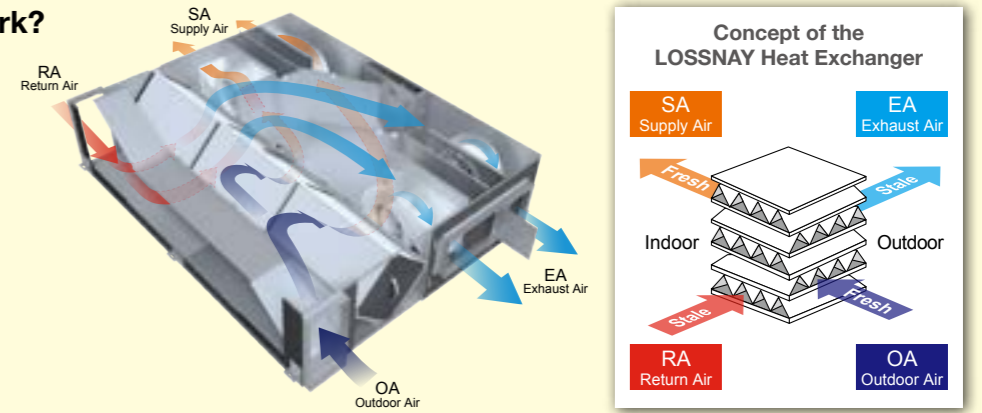| Narrow ceiling space	Plenty of ceiling space
LGH-160/200/250RVXT3-E **Height:500mm**	LGH-160/200RVX3-E **Height:808mm**

■ Installation image

LGH-RVXT3 Series : System and Installation Image

• For building owners, the air-conditioning and ventilation system for an entire building can be managed easily using a Mitsubishi Electric centralized controller.
• Various types of LOSSNAY with wide airflow ranges can be installed in new buildings, and also in existing buildings with restricted installation spaces.
• LOSSNAY can support the ventilation requirements for each room. An on-hand remote controller or external input interlock such as a CO_2 sensor can also help deliver comfortable daily ventilation.
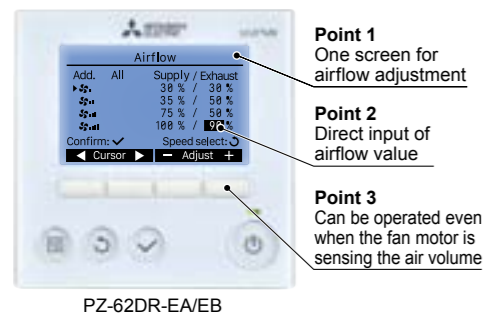
How does LOSSNAY work?

A LOSSNAY heat exchanger at the cross point of each airflow transfers heat and humidity during air going through each cross-air passage.

Concept of the LOSSNAY Heat Exchanger

SA Supply Air
RA Return Air
EA Exhaust Air
OA Outdoor Air

Indoor / Outdoor
Fresh / Stale

PZ-62DR-EA/EB (LOSSNAY remote controller) *Optional

LGH-RVXT3 series (Energy recovery, middle airflow, thin type)

EA Exhaust Air
OA Outdoor Air

LGH-RVS series (Heat recovery)

LGH-RVX3 series (Energy recovery, small airflow)

SA Supply Air
RA Return Air

AE-C400-E (Centralized controller) *Optional

Group 8
CO_2 concentration

PZ-70CSD-E (Duct-mounted CO_2 sensor) *Optional

PZ-62DR-EA/EB (LOSSNAY remote controller) *Optional

*This display image is for illustration purposes only and may differ from the actual display.
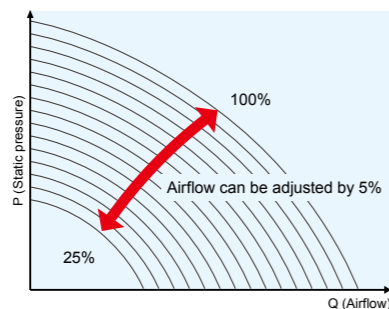
LGH-RVXT3 Series : Main Features
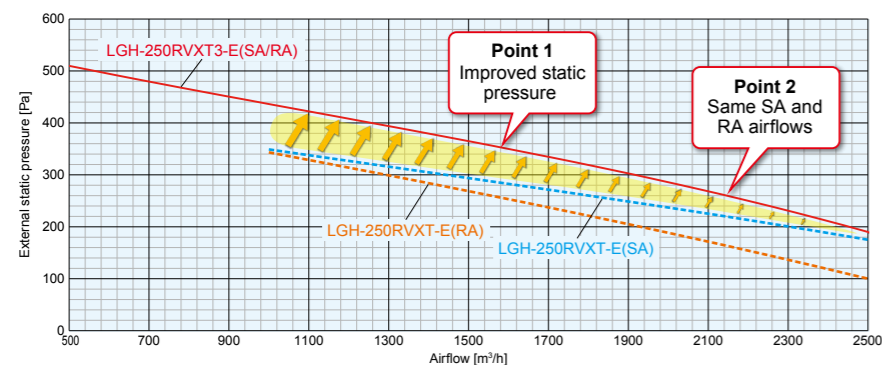
1 Flexible airflow : Fine and easy settings

Point 1
One screen for airflow adjustment

Point 2
Direct input of airflow value

Point 3
Can be operated even when the fan motor is sensing the air volume

PZ-62DR-EA/EB

100%

Airflow can be adjusted by 5%

25%

P (Static pressure)
Q (Airflow)

- Airflow can be adjusted in small increments of 5%, from 25% to 100%.
- Supply and exhaust airflows can be set separately depending on application.
- Commissioning is made easy using LOSSNAY remote controller PZ-62DR-EA/EB.

2 High static pressure : Easy ventilation system design

Point 1
Improved static pressure

Point 2
Same SA and RA airflows

LGH-250RVXT3-E(SA/RA)

LGH-250RVXT-E(RA)
LGH-250RVXT-E(SA)

External static pressure [Pa]: 0, 100, 200, 300, 400, 500, 600
Airflow [m³/h]: 500, 700, 900, 1100, 1300, 1500, 1700, 1900, 2100, 2300, 2500

- The RVXT3 delivers improved external static pressure compared to the previous RVXT models.
- With the RVXT3, the external static pressures of SA and RA are the same.
- Designing the ventilation system becomes easier owing to ductwork that allows for a greater pressure drop.
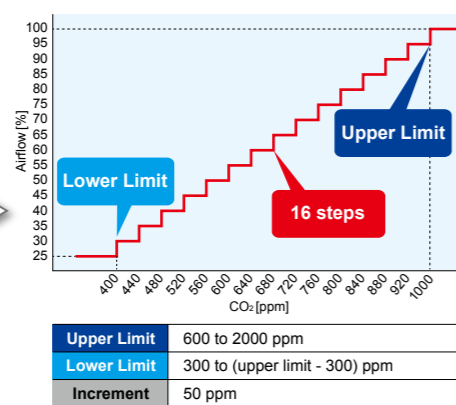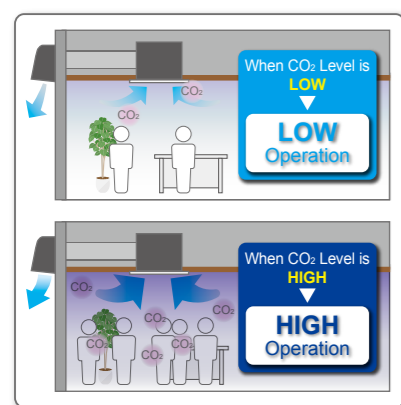
*The graph shows the peformance of each model at 100% airflow settings.

Key component made by Mitsubishi Electric

In-house EC motors improve controllability of LOSSNAY, by realizing flexible airflow settings and external static pressure improvement.
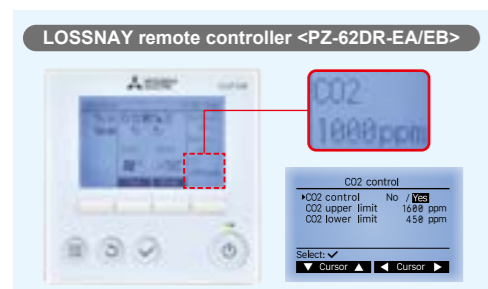
## 3 Comfortable and energy saving : Airflow control by CO_2 sensor

When CO_2 Level is **LOW**
LOW Operation

When CO_2 Level is **HIGH**
HIGH Operation

Upper Limit
Lower Limit
16 steps

Airflow [%]: 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100
CO_2 [ppm]: 400, 440, 480, 520, 560, 600, 640, 680, 720, 760, 800, 840, 880, 920, 960, 1000

Upper Limit	600 to 2000 ppm
Lower Limit	300 to (upper limit - 300) ppm
Increment	50 ppm

- The CO_2 sensor controls airflow in 16 steps depending on the CO_2 level in the room. Over-ventilation is prevented, while maintaining high indoor air quality.
- It contributes to reducing air-conditioning load and avoiding unnecessary ventilation noise.
- Two types of CO_2 sensors are available: wall-mounted and duct-mounted sensors.
- CO_2 concentration is indicated in numbers on remote controller PZ-62DR-EA/EB and by LED lights on wall-mounted CO_2 sensors.*

*AE-C400-E(2nd ver.) can indicate CO_2 level.

LOSSNAY remote controller <PZ-62DR-EA/EB>

CO2
1000ppm

CO2 control
CO2 control   No   Yes
CO2 upper limit   1600 ppm
CO2 lower limit   450 ppm
Select:
Cursor   Cursor

Wall-mounted CO_2 sensor <PZ-70CSW-E>

CO₂ LEVELS   LOW MID HIGH

CO_2 in 3 levels : LOW, MID and HIGH

Duct-mounted CO_2 sensor <PZ-70CSD-E>

4 Large airflow as one unit: Leader-follower function

PZ-62DR-EA/EB

Follower   Follower   Follower   **Leader**
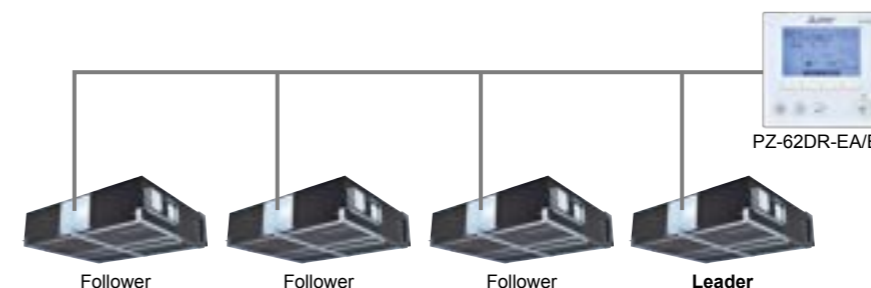
- Multiple LOSSNAY units can be operated in synchronization as a single large airflow unit.
- A maximum of four units can be connected. In the case of four LGH-250RVXT3-E units, total air volume is approx. 10,000m³/h.*

*Actual aiflow depends on system design and site condition.
- Only same model can be in one group.
- PZ-62DR-EA/EB connection is required for this control.
- The maximum number of LOSSNAY units that can be connected in one group is four (one leader unit and three follower units).

5 Adaptable installation : LR switching

RA   SA   OA   EA

LR switching

OA   EA   RA   SA

Filter maintenance cover
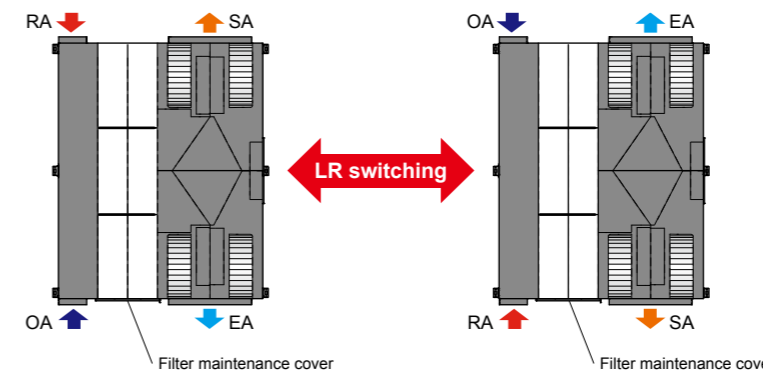
- Airflow direction can be changed using DIP switches.
- The indoor (SA/RA) and outdoor (OA/EA) sides can be switched depending on installation space.
- This facilitates ductwork and allows enough space for maintenance.

*The unit cannot be flipped upside down.

6 Stable airflow : Constant pressure control

Pressure sensor*
Duct dumper*
LOSSNAY
Open   Close
ON   OFF
Dumper switch*
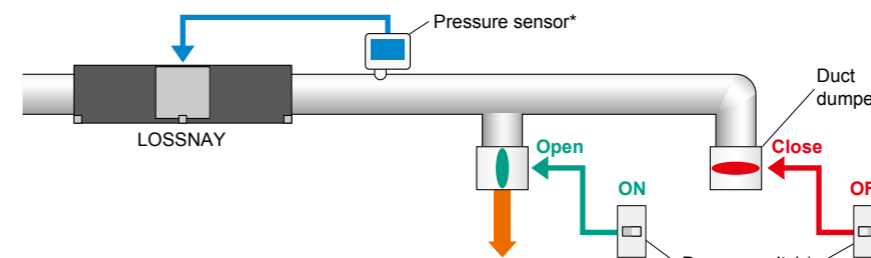
- By using a pressure sensor*, LOSSNAY can change the airflow depending on the pressure level in the duct or distribution chamber*.
- When pressure sensor detects a higher pressure level due to a closed duct dumper*, LOSSNAY reduces the airflow to deliver stable airflow for each room.

*Field supply

Remote controller

PZ-62DR-EA/EB[*1]

■ Dimensions

120   19
120
Unit (mm)

■ Language table

Language	-EA	-EB
English	●	●
German	●	●
Spanish	●	●
French	●	●
Italian		●
Russian	●	
Portuguese		●
Swedish		●
Dutch	●	
Turkish	●	
Polish	●	
Greek		●
Czech	●	
Hungarian	●	
Slovenian		●
Bulgarian	●	
Danish		●

Controls available on the remote controller

Operation	· Fan speed selection(4 fan speeds and Auto)[*2] · Control by CO_2 sensor[*3] · Ventilation mode selection (Energy recovery/Bypass/Auto) · Night-purge · Function setting · Bypass temp. free setting · Flexible airflow setting[*4] · Timer(ON/OFF, Auto-off, Weekly, Fan speed) · Operation restrictions(ON/OFF, ventilation mode, fan speed) · Language selection[*5]
Display	· CO_2 concentration indication · Filter cleaning sign · LOSSNAY core cleaning sign · Error indication/Error history · OA/RA/SA temp. display · Screen contrast adjustment

*1:EA and EB support different languages
*2:Auto is available when using a CO_2 sensor
*3:Fan speed automatically changes from 25% to 100% depending on the CO_2 concentration
*4:Both supply and exhaust fan speeds can be set separately from 25% to 100% pitches
*5:17 languages

*Specifications may be subject to change without notice.

Specifications and Dimensions

■ Specifications

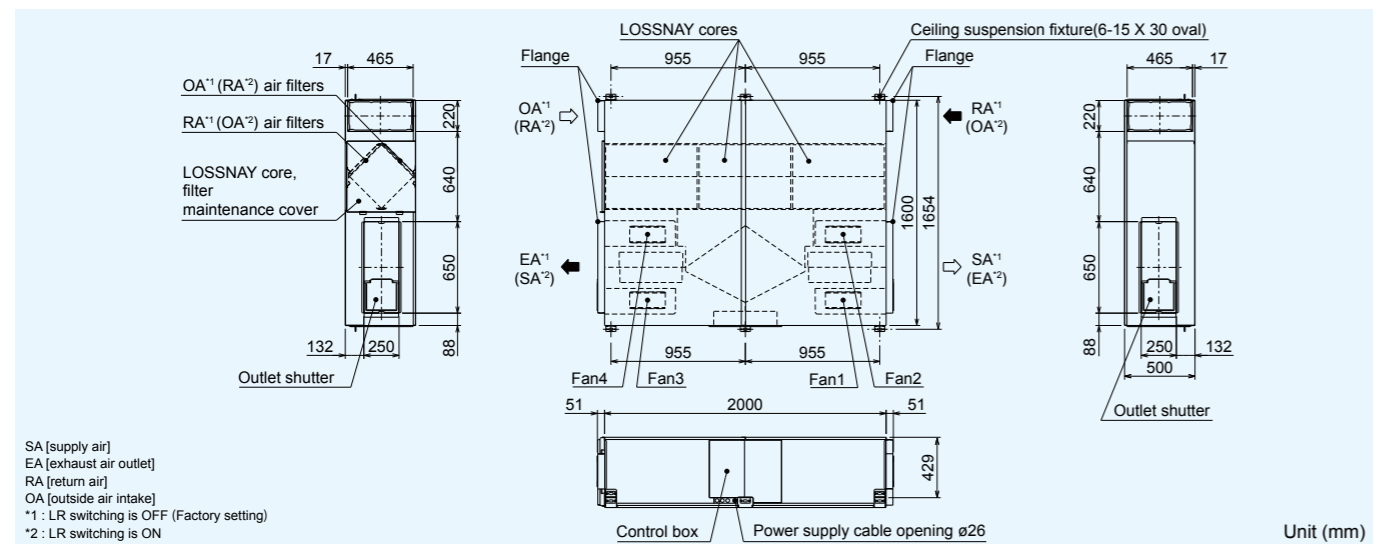| Model	LGH-160RVXT3-E				LGH-200RVXT3-E				LGH-250RVXT3-E			
Electrical power supply	380-415V/3N~ 50Hz, 380V/3N~ 60Hz				380-415V/3N~ 50Hz, 380V/3N~ 60Hz				380-415V/3N~ 50Hz, 380V/3N~ 60Hz			
Fan speed	4	3	2	1	4	3	2	1	4	3	2	1
Default airflow setting	100%	75%	50%	25%	100%	75%	50%	25%	100%	75%	50%	25%
Input power [W][1] L1-N	0	0	0	0	0	0	0	0	0	0	0	0
Input power [W][1] L2-N	354	184	72	23	522	249	96	28	724	348	142	43
Input power [W][1] L3-N	354	184	72	23	522	249	96	28	724	348	142	43
Input power [W][1] Total	708	368	144	46	1044	498	192	56	1448	696	284	86
Airflow[1] [m³/h]	1600	1200	800	400	2000	1500	1000	500	2500	1875	1250	625
Airflow[1] [L/s]	444	333	222	111	556	417	278	139	694	521	347	174
Specific fan power [W/(L/s)][1]	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 [Pa][1]	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
Temperature exchange efficiency [%][2] 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
Enthalpy exchange efficiency [%][2] 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
Noise [dB][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			
Weight [kg]	172				172				172			
Maximum input power [W] (380-415V 3N~ 50Hz/380V 3N~ 60Hz) Total	740-720/740				1060-1040/1060				1480-1460/1500			

* Input power, efficiency, and noise are based on rated airflow, 400V/50Hz. ** In bypass mode, the maximum airflow is 70% of heat recovery mode. The same applies to the Night-purge function.
*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

■ Characteristc curves
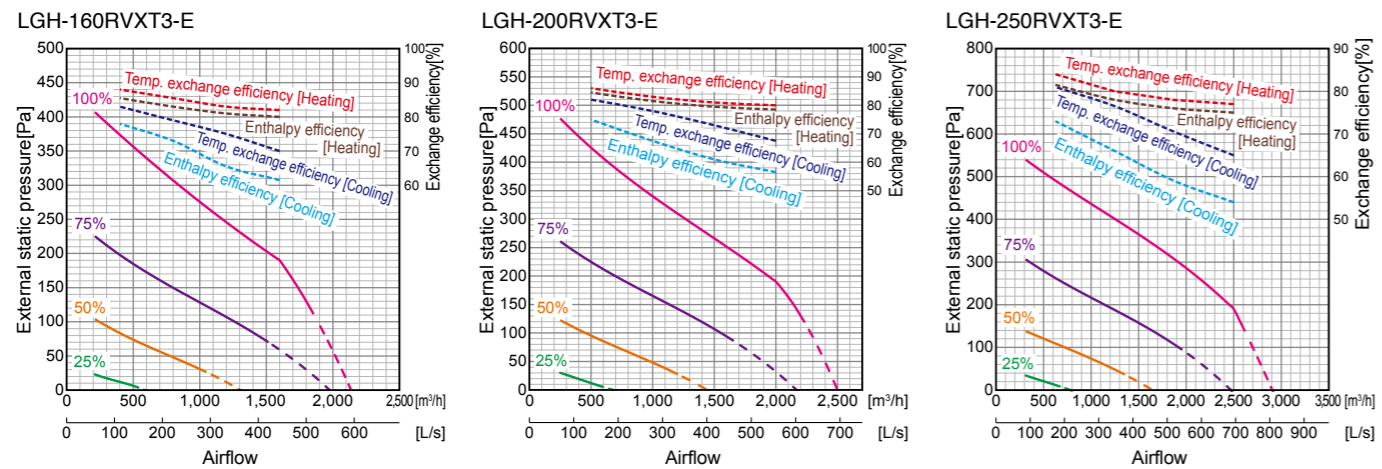
LGH-160RVXT3-E

*The dotted lines of the fan curves are reference values.

LGH-200RVXT3-E

*The dotted lines of the fan curves are reference values.
*Leader-follower function is not available when external static pressure is more than 460Pa.

LGH-250RVXT3-E

*The dotted lines of the fan curves are reference values.
*Leader-follower function is not available when external static pressure is more than 460Pa.

■ Outline drawings

OA[1] (RA[2]) air filters
RA[1] (OA[2]) air filters
LOSSNAY core, filter maintenance cover
Outlet shutter
LOSSNAY cores
Flange
Ceiling suspension fixture(6-15 X 30 oval)
OA[1] (RA[2])
RA[1] (OA[2])
EA[1] (SA[2])
SA[1] (EA[2])
Fan4 Fan3 Fan1 Fan2
Control box
Power supply cable opening ø26
Outlet shutter

SA [supply air]
EA [exhaust air outlet]
RA [return air]
OA [outside air intake]
*1 : LR switching is OFF (Factory setting)
*2 : LR switching is ON

*Specifications may be subject to change without notice.

Optional Parts

## ■ Filters

Four types of filters are available to ensure optimum indoor air quality.

| Category | Model name | Classification | | | Dimensions | | | | | | Pieces per package | Package number for replacement | Total number of filters/ Installation positions | | | |
| | | ISO 16890: 2016 | EN 779: 2012 | ASHRAE 52.2: 2017 | Short(mm) | | | Long(mm) | | | | | OA | RA | SA | |
					A	B	C	A	B	C			Long	Long	Short	Long
Replacement Filter	PZ-250TRF-E	Coarse 60%	-	-	-	-	-	995	285	15	Long 4pcs	1	4	2	2	-	-
Advanced High Efficiency Filter	PZ-250TPF-E	ePM1 75% ePM2.5 80% ePM10 95%	-	MERV16	663	286	25	1327	286	25	Short 1pc Long 1pc	1	2	-	-	1	1
High Efficiency Filter[1]	PZ-250TMFR-E	-	M6	-	-	-	-	1003	283	13	Long 2pcs	1	2	2	-	-	-
Advanced High Efficiency Filter[1]	PZ-250THFR-E	-	F8	-	663	286	25	1327	286	25	Short 1pc Long 1pc	1	2	-	-	1	1

*1: Designed for the Spanish market to comply with RITE (Regulation of Thermal Installations of Buildings)

■ Dimensions

Unit (mm)

■ Installation positions

Replacement Filter
OA → EA
RA → SA
Replacement Filter
Advanced High Efficiency Filter
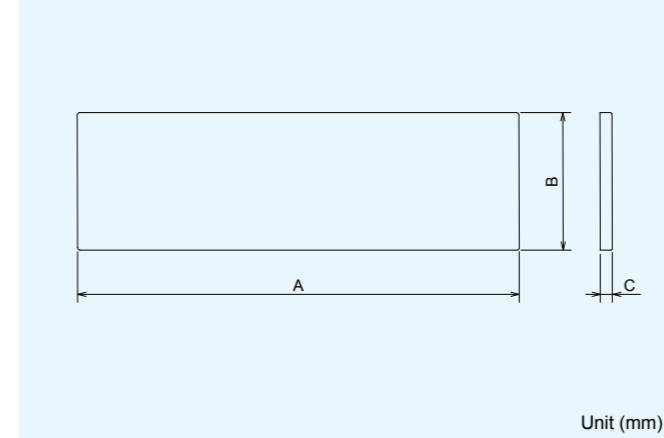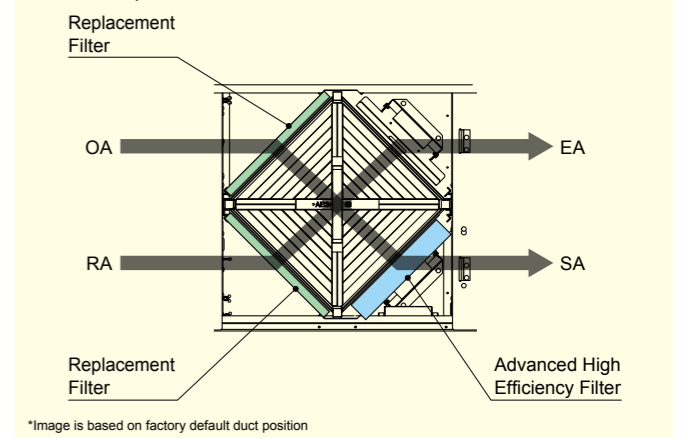
*Image is based on factory default duct position

■ CO₂ sensors
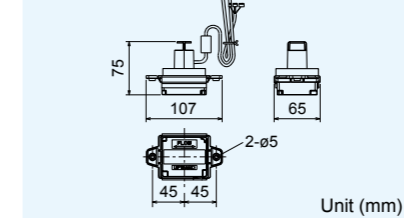
A CO_2 sensor optimizes the fan speed according to the level of CO_2 detected. LOSSNAY PCB can supply power to the CO_2 sensor.

<Duct-mounted type> PZ-70CSD-E

Mounted in the duct with all the wiring hidden in the ceiling.
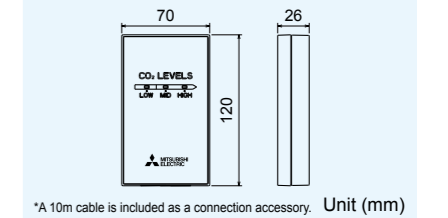
■ Dimensions

Unit (mm)

<Wall-mounted type> PZ-70CSW-E

Mounted on the wall. CO_2 is monitored in 3 levels.

■ Dimensions

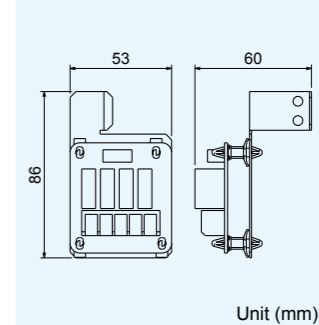*A 10m cable is included as a connection accessory. Unit (mm)

■ Signal output terminal

PZ-4GS-E
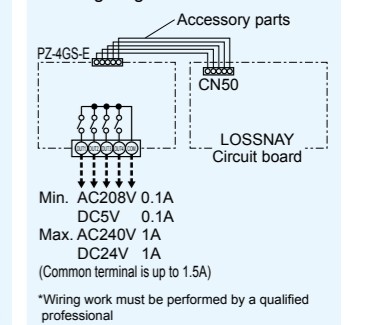
The RVXT3 is equipped with a PCB that has only one output terminal. Four more output terminals can be added by using PZ-4GS-E.

■ Dimensions

Unit (mm)

■ Wiring diagram

Accessory parts
PZ-4GS-E
CN50
LOSSNAY Circuit board
Min. AC208V 0.1A
     DC5V 0.1A
Max. AC240V 1A
     DC24V 1A
(Common terminal is up to 1.5A)
*Wiring work must be performed by a qualified professional

*Specifications may be subject to change without notice.