ENERGY RECOVERY VENTILATORS

FOR TODAY’S INDOOR ENVIRONMENTAL QUALITY REQUIREMENTS
OPTIMIZING AIR QUALITY INSIDE A BUILDING

Lossnay is a total heat exchange ventilation system that uses paper characteristics to perform temperature (sensible heat) and humidity (latent heat) exchange.

After launching its first generation in 1970, Lossnay has evolved by always looking ahead of the air conditioning needs of the times, which continue to diversify. The technology is used in a wide range of applications and units have been widely adopted in residences, office buildings, hospitals, schools, etc.
The Need For Fresh Air

Poor air quality can be attributed to many problems arising in the workplace and in the home. It is believed to contribute to a significant loss in productivity, low morale and higher rates of sickness. Providing good ventilation in residential and commercial buildings is to provide conditions under which people can live and work comfortably and safely.

Improved Ventilation With Maximized Comfort

Air similar to the conditions of the cooled (dehumidified) indoor air is supplied.

**IN SUMMER**

<table>
<thead>
<tr>
<th><strong>LOSSNAY</strong></th>
<th><strong>Conventional Ventilation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry bulb temperature (°F)</td>
<td>78.8°F</td>
</tr>
<tr>
<td>Absolute humidity (lb/klb (DA))</td>
<td>10.5 lb/klb (DA)</td>
</tr>
<tr>
<td>Relative humidity (%)</td>
<td>56%</td>
</tr>
<tr>
<td>Enthalpy (Btu/lb)</td>
<td>5.1 Btu/lb</td>
</tr>
<tr>
<td>Outdoor temperature (°F)</td>
<td>32°F</td>
</tr>
<tr>
<td>Outdoor air load (Btu/h)</td>
<td>18,494 Btu/h</td>
</tr>
<tr>
<td>Outdoor air load ratio (%)</td>
<td>49.8%</td>
</tr>
</tbody>
</table>
| **IN WINTER**

Air similar to the conditions of the heated (humidified) indoor air is supplied.

<table>
<thead>
<tr>
<th><strong>LOSSNAY</strong></th>
<th><strong>Conventional Ventilation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry bulb temperature (°F)</td>
<td>32°F</td>
</tr>
<tr>
<td>Absolute humidity (lb/klb (DA))</td>
<td>1.9 lb/klb (DA)</td>
</tr>
<tr>
<td>Relative humidity (%)</td>
<td>56%</td>
</tr>
<tr>
<td>Enthalpy (Btu/lb)</td>
<td>9.7 Btu/lb</td>
</tr>
<tr>
<td>Outdoor temperature (°F)</td>
<td>32°F</td>
</tr>
<tr>
<td>Outdoor air load (Btu/h)</td>
<td>14,099 Btu/h</td>
</tr>
<tr>
<td>Outdoor air load ratio (%)</td>
<td>35.9%</td>
</tr>
</tbody>
</table>

The Need For Appropriate Humidity Management

Viruses such as influenza can be present and potentially harmful in low humidity and dry environments. During the winter, keeping an appropriate humidity and heating temperature can help prevent influenza.

Activity Range Of Microorganisms By Humidity Range

- Optimum Range for Human Health
- Size of Energy

**Bacteria**

**Virus**

**Mold**

**Mite**

Humidity (%) 10 20 30 40 50 60 70 80 90

Source: ASHRAE Trans. 91 - 18 (1985)
Wide Range Air Volume

Unlike the air volume produced by previous models, in which there are the three settings of “High,” “Low,” and “Extralow,” the new model is equipped with four fan speeds. In addition, each speed has a range setting of 25, 50, 75 and 100%, allowing much finer air volume control. When used in combination with the CO2 sensor or timer function, the air volume can be controlled according to conditions that realize better performance and reduce power consumption.

Air Volume Control By Co2 Sensor

An external CO2 sensor can be connected directly to the Lossnay RVX units allowing the fan speed to vary according to the CO2 levels detected. When the CO2 concentration is low, the unit can operate at a lower air volume compared to previous models and this improves total heat exchange efficiency and contributes to energy saving.

Weekly Timer

The operation pattern for each day of the week, ON / OFF and air volume can be set using the weekly timer function (up to eight zones per day). Compared to previous models, much finer operation control contributes to enhanced energysaving operation. With a wider range of air volumes the Lossnay RVX units enable optimised ventilation not just at different times of the day, but for different days of the week as well, enabling further energy savings.
**Fan Speed Adjustment Function**

The default fan speed value can be adjusted slightly. Use the PZ-61DR-E remote controller to reset the speed.

1) Considering the total hours of Lossnay operation (filter clogging), the fan power can be adjusted automatically after a given period of time.
2) After the unit is installed, when if the air volume is slightly lower than the desired airflow, it is possible to make fine adjustments.

**Low Noise Design**

Providing a range of air volume for each fan speed, sound levels can be reduced to achieve low noise.

**Power Consumption Reduced Further With Introduction Of DC Motor**

A high efficiency DC motor has been adopted. Compared to models with an AC motor, power consumption is reduced.

**Flexibility In Setting Night Purge And Auto Ventilation Mode Has Improved**

**NIGHT PURGE**

During the summer season, the Night Purge mode draws cooler outside air into the room at night. This energy conservation mode reduces the load when the air conditioning is started up the next morning. With previous models, the unit is operated with only one condition that is set initially. With new models, it is possible to freely set the night purge operation for the start conditions, air volume, and operation time and flexibly answer to the operating environment requests that vary with each customer.

* Settings can only be made using the PZ-61DR-E
Flexibility In Setting Night Purge And Auto Ventilation Mode Has Improved

VENTILATION MODE SWITCHING

With operation from PZ-61DR-E, it is possible to select manual switching or automatic switching between “Lossnay ventilation (with heat exchange)” and “Bypass ventilation (without heat exchange)”.

* Settings can only be made using the PZ-61DR-E

With the previous model, the auto ventilation mode is based on the initial setting condition; however, with the new model it becomes possible to set three setting points, as shown in the table on the right.

* Settings can only be made using the PZ-61DR-E

New Remote-Control Design

The new remote controller improves installation appearance. Full-dot backlit LCD makes it easy to see and control the unit.

Improved Air Volume Setting Flexibility When Simultaneously Operating With Air Conditioner

For the specified high and low air volume of the air conditioner, two types of air volumes can be selected, respectively, providing more flexible setting options.

Improved Control With A BMS System

Using a 0-10V signal from the building management system, the air volume of the Lossnay unit can be changed.
The New Remote Controller PZ-61DR-E Enables Simple Control Setting

Centralized Controller System
FEATURES OF NEW CENTRALIZED CONTROLLER “AE-200A”

In An Easy And Flexible Manner, An Optimum System Can Be Established According To The Scale Of Facilities

- Implements control on up to 50 indoor units of air-conditioning equipment.
- By using three units of expansion controller “AE-50A”, the centralized control is implemented for the maximum of 200 indoor units.
- Connection with PC allows implementation of control on more than 200 indoor units via Web browser.\(^1\)

\(^1\). Please contact your local distributor for when the feature is supported.

Connect Ducts 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 can be interchangeably placed in two different positions. This flexibility allows for installations close to the surface of a wall and helps avoid cases where the stale air exhaust vent would be blocked by an obstruction of some kind. This makes both planning and installation that much simpler.

<table>
<thead>
<tr>
<th>Standard Installation</th>
<th>Installation with duct direction changed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A space is necessary to prevent the influx of rainwater.</td>
<td>Can be installed close to the surface of the wall.</td>
</tr>
<tr>
<td>Flange ( \rightarrow ) Plate</td>
<td>Avoid installations where the stale air exhaust aperture would be blocked by lighting or air-conditioning units.</td>
</tr>
<tr>
<td>Changing the duct direction</td>
<td>Remove the flange (factory-standard direction) and the side panel plate and switch their placements. They are both equipped with screw stoppers making the exchange easy. The direction of the ducts can only be changed on the outside (OA and EA).</td>
</tr>
<tr>
<td>Flange ( \rightarrow ) Plate</td>
<td>The inside cannot be changed (OA and EA).</td>
</tr>
</tbody>
</table>

OA/EA square duct (LGH-150 / 200R)

OA/EA is square duct. This simplifies installation and reduces total installation time.
List of Remote Controller Settings and Functions

The remote controller provides a wide range of functions and features other than the main functions described below, such as sophisticated energy saving control and an easy to see, easy to use interface.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Operations</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controllable number of unit</td>
<td>Up to 50 units/50 groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ON/OFF</td>
<td>ON and OFF operation for the air conditioning units and general equipment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation mode</td>
<td>Switches between several operation modes depending on the air conditioning unit. Air conditioning unit: Cool/Dry/Auto/Sys/Day/Heat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOSSNAY unit</td>
<td>Heat Recovery/Bypass/Auto</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAH, CRSH, Air To Water (PAFY) units</td>
<td>Heating, Heating ECO, Hot Water, Anti-freeze, Cooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auto mode is for CITY MULTI-RZ and WRZ series only.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature setting</td>
<td>Cool:Dry: 19℃ (66°F) - 26℃ (79°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat: 4.5℃ (40°F) - 28℃ (82°F)</td>
<td>Auto: 19℃ (66°F) - 28℃ (82°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The range of temperature depends on the air conditioning unit.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fan speed setting</td>
<td>Models with 4 air flow speed settings: H/Hi/Mid/Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Models with 3 air flow speed settings: H/Hi/Low</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fan speed setting (including Auto) varies depending on the model.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air flow direction setting</td>
<td>Air flow direction angles, 4-angles or 5-angles Swing (Auto / Lower cannot be set)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schedule operation</td>
<td>Weekly schedule can be set by groups based on daily operation pattern.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit/prohibit local operation</td>
<td>Individually prohibits operation of each local remote controller function.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ON/OFF, Operation mode, Set temperature, Filter sign reset, Air Direction*, Fan Speed*, Timer*)</td>
<td>&quot;This function depends on the model.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indoor unit temperature</td>
<td>Measures the initial temperature of the indoor unit only when the indoor unit is operating.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>When an error is currently occurring on an air conditioning unit, the affected unit and the error code are displayed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test run</td>
<td>This operates air conditioning units in test run mode.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ventilation interlock</td>
<td>The ventilation unit (LOSSNAY) is able to automatically start its operation when operation of the interlocked indoor unit starts.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External input/output</td>
<td>By using optional external input/output adapter (PAC-YG53HA-E) you can set and monitor the following input. By level signal: &quot;Catch ON/OFF&quot;, &quot;Catch emergency stop&quot; By pulse signal: &quot;ON/OFF&quot;, &quot;Enable/disable local remote controller&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Management</td>
<td>Bar Graph: Indoor unit Electric Energy, FAN operation time, Thermo-OON time, TOTAL, Cooling, Heating) can be displayed hour, day, and monthly. Line Graph: Outdoor temp., Room temp., Temp. (Heating, Cooling)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced HVAC controller (AHCU)</td>
<td>The status of AHCU can only be monitored.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smart ME controller</td>
<td>The status of sensor on this controller can be monitored.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smartphone/Tablet</td>
<td>The specified Web browser on iOS and Android OS can monitor and operate AE-290E. 2”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Web design</td>
<td>The web screen design is renewed for user friendly interface. 2”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial setting software</td>
<td>The initial setting can be configured without the cooperation of AE-290E. 2”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assortment of power consumption</td>
<td>Assortment of power consumption can be calculated on AE-290 without TG-2000A. 2”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BACnet* communication</td>
<td>BACnet® communication: ANSI/ASHRAE 135-2010 (ISO16484-5) is supported and approved by the BACnet 2”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*2 Please contact your local distributor for when the feature is supported.

<table>
<thead>
<tr>
<th>Function (Communicating mode)</th>
<th>PZ-61DR-E</th>
<th>PZ-43SMF-E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan speed selection</td>
<td>4 fan speeds</td>
<td>2 of 4 fan speeds</td>
</tr>
<tr>
<td>Ventilation mode selection</td>
<td>Energy recovery / Bypass / Auto</td>
<td>Energy recovery / Bypass / Auto</td>
</tr>
<tr>
<td>Right-angle (time)</td>
<td>Any time selectable</td>
<td>No</td>
</tr>
<tr>
<td>Right-angle (fan speed)</td>
<td>Selectable from 4 fan speeds</td>
<td>No</td>
</tr>
<tr>
<td>Bypass temp, free setting</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Heater-On temp, free setting</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Fan power up after installation</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>D - 1/WDC external input</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ON/OFF timer</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Auto-Off timer</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Weekly timer</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Operation restrictions (ON/OFF, Ventilation mode, fan speed)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Operation restrictions (Fan speed skip setting)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Screen contrast adjustment</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Language selection</td>
<td>Yes (5 languages)</td>
<td>No (English only)</td>
</tr>
<tr>
<td>Initialize remote controller</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Filter cleaning sign</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Loxozone core cleaning sign</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Error indication</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Error history</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>DA/RA / RA temp. display</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
CONTROLLERS

Lossnay Remote Controller (PZ-61DR-E)

LOSSNAY Remote Controller (PZ-43SMF-E)
Standard Filter
Replacement components for the standard air filter supplied with the LOSSNAY LGH main unit.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimension (in.)</th>
<th>Number of Filters Per Set</th>
<th>Applicable Model</th>
<th>Filter Sets Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>Supply</td>
</tr>
<tr>
<td>PZ-50RF8-E</td>
<td>18-1/2</td>
<td>7-13/64</td>
<td>19/32</td>
<td>2</td>
</tr>
<tr>
<td>PZ-65RF8-E</td>
<td>17-3/4</td>
<td>8-37/64</td>
<td>19/32</td>
<td>2</td>
</tr>
<tr>
<td>PZ-80RF8-E</td>
<td>17-3/4</td>
<td>9-9/16</td>
<td>19/32</td>
<td>2</td>
</tr>
<tr>
<td>PZ-100RF8-E</td>
<td>22-1/4</td>
<td>9-9/16</td>
<td>19/32</td>
<td>2</td>
</tr>
</tbody>
</table>

High-Efficiency Filter
This high-efficiency filter can be incorporated inside the LOSSNAY unit without the need to attach parts from other systems, as done to date. The main unit external dimensions are unchanged.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimension (in.)</th>
<th>Number of Filters Per Set</th>
<th>Applicable Model</th>
<th>Filter Sets Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>Supply</td>
</tr>
<tr>
<td>PZ-50RFM-E</td>
<td>18-17/64</td>
<td>6-57/64</td>
<td>63/64</td>
<td>2</td>
</tr>
<tr>
<td>PZ-65RFM-E</td>
<td>16-13/16</td>
<td>8-15/64</td>
<td>63/64</td>
<td>2</td>
</tr>
<tr>
<td>PZ-80RFM-E</td>
<td>17-9/16</td>
<td>9-19/64</td>
<td>63/64</td>
<td>2</td>
</tr>
<tr>
<td>PZ-100RFM-E</td>
<td>22-1/64</td>
<td>9-19/64</td>
<td>63/64</td>
<td>2</td>
</tr>
</tbody>
</table>
### LGH-F300RVX-E

#### Heat exchange system
Heat recovery ventilating system

#### Heat exchanger material
Special treated paper plate heat exchanger

#### Cladding
Galvanized steel sheet

#### Heat insulation material
Self-extinguishing urethane foam

#### Motor
EC motor

#### Blower
8 3/4 in. (220mm) diameter centrifugal fan

#### Filter
Non-woven fabrics filter (EU-G3)

#### Surrounding air condition
Shall be between 14°F (-10℃) and 104°F (+40℃), 80%RH or less

#### Suction air condition
Shall be lower than 104°F (+40℃), 80%RH

#### Function
Heat recovery ventilation/ Bypass ventilation, Fan speed 1,2,3,4

#### Weight
75lbs (34kg)

#### Electrical power supply
Single phase 208-230V 60Hz

#### Specifications
<table>
<thead>
<tr>
<th>MODEL</th>
<th>LGH-F300RVX-E</th>
<th>SIGN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat exchange system</td>
<td>Heat recovery ventilating system</td>
<td></td>
</tr>
<tr>
<td>Heat exchanger material</td>
<td>Special treated paper plate heat exchanger</td>
<td></td>
</tr>
<tr>
<td>Cladding</td>
<td>Galvanized steel sheet</td>
<td></td>
</tr>
<tr>
<td>Heat insulation material</td>
<td>Self-extinguishing urethane foam</td>
<td></td>
</tr>
<tr>
<td>Motor</td>
<td>EC motor</td>
<td></td>
</tr>
<tr>
<td>Blower</td>
<td>8 3/4 in. (220mm) diameter centrifugal fan</td>
<td></td>
</tr>
<tr>
<td>Filter</td>
<td>Non-woven fabrics filter (EU-G3)</td>
<td></td>
</tr>
<tr>
<td>Surrounding air condition</td>
<td>Shall be between 14°F (-10℃) and 104°F (+40℃), 80%RH or less</td>
<td></td>
</tr>
<tr>
<td>Suction air condition</td>
<td>Shall be lower than 104°F (+40℃), 80%RH</td>
<td></td>
</tr>
<tr>
<td>Supply fan operation under low outdoor temperature</td>
<td>14°F (-10℃) to 5°F (-15℃) : Intermittent operation 60 min ON, 10 min OFF. 5°F (-15℃) or less : Intermittent operation 55 min OFF, 5 min ON.</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>75lbs (34kg)</td>
<td></td>
</tr>
<tr>
<td>Electrical power supply</td>
<td>Single phase 208-230V 60Hz</td>
<td></td>
</tr>
</tbody>
</table>

#### Ventilation mode
<table>
<thead>
<tr>
<th>Ventilation mode</th>
<th>Heat recovery mode</th>
<th>Bypass mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan speed</td>
<td>SP4</td>
<td>SP3</td>
</tr>
<tr>
<td>Running current [A]</td>
<td>1.17-1.06</td>
<td>0.64-0.55</td>
</tr>
<tr>
<td>Input power [W]</td>
<td>155</td>
<td>78</td>
</tr>
<tr>
<td>Air volume [CFM]</td>
<td>300</td>
<td>225</td>
</tr>
<tr>
<td>Air volume [m³/h]</td>
<td>510</td>
<td>382</td>
</tr>
<tr>
<td>W/CFM</td>
<td>0.52</td>
<td>0.35</td>
</tr>
<tr>
<td>External static pressure [Pa]</td>
<td>0.46</td>
<td>0.26</td>
</tr>
<tr>
<td>Exchange efficiency (%)</td>
<td>63.0</td>
<td>66.5</td>
</tr>
<tr>
<td>Noise [dB]</td>
<td>34.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>10MΩ or more</td>
<td></td>
</tr>
<tr>
<td>Dielectric strength</td>
<td>AC 1000V 1 minute</td>
<td></td>
</tr>
<tr>
<td>Maximum current [A]</td>
<td>2.05</td>
<td></td>
</tr>
</tbody>
</table>

#### Characteristics
- **Attention**
  1. The running current, the input power, the efficiency and the noise are based on the rating air volume. The noise is measured at 59in. under the center of the unit in an anechoic chamber.
  2. Temperature exchange efficiency (%) is an average of heating and cooling.
  3. Heat recovery ventilation mode starts automatically while detecting OA temperature lower than 8°C, even Bypass mode is selected. Remote controller continues to display “Bypass ventilation” in this case.
  4. Mitsubishi Electric measures figures in the chart according to Japan Industrial Standard (JIS B 8628-2003). The characteristic curves are measured by chamber method. Only the temperature condition of the efficiency measuring is based on AHRI 1060-2014.
  5. The noise level at 59in. away from outlets in the 45° direction is about 18dB greater than the indicated value at fan speed 4.
  6. On-site measurements by pitot tube method could be as much 20% difference from JIS test room conditions. If the measuring point is close to sources of turbulence like bends, contractions and dampers etc., it is difficult to measure air volume correctly. A straight duct length more than 10D (D=duct diameter) from the source of turbulence is recommended for correct measurement. On-site measurement should therefore be measured in accordance with BSRIA guideline (Commissioning Air Systems. Application procedures for buildings AG3/89.3(2001)).

#### Specifications
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LGH-F470RVX-E

**Heat exchange system**
Heat recovery ventilating system

**Heat exchanger material**
Special treated paper plate heat exchanger

**Cladding**
Galvanized steel sheet

**Heat insulation material**
Self-extinguishing urethane foam

**Motor**
EC motor

**Blower**
9 5/8 in. (245mm) diameter centrifugal fan

**Filter**
Non-woven fabrics filter (EU-G3)

**Surrounding air condition**
Shall be between 14°F (-10℃) and 104°F (+40℃), 80%RH or less

**Applicable air condition range**
Shall be lower than 104°F (+40℃), 80%RH of outdoor and indoor

**Weight**
110lbs (50kg)

**Electrical power supply**
Single phase 208-230V 60Hz

**Ventilation mode**
Heat recovery mode
Bypass mode

**Fan speed**
SP4
SP3
SP2
SP1
SP4
SP3
SP2
SP1

**Running current**
[A]
2.15
1.20
0.64
0.39
2.28
1.23
0.66
0.39

**Input power**
[W]
348
176
89
31
365
184
94
34

**Air volume**
[CFM]
470
353
235
118
470
353
235
118

**External static pressure**
[In.H2O]
0.60
0.34
0.15
0.04
0.60
0.34
0.15
0.04

**Exchange efficiency**
[%]
64.0
69.0
75.0
83.0

**Noise**
[dB]
34.5
30.0
23.0
18.0
36.0
30.0
23.0
18.0

**Insulation resistance**
10MΩ or more

**Dielectric strength**
AC 1000V 1 minute

**Maximum current**
[A]
3.10

Specifications:

- Filter (LGH-F470RVX-E)
- Heat recovery ventilating system
- Special treated paper plate heat exchanger
- Galvanized steel sheet
- Self-extinguishing urethane foam
- EC motor
- 9 5/8 in. (245mm) diameter centrifugal fan
- Non-woven fabrics filter (EU-G3)
- Surrounding air condition: 14°F (-10℃) to 104°F (+40℃), 80%RH or less
- Applicable air condition range:
  - Outdoor and indoor: lower than 104°F (+40℃), 80%RH
  - Intermittent operation:
    - 60 min ON, 10 min OFF
    - 55 min OFF, 5 min ON
- Weight: 110lbs (50kg)
- Electrical power supply: Single phase 208-230V 60Hz
- Fan speed: SP4, SP3, SP2, SP1
- Running current: 2.15, 1.20, 0.64, 0.39, 2.28, 1.23, 0.66, 0.39 A
- Input power: 348, 176, 89, 31, 365, 184, 94, 34 W
- Air volume: 470, 353, 235, 118 CFM
- External static pressure: 0.60, 0.34, 0.15, 0.04 In.H2O
- Exchange efficiency: 64.0%, 69.0%, 75.0%, 83.0%
- Noise: 34.5, 30.0, 23.0, 18.0 dB
- Insulation resistance: 10MΩ or more
- Dielectric strength: AC 1000V 1 minute
- Maximum current: 3.10 A

Attention:
1. Measured at 59in (1.5m) under the center of the unit in an anechoic chamber.
2. Temperature exchange efficiency (%) is an average of heating and cooling.
3. Heat recovery ventilation mode starts automatically while detecting OA temperature lower than 8°C, even Bypass mode is selected. Remote controller continues to display “Bypass ventilation” in this case.
4. Mitsubishi Electric measures figures in the chart according to Japan Industrial Standard (JIS B 8628-2003). The characteristic curves are measured by chamber method. Only the temperature condition of the efficiency measuring is based on AHRI 1060-2014.
5. The noise level at 59in. away from outlets in the 45° direction is about 24dB greater than the indicated value at fan speed 4.
6. On-site measurements by pitot tube method could be as much 20% difference from JIS test room conditions. If the measuring point is close to sources of turbulence like bends, contractions and dampers etc., it is difficult to measure air volume correctly. A straight duct length more than 10D (D=duct diameter) from the source of turbulence is recommended for correct measurement. On-site measurement should therefore be measured in accordance with BSRIA guideline (Commissioning Air Systems. Application procedures for buildings AG3/89.3(2001)).
### SPECIFICATIONS

<table>
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<tr>
<th>MODEL</th>
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#### Heat exchange system
Heat recovery ventilating system

#### Heat exchanger material
Special treated paper plate heat exchanger

#### Cladding
Galvanized steel sheet

#### Heat insulation material
Self-extinguishing urethane foam

#### Motor
EC motor

#### Blower
9 5/8 in. (245mm) diameter centrifugal fan

#### Filter
Non-woven fabrics filter (EU-G3)

#### Surrounding air condition
 Shall be between 14°F (-10°C) and 104°F (+40°C), 80%RH or less

#### Suction air condition
Shall be lower than 104°F (+40°C), 80%RH

#### Supply fan operation under low outdoor temperature
14°F (-10°C) to 5°F (-15°C) : Intermittent operation 60 min ON, 10 min OFF.
5°F (-15°C) or less : Intermittent operation 55 min OFF, 5 min ON.

#### Function
Heat recovery ventilation: Bypass ventilation, Fan speed 1,2,3,4

#### Electric power supply
- Single phase 208-230V 60Hz
- AC 1000V 1 minute
- Single phase 208-230V 60Hz/Single phase 230V 50Hz

#### Electrical power supply
- Fan speed
  - SP1
  - SP2
  - SP3
  - SP4
- Running current
  - A
  - 2.70
  - 1.40
  - 0.68
  - 0.28
  - 2.85
  - 1.45
  - 0.72
  - 0.30
- Input power
  - [W]
  - 438
  - 210
  - 95
  - 34
  - 455
  - 225
  - 103
  - 37
- Air volume
  - [CFM]
  - 600
  - 450
  - 300
  - 150
  - 600
  - 450
  - 300
  - 150
- [m³/h]
  - 1019
  - 765
  - 510
  - 255
  - 1019
  - 765
  - 510
  - 255
- [W/CFM]
  - 0.73
  - 0.47
  - 0.32
  - 0.23
  - 0.76
  - 0.50
  - 0.34
  - 0.25
- External static pressure
  - [Pa]
  - 0.66
  - 0.37
  - 0.16
  - 0.04
  - 0.66
  - 0.37
  - 0.16
  - 0.04
- Exchange efficiency [%]
  - Temperature
    - Heating
    - 67.0
    - 73.0
    - 81.0
  - Enthalpy
    - Heating
    - 64.0
    - 68.5
    - 74.5
    - 80.0
  - Cooling
    - 50.0
    - 56.5
    - 64.5
    - 71.0
- Noise [dB]
  - 37.0
  - 31.0
  - 23.0
  - 18.0
  - 38.0
  - 32.0
  - 24.0
  - 18.0
- Insulation resistance
  - 10MΩ or more
- Dielectric strength
  - AC 1000V 1 minute
- Maximum current
  - [A]
  - 3.45

#### Characteristic curve
1. Measured at 59in (1.5m) under the center of the unit in an anechoic chamber.

#### Attention
1. The running current, the input power, the efficiency and the noise are based on the rating air volume. The noise is measured at 59in. under the center of the unit in an anechoic chamber.
2. Temperature exchange efficiency (%) is an average of heating and cooling.
3. Heat recovery ventilation mode starts automatically while detecting OA temperature lower than 8°C, even Bypass mode is selected. Remote controller continues to display “Bypass ventilation” in this case.
4. Mitsubishi Electric measures figures in the chart according to Japan Industrial Standard (JIS B 8628-2003). The characteristic curves are measured by chamber method. Only the temperature condition of the efficiency measuring is based on AHRI 1060-2014.
5. The noise level at 59in. away from outlets in the 45° direction is about 21dB greater than the indicated value at fan speed4.
6. On-site measurements by pitot tube method could be as much 20% difference from JIS test room conditions. If the measuring point is close to sources of turbulence like bends, contractions and dampers etc., it is difficult to measure air volume correctly. A straight duct length more than 10D (D=duct diameter) from the source of turbulence is recommended for correct measurement. On-site measurement should therefore be measured in accordance with BSR/A guideline (Commissioning Air Systems. Application procedures for buildings AG3/89.3(2001)).

#### Specification may be subject to change without notice.

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**MITSUBISHI ELECTRIC CORPORATION**

**DATE**
06-Nov-19

**TYPE MODEL**
LGH-F600RVX-E

**CEILING RECESSED LOSSNAY**

**NUMBER**
N19HHGU0053

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14 CONTROLLERS
**MODEL** | **LGH-F1200RVX-E** | **SIGN**
---|---|---
Heat exchange system | Heat recovery ventilating system |  
Heat exchanger material | Special treated paper plate heat exchanger |  
Cladding | Galvanized steel sheet |  
Heat insulation material | Self-extinguishing urethane foam |  
Motor | EC motor |  
Blower | 9 5/8 in. (245mm) diameter centrifugal fan |  
Filter | Non-woven fabrics filter (EU-G3) |  
Surrounding air condition | Shall be between 14°F (-10℃) and 104°F (+40℃), 80%RH or less |  
Suction air condition | Shall be lower than 104°F (+40℃), 80%RH |  
Supply fan operation under low outdoor temperature | 14°F (-10℃) to 5°F (-15℃) : Intermittent operation 60 min ON, 10 min OFF. 5°F (-15℃) or less : Intermittent operation 55 min OFF, 5 min ON. |  
Function | Heat recovery ventilation/ Bypass ventilation, Fan speed 1,2,3,4 |  
Weight | 251lbs (114kg) |  
Electrical power supply | Single phase 208-230V 60Hz |  
Ventilation mode | Heat recovery mode | Bypass mode |  
Fan speed | SP1, SP2, SP3, SP4 | SP1, SP2, SP3, SP4 |  
Running current [A] | 5.40, 2.80-2.45, 1.35-1.16, 0.60 | 5.40, 2.55, 1.26, 0.65 |  
Input power [W] | 880, 440, 200, 80 | 880, 440, 210, 85 |  
Air volume [CFM] | 1200, 900, 600, 300 | 1200, 900, 600, 300 |  
W/CFM | 2039, 1529, 1019, 510 | 2039, 1529, 1019, 510 |  
External static pressure [Pa] | 0.73, 0.49, 0.33, 0.27, 0.73, 0.49, 0.35, 0.28 | 0.73, 0.49, 0.33, 0.15, 0.04 |  
Exchange efficiency [%] | 64.0, 68.5, 74.5, 80.0 | 50.0, 56.5, 64.5, 71.0 |  
Noise [dB] | 41.0, 36.0, 28.0, 19.5 | 42.0, 36.0, 28.0, 19.5 |  
Insulation resistance | 10MΩ or more |  
Dielectric strength | AC 1000V 1 minute |  
Maximum current [A] | 6.40 |  

**SPECIFICATIONS**

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**Attention**

1. The running current, the input power, the efficiency and the noise are based on the rating air volume. The noise is measured at 59in (1.5m) under the center of the unit in an anechoic chamber.
2. Temperature exchanger efficiency (%) is an average of heating and cooling.
3. Heat recovery ventilation mode starts automatically while detecting OA temperature lower than 8℃, even Bypass mode is selected. Remote controller continues to display “Bypass ventilation” in this case.
4. Mitsubishi Electric measures figures in the chart according to Japan Industrial Standard (JIS B 8628-2003). The characteristic curves are measured by chamber method. Only the temperature condition of the efficiency measuring is based on AHRI 1060-2014.
5. The noise level at 59in. away from outlets in the 45° direction is about 20dB greater than the indicated value at fan speed 4.
6. On-site measurements by pitot tube method could be as much 20% difference from JIS test room conditions. If the measuring point is close to sources of turbulence like bends, contractions and dampers etc., it is difficult to measure air volume correctly. A straight duct length more than 10D (D=duct diameter) from the source of turbulence is recommended for correct measurement. On-site measurement should therefore be measured in accordance with BSRIA guideline (Commissioning Air Systems. Application procedures for buildings AS3/39.3(2001)).

*Specification may be subject to change without notice.*