



## Fantech

**SEVEN-YEAR  
WARRANTY**

## PBW Series PREMIUM BATH FANS

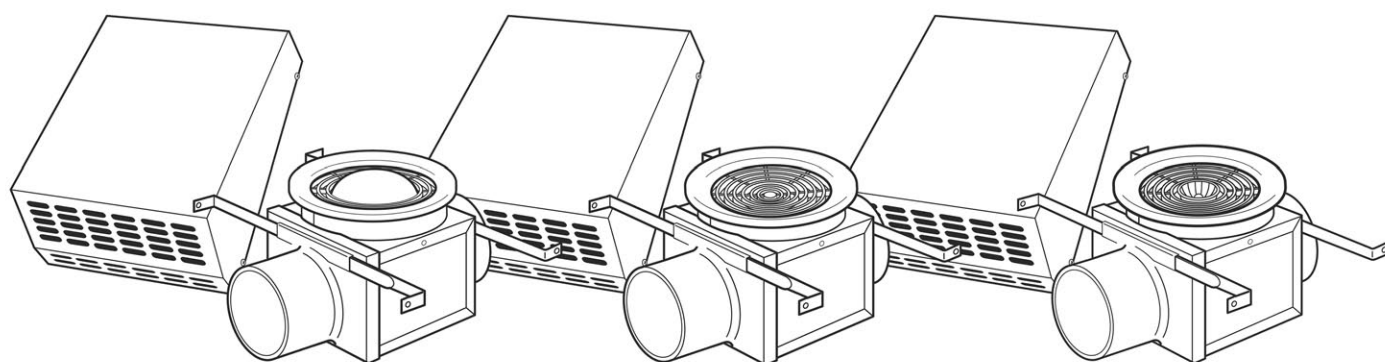
Single Grille Units

4" Duct

**PBW100**

**PBW100F**

**PBW100H**



### **IMPORTANT: PLEASE READ THIS MANUAL BEFORE INSTALLING UNIT**

**WARNINGS:** ***DO NOT CONNECT POWER SUPPLY until unit is completely installed.***  
***Make sure electrical service to the fan and light is locked in "OFF" position.***

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

- Use this unit only in the manner intended by the manufacturer. If you have any questions, contact your manufacturer's representative.
- CAUTION:** Before installation, 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 tag, to the service panel.
- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards. This unit is only for use in non-fire-rated installations.
- When cutting or drilling into wall and ceiling, do not damage electrical wiring and other hidden utilities.
- NEVER** place a switch where it can be reached from a tub or shower.
- If this unit is installed over a tub or shower, it must be connected to a GFCI (Ground Fault Circuit Interrupter) – protected branch circuit.
- The combustion airflow needed for safe operation of fuel burning equipment may be affected by this unit's operation. Follow the heating equipment manufacturer's guidelines and safety standards such as those published by the National Fire Protection association (NFPA), the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) and the local code authorities.
- Exhaust fans must always be vented to the outdoors.

**CAUTION:** "For General Ventilation Use Only. Do Not Use To Exhaust Hazardous Or Explosive Material and Vapors."

**CAUTION:** BULB USED IN FLUORESCENT MODELS NOT DIMMABLE

**CAUTION:** USE ONLY FANTECH (MODEL PBB14) FLUORESCENT BULBS AND  
PAR16/MR16 GU10 50W MAX. HALOGEN BULBS (FANTECH MODEL PBB50).

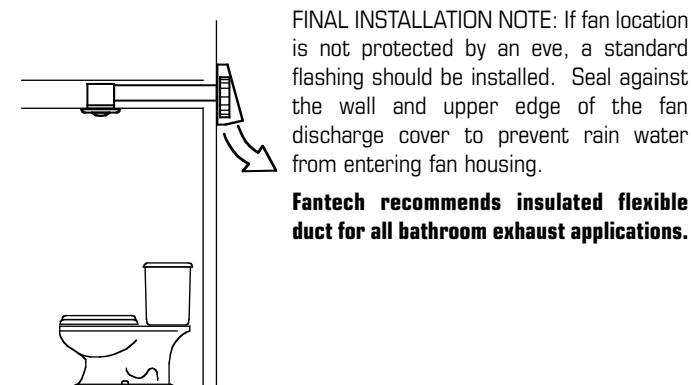
## Planning Your Fan Location

As with any exhaust system, your exhaust fan should be located a minimum of 6 feet horizontally and 8 feet vertically from any fresh air intakes to prevent re-entrainment of exhaust air streams. For example HVAC systems, heat recovery systems, and windows would all be considered fresh air intakes.

When planning your fan placement keep in mind that you will need to be able to run your duct work from the exterior fan to the bathroom inlet. Considering access for the duct run before hand will make installation easier.

## Installing Exterior Wall Fan

1. Once you have chosen the location where you wish to mount the fan, cut a 4 3/8" diameter hole in the exterior of the wall. Prepare a piece of rigid duct (purchase separately) approximately 2" longer than the wall thickness. This will be used as a collar extension placed through the wall.
2. Take off the fan discharge cover by removing the four screws. Center the fan in the hole that was cut into the wall. Mark the locations of the mounting holes and electrical knockout. Drill a hole for the electrical that is 1/8" larger than the conduit being used. A 1" electrical service opening is provided on the fan backplate.  
NOTE: When mounting the fan to a masonry wall, drill 7/32" holes for the four anchors and mounting screws (provided). Anchors should be flush with the edge of the holes. For mounting to wood surfaces use wood screws (purchased separately).
3. Bring your electrical supply through the wall. Attach the fan collar to the extension collar using duct tape. Be sure this connection is as airtight as possible to prevent leakage. Apply polyurethane caulk to the exterior of fan housing backplate, leaving bottom uncaulked for drainage. This will ensure an airtight/waterproof connection between the fan and wall.  
NOTE: If installing on lapped siding it may be necessary to use a mounting frame made from 1x1 board to insure a flush fit.
4. Mount the fan to the wall. Replace the discharge cover. Connect your ducting to the extension collar using plastic ties or duct tape (purchased separately).



## Flexible Duct Installation Hints

Fantech strongly recommends the use of flexible insulated duct where ducting passes through unconditioned space or where noise is a factor.

**Check local code requirements before installing.** Failure to use insulated flexible duct could result in excessive condensation buildup within the duct, and undesirable sound levels within the room.

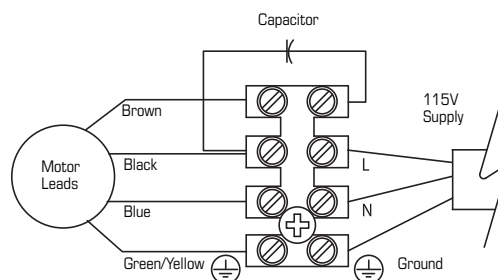
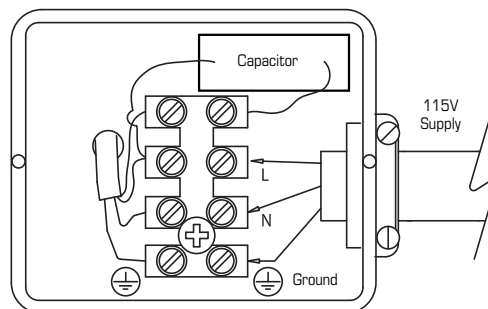
A minimum of 8' of insulated flexible duct is recommended between the fan and any inlet grille. Duct should be stretched as tight and straight as possible. Failure to do so could result in dramatic loss of system performance. Connect flex duct to the fan with plastic zip ties or duct tape. Connections should be airtight as possible for maximize performance.

## Electrical Connection

1. Remove the screws securing the terminal box cover located on the fan motor mounting bracket. All fan motor and capacitor connections are pre-wired to an electrical terminal strip. A 3/8" romex type cable restraint connector will be needed to secure the wiring through the knockout on the side of the terminal box.
2. Bring incoming electrical service through the romex connector and the fan electrical service opening. Be sure to place the connector nut over the wiring coming into the terminal box. There are two open ports on the terminal strip. Using a small regular screwdriver, tighten the neutral (white) wire of the incoming supply under the open terminal strip port labeled "N". Tighten the line (black) wire of the incoming supply under the open terminal strip port labeled "L" to the ground connection on the terminal block.
3. Secure the romex connector. Secure the incoming supply with the romex connector. Place the capacitor back into the terminal box. Replace the fan terminal box cover.

All fan motor and capacitor connections have been pre-wired from the factory. No additional fan wiring is necessary.

## Wiring Diagrams



## Troubleshooting

If fan fails to operate, please check the following:

1. Consult wiring diagrams (above) to ensure proper connection.
2. Check motor lead wiring, capacitor leads and incoming supply leads to insure definite contact.
3. If possible, use a meter to test for continuity across the fan motor leads. In order to do this, the capacitor must be disconnected (do not test the capacitor - it will not meter continuity). If motor leads show continuity, consult factory for a replacement capacitor.

## Maintenance Instructions

Since fan bearings are sealed and provided with an internal lubricating material, no additional lubrication is necessary.

## Installation of Ceiling Grille Housing With or Without Light

### 1. Plan Location of Inlet Grilles.

Based on the bathroom layout and fixtures, plan the location of the ceiling grilles for the most effective ventilation.

### 2. Securing the Housing to the Ceiling Joists.

#### NEW CONSTRUCTION

Mount housing directly to the ceiling joist using screws and keyhole slots. Locator tabs on housing should be flush with the bottom edge of the ceiling joist for correct positioning of the unit once drywall is installed. (Figure 1)

#### OR

Use the hanger bars to suspend the housing between ceiling joists. For correct positioning, hanger bars should be positioned  $\frac{3}{8}$ " up from the bottom edge of the ceiling joist on models with 4" duct connection and  $\frac{1}{2}$ " up from bottom edge of joist on models with 6" duct connection. On models with 4" duct, tighten anti-slide screws to keep hanger bars in place. (Figure 2).

Note: Hanger bars on units with 4" duct connection can be used on ceiling joists up to 24" on center. Hanger bars on units with 6" duct connection span ceiling joists up to 16" on center.

Note: If drywall or ceiling material is thicker than  $\frac{5}{8}$ " the locator tabs may be removed to allow the grille collar to be flush with the finished ceiling material. When ceiling drywall is being installed, cut hole for ceiling grille.

#### EXISTING CONSTRUCTION OR WHEN DRYWALL IS IN PLACE.

Cut a 6" round hole for the ceiling grille only and install the housing from the attic. (Figure 3)

Place the housing against the ceiling joist using the locator tabs to determine the correct position (Figure 1) or align it using the hanger bars. (Figure 2).

Punch out the keyhole knockouts (if using) and the electrical knockout if needed.

To complete installation for Bath Fan models with lights, continue with steps 3 through 5. For models without lights, skip to steps 4 and 5.

### 3. Make Electrical Connections to the Ceiling Grille Housing.

Remove the electrical cover inside the steel housing using a screwdriver. Connect power by following wiring diagram (Figure 5) and following local or National Electrical Codes. Replace the electrical cover.

**4. Connect the Fan to the Ceiling Grille Housing(s).** Install appropriate diameter duct from the fan to the ceiling grille housing. (Insulated flexible duct is recommended for all Fantech bathroom exhaust applications for quieter operation.) For dual grille models, install duct between fan and wye adapter\* (included). Then, attach duct to each leg of the wye and to each ceiling grille housing. Secure duct in place and seal. If using insulated flexible duct, seal the inner liner to the duct connector then seal the outer shell over the top of the inner liner. Do not leave the insulation material exposed.

**5. Installing the Bulb.** Install the bulb by gently inserting it into the socket in the grille housing. Install the grille by pushing it firmly into the steel collar until it is shouldered by the ceiling drywall (Figure 3).

#### ADDITIONAL STEPS REQUIRED WHEN INSTALLING A FLUORESCENT MODEL OVER A TUB OR SHOWER.

(Figure 4)

1. Place ring 1 on on socket legs first.
2. Screw metal shield in place over socket.
3. Add rubber gasket
4. Secure ring 2 to socket. Click indicates a secure installation.

Repeat steps 1 through 5 for each additional ceiling grille housing being installed.

\*For most efficient operation wye adapter should be positioned the equivalent of three duct diameters away from the fan inlet.

Figure 1

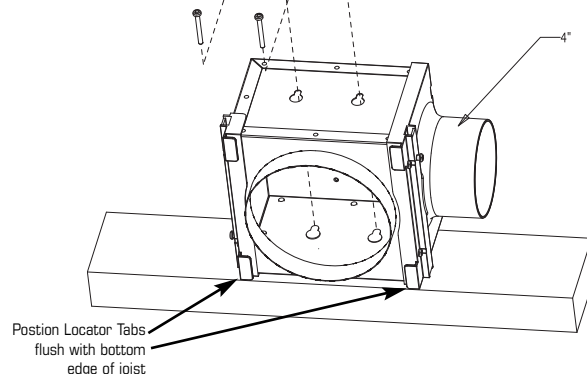


Figure 2

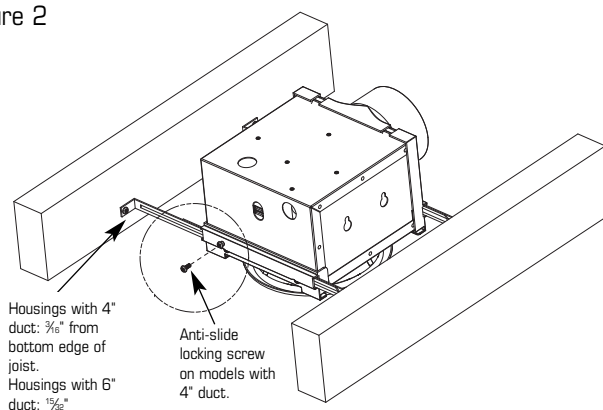


Figure 3

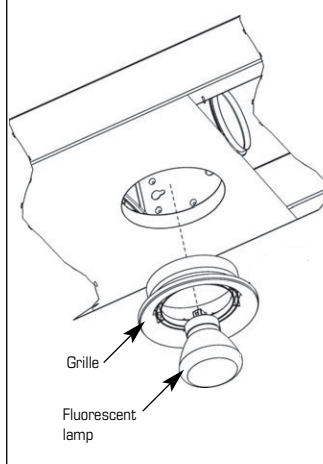


Figure 4

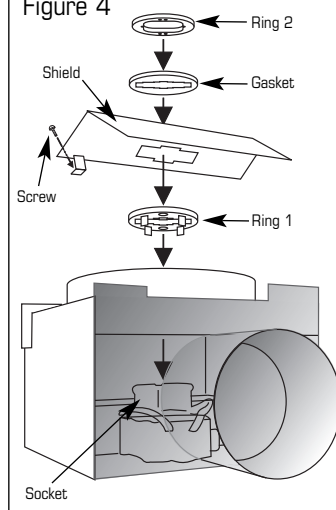
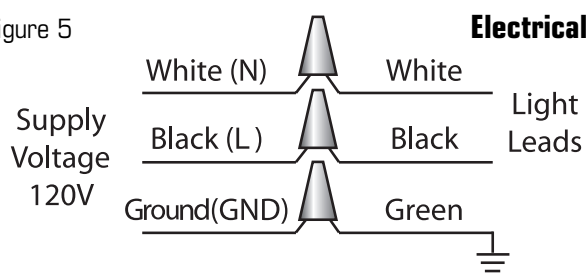
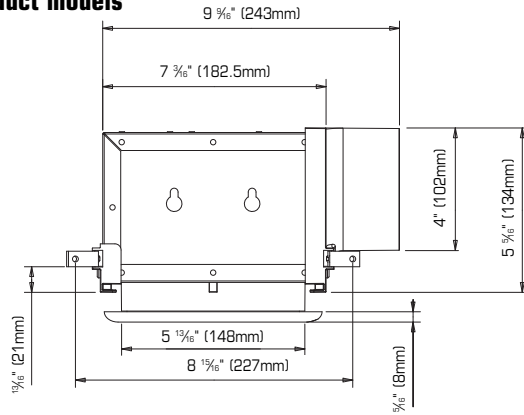


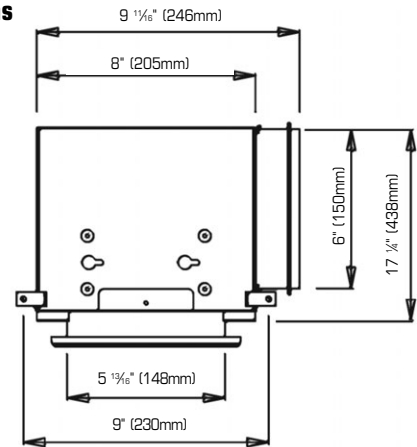
Figure 5



### Housing Dimensions of 4" duct models



### Housing Dimensions of 6" duct models



## Seven (7) Year Warranty

### DURING ENTIRE WARRANTY PERIOD:

FANTECH will repair or replace any part which has a factory defect in workmanship or material. Product may need to be returned to the Fantech factory, together with a copy of the bill of sale and identified with RMA number.

### FOR FACTORY RETURN YOU MUST:

- Have a Return Materials Authorization (RMA) number. This may be obtained by calling FANTECH either in the USA at 1.800.747.1762 or in CANADA at 1.800.565.3548. Please have bill of sale available.
- The RMA number must be clearly written on the outside of the carton, or the carton will be refused.
- All parts and/or product will be repaired/replaced and shipped back to buyer; no credit will be issued.

### OR

The Distributor may place an order for the warranty part and/or product and is invoiced. The Distributor will receive a credit equal to the invoice only after product is returned prepaid and verified to be defective.

FANTECH WARRANTY TERMS DO NOT PROVIDE FOR REPLACEMENT WITHOUT CHARGE PRIOR TO INSPECTION FOR A DEFECT. REPLACEMENTS ISSUED IN ADVANCE OF DEFECT INSPECTION ARE INVOICED, AND CREDIT IS PENDING INSPECTION OF RETURNED MATERIAL. DEFECTIVE MATERIAL RETURNED BY END USERS SHOULD NOT BE REPLACED BY THE DISTRIBUTOR WITHOUT CHARGE TO THE END USER, AS CREDIT TO DISTRIBUTOR'S ACCOUNT WILL BE PENDING INSPECTION AND VERIFICATION OF ACTUAL DEFECT BY FANTECH.

## Limitation of Warranty and Liability

This warranty does not apply to any FANTECH INC. product or part which has failed as a result of faulty installation or abuse, incorrect electrical connections or alterations made by others, or use under abnormal operating conditions or misapplication of the product or parts. We will not approve for payment any repair not made by us or our authorized agent without prior written consent. The foregoing shall constitute our sole and exclusive warranty and our sole exclusive liability, and is in lieu of any other warranties, whether written, oral, implied or statutory. There are no warranties which extend beyond the description on the page hereof. In no event, whether as a result of breach of contract, or warranty or alleged negligence, defect incorrect advice or other causes, shall FANTECH be liable for special or consequential damages, including, but not limited to, loss of profits or revenue, loss of use of equipment or any other associated equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs, or claims of customers of purchase for such damages. FANTECH neither assumes or authorizes any person to assume for it any other liability in connection with the sale of product(s) or part(s). Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.

## Warning

FANTECH, INC. products are designed and manufactured to provide reliable performance, but they are not guaranteed to be 100% free from defects. Even reliable products will experience occasional failures and this possibility should be recognized by the user. If these products are used in a life support ventilation system where failure could result in loss or injury, the user should provide adequate backup ventilation, supplementary natural ventilation, failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

### THE FOLLOWING WARRANTIES DO NOT APPLY:

- Damages from shipping, either concealed or visible. Claim must be filed with freight company.
- Damages resulting from improper wiring or installation.
- Damages or failure caused by acts of God, or resulting from improper consumer procedures, such as:
  1. Improper maintenance
  2. Misuse, abuse, abnormal use, or accident, and
  3. Incorrect electrical voltage or current.
- Removal or any alteration made on the FANTECH label control number or date of manufacture.
- Any other warranty, expressed, implied or written, and to any consequential or incidental damages, loss or property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

### WARRANTY VALIDATION

- The user must keep a copy of the bill of sale to verify purchase date.
- These warranties give you specific legal rights, and are subject to an applicable consumer protection legislation. You may have additional rights which vary from state to state.

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Item #: 450065  
Rev Date: 0810