

# Air Treatment Equipment

## Heat Reclaim Ventilator with DX-coil

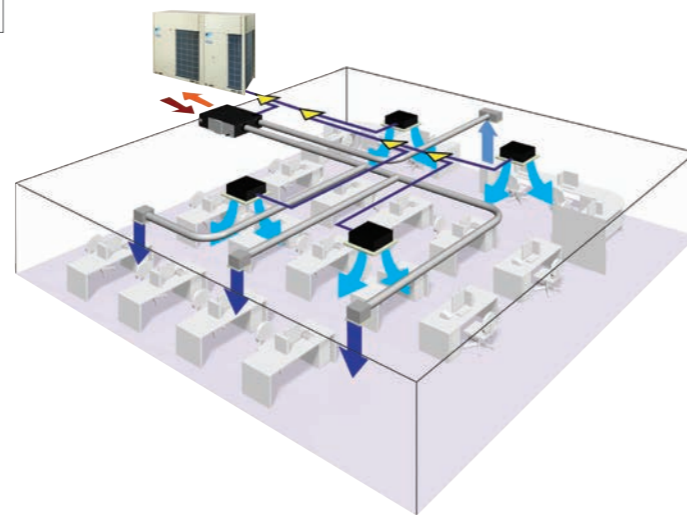
### New VKM-GC Series

Air quality improvement by introducing fresh outdoor air in the room



#### Lineup

Model	VKM50GCVE	VKM80GCVE	VKM100GCVE
Capacity Index	31.25	50	62.5
Airflow rate	500 m³/h	750 m³/h	950 m³/h



### IAQ improvement by fresh air

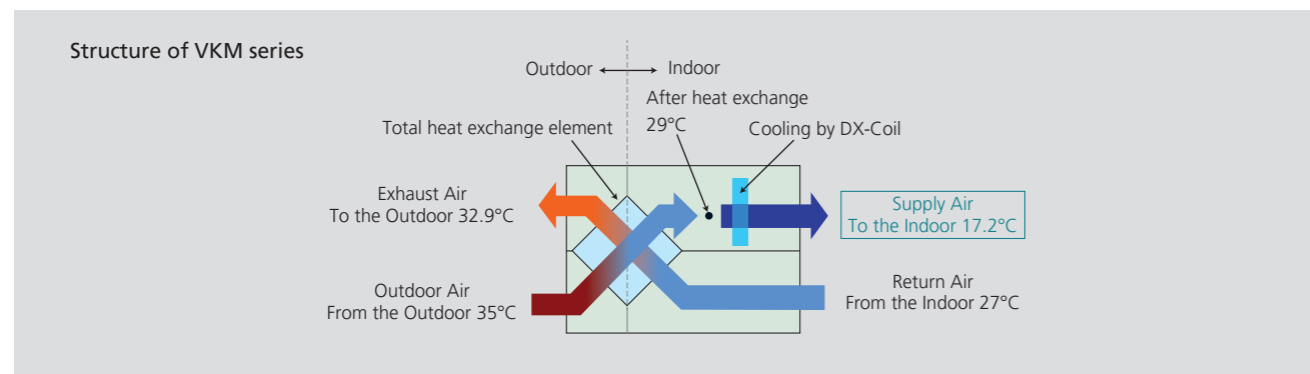
Maintains comfortable indoor air quality (IAQ) by adding fresh outdoor air having nearly the same temperature and humidity conditions as the indoor air.

This energy-saving heat reclaim ventilator further reduces air conditioning load.

### Heat reclaim ventilator + Heat exchanger → Comfortable air supply

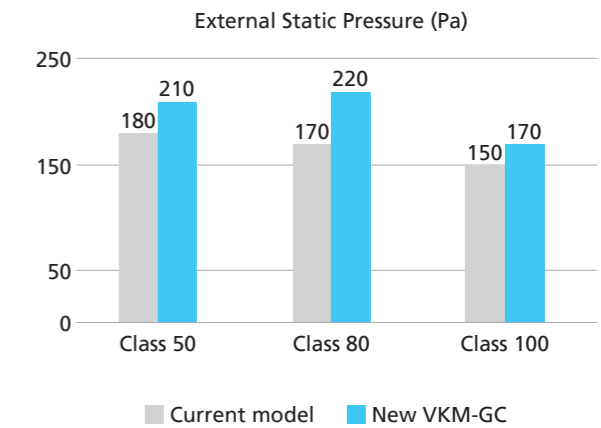
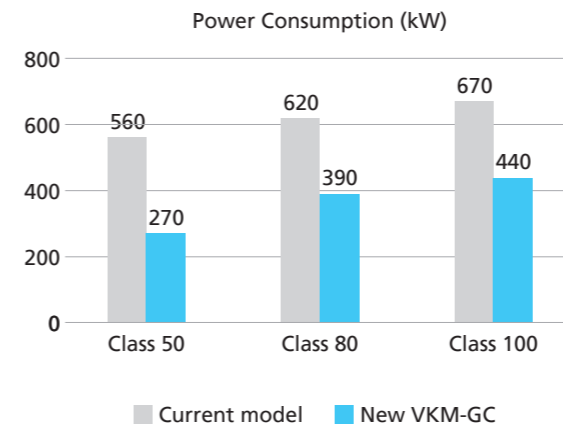
Equipped with a heat reclaim ventilator and a heat exchanger, the new VKM series minimizes room temperature fluctuations.

The supply air is cooled from 29°C to 17.2°C with DX-coil.



### Equipped with DC fan motor

- Energy saving: Power consumption reduced by up to 51% (Class 50)
- Flexible installation due to high external static pressure: Increase of up to +50 Pa (Class 80)



### Supports both 50/60 Hz power supply

Current model 1-phase 220-240 V, 50 Hz only

New model 1-phase 220-240 V, 50 Hz  
1-phase, 220 V, 60 Hz

### CO<sub>2</sub> sensor control (Option) \* Refer to page 177 for details.

When CO<sub>2</sub> sensor is installed, it detects the concentration of CO<sub>2</sub> in the indoor air and the ventilation rate is controlled appropriately, reducing the air conditioning load due to ventilation.

### PM<sub>2.5</sub> filter (Option) \* Refer to page 178-180 for details.

Removes PM<sub>2.5</sub> particulate matter present in the outdoor air, as well as sulfur oxides and nitrogen oxides, providing clean fresh air to the indoor ambient.

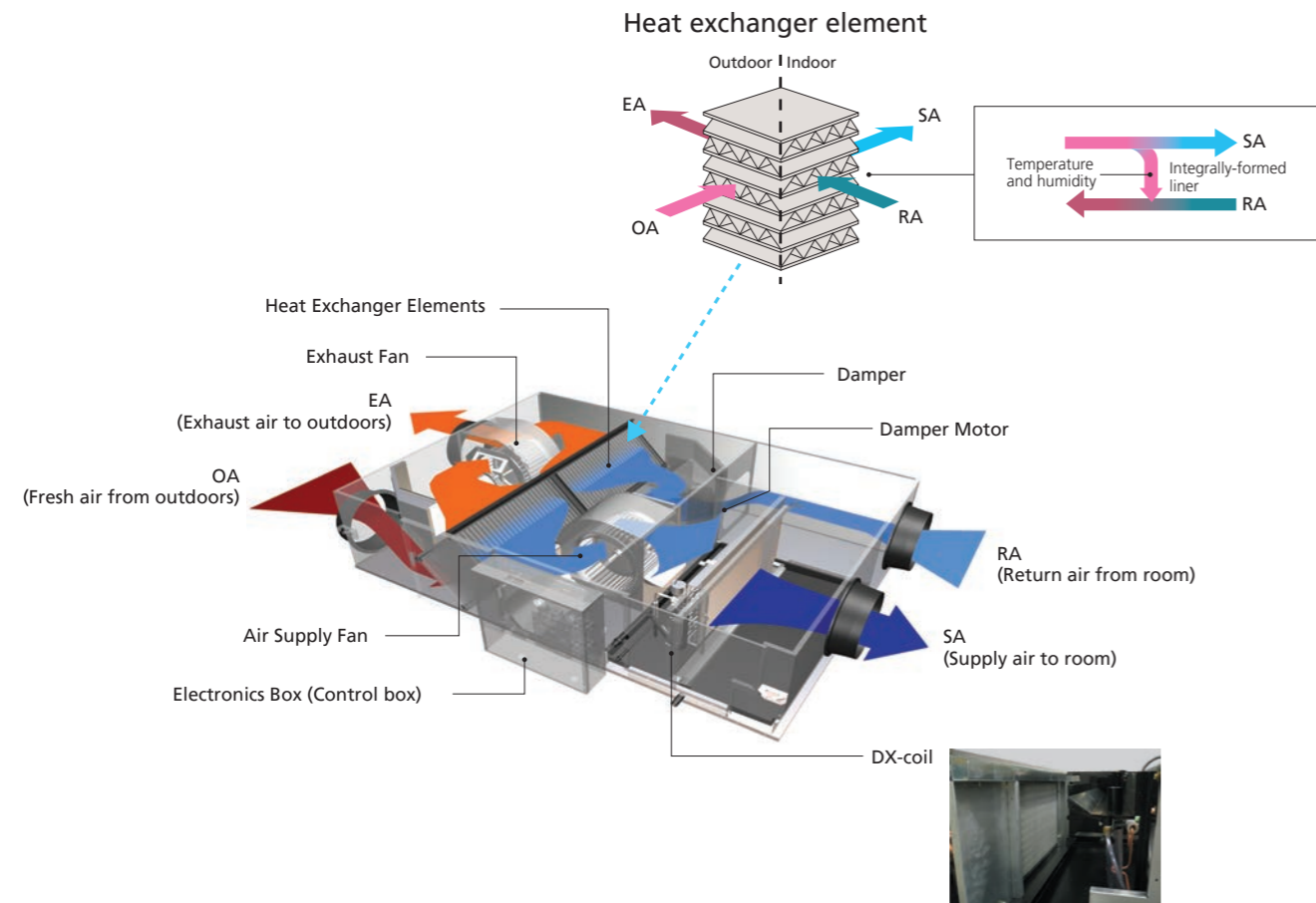
- PM<sub>2.5</sub> filter: Removes 99% or more of 2.5 μm particulate matter.
- Activated Carbon filter: Removes sulfur oxides and nitrogen oxides

### Other characteristics

- Nighttime free cooling operation \* Refer to page 174 for details.
- Stainless drain pan
- High-efficiency filter (Option)

# Air Treatment Equipment

A compact unit packed with Daikin's cutting-edge technologies.

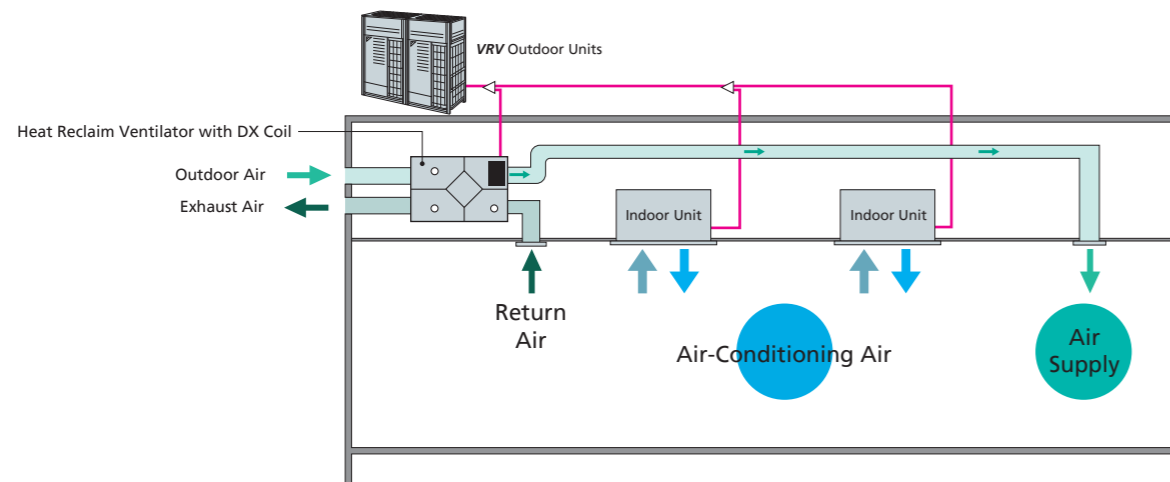


## Specifications

MODEL			VKM50GCVE	VKM80GCVE	VKM100GCVE
Refrigerant			R-410A		
Power Supply			1 phase, 220-240/220 V, 50/60 Hz		
Airflow Rate & External Static Pressure (Ultra-high / High / Low) (Note 4)	Airflow	m <sup>3</sup> /h	500/500/440	750/750/640	950/950/820
	Static pressure	Pa	210/170/140	220/180/125	170/120/90
Power Consumption (Ultra-high / High / Low)	Heat exchange mode	W	270/230/170	390/335/220	440/370/260
	Bypass mode	W	305/260/200	390/335/220	440/370/260
Fan Type			Sirocco Fan		
Motor Output			0.21×2		
Sound Level (Note 3) (Ultra-high / High / Low)	Heat exchange mode	dB	43/40.5/39	41.5/39/37	41/39/36.5
	Bypass mode	dB	43/41/39	41.5/39/37	41/39/36.5
Temp. Exchange Efficiency (Ultra-high / High / Low)			%		
			76/76/77.5		
			78/78/79		
			74/74/76.5		
Enthalpy Exchange Efficiency (Ultra-high / High / Low)			%		
Cooling			64/64/67		
Heating			66/66/68		
			62/62/66		
Heat Exchanging System			Air to Air Cross Flow Total Heat (Sensible + Latent Heat) Exchange		
Heat Exchanger Element			Specially Processed Non flammable Paper		
Air Filter			Multidirectional Fibrous Fleeces		
DX-coil Capacity (Cooling / Heating) (Note 1) (Note 2)			kW		
			2.8 / 3.2		
			4.5 / 5.0		
			5.6 / 6.3		
Dimensions (Height×Width×Depth)			mm		
			387 × 1,764 × 832		
			387 × 1,764 × 1,214		
Piping Connection	Liquid	mm	φ 6.4 (Flare)		
	Gas	mm	φ 12.7 (Flare)		
	Drain		PT3/4 External Thread		
Machine Weight			kg		
			92		
			113		
			115		
Unit Ambient Condition			Around Unit		
			0°C–40°CDB, 80%RH or less		
			OA (Note 5)		
			-15°C–40°CDB, 80%RH or less		
			RA (Note 5)		
			0°C–40°CDB, 80%RH or less		

Notes: 1. Indoor temperature: 27°CDB, 19°CWB, Outdoor temperature: 35°CDB  
 2. Indoor temperature: 20°CDB, Outdoor temperature: 7°CDB, 6°CWB  
 3. The operating sound measured at the point 1.5 m below the centre of the unit is converted to that measured in an anechoic chamber built in accordance with the JIS C 1502 conditions. The actual operating sound varies depending on the surrounding conditions (near running unit's sound, reflected sound and so on) and is normally higher than this value.  
 For operation in a quiet room, it is required to take measures to lower the sound.  
 For details, refer to the Engineering Data.  
 4. Airflow rate can be changed over to Low mode or High mode.  
 5. OA: fresh air from outdoor. RA: return air from room.  
 6. Temperature exchange efficiency is the mean value for Cooling and Heating. Efficiency is measured under the following condition: Ratio of rated external static pressure outdoor to indoor is kept constant at 7 to 1.

Air conditioning and outdoor air processing can be accomplished using a single system.



• When the VKM series units are connected, the total connection capacity index must be 50% to 130% of the capacity index of the outdoor units.

## Options

Item	Type	VKM50GCVE	VKM80GCVE	VKM100GCVE
Controlling device	Remote controller *1	BRC1H61W(K) / BRC1E63		
	PCB Adaptor	KRP2A61		
	Wiring adaptor for electrical appendices For heater control kit	BRP4A50		
Additional function	Silencer	—	KDDM24B100	
	Air suction / Discharge grille	Nominal pipe diameter	mm	φ 250
		White		K-DGL250C
	High efficiency filter	Nominal pipe diameter	mm	φ 200
				KAF242J80M
Air filter for replacement		KAF241G80M	KAF241G100M	
Flexible duct	1 m	K-FDS201E	K-FDS251E	
	2 m	K-FDS202D	K-FDS252E	
CO <sub>2</sub> Sensor		BRYC24B50M	BRYC24B100M	
PM2.5 filtration unit *2		BAF249A500	BAF429A20A	
PM2.5 with activated carbon filtration unit *2		BAF249A500C	BAF429A20AC	

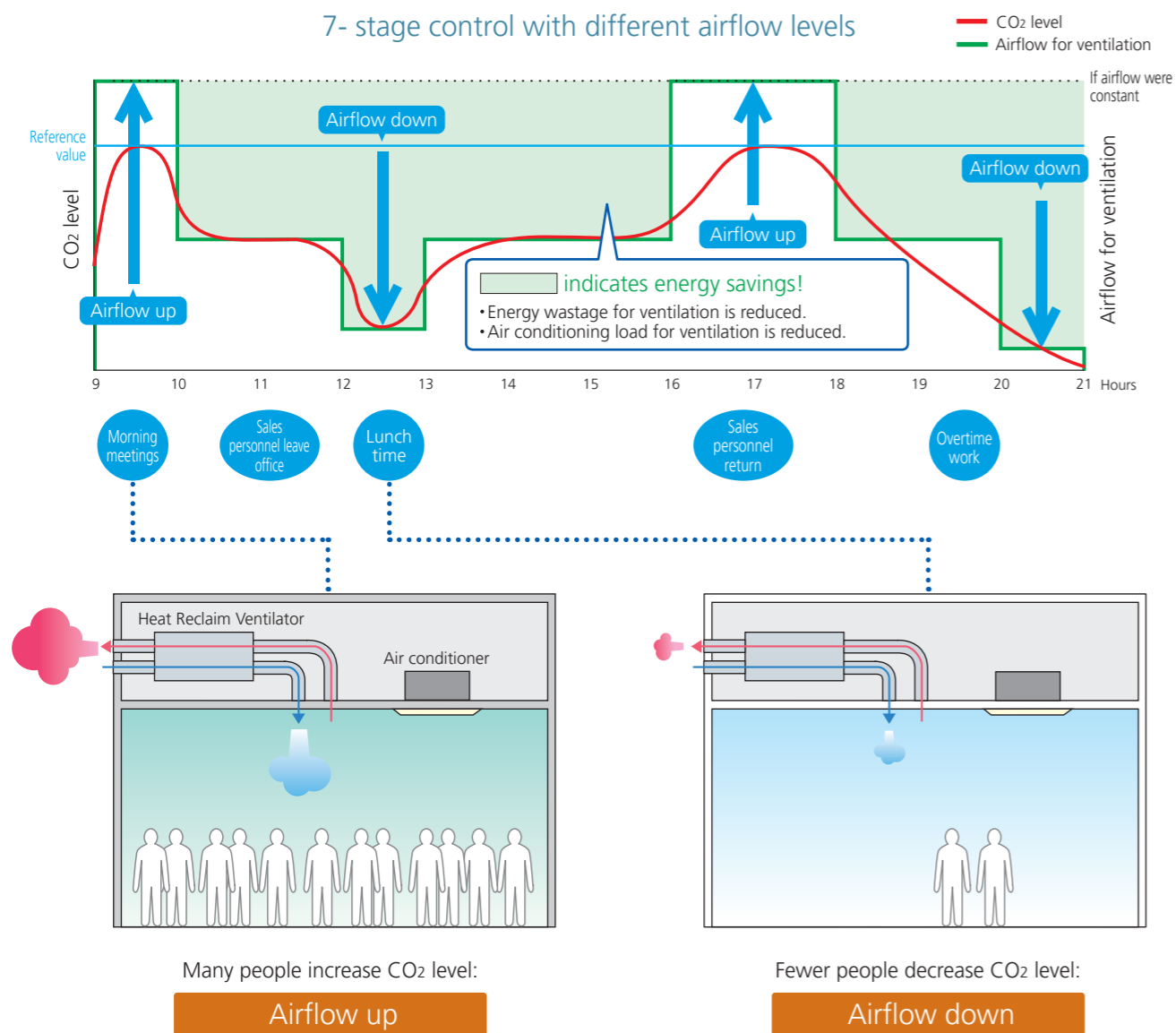
\*1. Necessary when operating a Heat Reclaim Ventilator (VKM) independently. When operating interlocked with other air conditioners, use the remote controllers of the air conditioners.  
 \*2. Refer to pages 178-180 for details.  
 • Please inquire concerning optional accessories not listed above.

# Air Treatment Equipment

## CO<sub>2</sub> Sensor Optional Kit Connection for VAM / VKM Series

The CO<sub>2</sub> sensor controls airflow so that it best matches the changes of CO<sub>2</sub> level in the room. This prevents energy losses from over-ventilation while maintaining indoor air quality with optional CO<sub>2</sub> sensor.

- Example of CO<sub>2</sub> sensor operation in an office room:



## PM<sub>2.5</sub> filtration unit (Option) for VAM / VKM / FXMQ-MF series

Rapid urbanization has increased industrial and automobile emissions, resulting in higher PM<sub>2.5</sub> levels. This has become the source of respiratory diseases and poses a serious threat to a long term health issue. As the air quality has worsened, research has shown the harmful effects of PM<sub>2.5</sub> on the health of the general public.

### Double-layered efficient filtration

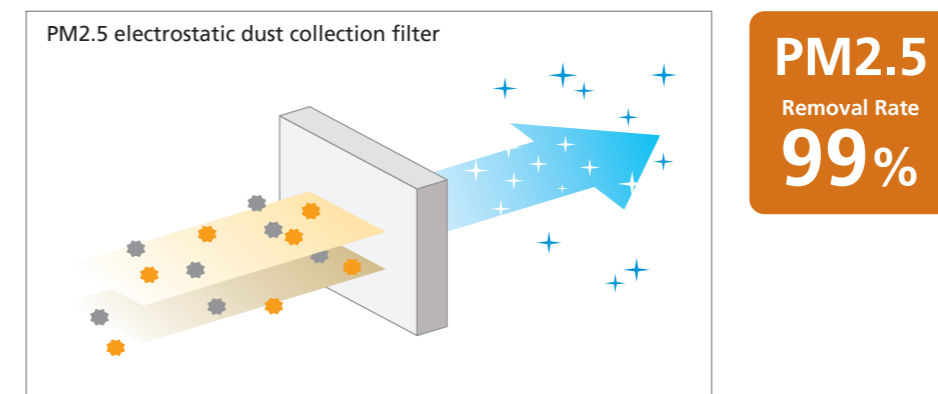
PM<sub>2.5</sub> filters are double-layered.

1. The front filter effectively removes large particles.
2. The PM<sub>2.5</sub> filter layer contains a large amount of static electricity to capture particulate matter efficiently.



### Filtering PM<sub>2.5</sub> efficiently for healthier and more comfortable environments

This filter removes 99% or more of 2.5 μm particulate matter.



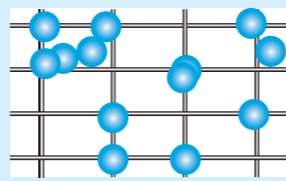
\*Test results by the Heating, Ventilation and Air Conditioning Lab at Tongji University  
 Test environment: temperature 25-26°CDB, humidity 58-60%RH

# Air Treatment Equipment


## Electrostatic dust collection filter: more efficient and longer lasting effect

The PM2.5 filter layer contains a large amount of static electricity to capture particulate matter efficiently, including those smaller than the grid mesh. The filter is difficult to be blocked by particles and has good ventilation and long life span.

**Daikin Electrostatic Dust Collecting Filtration**



With the capturing effect of static electricity, particles are adsorbed on the filter fabric.



The filter is not blocked and therefore continuous Supply Air is guaranteed.

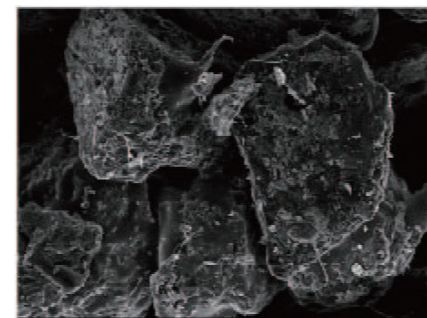
Long-lasting highly efficient dust collection capacity

## PM2.5 with activated carbon filtration unit (Option) for VAM / VKM / FXMQ-MF series

Extra-high performance filter against sulfur oxides and nitrogen oxides

### Effective Use of Active Carbon Material to Enlarge the Adsorption Area

As an expert in the research and development of filters, DAIKIN has specifically selected active carbon material as the main substance to constitute the filter against sulfur oxides and nitrogen oxides. The material's usable pore surface is fully exploited, thus extending the filter's durability.



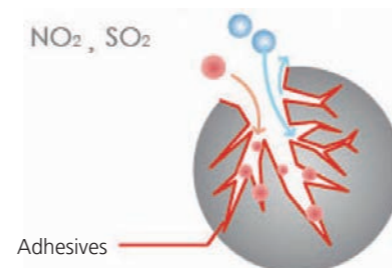
Notes: Surface area of active carbon: 700 m<sup>2</sup>/g  
Given a newspaper page of 40.6 cm wide by 54.6 cm long, each gram of active carbon has a surface area of 3,000 newspaper pages.

### Intelligent Identification, Super-effective Adhesion

The special substance added in the pores of active carbon can exclusively target sulfur oxide and nitrogen oxide gases and stick to them without blocking other unidentified gases. This ensures long durability of the filter.

Note: The figures are based on in-house tests under the following lab conditions: temperature 22 to 25°CDB, humidity 35 to 40% RH, air flow rate 0.2 m/s.

Unidentified Gases



## Specifications

### PM2.5 filtration unit

MODEL		BAF249A150	BAF249A300	BAF249A350	BAF249A500	BAF429A20A
Dimensions (H x W x D)	mm	220x603x366	220x603x366	300x623x366	300x623x366	470x971x370
Connection Duct Diameter	mm	φ 100	φ 150	φ 150	φ 200	580x348
Airflow Rate	m <sup>3</sup> /h	150	250	350	500	2,100
PM2.5 Filter	Initial Pressure Drop	Pa	34	30	31	42
	Filter Lifetime <sup>*1</sup>		1 year			
	Filtration Efficiency <sup>*2</sup>		99% or higher			
	Filter Material No. <sup>*3</sup>		BAF244A300		BAF244A500	BAF424A20A

Notes: 1. Annual usage: 400 hrs/month x 12 months = 4,800 hrs  
2. 99% or higher removal rate of ultra-fine particles with diameters of 2.5 μm or more.  
3. Filters come with applicable filtration units with a one-year life. They can be purchased and replaced according to their model numbers.

### PM2.5 with activated carbon filtration unit

MODEL		BAF249A150C	BAF249A300C	BAF249A350C	BAF249A500C	BAF429A20AC
Dimensions (H x W x D)	mm	220x603x366	220x603x366	300x623x366	300x623x366	470x971x370
Connection Duct Diameter	mm	φ 100	φ 150	φ 150	φ 200	580x348
Airflow Rate	m <sup>3</sup> /h	150	250	350	500	2,100
Total Initial Pressure Drop for PM2.5 with Activated Carbon Filtration Unit		Pa	37	35	36	51
PM2.5 Filter	Initial Pressure Drop	Pa	34	30	31	42
	Filter Lifetime <sup>*1</sup>		1 year			
	Filtration Efficiency <sup>*2</sup>		99% or higher			
	Filter Material No. <sup>*3</sup>		BAF244A300		BAF244A500	BAF424A20A
Activated Carbon Filter	Initial Pressure Drop	Pa	3	5	9	less than 10
	Filter Lifetime		1 year			
			BAF244A300C		BAF244A500C	BAF424A20AC

Notes: 1. Annual usage: 400 hrs / month x 12 months = 4,800 hrs.  
2. 99% or higher removal rate of ultra-fine particles with diameters of 2.5 μm or more.  
3. Filters come with applicable filtration units with a one-year life. They can be purchased and replaced according to their model numbers.