Fantech

DBF110 DRYER EXHAUST BOOSTER SYSTEM
INSTALLATION INSTRUCTIONS

DISPOSITIF DBF110 D'AMPLIFICATION DU SYSTÈME DE VENTILATION DES SÉCHOIRS À LINGE INSTRUCTIONS D'INSTALLATION

SISTEMA DE REFUERZO DE ESCAPE DE LA SECADORA DBF110 INSTRUCCIONES DE INSTALACION

DBF110 DRYER EXHAUST BOOSTER SYSTEM INSTALLATION INSTRUCTIONS

DBF110 Includes:

1 DBF 110 Dryer Booster Fan

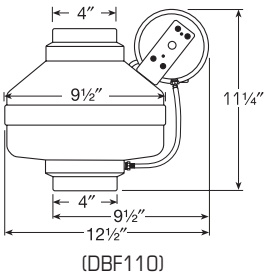
1 Fan Mounting Bracket and Hardware

1 Small Wall Sign Indicating Proper Operating Procedure

Important Notice

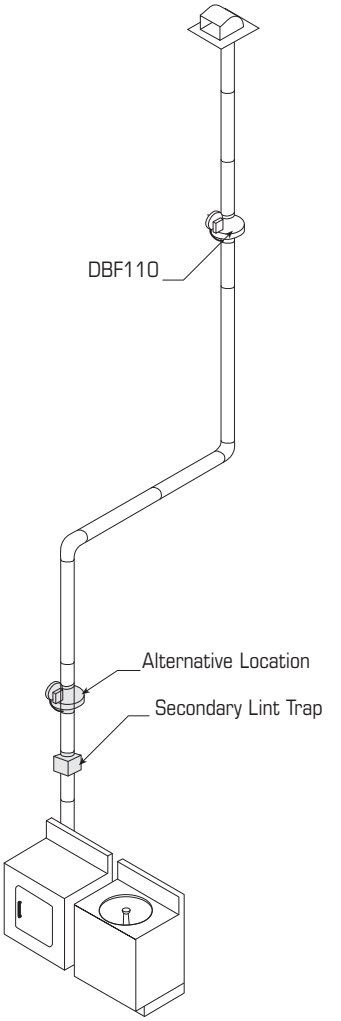
Read and Save these instructions for future reference.

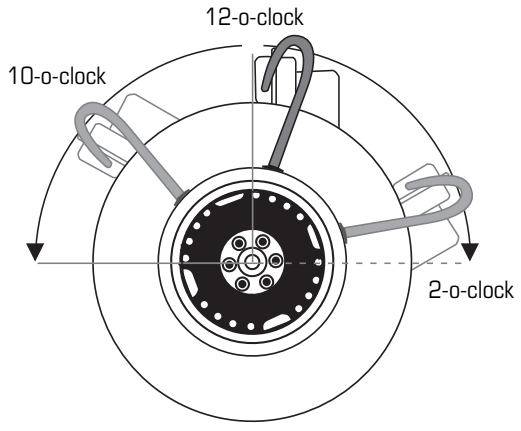
Dimensional Data



(DBF110)

Illustration 1





Installation Guidelines

Please note: DBF 110 fans are not explosion proof. Do not use the fans if a potentially explosive situation may exist.

DO NOT USE with heated air in excess 140˚F (60˚C).

Fan and Switch Mounting

The DBF110 is to be mounted a minimum of 5 linear (not equivalent) feet from the dryer outlet. A secondary lint trap can be used in applications where excessive dryer lint generation is likely or to increase the time interval between routine maintenance of the Dryer Booster Fan *(See illustration to left).* An NB mounting bracket attached to a rafter or joist should be used to stabilize the fan. Although not recommended, a vertical rigid duct may support the fan if the duct is securely stabilized. (Consult local codes prior to supporting the fan in the duct alone.) Duct work should be attached to the inlet and outlet of the fan by means of FC vibration isolation clamps *(not included)* or duct tape. The duct connection should be properly sealed to prevent leakage and loss of fan performance. Flex duct connections between the dryer duct connection and exhaust duct should be stretched as smooth as possible.

Calculating Duct Run

To calculate the length of your planned duct run, measure from the dryer to external venting point in roof or wall. For each bend or elbow add 5-7 feet to your total duct run calculations. The DBF110 can be used on runs up to 108 feet.

Pressure Sensor Switch Operation

Fantech's DBF110 is equipped with Fantech's Patented DB10 pressure switch. The DB10 is a positive pressure sensing switch which recognizes dryer operation and activates the booster fan from an independent electrical circuit. This eliminates connections through the dryer circuit which may void the manufacturers' warranty as well as manual systems which require the attention of the operator or costly current/temperature sensing systems.

The electricity to the booster fan is connected in series through a normally open terminal on the switch. A pressure tap is connected to a fitting on the side of the switch. When the dryer begins operation, positive pressure in the duct causes the switch diaphragm to expand, closing the circuit to the booster fan. An integral delay-on-break timer in the switch will cycle the fan on for intervals of 10 minutes. This will continue until the dryer has stopped and the timer delay period has lapsed. Drying cycles, the booster fan, the delay timer and the pressure switch are not adversely affected by the starting/stopping intervals.

Sensitivity Adjustment Instruction

a. Disconnect power to the booster fan.

b. Looking from the inlet (dryer side), the switch should be at the 12-o-clock position.

c. Remove the 2 mounting screws holding the switch to the fan.

d. Rotate the switch to the **10-o-clock position for *less sensitivity*** or **2-o-clock position for *more sensitivity*** then secure it there, you may have to adjust (bend) the bracket to fit. Secure the switch with the 2 screws previously removed.

e. Apply power to the fan and check for operation.

Fan Installation

Step 1. Selecting Fan Location

Fan ***must*** be mounted a minimum of 5 feet from the dryer outlet. In order to perform recommended maintenance, fan location should allow sufficient access for service. Refer to dimensional drawings shown above.

Step 2. Mount Bracket

Using the wood screws provided, attach the mounting bracket to a support beam at the selected location. Bracket is provided with grommets in order to isolate any vibration and prevent the transmission of sound through the structure. Be careful not to overtighten. Fan mounting can be in any angle (see ill. 2), however, vertical mounting is recommended to reduce condensation buildup in the fan. If a horizontal installation is necessary and condensation buildup may pose a problem, a ¼" hole drilled in the bottom of the housing (along with an NPT insert [by others] and drain tubing) may be installed to allow condensation to drain.

Step 3. Mount Fan

For proper operation, the switch diaphragm must be positioned vertically. (Illustrations below show diaphragm position for horizontal, vertical and ducts installed at an angle.) Wiring box should be positioned for easy access. Attach fan to the mounting bracket with the self tapping screws provided. Care should be taken not to strip the plastic housing.

Although screw pilot holes are not required, 3⁄32" (or smaller) pilot holes are recommended.

NOTE: *Steps 2 & 3 may be reversed.*

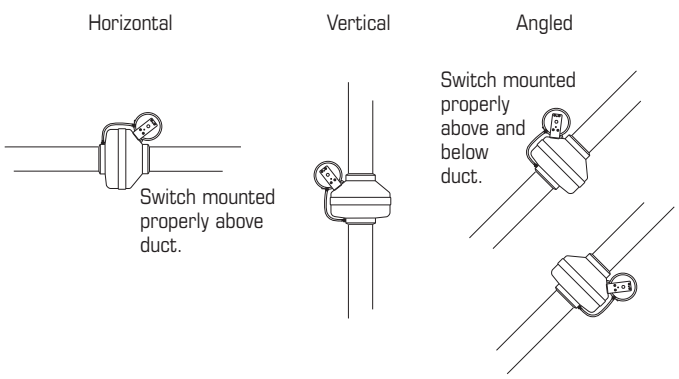
Electrical Connection

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO THE FAN IS LOCKED IN "OFF" POSITION.

1. This unit has rotating parts and safety precautions should be exercised during installation, operation and maintenance.
2. **CAUTION:** "For General Ventilation Use Only. Do Not Use To Exhaust Hazardous Or Explosive Materials And Vapors."
3. ***WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS - OBSERVE THE FOLLOWING***:
    a. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the factory.
    b. Before servicing or cleaning, switch power off at service panel and lock service panel to prevent fan 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.
    c. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
    d. 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.
    e. When cutting or drilling into wall or ceiling, do not damage electrical wires or other hidden utilities.
    f. Ducted fans must always be vented to the outdoors.
    g. Install fan at least five feet above the floor.
4. WARNING! Check voltage at the fan to see if it corresponds to the motor nameplate.

Illustration 2

Correct Mounting of Diaphragm Switch



Incorrect Mounting of Diaphragm Switch

Illustration 3

Attach Mounting Bracket to stud using screws provided.

Attach Fan to Mounting Bracket using screws provided.

Illustration 4

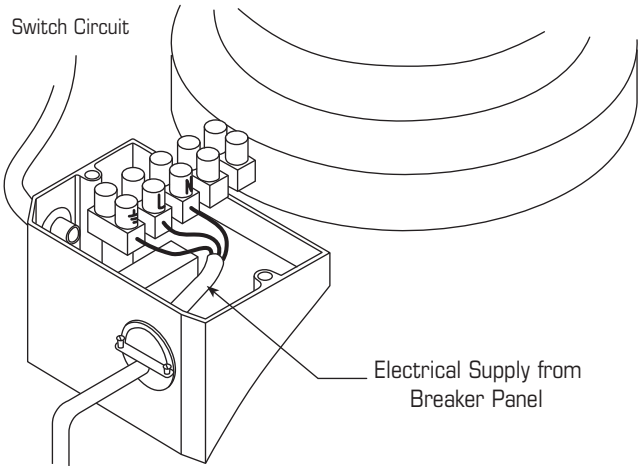
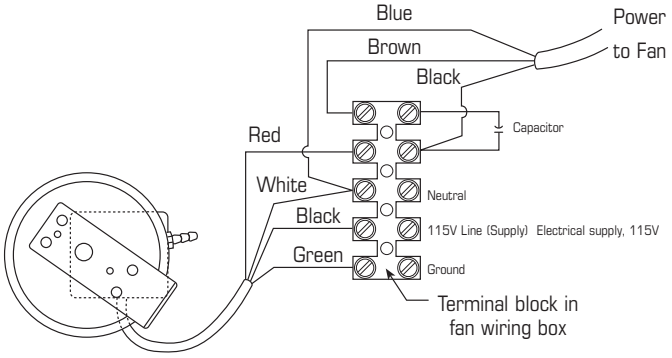
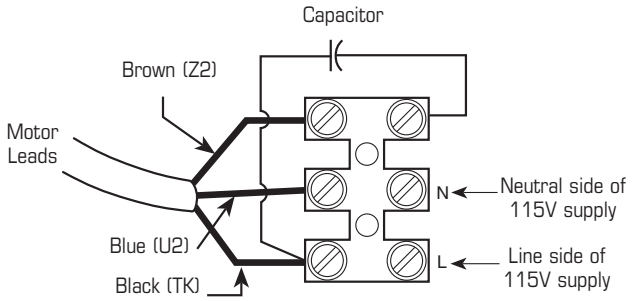


Illustration 5

DBF110 Wiring – Fan and Pressure Switch



Fan Only Wiring ***(Reference for Troubleshooting Step 8c)***



Wiring Procedure

Please Note: The fan motor, capacitor and pressure switch connections are pre-wired from the factory.

Step 1.

Remove the screws securing the terminal box cover plate located on the side of the fan. All fan motor connections are prewired to an electrical terminal strip. A ⅜" romex type cable restraint connector will be needed to secure the wiring through the knockout provided on the side of the terminal box.

Step 2.

Bring incoming electrical service through the romex connector and the fan knockout. Be sure to place the connector nut over the wiring coming into the terminal box. There are three open ports on the terminal strip. Using a small regular screwdriver, tighten the Neutral (White) wire of the incoming supply under the open terminal labeled "N". Tighten the Line (Black) wire of the incoming supply under the open terminal labeled "L". Tighten the Ground (Green) wire of the incoming supply under the open terminal marked " ". For reference, a wiring diagram is included on the inside of the terminal box lid.

Step 3.

Secure the romex connector. Secure the incoming supply with the romex connector. Replace the fan terminal box cover.

Warranty and Maintenance

Recommended Maintenance

1. Since fan bearings are sealed and provided with an internal lubricating material, no additional lubrication is necessary.
2. Fan impeller may accumulate lint. Periodic inspection, based upon dryer usage, should be performed to ensure that the fan impeller is not obstructed or loaded with lint. Under normal conditions, fan should be inspected a minimum of every Six (6) Months. Note: Excessive booster fan noise or vibration may be an indication of lint buildup on the impeller. To inspect and clean the impeller:
    a. Disconnect the incoming power supply at the source.
    b. Remove the duct from the fan inlet and remove any lint buildup on the impeller.
    c. Reconnect the duct to the fan. Turn power supply on.

Troubleshooting

Important Notice: Prior to performing Steps 1 - 4, be certain that the electrical supply to the fan/switch is turned off.

If fan fails to start when the dryer cycle begins, please follow the procedure listed below:

1. Check the incoming supply for proper voltage.
2. Consult schematic shown above (also included on inside of fan wiring terminal lid) to ensure proper connection.
3. If possible, use a meter to test for continuity across the fan motor leads. In order to do this, the capacitor and pressure switch must be disconnected (do not test the capacitor - it will not meter continuity). If motor leads show continuity, rewire the fan, capacitor and pressure switch.
4. Turn on the electrical supply and restart the dryer cycle. Check to be certain that fan starts.

If fan still fails to start after performing Steps 1 – 4, continue following the procedure as listed below:

5. Verify that the pressure switch diaphragm is vertical as shown in Illustration 2 of these instructions. If the diaphragm is not vertical, reposition the pressure switch and check for fan operation against another dryer cycle.
6. Verify that the tubing is not crimped and that the tubing connector nipples are not obstructed.
7. If switch diaphragm is vertical and fan still fails to start, with the electrical supply on:
    a. Remove the tubing from the nipple on the fan and blow gently into the tubing;
    b. If fan starts, consult Fantech for additional technical support.
8. If fan fails to start after blowing into the tubing:
    a. Disconnect incoming power supply at the source.
    b. Remove the pressure switch leads from the wiring terminal block
    c. Connect the incoming power supply directly to the fan motor as shown in "FR110 Wiring" diagram below.
    d. Turn on power to fan.
9. If fan fails to start, please consult Fantech for additional technical support.

DISPOSITIF DBF110 D'AMPLIFICATION DU SYSTÈME DE VENTILATION DES SÉCHOIRS À LINGE
INSTRUCTIONS D'INSTALLATION

Guides d'installations

Important ! Pour éviter l'éventuelle du ventilateur du séchoir l'évacuation d'un trop grand volume de l'air chaud nécessaire au cycle de séchage, tout comme la compromission des temps de séchage, le ventilateur d'amplification ne doit pas dépasser la capacité du ventilateur du séchoir équipé.

Veuillez noter que les ventilateurs DBF110 à monter sur conduits d'évacuation ne sont pas à l'épreuve des explosions. Ne pas utiliser les ventilateurs dans des situations potentiellement explosives.

N'EMPLOYEZ PAS si que l'air est supérieur a 140°F (60°C).

Installation du ventilateur et du rupteur

L'emplacement recommandé pour l'installation du ventilateur d'amplification est au minimum après 1.5 m (5 pieds) linéaires de conduit (et non pas l'équivalent), comptés à partir de la bouche du séchoir. Si le ventilateur est installé avant la distance recommandée, il peut développer une pression suffisante à l'aspiration de peluches mouillées dans roue du ventilateur, entraînant par-là la charge excessive de peluches dans le ventilateur. Le meilleur emplacement pour l'installation du ventilateur est le plus près possible de la fin du conduit. *Exception : Si un filtre à peluches supplémentaire est installé entre le séchoir et le ventilateur d'amplification, ce dernier peut être installé avant la limite autrement recommandée (Voir l'illustration de droite).*

Un support de montage approprié au diamètre nominal, fixé sur un chevron ou une poutre, doit être utilisé pour la stabilisation du ventilateur. Bien que cela ne soit pas recommandé, un conduit vertical et rigide peut servir de soutien au ventilateur à condition que le conduit en question soit solidement stabilisé (Consultez les codes de construction localement en vigueur avant de ne soutenir le ventilateur que par le conduit). Le conduit doit être rattaché à la bouche d'arrivée et de sortie du ventilateur au moyen de pinces *(non-inclus)* ou de ruban adhésif empêchant la propagation des vibrations. Les raccords du conduit doivent être correctement scellés afin d'empêcher toutes fuites éventuelles ou réductions des performances du ventilateur. Les connexions en conduites flexibles installées entre le raccord du conduit du séchoir et le conduit d'évacuation doivent être étirées aussi uniformément que possible.

Fonctionnement du rupteur de détection de la pression

Le DBF110 est equipepé avec le mano-contact DB10 breveté de Fantech. Le *DB10 de Fantech* est un rupteur de détection de pression positive qui identifie le fonctionnement du séchoir et active le ventilateur d'amplification à partir d'un circuit électrique indépendant. Cela élimine non seulement les connexions transitant par les circuits du séchoir, ce qui peut en annuler la garantie, mais aussi l'installation de systèmes manuels nécessitant l'attention d'un opérateur ou celle de coûteux systèmes de détection électrique ou thermique.

Le circuit électrique du ventilateur d'amplification est branché en série via une borne de travail équipant le rupteur. Un robinet de pression est branché sur un embout positionné sur le côté du rupteur. Quand le séchoir se met en marche, la pression positive présente dans le conduit entraîne l'expansion du diaphragme du rupteur, fermant ainsi le circuit du ventilateur d'amplification. Le minuteur de temporisation à la demande équipant le rupteur activera le ventilateur par cycles de 10 minutes. Cela continuera jusqu'à ce que le séchoir s'arrête et que le temps d'activité indiqué par le minuteur s'écoule. Les cycles de séchage, le ventilateur d'amplification, le minuteur de temporisation et le rupteur de pression ne sont pas négativement affectés par les intervalles de départ/arrêt.

Installation du ventilateur

1ère Étape. Sélectionner un emplacement pour le ventilateur

Le ventilateur ***doit*** être monté au minimum à 1.5 m (5 pieds) de distance de la bouche du séchoir. *Si le ventilateur est installé avant les 4,6 m de distance recommandée, il peut développer une pression suffisante à l'aspiration de peluches mouillées dans roue du ventilateur, entraînant ainsi la charge excessive de peluches dans le ventilateur. Exception : Si un filtre à peluches supplémentaire est installé entre le séchoir et le ventilateur d'amplification, ce dernier peut être installé avant la limite autrement recommandée (Voir l'illustration de droite).* Le meilleur emplacement pour l'installation du ventilateur, et ce pour n'importe quelle application, est le plus près possible de la fin du conduit. Afin de pouvoir facilement procéder à l'entretien recommandé, l'emplacement choisi pour le ventilateur doit être suffisamment accessible. Se référer aux dimensions indiquées sur les illustrations ci-dessus.

Le DBF110 contient :

1 DBF 110

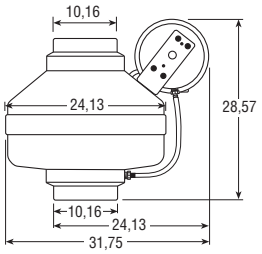
1 support de montage pour le ventilateur avec quincaillerie

Important:

Veillez à lire et conserver ces instructions pour leur consultation future

Illustration pour les dimensions

Dimensions en centimeters



DBF10

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Illustration 1