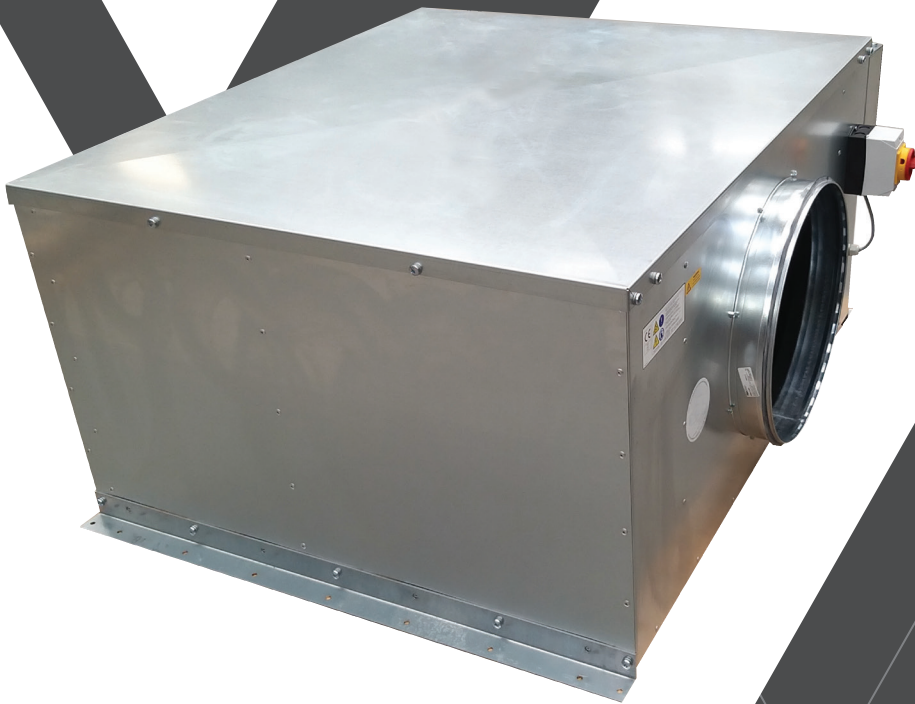


EC BOX FAN

Safety, Installation, Operation and Maintenance Instructions



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1. SAFETY

- 1.1 Only approved, qualified personnel familiar with the assessment of hazards and risks associated with fans, and with the use of tools and test equipment required to service such fans, should install, operate and maintain the product.
- 1.2 If either an installer or user has any doubt that they can make a safe and reliable installation, or operate and maintain the equipment, Woods Air Movement or their representative should be contacted for advice.
- 1.3 All warning and safety information contained within this document should be read before working on the fan assembly.
- 1.4 The product is designed to operate up to the maximum temperature detailed in the product information table in the Product Information section.
- 1.5 Each product is delivered with a Declaration of Conformity that should be retained with the fan.
- 1.6 The product is manufactured specifically to fulfil a particular application/environment. No deviation from the original requirement should be implemented without referring to Woods Air Movement. Should a fan failure occur whilst the product is under warranty, the Woods Air Movement service centre should be contacted, and supplied with full fan nameplate details, before any repair work is undertaken.

2. HANDLING/STORAGE

- 2.1 On receipt of the product we recommend that it is checked against what was ordered. Before fully unpacking the product please check that it has not been damaged during transit (deformed casing, damaged controller). When unpacking, to gain access to the fan, care should be taken to avoid injury from sharp edges, burrs, nails, staples, splinters etc. The fan packaging should be considered as a protective device only.
- 2.2 The product can be heavy and sometimes unwieldy (centre of gravity not central), and should therefore be lifted slowly to prevent damage and distortion. Lift unit into position using spreaders or slings, ensuring you have the appropriately rated equipment for the weight of the unit.



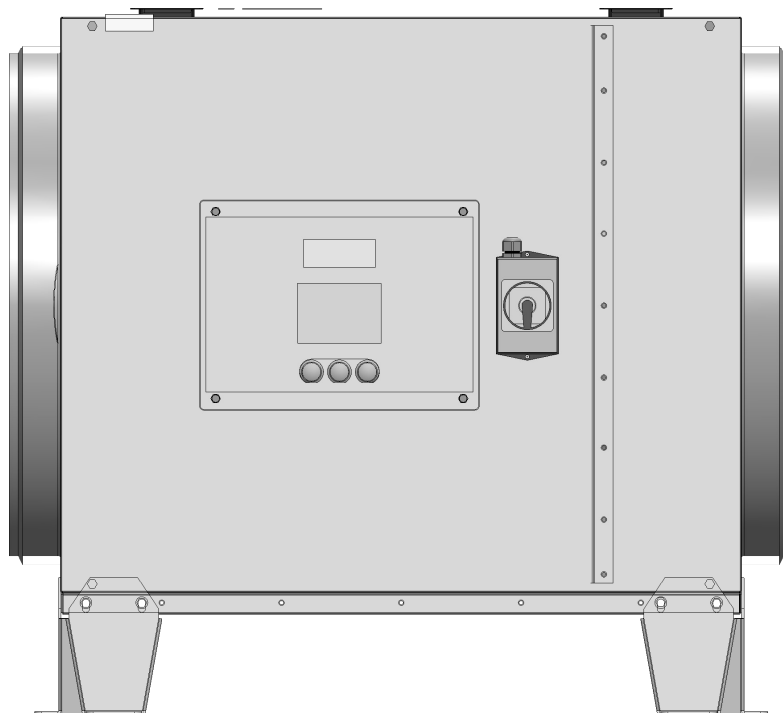
WARNING! The mounting brackets, plastic handles or packaging must not be used as lifting devices when slinging the unit.

- 2.3 The stored product must not have equipment stacked on it, and it must not be stacked on other equipment. The packaging must not be used as a lifting device unless otherwise indicated (such as a pallet). The product should be stored in a safe, clean, dry, vibration-free location.
- 2.4 If the product is to be stored for 12 months or more, an inspection by Woods Air Movement service centre before installation is advised.

3. INSTALLATION (MECHANICAL)

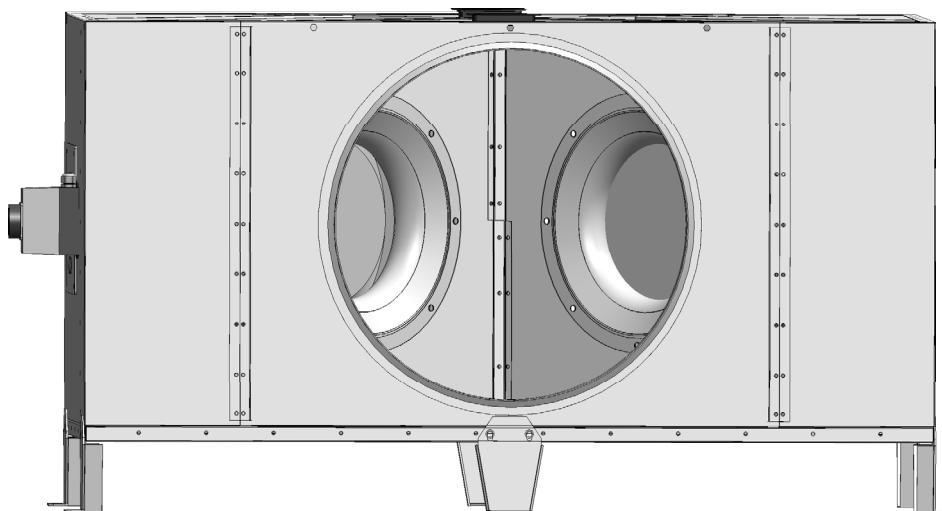
- 3.1 It is recommended that suitable safety guards form part of the installation wherever necessary.
- 3.2 We recommend that an air filter is fitted within the ductwork to reduce the accumulation of dirt on the fan impeller. An excessive build up of dirt could lead to imbalance of the impeller and vibration problems.
- 3.3 Where the product is delivered packaged, the packaging must be considered as a protective device only, and must not be used as a lifting aid unless otherwise indicated. During lifting all personnel must be clear of the area below the suspended fan.
- 3.4 An airflow indication arrow is shown on the fan nameplate. Sharp bends in the ductwork close to the fan must be avoided. Adequate room must be allowed round the fan for safe inspection and future maintenance, and the environment must be safe for both the fan, and for personnel.
- 3.5 Care must be taken to ensure that during extremes of wet and windy weather any ingress of water through the fan will not reach sensitive or hazardous areas within the building.
- 3.6 The component parts of the product, including anti-vibration mounts, flexible connectors (and their clips), weather proofing, platforms, supported drop rods and chains etc (if fitted), must be fully aligned before being bolted together so that no distortion or stress is placed on the equipment.
- 3.7 A minimum of 8 x M8 bolts, with the correct torque applied, must be used to secure the fan into position. The final position of the fan must be strong and rigid enough to take the weight of the fan and any other weight applied during installation.
- 3.8 Lagging should be applied between the box fan and silencer, around the connecting joint, to ensure maximum acoustic damping.
- 3.9 The product can be slightly tilted (to a maximum of 10 degrees) when used externally so that water runs off lid.

Fig.1



- 3.10 Spigot sizes 315, 450, 630 & 1000 x 600mm are not suitable for mounting in any other orientation than in the standard horizontal position (with the removable lid at the top). See section 11 for diagrams.
- 3.11 The box fans' mounting feet can be inverted to decrease overall height.

Fig. 2



- 3.12 When connecting silencers to the box fan spigot use a positive mechanical connection such as riveting or self drilling screws to form a rigid connection. Flexible connectors should be used between the box fan and silencer.

4. INSTALLATION (ELECTRICAL) AND OPERATIONS

- 4.1 The product contains rotating parts and electrical connections, which can be a danger and cause injury. If there is any doubt that a safe and reliable installation of the fan can be assured, Woods Air Movement or their representative should be contacted for advice. See section 10 for connection diagrams.
- 4.2 All connections should be made by an appropriately qualified electrician. Connection details are provided with the product. It is good practice to fit a clearly marked lockable isolator switch close to the fan, and have a clearly marked and accessible push button stop/start switch on a control panel located remotely from the fan. The two switches allow safe control of the fan, provide a means of safely isolating the fan (until a controlled restart is made); they protect personnel during maintenance, during a fault situation, or during a mains failure/fluctuation.
A suitable earth must also be connected.

5. SWITCH-ON

- 5.1 Only appropriately qualified personnel should switch-on the fan. Before switching on confirm that the electrical supply is fully compliant with the requirement of the product as detailed on the motor nameplate, that the product is correctly installed, all component parts and fixings are secure, safety guards are in place and no loose items are present in the vicinity of the box fan.
- 5.2 Immediately after switch-on we recommend that the product is checked for smooth, low-vibration running, that the current consumption is within the full load current specified on the nameplate, and that the motor is not getting excessively hot. Check that the impeller is rotating in the correct direction. The box fan must not be switched on and off in a manner that could cause overheating of the motor, and could damage the insulation of the motor and the internal wiring to the motor.

6. MAINTENANCE



CAUTION

- 6.1 No maintenance work should be attempted before switching off and completely isolating the product and its controls from all electrical supplies. Also allow the rotating parts of the fans to come to rest and the motors to cool.
- 6.2 It is essential to ensure that all fixings on the product are secure.
- 6.3 The complete fan/motor assembly can be easily removed for cleaning purposes. Fans should be disconnected from the controller prior to removal. Under no circumstances should the interior space and fan unit be cleaned with water or high-pressure steam.

Fig. 3-Remove lid to access fans

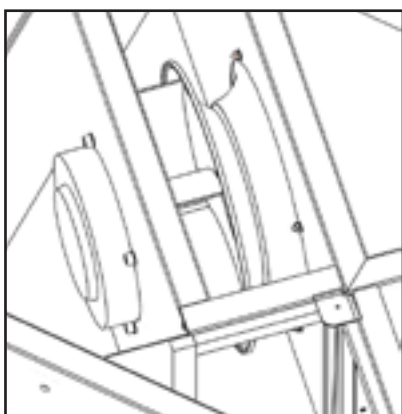
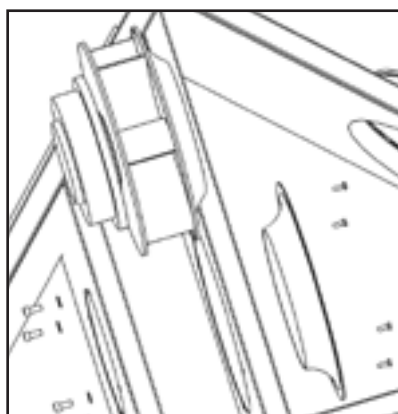


Fig. 4 - Remove bellmouth first, then unscrew motor



- 6.4 After maintenance ensure that no loose items are present in the vicinity of the fan, that all safety guards, chains, drop rods etc, are properly secured into their original location, and that any temporary device used to stop the fan impeller rotating has been removed.
- 6.5 Information on all aspects of overhaul/extended maintenance is available from Woods Air Movement service centre. After overhaul/extended maintenance the box fan must be safely and correctly installed back into its original position in accordance with this document.

7. FAULT-FINDING

Fault-finding must be carried out on the product by appropriately qualified personnel using the correct tools and equipment. If in doubt please seek advice from Woods Air Movement.

7.1 Electrical

- 7.1.1 Isolate the box fan and controls from the electrical supply, check that the electrical connections to the product are secure and wired in accordance with the connection diagram,
- 7.1.2 Check that the voltage applied to the product is as specified on the box fan nameplate.
- 7.1.3 Connect an ammeter (clamp meter) in line with each phase (one phase in the case of single phase motors) of the box fan in turn and check that the current consumption is within the full load current specified on the product nameplate.
- 7.1.4 Ensure that there is no smell of burning in or around the vicinity of the motor.
- 7.1.5 Check the integral fuses within the iFan controller. Refer to iFan manual.
- 7.1.6 Three phase units also have additional MCB protection to each motor and a separate MCB that provides a single phase supply to the controls circuit. These are found in a separate enclosure inside the unit.

Check that these are in a healthy state before undertaking more in depth fault finding.

7.2 Mechanical



WARNING!

Before any of the following checks are made isolate the fan and controls from the electrical supply.

- 7.2.1 Check that there is no obstruction to the fan impeller, that the blades are clean, and no loose items or debris is present in the vicinity of the impeller and inlet/discharge.
- 7.2.2 Rotate the fan motor shaft by hand. Investigate any sound of internal chaffing, rubbing or resistance. Any resistance to smooth rotation may indicate that the bearings require replacement.
- 7.2.3 Ensure that all fixings are secure.

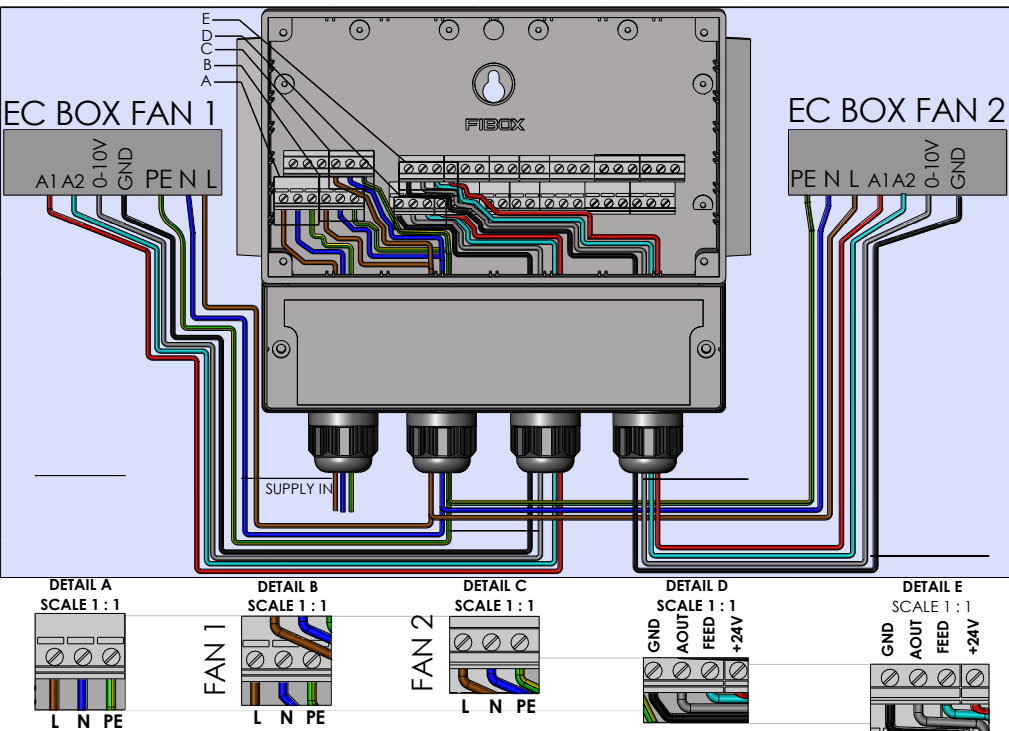
8. DISPOSAL

When the box fan has completed its working life the metal components should be segregated and recycled. The remaining items of material should be safely disposed of in accordance with local health and safety regulations.

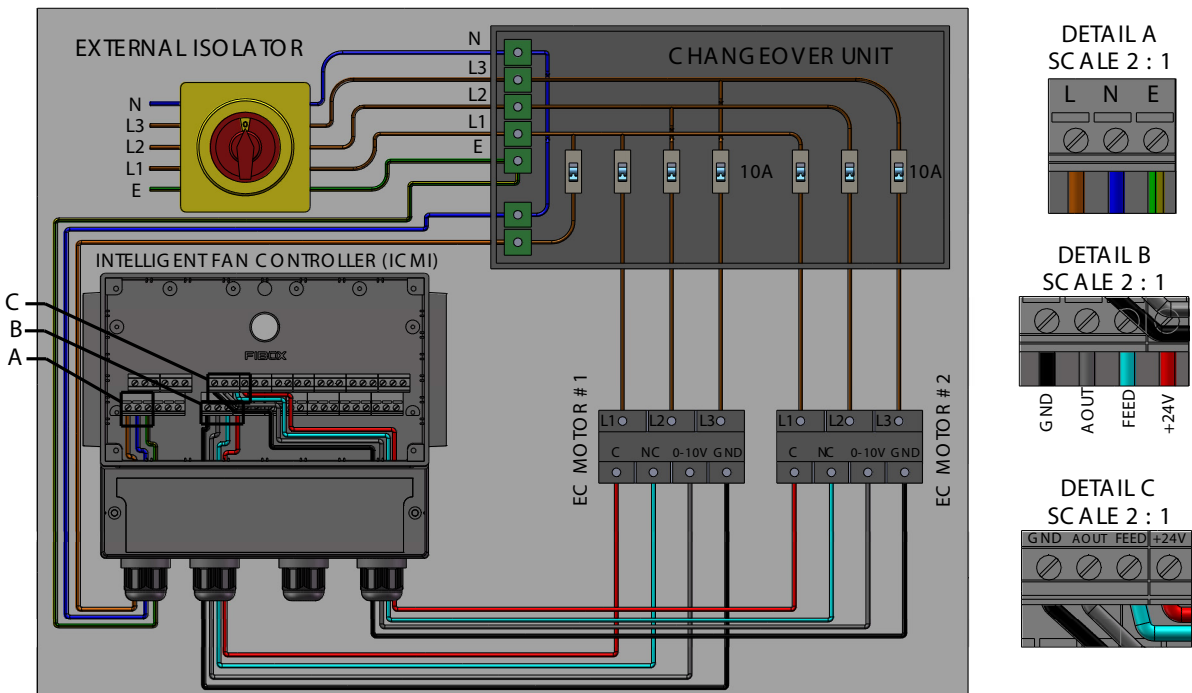
9. ELECTRICAL CONNECTION DIAGRAM

Connection Diagram – EC Box Fan and iFan Controller

1 phase wire diagram



3 phase wire diagram



10. INSTALLATION EXAMPLES

Fig. 6 - Floor Mounted – All Sizes (Correctly Mounted)

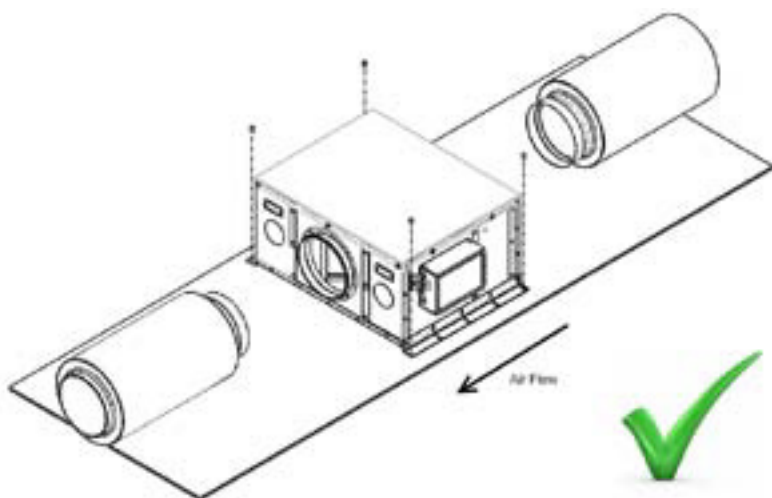
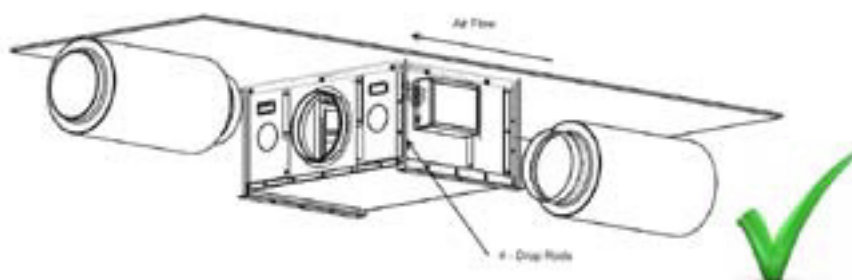
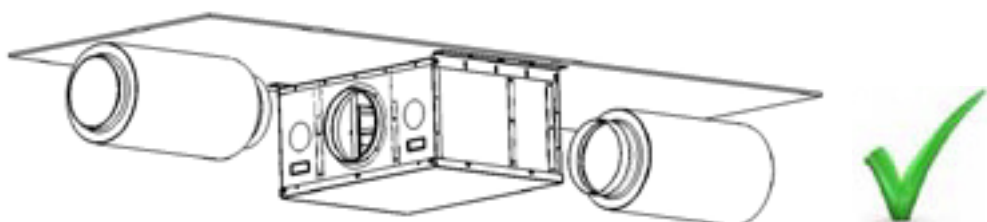


Fig. 7 - Ceiling Mounted – Spigot Sizes 125, 150, 200 and 250mm only (Correctly Mounted)



IMPORTANT NOTE: When mounting on the ceiling in the normal position, please ensure suitable drop rods are used.

Fig. 8 - Ceiling Mounted: Inverted – Spigot Sizes 125, 150, 200 and 250mm only (Correctly Mounted)



IMPORTANT NOTE: When mounting in the inverted position, the cover of the iFan can be inverted to ease access to the control panel.

Fig. 9 - Wall Mounted Vertical Vertical Air Flow Up – Sizes 125, 150, 200 and 250mm Only (Correctly Mounted)

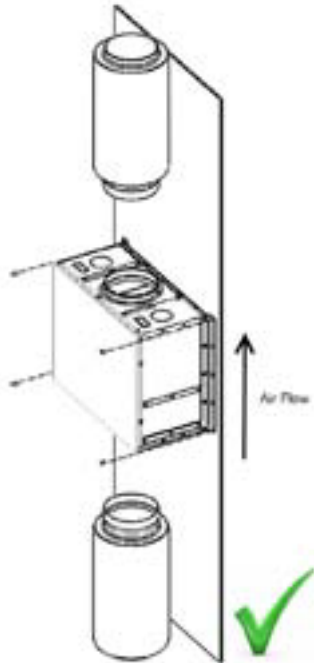


Fig. 10 - Wall Mounted Vertical Wall Mounted Vertical Air Flow Down – All Sizes (Incorrectly Mounted)

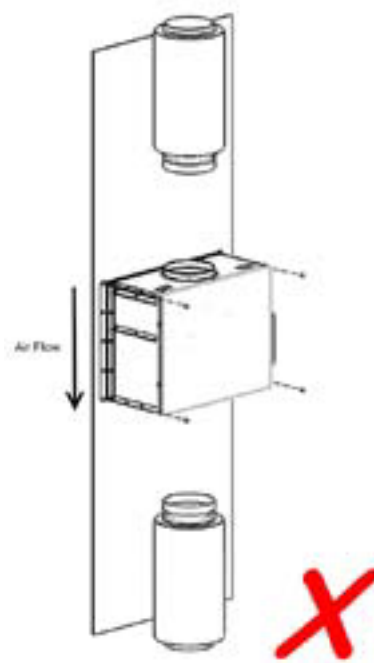
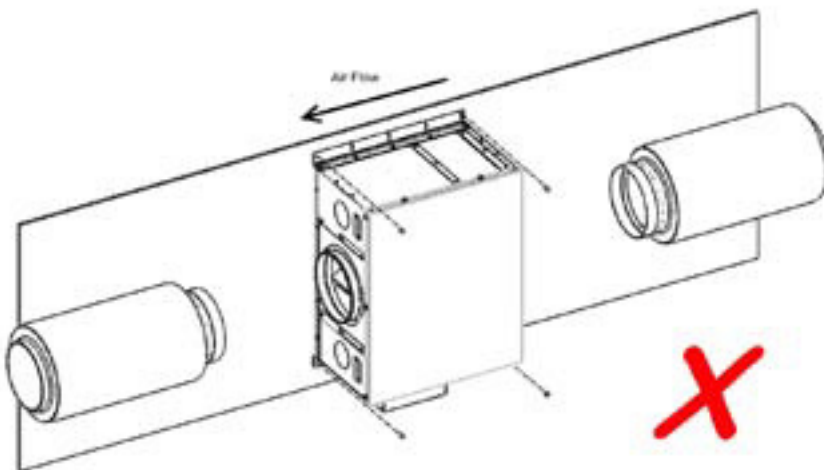


Fig. 11 - Wall Mounted Horizontal – All Sizes (Incorrectly Mounted)



NOTES



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