Ahead of the Expected with LG HVAC Solutions

2022

LG Residential ERV

Why use **Residential ERV?**

Improve Indoor Air Quality

General Behaviors

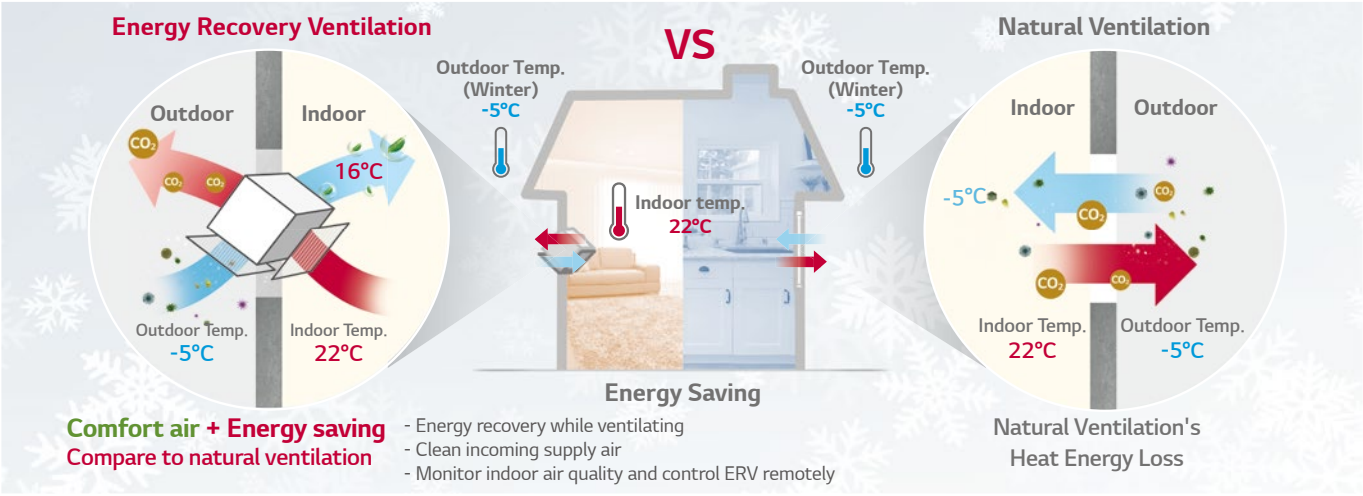
People typically spend 90% or more of their time indoors. During the pandemic, this becomes even longer than usual. Consequently, the indoor air quality is of great importance to occupants' comfort, health, and productivity.

New Sustainable Buildings

In order to reduce energy consumption, the current approach to build energy efficient building is to increase the airtightness of the building envelope. This inevitably reduces uncontrollable building ventilation through the gaps and cracks in the building fabric. To maintain good indoor air quality, ventilator is often required.

Energy Recovery Ventilator (ERV)

The heat exchanger in the ERV can recover energy from the outgoing exhaust air and transfer it to the incoming fresh air without mixing them. The recovered energy would have otherwise been wasted via natural ventilation.



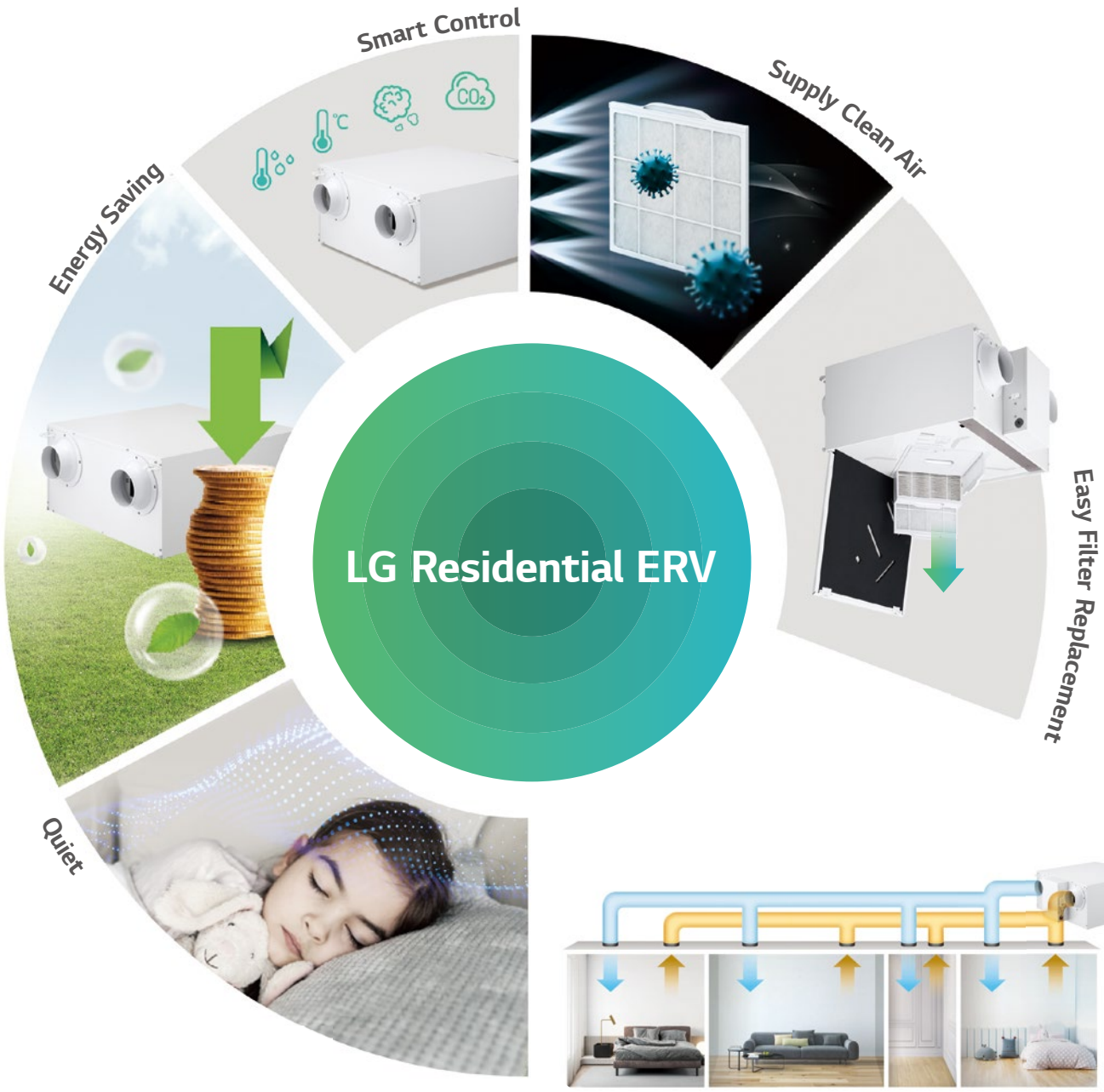
Indoor Air Quality / Indoor Air Pollution

Neither Air purification nor ventilation is operated
There are many pollution sources within the indoor environment. Indoor pollutants vary significantly depending on building usage, but the most common ones include gases and particular matters. Poor indoor air quality can have impact on the health and wellbeing of the building occupants.

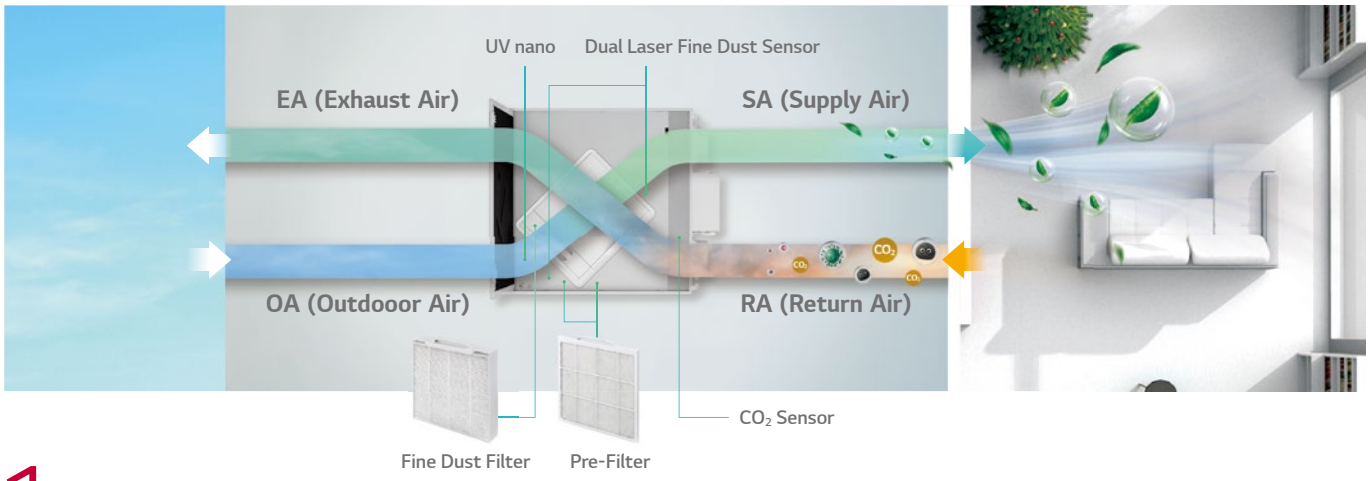
Air purification is running
Fine dust is removed, but harmful substances and high CO_2 concentration remain.

Both the Air purification and ventilation are operated
Not only harmful dust is removed, but also harmful substances and CO_2 are finally exhausted through the ventilation system.

What is different about
LG Residential ERV?

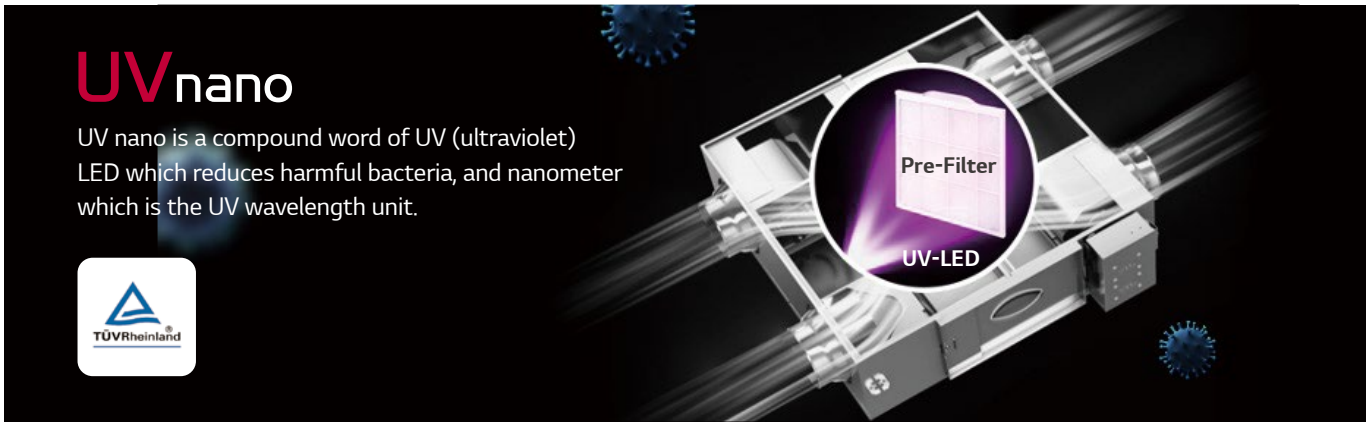


Schematic diagram of **LG Residential ERV**



1 Supply Clean Air

① Remove up to 99.99% of harmful particles on Pre-filter with UV nano

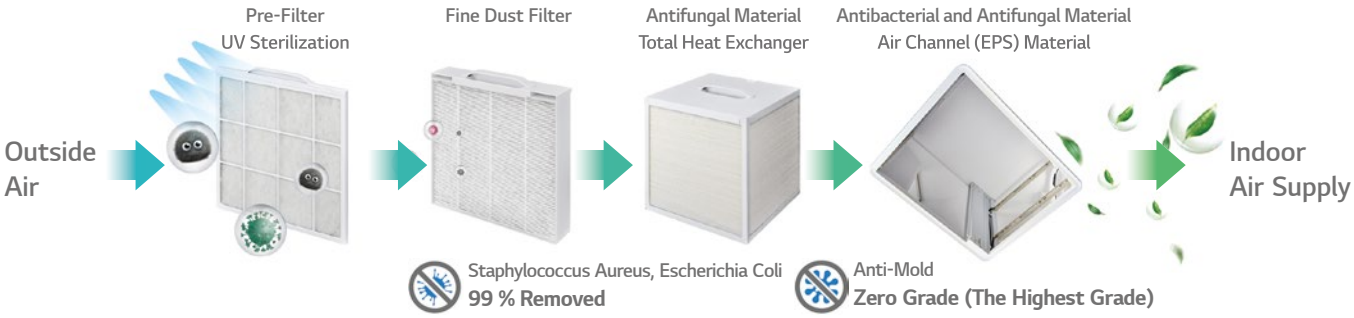


UV nano Technology Applied

It Prevents 99.99 % of Bacteria and Viruses from Growing

② Antibacterial and Anti-Mold Air Passage

In addition to UV sterilization of the pre-filter, the total heat exchanger and air passage (EPS material part) where air passes through are made out of antibacterial and anti-mold material to suppress the growth of bacteria and mold.



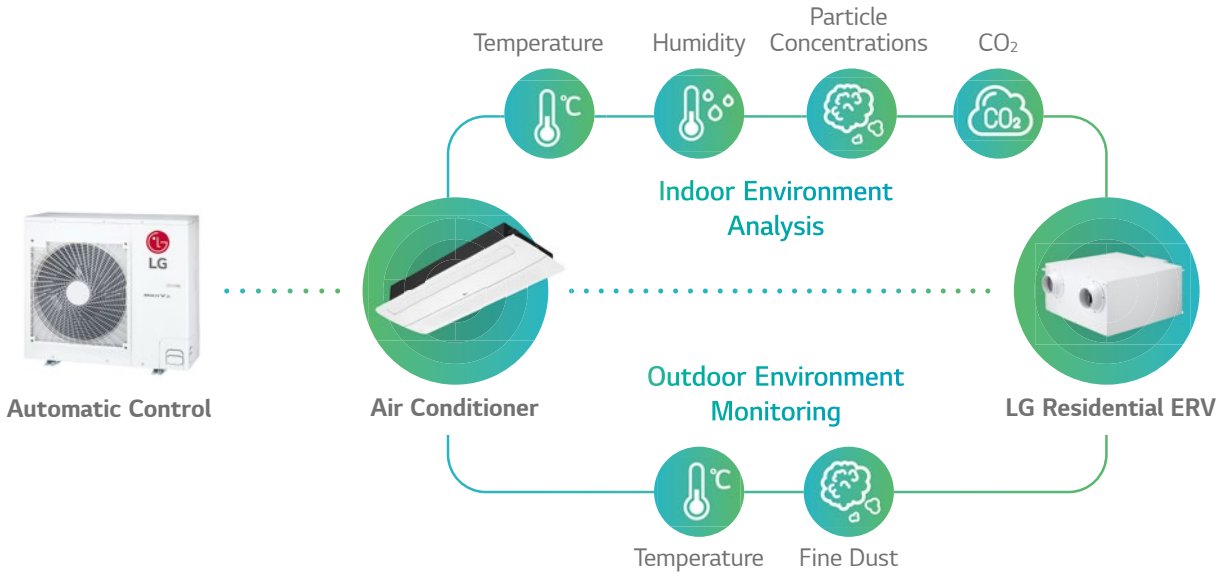
* Based on Mold Resistance Level : (ASTM G21-15) 0 = No growth, 1 = Grows less than 10 % , 2 = Grows 10-30 % , 3 = Grows 30-60 % , 4 = Grows more than 60 %

* Total heat exchange element mold resistance test: Test '20. 11.; Testing Institution: FITI Testing and Research Institute; Test Specification: ASTM G21-15; Test strains: Aspergillus brasliensis, Chaetomium globosum, Penicillium funiculosum, Trichoderma virens, Aureobasidium pulluants; Culture conditions: 28-30℃, 85 %RH or higher, 28 days; Test Result: No growth (grade 0) * Euro (EPS) antibacterial test: Test date and time '20. 8.; Testing Institution: FITI Testing and Research Institute; Test standard: JIS Z 2801: 2010, film adhesion method; Test method: Measure the number of bacteria after stationary culture of the test bacterial solution at (35+/-1)℃, 90 %RH for 24 hours; Test strains: Staphylococcus aureus ATCC 6538P, Escherichia coli ATCC 8739; Test result: Antibacterial activity R 4.6 (Strain 1), R6.2 (Strain 2) *Euro (EPS) mold resistance test: Test date and time '20. 8.; Testing Institution: Biotheca; Test Specification: ASTM G21-15; Test strains: Aspergillus niger ATCC 9642, Chaetomium globosum ATCC 6205, Penicillium pinophilum ATCC 11797, Gliocladium virens ATCC 9645, Aureobasidium pulluants ATCC 15233, Cladosporium Cladosporioides IFO 6348; Culture conditions: 29+/-1 °C, 85 % RH, 4 weeks; Test Result: No growth (0 grade)

* Based on laboratory measurements, actual conditions may vary. * Experimental results are the results of measuring the initial performance of the product and may vary depending on usage time.

③ Fast air cleaning by integration with other IDU

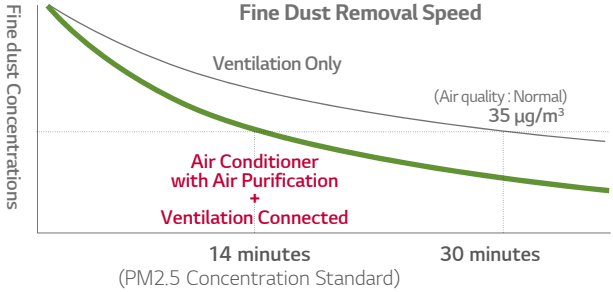
Indoor air quality can be optimized by interfacing ERV with the air purification kit of the 1-way cassette, using indoor particle concentration to control ventilation rate.



It removes fine dust up to twice as fast. When 1way cassettes senses fine dust is below "unhealthy", ERV is automatically operated in super high mode to remove indoor fine dust quickly.

※ Air Quality Index Table (LG Standard)

Classification	Good	Moderate	Unhealthy	Poor
PM10 (μg/m³)	0 ~ 54	55~ 154	155 ~ 254	255 ~
PM2.5 (μg/m³)	0 ~ 12	13 ~ 35	36 ~ 55	56 ~
PM1.0 (μg/m³)	0 ~ 12	13 ~ 35	36 ~ 55	56 ~



* The above function is applicable when the ventilation is connected with air conditioner with the air purification kit.

* The concentration of fine dust is the result of an actual measurement at Apartment, Seoul, and may vary depending on the environment.

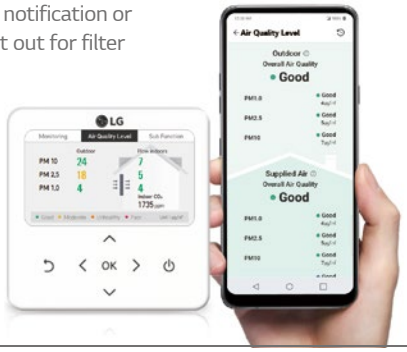
2 Smart Control

① Dual Laser Fine Dust Sensor

Two fine dust sensors monitor the incoming air and the supplied air to the room in real time to ensure that clean air is always supplied.

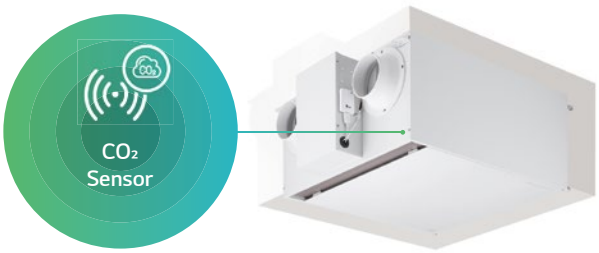
When the measured dust concentration in the air supplied to the room is higher than the pre-set value, a notification or text message will be sent out for filter replacement.

* Wi-Fi Modem is Optional.



② CO_2 Monitoring

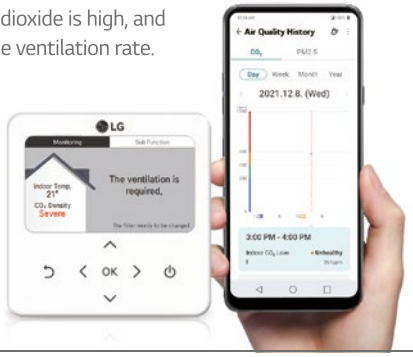
The embedded CO_2 sensor monitors the carbon dioxide concentration in the room in real time and automatically controls the ventilation rate.



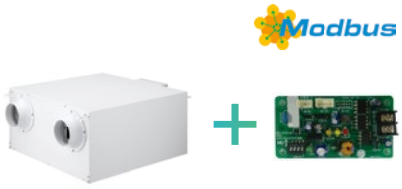
It monitor CO_2 concentration in the room. It increases the ventilation rate. when the concentration of carbon dioxide is high, and automatically reduces the ventilation rate. if it is low.

* CO_2 Sensor is Embedded.

* Wi-Fi Modem is Optional.



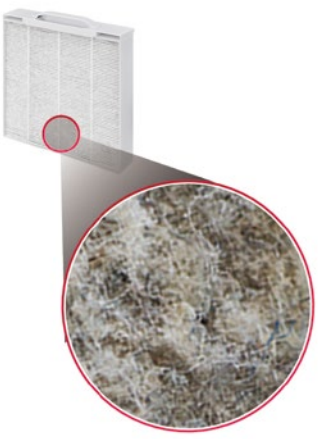
③ Control ERV Anytime, Anywhere

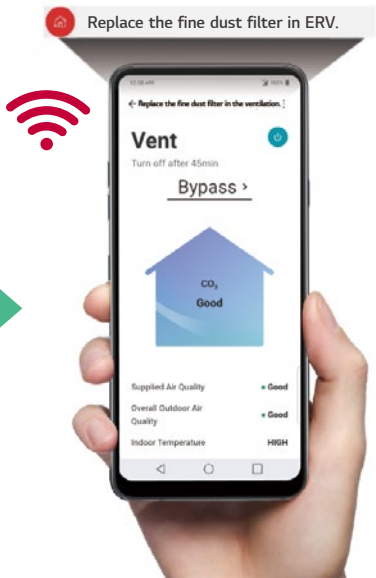
Wired Remote Control	Mobile	Third-party compatibility
		
- Indoor CO_2 concentration - Dust concentration in the supply air - Dust concentration in outdoor air	Check and Control the Indoor Air Condition Anytime, Anywhere	With the dry contact connected, Modbus protocol is available.

* To use 3rd party wall pad, please contact Sales Engineer

④ Filter Maintenance Alarm

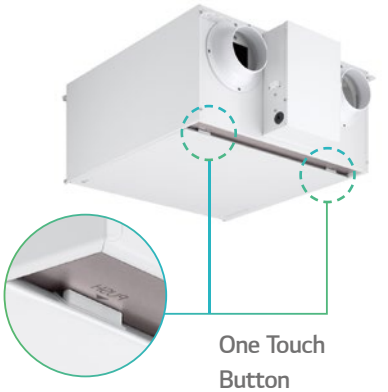
The filter replacement notification and text message are sent when the fine dust concentration is higher than the pre-set point.





3 Easy Filter Maintenance

Via the one-touch button, the user can open the access door at the bottom of the unit, pull down the heat exchanger to change the filters. It is easy and simple without the need of any additional tools.



After pressing the one-touch button, unhook the safety hooks that holds door from failing to fully open the door.

Hold the filter handle and pull it out down.

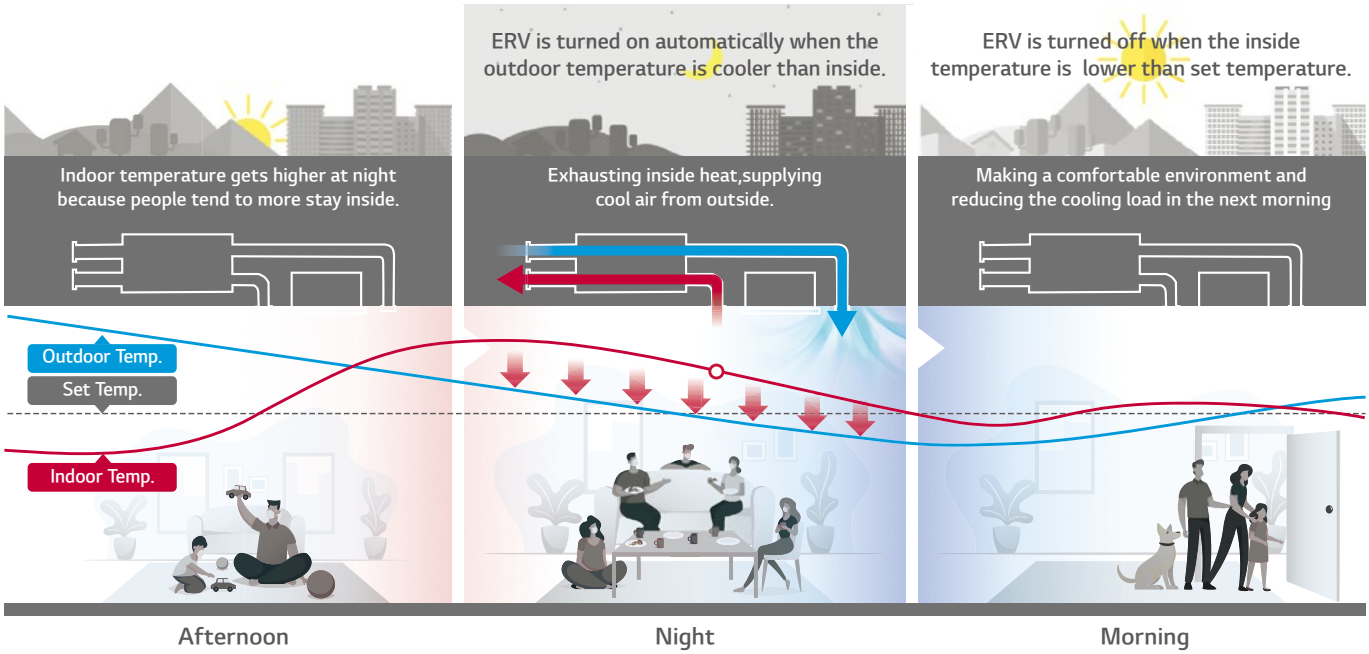
4 Quiet Operation

* Based on the LZ-H015GBA6 model
* As a result of LG internal tests. It may have differences in actual use.

5 Energy Saving

① Night Time Free Cooling

It discharges the hot indoor air during summer and supplies cool outdoor air indoor.



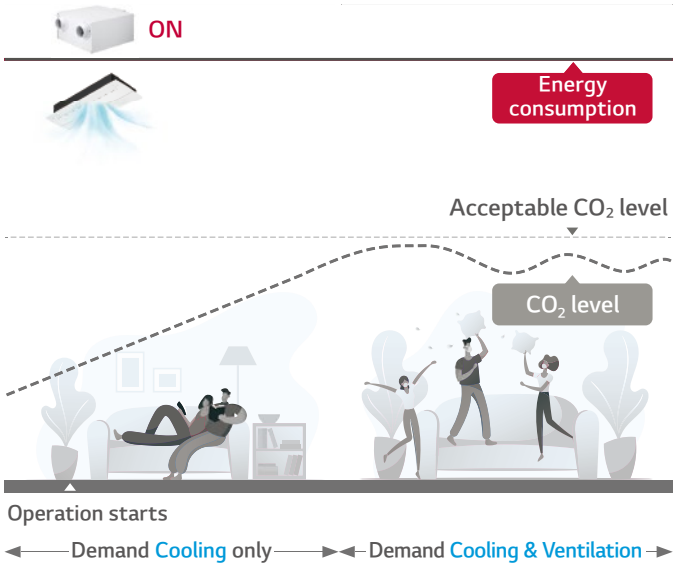
* This function is operated with 'Night Time Free Cooling' on remote controller.
** Energy saving rete can be different depending on weather condition.

② Delay Operation

When the air conditioner & ERV are turned on at the same time, Delay Operation can reduce unnecessary heating and cooling energy loss by automatic delaying the ERV operation.

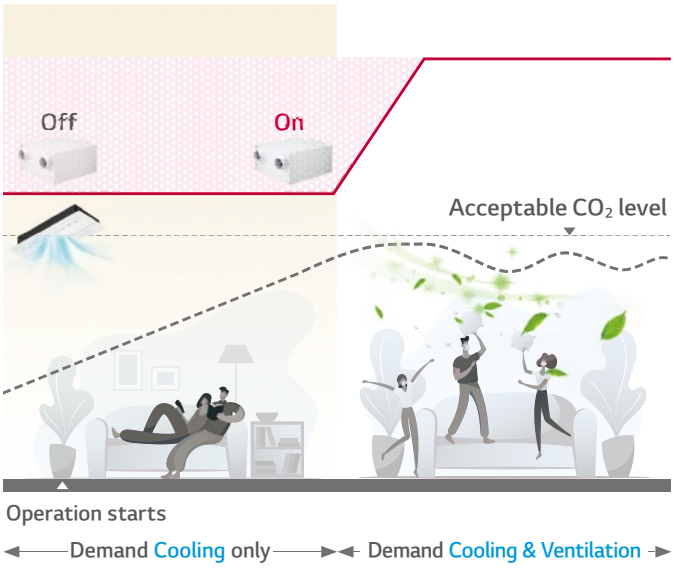
Operation

Operation starts Operation air conditioner simultaneously.



Delay operation

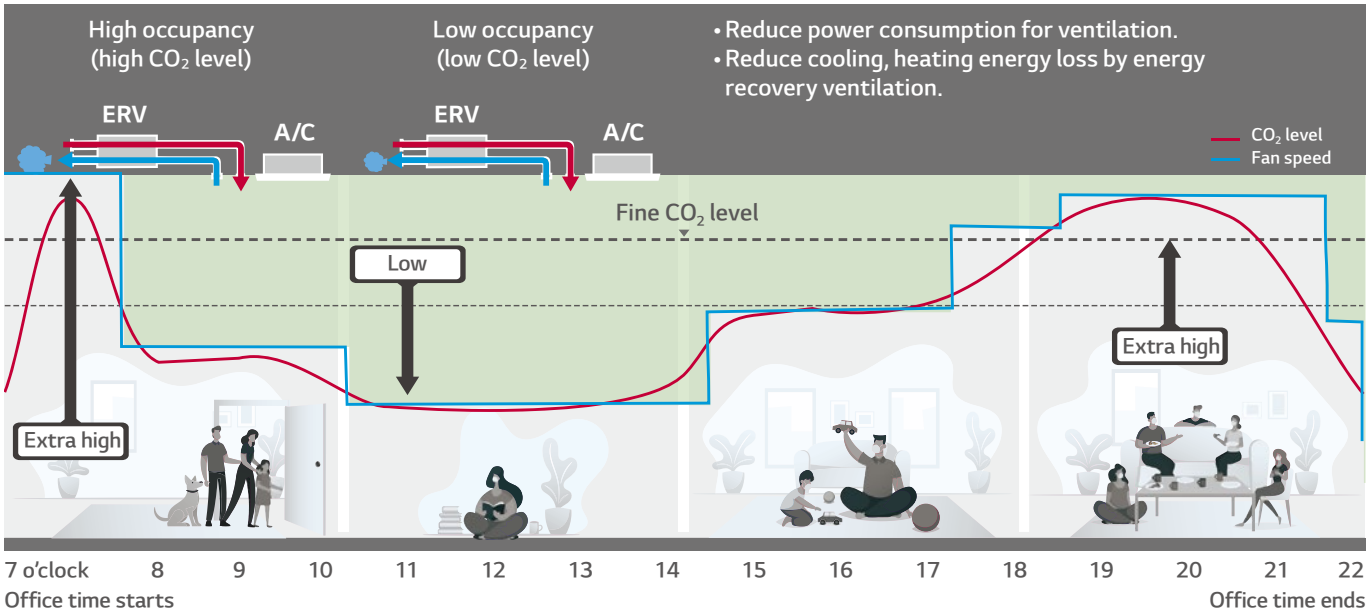
Operation starts with air conditioner.



* This function is operated with 'Delay Operation' in remote controller. (with MULTI V, The delay time can be selected between 1 and 60 minutes.)
** Energy saving rete can be differed depending on weather condition.

③ CO_2 Auto Operation

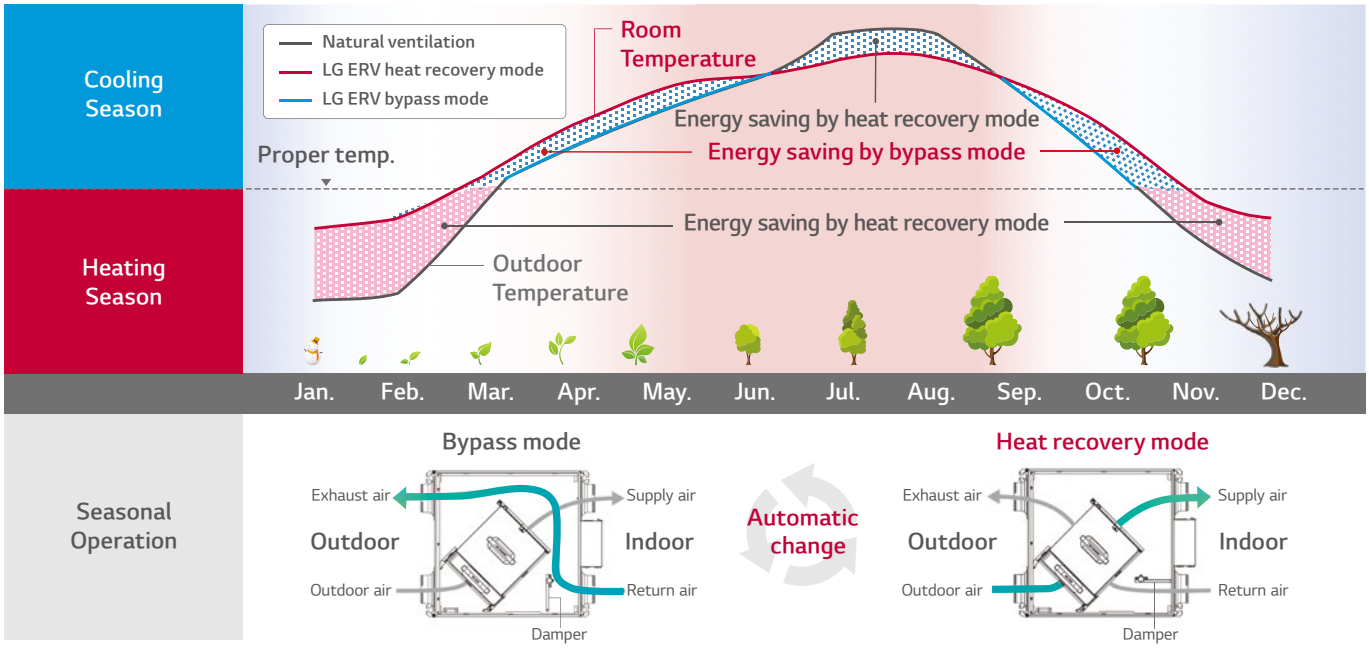
By its nature, LG's ERV recovers energy while ventilation. In addition to that, using CO_2 level to control the fan speed saves energy consumption in comparison with a constant fan speed.



* Energy saving rate can be different depending on weather condition.

④ Seasonal Auto Operation

LG ERV senses outdoor temperature and operates automatically following weather condition.



* This function is operated with 'Auto' mode in the wired remote control.
** Energy saving rate can be differed depending on weather condition.

LG Residential ERV

SPECIFICATION

Model Name			Residential ERV	
			LZ-H015GBA6	LZ-H020GBA6
Basic Performance	Capacity	CMH	150	200
	Power Supply	Ø, V, Hz	1, 220-240, 50	1, 220-240, 50
	External Static Pressure	Pa	100 / 70 / 50	
	Air Flow	CMH	150 / 150 / 80	200 / 200 / 100
	Dimension (W x H x D)	mm	640 x 320 x 640	
	Net Weight	Kg	23	
ERV mode (Total Heat Recovery Ventilation Mode)	Current	A	0.43 / 0.38 / 0.23	0.59 / 0.51 / 0.26
	Power Input	W	56 / 49 / 26	79 / 71 / 30
	Sound Power Level	dB(A)	53 / 51 / 45	55 / 53 / 46
	Sound Pressure Level	dB(A)	28 / 26 / 21	30 / 28 / 22
	Temperature Exchange Efficiency (Heating) (ErP)	%	85	82
	Enthalpy Exchange Efficiency (Heating / JIS)	%	79 / 79 / 83	75 / 75 / 81
	Enthalpy Exchange Efficiency (Cooling / JIS)	%	74 / 74 / 80	68 / 68 / 76
Bypass Mode	Current	A	0.45 / 0.40 / 0.26	0.60 / 0.52 / 0.29
	Power Input	W	63 / 53 / 31	84 / 73 / 35
Filters	Fine Dust Filter	-	ePM_1 95 % filter	
Hygiene	UV LED	-	Removal efficiency up to 99.99 %	
	Total Heat Exchanger	-	Made with grade 0 mold resistance material	
Air Quality Display	Fine Dust Sensor	-	Default (Indoor / Outdoor)	
	CO_2 Sensor	-	Included by default	
Add-ons	Wi-Fi Modem	-	Optional (PWFMDD200)	
	Dry Contact	-	Optional (PDRYCB510)	
	System	-	Rapid air cleaning can be achieved by linking ERV with the air purification kit of Multi V 1-way cassette	
Operation / Maintenance	Filter Replacement Alarm	-	Included by default	

Line-up

(CMH)

Model	Image	150	200	250	350	500	800	1000	1500	2000
ERV				○	○	○	○	○	○	○
	NEW 	●	●							

○ Exsiting line-up
● New residential ERV

LG