Panasonic

PURIFY YOUR AIR WITH
A SMART PURIFIER

Catalogue 2024

Panasonic

Panasonic Life Solutions India Pvt. Ltd.
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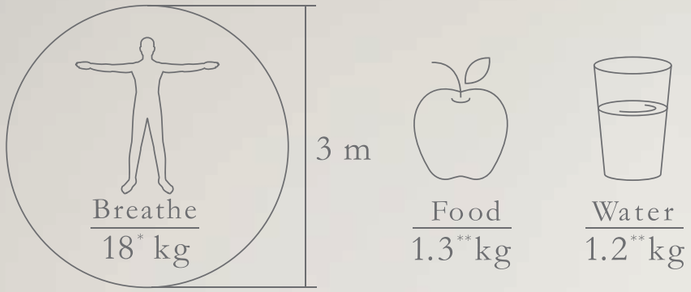
AGENDA

HEALTHY AIR SOLUTIONS

QUALITY AIR FOR LIFE

No matter where you go on planet Earth, 24 hours a day, 365 days a year, air is an essential part of your life. By incorporating air conditioning and ventilation technologies, we help you enjoy fresher air that contributes to the health of both body and mind as well as a more comfortable life overall. Leveraging all of the technologies we have developed to date, we're working to help every person in the world enjoy better health and comfort through **Quality Air for Life.**



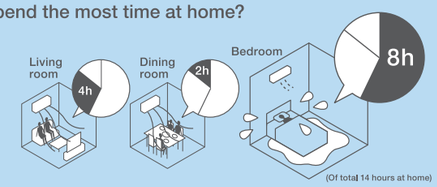
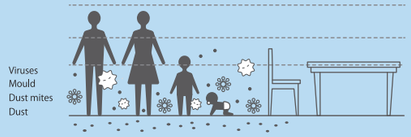
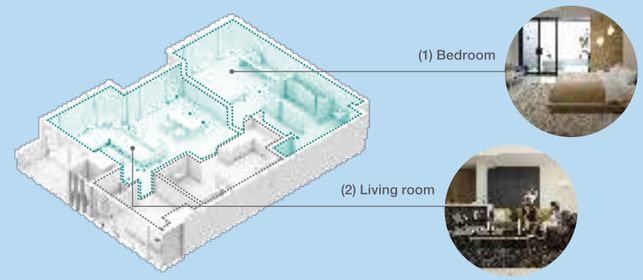
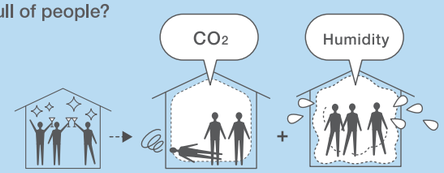
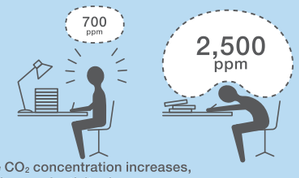
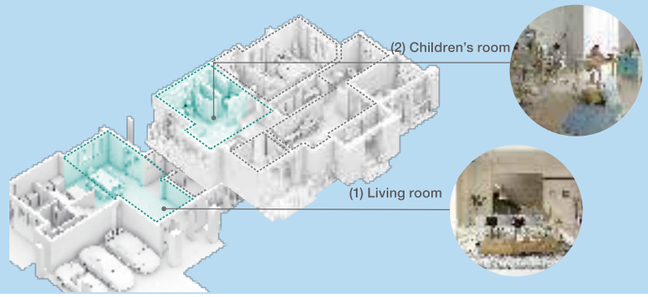
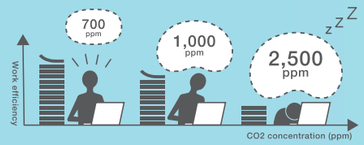
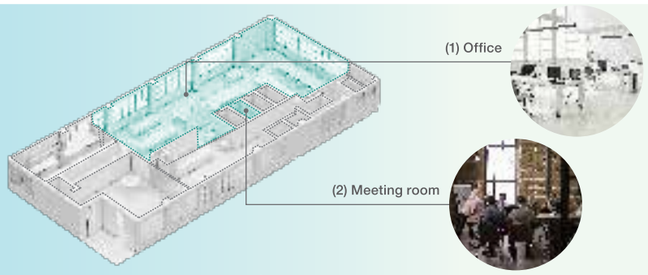
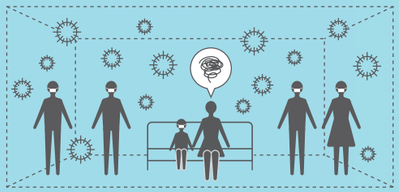
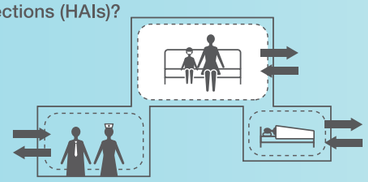
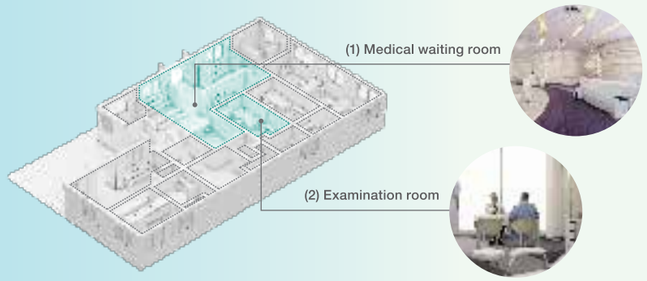
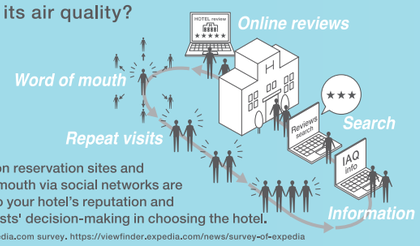
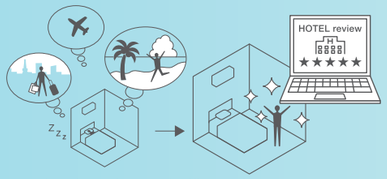
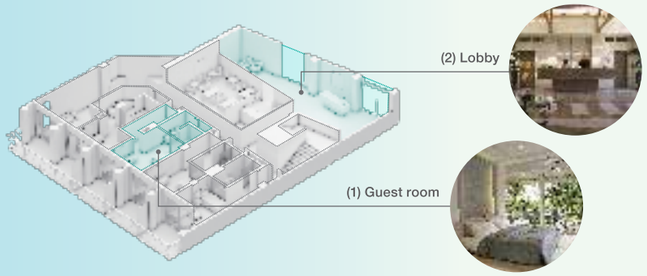
Each one of us breathes in 18 kg of air a day.

*Uchiyama, Iwao (Department of Occupational Health, National Institute of Public Health, Japan). "Air and Human Beings: from the Physiological Viewpoint" (1999). https://ci.nii.ac.jp/naid/110008447936/
**Ministry of the Environment, Japan. Heat Illness Environmental Health Manual 2018, p. 32, fig. 3-2. http: //www.wbgt.env.go.jp/pdf/manual/heatillness_manual_3-1.pdf

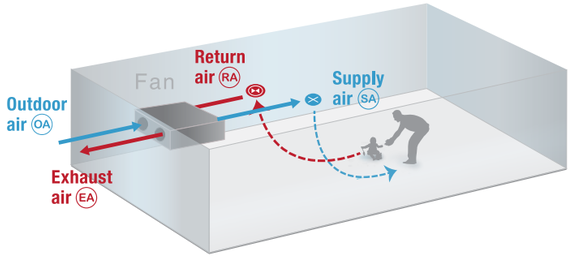
Outdoor air environments

Even though you can't see it, the air in your home and other indoor environments can easily get dirty. Polluted air flows in unnoticed from the outside, and chemicals are emitted by wood and furniture. Also CO_2 concentration rises as people breathe, while the humidity level increases as perspiration evaporates. All those factors will gradually make the room less comfortable.

Solutions Overview

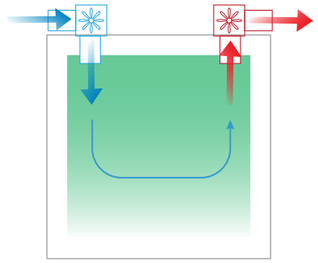
Types of buildings	Target users	Awareness of air quality issues		Layout
Light commercial facilities				
 Condominium	Family	On average, in which room do people spend the most time at home?  The bedroom, where sleep recharges us for tomorrow.	Does the difference in height between children and adults make a difference in their health?  All day long, children breathe closer to the floor and furniture.	
 Premium home	Family Visitors	Do you feel uncomfortable in a living room full of people?  People produce both CO_2 and humidity.	Do your children have trouble focusing on their studies in their room?  When the CO_2 concentration increases, the studying productivity decreases. Source: ASHRAE findings https://www.ashrae.org/ Source: Satish, Usha, et al. Environmental Health Perspectives, https://ehp.niehs.nih.gov/1104789/	
 SOHO	Owners Office workers	Having trouble with productivity in the workplace?  Controlling the CO_2 concentration increases focus. Source: ASHRAE findings https://www.ashrae.org/ Source: Satish, op. cit.: https://ehp.niehs.nih.gov/1104789/	Dealing with odours in the workplace?  People find odours more offensive than other coworker grooming issues. Source: Mandom Corporation, "2017 opinion poll concerning odours in the office," News release, May 31, 2017. https://www.mandom.co.jp/release/2017/src/2017053101.pdf	
 Clinic	Doctors Nurses Patients	Do you have many sick people in your waiting room?  Managing the air environment is so important.	Concerned about hospital-acquired infections (HAIs)?  Managing the air quality in each individual room of the facility helps prevent HAIs.	
 Boutique hotel	Managers Guests Receptionists	How do people learn about your hotel —and its air quality?  Review on reservation sites and word of mouth via social networks are crucial to your hotel's reputation and your guests' decision-making in choosing the hotel. Source: Expedia.com survey. https://viewfinder.expedia.com/news/survey-of-expedia	Concerned about your customers' satisfaction?  Improving air quality can significantly increase customer satisfaction Source: Expedia.com survey. https://viewfinder.expedia.com/news/survey-of-expedia	

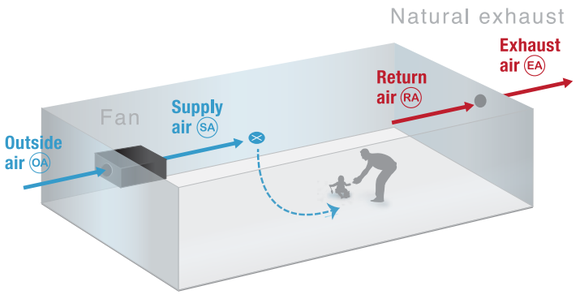
TYPES OF VENTILATION



Type 1

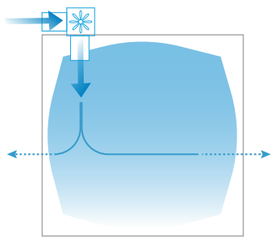
Air is forced in and out of the building with fans.

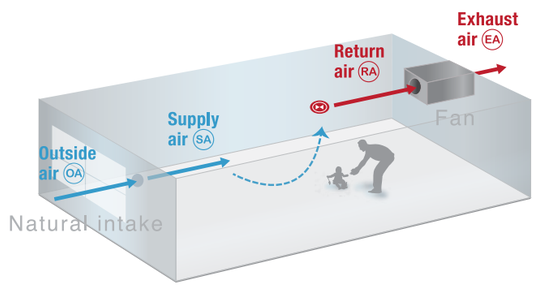




Type 2

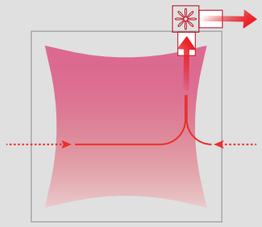
Air is forced in with a fan, while exhaust occurs naturally





Type 3

Air is forced out with a fan, while exhaust occurs naturally

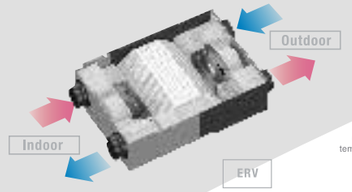


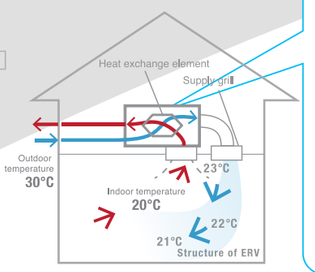
Type 1

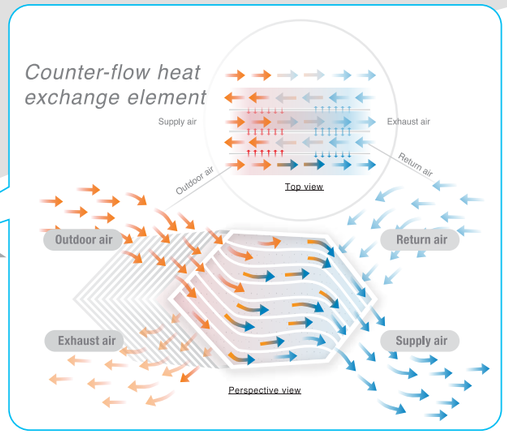
Energy recovery ventilator (ERV)

■ **This energy-efficient ventilation method minimises the energy lost in air conditioning.**

Simultaneously supplying and exhausting air on a mechanical basis allows heat and humidity to be exchanged, reducing air conditioning costs.

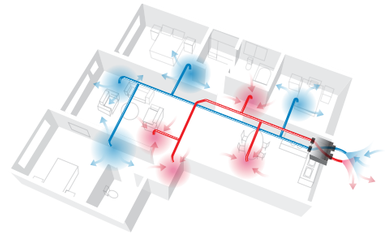






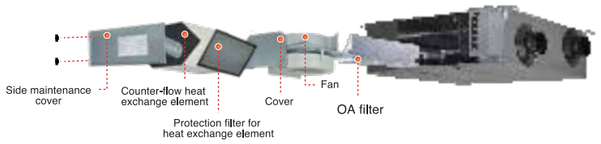
One building, one system

A single ERV system can manage the ventilation for every room of any building type.



Supply air filter minimises intrusion of mould spores, pollen, etc.

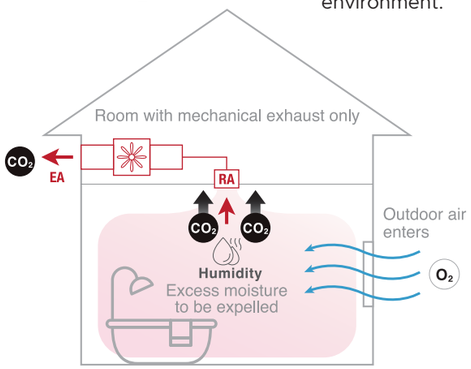
■ The outside air duct features a supply air filter that minimises the intrusion of a wide variety of air contaminants, including mould spores and pollen.



Type 3

Ceiling mount ventilating fan (super low noise)

■ The distinctive double-chamber structure minimises the transmission of fan and motor noise and motor to the exterior. This technology further reduces operation noise to incredibly low levels that are below 30dB(A), for a tranquil, quiet living environment.



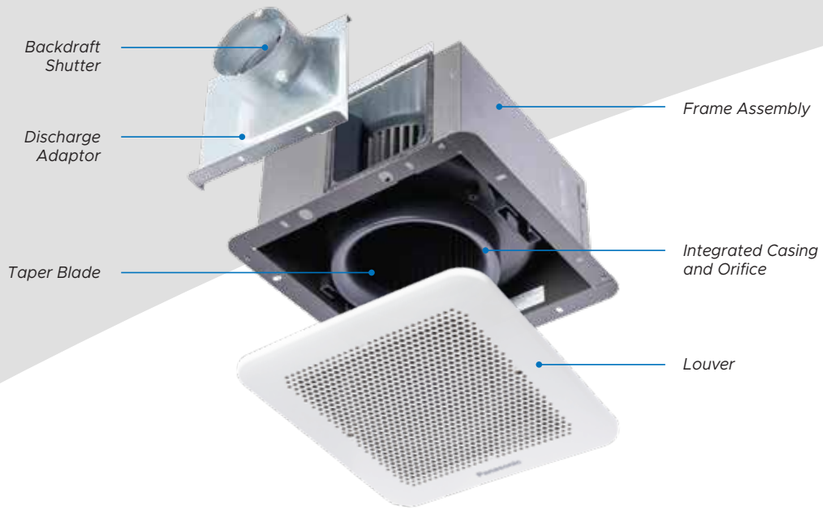
This is system often used in bathrooms and kitchens

LIVING IN
FRESH ENVIRONMENT

Ventilation Fan

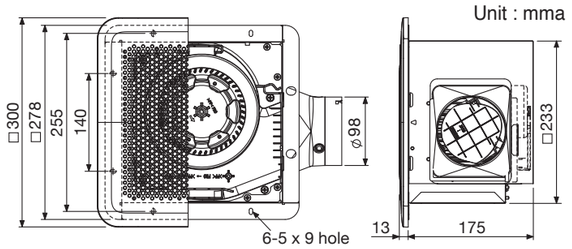
Ceiling Mount Ventilation Fan

- **Advance design to minimize noise & achieve lowest power consumpion**



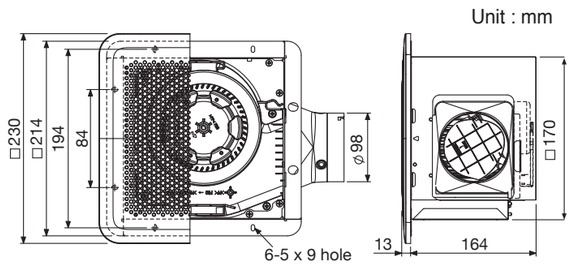
FV-24CU9

- HP (half pitch) motor with ball bearing
- Taper blade sirocco fan
- Curve-shapeda backdraft shutter
- Super low noise level



FV-17CU9

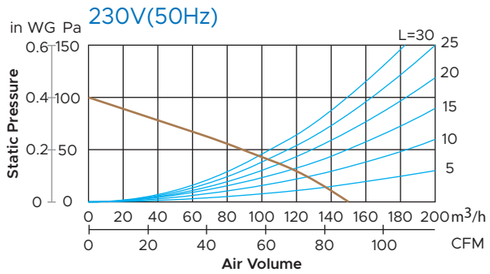
- HP (half pitch) motor with ball bearing
- Taper blade sirocco fan
- Curve-shaped backdraft shutter
- Super low noise level



Ceiling Mount Ventilation Fan

Performance Data

FV-24CU9



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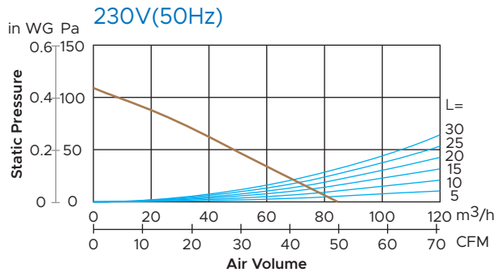


Specification

Model No.	Voltage		Air Volume		Consumption	Noise	Weight	Installation Space	Duct Size
	[V]	[Hz]	[m³/h]	[CFM]	[W]	[dB (A)]	[kg]	[mm]	[mm]
FV-24CU9	230	50	150	88	11	26	2.7	240 x 240	ø 100
FV-17CU9	230	50	85	50	8.5	24.5	1.7	177 x 177	ø 100

Note :
- The value of power consumption, air volume and noise are specified at the static pressure of 0 Pa
- The value of air volume is the mean value measured by our company.
- The values of noise level is the average of three values measured at 1m apart from left, right and directly beneath the product.
- The values of noise level is the mean of A weighted average sound pressure level measured by our company.

Wall Mount Ventilation Fan

Speedy Odour Exhaustion

Foul smell can be quite noticeable after using the toilet. This unpleasant odour can stay without good ventilation. Panasonic ventilating fan can exhaust smelly air to resume a fresh comfortable room.

Excess Moisture Removal

Excess moisture in your bathroom creates conditions for molds to grow. This may deteriorate the room interior and cause potential threats to health. Panasonic ventilating fan can remove moist air to prevent these potential risks.

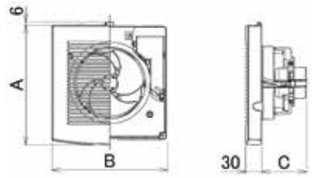
Duct Series

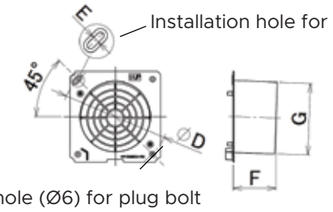
- Low noise level
- Low energy consumption
- Back duct with grill equipped
- Easy installation
- Safety / Thermal Fuse

Compact & Stylish

All accessories included

Dimension (Unit : mm)





Installation hole (Ø6) for plug bolt

Model	A	B	C	D	E	F	G
FV-10EGD2	176	170	83	177	6	87	111
FV-15EGD2	230	220	86	231	6	89	155

Specification

Model	Voltage [V]	Frequency [Hz]	Air Volume [CMH]	Consumption [W]	Noise [dB(A)]	Speed [RPM]	Wall Installation Wooden Frame Size [mm]	Ceiling Installation Hole Size [mm]	Net Weight [kg]
FV-10EGD2	230	50	82	4.6	34.0	2,680	□120-130	Ø130-140	0.8
FV-15EGD2			170	6.0	37.0	2,250	□ 165-175	Ø175-185	0.9

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- Actual colors may vary slightly from shown.
- Specifications are subject to change without prior notice.

ENERGY RECOVERY
VENTILATOR

One-Stop EPO IAQ Solution

- Energy Saving
- Air Purification
- Thermal Comfort

Panasonic

Type 1

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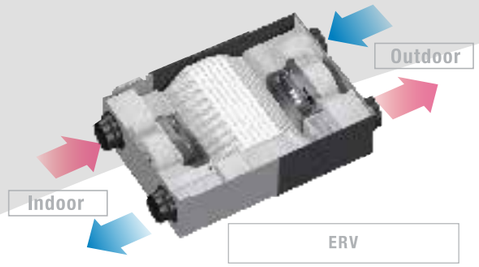

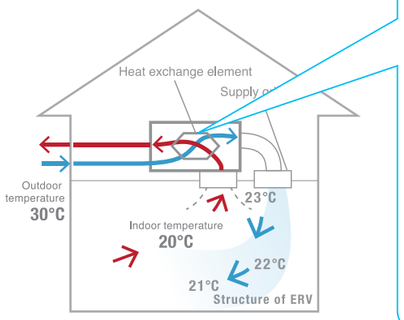

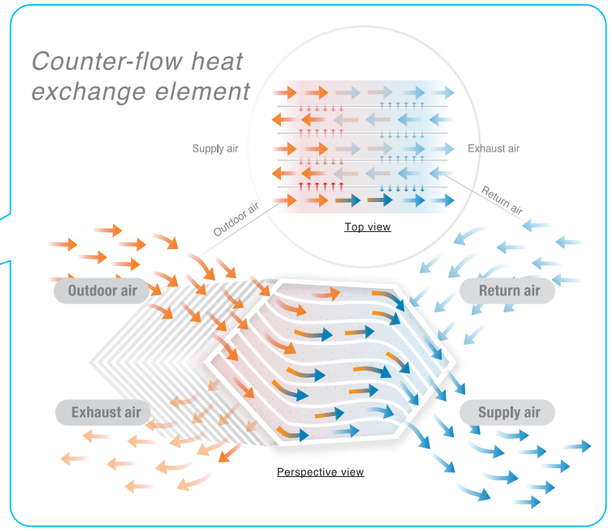

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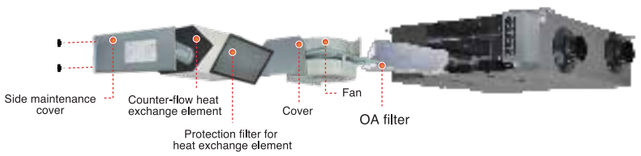

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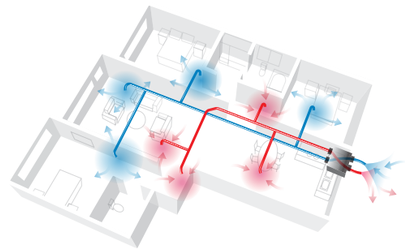


Note: For nanoe™ Technology information, please refer to page 60-62. Results may vary based on usage, and seasonal and environmental variables (temperature and humidity). nanoe™ and nanoe™ X inhibit activity or growth of viruses, but do not prevent infection. Deodorisation effect varies according to the environment (temperature and humidity), operation time, odour, and fabric types. It does not remove toxic substances in cigarettes (carbon monoxide, etc.). Odours that are continuously generated (e.g., building material odours and pet odors) are not completely removed. All images shown are for illustration purpose only.

Importance Of Ventilation

Tightly sealed buildings are becoming increasingly common for energy efficiency purpose, reducing energy loss associated with heating and cooling. However, airtight buildings limited ingoing fresh air into the building results in poor indoor quality which adversely affects our health. Adequate ventilation, therefore, plays an essential role in maintaining a healthy living environment.

Common Issues Triggered by Insufficient Ventilation

Commercial

Office area I Stagnant Air

Pantry | Odour

Meeting room | Oxygen Deficiency

Residential

Living room I Stagnant Air

Toilet I Moisture & Smell

Bedroom I Oxygen Deficiency

Kitchen I Odour / Heat

ERV As A Modern Solution

Among various ways of achieving ventilation, the utilization of Energy Recovery Ventilator (ERV) is a modern and effective solution. In different aspects, ERV is able to bring more benefits, comparing to the traditional ventilation method.

- Achieve Air Purification
- Increase Comfort Level
- Increase Energy Saving

	ERV	Traditional Ventilation
Purification of intake air	○	△
Stable fresh air intake	○	△
Heat exchange	○	△
Equipment cost	△	○
Maintenance cost	△	○

○ Excellent / Available △ Less advantageous

Air Purification

Enhanced IAQ

The Energy Recovery Ventilator draws fresh air from outside while stale indoor air is exhausted. With 24-hour continuous ventilation, Indoor Air Quality (IAQ) is enhanced by exhausting out harmful indoor air contaminants.

Pre Filter

Filter outdoor large dust particles and insects

MERV16 Filter

Filter dust and particles as tiny as 0.3μm

Efficient Filter

High-density purifying filter removal of particles as tiny as 0.3μm

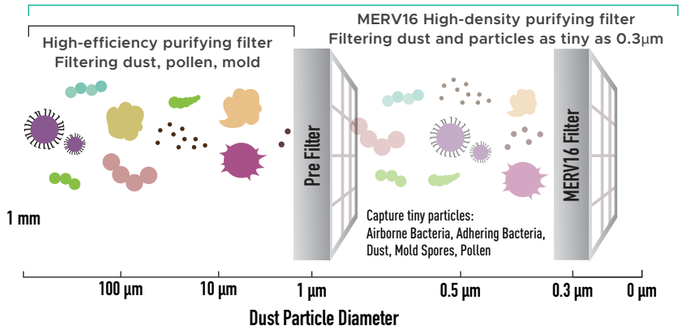
MERV16 Filter

Able to filter 0.3μm up to

≥95%*

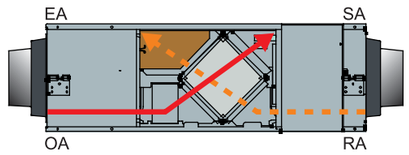
*Tested by using MERV16 filter for model FV-35ZY1, following ANSI/ASHRAE Standard 52.2-2017 [Testing Institution: Blue Heaven Technologies, Test report no. 23-105-1] Recommended to change filter every 4-6 months and clean every month

Energy Recovery Ventilator Filter Structure



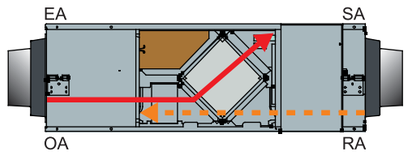
Speedy Bypass Ventilation

Diversion damper is equipped for Bypass Ventilation. When room airflow (RA) is greater than supply airflow (SA), it allows speedy exhaust of indoor polluted air. By using bypass ventilation during season change, it achieves better thermal comfort and energy savings.



[Heat Exchange Mode]

• In heat exchange mode, it pre-cools the hot outdoor air before entering the house. Thus, energy is saved while providing fresh air.



[Normal Ventilation Mode]

■ Bypass vertilation

• When outdoor air is highly polluted, it is not recommended to use bypass ventilation. It may cause negative pressure and polluted outdoor air may ingress into the houses through the gaps at the doors and windows.

Comfort

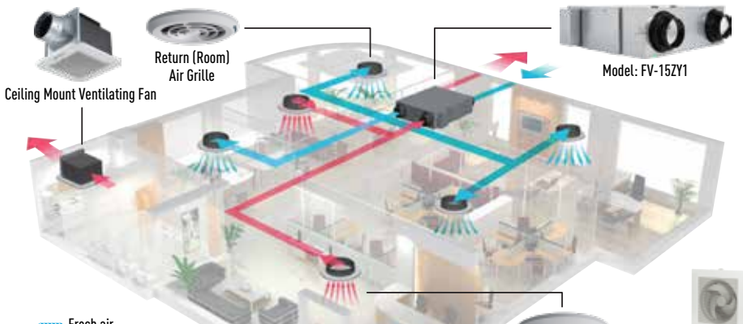
Optimum Indoor Air Comfort

An Energy Recovery Ventilator employs energy recovery technology, which uses balanced airflows and recovers otherwise-expended total energy comprised of heat (sensible energy) and humidity (latent energy). Subsequently, less energy is needed for conditioning while maintaining high-level ventilation.

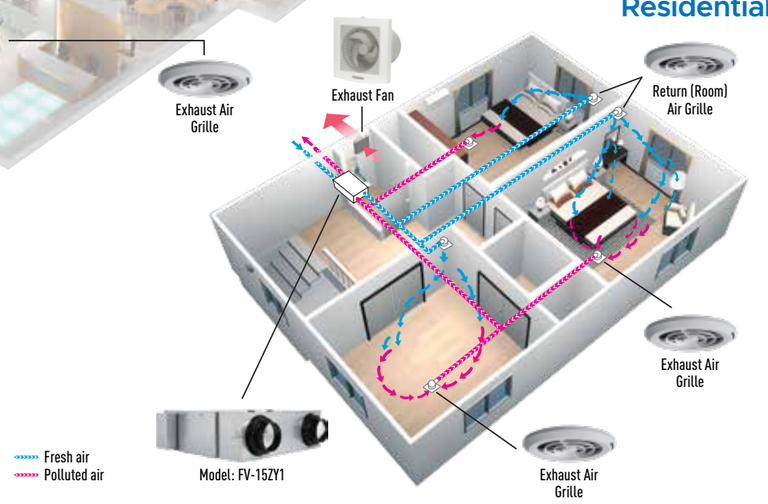
Thermal Comfort

The newly developed Energy Recovery Ventilator can be interlocked with air conditioning system. It offers balance, humidity control and comfort. Indoor occupants get to enjoy fresh air currents while maintaining optimal temperature.

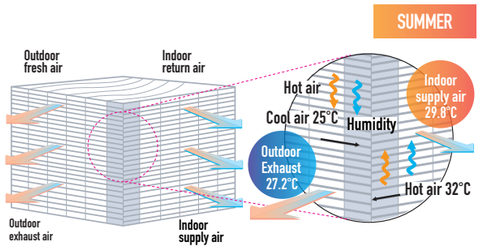
Office



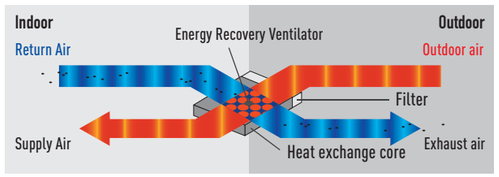
Residential



Inside of Heat Exchange Core (diagram)



Principle of Heat Exchange



Easy Installation And Maintenance

Slim Design

Installation has never been easier. With the height of only 450mm, Energy Recovery Ventilator is compact to fit into small spaces.

Flexible Mounting

Compact design and flexible mounting allow for easy installation in various indoor setting. It can be ceiling-mounted or installed upside-down.

Ceiling Mounted

Upside-down Mounted

LCD Control Panel

LCD Control Panel can be mounted on the wall, with a screen displaying circulation mode, airflow, filter maintenance reminder, etc. it offers simplified control buttons for ease of use, all necessary information with a touch of button.

Efficiency

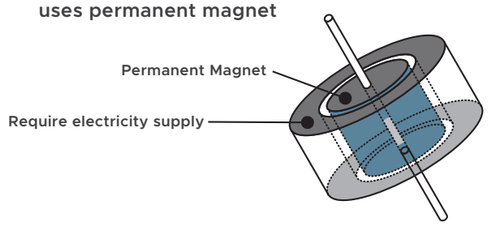
Energy And Cost Saving

Motor Efficiency

DC (Direct Current) motor is used which consumes less power, thus achieves energy savings. In addition, the temperature rise of DC motor is lower when compared with AC (Alternating Current] motor, which results in longer life expectancy of DC motor.

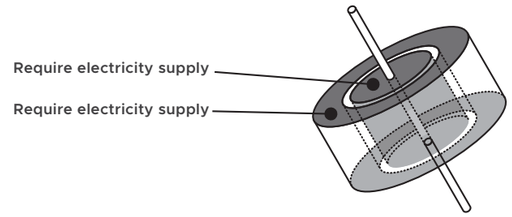
DC Motor

Stator uses electrical magnet while rotor uses permanent magnet



AC Motor

Both stator & rotor uses electrical magnet



Dual DC Motors

Dual DC motors achieve energy savings by over 43%*

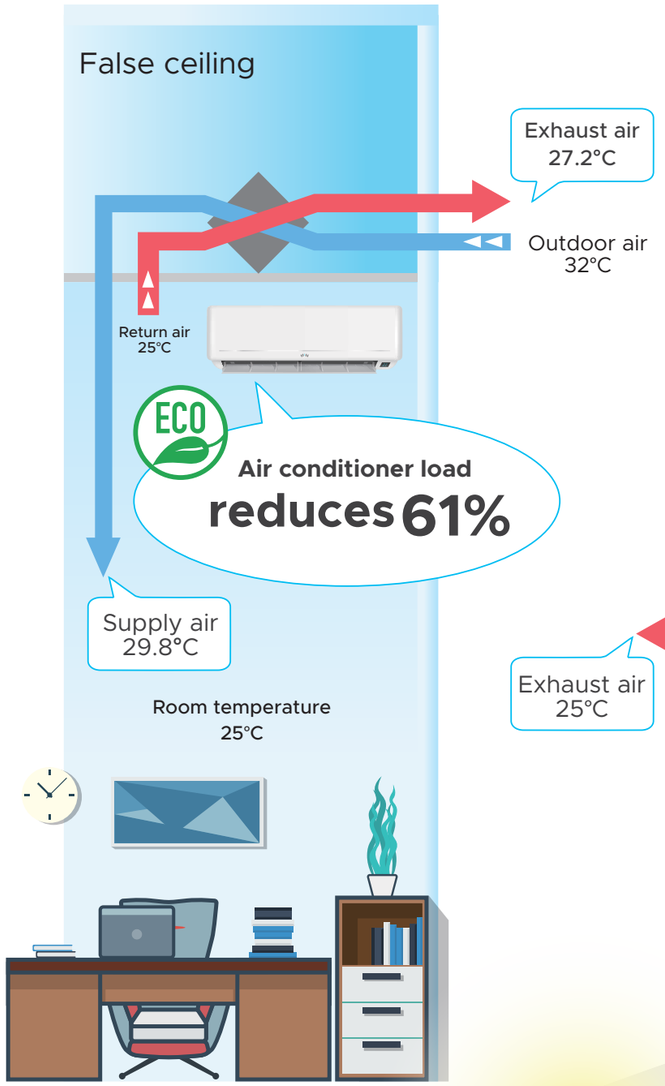
Motors	AC Motors	DC Motors	Energy usage
Electricity use (W)	315	180	-43%

*Comparison between DC model FV-50ZY1 180W vs AC old model (FY-E50DZ1) 315W

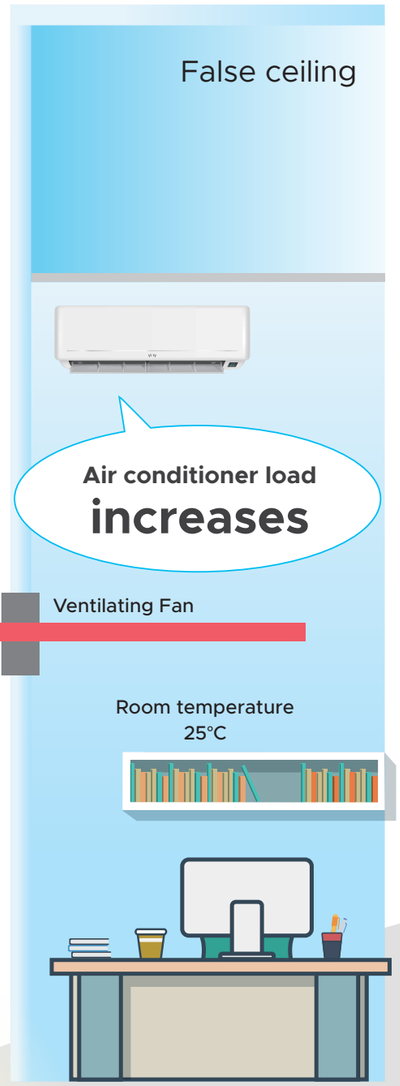
Energy Efficiency

Highly efficient Energy Recovery Ventilator reduces energy loss during ventilation, thus achieves energy saving. (Example: FV-15ZY1) Below is an example in summer. By utilizing indoor return cold air to cool down outdoor air before intake to indoor, the indoor cooling effort is significantly reduced.

Energy Recovery Ventilation Mode



Normal Ventilation Mode

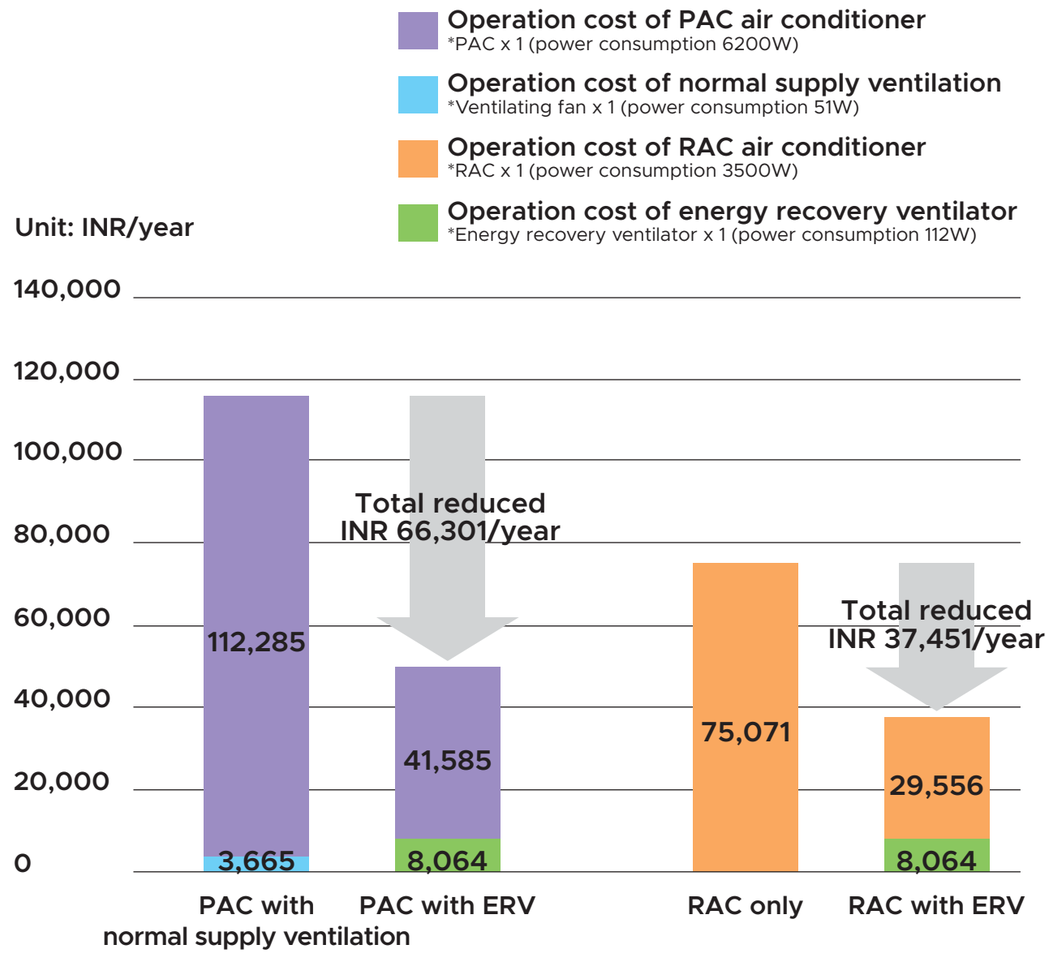


Summer Time

Utilize indoor return air to cool down
incoming outdoor air at the heat exchange unit

Cost Efficiency

OPERATING COST COMPARISON WITH OR WITHOUT PANASONIC ENERGY RECOVERY VENTILATOR



Based on following condition **Location: India**

PAC Air Conditioner
- Indoor: Cooling 25°C (RH 50%)
- Outdoor: 32°C (RH 72%)
- Ventilation air volume: 200 m^2 x 3m 0.5 times/h = 300m^3/h
- Operation Time
  Air Conditioner: 12 hrs/day x 30 days = 360 hrs
  Ventilation: 12 hrs/day x 30 days = 360 hrs
- Electricity charge: INR 10/kW.h

RAC Air Conditioner
- Indoor: Cooling 25°C (RH 50%)
- Outdoor: 32°C (RH 72%)
- Ventilation air volume: 100 m^2 x 3m 0.5 times/h = 150m^3/h
- Operation Time
  Air Conditioner: 12 hrs/day x 30 days = 360 hrs
  Ventilation: 12 hrs/day x 30 days = 360 hrs
- Electricity charge: INR 10/kW.h

PAC air conditioner
Power Input: [Cooling]6.20kW (1.5 Ton)
Capacity: [Cooling]5,335Kcal/h

RAC air conditioner
Power Input: [Cooling]3.5kW (1 Ton)
Capacity: [Cooling]4,431Kcal/h

Ventilating fan
Power Input: 51W

Since energy recovery ventilator can reduce ventilation load, cooling and heating load of air conditioner are decreased subsequently. Thus the initial equipment cost for air conditioner can be possibly reduced.
Remark: Calculation was carried out in a controlled environment. Actual result might vary depending on actual environment.

Energy Recovery Ventilator

FV-15ZY1

Replacement Filter
Part No.: FV-FP15ZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

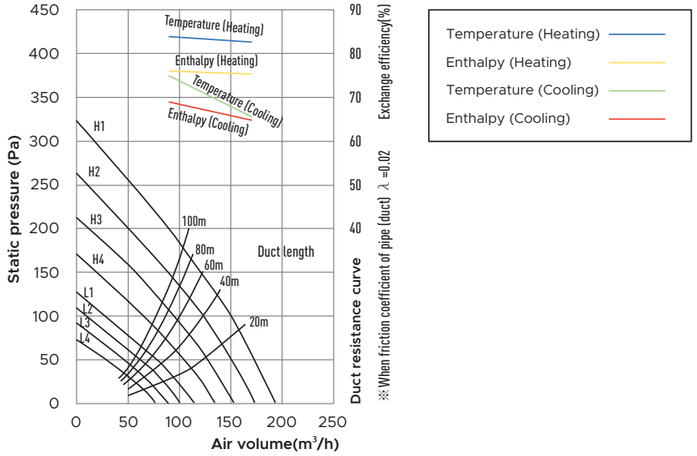
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-15ZY1G.

Features

Air Volume up to **150 m³/h**

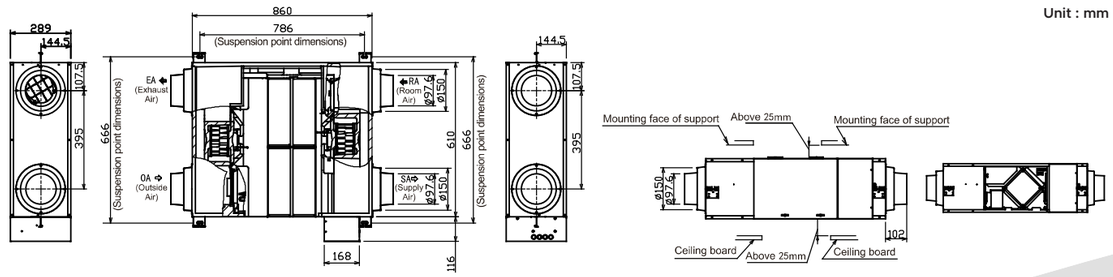
- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

Performance



Dimensions

Unit : mm



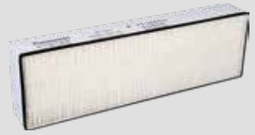
Model: FV-15ZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m³/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	100	150	80	68	83	66	76	37	Ø100	23
	Lo	36	90	30	75	84	69	76	29		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator

FV-25ZY1



Replacement Filter
Part No.: FV-FP25ZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

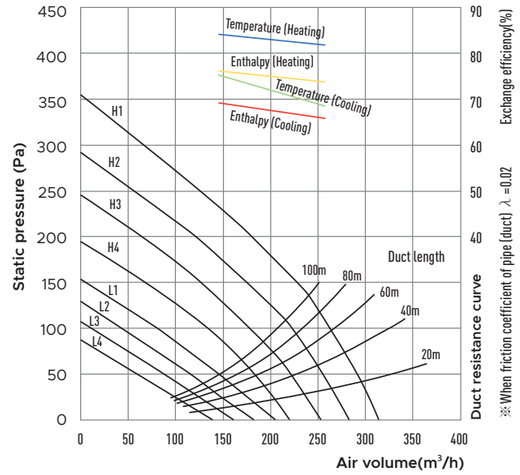
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-25ZY1G.

Features

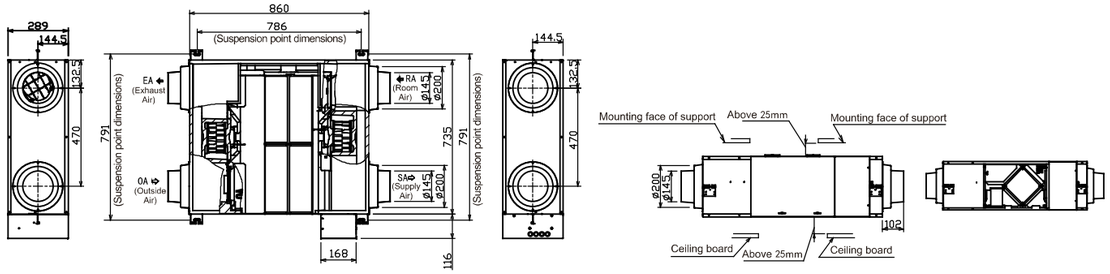
Air Volume up to **250 m³/h**

- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

Performance



Dimensions



Model: FV-25ZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m³/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	120	250	112	69	82	66	74	38	Ø150	27
	Lo	43.5	150	45	75	84	69	76	28		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator
FV-35ZY1

Replacement Filter
Part No.: FV-FP35ZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

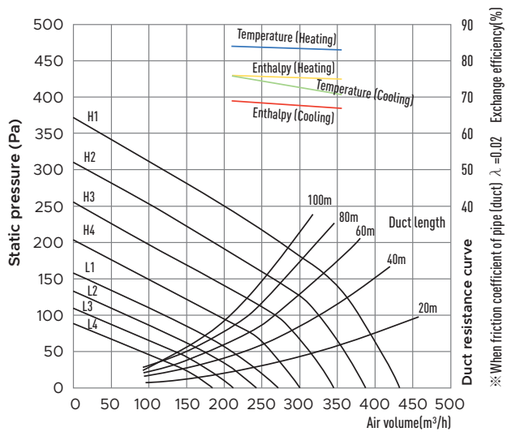
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-35ZY1G.

Features

Air Volume up to **350 m³/h**

- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

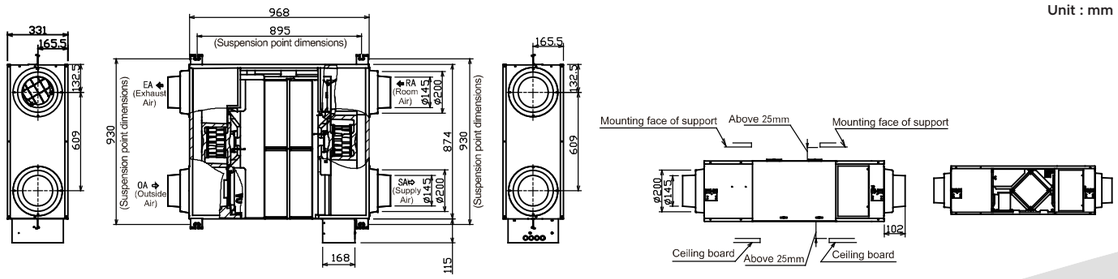
Performance



Temperature (Heating) — Temperature (Cooling)
Enthalpy (Heating) — Enthalpy (Cooling)

Dimensions

Unit : mm



Model: FV-35ZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m³/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	140	350	149	71	83	67	75	39	Ø150	37
	Lo	50.5	210	58	76	84	69	76	33		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator
FV-50ZY1

Replacement Filter
Part No.: FV-FP50ZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

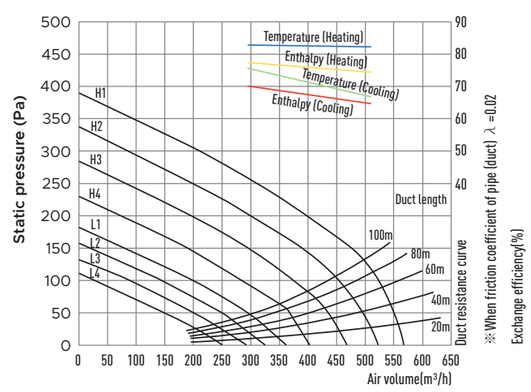
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-50ZY1G.

Features

Air Volume up to **500 m³/h**

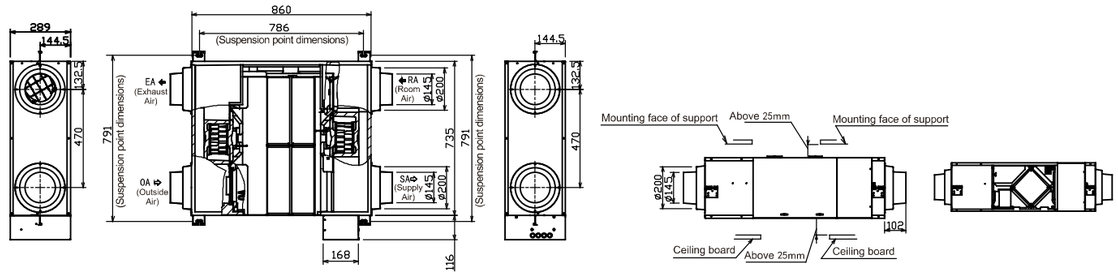
- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

Performance



Temperature (Heating) — Temperature (Cooling)
Enthalpy (Heating) — Enthalpy (Cooling)

Dimensions



Model: FV-50ZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m³/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	130	500	189	65	81	62.5	73	43	Ø200	40
	Lo	47	300	76	74	82	68	76	32		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator
FV-65ZY1

Replacement Filter
Part No.: FV-FP65ZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

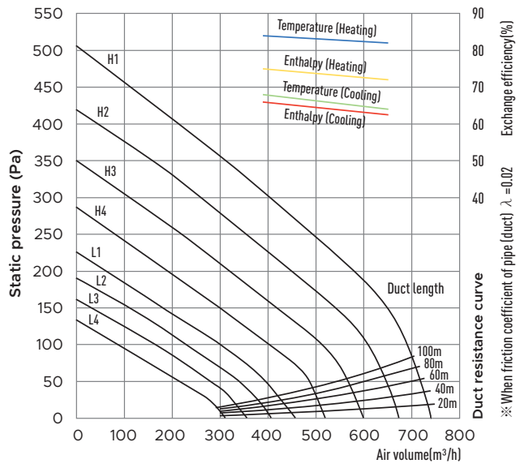
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-65ZY1G.

Features

Air Volume up to **650 m³/h**

- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

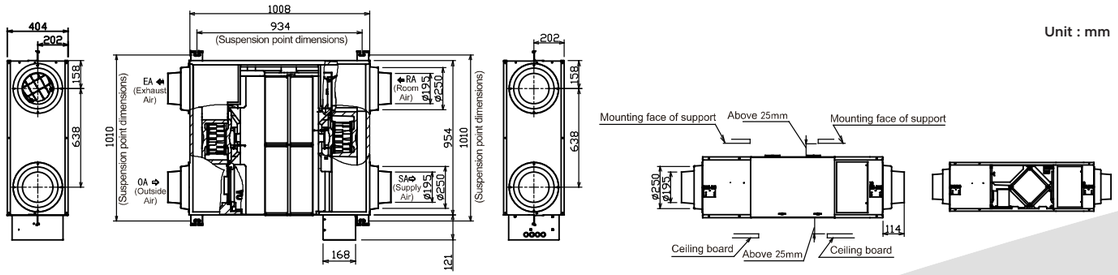
Performance



Temperature (Heating) — Temperature (Cooling)
Enthalpy (Heating) — Enthalpy (Cooling)

Dimensions

Unit : mm



Model: FV-65ZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m^3/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	150	650	441	64	82	62.5	72	45	Ø200	48
	Lo	54	390	180	68	84	66	75	34		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator
FV-80ZY1

Replacement Filter
Part No.: FV-FP80ZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

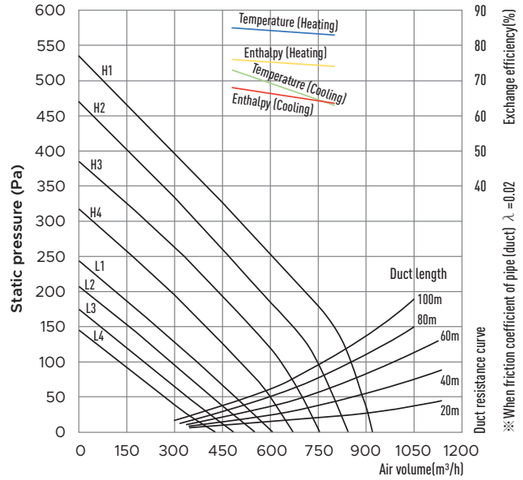
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-80ZY1G.

Features

Air Volume up to **800 m³/h**

- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

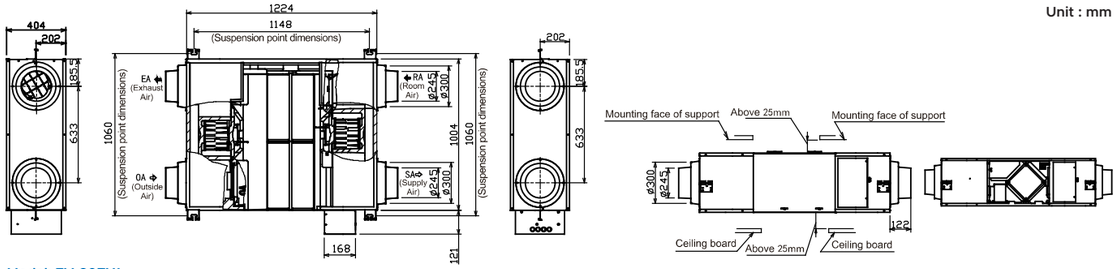
Performance



Temperature (Heating) — Temperature (Cooling)
Enthalpy (Heating) — Enthalpy (Cooling)

Dimensions

Unit : mm



Model: FV-80ZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m^3/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	150	800	494	63	83	63.5	73	45	Ø250	60
	Lo	54	480	212	73	85	68	75	35		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator
FV-1KZY1

Replacement Filter
Part No.: FV-FP1KZY1
Cleaning period: once per month
Replacement period: every 4 to 6 months

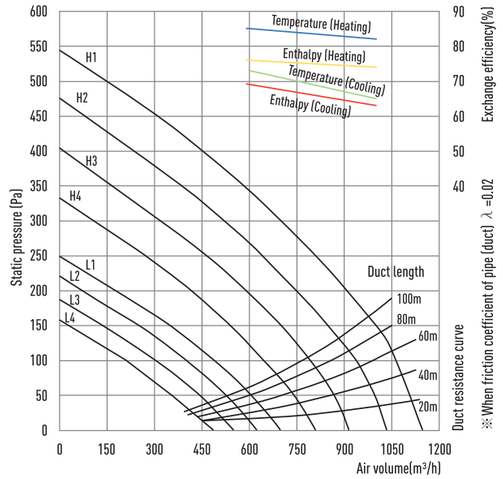
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-1KZY1G.

Features

Air Volume up to **1000 m³/h**

- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

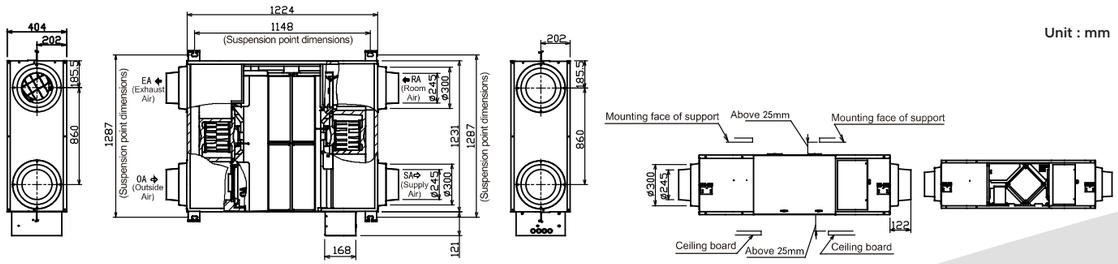
Performance



Temperature (Heating) — Temperature (Cooling)
Enthalpy (Heating) — Enthalpy (Cooling)

Dimensions

Unit : mm



Model: FV-1KZY1

Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m³/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	150	1000	578	65	82	63	74	46	Ø250	64
	Lo	54	600	235	73	85	69	76	36		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

Energy Recovery Ventilator
FV-1HZY1

Replacement Filter
Part No.: FV-FP80ZY1 (2 sets are used each time)
Cleaning period: once per month
Replacement period: every 4 to 6 months

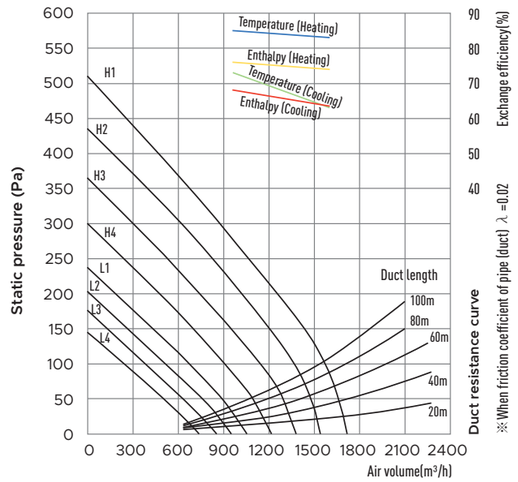
Safety is verified by various standards including IEC (report no. 230106103GZS-001), UKCA (report no. 230106101GZU-001) and CE (report no. 230106101GZU-001)
^UKCA and CE reports are as reference only. They are only applicable to European model FV-1HZY1G.

Features

Air Volume up to **1500 m³/h**

- MERV16 Filter
- Air-Con Connection
- High Efficiency
- 24 Hours Vent
- Two Ventilation Modes
- Low Noise

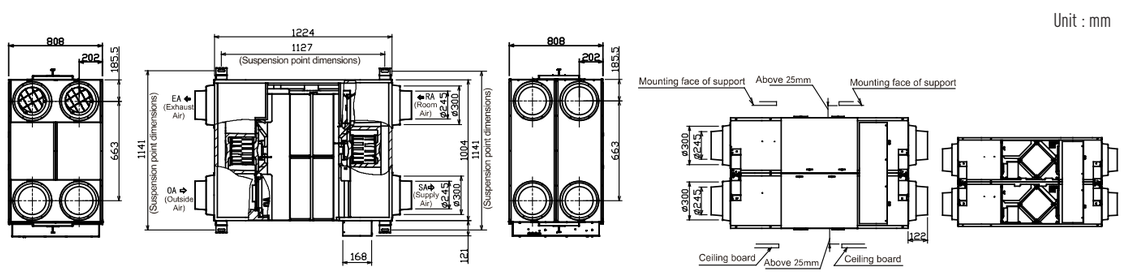
Performance



Temperature (Heating) — Temperature (Cooling)
Enthalpy (Heating) — Enthalpy (Cooling)

Dimensions

Unit : mm



Model: FV-1HZY1

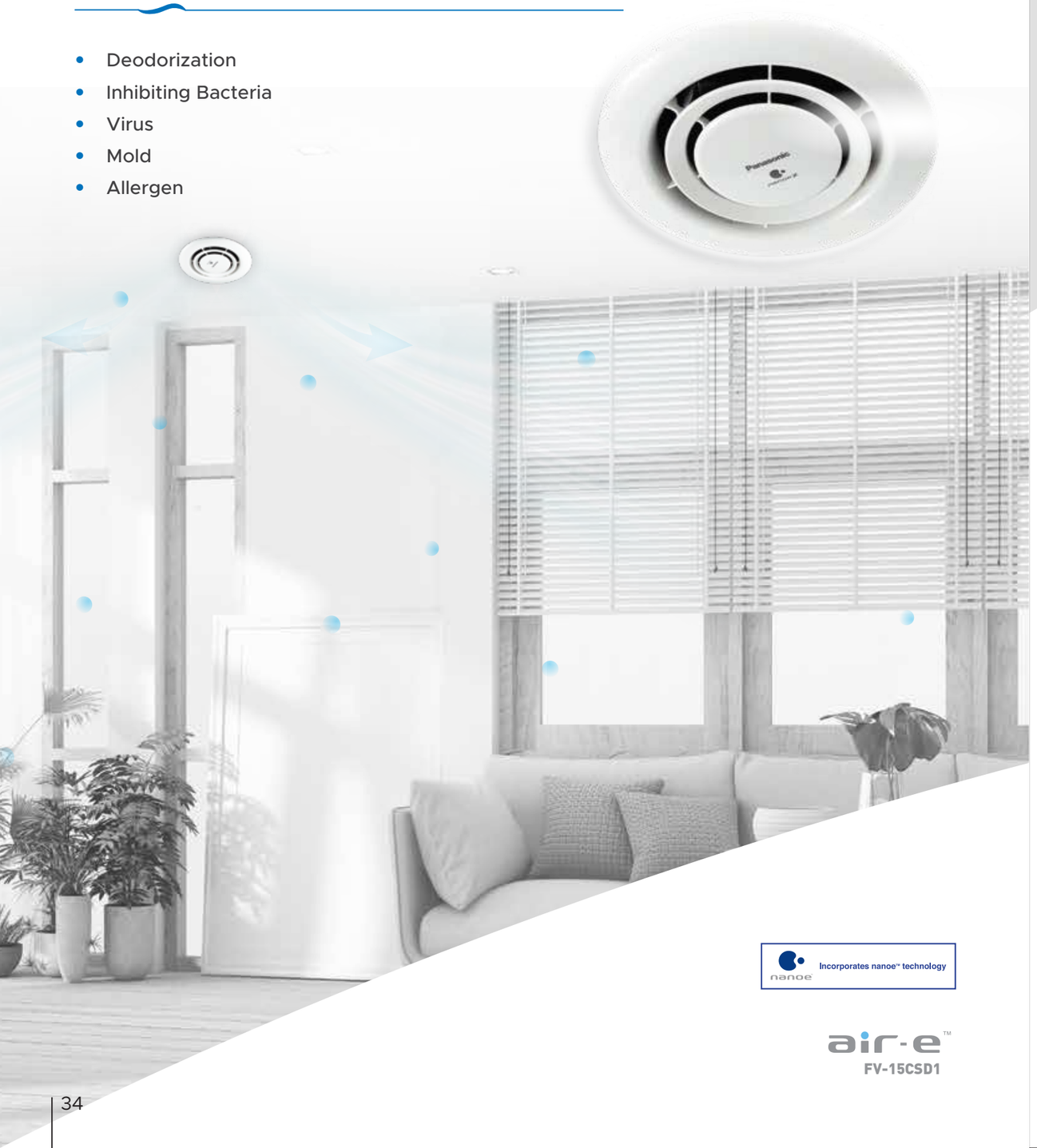
Voltage & Hz	Notch	Static Pressure (Pa)	Air Volume (m³/h)	Input Power (W)	Temperature Exchange Efficiency (%)		Enthalpy Exchange Efficiency (%)		Noise (dB(A))	Applicable duct diameter	Net Weight (kg)
					Cooling	Heating	Cooling	Heating			
230V-50Hz	Hi	130	1500	987	63	83	63.5	73	49	Ø250	116
	Lo	48	900	430	73	85	68	75	41.5		

1. The input power and exchange efficiency are the values measured under the standard air volume.
2. The above specification are the values measured under the factory set.
3. The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
4. The noise is measured 1.5 m directly below the center of the energy recovery ventilator. The noise value of the product is measured in a full anechoic chamber. Under actual conditions, due the impact of ambient sound, the noise value will be greater than the target value. The noise rises by about 1 dB (A) under reverse installation.
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

nanoe™X

REFRESH INDOOR AIR FOR
YOUR COMFORT ALWAYS

- Deodorization
- Inhibiting Bacteria
- Virus
- Mold
- Allergen



Incorporates nanoe™ technology

air-e™
FV-15CSD1

In our daily life, there are various odors and smells generated from indoor activities that may affect our comfort. Also, the pollutants we brought in from outdoor may have inverse impacts to the residents, while the mold grow fast in humid seasons would cause allergic problems to some individuals.

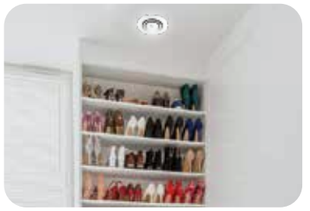
BODY ODOR | TOBACCO SMELL | BACTERIA | POLLEN | FOOD SMELL

MOLD | VIRUSES | GARBAGE ODOR

Purify the indoor air with the unique nanoe™ X technology by

Air-e (nanoe™ X Generator)


Walk-in Closet


Shoe Cloakroom


Changing Room


Living Room


Dining Area


Bedroom


Guest Room


Rest Room


Elderly House


Meeting Room


Nursery


Reception

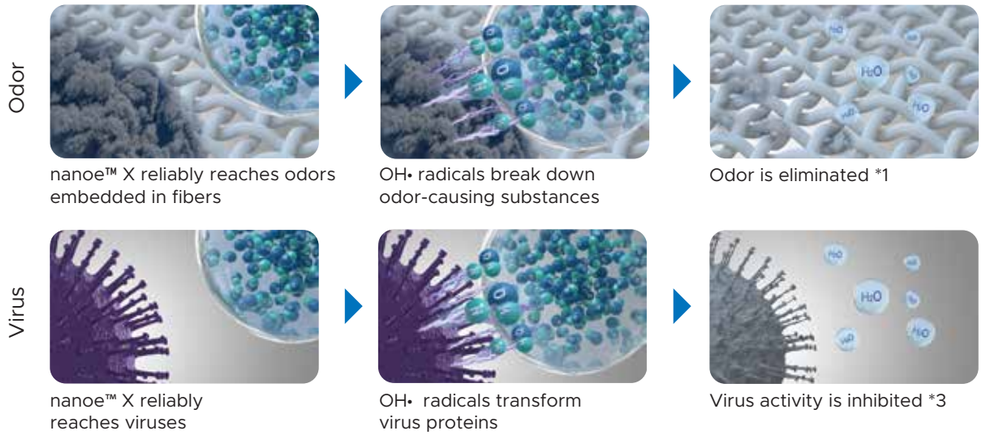
What is nanoe™ ?

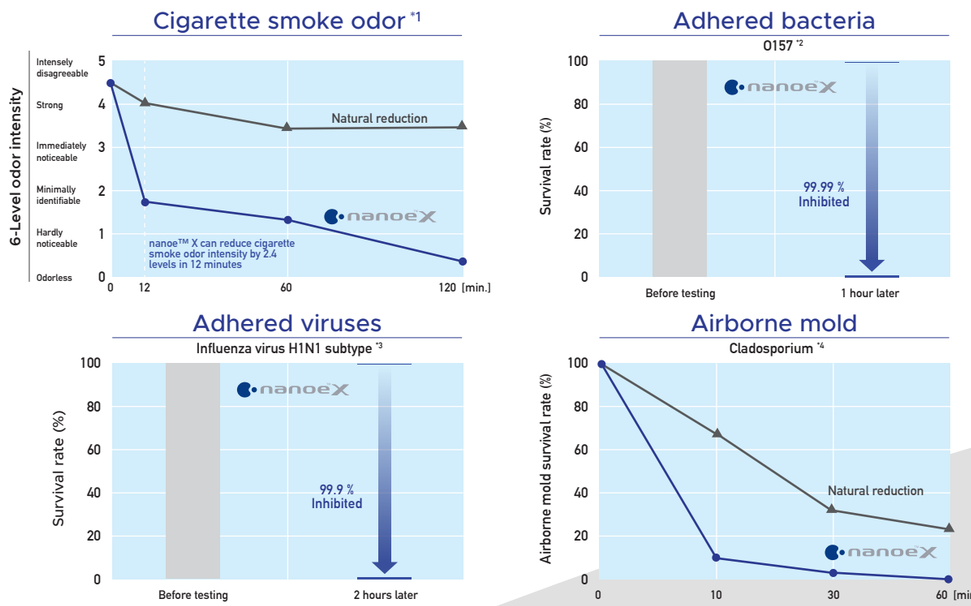
nanoe = nano-technology + electric

nanoe™ are long-life water-wrapped capsules with plentiful Hydroxide (OH•) radicals created from water molecules. Their sizes are only 5-20nm that can penetrate the fabrics thoroughly and reach in far corners to absorb viruses and allergens.
nanoe™ X device generates 4.8 trillion of OH• radicals per second that is 10 times to nanoeTM device. OH• radical possesses the characteristics of inhibiting viruses, bacteria, odors and allergens, by removing hydrogen (H) from them. The more the OH• radical, the higher effectiveness of anti-virus power.

1 nm (nanometer) = 0.000000001 m (one billionth of meter)

How nanoe™ X inhibit pollutants?



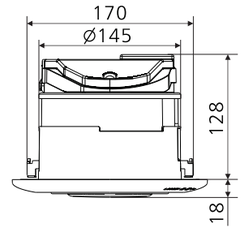


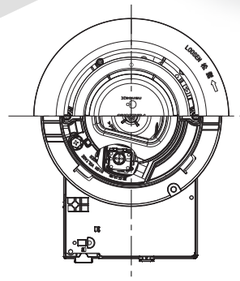
*1 <Cigarette smoke odor> [Test organization] Panasonic Product Analysis Center [Test method] Verified using the 6-level odor intensity scale method in an approximately 23m³ sized test room [Test method] nanoe™ released [Test substance] Surface-attached cigarette smoke odor [Test result] Odor intensity reduced by 2.4 levels in 12 min. (4AA33-160615-N04)
*2 <Adhered bacteria (O157)> [Test organization] Japan Food Research Laboratories [Test method] Measured the number of bacteria adhered to a cloth in an approximately 45L sized airtight test room [Test method] nanoe™ released [Test substance] Adhered bacteria [Test result] Inhibited by at least 99.99% in 1 hour (208120880_001)
*3 <Adhered virus (Influenza virus H1N1 subtype)> [Test organization] Kitasato Research Center for Environmental Science [Test method] Measured the number of virus adhered to a cloth in an approximately 1m³ sized airtight test room [Test method] nanoe™ released [Test substance] Adhered virus [Test result] Inhibited by at least 99.9% in 2 hours (21_0084_1)
*4 <Airborne mold (Cladosporium)> [Test organization] Japan Food Research Laboratories [Test method] Measured the number of mold altered in an approximately 23m³ sized test room [Test method] nanoe™ released [Test substance] Airborne mold [Test result] Inhibited by at least 99% in 1 hour (205061541-001)

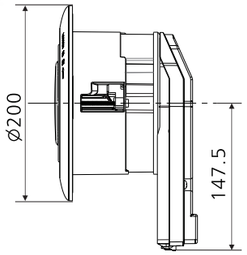
Air-e (Ceiling Mount nanoeTMX Generator)

FV-15CSD1

- nanoe™ X Purification
- Silent Operation
- Low Power Consumption
- Easy Installation
- Contemporary Design
- Compact Size







SPECIFICATION

Model	Voltage		Air Volume		Consumption [W]	Noise [dB(A)]	Weight [kg]
	[V]	[Hz]	[m3/h]	[CFM]			
FV-15CSD1	220	50	15	8.8	4	23.5	1.1*
	230	50	16	9.4	4	25.5	
		60	16	9.4	4	25.5	
	240	50	17	10	4	27	

* The weight of the unit with power cord / plug is 1.3 Kg

- The value of air volume, power consumption and noise are specified at static pressure 0 Pa.
- The value of air volume is the mean value and a tolerance of ±10% is allowed.
- The value of noise level is A weight average sound pressure level, the mean value is measured by our company. A tolerance of +3dB/-7dB is allowed. The noise is measured at 1m apart from the left, the front and the below of the product.
- Condition for generating nanoe™ X
  - Room temperature : about 5℃ ~ 40℃ (Dew point temperature more than 2℃)
  - Relative humidity : about 30% ~ 85%
  nanoe™ X is generated using the air in the room, and its amount is subject to the temperature and humidity.

DISCLAIMER

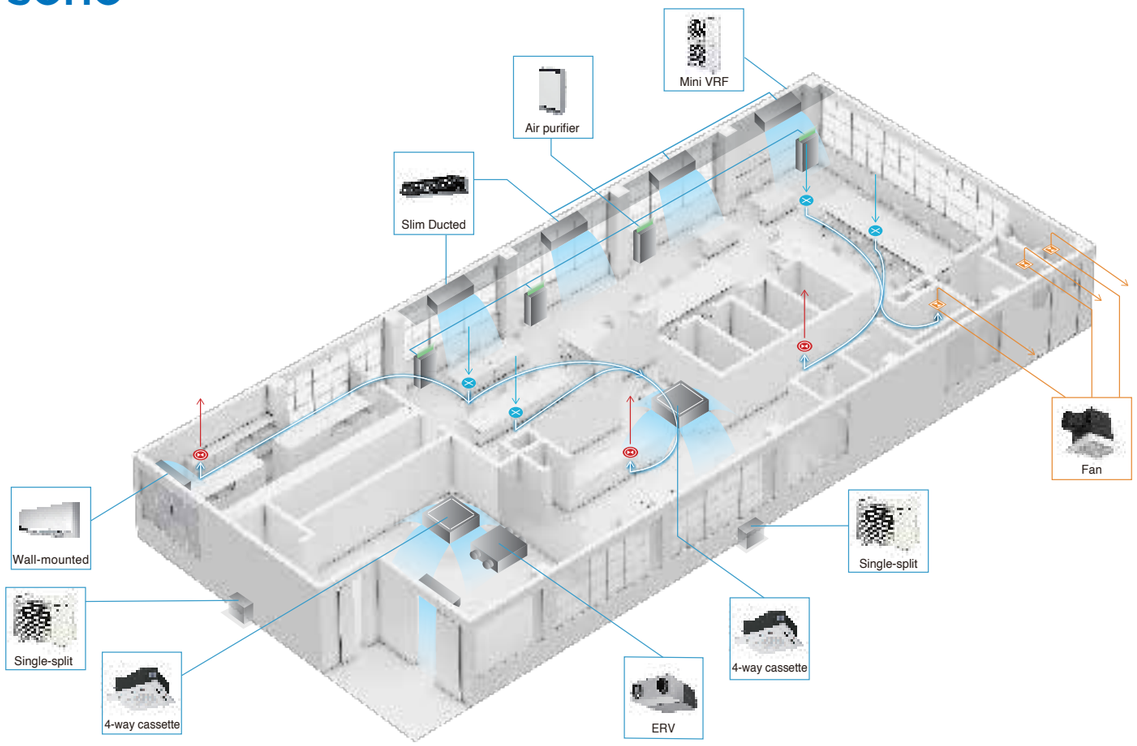
- Data provided regarding the effectiveness of nanoe™ X and nanoe™ have been obtained through experiments under special conditions using devices which generate electrostatic atomized water, and have not been tested through commercial products with the devices incorporated in them.
- Deodorization effect varies according to the environment (temperature and humidity), operation time, odor, and fabric types. It does not eliminate toxic substances in cigarettes (carbon monoxide, etc.). Odors that are continuously generated (e.g. building material odors and pet odors) are not completely eliminated. Results may vary based on usage, and seasonal/environmental variables (temperature and humidity). nanoe™ X and nanoe™ inhibit activity or growth of viruses, but do not prevent infection.
- Individual results may vary based on usage, and environmental variables (temperature and humidity).

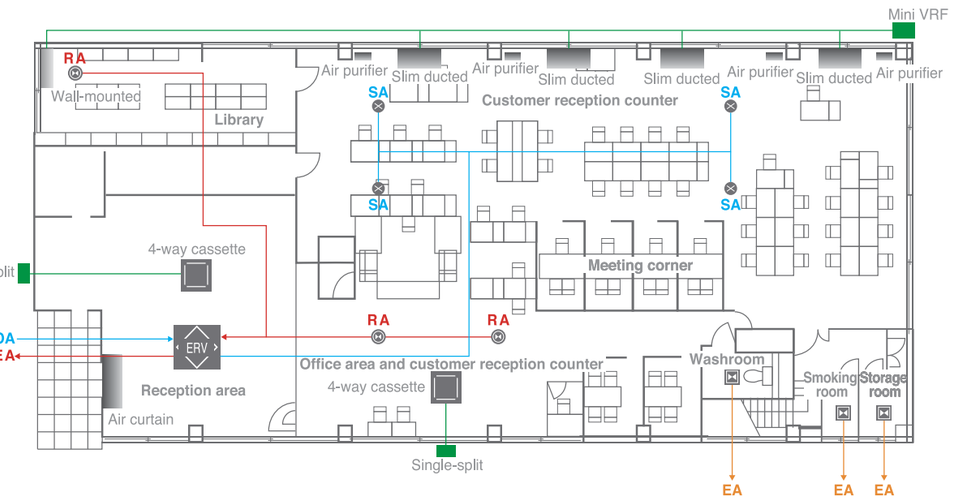
Panasonic
Panasonic Ecology Systems Co., Ltd.
http://www.plshk.panasonic.hk/

- Actual colors may vary slightly from shown.
- Specifications are subject to change without prior notice.

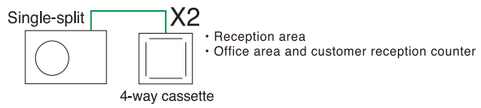
CATALOG NO: P-AE001A1
Printed in Hong Kong 09.21

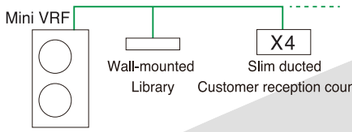
SOHO





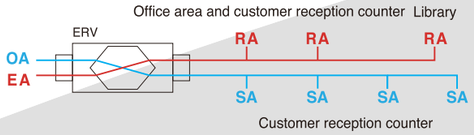
Air conditioning plan

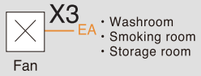




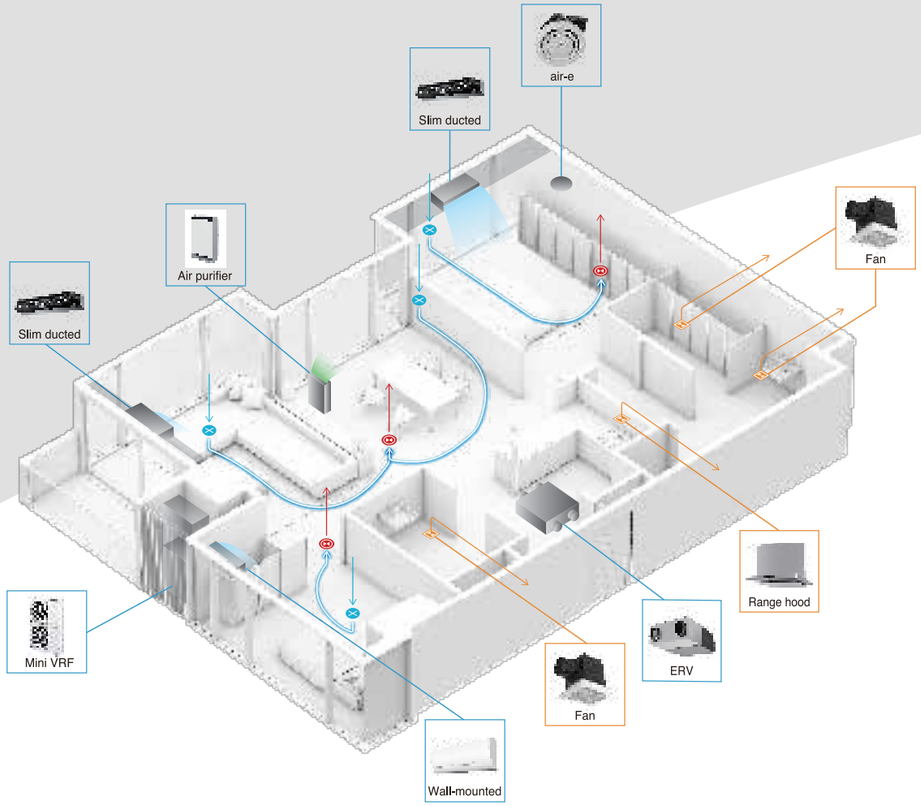
Please consult your Panasonic representative about a plan that matches your particular environment.

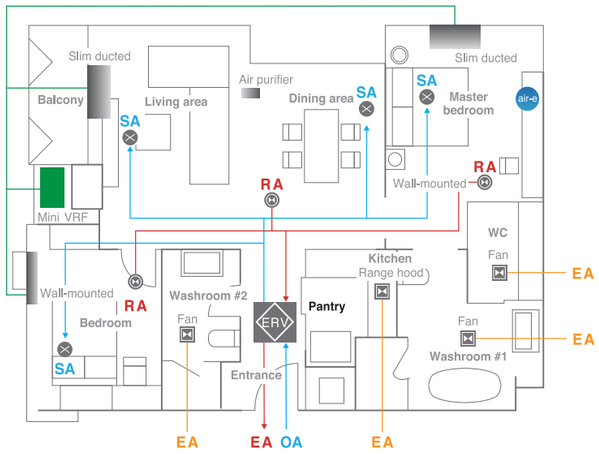
Ventilation plan



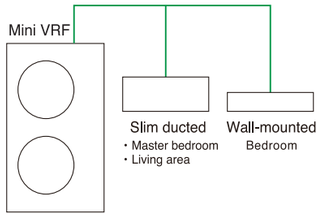


CONDOMINIUM

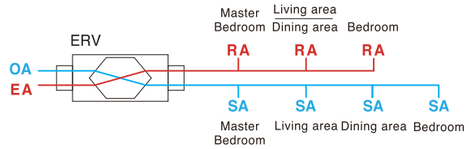




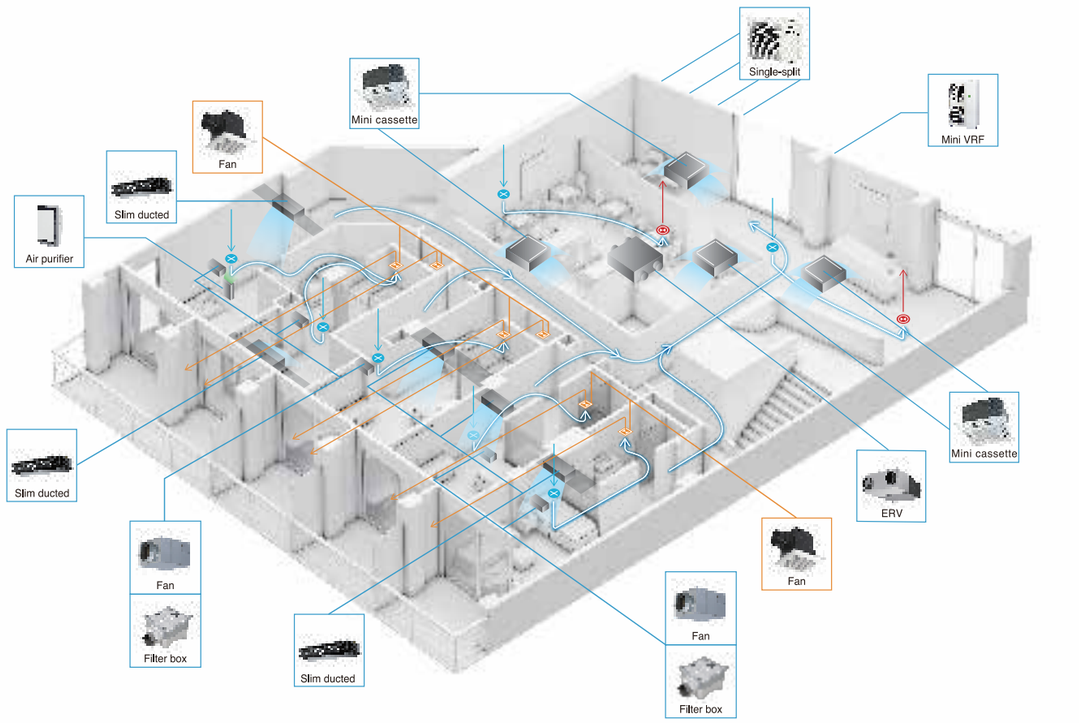
Air conditioning plan

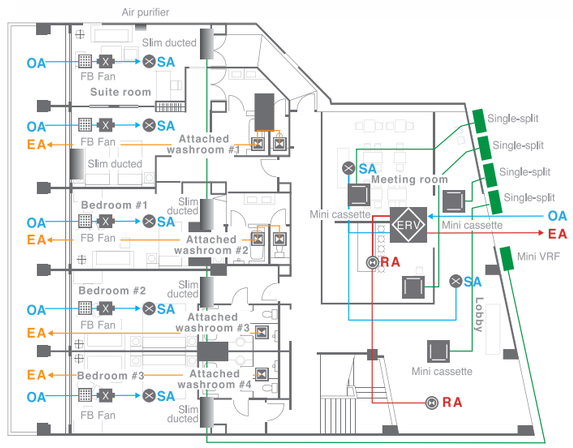


Ventilation plan

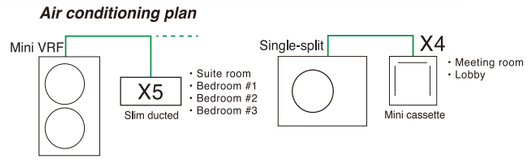


BOUTIQUE HOTEL

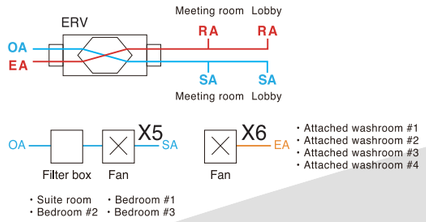




Air conditioning plan



Ventilation plan



Case Study

nanoe™ X technology helps S P Setia create a safer environment in their lifestyle mall and sales galleries

D' Network Lifestyle Mall, S P Setia Sales Galleries & Offices

Location :
Setia Alam, Malaysia

Client:
S P Setia Berhad

Application : Shop, Gallery, Office

S P Setia Berhad - an award-winning public listed company and a market leader in property development in Malaysia was looking to create a safer environment for customers and employees by keeping indoor air safe against the invisible threat of the COVID-19 virus. The company found the solution in nanoe™ X technology, a Panasonic's patented airpurification technology which is embedded in Panasonic air quality devices such as air-e nanoe™ X generator and air conditioners.

Challenge: Keeping Indoor Air Safe in the New Normal

COVID-19 virus spreads via airborne particles and droplets. A crucial element to keep everyone safe is the indoor air quality. S P Setia proactively looked for measures to create a safer environment, free of any form of pathogens to give their customers and employees the confidence to resume working and living in the new normal.

Solutions & Technology Applied

S P Setia turned to Panasonic to fully fit out their commercial spaces, sales galleries, and offices with Panasonic's patented nanoe™ X air purification technology indoor air solutions.

Panasonic nanoe™ X technology offers the benefits of hydroxyl radicals (also known as OH radicals) contained in water and has the capacity to inhibit bacteria, viruses, and other pollutants as well as deodorise odours. The nano-sized particles of nanoe™ X allow for deep penetration into soft furnishings like fabric, sofas, and carpets. nanoe™ technology is proven to effectively inhibit more than 99%* of novel coronavirus.

The Panasonic air-e nanoe™ X generator is installed in all D'Network's indoor areas, which include all F&B outlets, retail shops, clinic, kindergarten as well as the grocer store. Shoppers, diners, and visitors of D'Network can now go about with ease without worrying about contaminated air or surfaces.

air-e nanoe™ X generator installed in a clinic waiting area.

air-e nanoe™ X generator installed in one of the outlets in D' Network F&B.

air-e nanoe™ X generator installed in a kindergarten located in D' Network.

air-e nanoe™ X generator installed in the grocer store.

air-e nanoe™ X generator installed in the spa outlet.

D'Network offers safer air to patrons in the entire D'Network's indoor area.

nanoe™ X technology enables safe dining outexperience in the new normal.

air-e nanoe™ X generator installed in D'Network is powered by solar and is in full operation for 24 hours.

Addressing property buyers' safety, S P Setia also invested in over 800 units of Panasonic's ceiling mounted air-e nanoe™ X generator in its 29 sales galleries nationwide to create safer indoor air - where visitors can have peace of mind when visiting S P Setia's property sales galleries.

air-e nanoe™ X generator installed in Setia Alam Welcome Centre.

air-e nanoe™ X generator installed in Setia Eco Park Sales Gallery.

air-e nanoe™ X generator device in Setia Eco Park Sales Gallery.

Cassette air conditioner equipped with nanoe™ X installed in Setia Alam Welcome Centre's meeting room.

In S P Setia HQ and offices, 20 units of Panasonic 4-way cassette air conditioners were installed in the meeting rooms and working areas to provide better indoor air for employees. The Panasonic 4-way cassette provides a 360° wide airflow that cools large spaces evenly while its flat horizontal design fits neatly into the ceiling. The air conditioners are also equipped with nanoe™ X to provide healthy, clean air at work so employees can stay protected throughout the day.

Cassette air conditioner equipped with nanoe™ X

> "As a caring organization and employer, we are responsible to ensure a safe and healthy environment for our customers and employees. We chose Panasonic's nanoe™ X technology as we believe in its track record of providing good air quality through its appliances, which have undergone rigorous lab tests with proven results,"
>
> S P Setia's deputy president and chief operating officer Datuk Seri Koe Peng Kang says.

Products Installed

air-e nanoe™ X generator (1,000 units)

Cassette air conditioner (20 units)

Case Study

Comfortable homes with enhanced indoor air quality

MIRAI Residences

Location :
Kajang, Selangor, Malaysia

Client:
MKH Property Ventures Sdn. Bhd.

Application :
Residential

MKH Property Ventures Sdn. Bhd., a joint venture company established in 2018 by MKH Berhad and Panasonic Homes Malaysia Sdn. Bhd. from Panasonic Homes Group. This collaboration leverages MKH Berhad's know-how in the real estate development business coupled with PanaHome's technology, construction expertise, and ideas for quality living to build sustainable homes.

One of the notable projects under this partnership is the MIRAI Residences in Kajang 2, Selangor. It is a Japanese-inspired tranquil living space boasting a 24-hour 6 tier security system and a 159,000 sqft facilities podium. MIRAI Residences integrates 4 unique values into its interior design concept – Lifestyle, Function, Future & Design. The Lifestyle value refers to the interior aspect of a living space which includes colours and materials tailored to the current lifestyle of young adults, while the Function value gives each space a well thought-out functionality to perform daily actions. The Future value of interior design anticipates the household's needs, envisioning space for both now and into the future. Finally, the Design value improves the space by making the living space multifunctional and by promoting good air quality while aesthetically pleasant to be in.

Challenge: Creating Comfortable Living Spaces with Quality Air

More and more people are becoming aware of the importance of how the wellness of a building can help to promote better health and the wellbeing of its occupants. MKH Property Venture Sdn. Bhd. recognizes this trend and acknowledges the importance of having quality indoor air. Together, they want to enhance the wellness feature of their development to provide residences with a comfortable indoor environment safe for everyday living with improved air quality and sustainable energy solutions.

Solutions & Technology Applied

To meet their objectives, MKH Property Venture Sdn. Bhd. equipped all the units of MIRAI Residences with Panasonic's air quality solutions to bring better living spaces to homeowners through optimum ventilation and quality indoor air. MIRAI Residences is the first residential property in Malaysia to provide Quality Air for Life (QAFL) with the efficient Energy Recovery Ventilator (ERV) system.

Panasonic's ERV system provides ample ventilation in homes to ensure an optimal amount of fresh air indoors all day long while exhausting stale air, moisture, and indoor pollutants. The system is equipped with a high-efficiency PM2.5 filter to keep fine particles out of the indoor environment. The simultaneous process of supplying and exhausting indoor air via the ERV system allows heat and humidity to be exchanged, providing cooler air indoors and reducing the workload of air conditioners to cool the space, thus helping homeowners to save on electricity and costs.

Every unit in MIRAI Residences is installed with Panasonic nanoe™ X air conditioners to provide residents a comfortable, cooling, and healthy living space with purified air. The air conditioners are also embedded with a network adaptor, providing convenience to control the air conditioner from anywhere via Panasonic Comfort Cloud App. This feature also enables homeowners to switch on nanoe™ mode even without cooling operation to actively clean the air and inhibit pollutants when they are away.

Actual show unit photo of MIRAI Residences. Quality air in every living space.

Actual show unit photo of MIRAI Residences. Air conditioner installed in every unit of MIRAI Residences.

Panasonic nanoe™ X technology offers the benefits of hydroxyl radicals (also known as OH radicals) contained in water which has the capacity to inhibit bacteria, viruses, and other pollutants as well as deodorise odours. The nano-sized particles of nanoe™ X allow for deep penetration into soft furnishings like fabric, sofas, and carpets. nanoe™ technology is proven to effectively inhibit more than 99%* of novel coronavirus.

MIRAI Residences also adopted Panasonic PURETECH air filtration and ventilation system to filter out polluted air, haze, pollen and dust as well as smaller particles such as PM2.5. The system also effectively maintains good air flow and circulation of natural cool air to keep the living space naturally cool and clean.

> "From the onset of the COVID-19 pandemic, we knew that a well-ventilated indoor space was critical in helping reduce the risk of exposure to the virus, especially over a prolonged period. Panasonic's nanoe™ X technology is a natural choice for us to address the demands for comfortable homes with better indoor air quality in the new normal"
>
> said MKH Bhd. Group Managing Director, Tan Sri Eddy Chen Lok Loi.

Products Installed

Energy recovery ventilator (940 units)

Wall-mounted air conditioner (2,992 units)

Puretech (556 units)

A Safer working and learning space with nano™ X Technology

air-e nanoe™ X generator installed in a campus' cafeteria.

air-e nanoe™ X generator installed in a meeting space.