



VENTILATION FAN

Healthy Air Exchange for a
Healthy Living Environment

Panasonic Ventilation Fans ensure you and
everyone in your home can enjoy a healthy,
fresh environment.



Benefits

What are the existing indoor air quality problems in your house?

Recently, there are reports showing that people having poor physical conditions. It is due to chemical substance emission from new-built or reformed houses which causes indoor air quality problem.

The symptoms due to poor indoor quality include eyes/throat nausea, feeling unwell, skin irritation, headache, dizziness, breathing problem and so on. Furthermore, chemical substances like formaldehyde, can lead to deterioration of allergic illness.

Hazardous indoor chemical substances can be categorized into 3 groups	
Chemicals Substance	Origin
Formaldehyde (HCHO)	Plywood Board, Flooring, Furniture, Wall Paper
Volatile Organic Compounds	
• Toluene, Xylene, Trimethyl Benzen	
• Phosphoric Acid Triester [TCEP]	Non-Flammable Vinyl Cloth
Organic Phosphoric	Pesticides

Walls and Floors which occupies most of the area is the biggest enemy of clean air
Materials like adhesives used on walls and floors will continuously release chemical substances over a period of time.

Beware of curtains, sofas and any other furniture that you brought in
Chemical substances will also be released from curtains, sofas and any other furnitures.

Floor and bathroom sinks are targeted area for termites to inhabit
High humidity from bathrooms (especially the floor) will attract termites to inhabit.



Water vapor created from cooking attracts molds to grow
Water vapor is created from burning fuels. Also, the dirt from the burning fuels speed up the growth of molds.

Fabric sofa and stuffed toys
Scurf and dander from human and pets attract mites. Thus, it is important to be cautious with fabric sofa and stuffed toys in your homes.

Bathroom with high humidity inhabits mold
Bathrooms which are known as area with high humidity can cause the formation of mold. You are advised to clean the bathroom without leaving any soap residue.

Chemical substances from the floor
Although natural flooring material looks safe, gloss wax from the floor (for example) may emit chemical substances.

Mites

There are around 30 types of mites which can be found in homes. In general, most mites do not cause any harm to humans. However, sting mites like House Mite and Dust Mite group can cause allergen.



Termites

Termites are terror to the house as they will cause damages to furniture, floor, wall, roofs and



Formaldehyde (HCHO)

Volatile Organic Compounds (VOC) like Formaldehyde generated from building materials and/or home furniture can easily cause indoor air pollution.

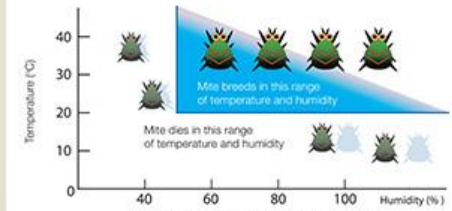


Mold

Mold breeds faster than home appearance, it also emits bad odors and it is bad for health. The growth of mold increases during rainy season and its spores will disperse around at the end of the raining season.

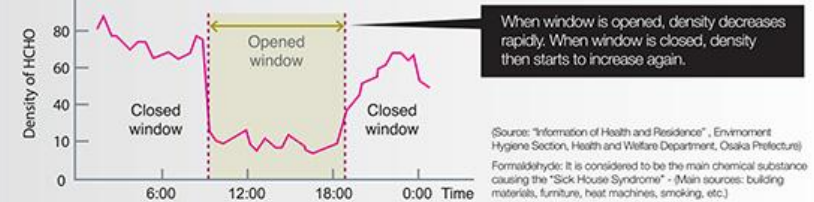


Temperature and Humidity for Mite Breeding
Mite breeds when temperature is over 20 degrees and humidity is over 60%



[Source: "Information of Residence and Home"; Environment Hygiene Section, Health and Welfare Department, Osaka Prefecture]

Indoor Formaldehyde concentration was measured



When window is opened, density decreases rapidly. When window is closed, density then starts to increase again.

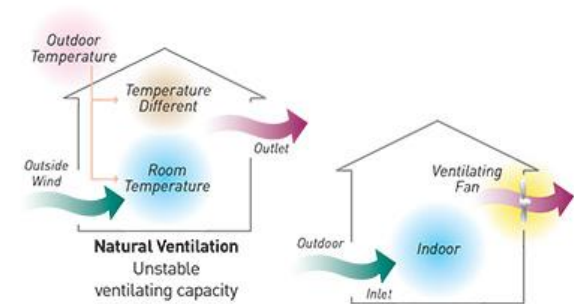
[Source: "Information of Health and Residence", Environment Hygiene Section, Health and Welfare Department, Osaka Prefecture]
Formaldehyde: It is considered to be the main chemical substance causing the "Sick House Syndrome" - (Main sources: building materials, furniture, heat machines, smoking, etc.)

Ways to Improve Indoor Air Quality

The first step to improve indoor air quality is to reduce or remove the source of pollutants. Unfortunately, indoor air pollutants are virtually impossible to eliminate completely.

The alternative towards improving indoor air quality is via ventilation. Ventilation is divided into two types: Natural Ventilation and Mechanical Ventilation.

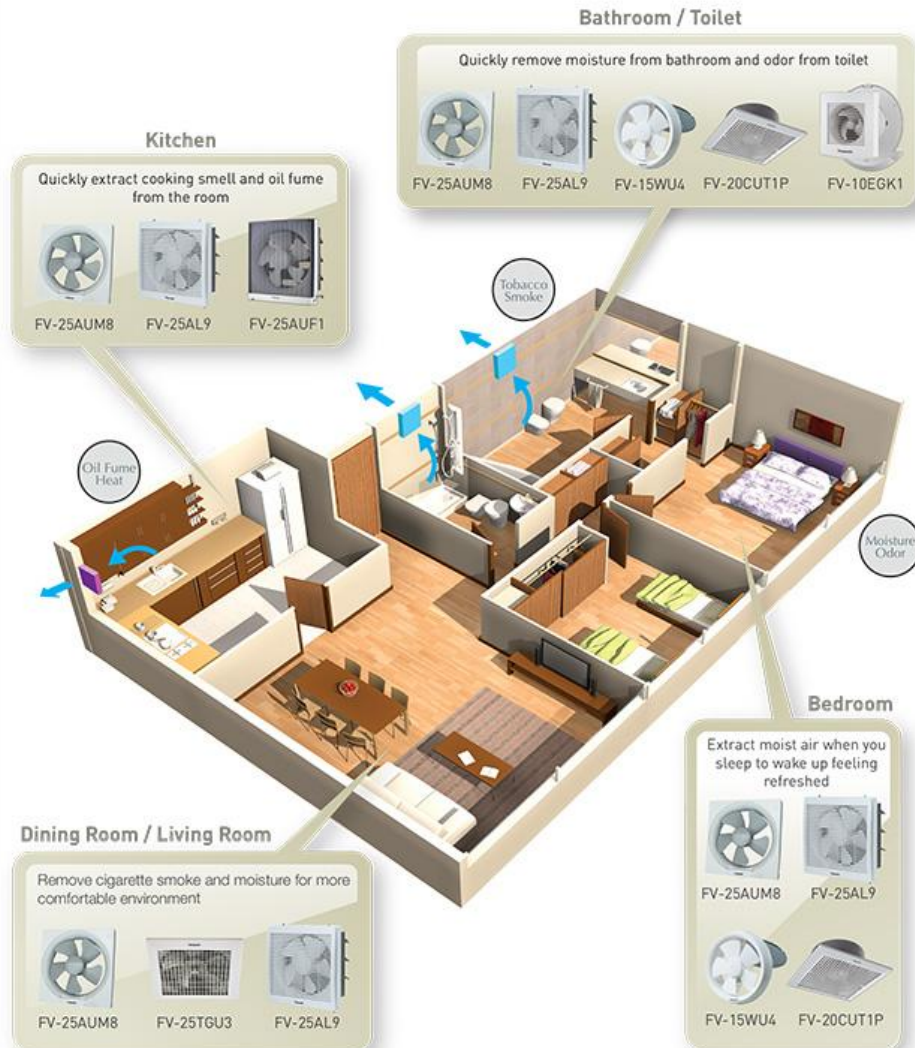
Natural Ventilation is neither consistent nor reliable since it heavily relies on wind and weather conditions. Mechanical ventilation removes stale, moist, polluted air and replaces it with fresh air by using a ventilating fan.



Benefits

Our Recommendation For Indoor Air Quality

Bathroom, toilet and kitchen are the places with high concentration of contaminants. When these places are being used, ventilation fans should be operated to extract the pollutants directly to outside before they spread throughout the rooms.



Ventilation Schedule

The Number of Ventilation Fans Required

(A): Room size [M³] x (B): Necessary frequency of Ventilation per hour
(C): Air Volume of Ventilation Fan [M³]

Note:
Room size (A) is calculated from the following equation:
[A] = Floor area (sq. m. or sq. ft.) x Room height (m or ft). If the room height exceeds 4 meters (13 feet), use 4 meters (13 feet) in the calculation regardless of the actual room height.
Values for (B) in above equation are given in the table on the below. These values were empirically found by the research scientists. Value for (C) in the above equation are given in our catalogs.

Ventilation Schedule

		I: Type of room		II: Necessary frequency of ventilation per hour		
		I	II	I	II	
Hotel	Dance Hall		8	Photo Studio	Dark Room	10
	Dining Hall		8	School	Laboratory	6
	Kitchen		15		Cooking Room	15
	Hallway		5		Auditorium	6
	Toilet		5		Gymnasium	8
	Lavatory		10		Toilet	12
	Boiler Room		20		Library	6
	Laundry		15		Classroom	6
	Hospital	Waiting Room		10	Theatre	Auditorium
Clinic			6		Hallway	6
Ward			6		Smoking Room	12
Bathroom			5		Toilet	10
Office			6		Projection Booth	20
Restaurant			8		Workroom	6
Kitchen			15		Telephone Switch Board Room	6
Gallery			5	Factory	Painting Room	20
Toilet			10		Dynamo Room and Substation	20
Boiler Room			10		Condenser Room	15
Laundry			15		Office	6
Operating Room			15	Restaurant & snack bar	Restaurant	6
Disinfecting Room		12			Kitchen	20
Room for the Patients Receiving Medical Treatment for The Diseases of Respiratory Organs		10	Office Building	Office	6	
Public Toilet		20			Waiting Room	10
	Vessel	Passenger Room	6		Conference Room	12
					Display Room	10
Home	Kitchen	15		Toilet	10	
	Parlor	6	Rooms where poisonous or inflammable gas is produced		More than 20	
	Living Room	6				
Library	Reading Room	6				

Benefits

Wall Mount Ventilation Fan

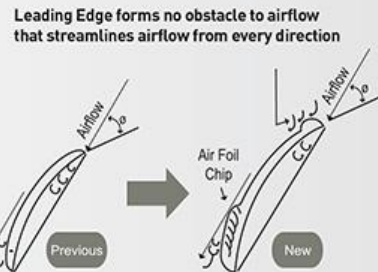
These fans shall be installed in and exhaust air through a wall. They are equipped with outside shutters which will open when the fan is on and vice versa. There is a wide range of products, either blade size or functions, that can fit to various requirements.

Filter type collects oil effectively that is ideal for the use in kitchen. Louver Type provides additional safety protection from finger reach while the Bathroom Series has a powerful exhaust capacity to remove moisture and smell in bathroom and toilet.



Advanced Blade Design

New blade design applies advanced aerodynamic principle that minimizes any obstacles against the airflow.



Air Foil Chip is to reduce turbulence at rear edge, and curvature of front edge is improved for smooth airflow that minimizes fan noise as well.

New HP Motor & Bearing

Compared with previous models, new models adopt high performance condenser motor and long life bearing that prolong the product durability, from average 30,000 hours life time to 60,000 hours. It enables saving by reducing power consumption down to average 13%.



Bearing

Wall Mount



Easy Maintenance

Our design is easy to dismantle and reassemble for cleaning.

Unique Q-blades For Low Noise

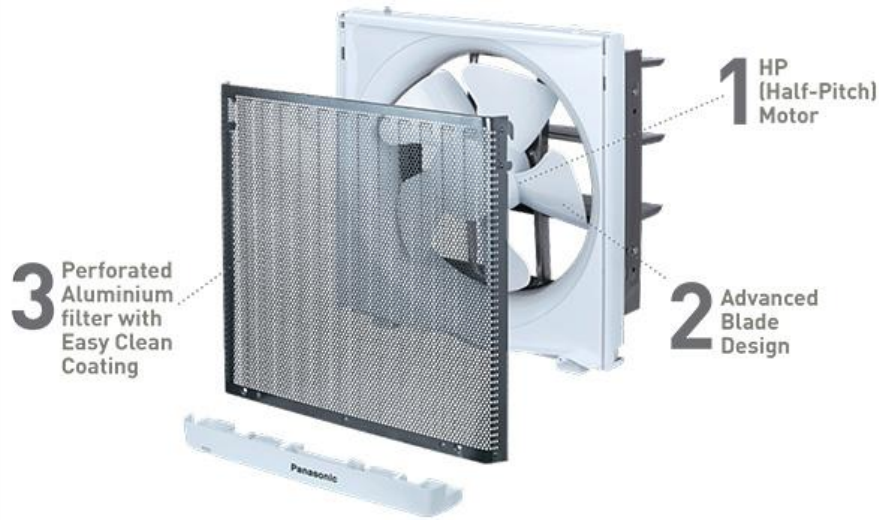
Uniquely designed blades ensure minimal noise disruption during operation.

Thermal Safety Fuse

Safety fuse ensures that no accidents occur, even when there is a spike in current.

Features

FV-25AUF1



Perforated Aluminium Filter – Durable

[Applicable for FV-25AUF1]

The filter is made out of aluminium material to ensure excellent durability and is easily detachable for cleaning and maintenance.

Oil Collecting – Environment Friendly

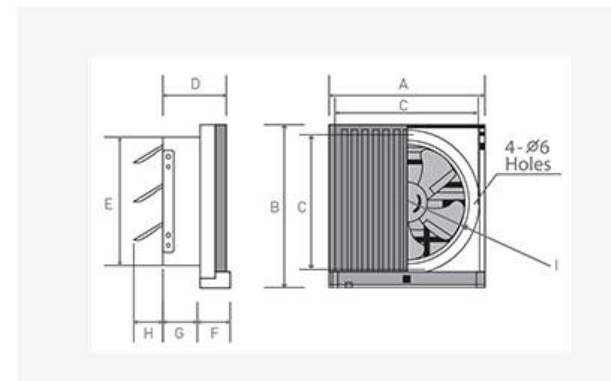
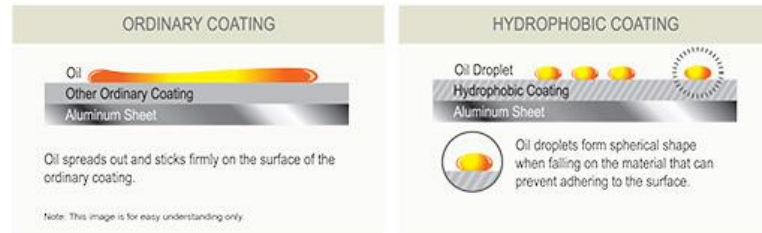
[Applicable for FV-25AUF1]

The perforated filter is capable to collect oil. It allows the air exhausted from outdoor to be less polluted and improves the air quality of surrounding.

Easy Clean Coating – Convenient

[Applicable for FV-25AUF1]

The perforated aluminium filter is processed with an easy-clean coating name "Hydrophobic Coating". It is basically a paint composed of fluorine compound particles that have small affinity with water or oil. This material has low surface tension allowing oil droplets falling on without adhering to the material.



Model	Size		mm								
	cm	inch	A	B	C*	D	E	F	G	H	I
FV-25AUF1	25	10	352	371	310	150	290	65	90	70	250

* Opening Hole Size

Features

- Large Oil Collector/Cup
- Durable Perforated Aluminium Coated Filter For Easy Cleaning
- Excellent Exhaust Performance
- Advanced Blade Design
- HP (Half-Pitch) Motor
- Thermal Safety Fuse
- Suitable For Kitchens

Features

[Applicable for FV-10EGK1/FV15EGK1]

Compact and Stylish

Compact size with powerful exhaust capacity can fit most bathrooms up to 7.5m² and 15 m² respectively. Moreover, the slim and elegant design of front louver match any modern decor perfectly.

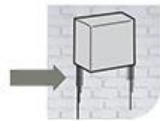
All Accessories Included

The Moisture & Smell Exhauster includes all required accessories in the packaging. It provides you convenience saves your time for seeking available accessories in the market.

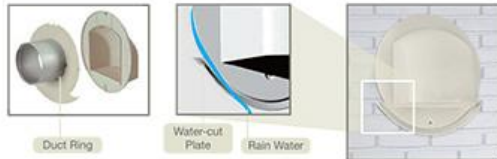


Trace-Prevention

When it rains, rain water flowing along pipe hood may cause trace marks on the wall. The exclusively designed duct ring leads the water flow to get rid of traces on the wall.



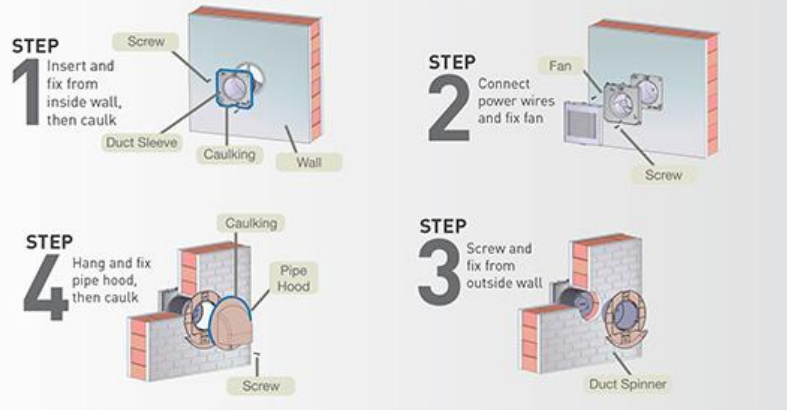
With a standard pipe hood, rain water may cause trace mark on the wall



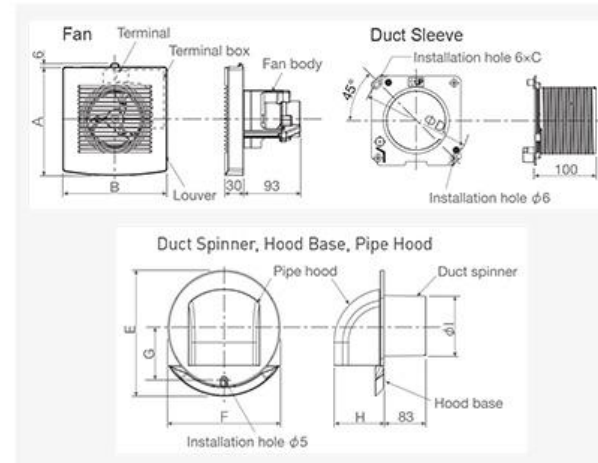
The water-cut plate of duct ring leads water flow over the wall to avoid forming of trace mark on the wall

Easy Installation

The ventilation is well-designed to facilitate the installation of product. With the supplied accessories, only 4 steps are required to complete the installation.



FV-10EGK1 / FV-15EGK1



Features

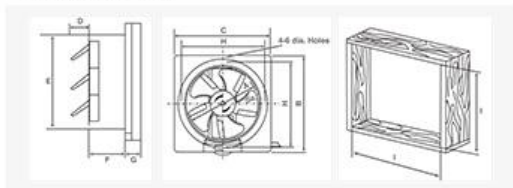
- Easy Installation
- All Accessories Provided
- (Including External Duct Cap)
- Thermal Safety Fuse
- Suitable For Bathrooms

Model	Installation Hole Dia. mm	Wall Thickness mm	mm								
			A	B	C	D	E	F	G	H	I
FV-10EGK1	∅135 +5	100-150	176	170	9.3	177	250	220	107	99	120
FV-15EGK1	∅180 +5	100-150	230	220	11.5	221	310	270	142	138	165

FV-20AUM8 / FV-25AUM7 / FV-30AUM8

Features

- Unique Q-blades For Low Noise
- Energy-saving, High Performance Motor
- Ball-Bearing Motor For Smoother And Durable Operation
- Automatic Shutters
- Built-in Oil Receptor
- Simple And Easy Installation (Non-duct)
- Thermal Safety Fuse
- Suitable For Kitchens



Model	Size		mm								
	cm	inch	A	B	C	D	E	F	G	H	I*
FV-20AUM8	20	8	200	300	300	83	240	90	45	260	250
FV-25AUM7	25	10	250	350	350	70	290	90	40	310	300
FV-30AUM8	30	12	300	400	400	81	340	90	40	360	350

* Opening Hole Size

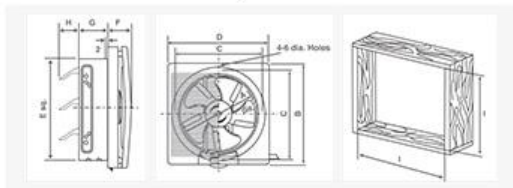
FV-40KUTP



FV-20AL9 / FV-25AL9

Features

- New Front Louver Design For Neater Outlook And Better Safety
- New Blade Design To Improve Efficiency
- Ball-Bearing Motor For Smoother And Durable Operation
- Automatic Shutter
- Thermal Safety Fuse
- Suitable For Kitchens And Living Rooms

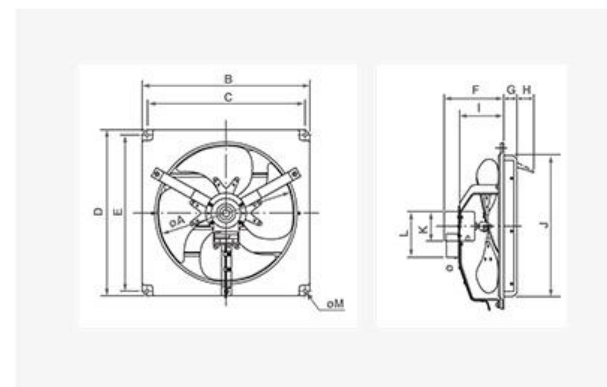


Model	Size		mm								
	cm	inch	A	B	C	D	E	F	G	H	I*
FV-20AL9	20	8	200	306	200	302	240	88	90	80	250
FV-25AL9	25	10	250	356	310	352	290	68	90	63	300

* Opening Hole Size

Features

- Large Metal Blade Assembly For Abundant Air Volume
- Possible To Install Horizontally
- Built-in Safety Thermal Fuse
- Powerful, Efficient And Durable Condenser Motor
- Ideal For Workshops, Bakeries & Warehouses



Model	Size		mm												
	cm	inch	A	B	C	D	E	F	G	H	I	J*	K	L	M
FV-40KUTP	40	16	410	510	400	510	480	181	40	52	133	434	90	141	10

* Opening Hole Size

Glass Mount



Easy Maintenance

Our design is easy to dismantle and reassemble for cleaning.

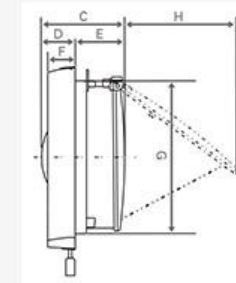
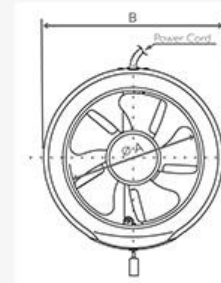
Unique Q-blades For Low Noise

Uniquely designed blades to ensure minimal noise disruption during operation.

Thermal Safety Fuse

Safety fuse ensures that no accidents occur, even when there is a spike in current.

FV-15WU4 / FV-20WU4



Features

- Thermal Safety Fuse
- Installed Directly Into The Glass Window, Window Panel Thickness (From 3mm - 7mm)
- Easy To Remove And Disassemble For Cleaning
- Cord Operated Shutter For Easy Operation
- Suitable For Bathrooms And Toilets

Model	Size		mm							
	cm	inch	A	B	C	D	E	F	G*	H
FV-15WU4	15	6	150	210	97	43	54	37.4	177	149
FV-20WU4	20	8	200	271	98	36	62	36	237	201

* Opening Hole Size

Ceiling Mount

Easy Maintenance

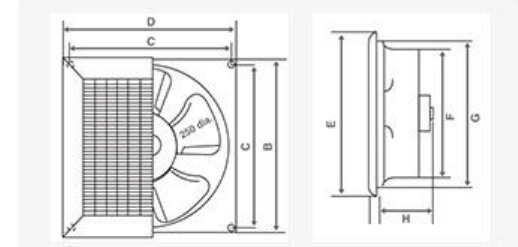
Our design is easy to dismantle and reassemble for cleaning.

Unique Q-blades For Low Noise

Uniquely designed blades to ensure minimal noise disruption during operation.

Thermal Safety Fuse

Safety fuse ensures that no accidents occur, even when there is a spike in current.



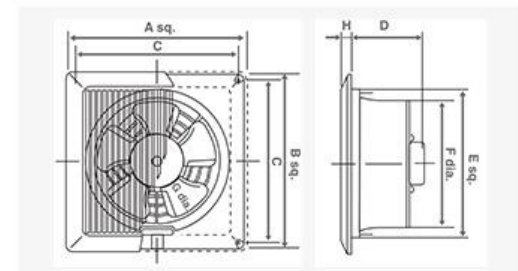
Model	Size		mm							
	cm	inch	A	B	C	D	E	F	G*	H
FV-25TGU3	25	10	250	355	336	355	365	272	310	117.5

* Opening Hole Size

FV-25TGU3

Features

- Q-blades For Low Noise Operation
- Automatic Oil Circulation For Smoother And Durable Operation
- Easy To Install
- Built-in Safety Thermal Fuse
- Suitable For Offices And Bedrooms



Model	Size		mm							
	cm	inch	A	B	C	D	E*	F	G	H
FV-20CUT1P	20	8	315	305	286	128	260	223	200	18

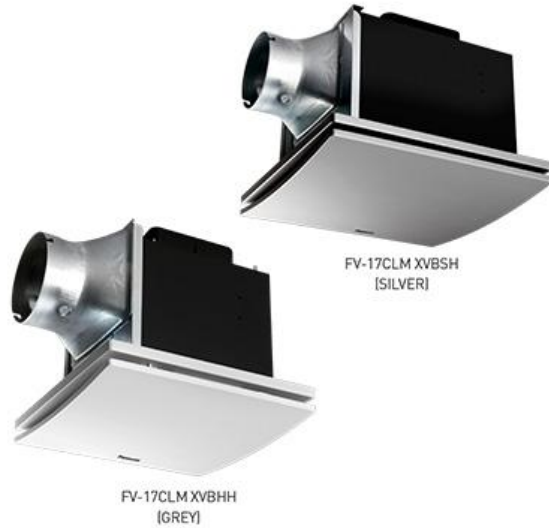
* Opening Hole Size

FV-20CUT1P

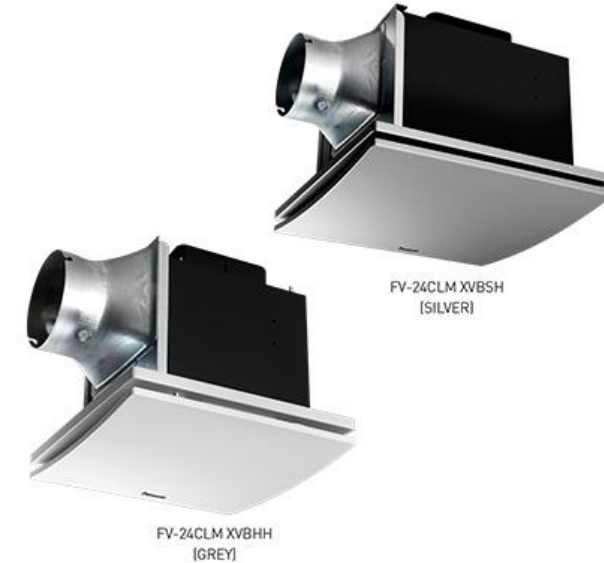
Features

- Unique Q-blades For Low Noise
- Energy-saving, High Performance Motor
- Ball Bearing Motor For Smoother And Durable Operation
- Easy To Disassemble For Cleaning And Maintenance
- Easy To Install
- Built-in Safety Thermal Fuse
- Suitable For Offices And Bedrooms

CEILING MOUNT SIROCCO FV-17CLM XVBSH/ FV-17CLM XVBHH



CEILING MOUNT SIROCCO FV-24CLM XVBSH/ FV-24CLM XVBHH

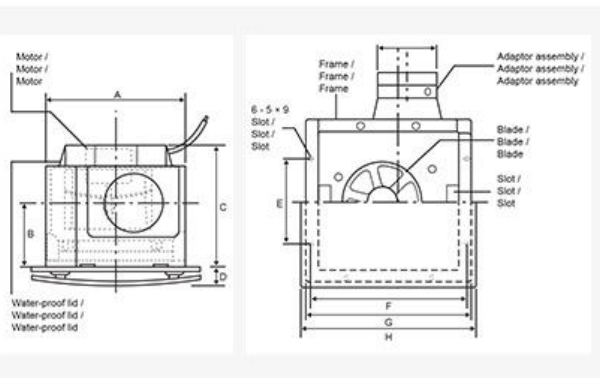


Features

- Energy Saving
- Quiet Operation
- Compact and Stylish
- Powerful, Efficient and Durable Condenser Motor
- Easy Installation
- Easy Maintenance
- Suitable for Bedrooms, Bathrooms, Living Rooms & Offices
- Built-in Safety Thermal Fuse

Colour

- Silver
- Grey



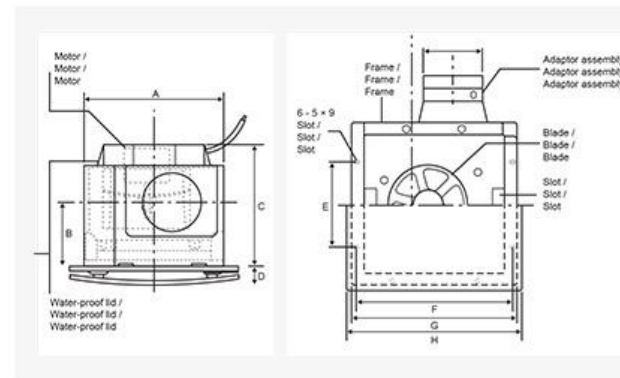
Model	Size		mm									DUCT SIZE
	cm	inch	A	B	C	D	E	F	G	H	I	
FV-17CLM XVBSH (GREY)	17	6.8	170	108	184	34	84	194	214	230	10	100
FV-17CLM XVBHH (SILVER)	17	6.8	170	108	184	34	84	194	214	230	10	100

Features

- Energy Saving
- Quiet Operation
- Compact and Stylish
- Powerful, Efficient and Durable Condenser Motor
- Easy Installation
- Easy Maintenance
- Suitable for Bedrooms, Bathrooms, Living Rooms & Offices
- Built-in Safety Thermal Fuse











Colour

- Silver
- Grey



Model	Size		mm									DUCT SIZE
	cm	inch	A	B	C	D	E	F	G	H	I	
FV-24CLM XVBSH (GREY)	24	9.6	170	108	184	38	84	194	214	230	10	100
FV-24CLM XVBHH (SILVER)	24	9.6	170	108	184	38	84	194	214	230	10	100

Products Line-Up

SERIES	TABLE FAN		STAND FAN		OSCILLATION FAN		WALL FAN			
General Fan										
	F-MN404	F-MN304	F-MT405	F-MX405	F-MQ409 / F-MQ409 DG	F-MU44R	F-MU453	F-MU405	F-MU408	F-MU308
FEATURES										
Size	40cm (16")	30cm (12")	40cm (16")	40cm (16")	40cm (16")	40cm (16")	45cm (18")	40cm (16")	40cm (16")	30cm (12")

SERIES	WALL MOUNT		WALL MOUNT (INDUSTRIAL)		GLASS MOUNT	CEILING MOUNT		CEILING MOUNT SIROCCO		
Ventilation Fan										
	FV-25AUF1	FV-10EGK1 / FV-15EGK1	FV-20AUM8 / FV-25AUM7 / FV-30AUM8	FV-20AL9 / FV-25AL9	FV-40KUTP	FV-15WU4 / FV-20WU4	FV-25TGU3	FV-20CUT1P	FV-17CLM XVBSH / FV-17CLM XVBHH	FV-24CLM XVBSH / FV-24CLM XVBHH
FEATURES										
Size	25cm (10")	10cm (4") / 15cm (6")	20cm (8") / 25cm (10") / 30cm (12")	20cm (8") / 25cm (10")	40cm (16")	15cm (6") / 20cm (8")	25cm (10")	20cm (8")	17cm (6.8")	24cm (9.6")