Lossnay®

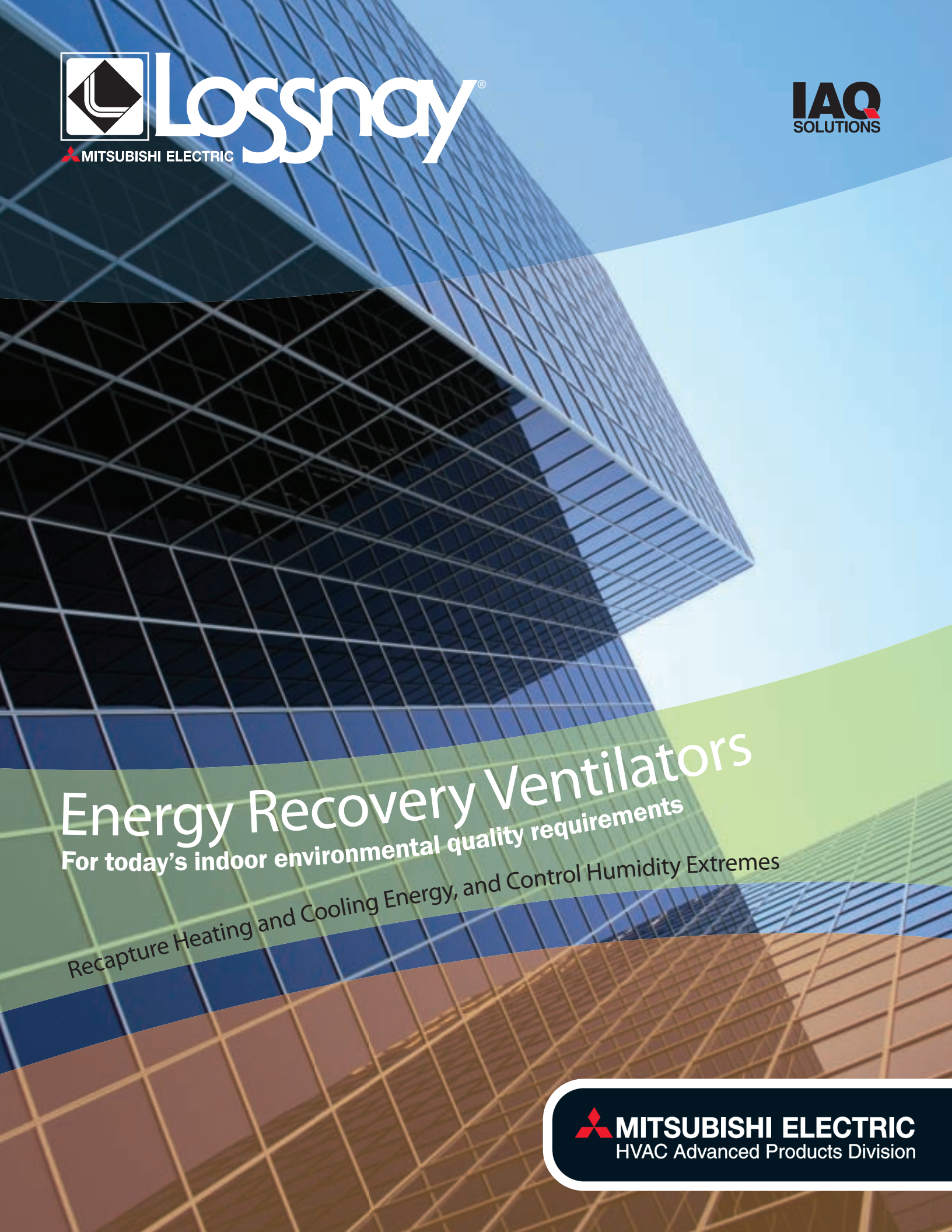
MITSUBISHI ELECTRIC

IAQ SOLUTIONS

Energy Recovery Ventilators

For today's indoor environmental quality requirements

Recapture Heating and Cooling Energy, and Control Humidity Extremes



MITSUBISHI ELECTRIC
HVAC Advanced Products Division

Outside Air Makes the Difference!

People need outside air for their health and comfort. Unconditioned outdoor air rarely meets their needs: it's usually too hot and humid in the summer and too cold and dry in the winter. To provide the benefit of ventilation, the air must be preconditioned before being introduced into the occupied space.

Cooled or heated indoor air soon grows stale and must be exhausted to rid the building of toxins, odors, viruses, bacteria, and other potentially harmful contaminants. Exhausting that air and replacing it with outside air, which must be conditioned, is critical to a healthy and productive environment, but it is a process that can be both costly and inefficient.

If your air-conditioning system utilizes an energy recovery ventilator (ERV), these costs are greatly minimized. An ERV helps improve the efficiency of air-conditioning systems by preheating or precooling incoming outside air with the available energy in the stale exhaust air.

ERVs save money by decreasing the load on your air-conditioning units; help to remove noxious indoor pollutants, such as formaldehyde, pollen, cigarette smoke, dust, and carbon dioxide; and help to equalize humidity levels. An ERV is an efficient and effective step toward improving overall indoor enivronmental quality.

Energy Recovery Ventilators

- Maintain an adequate supply of ventilation air while reducing energy costs.
- Recover up to 70 percent of sensible and latent energy from conditioned air as it is exhausted.
- Reduce extremes in humidity that can encourage mold growth.
- Remove dangerous gases, bacteria, and other airborne impurities from conditioned air.

Mitsubishi Electric's Lossnay® energy recovery ventilators offer:

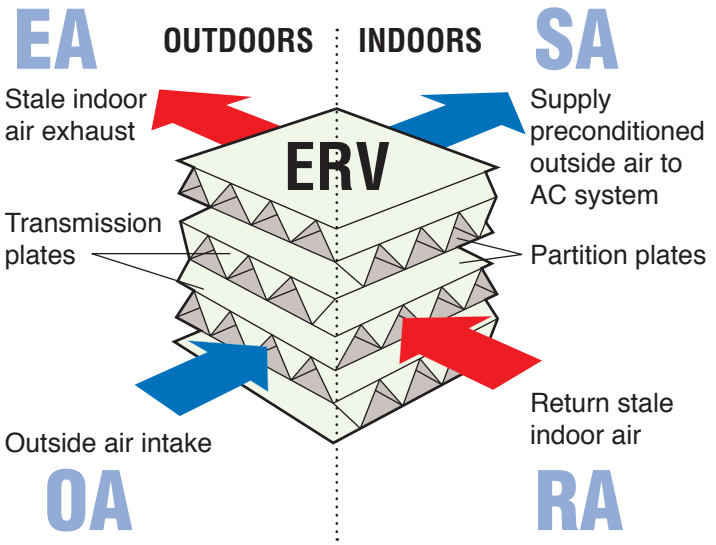
- Unprecedented energy transfer in a fixed-plate component with no moving parts.
- Reasonable paybacks and reduced peak demand.
- Superior part-load performance, reducing latent load even at mild outdoor temperatures.
- No wheels to stop turning so outside air is always preconditioned and available.

HOW DOES THE LOSSNAY® CORE WORK?

At the heart of each Mitsubishi Electric Lossnay® energy recovery ventilator is a low-maintenance cross-flow energy exchange core constructed of a specially treated cellulose fiber membrane.

The low-maintenance ERV core prevents the inbound air and exhaust air from intermingling while crossing the airflows, thus preconditioning the air by warming it in the wintertime with the warm exhausted air, or by cooling it in the summertime with the cooler exhaust air.

While the airflows are exchanging heat energy by conduction in the ERV core, the humidity in the air streams seeks to equalize. In the winter cool dry supply air from outside is partially humidified by the moist exhausted air, and the opposite occurs in the summertime. The special treatment and impregnation applied to the transmission plates allow water vapor molecules to pass through so the differing humidity levels move toward equilibrium in the Lossnay® core. Larger molecules are unable to pass through the transmission plates so the outside air is uncontaminated by stale exhausted air.



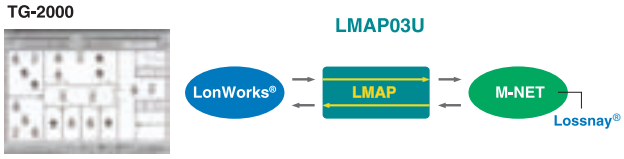
Features

Mitsubishi Electric has responded to the growing need for total, integrated management of building HVAC and indoor air quality by making it easier to interlock and control Lossnay® energy recovery ventilators with our air-conditioning systems.

Improved sound attenuation makes Lossnay® units quiet enough for places where silence is a must such as meeting rooms and libraries.

A free-cooling function is standard to help reduce costs and boost efficiency. The integrated bypass damper design makes installation and system integration quick and efficient.

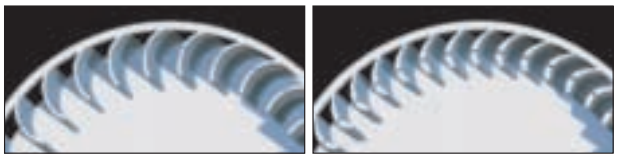
System compatibility



The LGH-F-RX3-E series is fully compatible with our G-50A/GB-50 Centralized Controllers and works with the TG-2000 software, LMAP LonWorks® interface, and BACnet® interface, further increasing the scope of total system management.

Multifunction LCD remote control

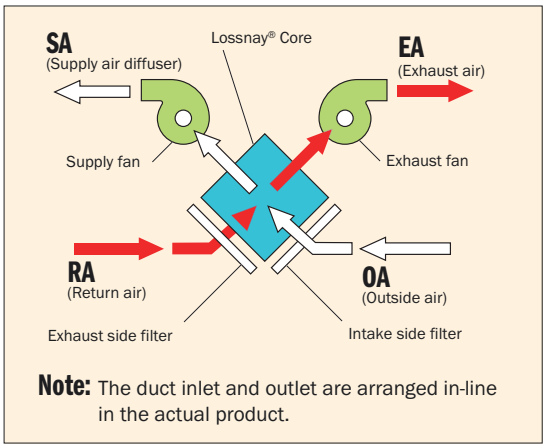
The PZ-41SLB Remote Controller and the PZ-52 SF M-NET Controller are compact and attractive. In addition to controls for **ON/OFF** and **Ventilation Mode**, the schedule for filter maintenance is also displayed. The liquid crystal display has been designed for easy visibility.



High-static pressure blades Conventional blades

High-static pressure blades

By developing blower blades that are thinner, more widely spaced, and possessing a larger diameter of curvature, static pressure has been boosted and sound reduced while ensuring an optimal airflow. Higher static pressure means that Lossnay® can accommodate the pressure loss required to meet the specifications of ductwork and terminal materials, increasing the flexibility of system installation.



Note: The duct inlet and outlet are arranged in-line in the actual product.

SA
Supply Air

RA
Return Air

EA
Exhaust Air

OA
Outside Air

Lossnay® construction

Lossnay® ERVs are constructed so that the exhaust air passage from the indoor side to the outdoor side (RA → EA) and the outside air passage from the outdoor side to the indoor side (OA → SA) cross. The Lossnay® energy recovery unit features the Lossnay® Core, which is installed at this cross point and recovers the heat by conduction through the separating medium between the airflows. This enables the energy loss during exhaust to be greatly reduced.

Ventilation

With conventional ERVs, “by-pass” or auto ventilation was impossible without attaching an additional damper and adapter. With the LGH-F-RX3-E series, however, these modes are available without using any other parts. Auto mode is the fixed setting when Lossnay® is interlocked with air conditioners. When using Lossnay® independently with a PZ-41SLB-E remote control (sold separately), Lossnay® ventilation, bypass ventilation, or auto mode can be selected.

Reduce cooling load

If the air outside is cooler than the air inside the building during the cooling season (such as early morning or at night), “bypass” ventilation will draw in the cooler outside air and reduce the cooling load on the system.

Cooling using outdoor air

During cooler seasons (such as spring and fall), if the people in a room cause the temperature of the room to rise, “bypass” ventilation will draw in the cool outside air and use it as is to cool the room.

Night purge

“Bypass” ventilation can be used to release hot air from inside the building that has accumulated during a hot summer day.

Office equipment room cooling

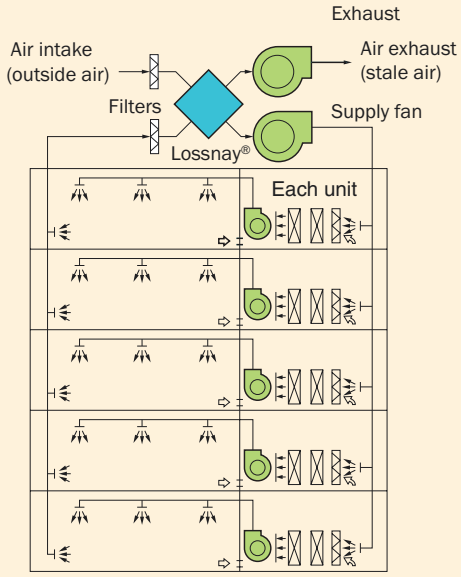
During the cold season, outdoor air can be drawn in to cool rooms where the temperature has risen due to the use of office equipment. (Only when interlocked with CITY MULTI® and/or Mr. Slim® indoor unit)

Comparison of primary building ventilation methods

There are two main ventilation methods:

Centralized ventilation method

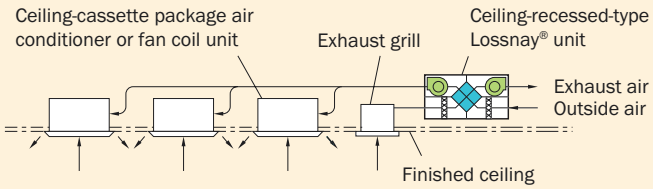
This is mainly used in large buildings, with the outside air intake being installed in one machine room. For this method, primary treatment of the outdoor air, such as heat recovery to the intake air and dust removal, is performed before distribution to the building duct system.



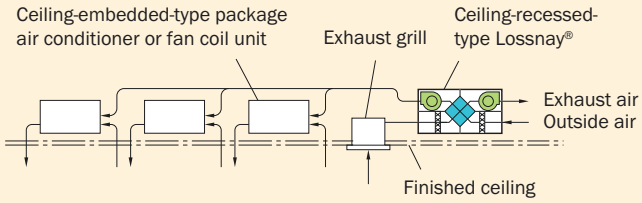
Independent zoned ventilation method

This is mainly used in small to medium-sized buildings, with areas being ventilated using outside air intakes from independent ventilation devices. The rate of use of this method has recently increased as zone conditioning and independent control are becoming more feasible.

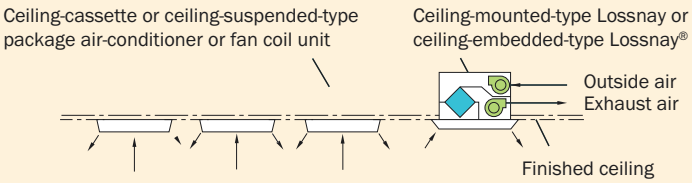
System operation with celiling cassette (recessed) air conditioner



System operation with ducted air conditioner



Independent operation with ceiling-suspended air conditioner



Calculation of Total Heat Recovery Efficiency

The Lossnay® Core's energy recovery efficiency can be considered using the following three transfer rates:

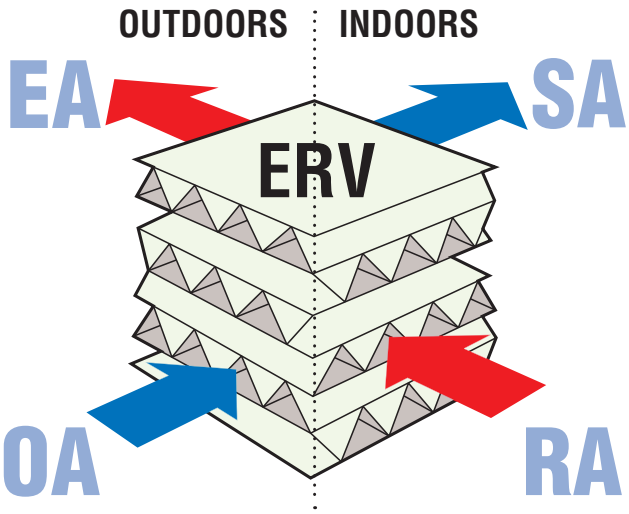
1. Temperature (sensible heat) recovery efficiency
2. Humidity (latent heat) recovery efficiency
3. Enthalpy (total heat) recovery efficiency

The heat recovery effect can be calculated if two of the above efficiencies are known. (The temperature and enthalpy efficiencies are indicated on pages 7-10.) Lossnay® performance and cost analysis can also be determined using Mitsubishi Electric ERValue® software.

- Each recovery efficiency can be calculated with the formulas in the table below.
- When the supply air volume and exhaust air volume are equal, the heat recovery efficiencies on the supply and exhaust sides are the same.
- When the supply air volume and exhaust air volume are not equal, the total heat recovery efficiency is low if the exhaust volume is lower, and high if the exhaust volume is higher.

Item	Formula
Temperature recovery efficiency (%)	$\eta t = \left[\frac{t_{OA} - t_{SA}}{t_{OA} - t_{RA}}\right] \times 100$
Enthalpy recovery efficiency (%)	$\eta i = \left[\frac{i_{OA} - i_{SA}}{i_{OA} - i_{RA}}\right] \times 100$

η = Efficiency (%)
t = Dry Bulb Temperature (°F)
i = Enthalpy (Btu/lb)

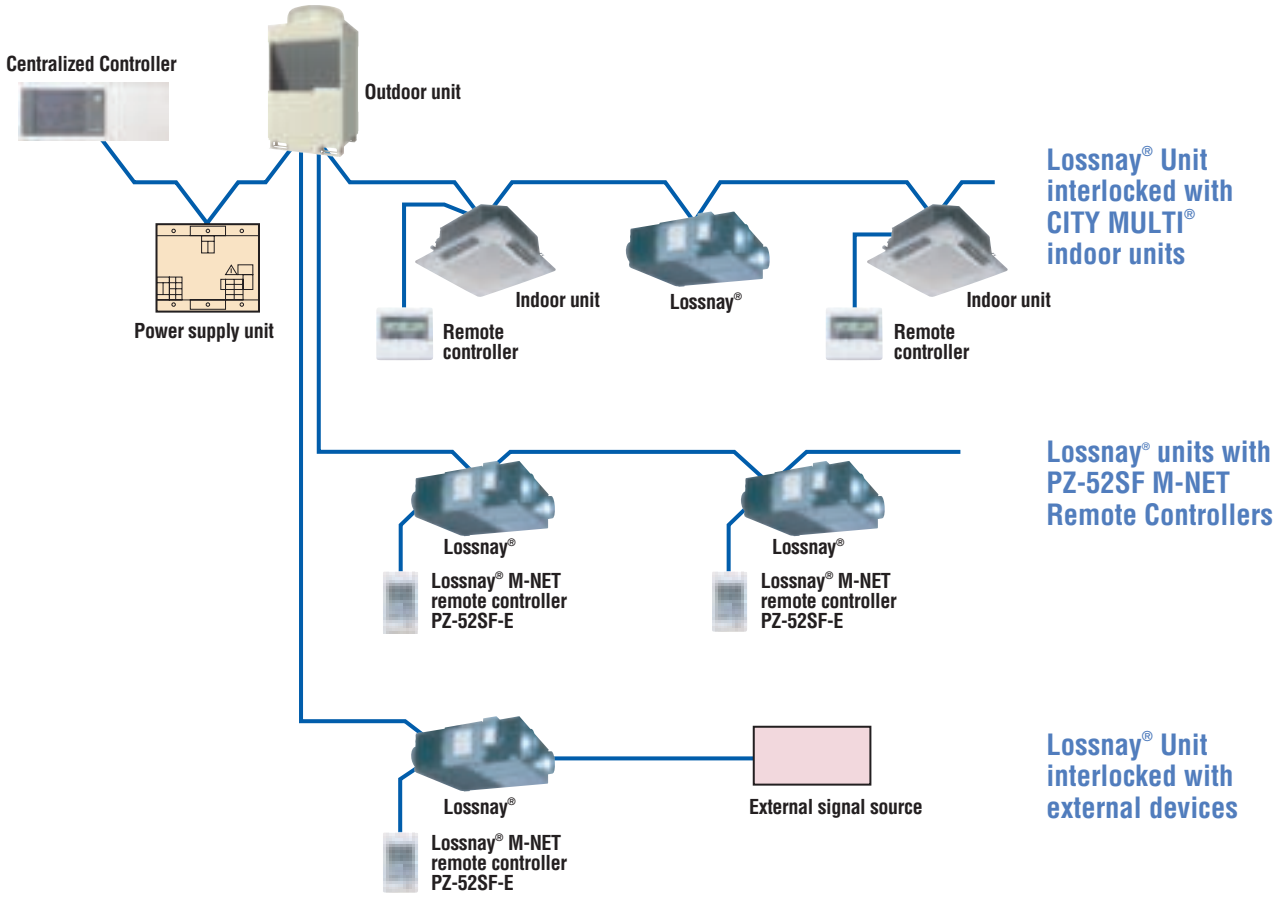


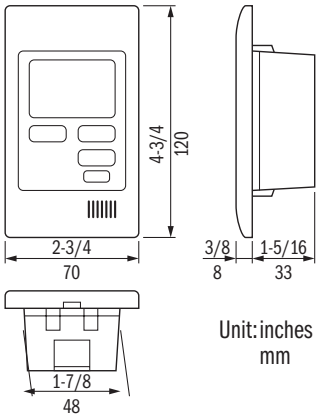
Calculation of supply air condition after passing through Lossnay®

If the Lossnay® energy recovery efficiency and the conditions of the room and outdoor air are known, the conditions of the air entering the room and the air exhausted outdoors can be determined with the following formulas in the table below.

	Supply side	Exhaust side
Temperature	$t_{SA} = t_{OA} - (t_{OA} - t_{RA}) \cdot \eta t$	$t_{EA} = t_{RA} + (t_{OA} - t_{RA}) \cdot \eta t$
Enthalpy	$i_{SA} = i_{OA} - (i_{OA} - i_{RA}) \cdot \eta i$	$i_{EA} = i_{RA} + (i_{OA} - i_{RA}) \cdot \eta i$

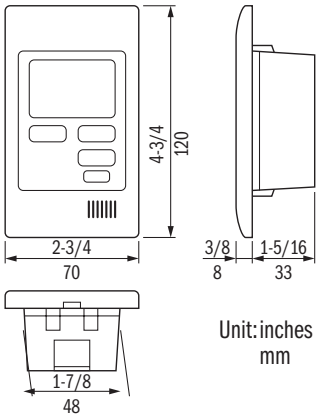
Controls





Lossnay® remote controller (PZ-41SLB-E)

Source power requirement	Input voltage: 9VDC-15VDC, 0.02A Power received from a Lossnay® unit, TM2 ⑤-⑥
Interface condition for transmission line	Specialized transmission line: DC power + AM modulation
Number of Lossnay® units controlled by PZ-41SLB-E	1-15



Lossnay® M-NET remote controller (PZ-52SF-E)

Source power requirement	Input voltage: 17VDC-30VDC, 0.02A Power received from an outdoor unit or a power supply unit via M-NET transmission line
Interface condition for transmission line	M-NET transmission line: 30VDC + AMI signal (±5VDC)
Number of M-NET controlled Lossnay® units controlled by PZ-52SF-E	1-15

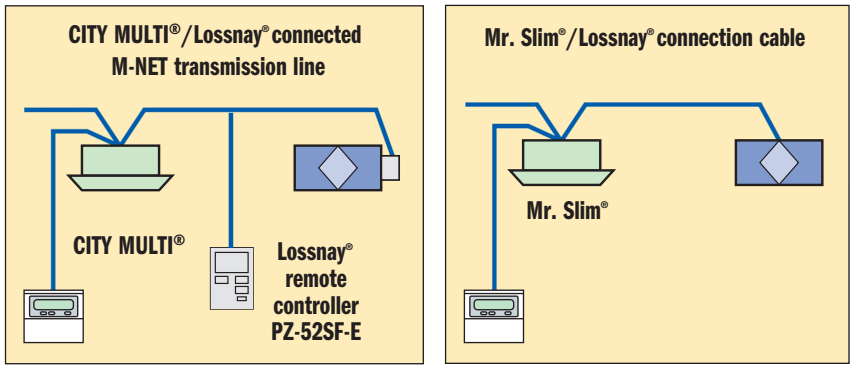
The PZ-41SLB-E and PZ-52SF-E controllers cannot be used simultaneously.

Interlock simply, effectively, and economically

Because the M-NET adapter is included as standard equipment on the LGH Series Lossnay® Units, networking Lossnay® Units with Mitsubishi Electric CITY MULTI® has never been easier. Systems can be assembled simply and logically, reducing construction times and keeping costs low.

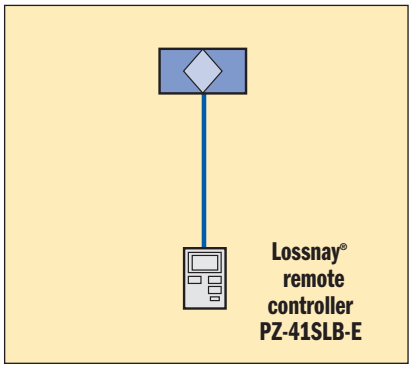
INTERLOCKED WITH INDOOR UNITS

LGH-RX3



LOSSNAY® USED INDEPENDENTLY

LGH-RX3

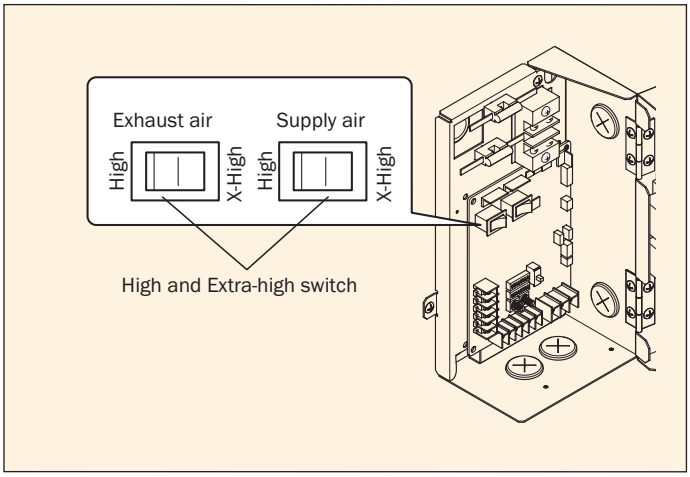


Fan Speed

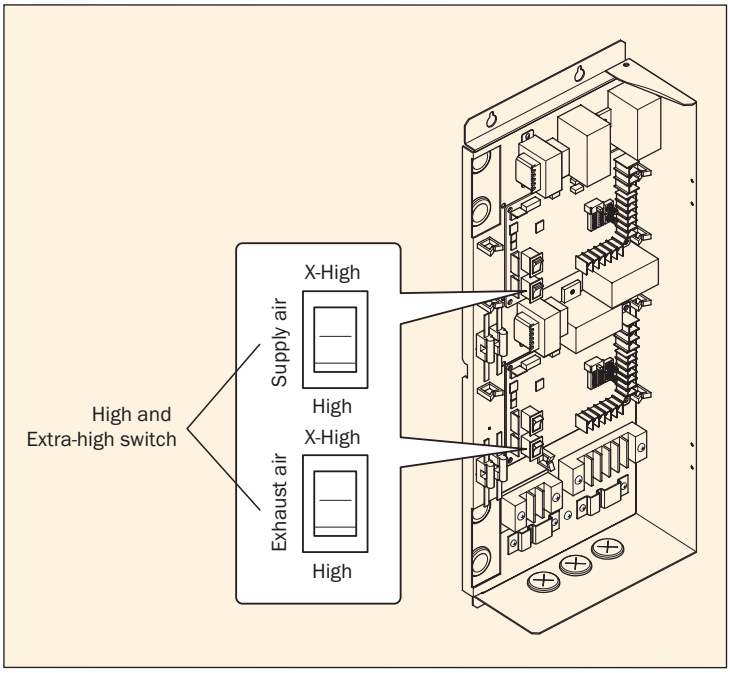
Select an appropriate Lossnay® model according to the room size, air volume and sound levels. Each unit, (300, 470, 600 and 1,200 CFM), has an extra-high fan speed setting for use with a long duct or when a large air volume is required. The positive and negative pressures of the room can also be adjusted with this duct.

Lossnay® units have a low-sound design. However, for additional sound reduction, a silencer-type supply/return grill, a silencer box and a flexible silencer may be used.

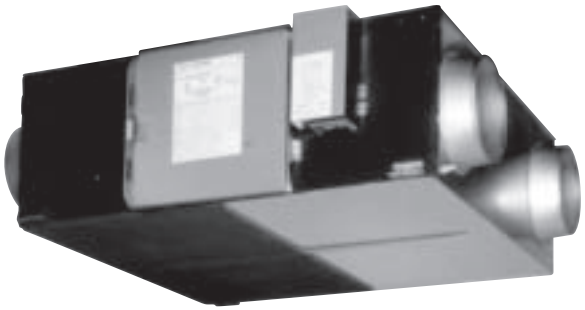
LGH-F300, F470, F600RX types

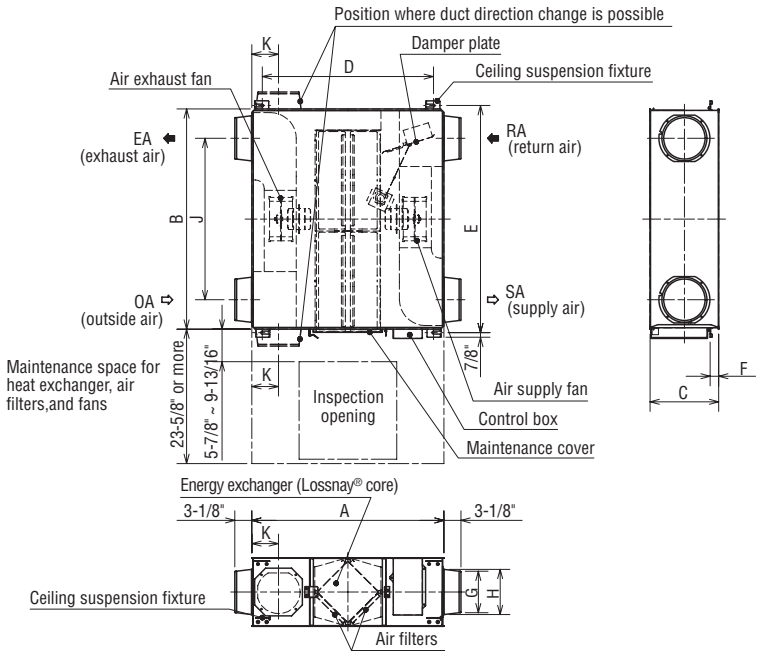


LGH-F1200RX type



LGH-F300RX3-E



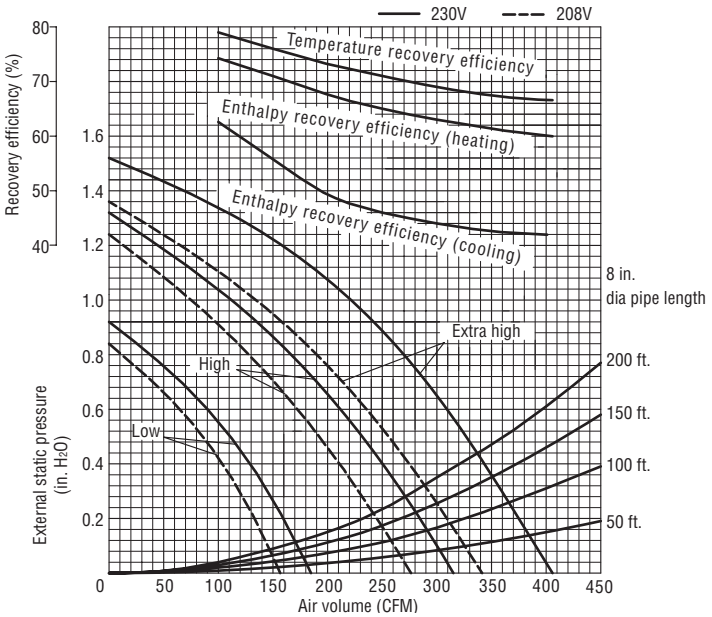


Power supply		Single-phase 208/230V 60Hz					
Ventilation mode		Lossnay® ventilation			Bypass ventilation		
Fan Speed		Extra high	High	Low	Extra high	High	Low
Current (A)		1.3	1.1	0.6	1.4	1.1	0.6
Power consumption (W)		278	260	146	280	262	146
Air volume (CFM)		300	300	180	300	300	180
External static pressure (in. H_2O)		0.65	0.10	0.02	0.65	0.10	0.02
Temperature recovery efficiency (%)		69	70	77	—	—	—
Enthalpy recovery efficiency (%)	Heating	62	64	71	—	—	—
	Cooling	44	46	55	—	—	—
Sound level (dB[A])	Measured 59 in. under center of panel	36	32	25	36	32	25
	Air outlets	44	40	31	44	40	31
Filter		Washable filter (2)					
Starting current		Under 2.5A					

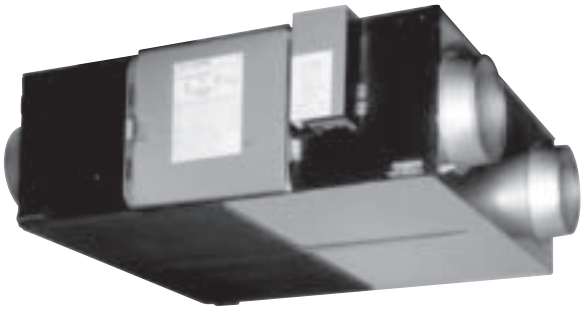
Unit	Dimensions			Ceiling suspension fixture pitch			Nominal diameter	Duct connecting flange		Duct pitch		Weight
	A	B	C	D	E	F		G	H	J	K	
inches	34-15/16	40	12-1/2	31-1/8	41-1/4	1-9/16	ø8	ø7-9/16	ø8-3/16	29-5/16	4-7/8	73 lb
mm	888	1016	318	791	1048	40	ø203	ø192	ø208	745	124	33 kg

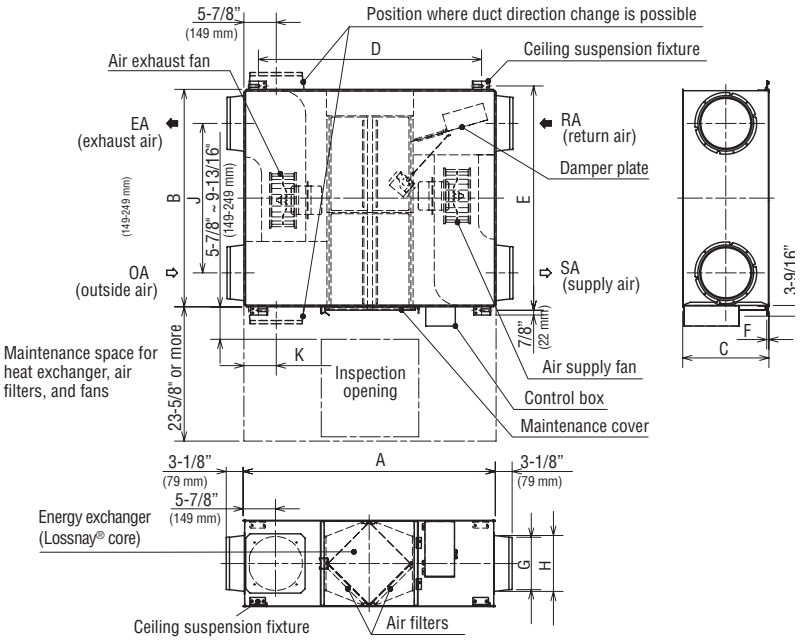
Performance certified to ARI 1060 Standard

Listed Energy Recovery Ventilator



LGH-F470RX3-E



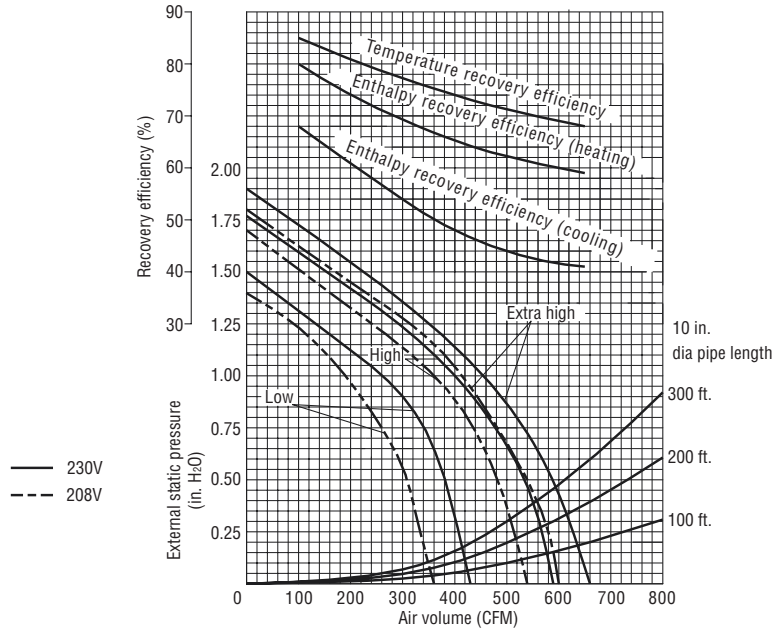


Power supply		Single-phase 208/230V 60Hz					
Ventilation mode		Lossnay® ventilation			Bypass ventilation		
Fan Speed		Extra high	High	Low	Extra high	High	Low
Current (A)		2.5-2.5	2.4-2.4	1.6-1.7	2.5-2.5	2.3-2.3	1.6-1.7
Power consumption (W)		515-560	485-525	325-375	505-545	473-510	326-370
Air volume (CFM)		470	470	380	470	470	380
External static pressure (in. H_2O)		0.80-0.96	0.58-0.78	0.29-0.51	0.80-0.96	0.58-0.78	0.29-0.51
Temperature recovery efficiency (%)		69-69	69-69	73-72	—	—	—
Enthalpy recovery efficiency (%)	Heating	62-62	62-62	66-65	—	—	—
	Cooling	44-44	44-44	50-48	—	—	—
Sound level (dB[A])	Measured 59 in. under center of panel	37-39	35.5-37	29.5-31.5	38.5-40.5	37-39	30.5-32.5
	Air outlets	48-50.5	45.5-48.5	38-40.5	—	—	—
Filter		Washable filter (2)					
Starting current		Under 5.0A					

Unit	Dimensions			Ceiling suspension fixture pitch			Nominal diameter	Duct connecting flange		Duct pitch		Weight
	A	B	C	D	E	F		G	H	J	K	
inches	45-13/16	39-1/2	15-11/16	40-9/16	40-13/16	3/8	ø10	ø9-1/2	ø10-3/16	27-3/16	5-7/8	143 lb
mm	1164	1003	398	1030	1037	9.5	ø254	ø241	ø259	691	149	65 kg

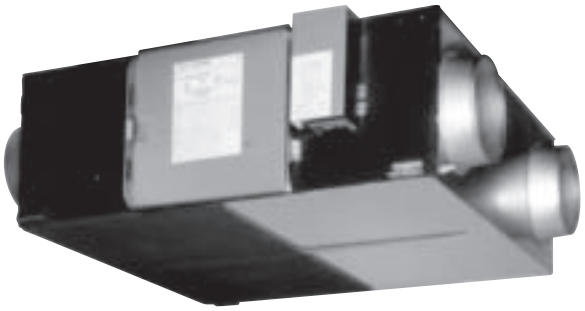
Performance certified to ARI 1060 Standard

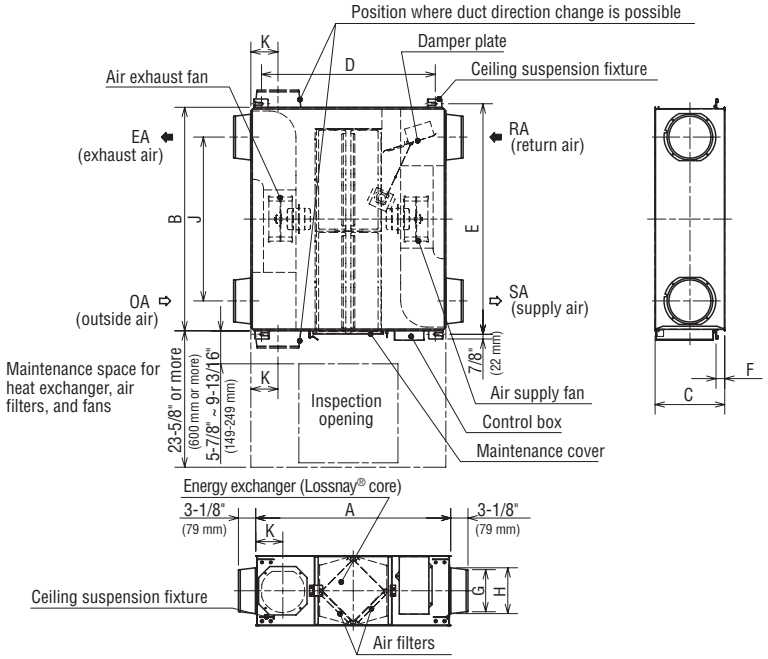
Listed Energy Recovery Ventilator



230V
208V

LGH-F600RX3-E



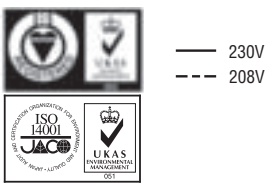


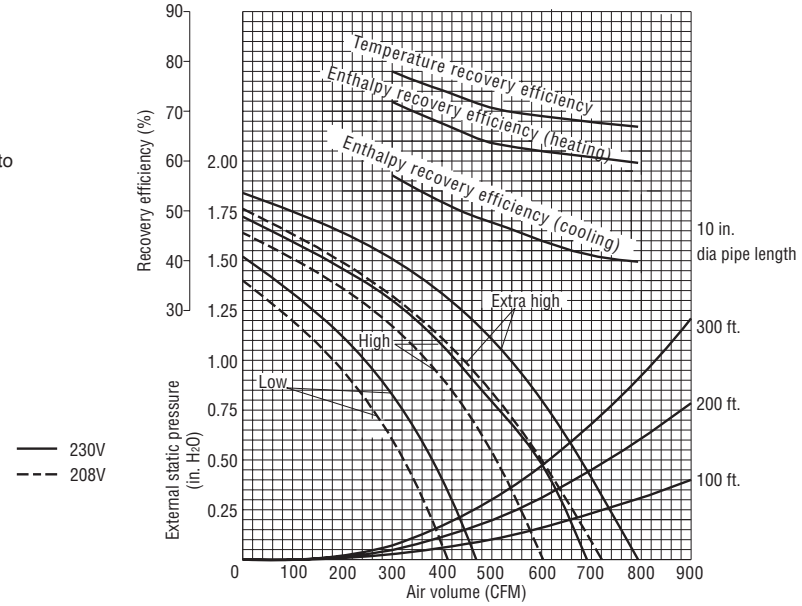
Power supply		Single-phase 208/230V 60Hz					
Ventilation mode		Lossnay® ventilation			Bypass ventilation		
Fan Speed		Extra high	High	Low	Extra high	High	Low
Current (A)		2.9	2.6	1.7	2.8	2.6	1.7
Power consumption (W)		654	600	390	648	600	396
Air volume (CFM)		600	600	430	600	600	430
External static pressure (in. H_2O)		0.80	0.48	0.24	0.80	0.48	0.24
Temperature recovery efficiency (%)		69	70	75	—	—	—
Enthalpy recovery efficiency (%)	Heating	62	63	69	—	—	—
	Cooling	44	47	53	—	—	—
Sound level (dB[A])	Measured 59 in. under center of pane	39	37	30	40	39	31
	Air outlets	47	45	37	48	45	37
Filter		Washable filter (2)					
Starting current		Under 7.0A					

Unit	Dimensions			Ceiling suspension fixture pitch			Nominal diameter	Duct connecting flange		Duct pitch		Weight
	A	B	C	D	E	F		G	H	J	K	
inches	45-13/16	48-7/16	15-11/16	40-9/16	49-3/4	3/8	ø10	ø9-1/2	ø10-3/16	36-3/16	5-7/8	159 lb
mm	1164	1230	398	1030	1264	9.5	ø254	ø241	ø259	919	149	72 kg

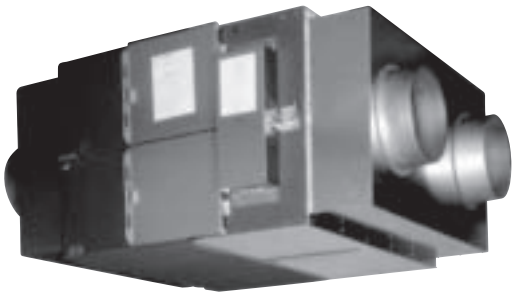
Performance certified to ARI 1060 Standard

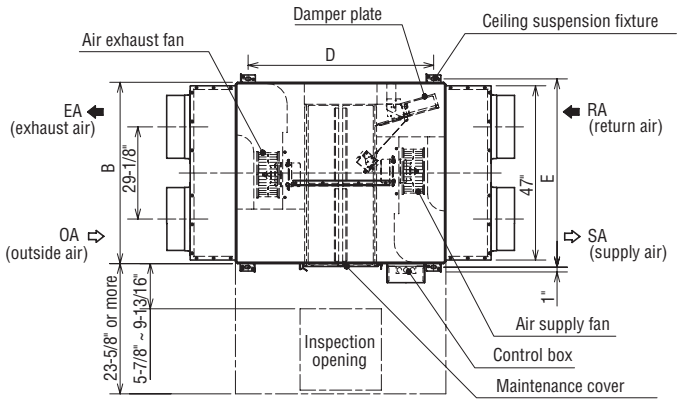
Listed Energy Recovery Ventilator

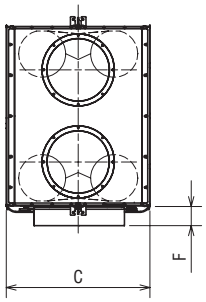


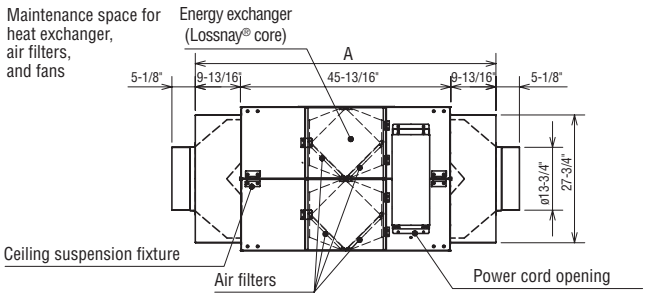


LGH-F1200RX3-E









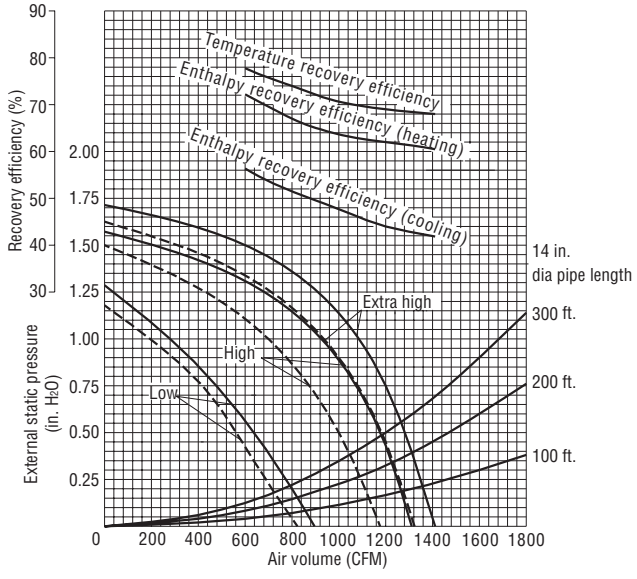
LGH-F1200RX3-E has double circuit board and requires two M-NET connections.

Power supply		Single-phase 208/230V 60Hz					
Ventilation mode		Lossnay® ventilation			Bypass ventilation		
Fan Speed		Extra high	High	Low	Extra high	High	Low
Current (A)		5.7	5.6	3.6	5.6	5.5	3.6
Power consumption (W)		1290	1200	810	1265	1190	800
Air volume (CFM)		1200	1200	800	1200	1200	800
External static pressure (in. H_2O)		0.75	0.43	0.20	0.75	0.43	0.20
Temperature recovery efficiency (%)		69	70	76	—	—	—
Enthalpy recovery efficiency (%)	Heating	62	63	69	—	—	—
	Cooling	44	47	53	—	—	—
Sound level (dB[A])	Measured 59 in. under center of panel	41	39	32	42	40	33
	Air Outlets	52	49	41	52	49	41
Filter		Washable filter (4)					
Starting current		Under 14A					

	Dimensions			Ceiling suspension fixture pitch			Nominal diameter	Duct connecting flange	Duct pitch	Weight
	A	B	C	D	E	F			G	
inches	65-7/16	48-7/16	31-1/2	40-9/16	50-1/8	8-3/4	ø14	ø13-3/4	29- 1/8	395 lb
mm	1164	1230	800	1030	1273	222	ø356	ø349	740	179 kg

Performance certified to ARI 1060 Standard

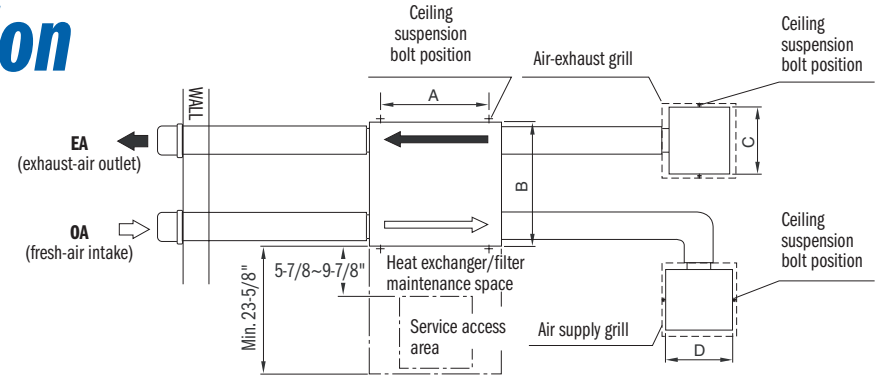
Listed Energy Recovery Ventilator

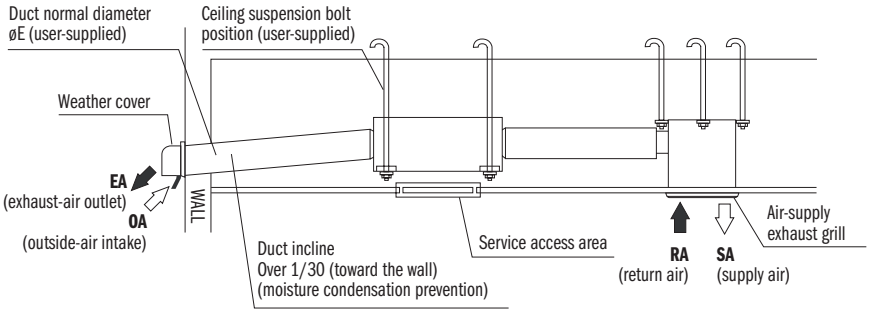


Typical Installation

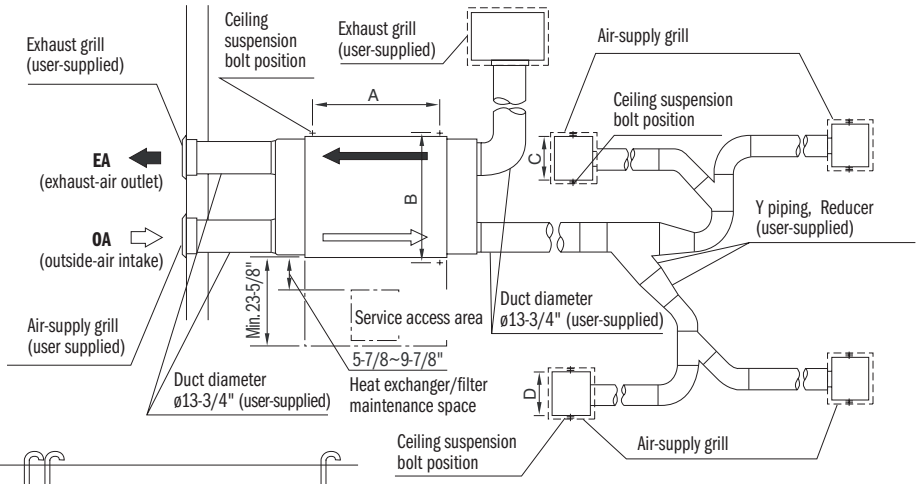
LGH-F300RX3-E
LGH-F470RX3-E
LGH-F600RX3-E

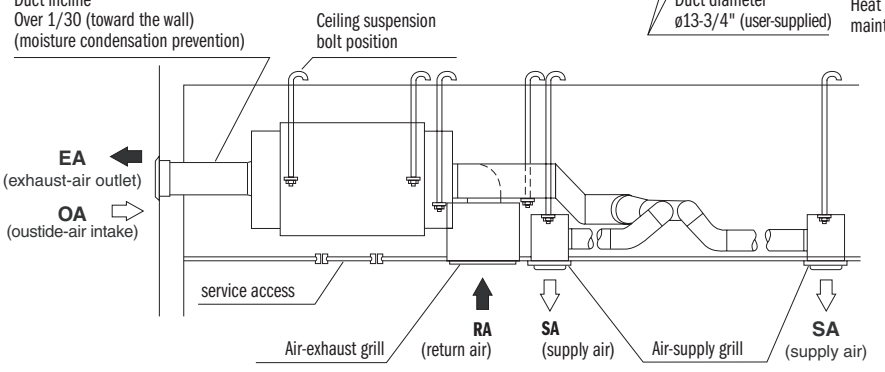
- An inspection access port must be installed on the filter and Lossnay® Core removal side.
- Installer must provide insulation to prevent moisture condensation along the two outside ducts (outside-air intake and exhaust-air outlet).
- Ceiling installation hardware can be attached to the top of the unit.
- Installer must use weather-protected caps or hoods in areas directly exposed to rain.





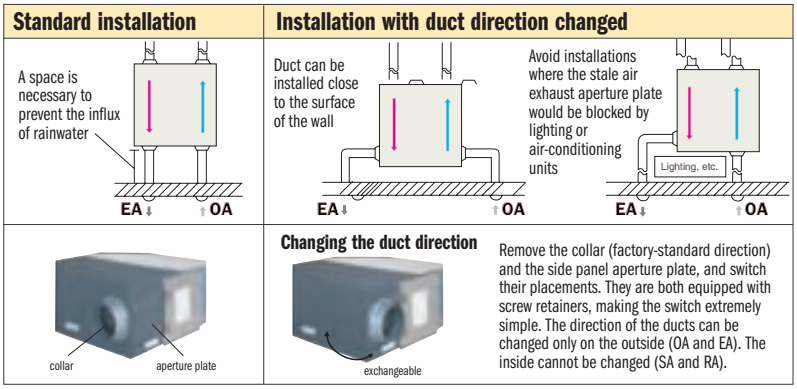
LGH-F1200RX3-E





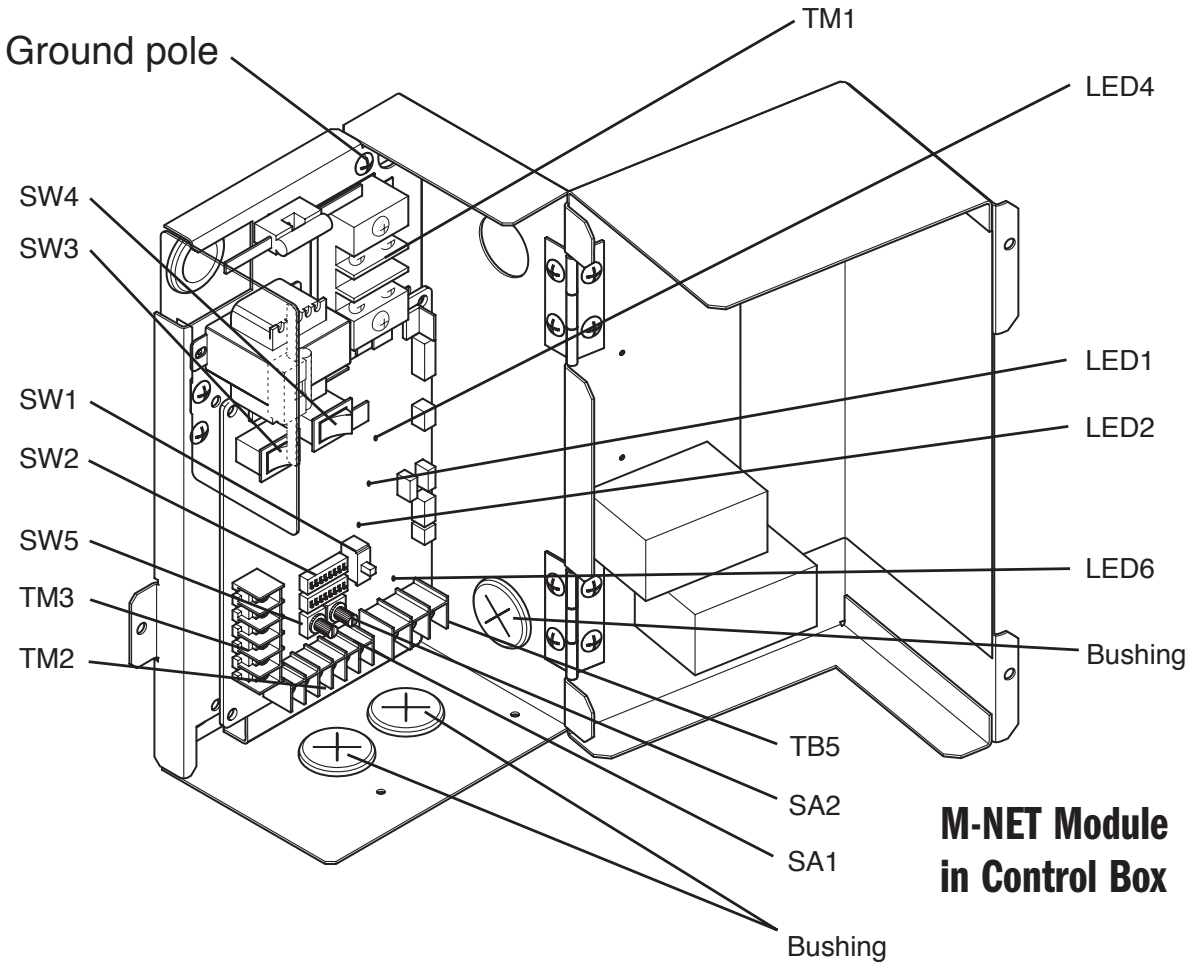
Duct can be installed in two different directions (OA, EA side)

Ducts can be connected in two different directions to the outdoor vents thanks to collars and aperture plates that are interchangeable – either side or bottom locations. This flexibility allows for installations close to the surface of a wall and helps avoid cases where the stale exhaust air vent would be obstructed. This innovative feature simplifies both planning and installation.



Electrical Installation

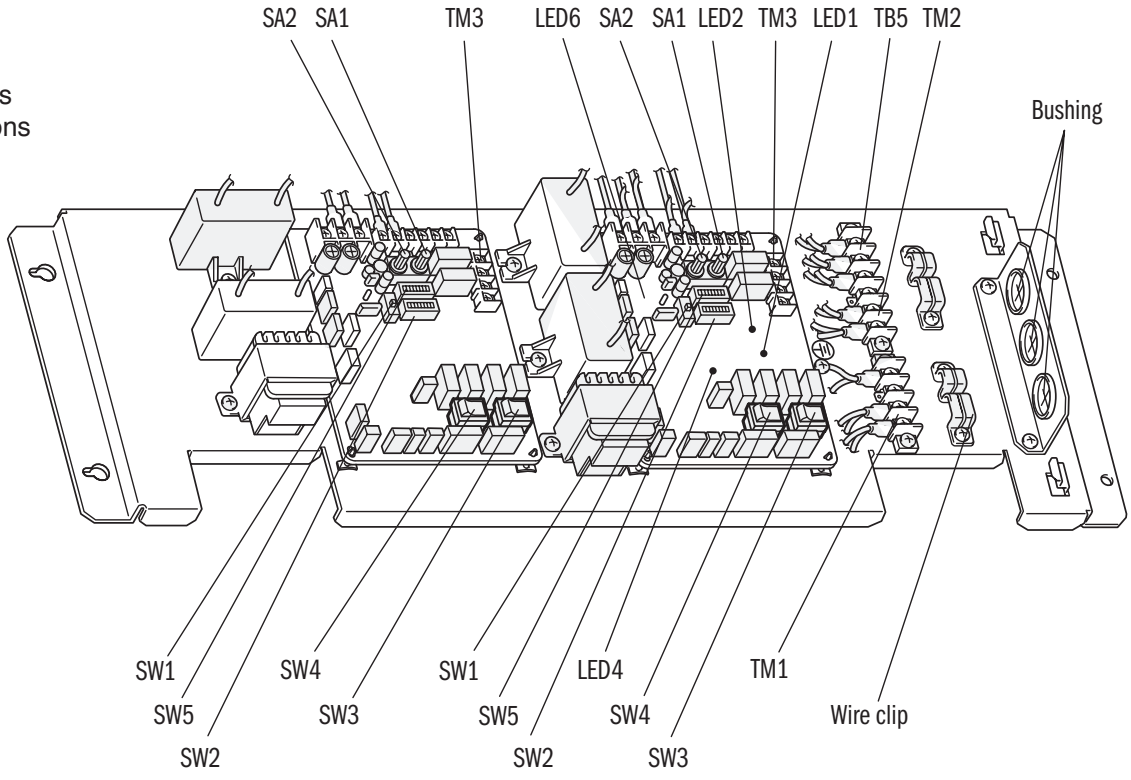
LGH-F300RX3
LGH-F470RX3
LGH-F600RX3



M-NET Module in Control Box

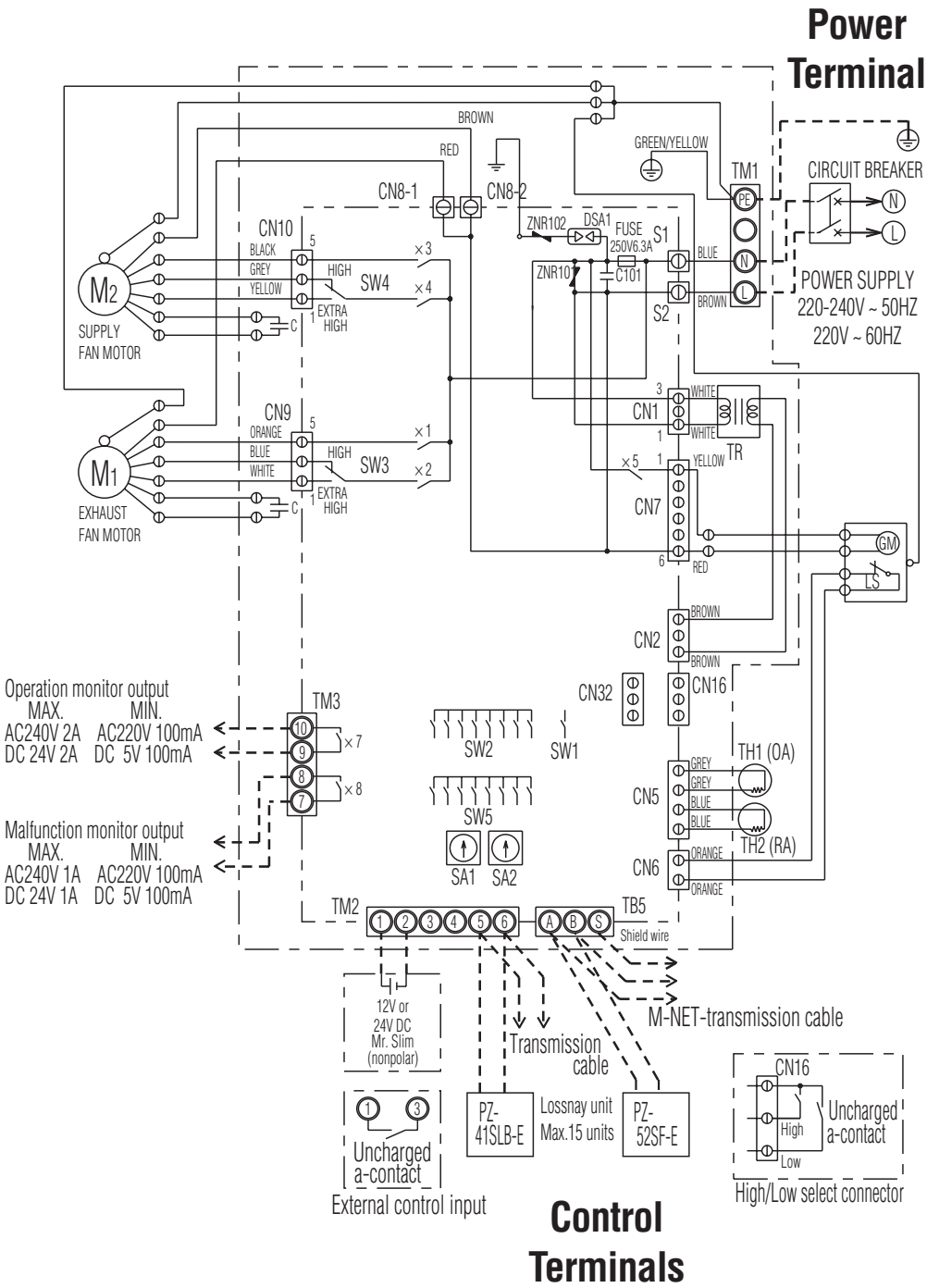
LGH-F1200RX3

Double board requires two M-NET connections



Wiring Diagram LGH-F300RX3 • LGH-F470RX3 • LGH-F600RX3

M1	Motor for exhaust fan
M2	Motor for supply fan
C	Capacitor
GM	Motor for bypass movement
LS	Microswitch
TH1	Thermistor for outside air
TH2	Thermistor for return air
SW1	Switch (Main/Sub change)
SW2, 5	Switch (Function selection)
SW3	High/X-High select switch (Exhaust fan)
SW4	High/X-High select switch (Supply fan)
TM1	Terminal block (Power supply)
TM2	Terminal block (Transmission cable and external control input)
TM3	Terminal block (Monitor output)
TB5	Terminal block (M-NET Transmission cable)
S1, S2	Connector (Power supply)
TR	Control circuit transformer
X7	Relay contact (for operation monitor output)
X8	Relay contact (for malfunction monitor output)
CN1	Connector (Transformer primary)
CN2	Connector (Transformer secondary)
CN5	Connector (Thermistor)
CN6	Connector (Microswitch)
CN7	Connector (Motor for bypass operation)
CN8-1	Tab connector (Fan motor)
CN8-2	Tab connector (Fan motor)
CN9	Connector (Fan motor)
CN10	Connector (Fan motor)
CN16	Connector (High/Low switch)
CN32	Connector (Remote control selection)
SA1	Address setting rotary switch (10 digit)
SA2	Address setting rotary switch (1 digit)
LED1	Inspection indicator lamp
LED2	Inspection indicator lamp
LED4	Power supply indicator lamp
LED6	M-NET indicator lamp
MARK:	Indicates Terminal block
	Connector
	Board insertion connector or fastening connector of control board



Wiring Diagram LGH-F1200RX3

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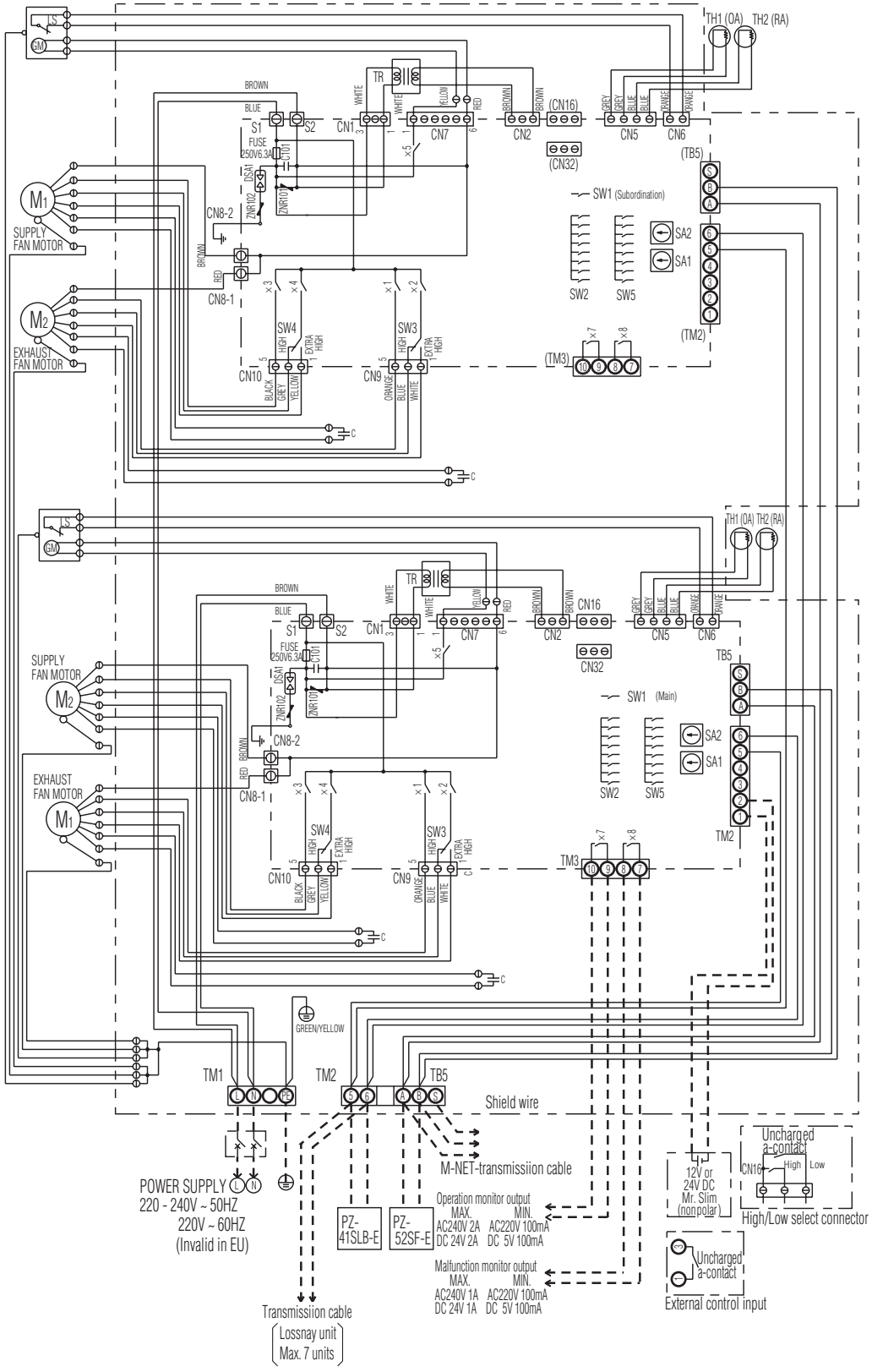


Energy Recovery Ventilator Terminology

Balanced Ventilation
A ventiliation strategy using both an exhaust air blower and a supply or make-up air blower providing the same airflow and pressure so as not to pressurize or depressurize a building.

CFM
Cubic Feet per Minute, a measure of air volume

Delayed Operation
The On/Off operation of the Lossnay® unit can be delayed for 30 minutes following the operation of the indoor unit. When using PZ-41SLB-E, the delay can be set for 10, 20, 30, 40, 50 and 60 minutes.

ESP
External static pressure, available motive force to propel air in a duct system from a blower or ventilator

Enthalpy Exchange
The exchange of both sensible and latent heat energy

Exhaust Air (EA)
Air expelled from indoor space

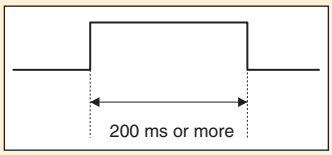
External Control Input
An On/Off input signal for operating the Lossnay® unit that can be sent from an external device. The signal may be a 12V-24V DC or an uncharged a-contact signal.

Interlocked Lossnay®
Lossnay® unit linked to CITY MULTI® or Mr. Slim® indoor units that receive signals and operates via the indoor unit's remote controller.

Non-interlocked Lossnay®
Lossnay unit controlled independently of CITY MULTI® or Mr. Slim® indoor units by the Lossnay® remote controller and/or centralized controller.

Operation in Cold Areas
When the outdoor air is less than -14°F, continuous operation of the fan for drawing in supply air is cancelled, and intermittent operation is started.

Outdoor Air (OA)
Air drawn from outdoors - ventilation air.

Pulse Input


When the control signal from an external device outputs a pulse such as the one shown at right, the pulse input control is performed by the Lossnay® unit. (Optional DIP switch 2-2 ON) 200 ms or more

Remote Operation
This is used for enabling/disabling the On/Off control signal from an external device and for setting interlocked operation of the external device and the Lossnay unit.

ON/OFF interlock: Enables both ON ➔ OFF and OFF ➔ ON external signals.

ON interlock: Enables OFF ➔ ON external signal. Disables ON ➔ OFF external signal.

OFF interlock: Enables ON ➔ OFF external signal. Disables OFF ➔ ON external signal.

External priority: Same as on/off interlock but the OFF signal from the remote controller is ignored when the external control signal is on.

Return Air (RA)
Air drawn from indoor space.

Supply Air (SA)
Air supplied to indoor space

Ventilation Modes
Energy Recovery–Energy Exchange through Lossnay® core at all times

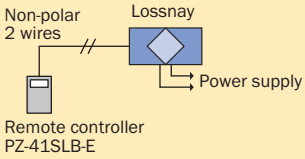
Bypass – no exchange – bypass damper open

Automatic – energy exchange or bypass as determined by present temperature sensor in inlet and discharge air streams.

System Control Examples

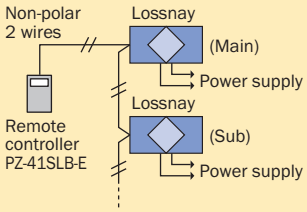
Basic System – Stand-alone Lossnay® ERV with PZ-41SLB-E Remote Controller

One Lossnay® with one remote controller



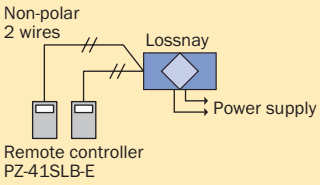
One Lossnay® unit is operated independently with one remote controller.

Multiple Lossnay® units with one remote controller



Up to 15 Lossnay® units can be controlled at one time with one remote controller.

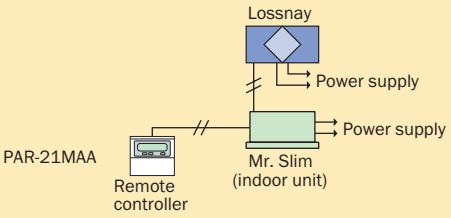
Two remote controller system with one Lossnay®



The Lossnay® can be controlled from two remote locations.
The remote controller gives priority to the last touch.

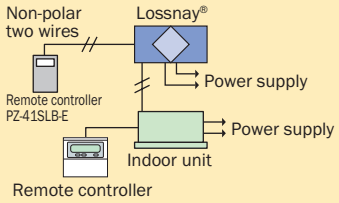
Operation with Mr. Slim®

Operating with Mr. Slim® (A-control) - Interlocked



The Remote controller (A-control) controls the air-conditioning device and the Lossnay®. It is possible to operate or switch fan speed for the Lossnay® individually.

Operating with external device



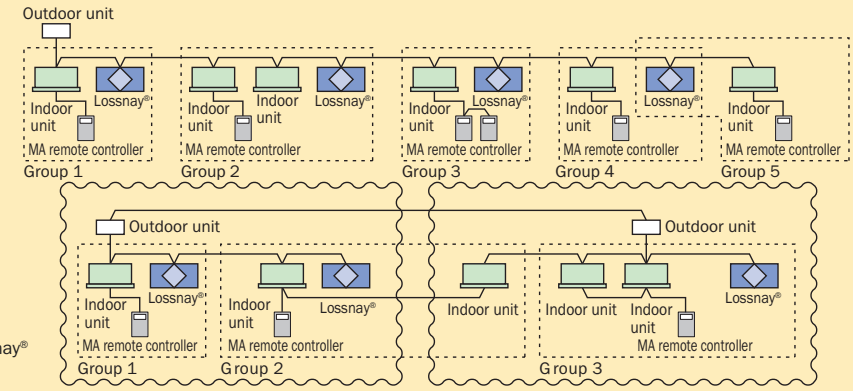
Selection of inter-locked operation mode is possible.
Delayed start inter-locked operation is possible.

The operation of the Lossnay® will be connected with the operation or stopping of the external device.
Input of level signal or pulse signal (12V DC, 24V DC, uncharged a-contact) is possible.

CITY MULTI® and Lossnay® Interlocked

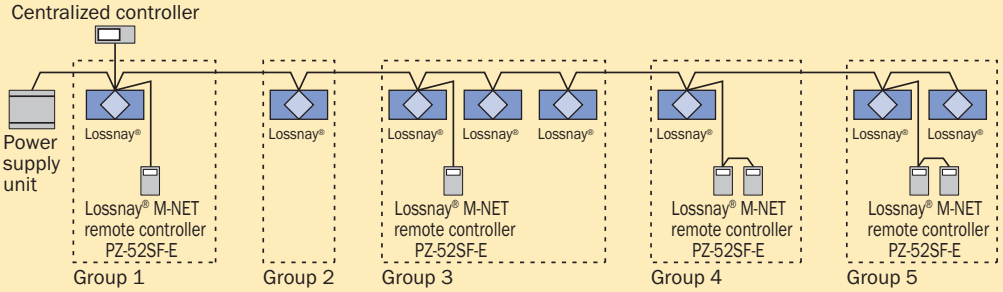
M-NET SYSTEM

Air-conditioning device and system control



It is possible to operate 16 indoor units per 1 Lossnay®

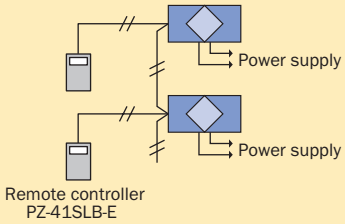
Centralized Management System



Control of start/stop, fan speed and ventiliation mode is possible from the Lossnay® M-NET remote controller PZ-52SF- E
Control of start/stop, fan speed and ventiliation mode is possible from the centralized controller.
It is possible to set a maximum of 16 units for 1 group.

Note: In the LGH-F1200RX type, there are two circuit boards installed in each unit, so count each unit as two Lossnay® units.

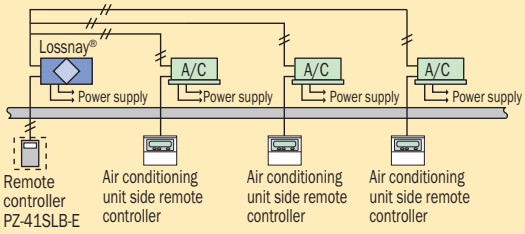
Two remote controller system with multiple Lossnay units



It is also possible to operate two remote controller units when using multiple Lossnay® units.

Interlocking multiple units

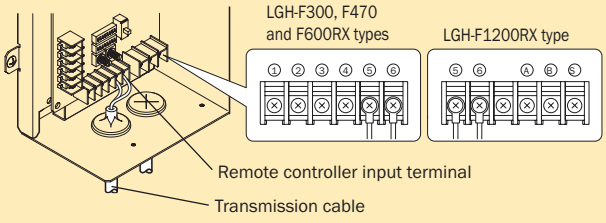
When the operation signal is an uncharged a-contact signal



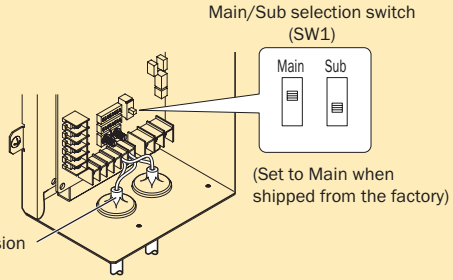
Interlocking is possible from multiple air-conditioning units, etc. (excluding pulse input)
(Separately sold parts are necessary depending on the operation signal).

Use Lossnay® remote controllerPZ-41SLB-E
(Do not use PZ-52SF-E).

Lossnay® transmission connection terminal

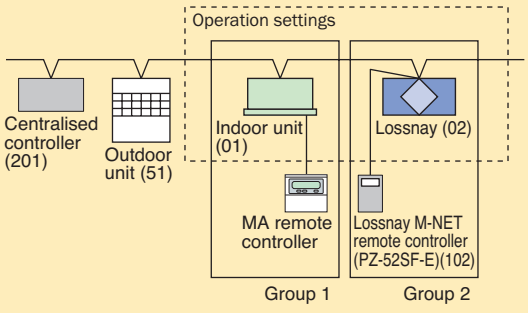


Setting



Interlocking/individual joint systems

By making the group setting, interlock settings have become possible. (Joint use of the CITY MULTI® remote controller and Lossnay remote controller is possible.)



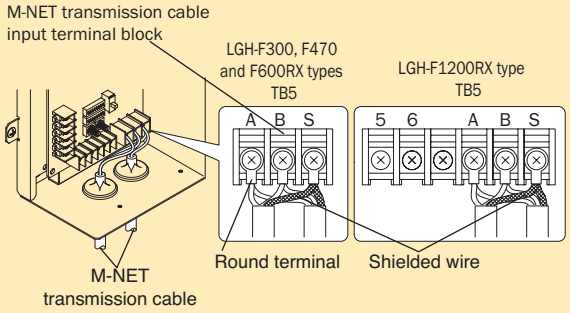
( ) address

Applicable indoor units use MA remote contoller models.

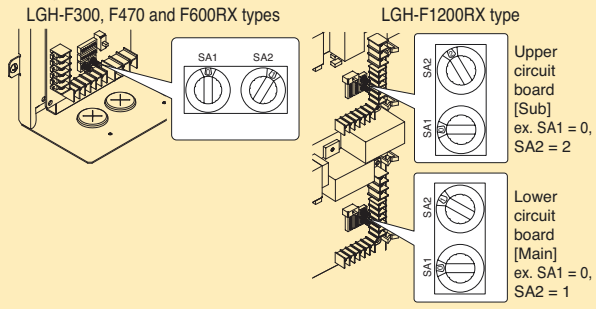
Do not set the air-conditioning unit and Lossnay® unit to be part of the same group.

Use Lossnay® M-NET remote controllerPZ-52SF-E.
(Do not use PZ-41SLB-E).

Lossnay® transmission connection terminal



Setting



When the address number has been changed, the data in the memory is automatically reset.

System Selection

Interlocked with CITY MULTI®

○ Available
× Not available

Lossnay operation when indoor unit is stopped	○
Lossnay stopping when indoor unit is operating	○
Selecting Lossnay fan speed	
When interlocked with indoor unit for compatibility with R22, R407C and R410A	High/Low
Ventilation mode	Fixed to automatic
Filter maintenance indicator	○
Lossnay error indicator	○
Delayed operation - selectable times	○
External control operating mode selection	×
Number of indoor units for interlocked group setting with one Lossnay unit	16 units
Number of Lossnay units for interlocked group setting with one indoor unit	1 unit

Interlocked with Mr. Slim®

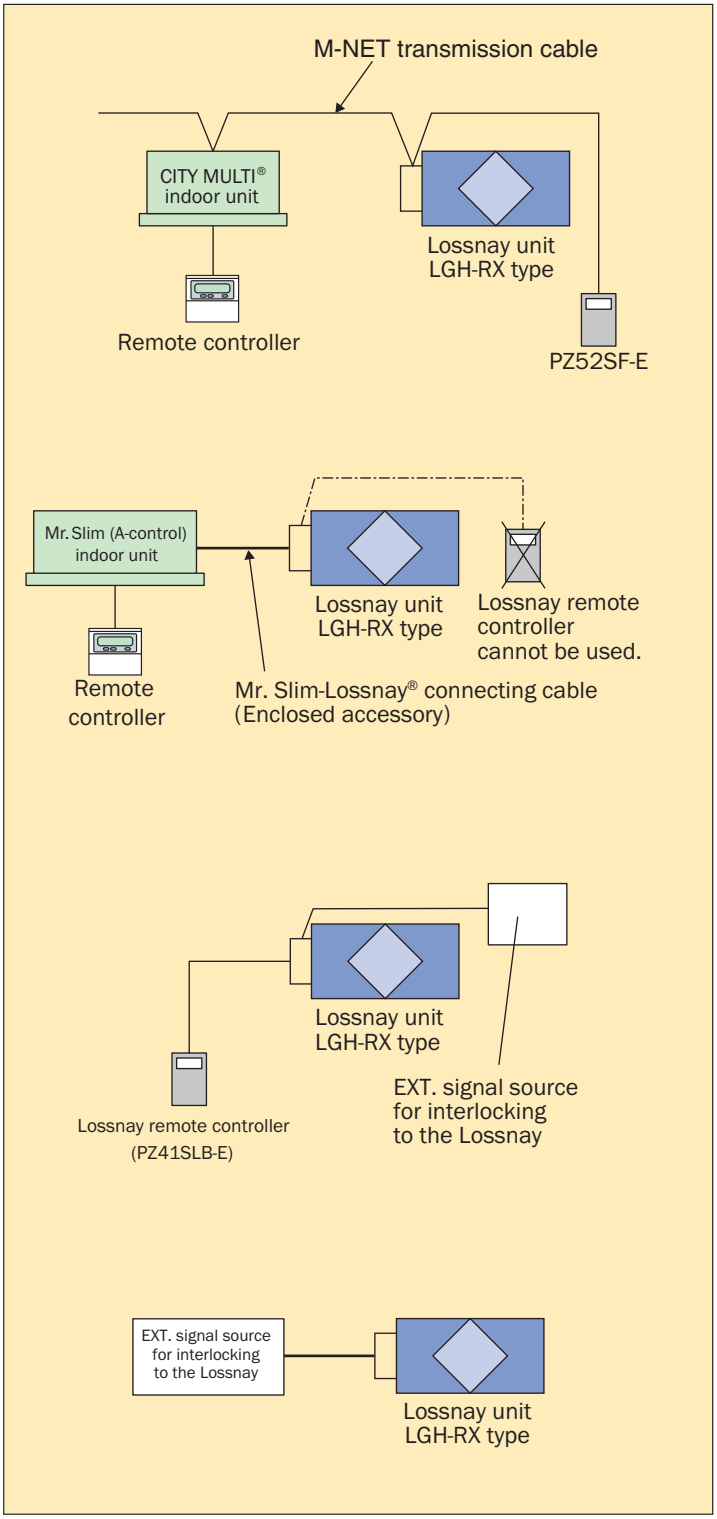
When using A-control remote controller	
Lossnay operation when indoor unit is stopped	○
Lossnay stopping when indoor unit is operating	×
Lossnay fan speed selection	High/Low
Other common items	
Lossnay error indicator	×
Ventilation mode	Fixed to automatic
Filter maintenance indicator	×
Delayed operation - selectable times	○
External control operating mode selection	×
Number of indoor units for interlocked group setting with one Lossnay unit	1 unit
Number of Lossnay units for interlocked group setting with one indoor unit	1 unit

Independent Lossnay® Unit
(not interlocked with CITY MULTI® or Mr. Slim® systems)

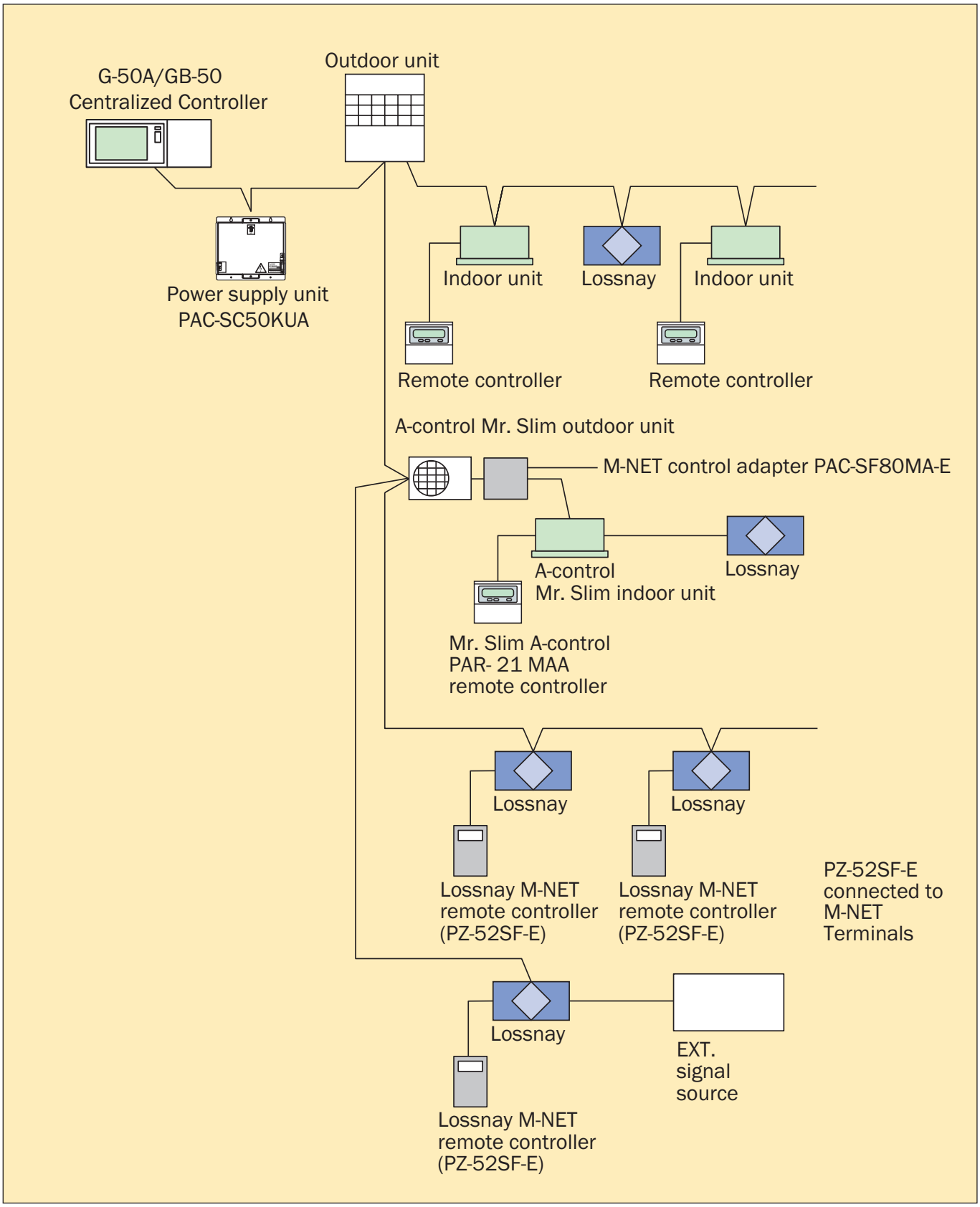
Start/Stop	○
Fan speed selection	High/Low
Ventilation mode	Energy Recovery By-pass/ Auto
Filter maintenance indicator	○
Lossnay error indicator	○
Delayed operation	○
External control operating mode selection	○
Number of Lossnay units (In the case of LGH-200RX type, count each unit as two for calcultion)	15 units
Number of remote controllers	2 units

Interlocked with external device (BMS)

Start/Stop	○
Fan speed selection	Fixed to high
Ventilation mode switching	Fixed to automatic
Filter maintenance indicator	×
Lossnay error indicator	×
Delayed operation	○
External control operating mode selection	○



Centralized Control System with CITY MULTI®



Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired ISO 9001 certification under Series 9000 of the International Standard Organization (ISO), based on a review of quality warranties for the production of refrigeration and air conditioning equipment.

ISO Authorization System
The ISO 9000 series is a plant authorization system relating to quality warranties as stipulated by the ISO. ISO 9001 certifies quality warranties based on the "design, development, production, installation, and auxiliary services" for products built at an authorized plant.

Mitsubishi Electric Air Conditioning & Refrigeration Systems Works acquired environmental management system standard ISO 14001 certification.

The ISO 14000 series is a set of standards applying to environmental protection set by the International Standard Organization (ISO).

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