

CleanFast Quiet Premium

FAN FILTER UNIT (FFU) WITH 3 SPEED PSC MOTOR

OPERATION AND MAINTENANCE INSTRUCTIONS

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READ AND SAVE THESE INSTRUCTIONS

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

- Do not expose this appliance to rain or moisture.
- Do not handle the power cord with wet hands.
- Do not pull the power cord when disconnecting it from an AC outlet. Grasp the plug, not the cord.
- If water is spilled on the unit, unplug the power cord immediately and take the unit to an authorized service center for a safety inspection.
- Do not block airflow to unit.
- Disconnect unit from power supply before servicing.
- Do not expose unit to hazardous or explosive vapors.

In addition to the specific warnings noted above, observe the following points related to the unit:

1. Read this guide before installing and operating this unit.
2. Retain this guide, since the safety and operating instructions could be required for future reference.
3. Heed warnings associated with handling, installing, using and maintaining this unit.
4. Follow all set-up, operating and use instructions.
5. Power Sources: This equipment should be operated only from the type of power source indicated on unit marking label. If you are not sure of the type of power available to you in your facility, consult your dealer or power company.
6. Grounding: This may be equipped with a polarized alternating current (AC) plug, a plug having one blade wider than the other. For safety purposes, this plug will fit into the power outlet only one way. If the plug does not fit, call an electrician to replace the obsolete outlet. **DO NOT REMOVE THE ROUND GROUNDING TERMINAL FROM THE PLUG. FOR SAFETY REASONS, THIS UNIT MUST BE GROUNDED FOR PROPER OPERATION.**
7. Power Cord Protection: Power cords should be routed so that they will not be walked on or pinched by objects placed on or against them. Pay particular attention to cords at plugs, outlets, or the point where they exit the unit.
8. Do not overload wall outlets and extension cords - this practice can result in risk of fire or electrical shock.
9. Service: Use only parts specified by the manufacturer or parts having the same characteristics as the original part. Unauthorized substitutions may result in fire, electrical shock, or other hazards. Use of unauthorized parts or procedures will result in the product warranty becoming null and void.

UN-PACKING

Every effort is made at Bennett & Bennett Inc. to ensure the unit is ready to run when delivered to the customer; however, it is suggested the following inspection be made prior to initial start up of the unit.

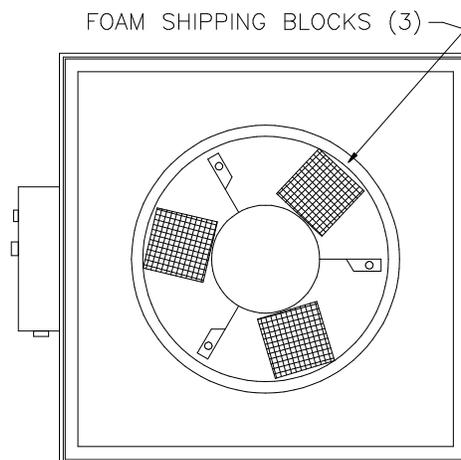
Inspect module as delivered for any transit damage. Shipments are made F.O.B. Bennett & Bennett Inc. Claims for shipping damage must be filed with delivering carrier.

PRE-OPERATION MAINTENANCE

WARNING:

REMOVE FOAM SHIPPING BLOCKS FROM FAN MOTOR ASSEMBLY BEFORE APPLYING POWER TO THE UNIT. FAILURE TO DO SO MAY RESULT IN FIRE AND/OR OTHER DAMAGE TO THE FAN UNIT.

1. Remove prefilter and metal grille (if supplied) from top of unit.
2. Remove and discard three foam shipping blocks surrounding fan motor.



Fan section shown with prefilter removed

3. Rotate fan wheel by hand to check for free rotation or any shifting of the wheel on the motor shaft, which might have occurred during shipment. If a problem is found remove the inlet cone perimeter screws using a 1/4" nut driver and lift out the fan assembly. Make sure the fan wheel collar is flush with the bottom of the motor shaft and securely tighten the fan wheel collar set screws. Set the fan assembly back in the unit and replace the inlet cone perimeter screws.
4. Place metal grille in prefilter frame and attach with supplied push in fasteners (if supplied).
5. Place the prefilter back in the prefilter frame.

FAN MODULE INSTALLATION

1. Place the CleanFast Quiet Premium FFU in desired operating location. Standard units are designed for horizontal mounting, downward air flow only. If other orientations are desired, consult the factory.
2. If required, attach safety chains to eyebolts located on the top of the fan module.
3. An alternate module support method is to use 3/8"-16 threaded rods to hang the fan module from the weld nuts located on top of the module. If using this method, remove the eyebolts from the weld nuts. Install the threaded rod, using two jam nuts per connection to secure it in place.

ELECTRICAL CONNECTIONS

1. For CleanFast Quiet Premium FFU models equipped with a power cord, plug the cord into a properly grounded receptacle. Use of extension cords to make connections to these units is not recommended. The unit is now ready for operation.
2. If installing a CleanFast Quiet Premium FFU without a cord, the unit will require electrical connections from the unit to the power source. The following steps outline procedures required connecting power to the unit.

CAUTION: BEFORE MAKING ANY ELECTRICAL CONNECTIONS TO THE UNIT, ENSURE THAT POWER SOURCE HAS BEEN DEENERGIZED.

- a. For reference, a basic unit electrical wiring diagram is shown on page 7.
- b. Using a 1/4" nut driver, remove the sheet metal screws holding the cover on the electrical box (attached to the prefilter frame)
- c. If present, remove the 3 ea. 6" long wires that stick out through the Romex fitting.
- d. Slide the power supply cable through the Romex fitting, located at the end of the electrical box.
- e. Attach the supply wires to the correct terminal block locations (Common, Line, and Ground).
- f. Tighten the terminal block screws.
- g. Tighten the Romex clamp onto the power cable. Re-attach the cover to the electrical box.
- h. The unit is now ready for operation.

OPERATION

Most CleanFast Quiet Premium FFU models are equipped with a power switch. This switch also contains a circuit breaker. Should the circuit breaker trip, the switch will return to the OFF position. If this occurs, follow the procedure shown below.

- a. Locate problem causing the switch to trip.
- b. After problem has been corrected, wait a few seconds and push the switch into the ON position.
- c. If switch returns to the OFF position, repeat the above procedures until the switch remains in the ON position.

Note: Some models may have a remote circuit breaker or fuse located in the prefilter frame. For these units, use the above listed procedures and repeat them until the breaker or fuse no longer "trips".

CleanFast Quiet Premium FFU models equipped with a three-position rocker switch that controls the speed of the blower motor: As indicated on the switch label, there is a HIGH, MEDIUM, and LOW speed setting. Toggle the switch until the desired level of airflow is achieved.

For Models equipped with an optional variable speed control, blower speeds can be adjusted by turning the control's knob until the desired airflow has been achieved.

PERIODIC CLEANING & MAINTENANCE

1. Once a month, or as conditions dictate, inspect the prefilter. Clean or replace as necessary. See page 8 for replacement part number and description.

2. Periodic cleaning of the blower assembly is strongly recommended. Particle buildup on the blower wheel can cause vibration, increased load on the motor, increased noise levels, and shortening of the unit's life span.

NOTE: A program of preventative maintenance will greatly increase blower assembly and unit life.

FILTER REPLACEMENT

Should the main (final) filter require replacement, the following procedure should be followed.

WARNING

Moving parts. High risk of physical injury. Ensure that the circuit supplying power to the unit has been de-energized and lock out/tag out procedures are followed.

Gain access to unit either in ceiling or by removing unit from ceiling.

- 1) If working on unit in ceiling, remove any hold down devices attached when unit was installed.
- 2) Remove sheet metal screws attaching blower housing to filter unit. These screws are located along a flange at the top of the filter. Remove using nut driver or screwdriver.
- 3) Retain the screws for reuse.
- 4) Lift hood off filter frame. For units with room-side accessories, check for component wiring while lifting hood. Disconnect if required.
- 5) Carefully place hood to side.
- 6) Remove filter and obtain replacement filter.
- 7) Attach 3/32" x 23/32" cleanroom rated self-adhesive foam gasket to the upstream filter frame. Use extreme care not to make contact with the filter media. Gasket is applied to all 4 surfaces of the top edge of the filter.
- 8) Carefully realign the hood with the upstream side of the filter unit. Reattach any wiring disconnected during removal.
- 9) Reattach hood to filter frame using the screws retained in step 3 above. Snug up the screws, do not over torque.
- 10) Reinstall unit in ceiling and reattach any hold down devices.
- 11) Reenergize circuit.

TROUBLE SHOOTING

Reduced Air Flow

1. Dirty prefilter or final filter.
2. Blower wheel loose on motor shaft.
3. Wrong speed switch setting.

Excessive Noise

1. Worn motor bearings.
2. Blower wheel loose on motor shaft.
3. Foreign object located in blower wheel.
4. Blower wheel misaligned.
5. Blower wheel dirty.
6. Loose parts.

Vibration

1. Loose parts.
2. Bent motor shaft.
3. Blower wheel not in balance.
4. Dirt on blower wheel.
5. Loose blower wheel.

Fan Fails to Start

1. Check circuit breaker or power supply.
2. Check for loose electrical connections.
3. Check and/or replace motor capacitor. See page 8 for replacement part number and description.
4. Check and/or replace motor. See page 8 for replacement part number and description.

WARRANTY

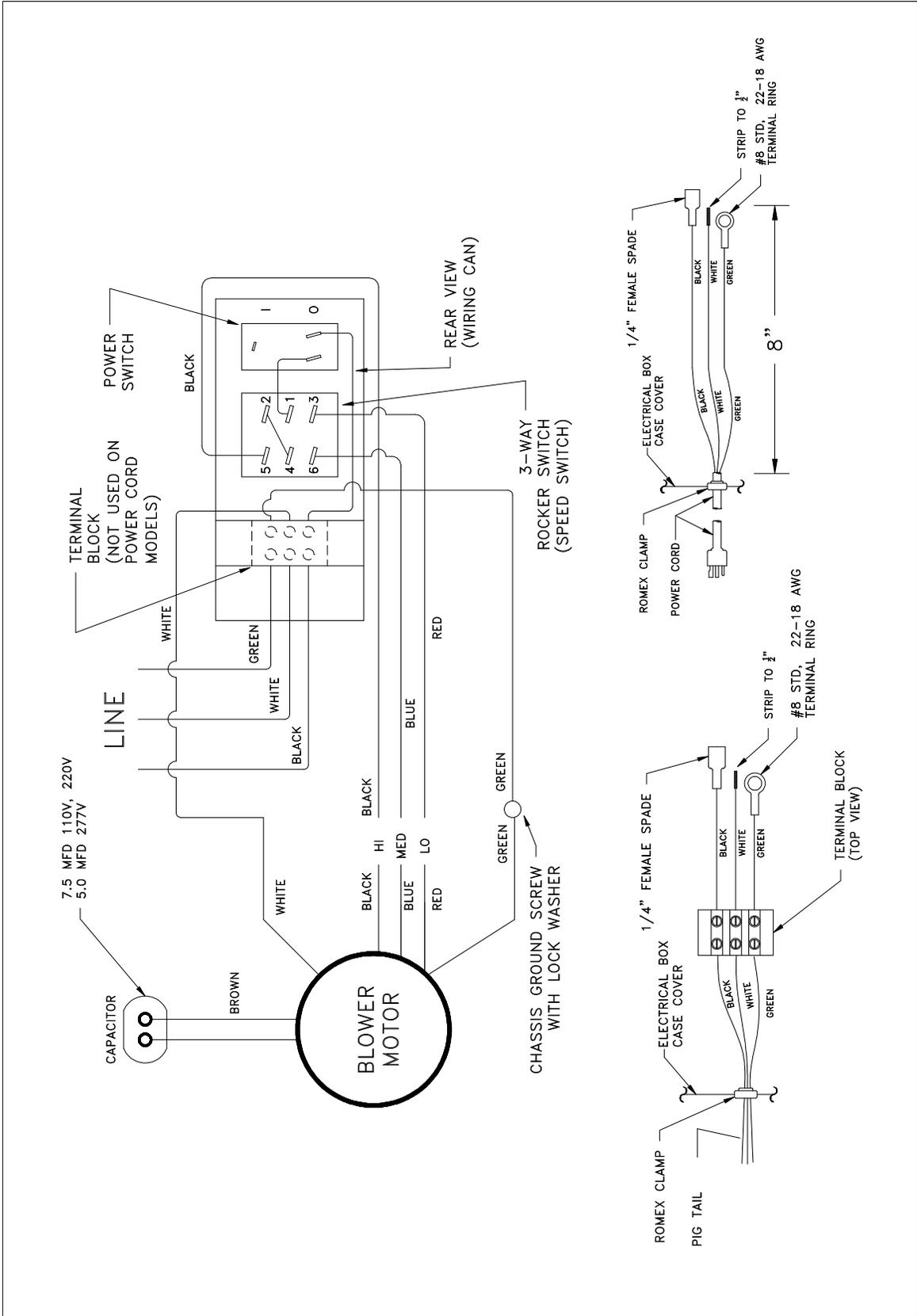
Bennett & Bennett Inc. warrants this equipment to be free from defects in material and workmanship for a period of one year from date of purchase. Any units or parts proving to be defective within this period will be repaired or replaced at our option when returned to the factory, transportation charges prepaid. Under no circumstances will Bennett & Bennett Inc. be responsible for any installation or removal costs, nor any costs incurred due to unit failure, i.e. product loss or failure.

Note: To verify purchase date and warranty coverage, customer will need to give the following information to Bennett & Bennett Inc. Customer Service (1-888-4BENNETT) 1-888-423-6638

Serial Number: This is the full set of numbers to the right of the words "Serial Number:". (Example: 123456 or 12345-010).

Model Number: This the full set of numbers to the right of the word "Model:", (Example: 124QP).

The above numbers are located on a label, in front of the electrical box, on top of the module.

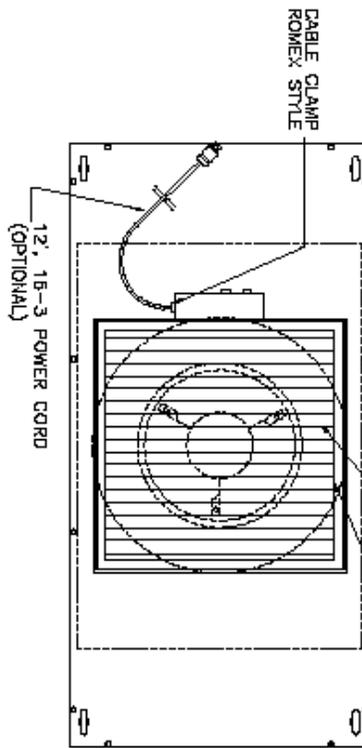


REPLACEMENT PARTS LIST

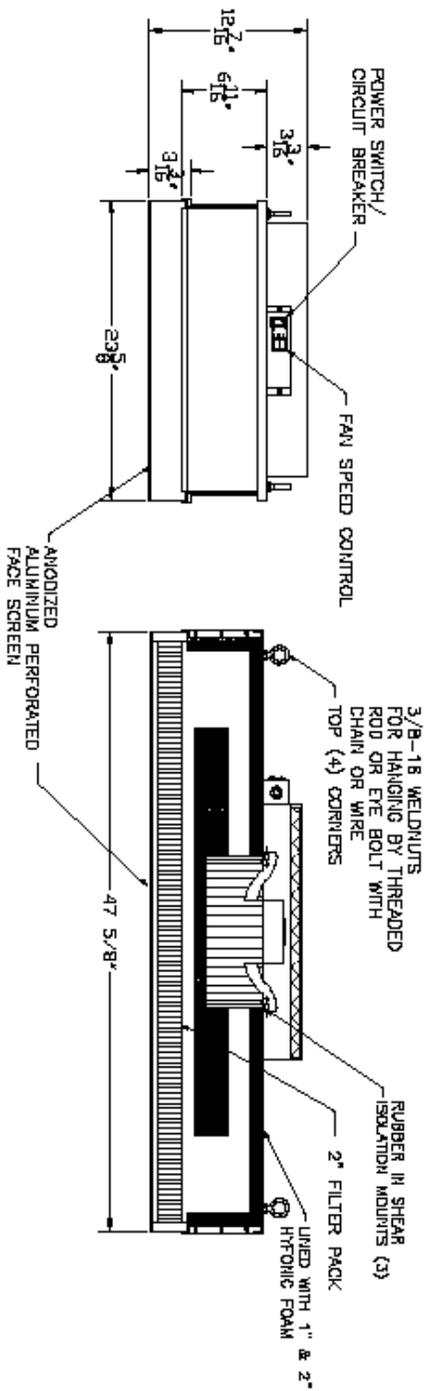
<u>Part Number</u>	<u>Description</u>
237650	Motor, 1/4 hp, 115V / 1PH / 60Hz
237652	Motor, 1/4 HP, 220V / 1PH / 50Hz
237651	Motor, 1/4 HP, 277V /1PH /60Hz
231005	Capacitor, 7.5uF, 370V
231003	Capacitor, 5.0uF, 370V
202143	Blower wheel
205605	Prefilter, 20 x 20 x 1” nominal, 30% Efficient
230302	Switch, 3 way rocker, speed control
230309	Switch/circuit breaker combination, 115VAC Models
230306	Switch/circuit breaker combination, 220 and 277 VAC Models
239001	Variable Speed Control, 115VAC
239016	Variable Speed Control, 240VAC
239021	Variable Speed Control, 277VAC
232604	Power cord, 16/3, 12’, SJ insulation
Room side Filter	Contact Customer Service 1-888-4BENNETT

GENERAL SPECIFICATIONS

1. PREFILTER FRAME, TOP HOUSING AND SIDES ARE FABRICATED FROM 20 GA. COLD ROLL STEEL AND FINISHED WITH LIGHT GREY POWDER COAT PAINT.
2. 10" DIA. BLOWER WITH 1/4 HP 5 SPEED (HI/MED/LO) PERMANENT SPLIT CAPACITOR (3.8 AMP MOTOR, 115/1/60)/(1.4A @ 277/1/60).
3. HEPA FILTER: 5" HEIGHT WITH ANODIZED ALUMINUM FRAME.
4. PREFILTER 20" $\frac{3}{8}$ " BTFF. PLEATED TYPE FARR 30/30 OR EQUAL NOM. 20" X 20" X 1".
5. POWER ON/OFF SWITCH ALSO CONTAINS 8 AMP CIRCUIT BREAKER.
6. FAN SPEED CONTROLLED BY A 3 POSITION SWITCH.
7. 3/8-16 WELDMENTS PROVIDED IN TOP (4) CORNERS FOR SUSPENSION WITH THREADED ROD OR EYE BOLTS WITH CHAIN.
 - A. EACH MODULE IS FACTORY TESTED AND PROVIDED WITH A QUALITY CHECK FORM.
8. EACH MODULE IS INDIVIDUALLY CARTONED FOR PROTECTION DURING SHIPPING.
9. FACE SCREEN: ANODIZED ALUMINUM, 1/8" HOLES ON 1/4" STC CENTERS. TO PROVIDE AIR FLOW UNIFORMITY.
10. ULPA FILTER ARE 99.99995% @ 0.12u.



DIRECT DRIVE FORWARD CURVE CENTRIFUGAL BLOWER WITH 1/4 HP P.S.G. MOTOR
PREFILTER FARR 30/30 OR EQUAL LIFTS OUT FROM THE TOP



PHANTOM FFU

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