



ENERGY RECOVERY VENTILATORS



FRESH AIR SOLUTIONS



- Features the patented Mitsubishi Lossnay core
- Use with City Multi Systems or in stand-alone applications
- Reduces cooling and heating load, while improving Indoor Air Quality all year long with no cross-contamination
- No condensation drains
- Built-in frost prevention cycle for Canadian climate
- Free cooling with bypass economizer damper







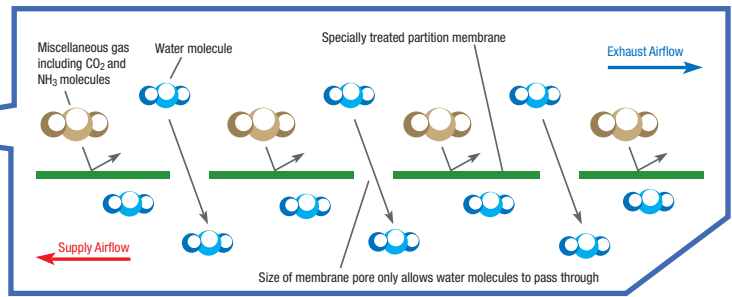
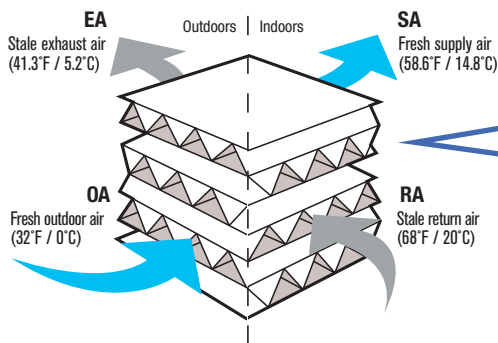
 **MITSUBISHI ELECTRIC**
Changes for the Better

Energy Recovery & Fresh Air Ventilation

From large hotels and building complexes to schools and hospitals, Lossnay Energy Recovery Ventilators are the ideal solution for a wide variety of commercial applications.

Our advanced Lossnay systems extract stale indoor air and replace it with fresh air, saving energy in the process, along with an extremely efficient energy recovery operation.

	LGH-50RX3-CAN	LGH-100RX3-CAN	LGH-200RX3-CAN
Features			
Airflow - CFM (m³/h)	300 CFM (500 m³/h)	600 CFM (1000 m³/h)	1,200 CFM (2000 m³/h)
Temperature Recovery Efficiency	81%	79%	79%
Enthalpy Recovery Efficiency	75%	73%	74%
Noise (Low Fan Speed)	24dB(A)	28dB(A)	30dB(A)
Power Consumption	116 - 280W	334 - 654W	676 - 1290W



Lossnay

All our Lossnay energy recovery ventilators consist of 3 major components including the patented Mitsubishi Lossnay Core.

The **Exhaust Air Fan** draws stale indoor air through the Lossnay Core and discharges it outdoors.

The **Supply Air Fan** draws fresh outdoor air through the Lossnay Core in the opposite direction and releases it into the building.

Inside the **Lossnay Core**, both temperature and humidity (sensible and latent heat) is exchanged from one air stream to another through the cross-flow, plate-fin total heat exchanger. The partition plates completely separate the fresh and exhaust air streams, ensuring that only fresh air is introduced to the indoor environment with no cross-contamination. Through the specially treated membrane, temperature is transferred by conduction, while humidity is transferred through the membrane pores so small that only airborne water molecules can pass through. This greatly reduces gas transfer ratio and achieves high heat recovery efficiency.

Lossnay ERVs can be installed and interlocked with City Multi operation, or as independently operating units.

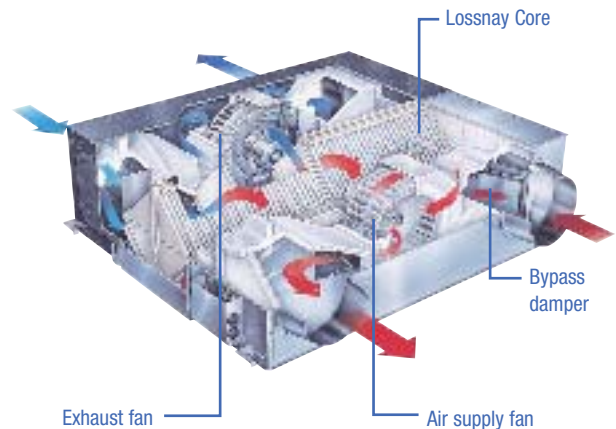
Lossnay and GreenSpec

Mitsubishi Electric is a committed leader in designing and manufacturing 'Green' products and systems for industrial applications. As such, Lossnay systems are engineered to conserve energy while managing loads, and are excellent solutions for the continuous removal of indoor airborne pollutants.

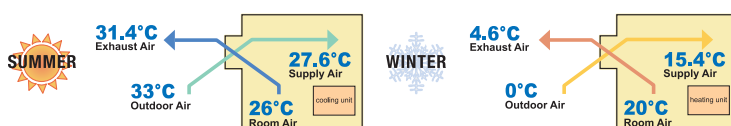
- Exceptional durability; low maintenance
- Reduces heating and cooling loads
- Removes indoor pollutants
- Conserves energy and manages loads



Lossnay Structure



Energy-Saving Ventilation - Total Heat Recovery



Lossnay can be easily and seamlessly integrated with our City Multi systems for the ultimate in indoor air quality and air comfort solutions.

Integrated control system – two non-polar communication wires are all you need to interlock Lossnay with City Multi indoor units

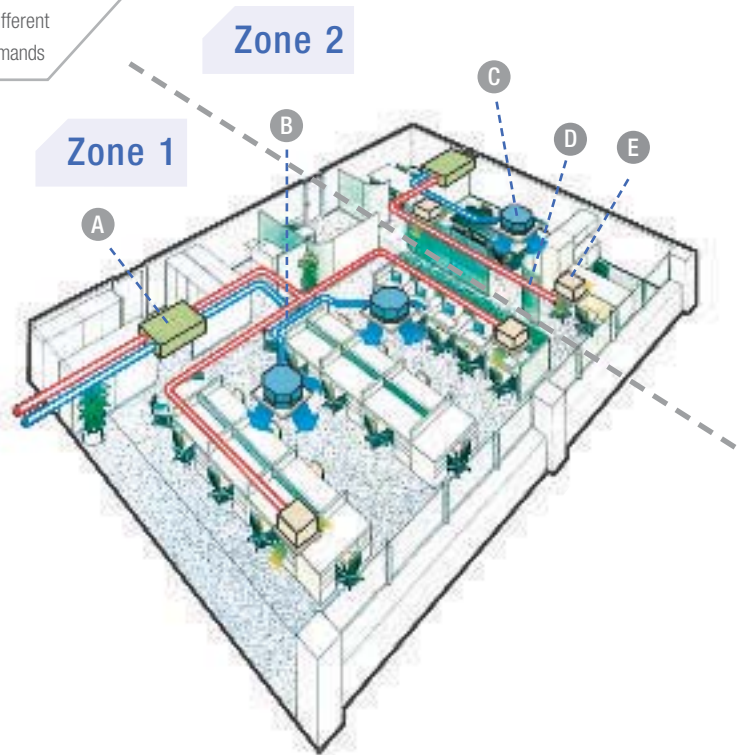
- Versatile Operation – interlock up to 16 Lossnay and City Multi indoor units into a single control group, while each unit can be zoned and operated independently
- A wide array of zone configurations and operational control groups can be set
- Each group can be assigned to different operation zones to meet different demands

Integrating Lossnay with City Multi Control & Configuration



Total Comfort & Indoor Air Quality

- A** ----- Lossnay ERV – Enthalpy heat exchanger recovers sensible and latent heat between supply and exhaust air with no cross-contamination
- B** ----- Fresh Air – Zoned approach enables the use of small diameter ducts with diameters as small as 8” that take up less space than central fresh air ducting systems
- C** ----- City Multi Indoor Unit – Fresh air is mixed with conditioned air in the indoor unit
- D** ----- Exhaust Air
- E** ----- Exhaust Ceiling Grille



The Ins and Outs of Fresh Air Ventilation

A healthy air ventilation system makes for a healthy building year-round.

- Constant supply of fresher, cleaner air improves indoor air quality
- Energy-saving ventilation – reduces heating and cooling load
- Maintains interior humidity in the winter – reduces static cling, minimizes discomfort caused by dry air
- Removes excess humidity in the summer by extracting it from incoming fresh air
- No condensation drain; no defrost mechanism required
- No moving parts in core means longer life and lower maintenance
- Since Lossnay is a static core, there is no gas leakage. No purge air is needed, maximizing efficiency with the minimal operating cost
- Easy to install and maintain
- Industry-leading warranty
- Extremely quiet operation – as low as 24dB(A) – keeping every occupant comfortable and undisturbed

WHY IS LOSSNAY IMPORTANT?

In order to construct buildings that conserve energy and ensure an air-tight environment, the amount of outdoor air provided for ventilation was drastically reduced. In many cases, this has led to the inability to maintain the health and comfort of building occupants. Symptoms associated with bad IAQ include general discomfort, lethargy and allergic reactions to airborne particles. This is commonly referred to as Sick Building Syndrome. And with people spending up to 90% of their time indoors, this is a serious issue.

With Lossnay technology, Indoor Air Quality is improved by introducing fresh outdoor air while eliminating cross-contamination between fresh and stale air. It ensures only clean air is circulating throughout the environment while continuing to conserve energy with high energy recovery efficiency.

LGH-50RX₃-CAN

Control signal	Serial communication (M-NET transmission)					
Heat exchange system	Air-to-air total heat (sensible heat + latent heat) exchange					
Heat exchanger material	Partition, spacing plate-special treated paper					
Cladding	Galvanized steel sheet					
Heat insulating material	Self-extinguishing urethane foam					
Motor	Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units					
Blower	222mm dia. centrifugal fan					
Filter material	Non-woven fabrics filter (Gravitational method 82%)					
Operating environment (Supply air)	-10°C to +40°C, RH 80% or less (-15°C (*1) to +40°C, RH 80% or less)					
Functions	Lossnay ventilation/Bypass ventilation High (Extra high) - Low switching					
Weight	33 kg					
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)	1.23-1.25	1.00-1.04	0.56-0.60	1.28-1.37	1.02-1.11	0.57-0.62
Power consumption (W)	253-278	207-237	116-139	254-280	207-239	116-139
Air volume (m ³ /h)	500	420	260	500	420	260
(L/s)	139	117	72	139	117	72
External static pressure (Pa)	110-205	70-145	30-70	110-205	70-145	30-70
Temperature recovery efficiency (%)	73	75	81	-	-	-
Enthalpy recovery efficiency (%)	66	69	75	-	-	-
Heating efficiency (%)	47	49	57	-	-	-
Cooling efficiency (%)	-	-	-	-	-	-
Noise dB(A)	33-36	30-32	24-25	33-36	30-32	24-25
Measured at 1.5m under the center of panel						
Air outlets	41-44	36-40	29-31	41-44	36-40	29-31
Starting current	Under 2.0A or less					
Insulation resistance	10MΩ or more (500V megger)					
Dielectric strength	AC 1500V 1 minute					

LGH-100RX₃-CAN

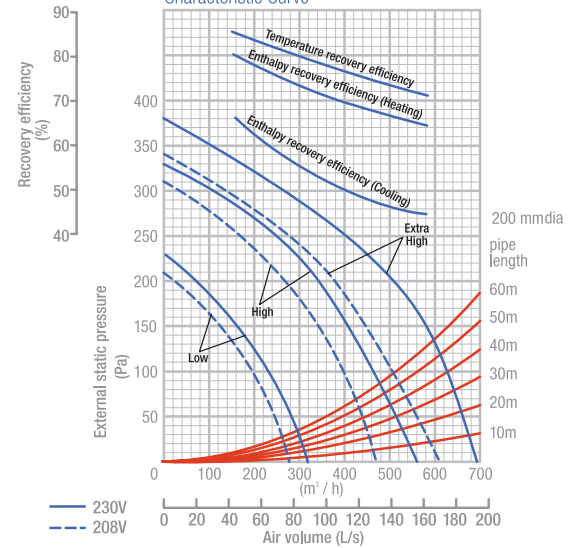
Control signal	Serial single communication (M-NET transmission)					
Heat exchange system	Air-to-air total heat (sensible heat + latent heat) exchange					
Heat exchanger material	Partition, spacing plate-special treated paper					
Cladding	Galvanized steel sheet					
Heat insulating material	Self-extinguishing urethane foam					
Motor	Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 2 units					
Blower	245mm dia. centrifugal fan					
Filter material	Non-woven fabrics filter (Gravitational method 82%)					
Operating environment (Supply air)	-10°C to +40°C, RH 80% or less (-15°C (*1) to +40°C, RH 80% or less)					
Functions	Lossnay ventilation/Bypass ventilation High (Extra high) - Low switching					
Weight	72 kg					
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)	2.9-2.9	2.5-2.5	1.6-1.7	2.8-2.8	2.5-2.5	1.6-1.7
Power consumption (W)	596-654	526-578	336-390	590-648	521-575	334-396
Air volume (m ³ /h)	1000	900	650-700	1000	900	650-700
(L/s)	278	250	181-194	278	250	181-194
External static pressure (Pa)	140-205	110-170	60-100	140-205	110-170	60-100
Temperature recovery efficiency (%)	74	76	79-79	-	-	-
Enthalpy recovery efficiency (%)	68	69	73-72	-	-	-
Heating efficiency (%)	48	50	56-54	-	-	-
Cooling efficiency (%)	-	-	-	-	-	-
Noise dB(A)	37-39	35-37	28-30	38-40	36-39	27-31
Measured at 1.5m under the center of panel						
Air outlets	45-47	42-45	34-37	45-48	43-45	34-37
Starting current	Under 5.0A or less					
Insulation resistance	10MΩ or more (500V megger)					
Dielectric strength	AC 1500V 1 minute					

LGH-200RX₃-CAN

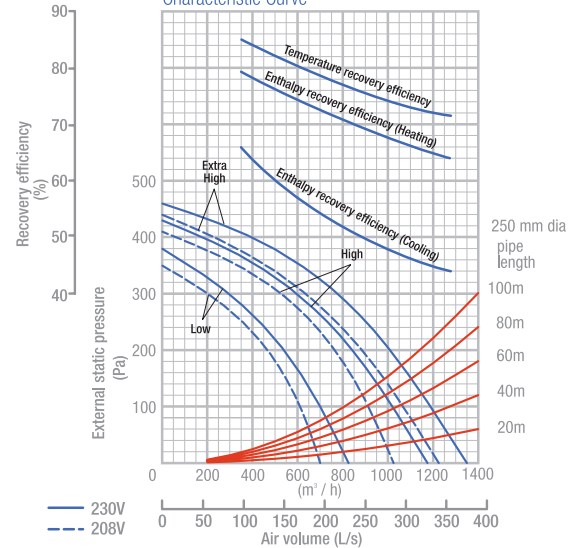
Control signal	Serial single communication (M-NET transmission)					
Heat exchange system	Air-to-air total heat (sensible heat + latent heat) exchange					
Heat exchanger material	Partition, spacing plate-special treated paper					
Cladding	Galvanized steel sheet					
Heat insulating material	Self-extinguishing urethane foam					
Motor	Totally enclosed capacitor permanent split-phase induction motor, 4 poles, 4 units					
Blower	245mm dia. centrifugal fan					
Filter material	Non-woven fabrics filter (Gravitational method 82%)					
Operating environment (Supply air)	-10°C to +40°C, RH 80% or less (-15°C (*1) to +40°C, RH 80% or less)					
Functions	Lossnay ventilation/Bypass ventilation High (Extra high) - Low switching					
Weight	179 kg					
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)	5.7-5.7	5.1-5.1	3.3-3.4	5.6-5.6	5.0-5.0	3.3-3.4
Power consumption (W)	1200-1290	1058-1161	682-786	1173-1265	1040-1135	676-776
Air volume (m ³ /h)	2000	1800	1250-1350	2000	1800	1250-1350
(L/s)	556	500	374-375	556	500	347-375
External static pressure (Pa)	115-200	90-160	45-90	115-200	90-160	45-90
Temperature recovery efficiency (%)	73	75	79-78	-	-	-
Enthalpy recovery efficiency (%)	68	69	74-73	-	-	-
Heating efficiency (%)	48	50	56-55	-	-	-
Cooling efficiency (%)	-	-	-	-	-	-
Noise dB(A)	39-41	37-39	30-32	40-42	38-40	31-33
Measured at 1.5m under the center of panel						
Air outlets	50-52	47-49	39-41	50-52	47-49	39-41
Starting current	Under 9.5A or less					
Insulation resistance	10MΩ or more (500V megger)					
Dielectric strength	AC 1500V 1 minute					

- *Note
 1. Defrosting mode operates when supply air temperature falls below -10°C (Air supply fan drives 60 min. ON/10 min. OFF).
 2. The current, power consumption and efficiency are based on the above air.
 3. The noise at the air outlets is the values at a 45° angle, 1.5 meters in front of the unit.
 4. Fan speed can be switched between high and low.
 5. Air conditioners as per ARI standard 1060 - 2000.

Characteristic Curve



Characteristic Curve



Characteristic Curve

