ENERGY RECOVERY VENTILATOR CASE REFERENCE WORLDWIDE



Commercial United Kingdom Mead's Business Centre



Residential Taiwan, China (Central Park)



Residential Taiwan, China (Kuensun condominium) (Merry Day)



Residential Taiwan, China

Panasonic®

Panasonic Air Conditioning Philippines (PACPH) Ortigas Avenue Extension, Taytay, Rizal 1920 Philippines Global Site: aircon.panasonic.com PRO Club: panasonicproclub.global

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

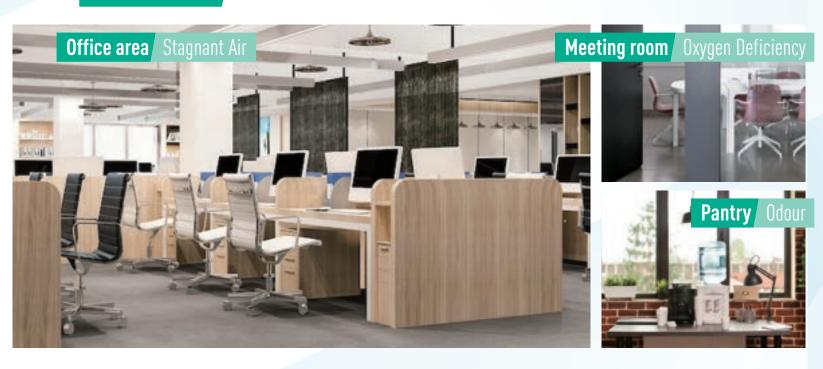
Panasonic ENERGY RECOVERY VENTILATOR ONE-STOP ECO IAQ SOLUTION • ENERGY SAVING AIR PURIFICATION • THERMAL COMFORT

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



Residential









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.



1. Achieve Air Purification

2. Increase Comfort Level

3. Increase Energy Saving

	ERV	Traditional Ventilation
Purification of intake air	0	\triangle
Stable fresh air intake	0	\triangle
Heat exchange	0	\triangle
Equipment cost	Δ	0
Maintenance cost	Δ	0

○ Excellent / Available △ Less advantageous

 $\mathbf{1}$

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.







Efficient Filter

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

MERV16 Filter



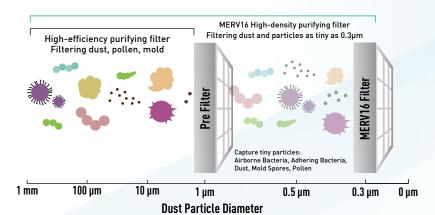
Able to filter 0.3µm up to

≥**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]

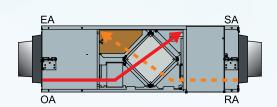
Recommended to change filter every 4-6 months and clean every month

Energy Recovery Ventilator Filter Structure



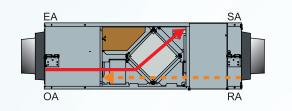
Speedy Bypass Ventilation

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

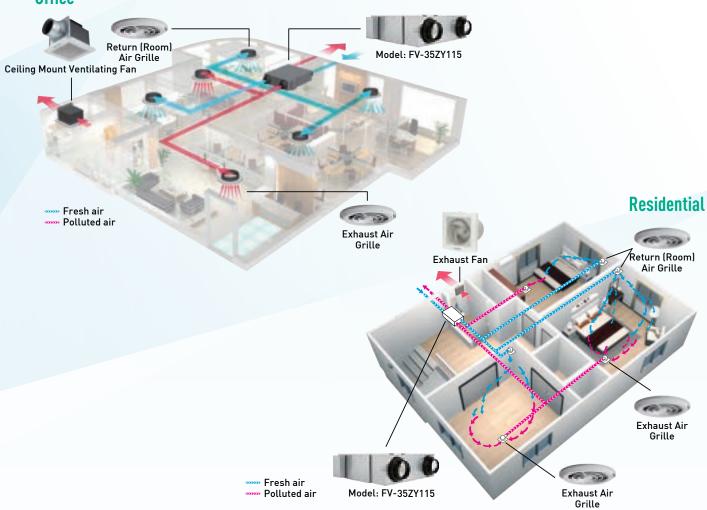
OPTIMUM INDOOR AIR COMFORT

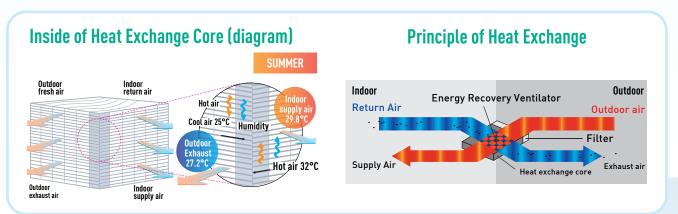
An Energy Recovery Ventilator employs energy recovery technology, which uses balanced airflows and recovers otherwise-expended total energy comprised of heat (sensible energy) and humidity (latent energy). Subsequently, less energy is needed for conditioning while maintaining high-level ventilation.

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





 $\mathbf{3}$

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.



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.

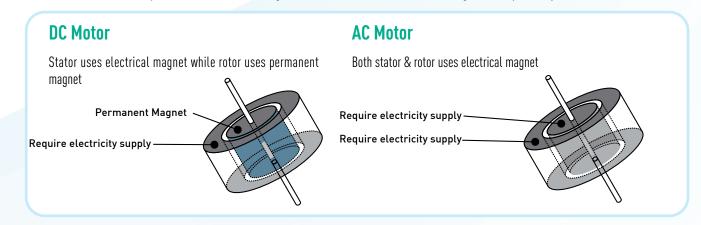


EFFICIENCY

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.



Dual DC Motors

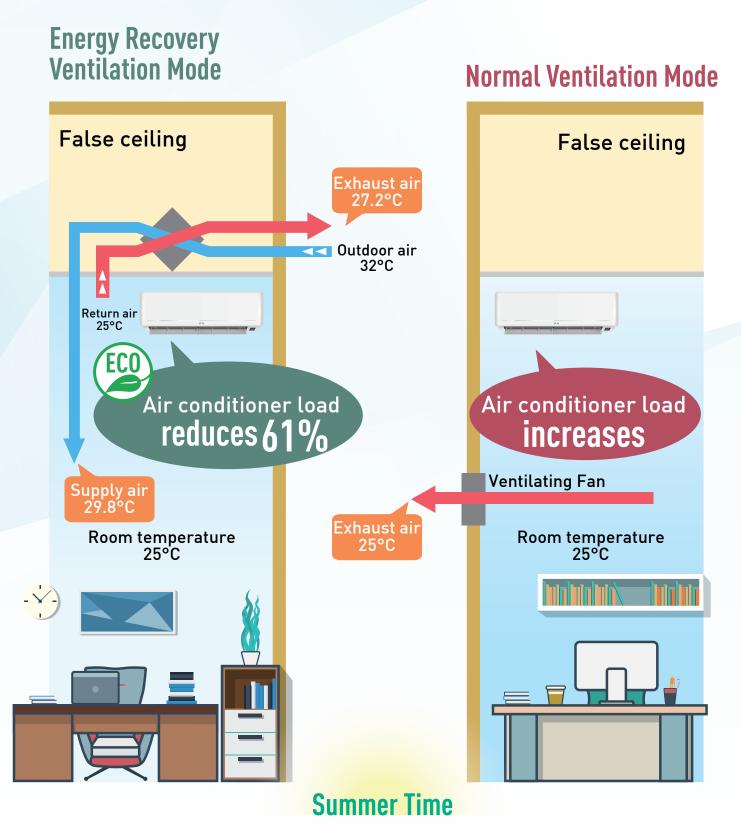
Dual DC motors achieve energy savings by over 43%*

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. 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.



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

ENERGY RECOVERY VENTILATOR FV-15ZY115





Replacement Filter Part No.: FV-FP15ZY115 Cleaning period: once per month Replacement period: every 4 to 6 months

Performance



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

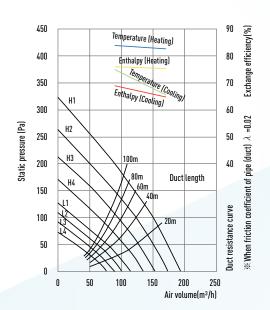


MERV16 Filter

24 Hours Vent

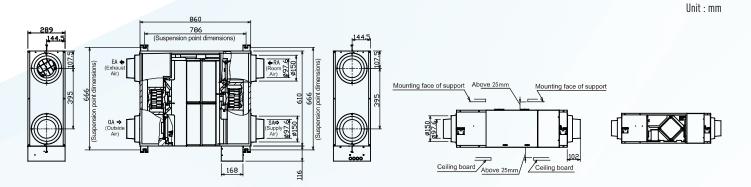
Two Ventilation

Low Noise



Temperature (Heating) Enthalpy (Heating)

Dimensions



Model: FV-15ZY115

110000.11											
Voltage & Hz	Notch	Static Pressure	Air Volume	Input Power			Enthalpy Exchai	nge Efficiency (%)	Noise	Applicable duct	Net Weight
vollage & nz	NOLCII	(Pa)	(m³/h)	(W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)
230V-60Hz	Hi	100	150	80	68	83	66	76	37	Ø100	22
2304-00112	Lo	36	90	30	75	84	69	76	29	טטוע	23

- 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-25ZY115



Air Volume up to

250 m³/h

24 Hours Vent

Low Noise



Replacement Filter Part No.: FV-FP25ZY115 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.

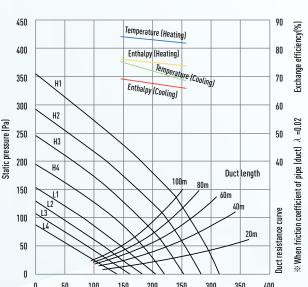
Features

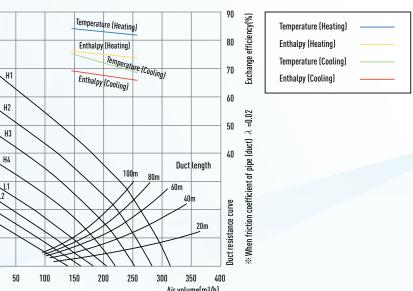
MERV16 Filter

High Efficiency

Two Ventilation

Performance





Dimensions

Unit : mm Mounting face of support Above 25mm

Model: FV-25ZY115

Voltage & Hz	Motob	Static Pressure	Air Volume						Noise	Applicable duct	Net Weight
vullage & nz	Notch	(Pa)	(m³/h)	· (W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)
230V-60Hz	Hi	120	250	112	69	82	66	74	38	Ø150	27
2304-00112	Lo	43.5	150	45	75	84	69	76	28	טנוע	21

- 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 $\rm Pa.$
- 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-35ZY115





Replacement Filter Part No.: FV-FP35ZY115 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.

Temperature (Cooling)

Enthalpy (Cooling)

Features



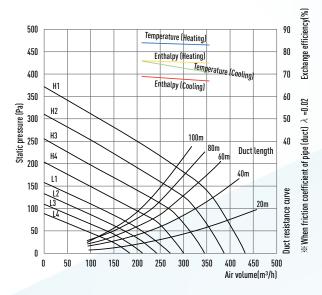
MERV16 Filter

24 Hours Vent

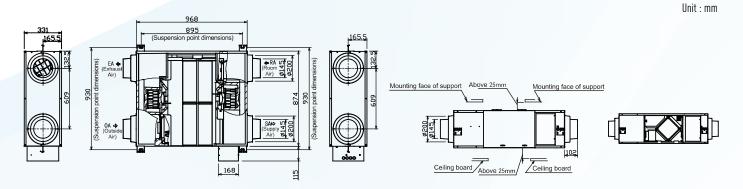
Two Ventilation

Low Noise

Performance



Dimensions



Model: FV-35ZY115

110000.11 00211															
Voltage & Hz	Notch	Static Pressure	Air Volume	Input Power	Temperature Excha	ange Efficiency (%)	Enthalpy Exchar	nge Efficiency (%)	Noise	Applicable duct	Net Weight				
vollage & HZ	NOLCII	(Pa) (m³/h)	(m³/h)	(W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)				
230V-60Hz	Hi	140	350	149	71	83	67	75	39	Ø150	27				
2304-0002	Lo	50.5	210	58	76	84	69	76	33	ขาวบ	3/				

- 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-50ZY115





Replacement Filter Part No.: FV-FP50ZY115 Cleaning period: once per month Replacement period: every 4 to 6 months

Performance

250



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



MERV16 Filter

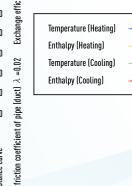
High Efficiency

24 Hours Vent

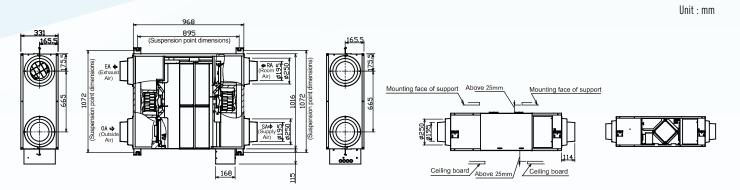
Two Ventilation

Low Noise

Temperature (Heating 450 Enthalpy (Heating 400



Dimensions



Model: FV-50ZY115

I loude. I V COLI I															
Voltage & Hz	Notch	Static Pressure	Air Volume						Applicable duct	Net Weight					
vullage & nz	NOTCII	(Pa)	(m³/h)	(W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)				
230V-60Hz	Hi	130	500	189	65	81	62.5	73	43	Ø200	40				
2304-0007	Lo	47	300	76	74	82	68	76	32) WZUU	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.
- 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-65ZY115





Replacement Filter Part No.: FV-FP65ZY115 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.

Temperature (Heating)

Temperature (Cooling)

Enthalpy (Heating)

Enthalpy (Cooling)

Features



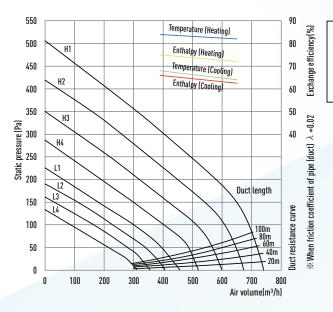
MERV16 Filter

24 Hours Vent

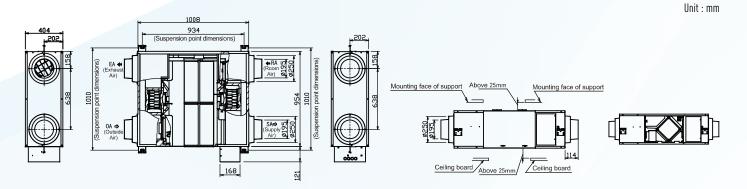
Two Ventilation Modes

Low Noise

Performance



Dimensions



Model: FV-65ZY115

1100001.11 00211														
Voltage & Hz	Notoh	Static Pressure	Air Volume	Input Power	Temperature Excha	ange Efficiency (%)	Enthalpy Exchange Efficiency (%)		Noise	Applicable duct	Net Weight			
vollage & nz	Notch	(Pa)	(m³/h)	(W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)			
230V-60Hz	Hi	150	650	441	64	82	62.5	72	45	Ø200	/,0			
2304-00112	Lo	54	390	180	68	84	66	75	34	ΨZUU	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.

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- 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-80ZY115





Replacement Filter Part No.: FV-FP80ZY115 Cleaning period: once per month Replacement period: every 4 to 6 months

Performance



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





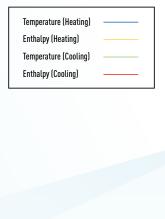
High Efficiency

24 Hours Vent

Two Ventilation

Low Noise

550 500 Enthalpy (Cooling) 450 400 350 s <u>≅</u> 300 250 Duct length 200 150 100 450 600 750 1050



Dimensions

Unit : mm Mounting face of support Mounting face of support

Model: FV-80ZY115

Voltage & Hz	Notch	Static Pressure						nge Efficiency (%)	Noise	Applicable duct	Net Weight
vollage & nz	NOTCII	(Pa)	(m³/h)	(W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)
230V-60Hz	Hi	150	800	494	63	83	63.5	73	45	Ø250	60
2304-00112	Lo	54	480	212	73	85	68	75	35	WZ3U	00

- 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-1KZY115





Replacement Filter Part No.: FV-FP1KZY115 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.

Temperature (Heating)

Temperature (Cooling)

Enthalpy (Heating)

Enthalpy (Cooling)

Features



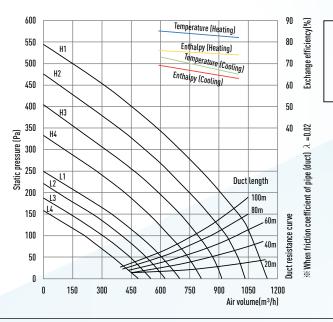
MERV16 Filter

24 Hours Vent

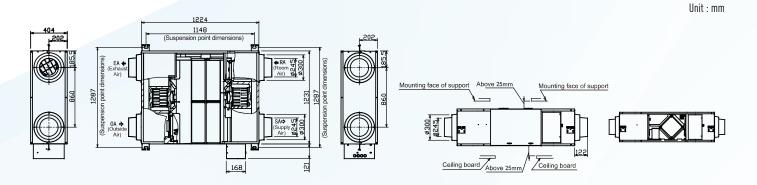
Two Ventilation Modes

Low Noise

Performance



Dimensions



Model: FV-1KZY115

TIOUCK. I V TIVET	110										
Voltage & Hz	Notch	Static Pressure	Air Volume	Input Power	Temperature Excha	ange Efficiency (%)	Enthalpy Exchai	nge Efficiency (%)	Noise	Applicable duct	Net Weight
vullage & nz	NOLCII	(Pa)	(m³/h)	(W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)
230V-60Hz	Hi	150	1000	578	65	82	63	74	46	Ø250	4.1
2304-00112	Lo	54	600	235	73	85	69	76	36	พู่250	04

- 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-1HZY115





Replacement Filter Part No.: FV-FP80ZY115 (2 sets are used each time) IEC (report no. 230106103GZS-001), Cleaning period: once per month Replacement period: every 4 to 6 months

Performance



Safety is verified by various standards including 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



MERV16 Filter

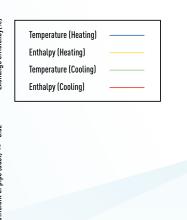
High Efficiency

24 Hours Vent

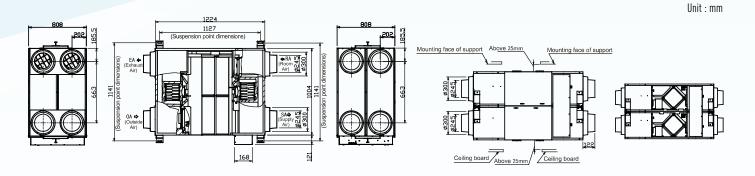
Two Ventilation

Low Noise

550 500 70 450 60 400 50 40 😂 ≌ 300 말 250 Duct length 200 150 900 1200 1800 2100 2400



Dimensions



Model: FV-1HZY115

Valtana 0 IIn	Marak	Static Pressure	Air Volume	Input Power	Temperature Excha	inge Efficiency (%)	Enthalpy Exchange Efficiency (%)		Noise	Applicable duct	Net Weight
Voltage & Hz	Notch	(Pa)	(m³/h)	· (W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg) Š
230V-60Hz	Hi	130	1500	987	63	83	63.5	73	49	Ø250	116
2304-00112	Lo	48	900	430	73	85	68	75	41.5	WZ3U	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 0 $\rm Pa.$
- 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-2KZY115





Replacement Filter Part No.: FV-FP1KZY115 (2 sets are used each time)

UKCA (report no. 230106103GZS-001),

UKCA (report no. 230106101GZU-001) and Cleaning period: once per month Replacement period: every 4 to 6 months



Safety is verified by various standards including CE (report no. 230106101GZU-001) ^UKCA and CE reports are as reference only. They are only applicable to European model FV-2KZY1G.

Temperature (Heating)

Temperature (Cooling)

Enthalpy (Heating)

Enthalpy (Cooling)

Features



MERV16 Filter

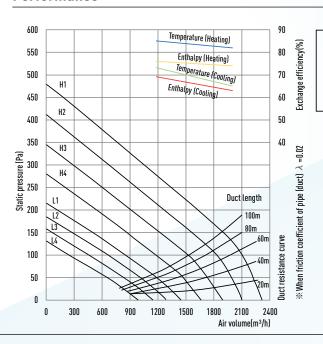
High Efficiency

24 Hours Vent

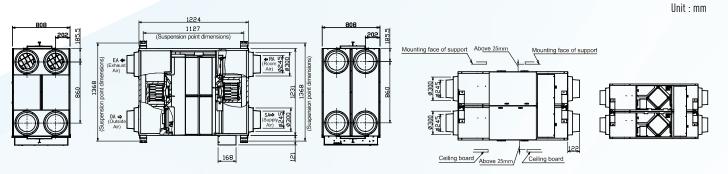
Two Ventilation Modes

Low Noise

Performance



Dimensions



Model: FV-2KZY115

Flouct. I V ZITZI I	110																				
Voltage & Hz	Notch	Static Pressure	Air Volume	Input Power	Temperature Excha	inge Efficiency (%)	Enthalpy Exchai	nge Efficiency (%)	Noise	Applicable duct	Net Weight										
vullage & nz	NOLCII	(Pa)	(m³/h)	· (W)	Cooling	Heating	Cooling	Heating	(dB(A))	diameter	(kg)										
230V-60Hz	Hi	130	2000	1155	65	82	63	74	51	Ø250	139										
2304-00112	Lo	48	1200	490	73	85	69	76	43.5	WZJU	137										

- The input power and exchange efficiency are the values measured under the standard air volume.
 The above specification are the values measured under the factory set.
 The power indicated on the name plate is the maximum value under the static pressure of 0 Pa.
 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.
 The air volume in normal ventilation mode is basically the same as the air volume in energy recovery mode.
 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).

ACCESSORY

Control Panel



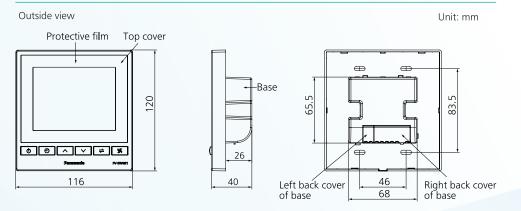
FV-SWGR1

Features

Voltage: 230V Rated Wattage: 2W Dimension: 116mm x 120mm Weight: 0.26kg LCD Panel

Switch Button between heat exchange and ventilation

Dimensions



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.







Central Control System

A/C