## Panasonic

ONE-STOP ECO IAQ SOLUTION

ENERGY SAVING AIR PURIFICATION THERMAL COMFORT

# ENERGY RECOVERY VENTILATOR



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

CATALOG NO: P-THERV002

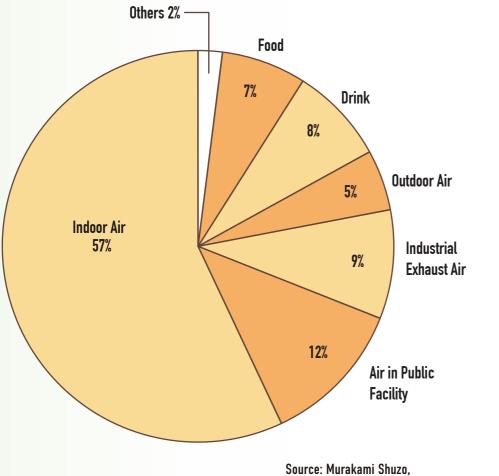


### **IMPORTANCE OF VENTILATION**

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.

### IMPORTANCE OF INDOOR AIR QUALITY(IAQ)

People spend a large part of time in indoor environment and the cleanliness of the air we breathe in is very important to our health. In airtight houses where windows are usually closed and air-conditioning is used, it is poorly ventilated. The poor indoor air quality leads to the discomfort of living in this housing condition.



"Indoor Environments and Air Pollutants"

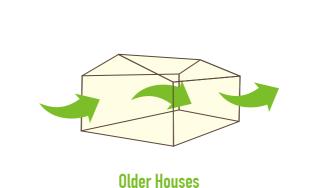
Besides "Sick House Syndrome", insufficient ventilation also affects human's health and aging of building

- Yellow strain on wall caused by tobacco smoking
- Allergic illnesses caused by mold and mite as a result of high humidity
- Discomfort due to smells from toilet and cooking
- Low concentration of oxygen due to lack of fresh air intake
- Building deterioration resulting from condensation and mold

### **DOWNSIDE OF AIRTIGHT HOUSE**

### **Home Airtightness**

Homes designed and built in recent years are more airtight and energy efficient than in the past. To obtain an airtight design, house wraps, newly designed windows and doors, sealing caulks and other insulating materials are used to create a seal for optimum energy efficiency. It results in cost saving of heating and air-conditioning at home, but pollutants retained in airtight buildings can be hazardous to our health and can jeopardize structural integrity.

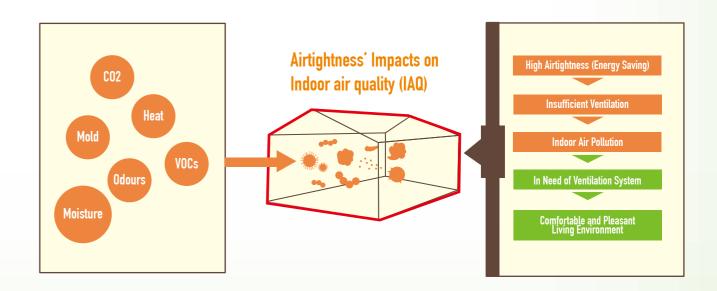


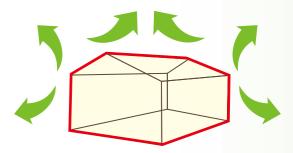
Natural and wooden building materials are adopted that allow air exchange

between interior and exterior

### **Disadvantages of Airtight Buildings**

Highly airtight house restricts air ingress from outside that can closely retain the expected indoor temperature for energy saving. However, airtightness also introduces the problems of indoor air quality (IAQ) which may be a cause of sick house syndrome.





### **Modern Houses**

Chemical made building materials and sashes are employed to ensure high airtightness

### **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.



Filter outdoor large dust particles and insects

Filter dust and particles

as tiny as 0.3µm

Pre Filter

**MERV 16 Filter** 

WIDE LINE-UP FOR VARIOUS APPLICATIONS

The latest series of Panasonic ERV consists of a wide line-up to cater different application scenarios.





FV-15ZY1 FV-25ZY1 150 m³/h 250 m<sup>3</sup>/h



Individual room



Individual room



Meeting room (small size)

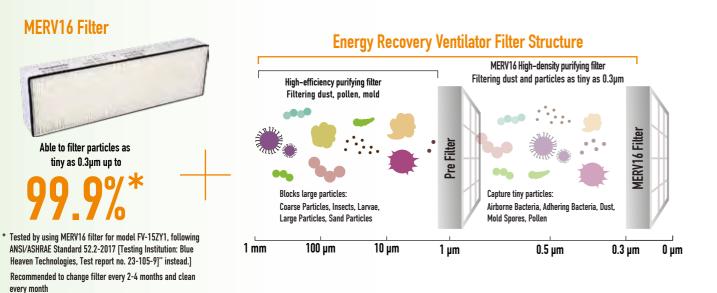


Individual room

XNumber of unit to install might vary depending on the actual situation

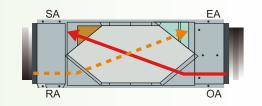
**Efficient Filter** 

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



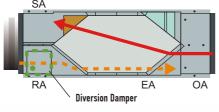
### **Speedy Bypass Ventilation**

Diversion damper is equipped for bypass ventilation. Return airflow (RA) is greater than supply airflow (SA). It allows speedy exhaust of indoor polluted air. By using bypass ventilation during season change, it can be more comfortable and achieve better energy saving.



### [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]

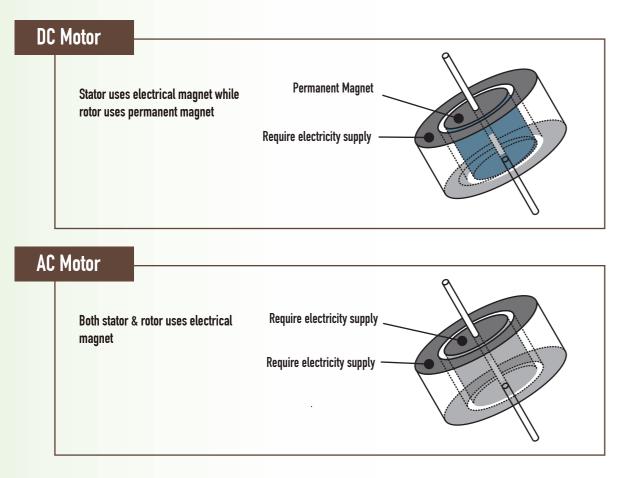
- Bypass ventilation
- When outdoor air is highly polluted, it is not . recommended to use bypass ventilation. It may cause negative pressure and polluted outdoor air may ingress into the houses through the gaps at the doors and windows.

ne			L	arge Air Volume
•				88
FV-35ZY1 350 m <sup>3</sup> /h FV-50ZY1 500 m <sup>3</sup> /h	FV-65ZY1 650 m <sup>3</sup> /h	FV-80ZY 800 m³/h	FV-1KZY1 1000 m³/h	FV-1HZY1 FV-2KZY1 1500 m³/h 2000 m³/h
	Living room			Villa
Dining area	L	eisure area	a	Lobby
Ma (Mediu	eeting room m ~ Large s	ize)		Office area
				Common area
uation				

### **EFFICIENCY** ENERGY AND COST SAVINGS

### **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.



### **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) 376W

### **Common Issues with Traditional Ventilation System**

One common issue with traditional "air-in-air-out" ventilation system is that huge amount of heating and cooling energy can be lost when indoor air is constantly exhausted out of the building. Little could be done to make up for this energy loss, except keep adjusting the room temperature by the air conditioning equipment. Air conditioning solution may help maintain indoor temperature at tolerable level, but it drives heating and cooling bills much higher than necessary.

### Green Ventilation Solution for Green Building

With the adoption of DC motor in the existing energy recovery ventilator line-up, Panasonic is designated to tackle the energy issues found with traditional ventilation system. Panasonic ERV is providing building owners with a cost-effective way to achieve good ventilation while controlling costs incurred by heating and cooling.

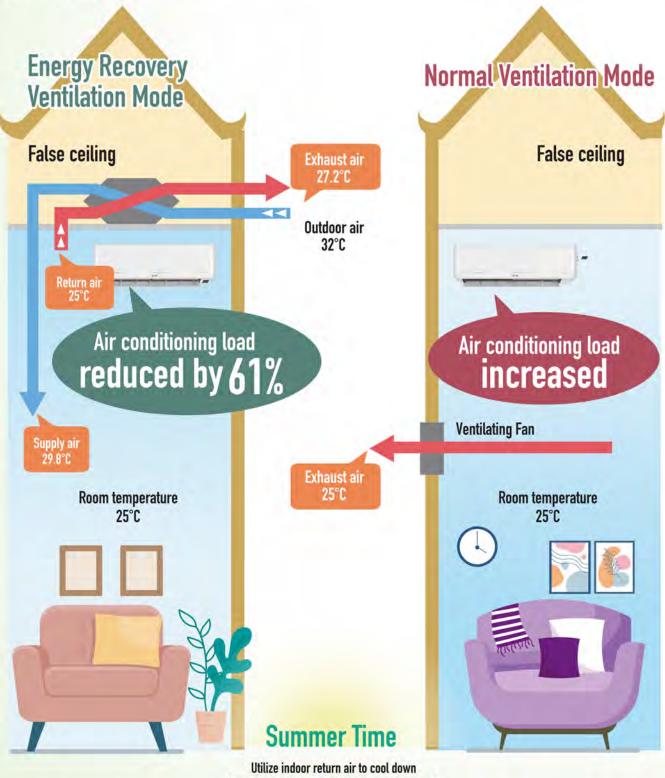
Panasonic ERV can achieve high efficiency in air purification and energy saving, making it one of the green ventilation solutions to be implemented in building projects that concern about eco-friendly environment.



### **EFFICIENCY** ENERGY AND COST SAVINGS

### **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 cool air to cool down outdoor air before intake to indoor, the indoor cool loss is significantly reduced.



incoming outdoor air at the heat exchange unit

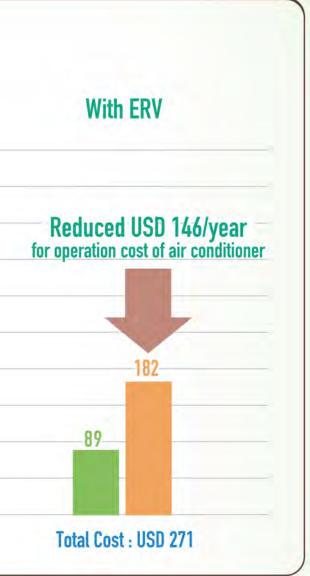
### **Cost Efficiency**

Operating cost comparison with or without Panasonic Energy Recovery Ventilator Operation cost of energy recovery ventilator \*Energy recovery ventilator FV-15ZY1 x 1 **Operation cost of RAC air conditioner** \*RAC x 1 Without ERV With ERV 500 450 450 400 350 300 USD/year 250 Init 200 182 150 100 89 50 0 N Total Cost : USD 450 Total Cost : USD 271 Based on following test condition Location: Thailand Indoor: Cooling 25°C (RH 50%) RAC air conditioner Outdoor: 32°C (RH 72%) Brand: Panasonic • Ventilation air volume: 100m<sup>2</sup> x 3m 0.5 times/hr = 150m<sup>3</sup>/h Model: CS-RE12MKA Power Input: [Cooling] 3.50kW / [Heating] 4.25kW • Operation Time: Air Conditioner: 12 hrs/day x 180 days = 2,160 hrs Capacity: [Cooling] 3,009Kcal/h / [Heating] 3,651Kcal/h Ventilation: 24 hrs/day x 180 days = 4,320 hrs · Electricity charge (business): USD 0.113/kW.h

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 : Testing was carried out in a controlled environment. Actual result might vary.





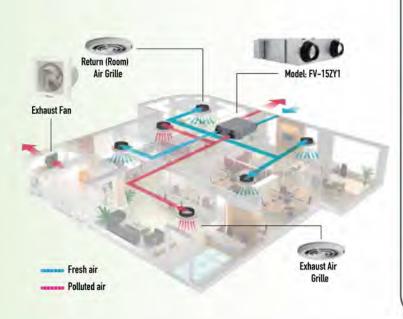
## COMFORT

### **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.



### **Easy Installation and Maintenance**

### **Slim Design**

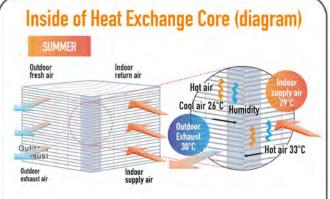
Installation has never been easier. With the height of only 450mm, Energy Recovery Ventilator is compact to fit into small spaces.

### **Flexible Mounting**

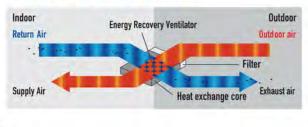
Compact design and flexible mounting allow for easy installation in various indoor settings. It can be ceiling-mounted, side-mounted onto the wall or installed upside-down.

### 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.



### **Principle of Heat Exchange**

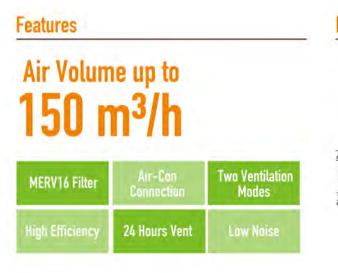




### **ENERGY RECOVERY VENTILATOR**

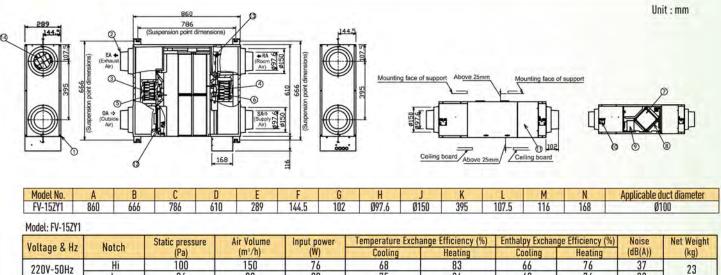
### **FV-15ZY1**





### 400 350 300 250 200 150 100 50 0

### Dimensions



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.

10

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.

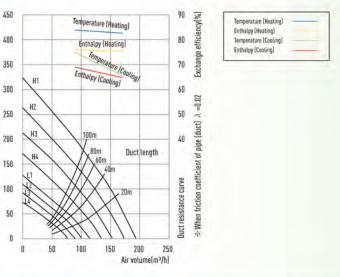
6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

9



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

### Performance



nperature Exch	ange Efficiency (%)	Enthalpy Exchan	Noise	Net Weight	
Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
68	83	66	76	37	23
75	84	69	76	29	20

### **FV-25ZY1**



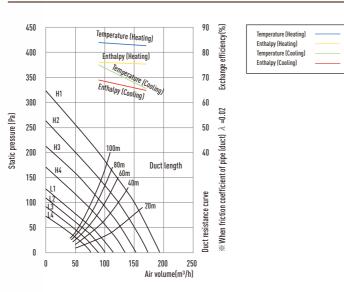
### **Features**

## Air Volume up to 250 m<sup>3</sup>/h

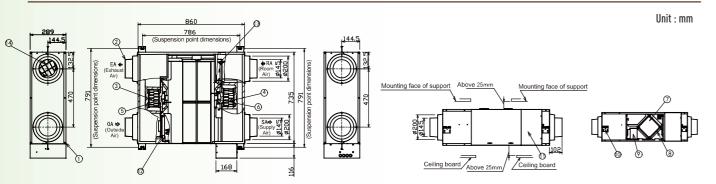
MERV16 Filter	Air–Con Connection	Two Ventilation Modes
High Efficiency	24 Hours Vent	Low Noise

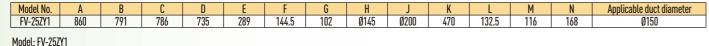
**Replacement Filter** Part No.: FV-FP25ZY1 Cleaning period: once per month Replacement period: every 4 to 6 months

### Performance



### **Dimensions**





TIOUDELT LOLIT										
Voltage & Hz	Notch	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ge Efficiency (%)	Noise	Net Weight
Vullaye & nz	NULLII	(Pa)	(m³/h)	(Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	120	250	106	69	82	66	74	38	27
2200 30112	Lo	43.5	150	45	75	84	69	76	28	27

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. pressure of 0 Pa.

3. The noise is measured 1.5 m directly below the center of the energy recovery ventilator

4. The power indicated on the name plate is the maximum value under the static. 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**

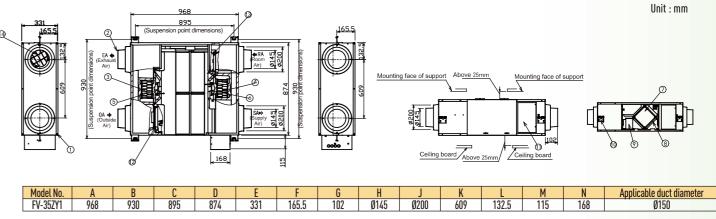
### **FV-35ZY1**



Features					
Air Volum <b>350 n</b>	-				
MERV16 Filter	Air–Con Connection	Two Ventilation Modes			
High Efficiency	24 Hours Vent	Low Noise			

# 400 [집] 300 sad 250 Static, 007

### Dimensions

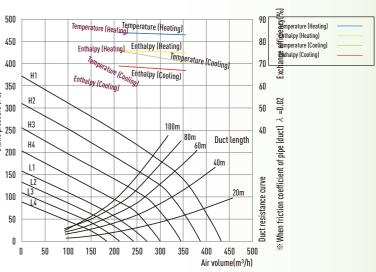


Model: FV-35ZY1										
Voltage & Hz	Notch	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ige Efficiency (%)		Net Weight
VUILAYE & HZ	NULCII	(Pa)	(m³/h)	. (Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	140	350	141	71	83	67	75	39	37
2204 30112	Lo	50.5	210	58	76	84	69	76	33	57



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

### Performance



### FV-50ZY1



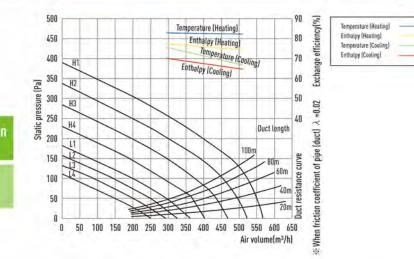
### Features

## Air Volume up to 500 m<sup>3</sup>/h

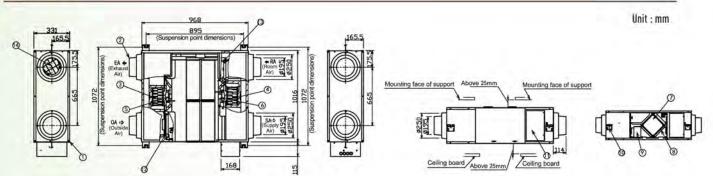
MERV16 Filter	Air-Con Connectian	Two Ventilation Modes
High Efficiency	24 Hours Vent	Low Noise

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

### Performance



### Dimensions



Model No. FV-50ZY1 Applicable duct diameter 968 1072 895 1016 331 165.5 114 Ø195 0250 665 Model: FV-50ZY1

Valtage Q IIa	Matak	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ge Efficiency (%)	Noise	Net Weight
Voltage & Hz	Notch	(Pa)	(m*/h)	(Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	130	500	180	65	81	62.5	73	43	40
2201 30112	Lo	47	300	76	74	82	68	76	32	40

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.

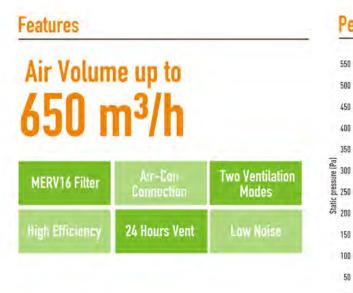
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6. The energy recovery efficiency test should be performed according to the method specified in Appendix 4 of JIS B 8628 (2003). The test environmental conditions should be subject to the winter and summer conditions specified in Table 1 and Table 2 of JIS B 8628 (2017). Other test methods should be subject to JIS B 8628 (2003).

### **ENERGY RECOVERY VENTILATOR**

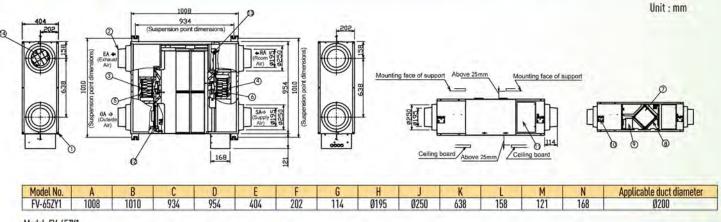
### **FV-65ZY1**





### Dimensions

220V-50Hz



1	Voltage & Hz	Not	ch	Static pressu (Pa)	ıre	Air Volume (m³/h)	Input p (W	ower	Tem
	Model: FV-65ZY	1		-				_	
	FV-65ZY1	1008	1010	934	954	404	202	114	

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.

10

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.

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

### Performance

550

500

450

400

350

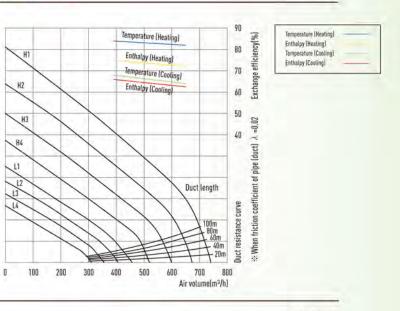
300

150

100

50

0



nperature Exch	ange Efficiency (%)	Enthalpy Exchan	ge Efficiency (%)	Noise	Net Weight
Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
64	82	62.5	72	45	- 48
68	84	66	75	34	40

### **FV-80ZY1**



### **Features**

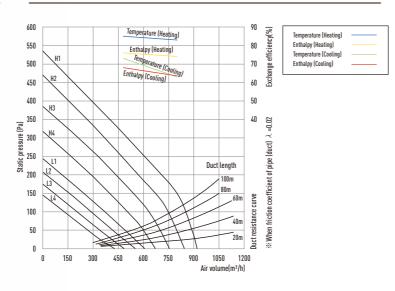
### Air Volume up to 800 m<sup>3</sup>/h

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

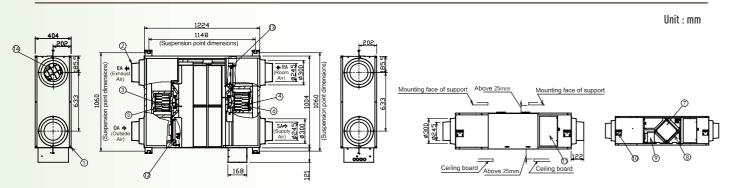


**Replacement Filter** Part No.: FV-FP80ZY1 Cleaning period: once per month Replacement period: every 4 to 6 months

### Performance



### **Dimensions**



 
 Model No.
 A
 B
 C
 D

 FV-80ZY1
 1224
 1060
 1148
 1004
 Applicable duct diameter G H 122 Ø245 K L 633 185.5 404 202 Ø300 121 168 Model: FV-80ZY1

Voltage & Hz	Notch	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ige Efficiency (%)	Noise	Net Weight
Vullaye & HZ	NULLII	(Pa)	(m³/h)	(Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	150	800	470	63	83	63.5	73	35	60
2204 30112	Lo	54	480	212	73	85	68	75	45	60

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.

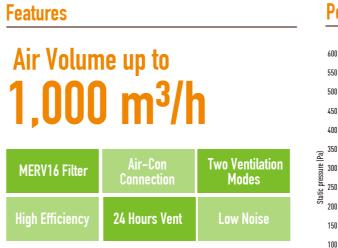
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.

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**

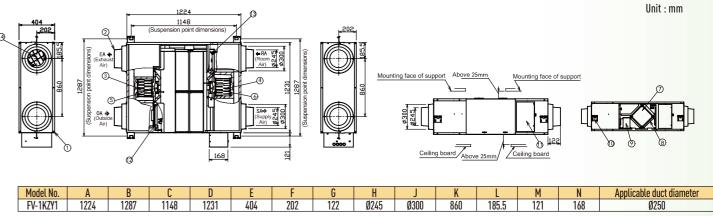
### FV-1KZY1





### 550 500 450 400 350 ≌ 300 250 200 150 100 50 Λ 0

### Dimensions



	Model No.	A	В	С	D	E	F	G	
	FV-1KZY1	1224	1287	1148	1231	404	202	122	
Model: FV-1KZY1									

House III III										
Voltage & Hz	Notch	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ge Efficiency (%)	Noise	Net Weight
vullaye & пz	NULLII	(Pa)	(m³/h)	(Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	150	1000	550	65	82	63	74	46	64
2201 30112	Lo	54	600	235	73	85	69	76	36	04

1. The input power and exchange efficiency are the values measured under the standard air volume.

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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.

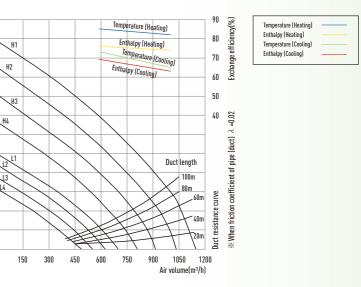
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**Replacement Filter** Part No.: FV-FP1KZY1 Cleaning period: once per month Replacement period: every 4 to 6 months

### Performance



### FV-1HZY1



### **Features**

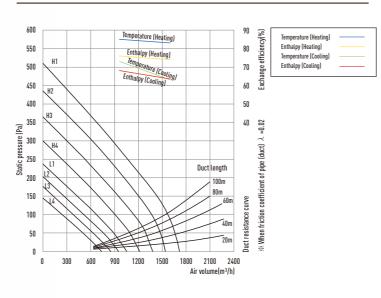
# Air Volume up to **1,500 m<sup>3</sup>/h**

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

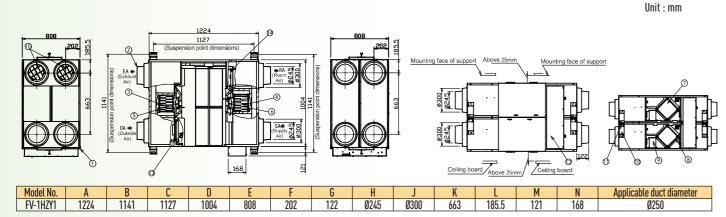


Replacement Filter Part No.: FV-FP80ZY1 (2 sets are used each time) Cleaning period: once per month Replacement period: every 4 to 6 months

### Performance



### Dimensions



### Model: FV-1HZY1

Voltage & Hz	Notch	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ge Efficiency (%)	Noise	Net Weight
VUILAYE & HZ	NULCH	(Pa)	(m³/h)	(Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	130	1500	940	63	83	63.5	73	49	116
ZZUV-JUHZ	Lo	48	900	430	73	85	68	75	41.5	110

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 O 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 is 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-2KZY1



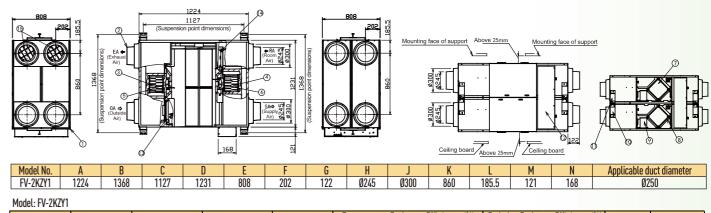
# Air Volume up to **2,000 m<sup>3</sup>/h**

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

### 550 500 450 16d) annssau 250 200 150 150 0 0

600

### Dimensions



Voltage & Hz	Notch	Static pressure	Air Volume	Input power	Temperature Exch	ange Efficiency (%)	Enthalpy Exchan	ge Efficiency (%)	Noise	Net Weight
vullaye & пz	NULLII	(Pa)	(m³/h)	(Ŵ)	Cooling	Heating	Cooling	Heating	(dB(A))	(kg)
220V-50Hz	Hi	130	2000	1100	65	82	63	74	51	139
2201 30112	Lo	48	1200	490	73	85	69	76	43.5	137

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 is by about 1 dB (A) under reverse installation.

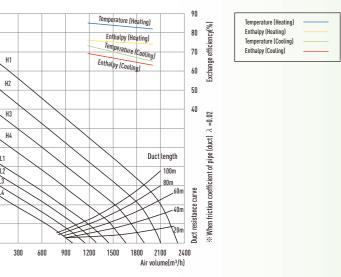
5. The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.

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).



Replacement Filter Part No.: FV-FP1KZY1 (2 sets are used each time) Cleaning period: once per month Replacement period: every 4 to 6 months

### Performance



Unit : mm

### ACCESSORY

### **Pipe Hood**



With Net

FV-MGX100P

FV-MGX150P

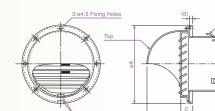
### Features

Dimensions

- High strength - adopt 0.5mm thickness SUS 304 stainless steel - Excellent anti-rust capability - hood part coated with metallic silver paint to prevent oxidation of material - Easy installation – 3pcs of spring clip to facilitate duct / pipe connection - 2.5mm x 2.5mm net to keep out ingress of small particles and insects from outside (FV-MGX100P & FV-MGX150P) - It is recommended to use pipe hood with net at intake terminal while without net at exhaust







3)	Unit : mm					
	Model No.	A	В	C	D	E
	FV-MGX100P	141	79	20	97	48
	FV-MGX150P	190	106	23	147	53
	FV-MGX100P	141	79	20	97	48
	FV-MGX150P	190	106	23	147	53

### Vent Cap



### Features

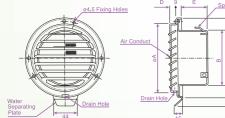
- High strength - adopt 0.5mm thickness SUS 304 stainless steel - Easy installation – 3pcs of spring clip to facilitate duct / pipe connection - 2.5mm x 2.5mm net to keep out ingress of small particles and insects from outside (FV-VGX100P & FV-VGX150P) - It is recommended to use vent cap with net at intake terminal while without net at exhaust



### Dimensions



Without Net FV-VGX100P FV-VGX150P



Unit : mm					
Model No.	A	В	C	D	E
FV-VGX100P	120	97	145	13	47
FV-VGX150P	169	147	195	18	52
FV-VGX100P	120	97	145	13	47
FV-VGX150P	169	147	195	18	52

### ACCESSORY

### **Control Panel**

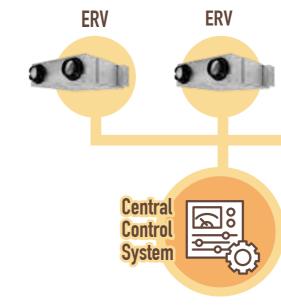


Voltage: DC 5V Rated Wattage: 0.44W Dimension: 116mm x 120mm Weight: 0.085kg LCD Panel

**Features** 

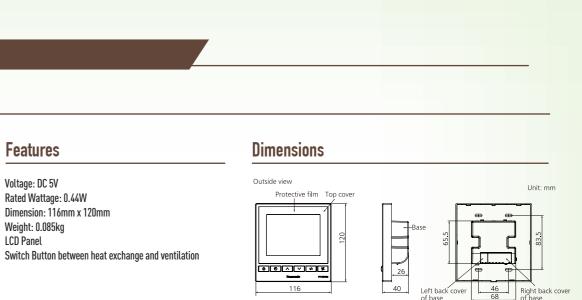
FV-SWGR1

The control panel has built-in RS485, supports communication with the BMS (Building Management System), allowing interlocking between the ERV and the Air Conditioning system through non-voltage contact.



### **Common Components in BMS (Building Management System)**











NOTE	NOTE

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