Panasonic

VENTILATING FANS & AIR MOVING EQUIPMENTS

Providing you a breath of fresh air
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.

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.

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.

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
Scour and duster 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, floor and 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 substance 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. Fortunately, 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.

**Intermittent Ventilation**

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

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**Ventilation Schedule**

The Number of Ventilating Fans Required

(A): Room Size [M²] x (B): Necessary Frequency of Ventilation Per Hour

(C): Air Volume of Ventilating Fan [M³/PH]

<table>
<thead>
<tr>
<th>Type of room</th>
<th>Necessary ventilation per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel</td>
<td>Photo Studio</td>
</tr>
<tr>
<td>Dance Hall</td>
<td>Night Club</td>
</tr>
<tr>
<td>Dining Hall</td>
<td>Laboratory</td>
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<tr>
<td>Kitchen</td>
<td>Cooking Room</td>
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<tr>
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<td>Auditorium</td>
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<td>Toilet</td>
<td>Gymnasium</td>
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<td>Laundry</td>
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<tr>
<td>Butler Room</td>
<td>Library</td>
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<tr>
<td>Kitchen</td>
<td>Classroom</td>
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<td>Vessel</td>
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<tr>
<td>Disinfecting Room</td>
<td>Vessel</td>
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<tr>
<td>Room for the Patients Receiving Medical Treatment for the Diseases of Respiratory Organ</td>
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<td>Operating Room</td>
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Enhance ventilation in the whole house to replace polluted air with fresh air by ventilation equipments.

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

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

### Residence

Ventilating fans installed throughout the home draw indoor pollutants and ventilate the 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 air flow. Panasonic Cabinet Fan definitely provides you with a quiet and comfortable environment.

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**Ceiling Mount Type Ventilating Fan**

These fans are installed in the ceiling connected with ductwork, by which indoor air is exhausted either through the ceiling or the exterior wall. Since they are 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.

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**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 Optical" Structure, noise is effectively absorbed and reduced between the double office and casing.

   * except 38 model

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.

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 blades.

   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 30%.

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 models). Cassette type discharge acceptor 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.

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

**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

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**Dimension**

Unit: mm

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**Performance Data**

(Unit: m³/min)

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**Specification**

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**Performance Data**

(Unit: m³/min)

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**Specification**

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*Note: The values in Specification tables are representative characteristic values at 25°C, 50%RH.
B.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

**Specification**

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**Performance Data**

**FV-32CD9**

**FV-32CH9**

**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

**Specification**

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

Compact Size
- Slim and compact design allows installation at narrow calling space.

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

Internal Wind Velocity Distribution - Airflow Analysis

Embedded Terminal Box

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.

Performance Data

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Phase</th>
<th>Hz</th>
<th>Consumption [W]</th>
<th>R.P.M. [min⁻¹]</th>
<th>Air Volume [m³/min]</th>
<th>Noise (dBA)</th>
<th>Weight (kg)</th>
<th>Duct Size [mm]</th>
<th>Impeller Diameter [mm]</th>
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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 (sausage fan)
- Fan casing with tapered scroll
- Embedded terminal box
- Noise absorption material adopted
- Compact size

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 a range of ambient temperatures from -10°C to +50°C
- Possible to install horizontally or vertically
- Optional guard and shutter available

Dimension

Unit: mm

<table>
<thead>
<tr>
<th>Model No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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Performance Data

(220V 50Hz/60Hz)

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Performance Data

(220V 50Hz/60Hz)

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Specification

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Note: The value in Specification tables are representative characteristic values at 220V, 0.90φ, 0.85φ. 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

Perforated Aluminum Filter - Durable
The filter adopts aluminum material to assure excellent durability, and it is easy to detach for cleaning and maintenance.

Oil Collecting - Environmental Friendly
The perforated filter is competent in collecting oil. It allows the air exhausted to outdoor to be less polluted which improves the air quality of surrounding.

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

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

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.

Pipe Hood Series

Only 4 steps for installation

Ordinary Coating

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

Hydrophobic Coating

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

Note: This is image pictures and for easy understanding only.
3 All Accessories Included

The Moisture & Smell Extractor 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)**

**Pipe Hood Series**

**Duct Spinner Series**

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.

**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.

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.

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

- 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

**FV-10EGKS1 / FV-15EGKS1**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<th>F</th>
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**FV-10EGK1 / FV-15EGK1**

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**Specification**

<table>
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Note: The value in Specification tables are representative characteristic value at 50Hz, 50/60Hz.
R.P.M. data is for reference only, values may vary subject to different conditions.
This specifications are specific with duct sizes.
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 be 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.

<table>
<thead>
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<th>Model No.</th>
<th>A</th>
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Note: The values in Specification tables are representative characteristic value at 220V / 100VHz.
Hand Dryer

Power Dry hand dryer provides a comfortable and speedy hand drying experience by removing moisteries 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

**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

**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.

**What is Super allru-buster?**
Super allru-buster can inhibit up to several types of allergen

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

**Super allru-buster Filter**
- The filter is equipped to ensure the air blow to your hand is clean.

**FJ-T09A3**
- With Drain Pan
- Powerful air velocity enables drying time in few seconds
- Automatic operation by infra-red motion sensor
- Super allru-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**
- Without Drain Pan

**Dimension**

| Unit: mm |
|---|---|---|---|---|---|
| FJ-T09A3 | 250 | 157 | 195 | 45 | 6 |
| FJ-T09B3 | 250 | 157 | 195 | 45 | 6 |

**Unit: mm**

**Specification**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Power Consumption [W]</th>
<th>Air Velocity [m³/min]</th>
<th>Noise [dB(A)]</th>
<th>Drain Pan</th>
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</table>

*Note: The value in the Specification table are representative characteristics value at 20±1, 50±5Hz.*
Installation Method


A Installation with a wooden keel (for FV-17C7 / FV-24C7 / 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.

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

B Installation with anchor bolts

1. Secure the 1 set of suspension bracket (FV-K9301C) (optional accessory) with screws.

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

C 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.

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.

D 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.

E Duct connection and ceiling plate installation

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

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 cuter wall.

F 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)

To hang the fan be sure to attach firmly with hanger bolts, washers and nuts. (Which should be M8-M10 and be supplied by the customer)

Vibration cushion rubber set (supplied by the customer) can be used if in special condition for vibration requirement and it must can support the weight of the product.

Heat insulation should be taken if there is dew/ outside of the duct and frame.

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.

<table>
<thead>
<tr>
<th>Model No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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</tbody>
</table>

Wall Mount Type Ventilating Fan
Applicable Models - FV-10EGK1 / FV-15EGK1

1. Make a hole on the wall.
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.
9. Screw pipe hood to the wall seal with caulking around pipe hood.