



BATHROOM VENTILATION FAN

MODEL: **BV-BF-04**

INSTALLATION MANUAL AND USER GUIDE

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GENERAL SAFETY INFORMATION AND WARNING



READ AND SAVE THESE INSTRUCTIONS

This commercial series bathroom fan uses state-of-the-art technology providing superior, long-life performance for your room ventilation needs.

GENERAL SAFETY INFORMATION AND WARNINGS

For your safety and to ensure proper performance of the unit, it is very important to read these instructions carefully before installation. Failure to comply with the instructions contained herein could result in personal injury or property damage. We recommend that you keep this booklet for future reference. All units should be installed by a licensed electrician.

WARNING

- Electrical service supply must be 120V 60Hz.
- Wires from the house power supply to the unit should not be smaller than size 14 AWG.
- Follow all local safety and electrical codes, as well as requirements for NEC (National Electrical Code) and OSHA (Occupational Safety and Health Act).
- This unit must be properly grounded.
- This unit is equipped with a built-in thermal cut-off for safety and to prolong the life of the motor.
- Always disconnect the power supply prior to servicing the fan, motor or junction box. Do not bend power wires.
- Do not install where the air temperature will exceed 40° C (104°F).
- This ventilating fan is approved for use over a bathtub or shower when installed in a GFCI-protected circuit.
- Do not install in a cooking area.
- Exercise care not to damage existing wiring when cutting or drilling into walls or ceilings.
- Do not use this fan with any solid-state control device.
- Ductwork should be installed in as straight a line as possible, with minimum bends.
- Ductwork size must be a minimum of the discharge and should not be reduced.
- The fan is intended to be mounted at least 7 feet (2.1m) above the floor.
- Do not kink or excessively bend the electrical wires.
- protect the electrical wires from sharp edges, oil, grease, hot surfaces, chemicals, or other objects.
- Do not install the unit where ducts where the airflow can be severely restricted.
- There should always be an adequate air supply to the vented area.
- The control device should not be installed within reach of the bathtub or shower.
- Suitable for ceiling installation over tub or shower.

WARNING – TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- Use this unit in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
- Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to - prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
- For General Ventilating Use Only. Do Not Use To Exhaust Hazardous Or Explosive Materials And Vapors.

WARNING - TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction
- Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturers guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and the local code authorities.
- When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.

GENERAL SAFETY INFORMATION AND WARNING

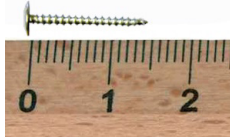
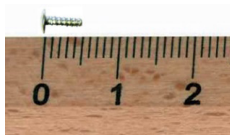


- Ducted fans must always be vented to the outdoors.
- If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) - protected branch circuit.
- The ceiling shall only be installed if the insulation is greater than the value specified in section 6.4.9.
- All wiring must be in accordance with the National Electrical Code, ANSI/NFPA 70-1999 and local electrical codes. Electrical installation should be performed by a qualified, licensed electrician.
- Do not use this fan unit with any solid-state speed control device.
- If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application. When the fan is going to install in the bathroom, the fan and the tub need to be more than 1.0 meter between each other, the fan required to install at the other side of the tub in ceiling. Acceptable for use over a bathtub or shower when installed in a GFCI protected branch circuit.

INCLUDED PARTS AND ACCESSORIES



Part #	Part Name/Photo	Qty
1	 Bath fan housing	1
2	 Bath fan grille	1

Part #	Part Name/Photo	Qty
M4*30		8
M4*12		2
M4*10		1
5	 12" Suspension bracket	1
6	 6" Suspension bracket	1
7	 14" Suspension bracket	1

ADDITIONAL TOOL/SUPPLIES

LIST OF ADDITIONAL TOOLS/SUPPLIES REQUIRED FOR INSTALLATION

- Safety glasses
- 6-in. round duct, elbows if needed, installation tools and other supplies including foil duct tape or 6-in. clamp to secure to fan housing
- Switch to operate fan
- Phillips screwdriver
- Tape measure
- Utility knife or saw for cutting drywall
- Wire cutter/stripper
- Wire nuts
- Ladder

PLANNING INSTALLATION



When installing the ventilation fan in a new construction site, install the main body of the fan and ductwork during the rough-in construction of the building. The grille should be installed after the finished ceiling is in place. Use the dimensions provided in this manual to determine the required hole size for the ceiling.

The ducting from this fan to the outside of the building has a strong effect on the airflow, noise and energy use of the fan. Use the shortest, straightest duct routing possible for best performance and avoid installing the fan with smaller ducts than specified in this manual. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow. Do not install the ventilation fan in areas where the ductwork will require configurations as shown in Fig. 1 below.

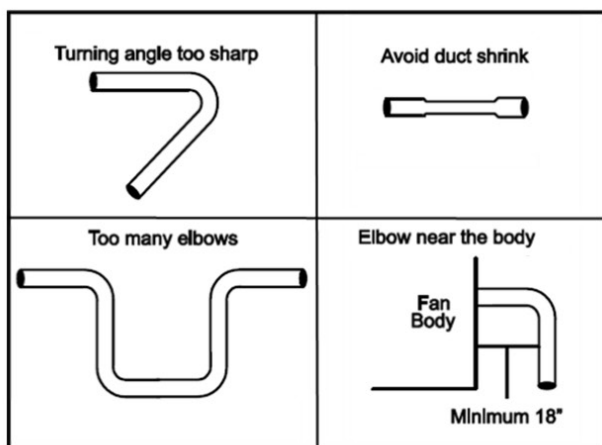


Fig. 1

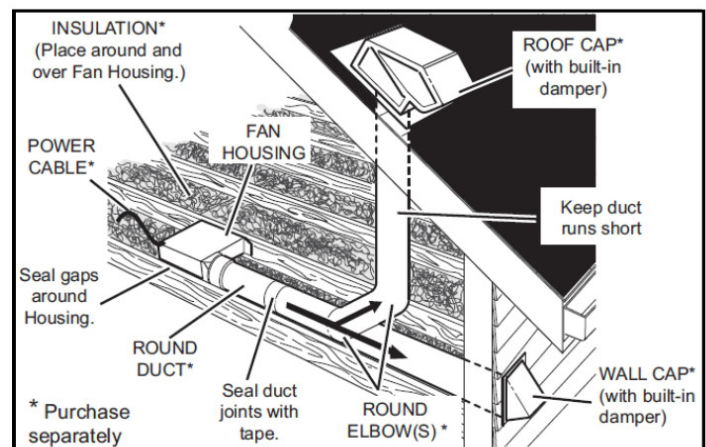


Fig. 2

Recommended installation includes insulating around ductwork and the fan housing to minimize heat loss (see Fig. 2 above). Seal all gaps around the housing with caulk or other similar material to inhibit air leakage to the exterior of the thermal envelope of the building. Rigid sheet metal duct and the shortest path to the outside will minimize static pressure losses and promote adequate air flow.

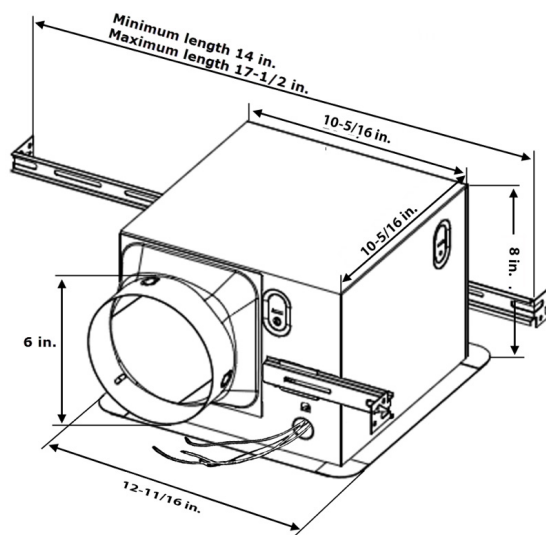
SPECIFICATIONS



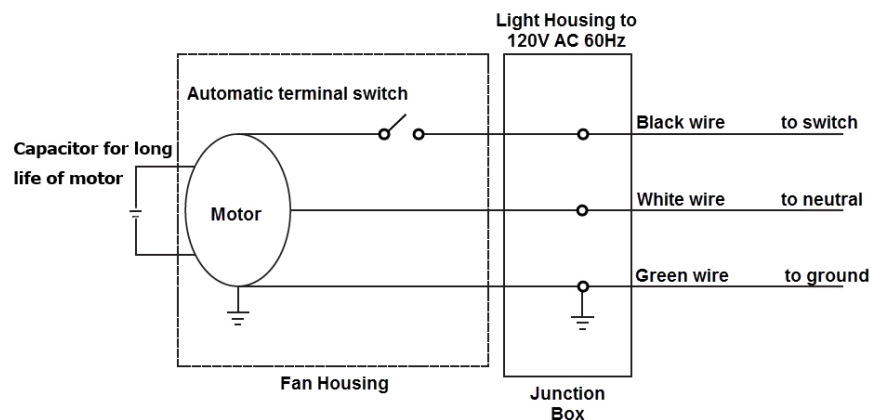
Model No.	Air CFM	V	Hz	Duct Diameter	Noise (Sones)
BV-BF-04	200CFM	120	60	6 in. (15.25 cm)	2.0

DIMENSIONS

Ceiling Opening - D	Ceiling Opening - W x L	Housing Dimension - W x L	Housing Dimension - D	Ceiling Opening - W x L
8 5/16 in. (21 cm)	10 7/16 in.x10 7/16 in. (26.5cm x 26.5 cm)	10 5/16 in.x10 5/16 in. (26.2 cm x 26.2 cm)	8 in. (20.32 cm)	12 11/16 in.x12 11/16 in. (32.2 cm)



WIRING DIAGRAM



FAN HOUSING INSTALLATION



FAN HOUSING INSTALLATION (DIRECT JOIST MOUNTING OR SUSPENSION BRACKET JOIST MOUNTING)

Check the area above installation location to be sure that:

- Ductwork can be run and there is sufficient area for proper ventilation;
- Wiring can be run to the planned location (wires from the power supply to the unit should not be smaller than size 14 AWG);
- There will be access to ductwork and wiring for inspection and future maintenance; and
- No wiring or other obstructions will interfere with installation.

Installation I (Joist Mounting)

CAUTION

- Mount junction box cover very carefully so that lead wires are not pinched.

WARNING

- Disconnect power source before working on unit.
- When making wiring connections always take care to prevent excessive slack in the wiring since a large of current is drawn through the electrical wire.
- Connect the switch to the live (black color) side.
The cord connect by the plastic connector and protected by cables , the plastic connector and the cables are provided by the clients.

For installation in existing construction:

- Installing the fan housing in an existing building requires access (attic or crawl space) in the planned installation location above the existing ductwork and wiring.
- Inspect existing ductwork and wiring before proceeding with installation.

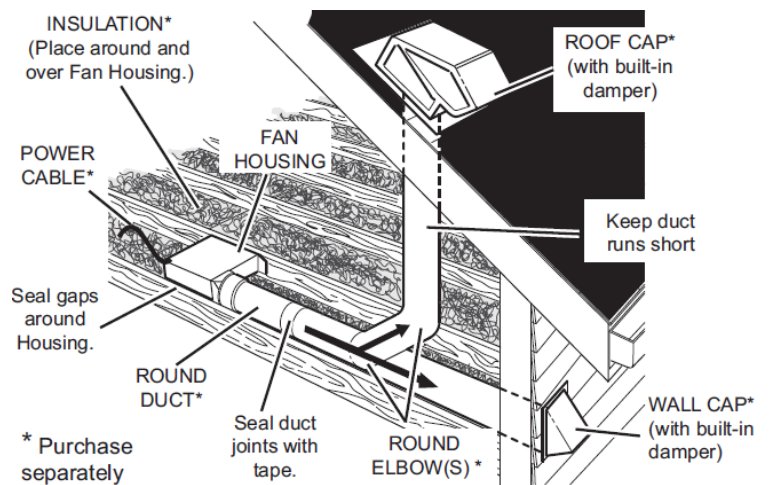
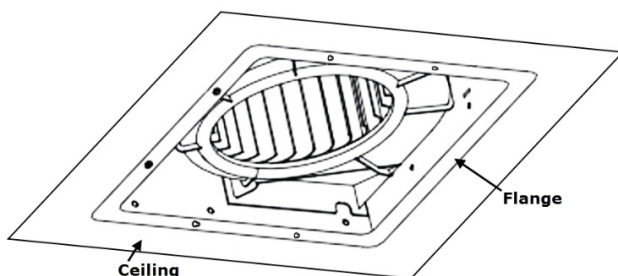
CAUTION

- Check area above planned location to be sure that:
 - Duct work can be installed and that area has sufficient ventilation
 - Wiring can be run to the area of the planned location
 - Ensure that no wiring or other obstructions will interfere with installation.
- Plan a suitable location for ventilating fan.(next to ceiling joist)
- Before installation, provide inspection and maintenance access to the location that will not interfere with installation work as per INSTALLTION 1.

Step 1:

Select the location for your fan in the ceiling.
For optimal performance, plan for the shortest possible duct with the fewest elbows.

When positioning fan housing for installation, flange of housing trim ring must be level with the outside of the drywall and visible from the room below.

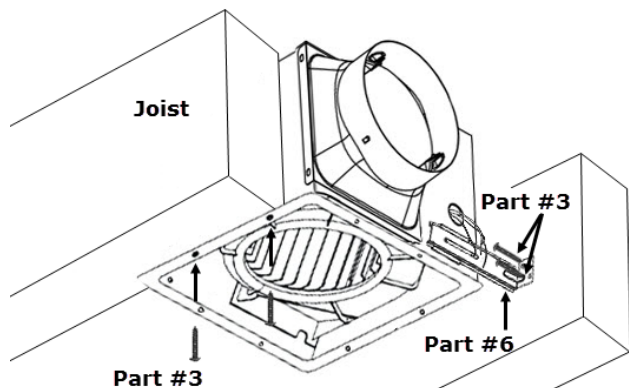


FAN HOUSING INSTALLATION

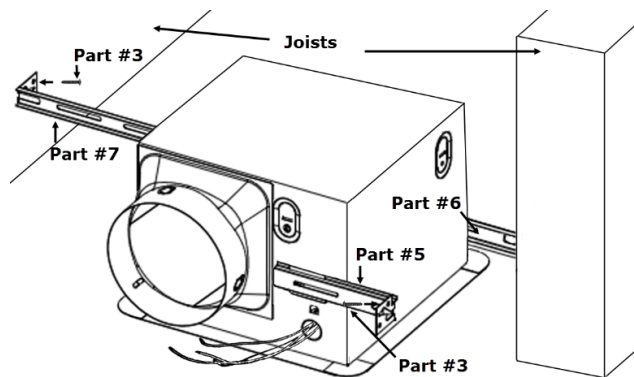


Step 2:

Direct Joist-Mount: Slide suspension brackets (Part #5 (back) and Part #6 (front)) into slots in fan housing. Using wood screws (Part #3), secure housing flange to joist, then secure suspension brackets to joist on other side. If spacing between joists is greater than 16", use extension bracket (Part #7, see diagram right).



Suspension Bracket-Mount: Slide suspension brackets (Part #5 (back) and Part #6 (front)) into slots in fan housing. Using wood screws (Part #3), secure suspension brackets to joists. If spacing between joists is greater than 16", use extension bracket (Part #7, see diagram right).

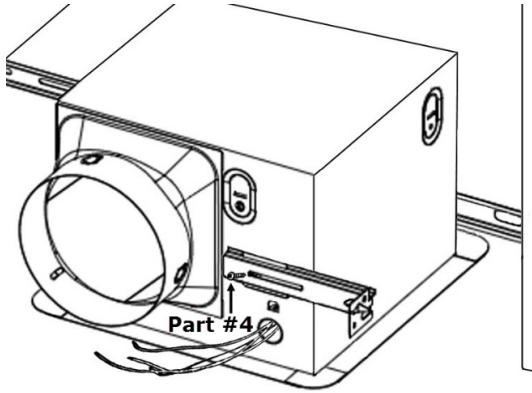


FAN HOUSING INSTALLATION



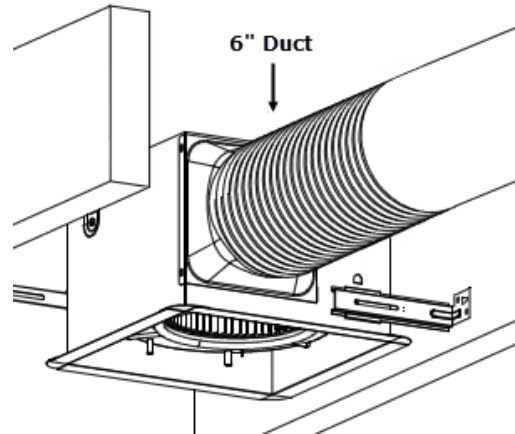
Step 3:

To secure brackets to fan housing, insert machine screws (Part #4) in each. Tighten machine screws to prevent housing vibration while fan is in operation.



Step 4:

Install a 6-in. circular duct and secure to housing with foil duct tape or clamp.



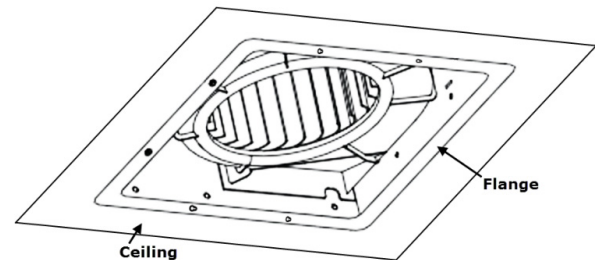
Step 5:

Disconnect the power supply before proceeding with Step 5. Run 120V 60Hz house wiring (with ground) from wall switches to fan location. Remove junction box cover and, using wire nuts, connect house wires to unit wires. Refer to Wiring Diagram on page 4.

- GREEN WIRES are ground wires. Connect 2 green wires from the unit to 1 house green wire by the wire nut.
- WHITE WIRES are neutral. White to white.
- BLACK WIRES are hot. Black to black.

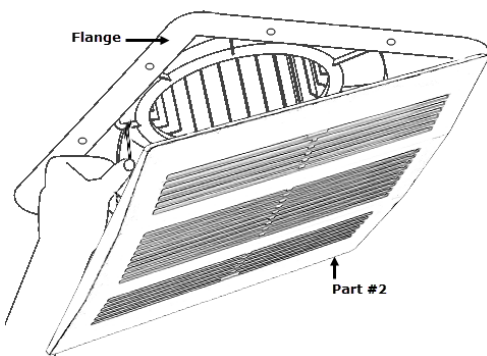
Step 6:

Finish ceiling. Flange of housing must be level with bottom of joist, or no lower than the finished ceiling.



Step 7:

To attach the grille, pinch both mounting springs on grille and insert ends into narrow rectangular slots inside the fan housing next to the fan motor.



CLEANING THE VENTILATION FAN



Cleaning the unit periodically is advisable since dust, molds, grease, and other dirt particles can affect the conductivity of the air in the unit.

Clean the unit as follows:

- 1) Remove the plastic grille.
- 2) Wash the cover with lukewarm water and use mild detergent such as liquid soap (avoid harsh detergent or boiling water).
- 3) Dry the grille with a cloth or kitchen towel.
- 4) Clean inside of unit with vacuum cleaner (fan housing should not come into contact with harsh chemicals or liquids).
- 5) Put the grille back in place.

MAINTENANCE

Disconnect power source before working on the unit .Routine maintenance must be done manually.

CAUTION

- 1.Does not use petrol, benzene, paint thinner or any other such chemical for cleaning the ventilation fan.
- 2.Never allow water to enter motor.
- 3.Never immerse resin parts in water over 60° C (140°F).
- 4.A ceiling-insert fan, wall-insert fan, or ceiling-insert fan/light combination intends to be used over a bathtub or shower shall be marked where visible during installation with the following or equivalent: Acceptable for use over a bathtub or shower when installed in a GFCI protected branch circuit.
- 5.Detailed installation instructions with illustrations shall be provide with all ceiling-insert, wall-insert, and ceiling-insert fan/light abominations intend for use over a bathtub or shower .The instructions shall also include the wording from the marking specified in 4.