

Panasonic

VENTILATING FANS & AIR MOVING EQUIPMENTS

Providing you a breath of fresh air



Panasonic®

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- Actual colors may vary slightly from those shown.

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What are the Indoor Air Quality problems existing in your house?

Recently, many reports show that people are in poorer physical condition. It is because of high living density and usage of building or interior material which emit chemical substances in either new-built or reformed house, causing indoor air quality problems.

There are different symptoms, such as eyes / throat sore, nausea, feeling unwell, skin irritation, headache, dizziness, breathing problem and so on. Furthermore, chemical substances like formaldehyde, can lead to the deterioration of allergic illness.



Wall and Flooring which Occupied the Most Area, are Big Enemy of Clean Air

Materials like adhesive used on wall and/or flooring, will keep on releasing chemical substances in long period of time.



Beware of Curtain, Sofa and Any Other Furniture you brought in

Chemical substances are also released from curtain, sofa and any other furniture you brought in.



Floor and Bathroom Sink are good places for Termite to Inhabit

High humidity of bathroom (especially the floor), provides good places for termite to inhabit.



Kitchen with Lots of Water Vapor is the Food Storage for Mold

Water vapor is created when gas is being burnt. Also the dirt after cooking provides nutrition for mold.



Fabric Sofa and Stuffed Doll

Scurf and dander from human beings (and pets) are the favorites of mites. Thus, it is important to be cautious with fabric sofa and stuffed doll.



Bathroom with Heavy Amount of Water Vapor is the Wonderland for Mold

Heavy amount of water vapor can be produced in a short period of time. Wall, flooring & ceiling of bathroom are made by moisture-proof material and thus high temperature is maintained. Please clean your bathroom without leaving any soap residue.



Even Flooring Need to pay attention

Though natural-material-made flooring looks safe, chemical substances like gloss wax may still be emitted.

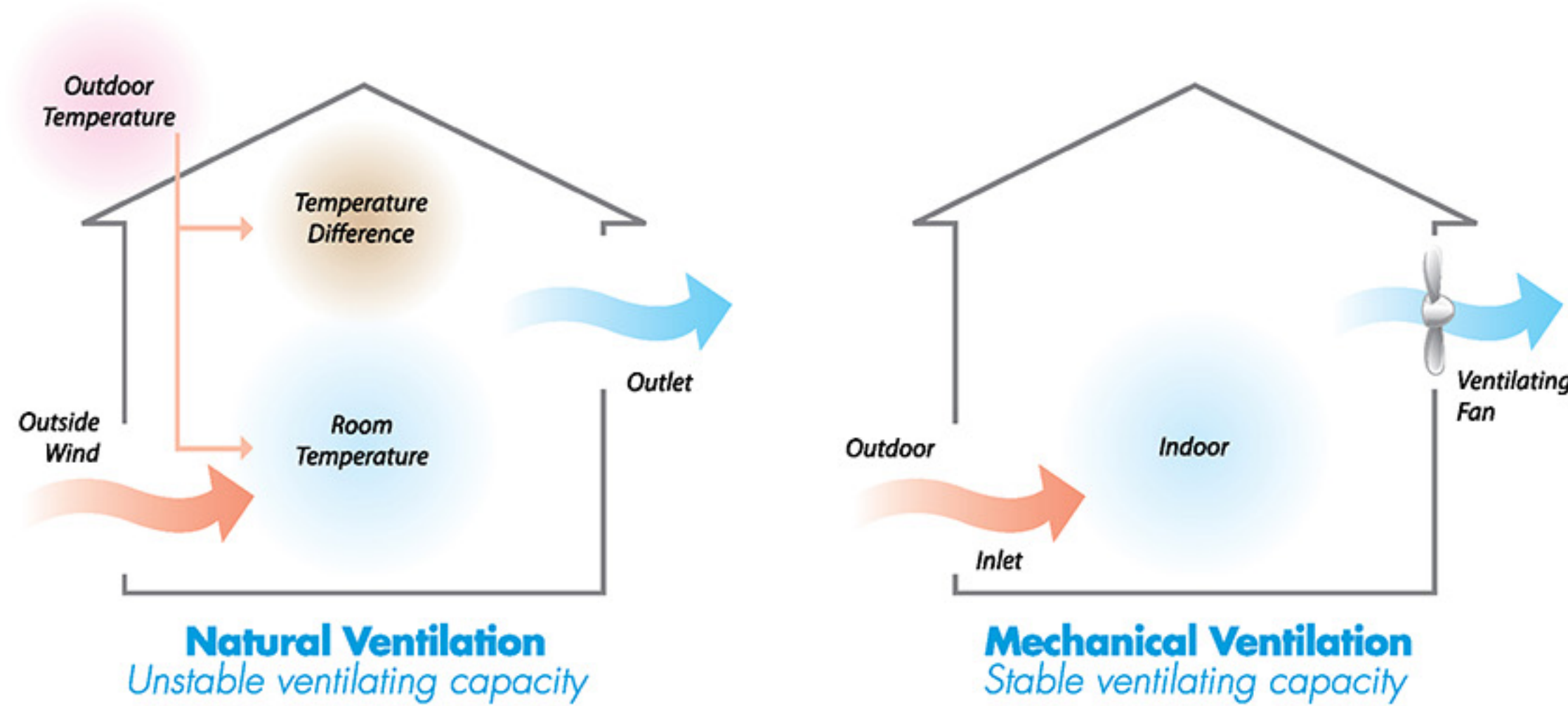


Improve Indoor Air Quality

Ways to improve Indoor Air Quality

The first step to improve indoor air quality should reduce or remove the source of the pollutants. Unfortunately, indoor pollutants are virtually impossible to eliminate completely, creating the need for a second step - ventilation. Ventilation is divided into "Natural Ventilation" and "Mechanical Ventilation".

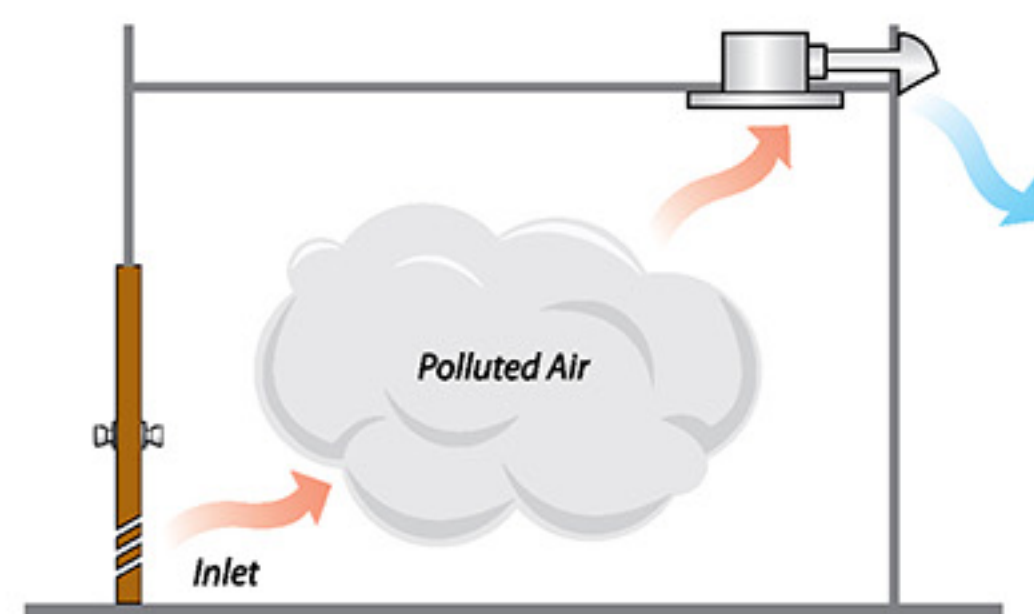
Natural ventilation is neither consistent nor reliable since it relies heavily on wind and weather conditions. Mechanical ventilation removes stale, moist, polluted air and replaces it with fresh outside air by using a fan.



Two widely used methods in today's building industry are continuous and intermittent ventilation.

Continuous Ventilation

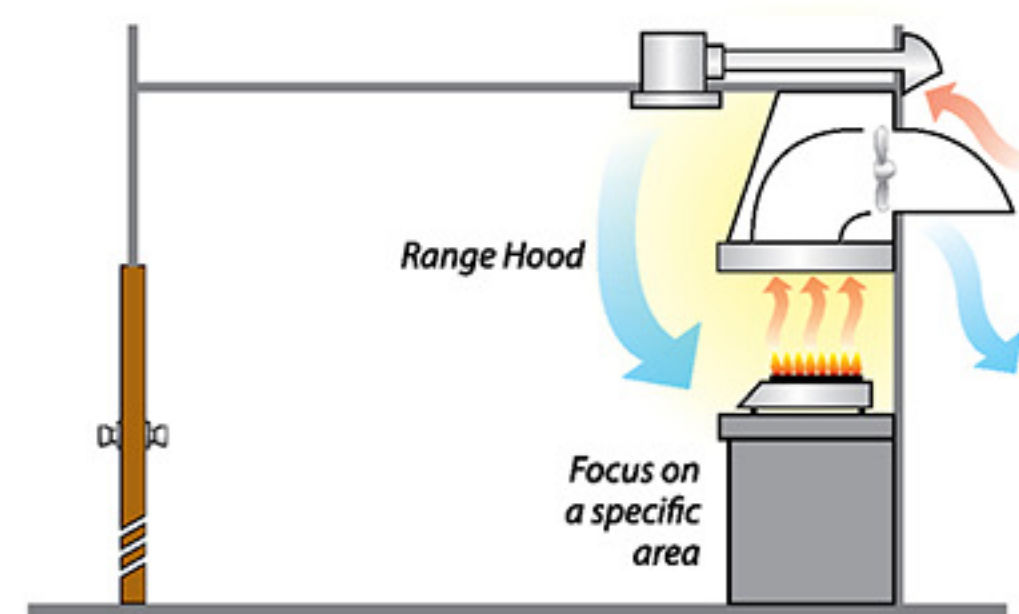
Sometimes referred to as general, central, whole-house or primary ventilation. Continuous ventilation is used to remove stale air and provide fresh air on a slow, continuous basis.



Enhance ventilation in the whole house to replace polluted air with fresh air by ventilation equipments.

Intermittent Ventilation

Sometimes referred to as spot, local or secondary ventilation. Intermittent ventilation is used to capture and remove pollutant quickly at the source. This secondary process exhaust "bad air" from contaminated areas quickly, before it can spread throughout the house.



Enhance ventilation in specific part of a house. (e.g. bathroom, kitchen)

Ventilation Schedule

The Number of Ventilating Fans Required

(A): Room Size [M³] x (B): Necessary Frequency of Ventilation Per Hour

(C): Air Volume of Ventilating 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	6
	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
	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
				Waiting Room	10
Public Toilet		20		Conference Room	12
Vessel	Passenger Room	6		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			



Recommended Application

Panasonic ventilating products can be used in various environment, such as residential house, offices and hotels.

Residence

Ventilating fans installed throughout the home draw indoor pollutants and vent them outside. So, a continuous and balanced ventilation system brings you with fresh air.



Office

Office also needs a good ventilation system to maintain constant and fresh airflow. Panasonic Cabinet Fan definitely provides you with a quiet and comfortable environment.



* Local regulations concerning the installation of ventilation fans should be fulfilled.
* Installation methods please refer to the operation instruction.

Ceiling Mount Type Ventilating Fan



These fans are installed in the ceiling connected with ductwork, by which indoor air is exhausted either through the roof or the exterior wall. Since they are mainly mounted inside the ceiling, the interior is not damaged.

Various types are available for different needs. DC Motor type provides a premium solution for both spot and whole ventilation; Super Quiet type offers a quiet and comfortable environment to you; and Recessed Series lets you have double enjoyment with its dual functions.

General Features (Super Quiet Series & Standard Series)

1 Quiet Operation

These fans adopt distinctive design of "Resonance-Noise-Absorption Structure". It can minimize the transmission of noise from the blower to exterior, reduce the operation noise to incredibly low levels and accordingly create a tranquil and silent environment for you.

By the "Double Orifice" Structure, noise is effectively absorbed and reduced between the double orifice and casing.

* except 38 model

3 High Efficiency

Taper blade design effectively controls the air turbulence surrounding the blade. That achieves the strong and smooth ventilating performance, as well as reduces the noise level, by whole of the blade.

Seam-processed casing ensures strength and hermetic sealing. Reverse flow prevention shutter results in further improvement of air tightness.

4 Energy Saving

The advanced casing design, along with the new motor, improves the fan performance effectively. Energy saving is attained by reducing power consumption down to 35%.

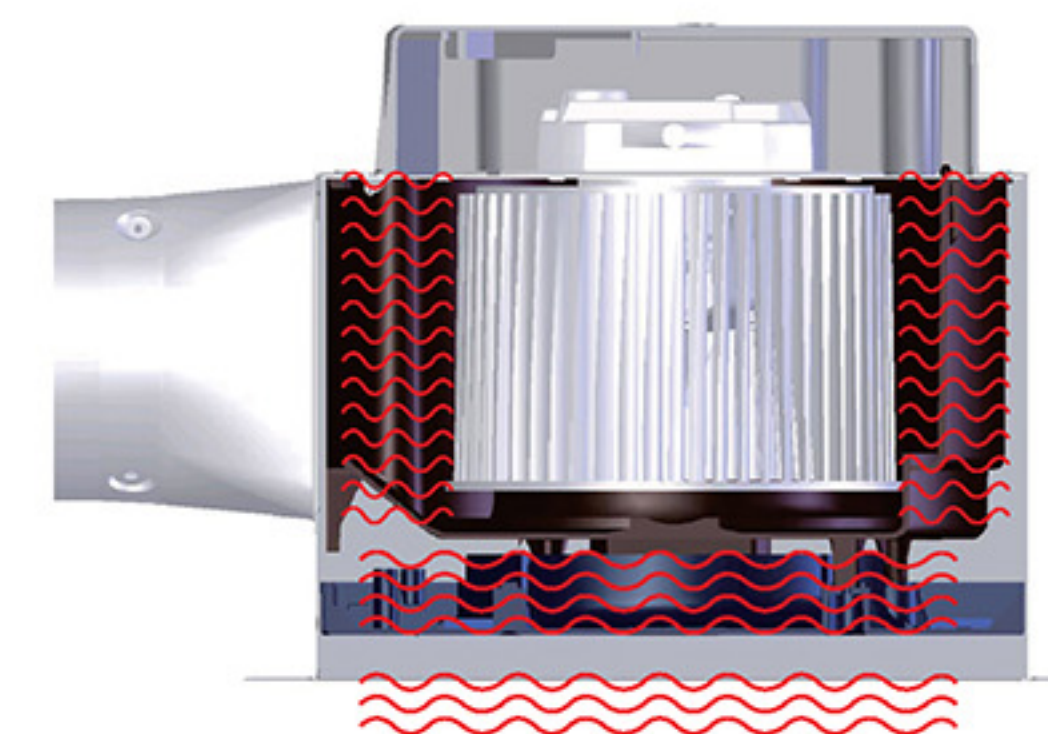
5 Easy Installation

Wiring of power cord to product is pre-installed in factory, just connect the cord to power supply for operation. (except 38 model)

Cassette type discharge adaptor facilitates installation of the product, as well as duct connecting work.

6 Easy Maintenance

One touch louver allows installation and removal of louver by finger touch.



2 Long Life

The unique design of new motor, corporated with well-lubricated ball bearing, temperature rise is reduced that can increase the motor life time and prolong the product durability.

Ceiling Mount Type Ventilating Fan



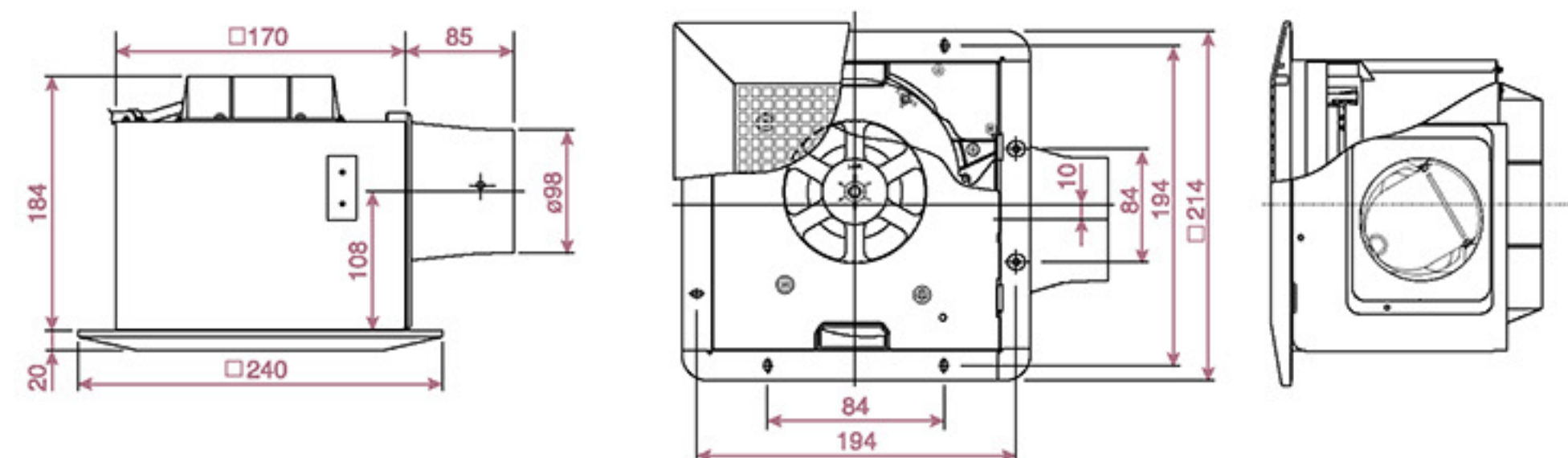
FV-27CH9 / FV-17CU7

Super Quiet Series

- High-Low speed selectable (FV-27CH9)
- Condenser motor with thermal cut-off
- Well lubricated bearing for long life operation
- Pre-installed power cord
- Resonance-Noise-Absorption structure
- High performance taper blade designed sirocco fan

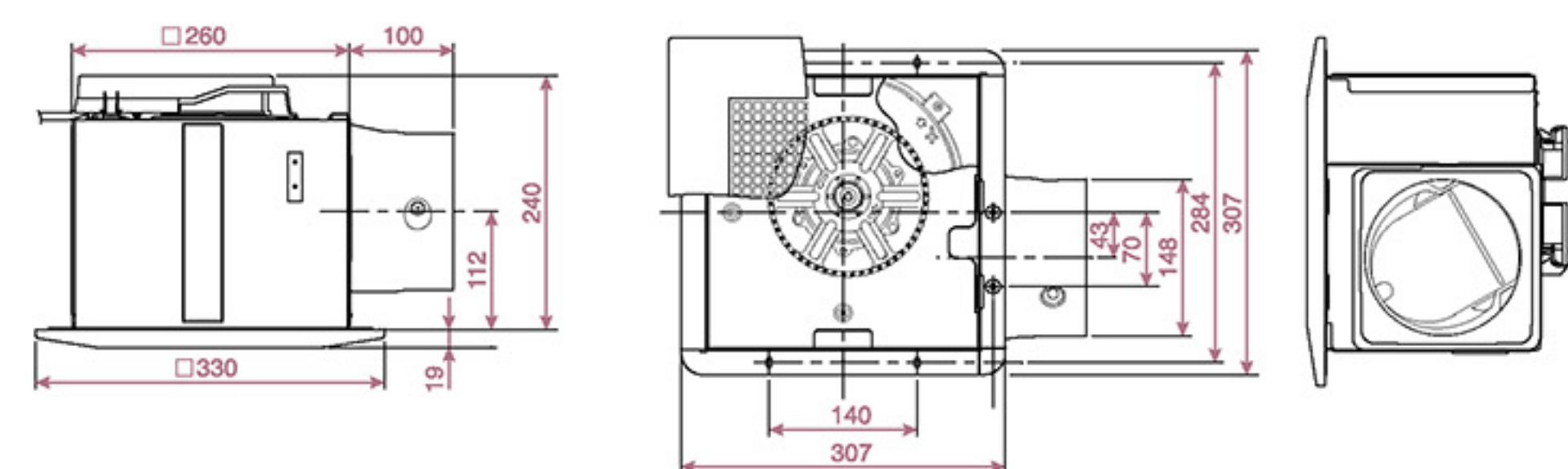
Dimension

Unit : mm



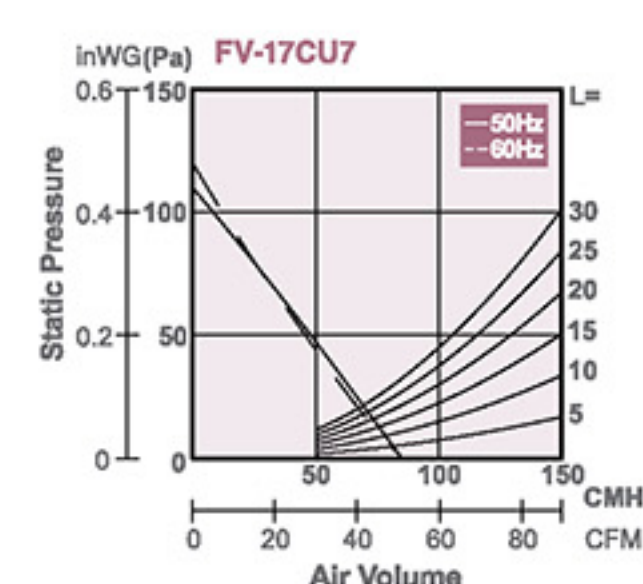
Dimension

Unit : mm



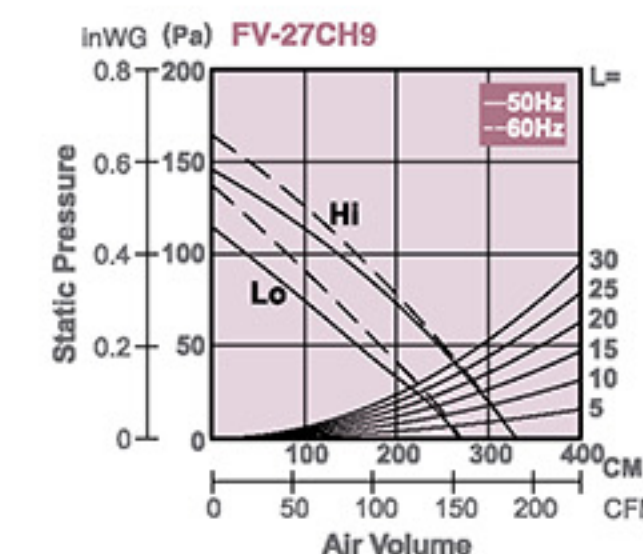
Performance Data

(220V 50Hz/60Hz)



Performance Data

(220V 50Hz/60Hz)



Specification

Model No.	Hz		Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Installation Space [mm]	Duct Size [mm]
					[CMH]	[CFM]				
FV-17CU7	60		11	800	85	50	28	1.9	177 x 177	Ø100
FV-27CH9	60	Hi	33	570	330	194	34	4.4	270 x 270	Ø150
		Lo	26	490	270	159	31			

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.



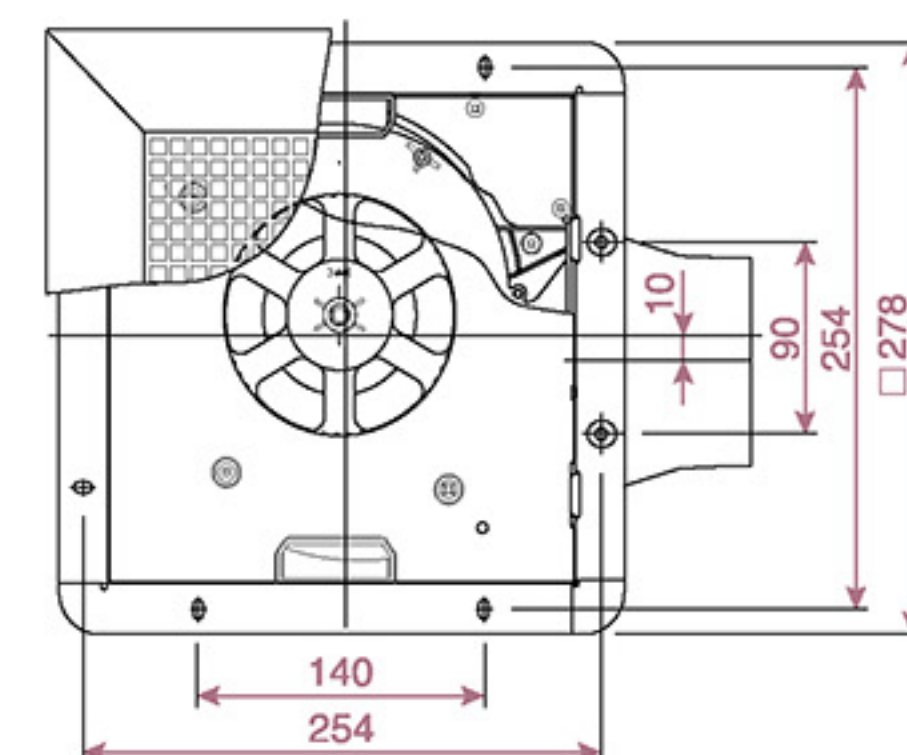
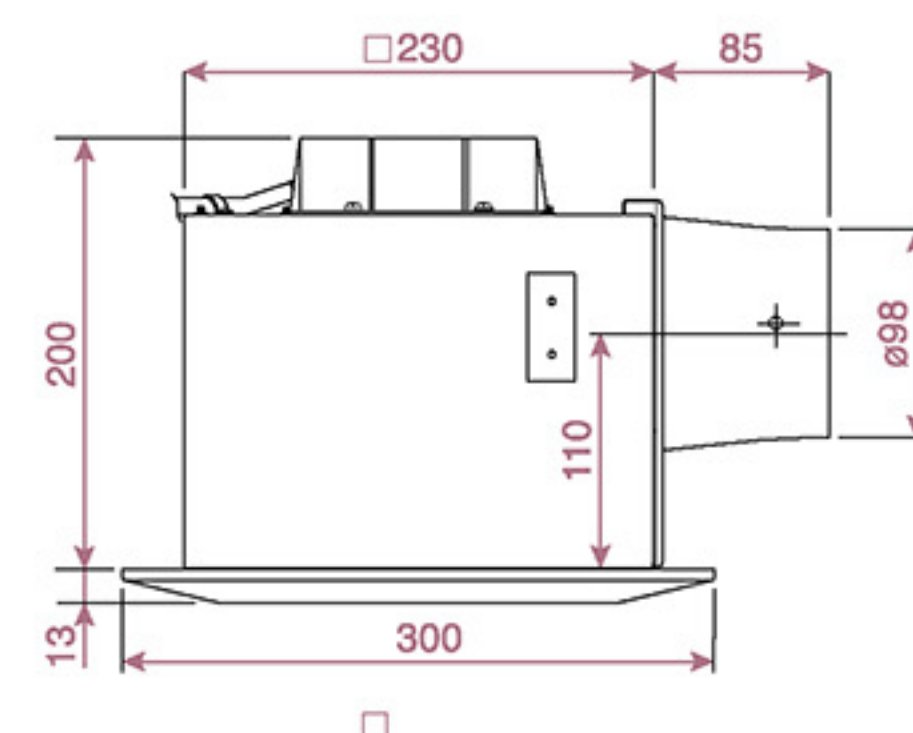
FV-24CU7 / FV-24CD7 / FV-24CH7

Super Quiet Series

- Condenser motor with thermal cut-off
- Well lubricated bearing for long life operation
- Pre-installed power cord
- Resonance-Noise-Absorption Structure
- High performance taper blade designed sirocco fan

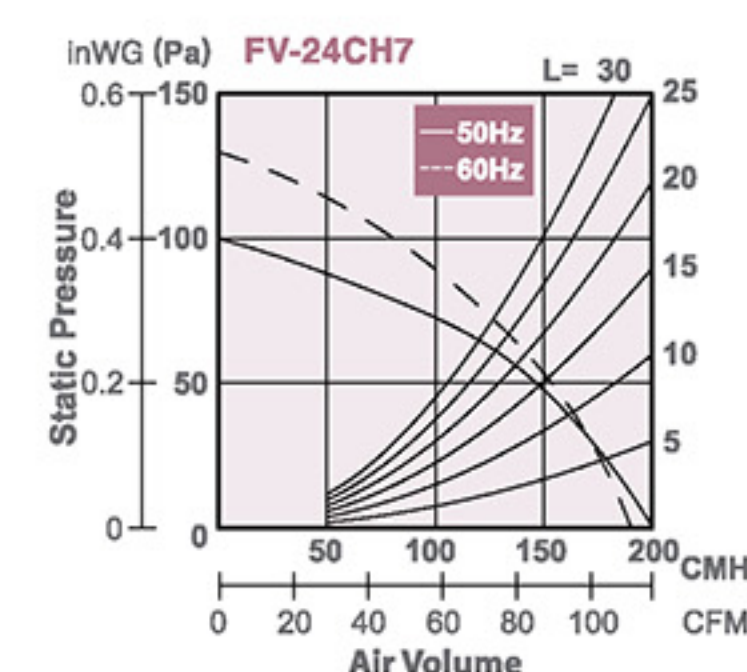
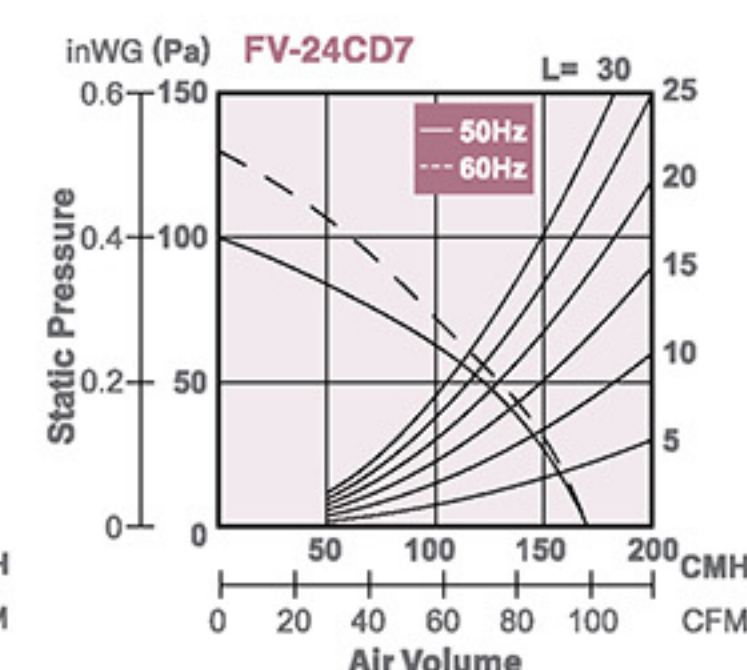
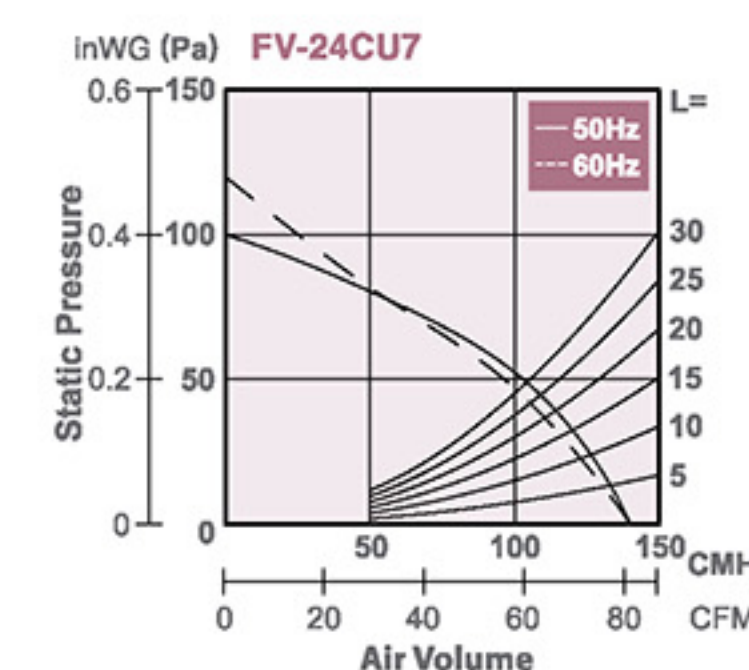
Dimension

Unit : mm



Performance Data

(220V 50Hz/60Hz)



Specification

Model No.	Hz	Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Installation Space [mm]	Duct Size [mm]
				[CMH]	[CFM]				
FV-24CU7	60	16	690	140	82	29	2.9	240 x 240	Ø100
FV-24CD7	60	19	805	170	100	33	3.0	240 x 240	Ø100
FV-24CH7	60	24	840	190	112	35	3.0	240 x 240	Ø100

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.

Ceiling Mount Type Ventilating Fan



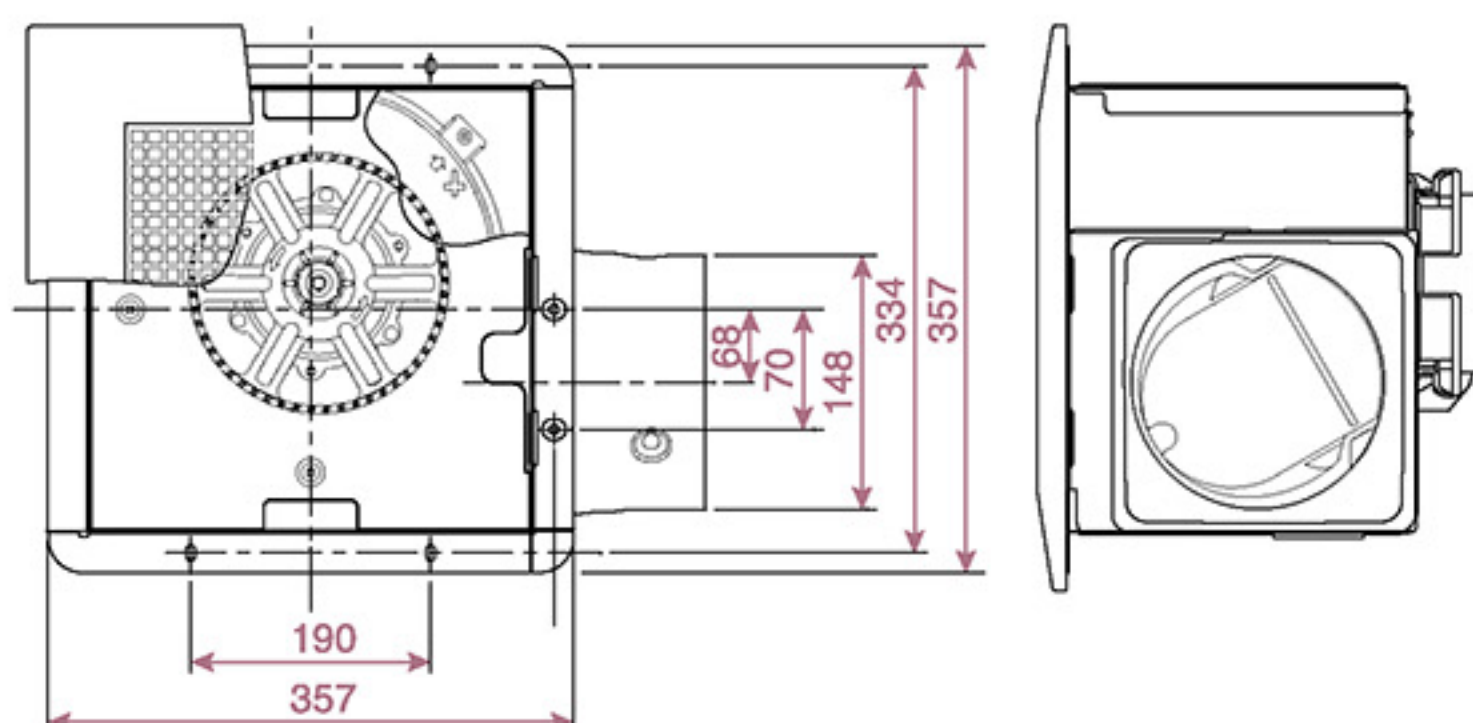
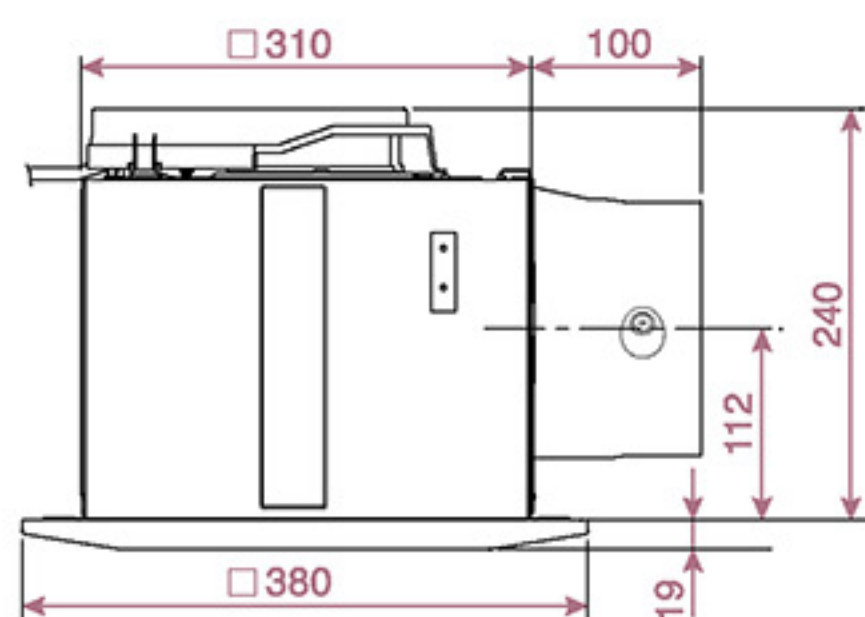
FV-32CD9 / FV-32CH9

Super Quiet Series

- High-Low speed selectable
- Condenser motor with thermal cut-off
- Well lubricated bearing for long life operation
- Pre-installed power cord
- Resonance-Noise-Absorption structure
- High performance taper blade designed sirocco fan

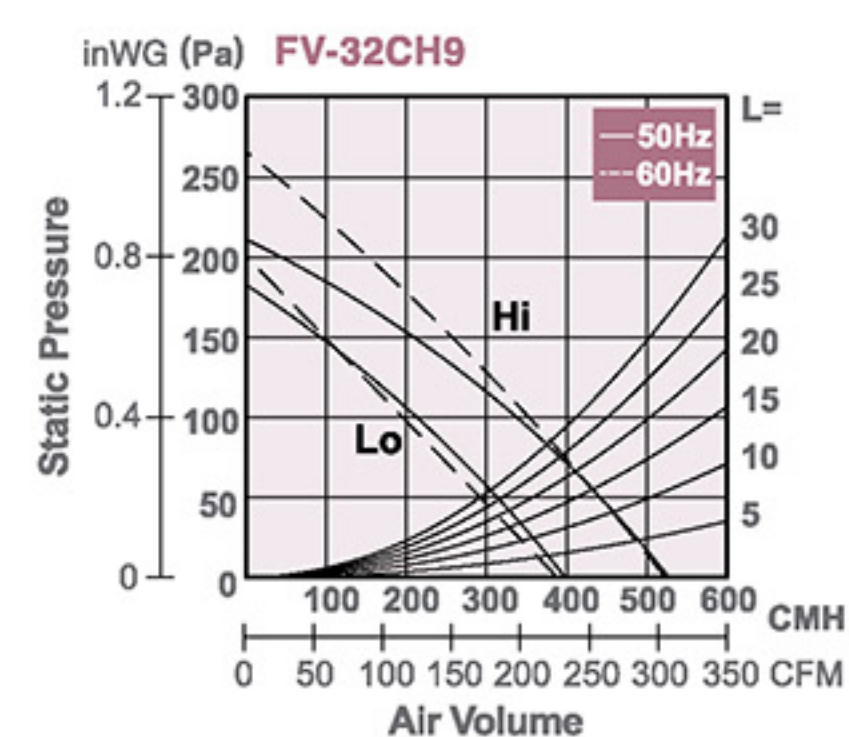
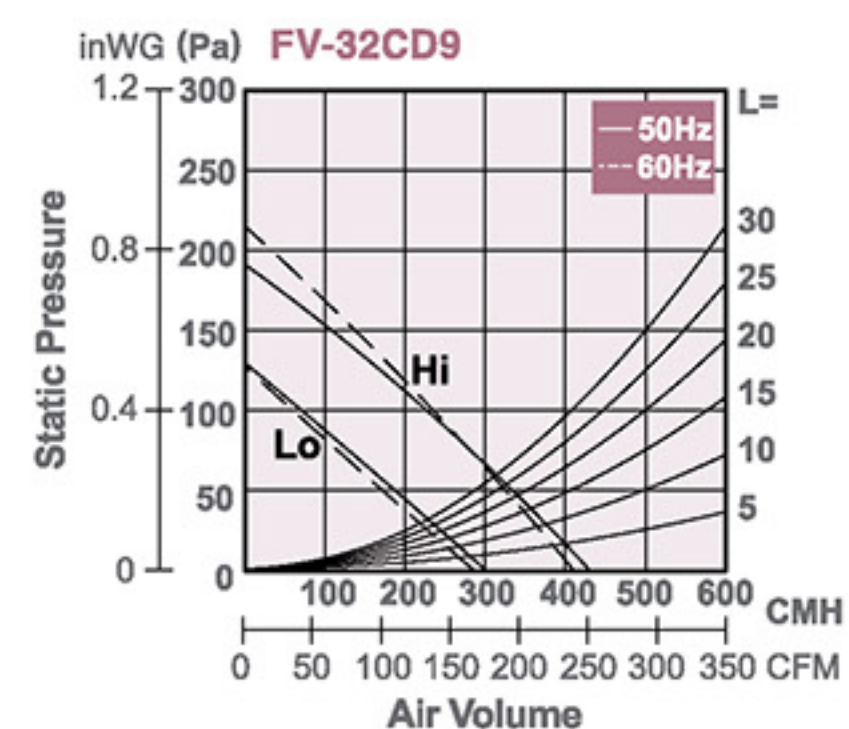
Dimension

Unit : mm



Performance Data

(220V 50Hz/60Hz)



Specification

Model No.	Hz		Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Installation Space [mm]	Duct Size [mm]
					[CMH]	[CFM]				
FV-32CD9	60	Hi	48	580	410	241	36	5.2	320 x 320	Ø150
		Lo	33	450	285	168	28			
FV-32CH9	60	Hi	61	695	525	309	41	5.6	320 x 320	Ø150
		Lo	47	540	390	230	33			

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.



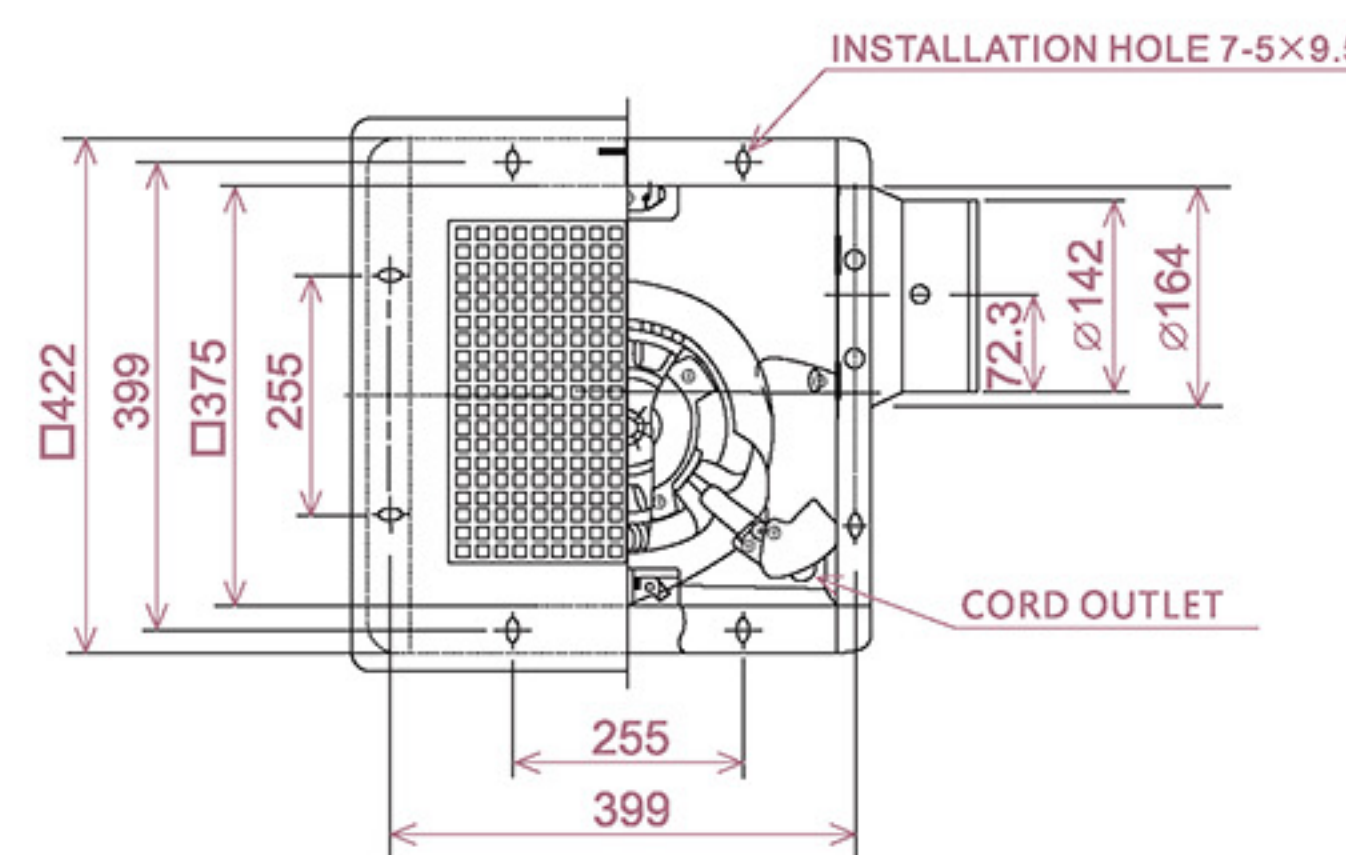
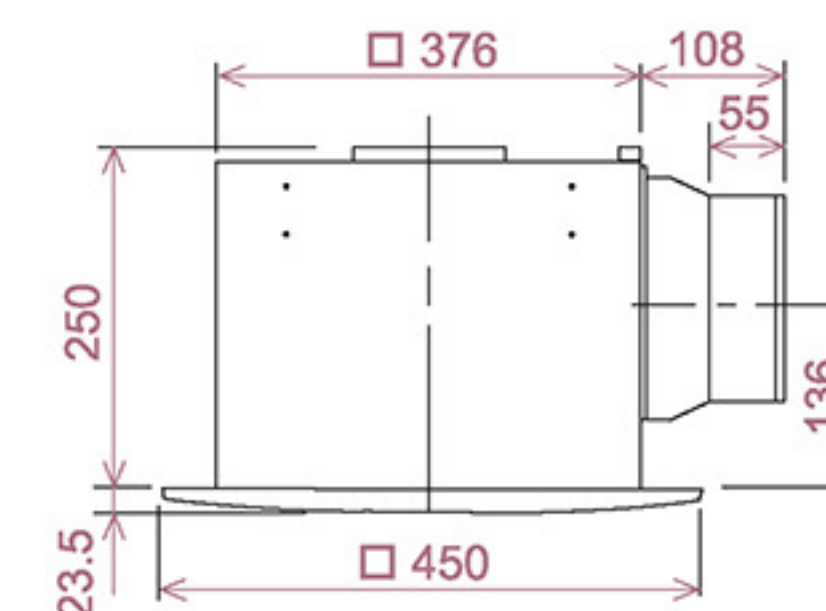
FV-38CD8 / FV-38CH8

Standard Series

- High-Low speed selectable
- Condenser motor with thermal cut-off
- Well lubricated bearing for long life operation
- High performance sirocco fan

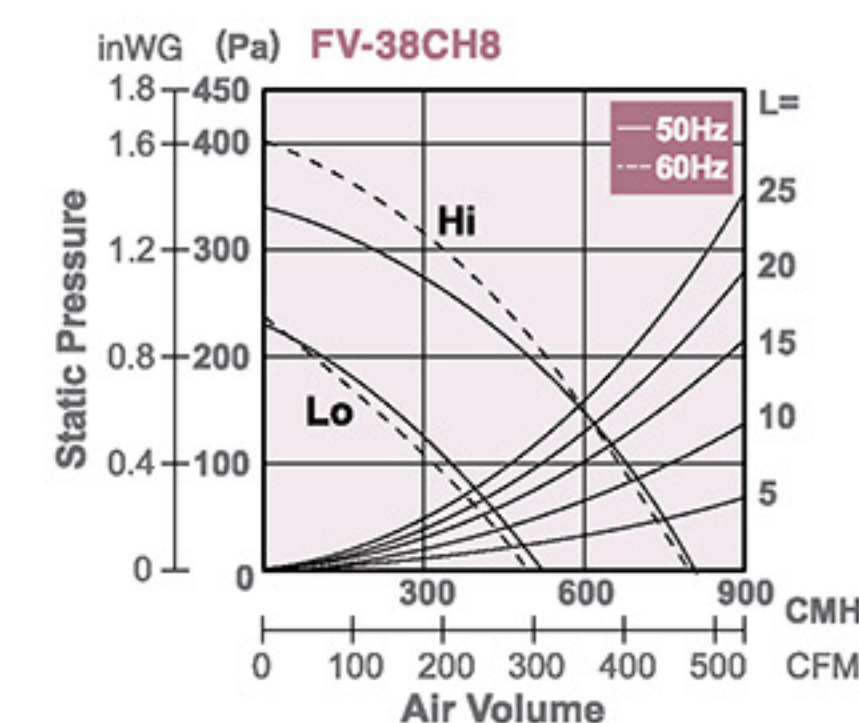
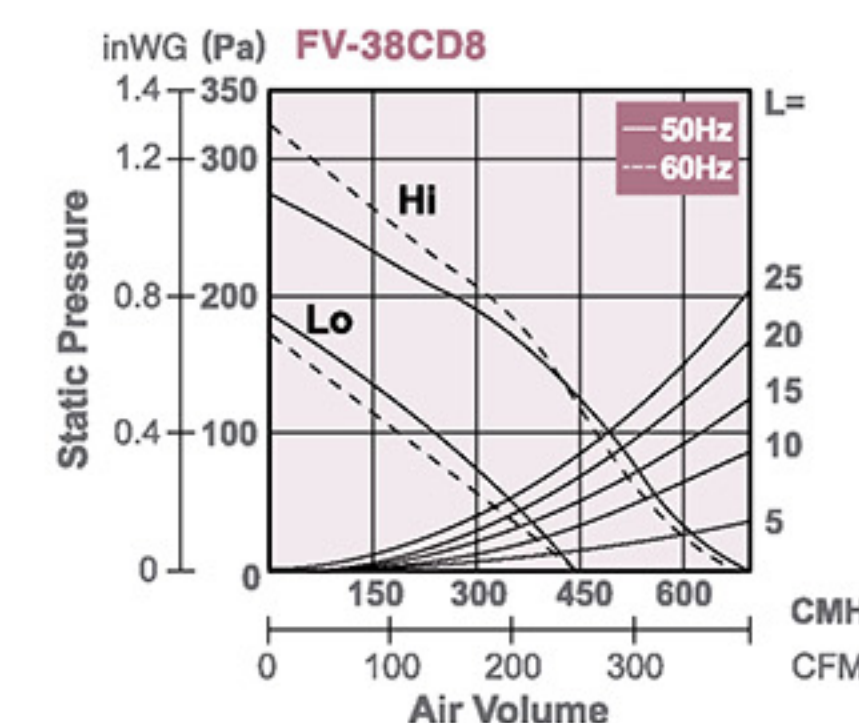
Dimension

Unit : mm



Performance Data

(220V 50Hz/60Hz)



Specification

Model No.	Hz		Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Installation Space [mm]	Duct Size [mm]
					[CMH]	[CFM]				
FV-38CD8	60	Hi	98	628	630	371	44	9.7	385 x 385	Ø150
		Lo	66	439	410	241	35			
FV-38CH8	60	Hi	138	760	790	465	49	10.4	385 x 385	Ø150
		Lo	90	509	500	294	39			

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.

Low Noise Type Cabinet Fan (In-Line Fan)

High Performance

- The newly developed twin flow fan achieves large air volume and high static pressure
- The tapered scroll at fan case can minimize the turbulence induced by uneven wind velocity inside the casing

Low Noise

- Noise absorption material adopted for reduction of noise level

Easy Installation

- Exclusive U-type grooved hanging brackets provide safety installation
- Able to install upside down for different location of inspection panel

Reliability

- Long life condenser motor with thermal cut-off is adopted

Flexibility

- 2-speed selectable enhances flexibility for various usages (for single phase models only)

Compact Size

- Slim and compact design allows installation at narrow ceiling space

Easy Maintenance

- Detachable inspection panel can be removed easily for maintenance

These fans are ducted ventilating fans with both intake and outlet opening fixing at interior and exterior of the house respectively. They can be used as single port or multi port to exhaust air from several areas with one unit. Since only a small ventilation opening is required, the appearance of the interior is not spoiled.

All models are manufactured from galvanized steel enhancing high durability. The unique suction fan design and acoustic noise absorbing material realize low noise operation. The high performance induction motor offers low consumption, long life and high reliability.

The slim, compact and light-weight structure allows easy installation at narrow ceiling space. Those units can be installed upside down, that location of inspection opening can be selected to ensure easy access for maintenance. Particular U-grooved mounting brackets prevent loosen of mounting bolts that reinforce installation safety.

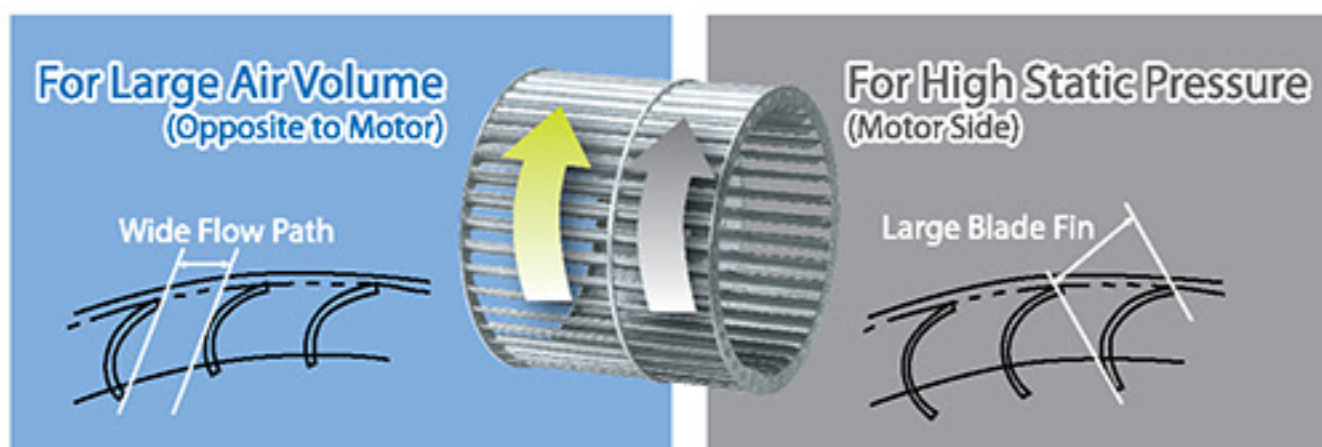
Wide range of models, either single/double speed or single/three phase, are available for different requirements.

Twin Flow Fan

The newly developed twin flow fan achieves a better airflow inside the fan casing. It is divided into two portions which can generate large air volume and high static pressure respectively.

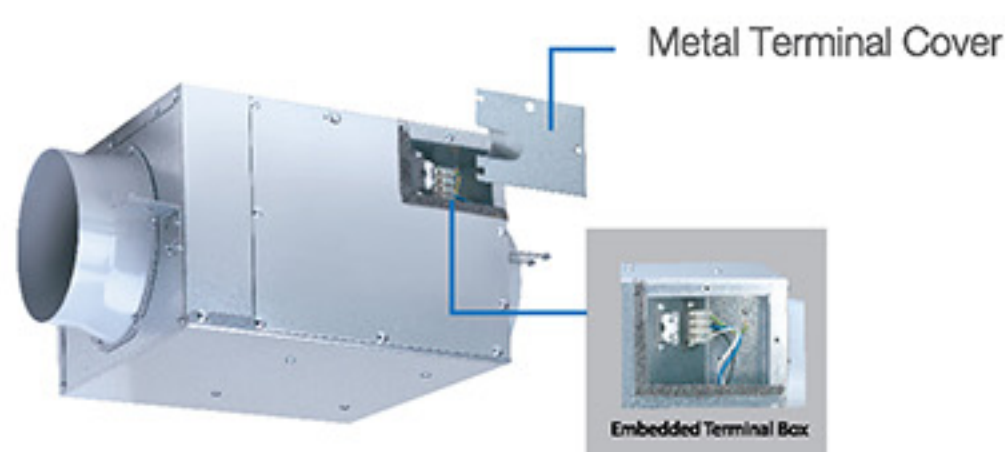
Tapered Scroll

Wind velocity varies according to the shape of fan casing. The tapered scroll at the fan casing can minimize the turbulence induced by uneven wind velocity inside the casing.

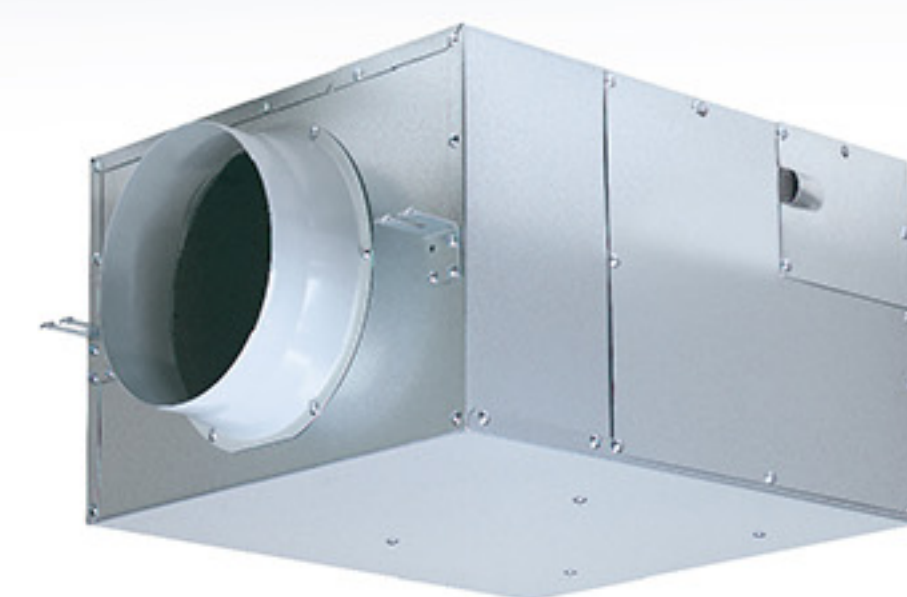


Internal Wind Velocity Distribution – Airflow Analysis

Embedded Terminal Box



Terminal boxes of new models are embedded into the product frame. Wiring to power supply are covered with metal enclosure that enhances the durability and safety concern.



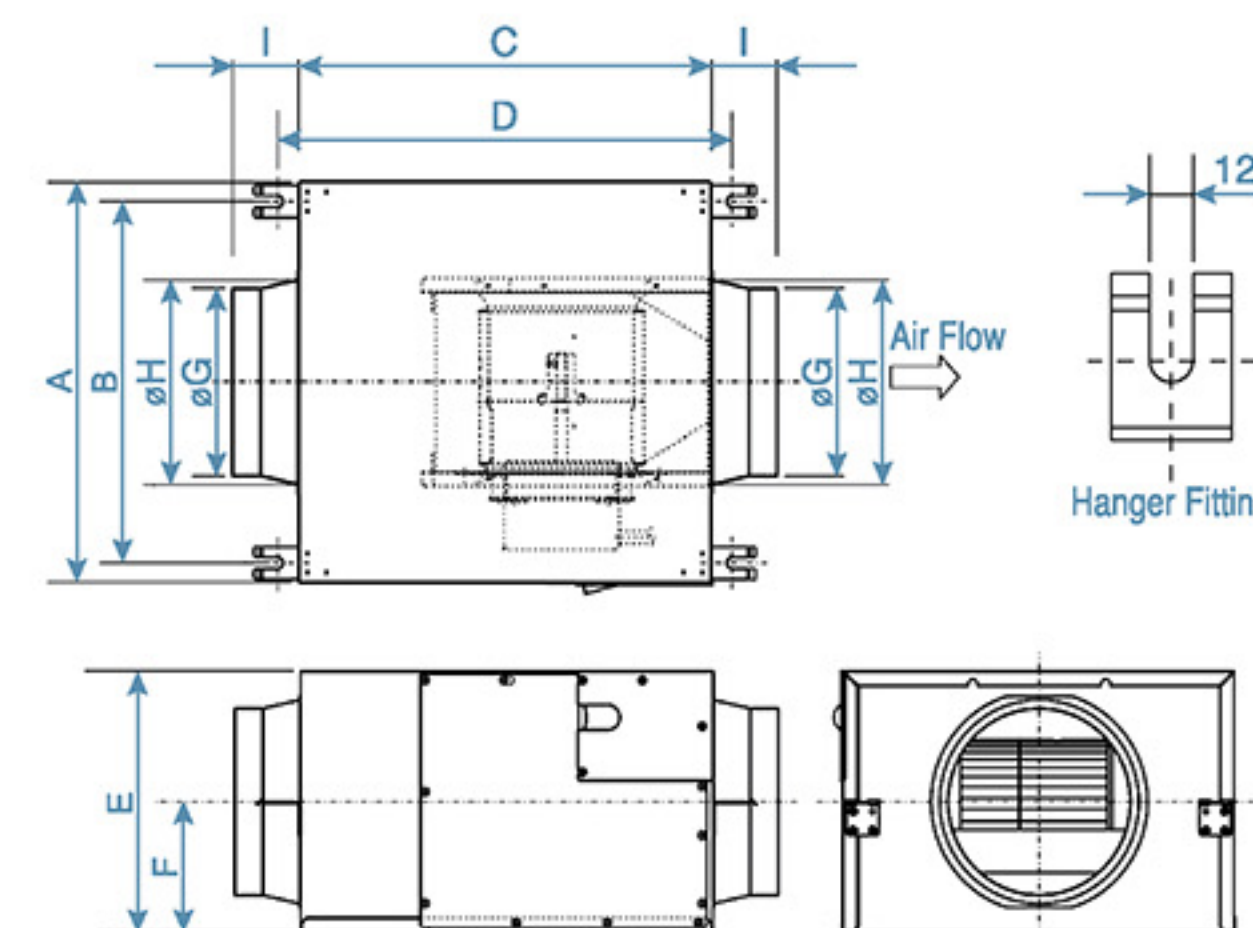
FV-12NS3 / FV-15NS3

Single Phase Series

- Long life condenser motor with thermal cut-off
- Twin flow fan (sirocco fan)
- Fan casing with tapered scroll
- Embedded terminal box
- Noise absorption material adopted
- Compact size

Dimension

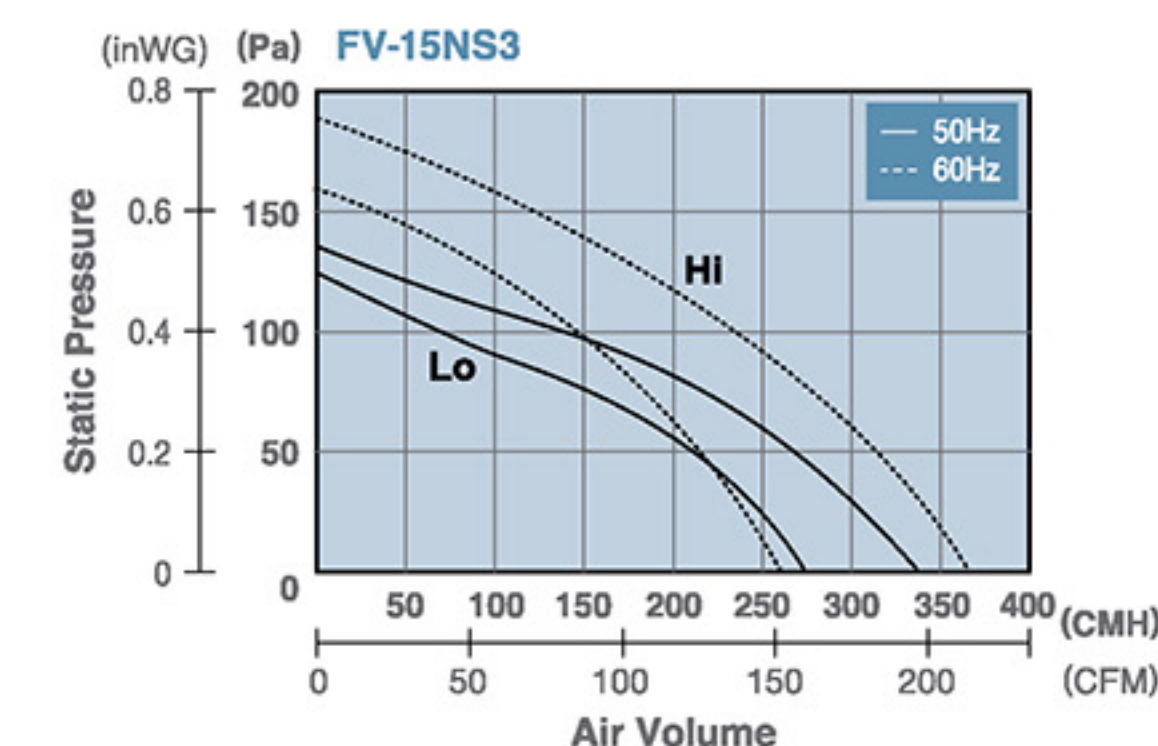
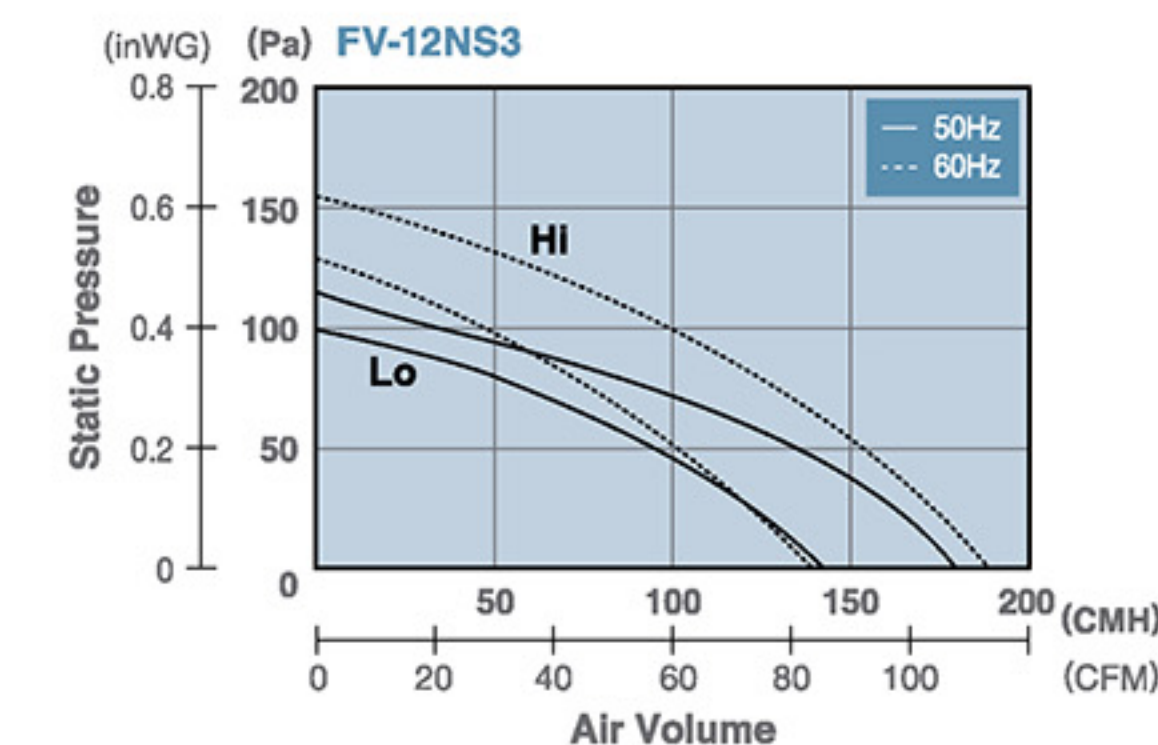
Unit : mm



Model No.	A	B	C	D	E	F	G	H	I
FV-12NS3	290	250	291	335	184	92	97	112	51
FV-15NS3	290	250	302	346	206	103	146	163	60

Performance Data

(220V 50Hz/60Hz)



Specification

Model No.	Phase	Hz		Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Duct Size [mm]	Impeller Diameter [mm]
						[CMH]	[CFM]				
FV-12NS3	1	60	Hi	23	1,370	190	112	22	5.5	Ø100	128
			Lo	19	1,000	145	85	18			
FV-15NS3	1	60	Hi	42	1,385	370	218	27	6.5	Ø150	128
			Lo	33	1,000	260	153	22			

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.

Low Noise Type Cabinet Fan (In-Line Fan)

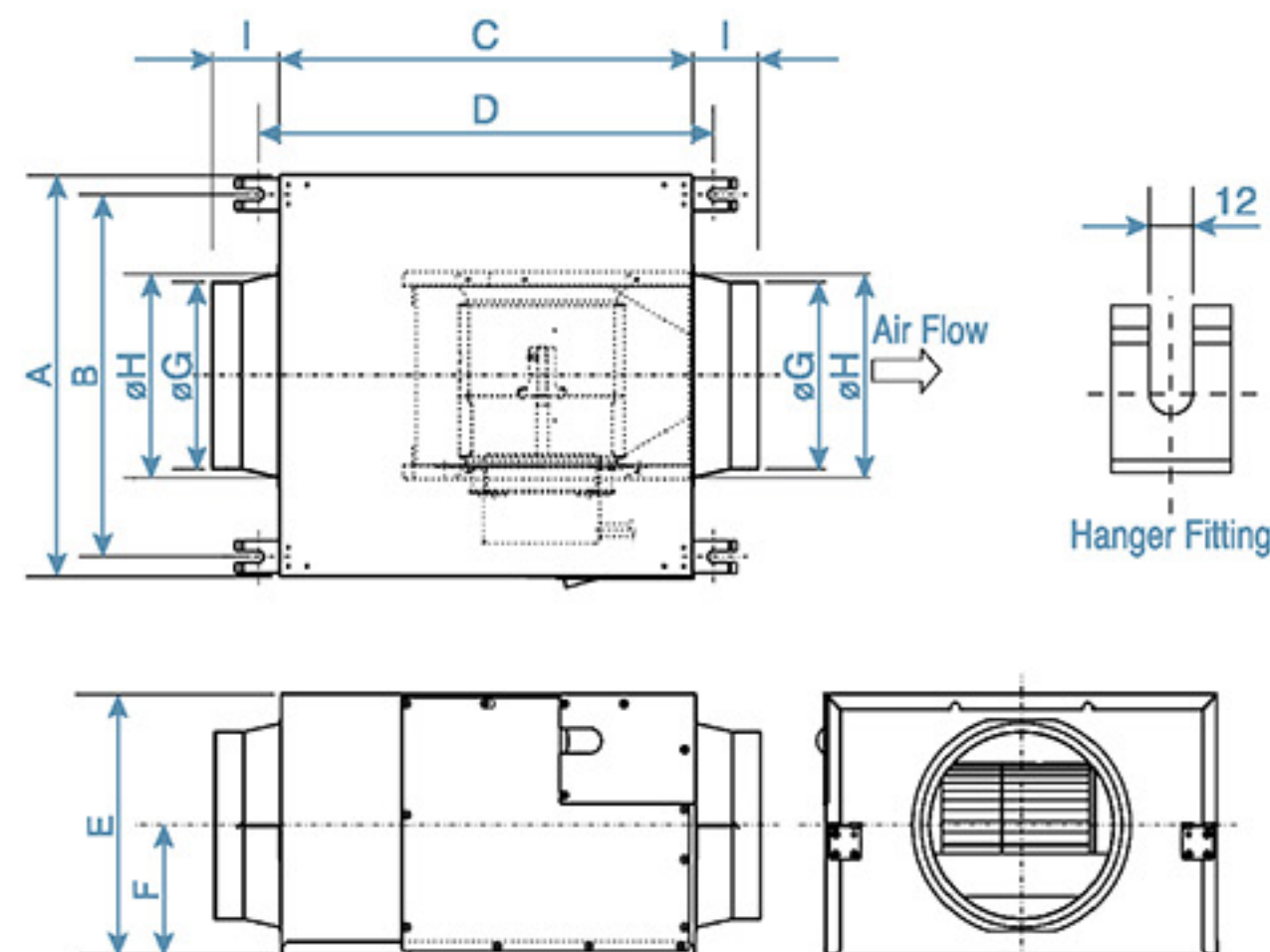
FV-18NS3 / FV-18NF3 / FV20NS3

Single Phase Series

- Long life condenser motor with thermal cut-off
- Twin flow fan (sirocco fan)
- Fan casing with tapered scroll
- Embedded terminal box
- Noise absorption material adopted
- Compact size

Dimension

Unit : mm



Model No.	A	B	C	D	E	F	G	H	I
FV-18NS3	316	276	338	382	232	116	145	163	60
FV-18NF3	376	336	397	441	254	127	195	211	70
FV-20NS3	416	376	441	485	272	136	195	211	70

Specification

Model No.	Phase	Hz		Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Duct Size [mm]	Impeller Diameter [mm]
						[CMH]	[CFM]				
FV-18NS3	1	60	Hi	73	1,260	490	288	30	8.5	Ø150	158
			Lo	62.5	990	385	227	26			
FV-18NF3	1	60	Hi	119	1,245	760	447	32	10	Ø200	158
			Lo	87	990	580	341	28			
FV-20NS3	1	60	Hi	159	1,165	860	506	32	14	Ø200	178
			Lo	128	875	620	365	26			

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.

Industrial Type Ventilating Fan

FV-25GS4 / FV-30GS4 / FV-35GS4 / FV-40GS4

High Pressure Series

- Single Phase
- Reversible by adjusting wiring and blade
- Bellmouth construction with distinctive wave-shaped blade
- Durable powder coating
- High performance motor with thermal cut-off
- Able to be used over an ambient temperature range from -10°C to +50°C
- Possible to install horizontally or vertically
- Optional guard and shutter available



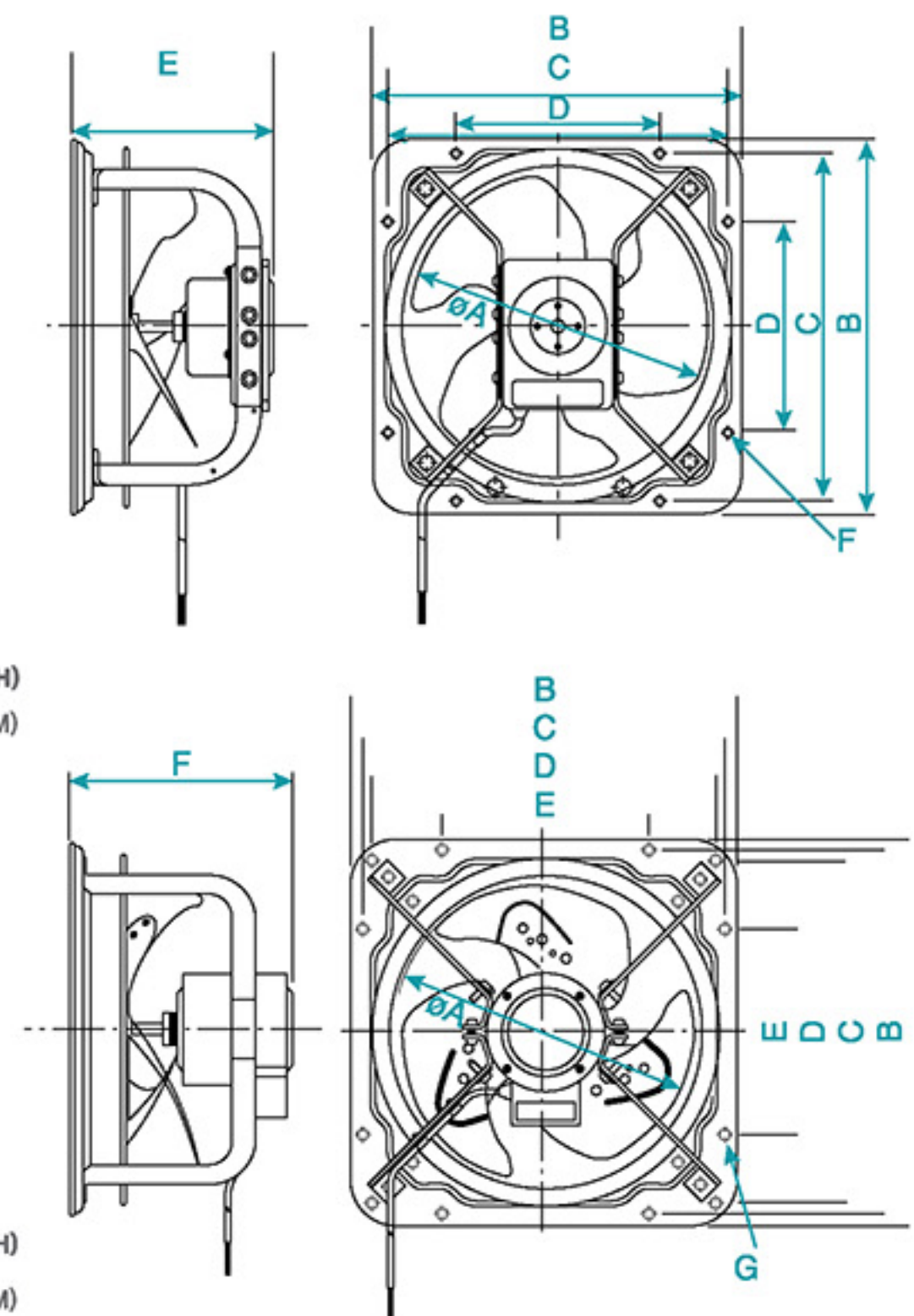
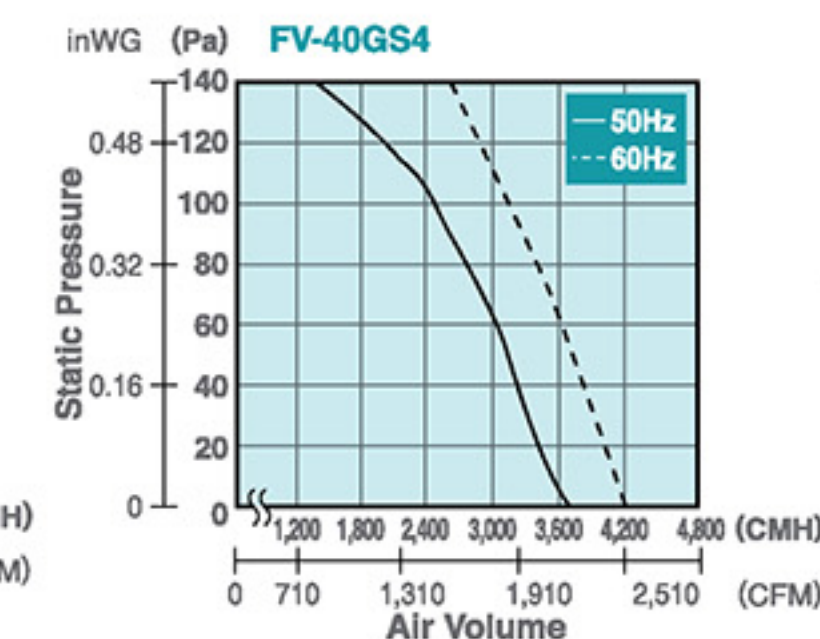
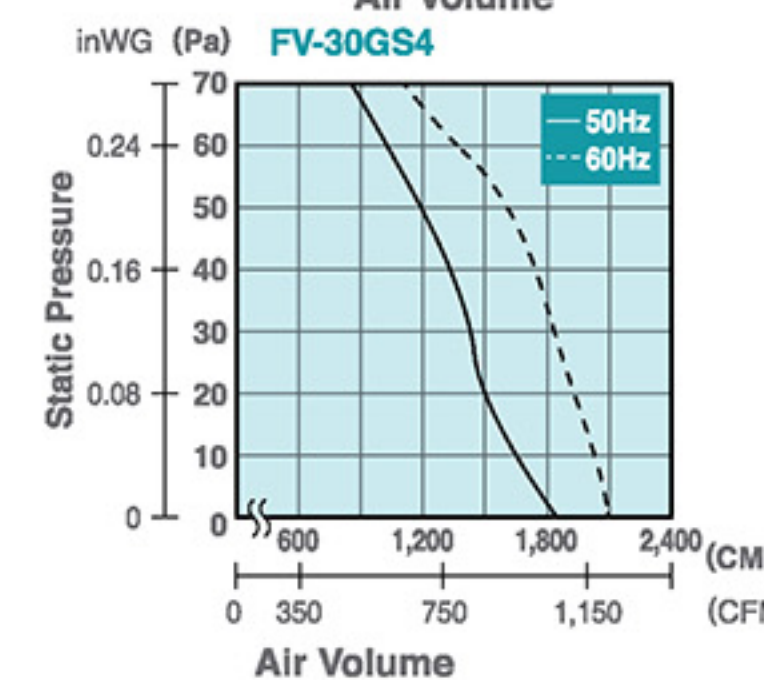
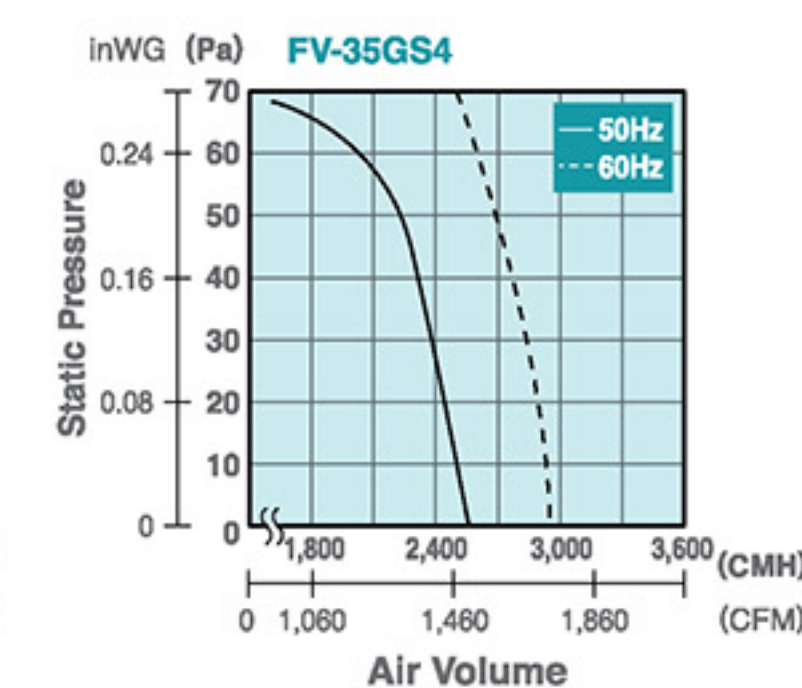
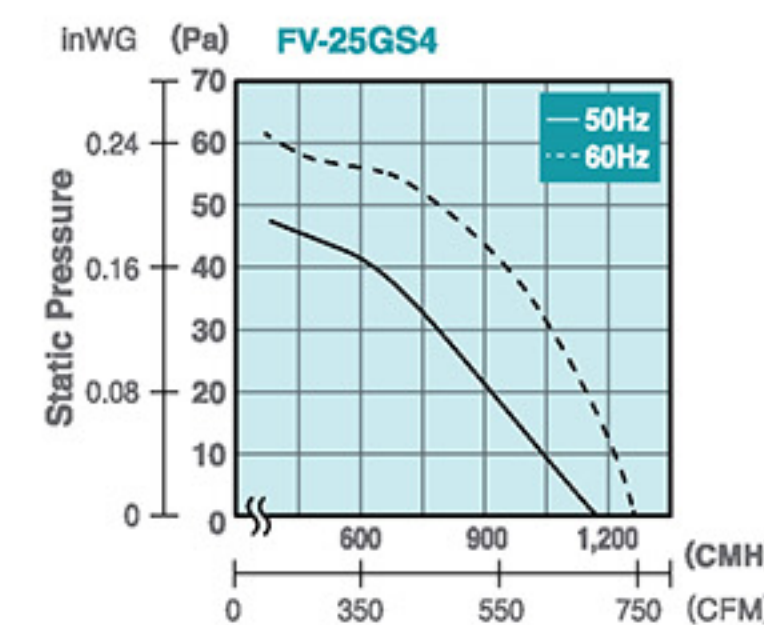
Dimension

Unit : mm

Model No.	A	B	C	D	E	F	G
FV-25GS4	250	327	298	165	171	10	-
FV-30GS4	300	378	349	210	200	10	-
FV-35GS4	350	467	434	250	236	12	-
FV-40GS4	400	518	485	280	274	12	12

Performance Data

(220V 50Hz/60Hz)



Specification

Model No.	Hz	Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]
				[CMH]	[CFM]		
FV-25GS4	60	47	1,560	1,250	736	39	4.4
FV-30GS4	60	80	1,560	2,080	1,224	42	6.1
FV-35GS4	60	127	1,660	2,940	1,730	48	10.5
FV-40GS4	60	210	1,710	4,240	2,496	51	19

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.

Wall Mount Type Ventilating Fan

Kitchen Series

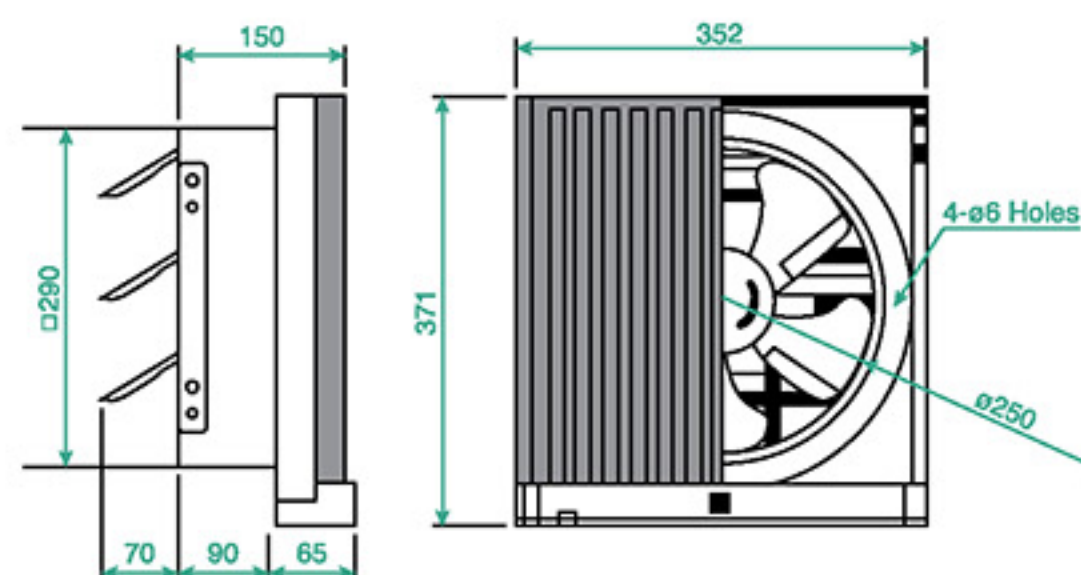
FV-25AUF1

Filter Series

- Recommend to use in kitchen
- Automatic Shutter
- Perforated aluminum filter with hydrophobic coating
- Large capacity oil cup
- Oil Indicator on oil cup
- High exhaust air volume under actual usage condition (20Pa)

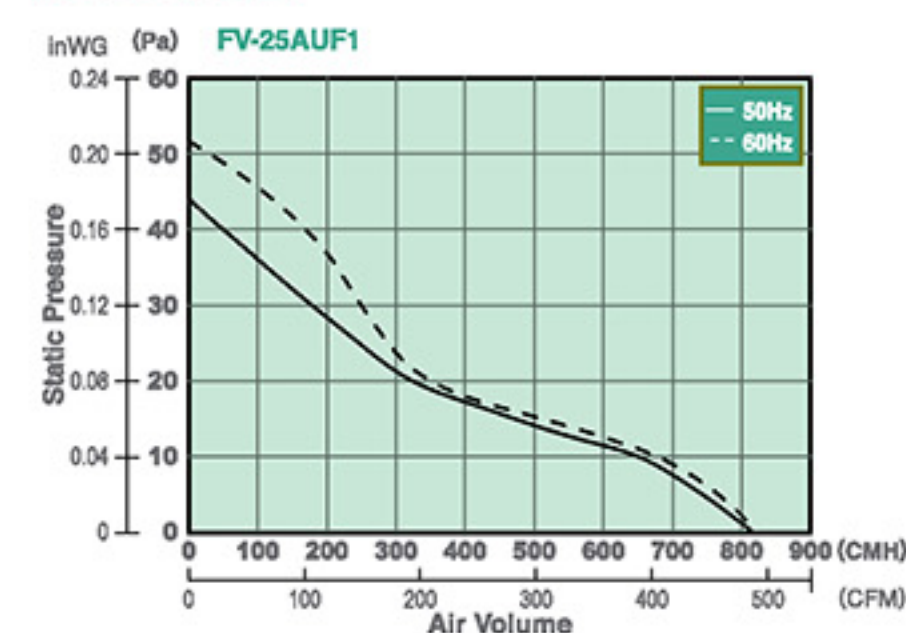
Dimension

Unit : mm



Performance Data

(220V 50Hz/60Hz)

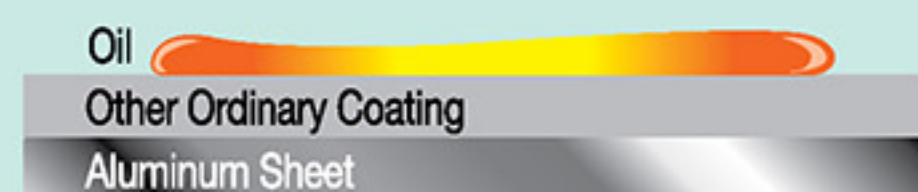


Specification

Model No.	Hz	Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Installation Space [mm]
				[CMH]	[CFM]			
FV-25AUF1	60	34	1,060	820	483	42	2.8	300 x 300

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions.

ORDINARY COATING



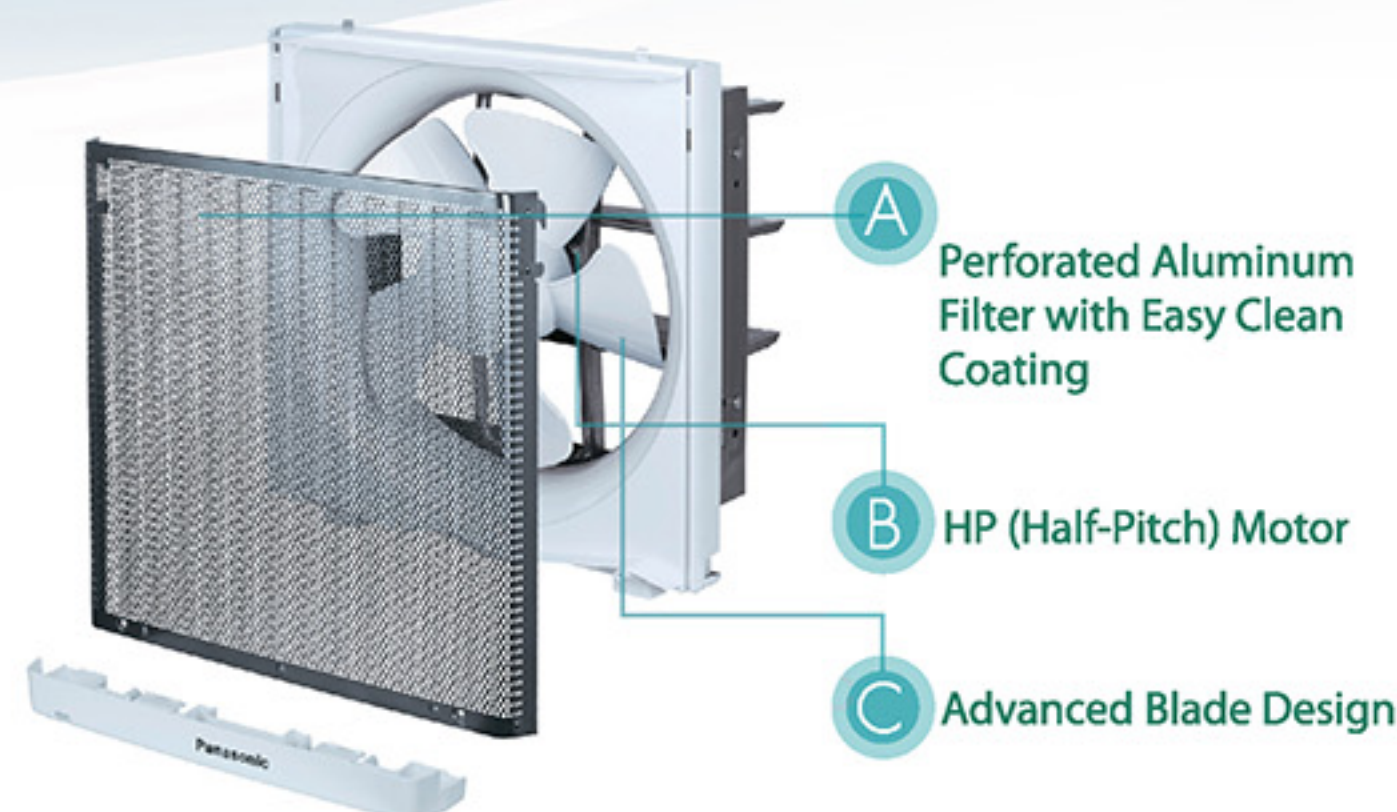
Oil spreads out and sticks firmly on the surface of the ordinary coating.

Note: this is image pictures and for easy understanding only.

HYDROPHOBIC COATING



Oil droplets form spherical shape when falling on the material that can prevent adhering to the surface.



1 Perforated Aluminum Filter - Durable

The filter adopts aluminum material to assure excellent durability, and it is easy detachable for cleaning and maintenance.

2 Oil Collecting - Environmental Friendly

The perforated filter is competent in collecting oil. It allows the air exhausted to outdoor is less polluted that improves the air quality of surrounding.

3 Easy Clean Coating - Convenient

The perforated aluminum 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.

Bathroom Series

1 Compact & Stylish

Compact size with powerful exhaust capacity can fit most bathrooms up to 7.5m³ and 15m³ respectively. Moreover, the slim and elegant design of front louver match any modern décor perfectly.

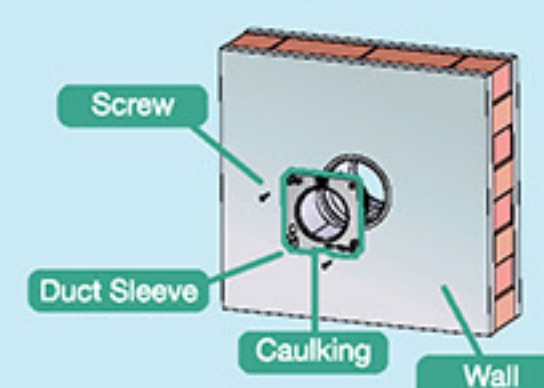
2 Easy Installation

The Exhauster is well-designed to facilitate the installation of product. With the supplied accessories, only few steps are required to complete the set up of fan.

Shutter Series (For Vertical Shaft)

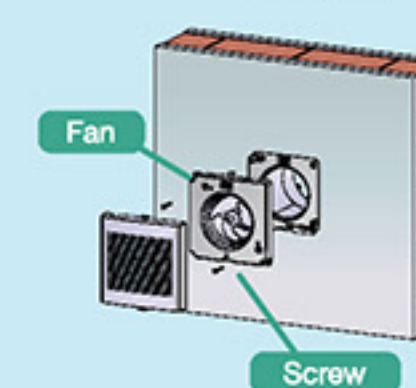
Only 2 steps for installation

STEP 1



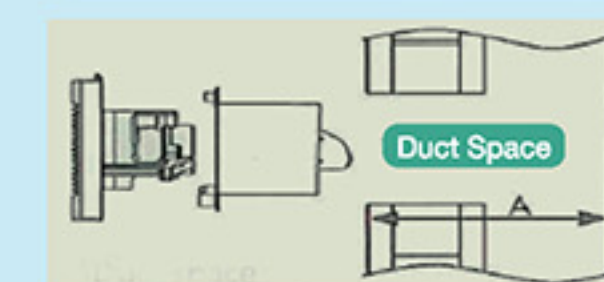
Insert and fix from inside wall, then caulk

STEP 2



Connect power wires and fix fan

- The fan can be mounted in the shaft of building which is used for exhausting air or ducting.
- Be sure to be secured duct space as shown below. Otherwise, the fan cannot perform as designed.

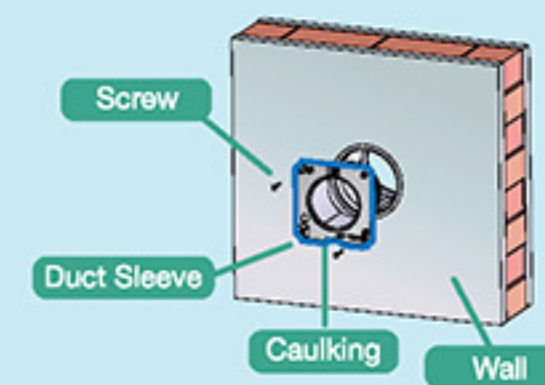


Model No.	A
FV-10EGS1	>210mm
FV-15EGS1	>250mm

Pipe Hood Series

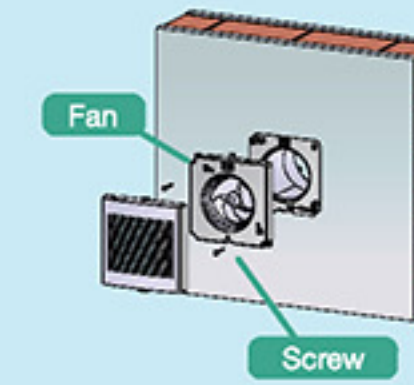
Only 4 steps for installation

STEP 1



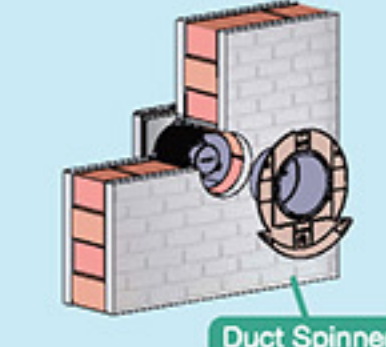
Insert and fix from inside wall, then caulk

STEP 2



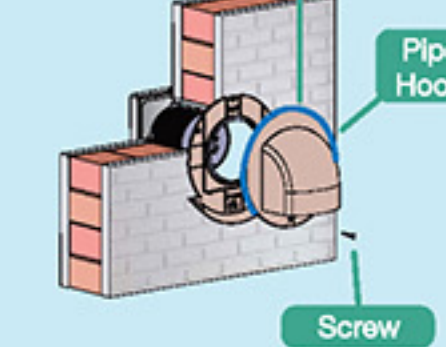
Connect power wires and fix fan

STEP 3



Screw and fix from outside wall

STEP 4

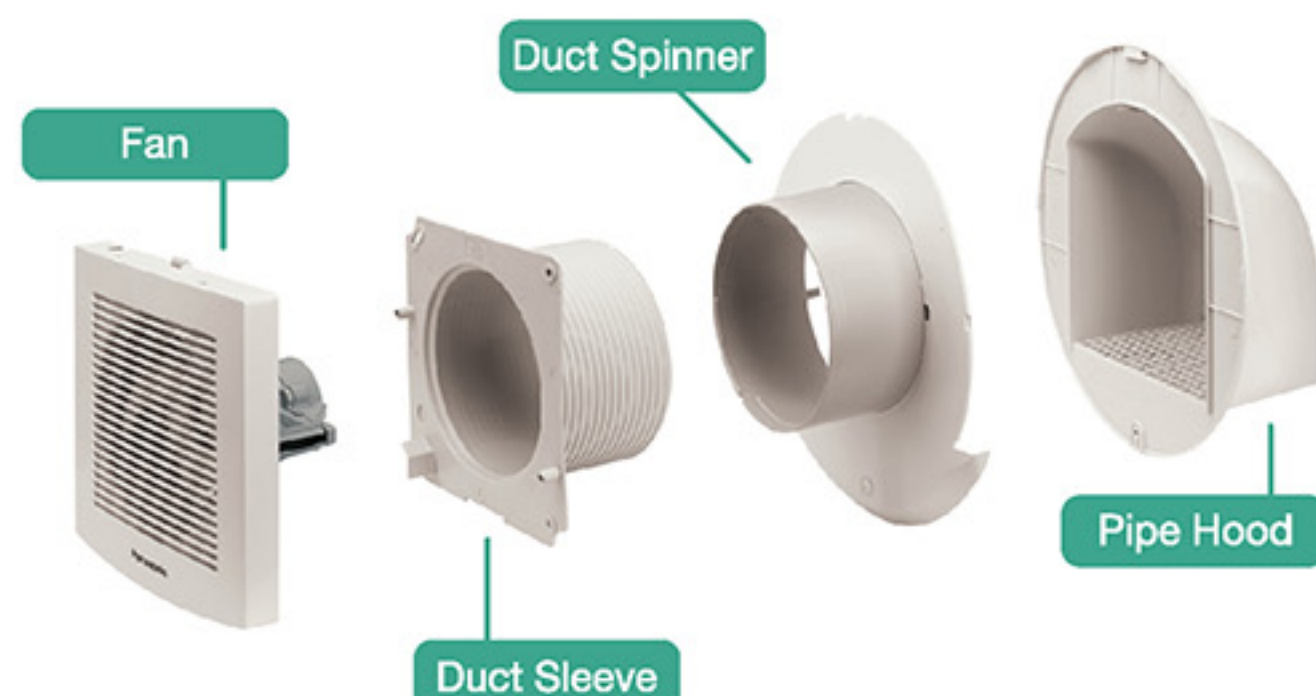


Hang and fix pipe hood, then caulk

3 All Accessories Included

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

Shutter Series (For Vertical Shaft)



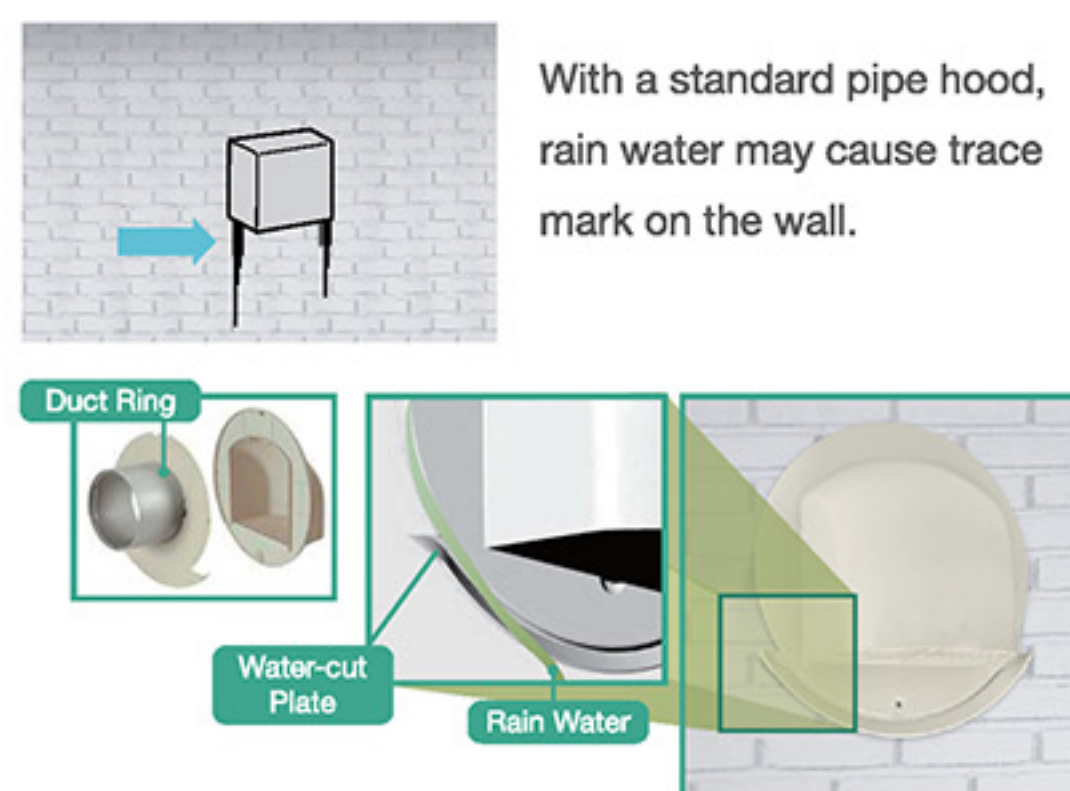
4 Back Draft Shutter Shutter Series (For Vertical Shaft) Only

Outside wind may flow inside the house through the duct when the fan is not operating. The back draft shutter covers the duct hole as the fan is not in use that blocks the ingress of wind and water.



5 Trace-Prevention Pipe Hood Series Only

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.



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



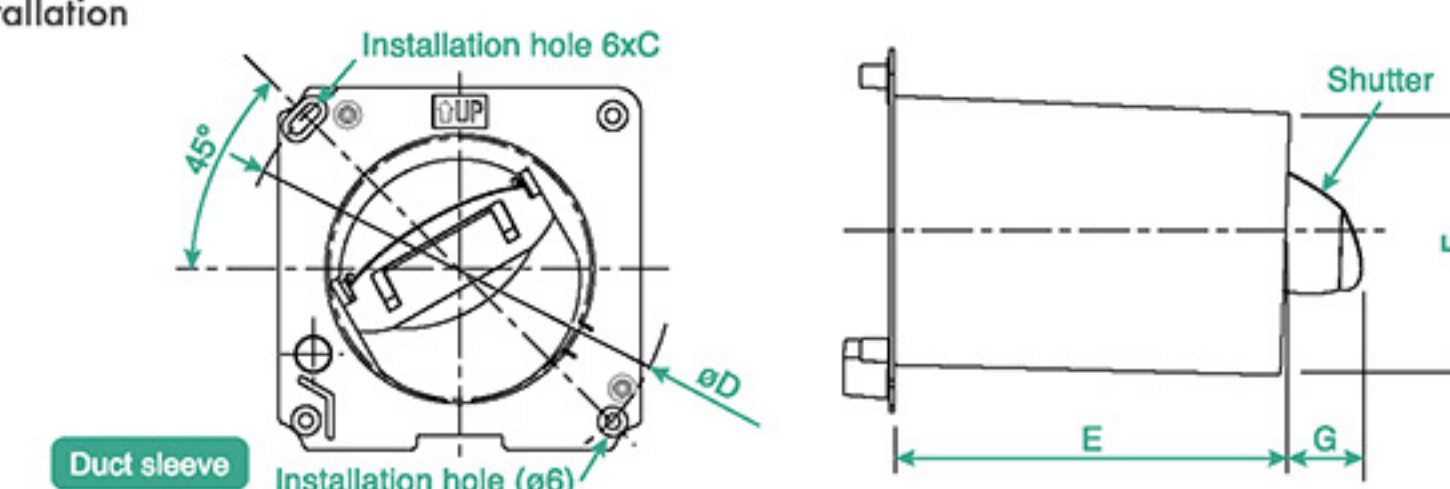
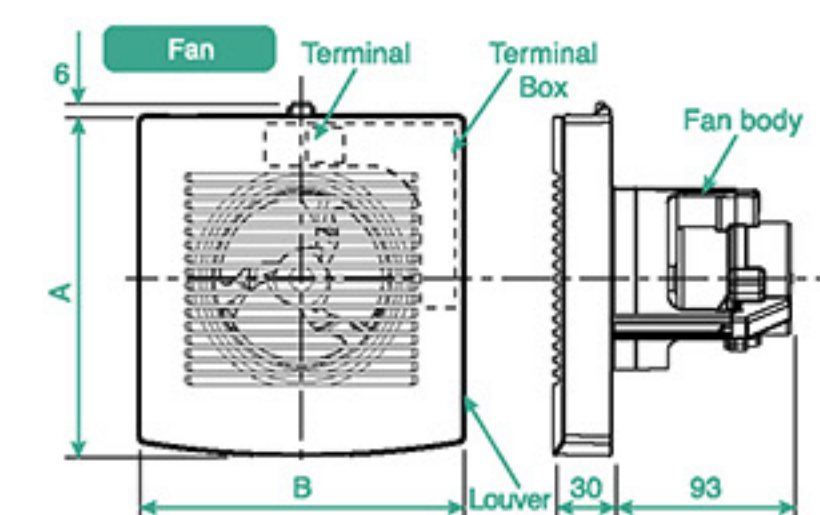
FV-10EGS1 / FV-15EGS1

Bathroom Series

- Shutter Series (for Vertical Shaft)
- Powerful exhaust of moisture and smell
- Compact and stylish design
- Back draft shutter
- All accessories are included for most convenience
- Easy installation

Dimension

Unit : mm



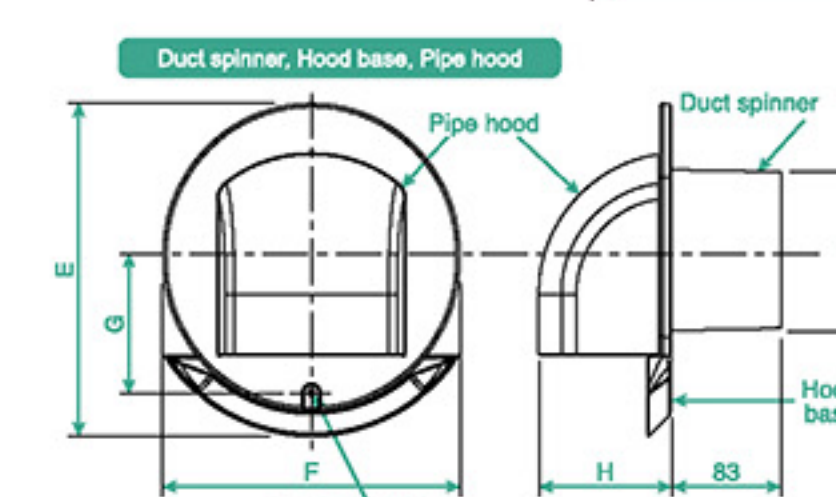
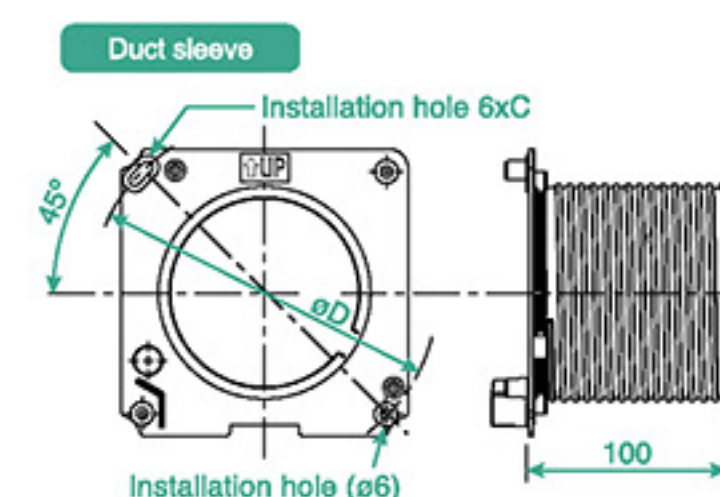
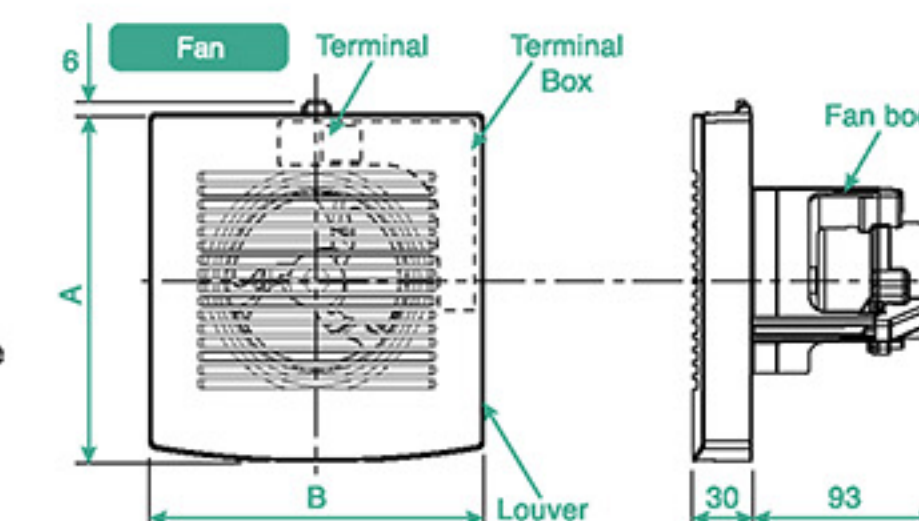
Model No.	A	B	C	D	E	F	G
FV-10EGS1	176	170	9.3	177	160	115	40
FV-15EGS1	230	220	11.5	230	160	160	80



FV-10EGK1 / FV-15EGK1

Bathroom Series

- Pipe Hood Series
- Powerful exhaust of moisture and smell
- Compact and stylish design
- Prevent trace caused by rain water
- All accessories are included for most convenience
- Easy installation
- Wall thickness 100-150mm



Model No.	A	B	C	D	E	F	G	H	I
FV-10EGK1	176	170	9.3	177	250	220	107	99	120
FV-15EGK1	230	220	11.5	230	310	270	142	138	165

Specification

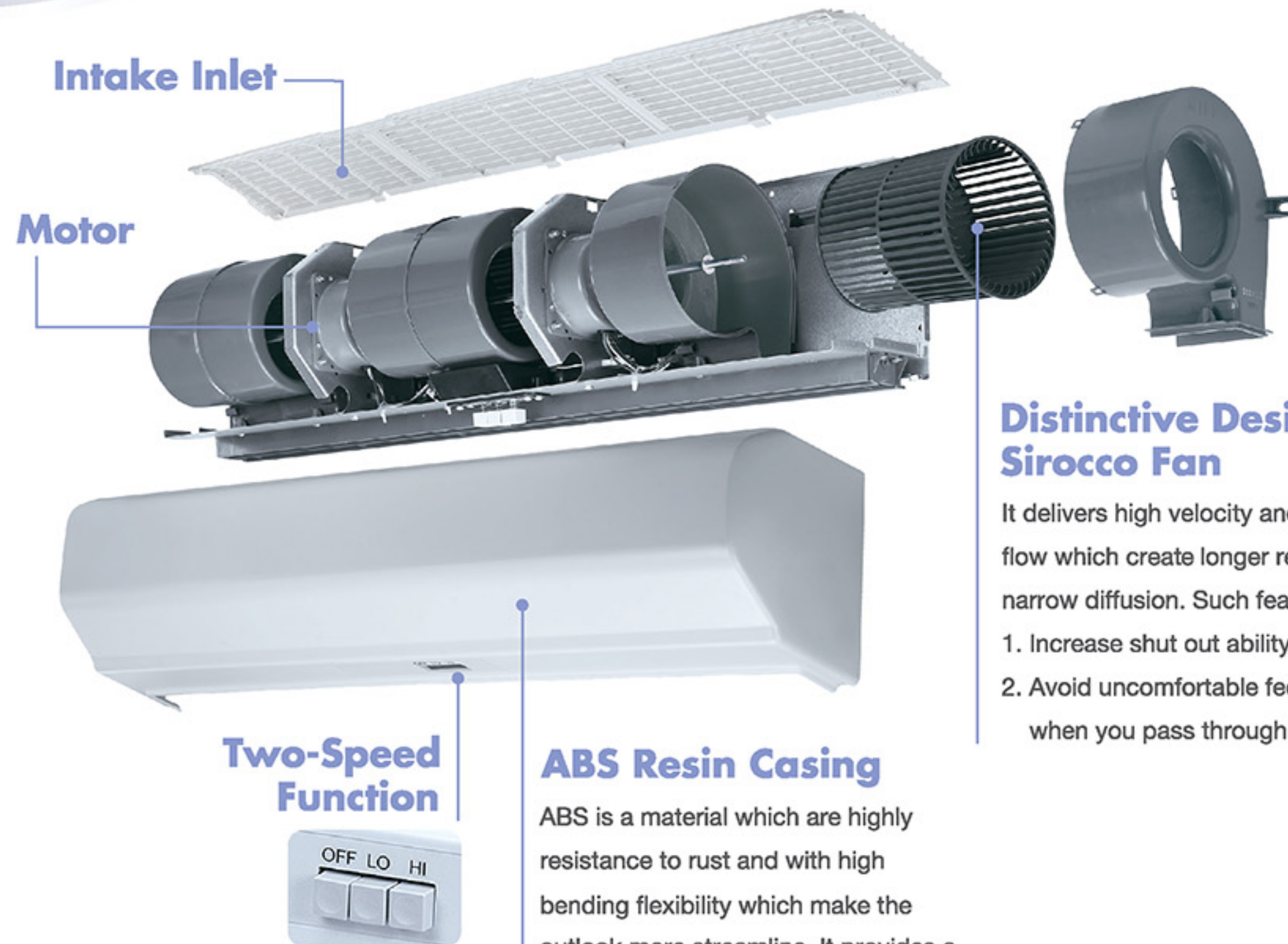
Model No.	Hz	Consumption [W]	R.P.M. [min ⁻¹]	Air Volume		Noise [dB(A)]	Weight [kg]	Installation Space [mm]
				[CMH]	[CFM]			
FV-10EGS1	60	4.4	2,888	80	47	36	0.9	Ø120 - Ø125
FV-15EGS1	60	8.5	2,647	175	103	40	1.1	Ø165 - 170
FV-10EGK1	60	4.4	2,888	80	47	34	1.2	Ø135 + 5
FV-15EGK1	60	8.5	2,647	180	106	38	1.5	Ø180 + 5

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz. R.P.M. data is for reference only, values may vary subject to different conditions. This specifications are specified with duct sleeve.

Air Curtain

Doors of a shop need to be opened frequently to let people pass through. However, open door allows air leaks to outside that increases energy consumption of air conditioners. By using air curtain, an invisible air screen will built up to minimize air exchange between the air at outside and indoor.

Air Curtain - Improved Functionality and Workability



Distinctive Design of Sirocco Fan

It delivers high velocity and thin air flow which create longer reach and narrow diffusion. Such features can

1. Increase shut out ability and
2. Avoid uncomfortable feelings when you pass through

ABS Resin Casing

ABS is a material which are highly resistance to rust and with high bending flexibility which make the outlook more streamline. It provides a simple design that suits for all interiors.

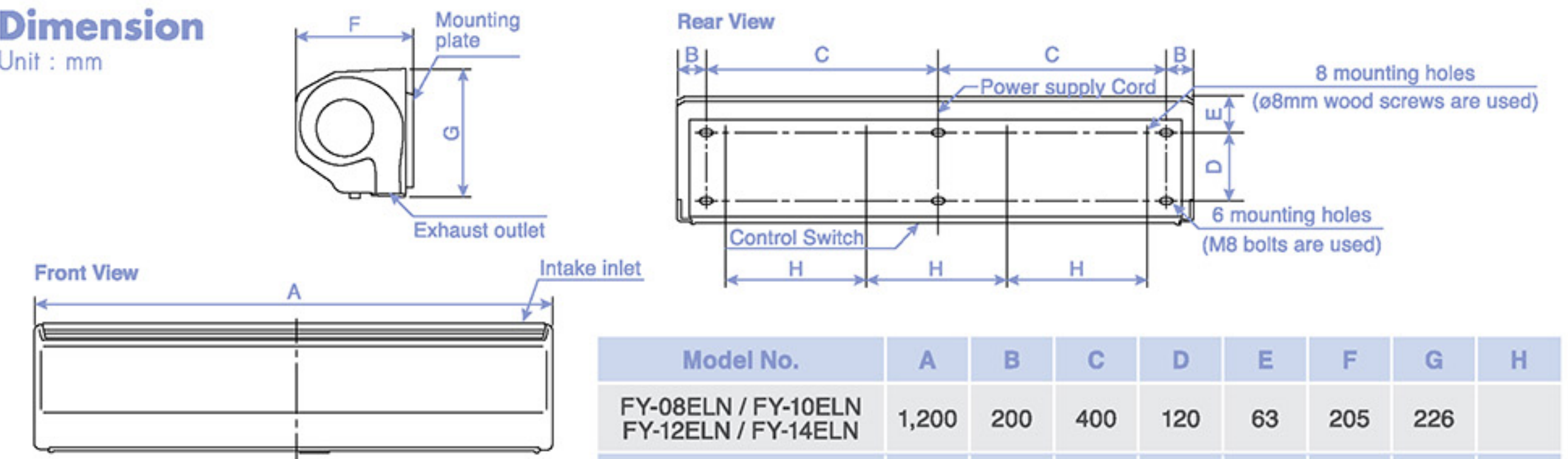
Length of unit	900mm (3 feet) FY-08ESN	1200mm (4 feet) FY-08ELN	900mm (3 feet) FY-10ESN	1200mm (4 feet) FY-10ELN	900mm (3 feet) FY-12ESN	1200mm (4 feet) FY-12ELN	900mm (3 feet) FY-14ESN	1200mm (4 feet) FY-14ELN
Air velocity chart (m/s)								
Maximum value at HI speed 50Hz	2.5m		3.0m		3.5m		4.0m	
Efficient distance	2.5m (8 feet)		3.0m (10 feet)		3.5m (12 feet)		4.0m (14 feet)	



FY-08ESN / FY-10ESN FY-12ESN / FY-14ESN Standard Type - 900mm

- Product length = 900mm
- Unique sirocco fan design
- Either wall hanging or suspending from ceiling
- Air deflection vent for adjusting air flow direction
- 2-speed changeover by push button switch
- ABS resin casing provides better weather resistance
- Optional suspending hanger available

Dimension Unit : mm



Specification

Model No.	Hz		Consumption [W]	Air Volume		Current [A]	Outlet Velocity [m/s]	Noise [db(A)]	Weight [kg]
				[CMH]	[CFM]				
FY-08ELN	60	Hi	74	940	553	0.36	12.4	45	14
		Lo	62	790	465	0.32	10.5	40	
FY-10ELN	60	Hi	116	1,150	677	0.56	15.1	50	15
		Lo	85	790	465	0.41	10.5	41	
FY-12ELN	60	Hi	258	1,340	789	1.21	16.2	55	15
		Lo	220	1,290	759	1.04	15.4	50	
FY-14ELN	60	Hi	423	1,826	1,075	1.93	22	63	15
		Lo	339	1,552	913	1.55	18.7	59	
FY-08ESN	60	Hi	57	690	406	0.28	12.1	43	12
		Lo	49	560	330	0.25	9.9	38	
FY-10ESN	60	Hi	88	860	506	0.42	14.9	50	13
		Lo	72	600	353	0.33	10.9	40	
FY-12ESN	60	Hi	202	990	583	0.94	16.1	54	13
		Lo	170	940	553	0.75	15.3	49	
FY-14ESN	60	Hi	312	1,303	767	1.43	21.3	61	13
		Lo	255	1,083	637	1.16	17.7	57	

Note: The value in Specification tables are representative characteristic value at 220V, 50/60Hz.

Hand Dryer

Power Dry hand dryer provides a comfortable and speedy hand drying experience by removing moistures on hands with warm and high velocity airflow. In addition, environment protection and cost saving are achieved by comparing with using paper towel.

New Features of Power Dry

Safe Operation

- Power Dry will stop after 60 seconds of continuous operation
- "Check" indicator will light up when the unit detects overheated

Quick Response Sensor

- Automatic sensor operation, no physical contact is required to activate the unit

Heater ON/OFF Switch

- Heater can be switched off for energy saving in hot season

Full Tank Indicator (FJ-T09A3 only)

- Remind you for cleaning up the water tank when it is full

Quick Drying with 3 way Airflow

Wide Nozzle

Blow off water droplets on the whole palm with wide airflow

Spot Nozzle

Dry fine water droplets by rubbing hands with spot airflow

2 kinds of nozzle, wide nozzle and spot nozzle, are equipped at front and rear of drying chamber respectively for efficient drying. The new structure realizes quick drying in only 4-9 seconds.



Easy Installation

- Metallic bracket for wall hanging attached
- Stylish and streamline design fits most interior

Anti-bacteria Material

- The product body is adopted with anti-bacteria material to prevent the growth of bacteria and germs in the warm and humid environment of washroom

Drain Pan (FJ-T09A3 only)



- Drain pan can reduce water dripping on floor to avoid slippery



Super alleru-buster Filter

- The filter is equipped to ensure the air blow to your hand is clean.

What is Super alleru-buster?

Super alleru-buster can inhibit up to several types of allergen



Testing Organization: The Osaka Municipal Technical Research Institute.
Testing Method: to measure the level of reduction in cat's dandruff by Enzyme-linked Immuno Sorbent Assay.



FJ-T09A3 With Drain Pan

FJ-T09B3 Without Drain Pan

- Powerful air velocity enables drying time in few seconds
- Automatic operation by infra-red motion sensor
- Super-alleru buster filter equipped
- Anti-bacteria material adopted
- Heater ON/OFF switch for energy saving
- Safety check light function terminate the operation in case overload
- Drain pan and water tray equipped (FJ-T09A3 only)



FJ-T09B3

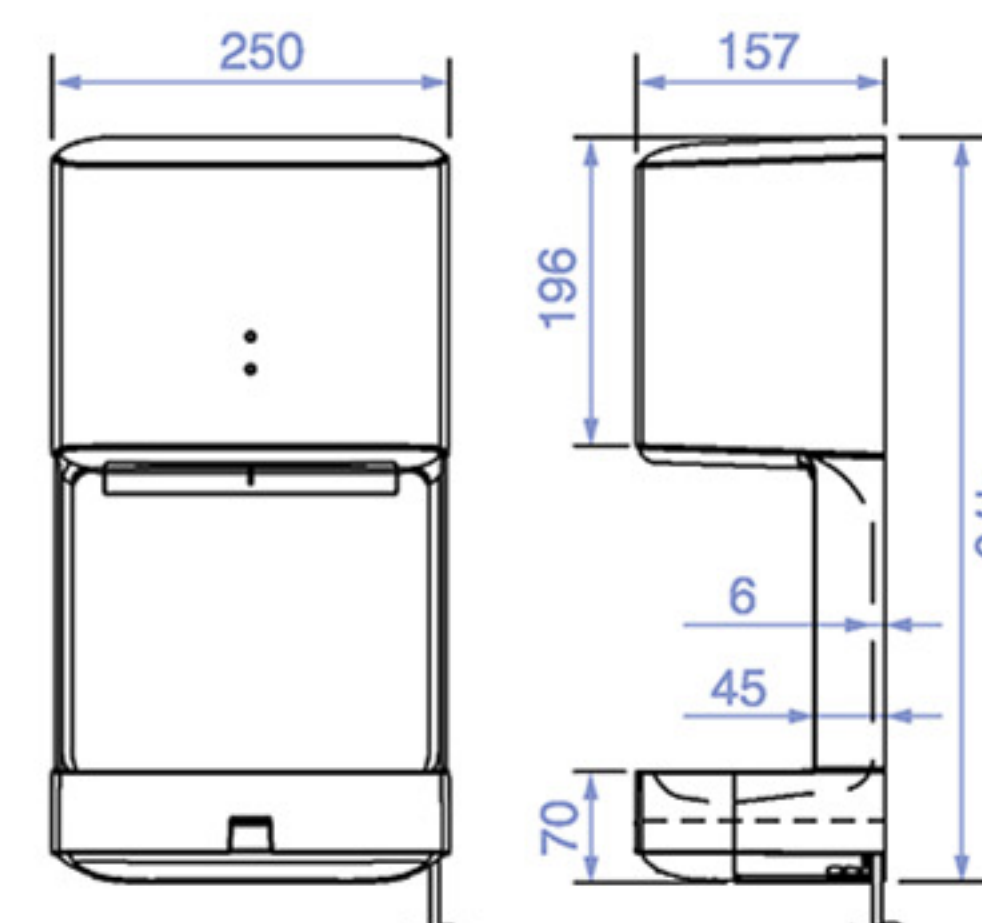


FJ-T09A3

Dimension

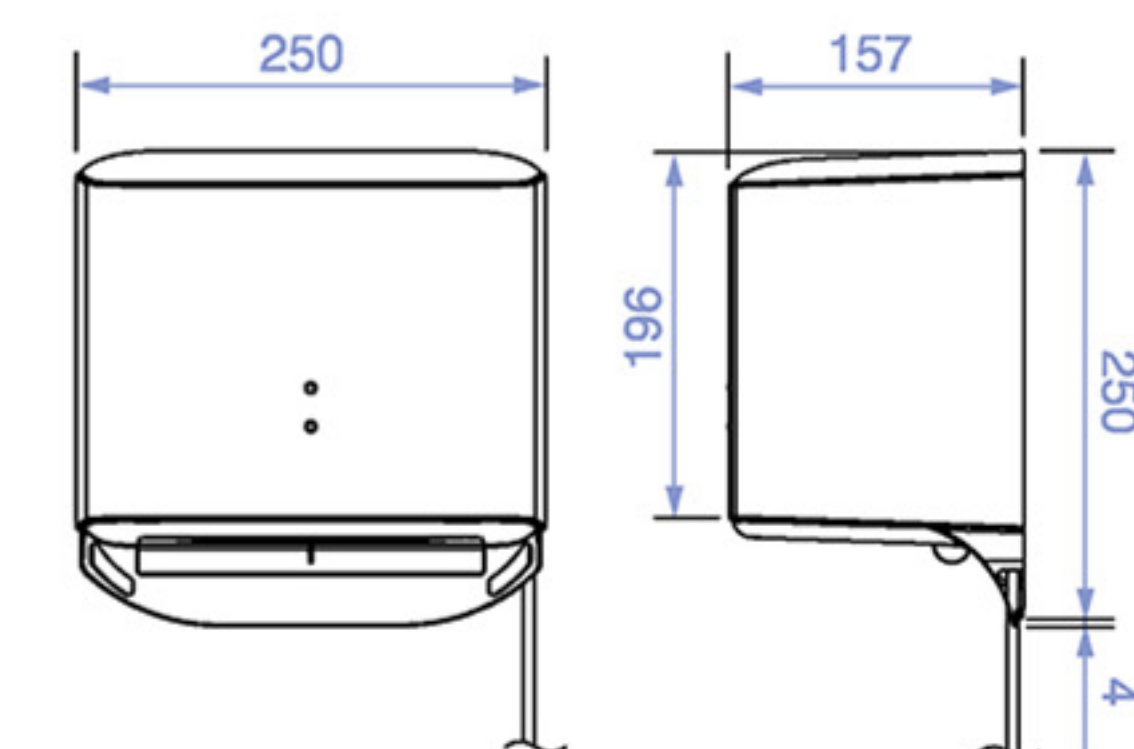
Unit : mm

FJ-T09A3



Unit: mm

FJ-T09B3



Unit: mm

Specification

Model No.	Power Consumption [W]		Air Velocity [m/min]	Noise [dB(A)]	Drain Pan	Weight [kg]
	Heater ON	Heater OFF				
FJ-T09A3	1,020	650	90-110	62	Yes	4
FJ-T09B3	1,020	650	90-110	62	No	3.5

Note: The value in Specification table are representative characteristics value at 220V, 50/60Hz.

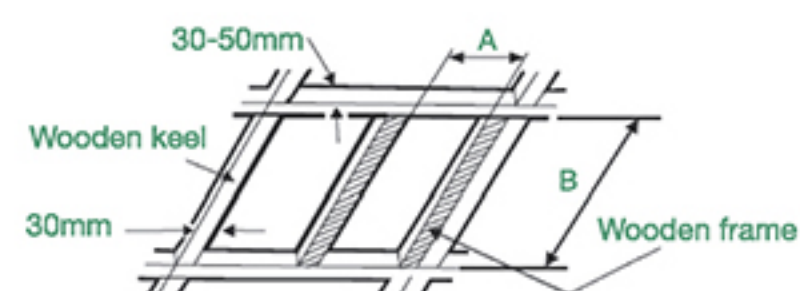
Installation Method

Ceiling Mount Type Ventilating Fan - Applicable Models:

FV-17CU7 / FV-24CU7 / FV-24CD7 / FV-24CH7 / FV-27CH9 / FV-32CD9 / FV-32CH9

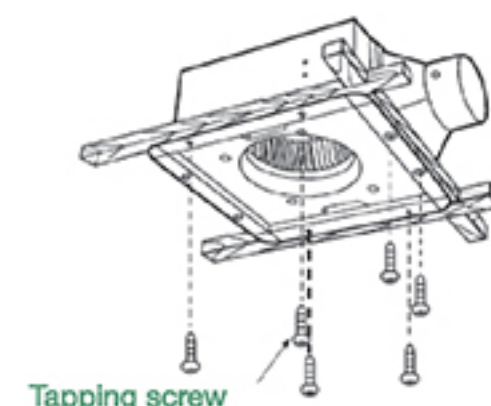
1A Installation with a wooden keel (for FV-17CU7 / FV-24CU7 / FV-24CD7 and FV-24CH7 only)

1. Build a wooden frame horizontally from the wooden keel. Note that the distance between the top of the fan body and the ceiling should be at least 20mm.



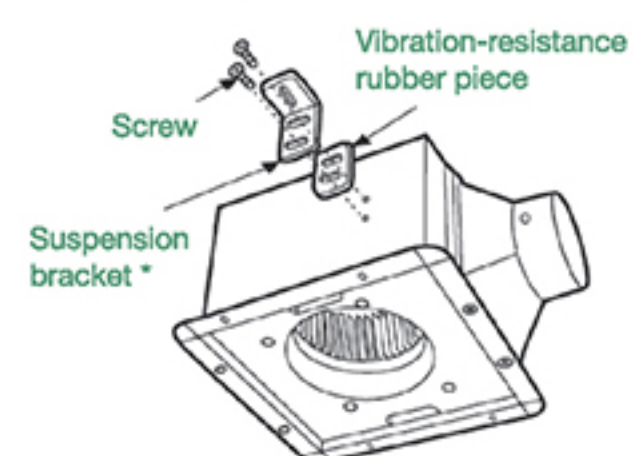
Model No.	A	B
FV-17CU7	177mm	275mm
FV-24CU7 / FV-24CD7 / FV-24CH7	240mm	335mm

2. Firmly secure the fan body with six tapping screws.

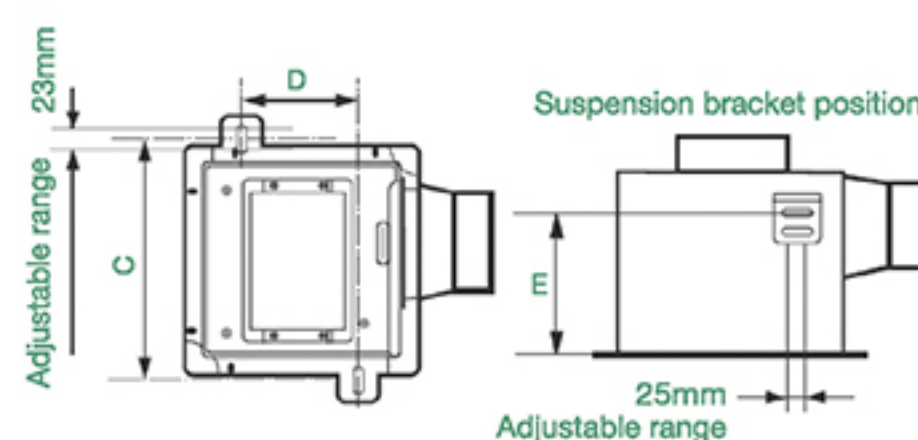


1B Installation with anchor bolts

1. Secure the 1 set of suspension bracket FV-KB021C (optional accessory) with screws.

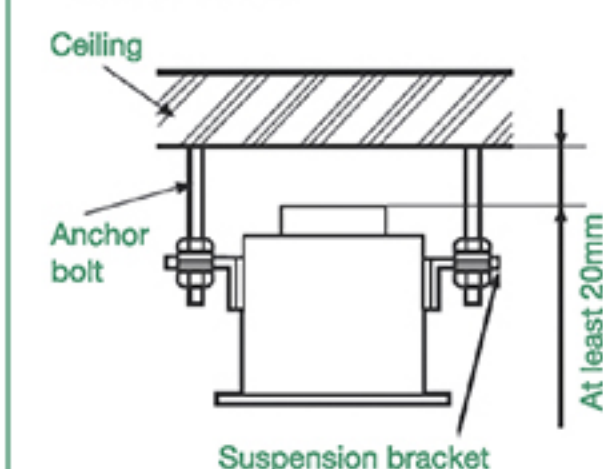


The screw length should not exceed 8mm.
* 2 sets of accessories are required for FV-32CD9 and FV-32CH9



Model No.	C	D	E
FV-17CU7	226mm	89mm	108mm
FV-24CU7 / FV-24CD7 / FV-24CH7	286mm	131mm	124mm
FV-27CH9	296mm	160mm	158.5mm
FV-32CD9 / FV-32CH9	346mm	200mm	158.5mm

2. Mount the fan body enclosure on the anchor bolts (M8-M10, not supplied).

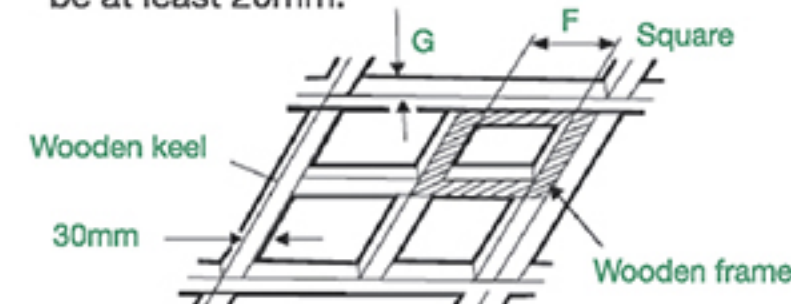


1C Installation of adaptor assembly first

1. First remove the hexagon screw attaching the adaptor assembly to the fan body.



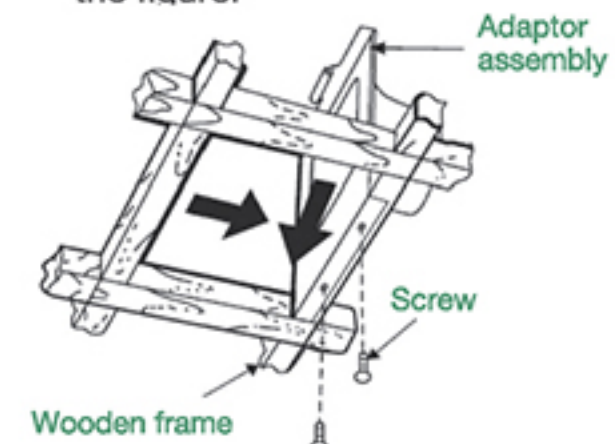
2. Build a wooden frame horizontally from the keel. Note that the distance between the top of the fan body and the ceiling should be at least 20mm.



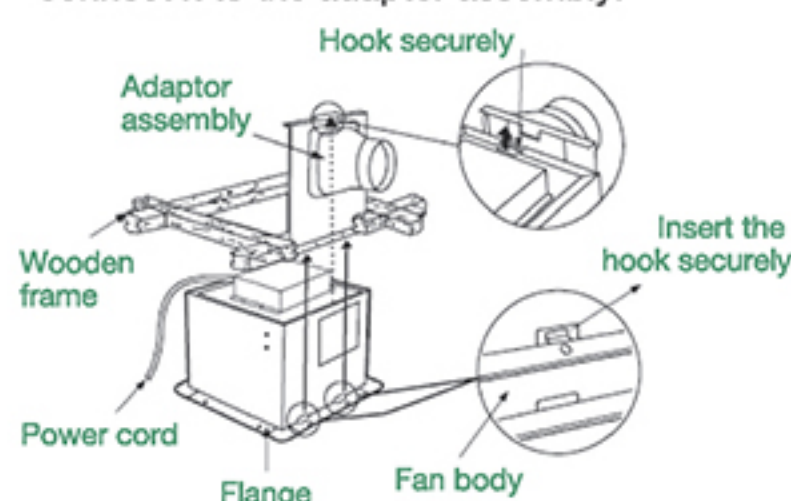
Model No.	F	G
FV-17CU7	177mm	30-50mm
FV-24CU7 / FV-24CD7 / FV-24CH7	240mm	30-50mm
FV-27CH9	270mm	25-30mm
FV-32CD9 / FV-32CH9	320mm	25-30mm

* Ceiling joist must be subject to static load more than 5 times of the product weight.

3. Attach the adaptor assembly to the wooden frame as shown in the figure.



4. Insert the fan body in the wooden frame, and connect it to the adaptor assembly.



5. Firmly secure the fan body with four tapping screws and a hexagon screw.

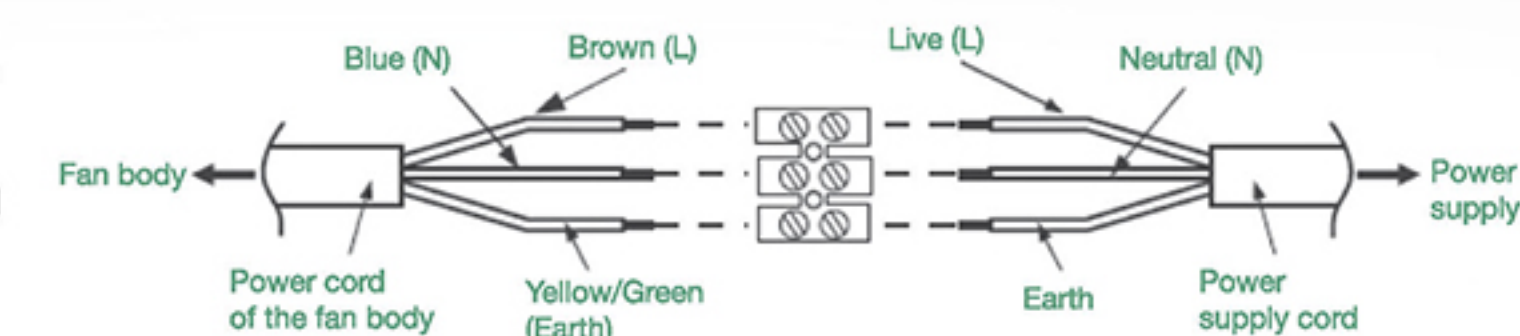


2 Power cord connection

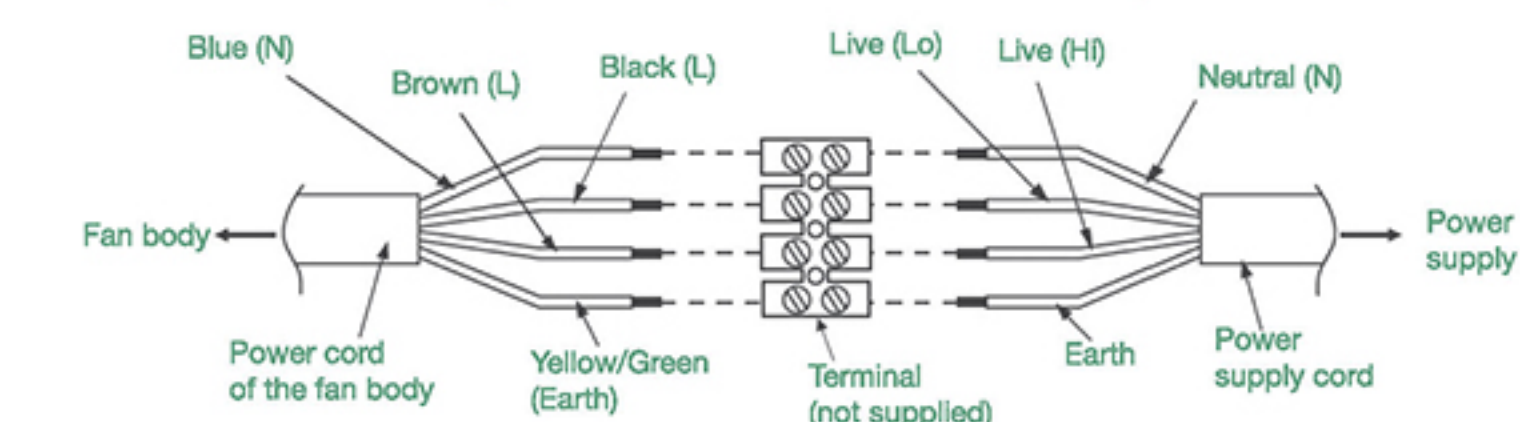
Connect the power cord to the power supply line according to the wiring diagram and the local electrical wiring rules of fixed wiring.

Make sure all connections are fastened firmly after wiring is finished.

For FV-17CU7 / FV-24CU7 / FV-24CD7 and FV-24CH7

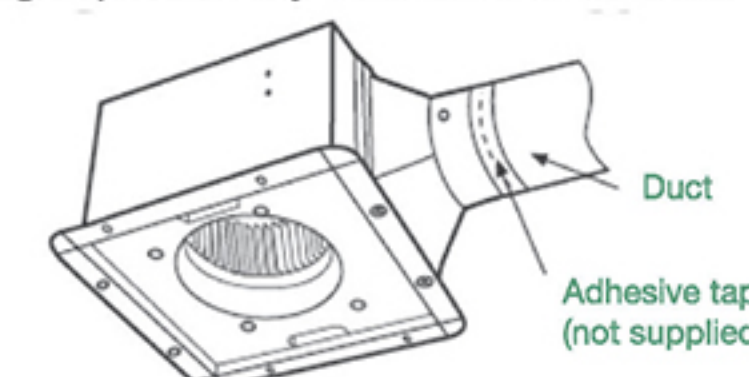


For FV-27CH9, FV-32CD9 and FV-32CH9

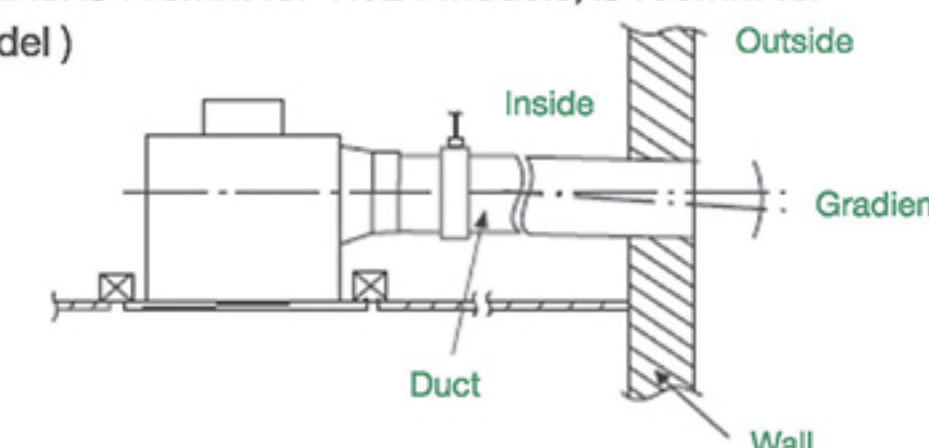


3 Duct connection and ceiling plate installation

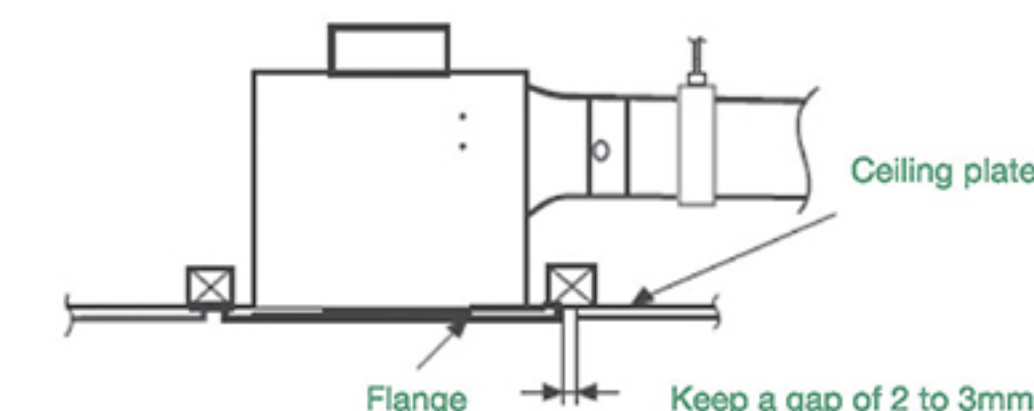
1. Insert the duct into the adaptor assembly, and tighten it with adhesive tape (not supplied). (Suspend the duct from the ceiling to prevent any external force onto the fan body.)



Slope the duct downward and guide it through the wall to the outside. Be sure to prevent rainwater from falling in the duct from its outlet. (The minimum size of the hole opening on the wall is: Ø116mm for 17/24 models, Ø168mm for 27/32 model)



2. Install the ceiling plate. Note that the gap between the flange and the ceiling plate should be 2 to 3mm.

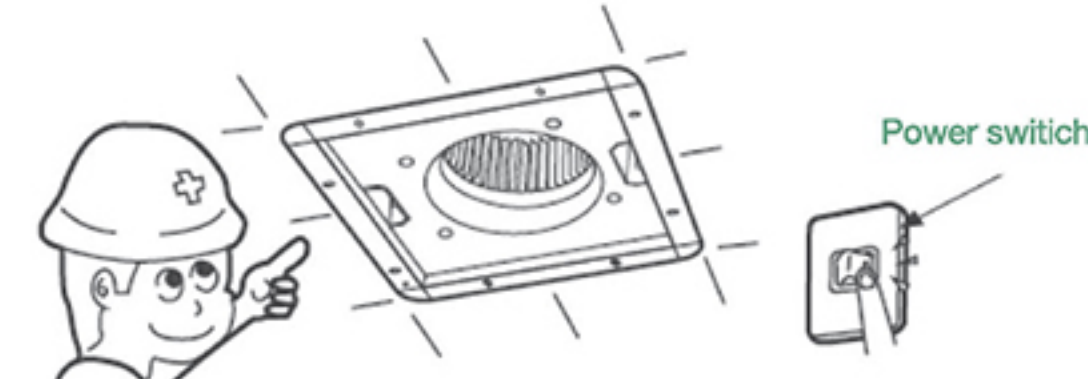


3. Install the pipe hood or vent cap (optional accessories) on the outer wall.

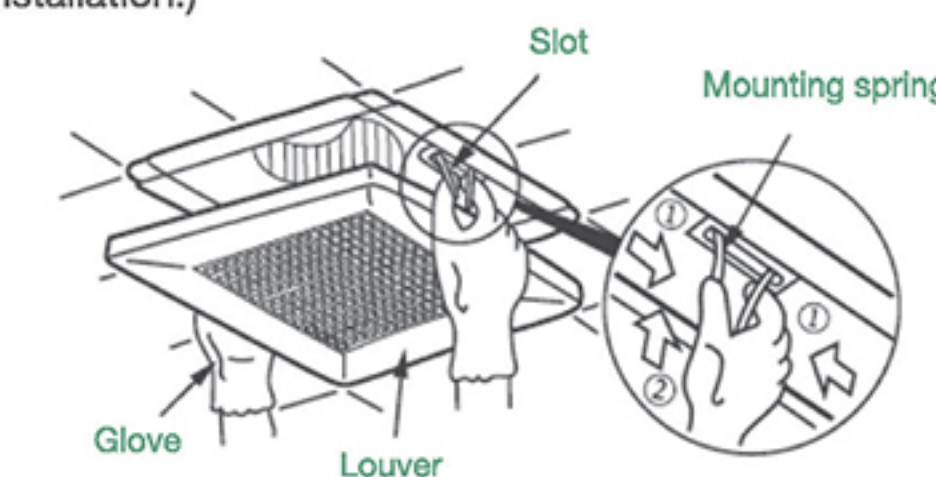
	Pipe Hood	Vent Cap
FV-17CU7 / FV-24CU7 / FV-24CD7 / FV-24CH7	FV-MCX100P	FV-VCX100P
FV-27CH9 / FV-32CD9 / FV-32CH9	FV-MCX150P	FV-VCX150P

4 Test run and louver installation

1. When the power is turned on, check for malfunctions as follow:
Does the fan rotate correctly?
Does the fan rotate anti-clockwise?
Is there any abnormal sound or vibration?



2. Insert the mounting spring into the slots and mount the louver to the fan body. (Please wear gloves during installation.)

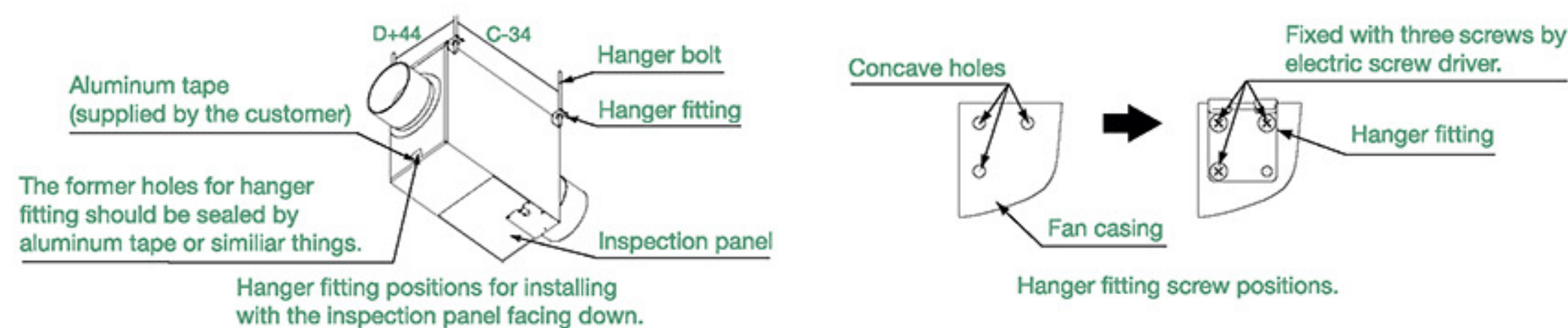
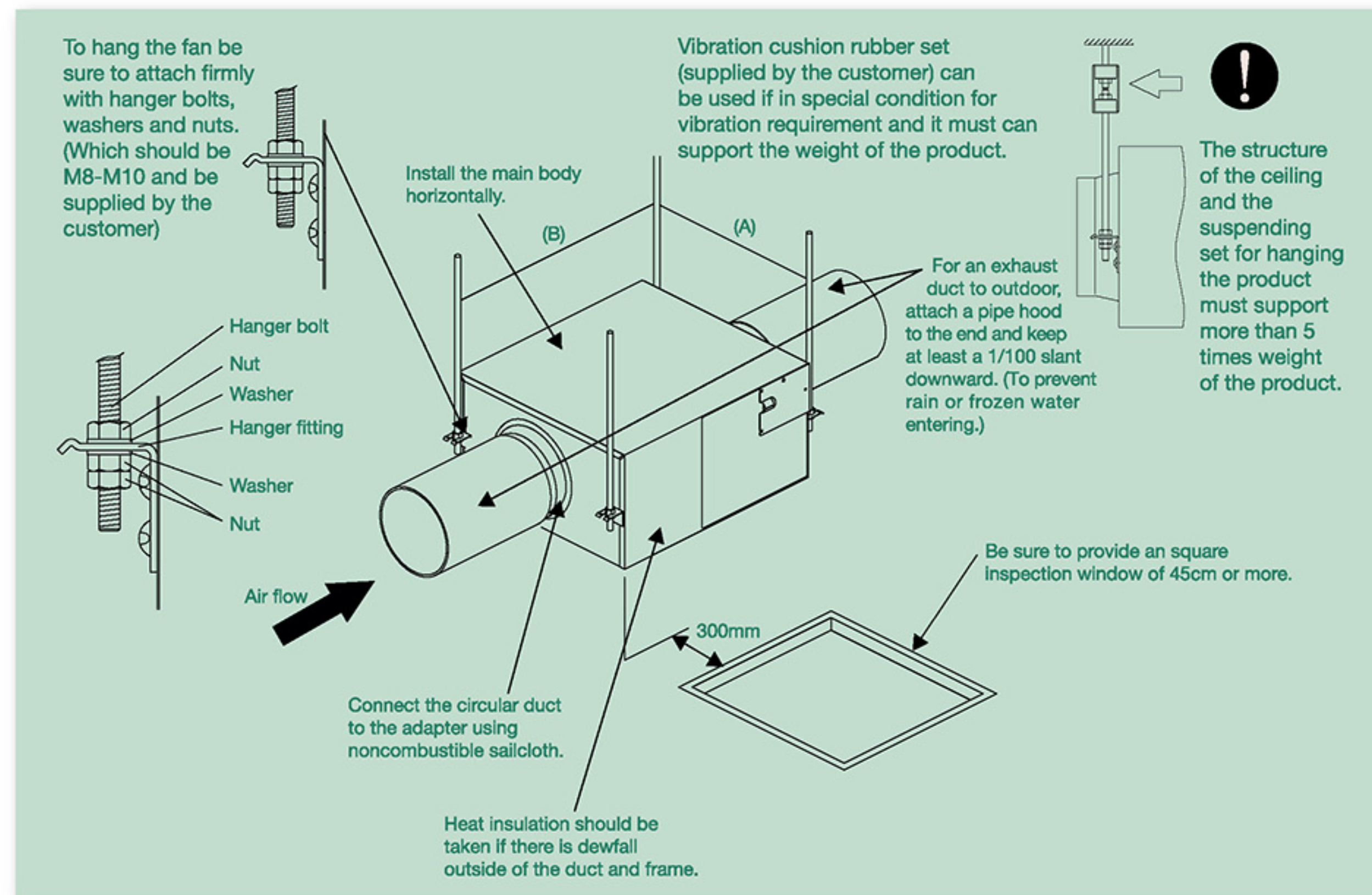




Installation Method

Low Noise Type Cabinet Fan (In-line Fan)

Applicable Models - FV-12NS3 / FV-15NS3 / FV-18NS3 / FV-18NF3 / FV-20NS3



Notes:

To install the fan with the inspection panel facing down, remove the attached four hanger fittings and re-attach them in the holes on the top and bottom surfaces (Use the screws you just removed). The former holes for installing the hanger fitting need to be sealed.

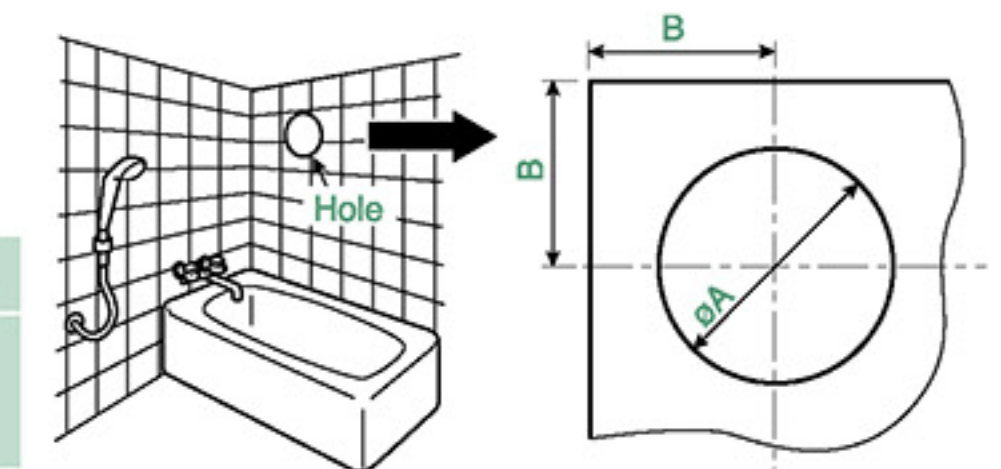
Model No.	A	B	C	D
FV-12NS3	250	335	291	184
FV-15NS3	250	346	302	206
FV-18NS3	276	382	338	232
FV-18NF3	336	441	397	254
FV-20NS3	376	485	441	272

unit: mm

Wall Mount Type Ventilating Fan

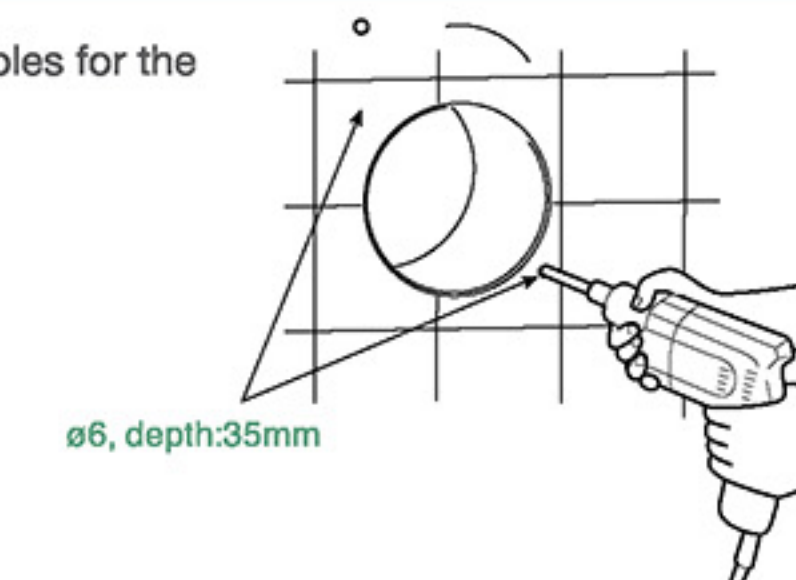
Applicable Models - FV-10EGK1 / FV-15EGK1

1 Make a hole on the wall.

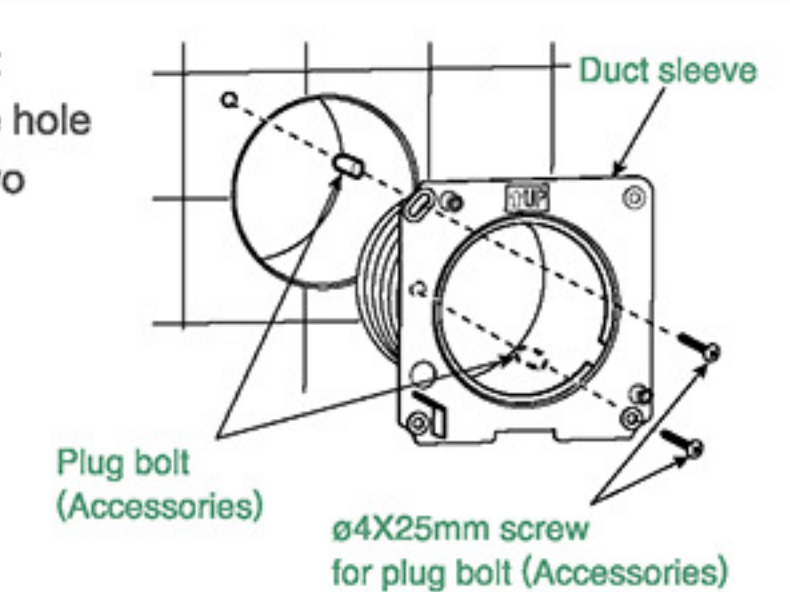


Model No.	ØA	B	Wall thickness
FV-10EGK1	135±5mm	more than 125mm	100~150mm
FV-15EGK1	180±5mm	more than 150mm	100~150mm

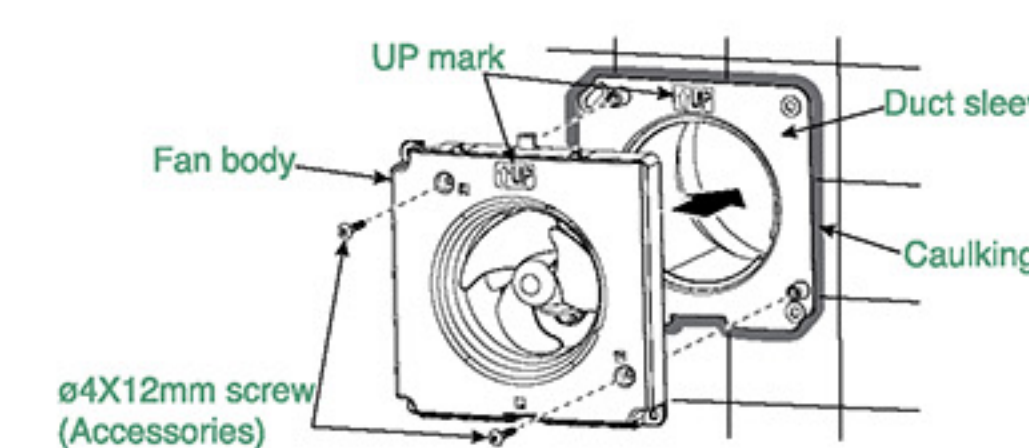
2 Make two holes for the plug bolt.



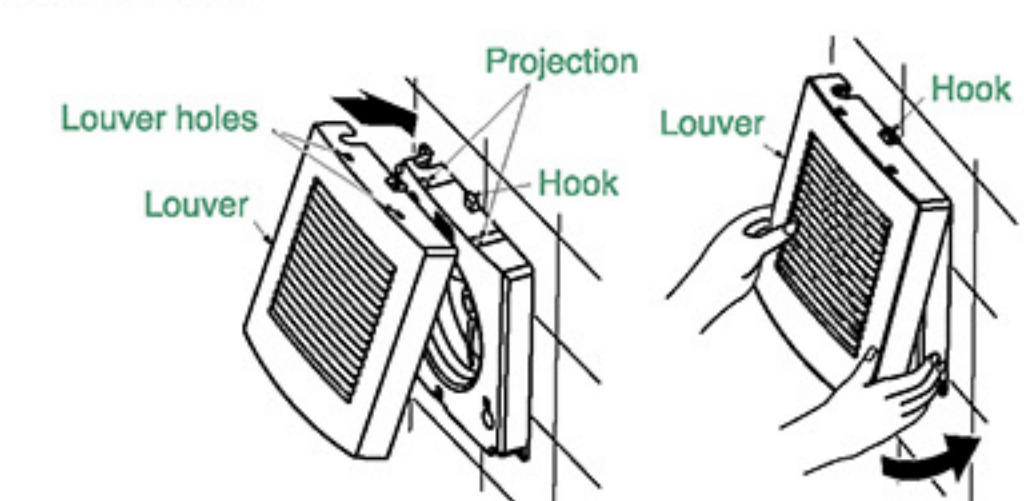
3 Insert the duct sleeve into the hole and fix with two screws.



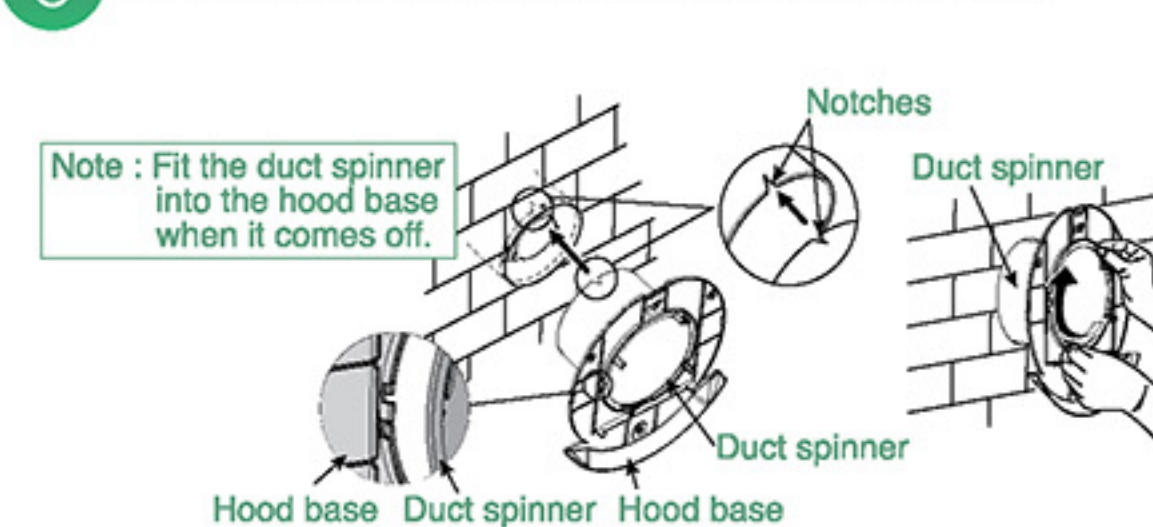
4 Caulk around the duct sleeve and Insert the fan body and fix it with two screws.



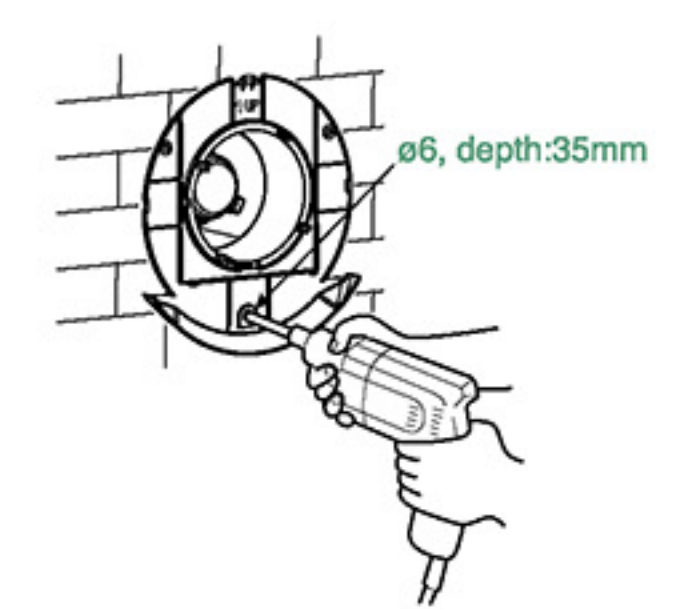
5 Install the louver



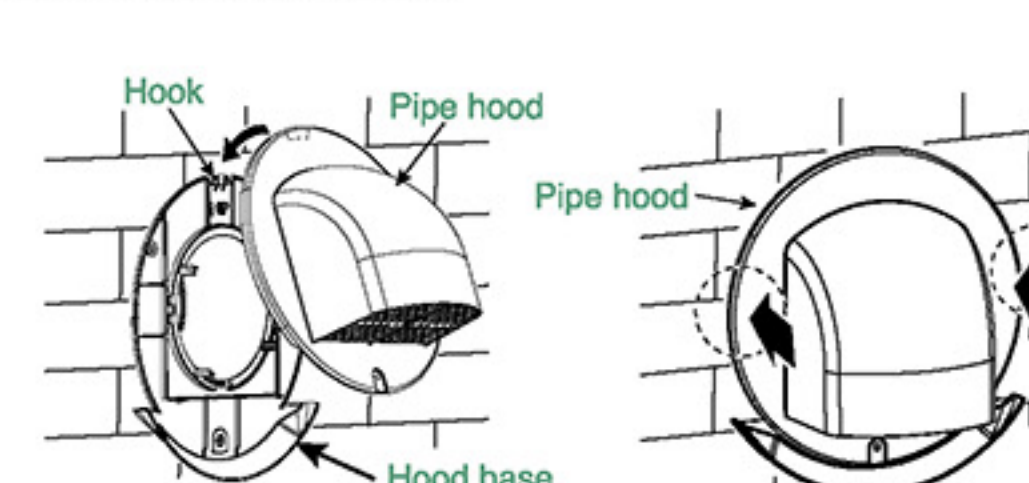
6 Screw the duct spinner and fix from outside wall.



7 Make a hole for the plug bolt.



8 Hang and fix pipe hood.



9 Screw pipe hood to the wall seal with caulking around pipe hood.

