

# INSTALLATION INSTRUCTIONS & WARRANTY

## AIRFLOW HEAT TRANSFER SYSTEMS

### HT02

Dear Customer

You have purchased an **AIRFLOW HT02** kit. Thank you for your choice. We are sure that our product will meet all your expectations and bring warmth and comfort in your home.

#### CHECKING PRODUCT RECEIVED

Upon receiving the kit, inspect it for damage from shipment. Claims for damage, either shipping or concealed, should be filed immediately with your systems local distributor.

Check the kit model number, and all components to determine that they are correct.

#### MESSAGE TO THE HOMEOWNER

These instructions are addressed primarily to the installer; however, useful maintenance information is included and should be kept, after installation, for future reference.

#### **CAUTION:**

**All** wiring should be done by a qualified electrician and shall be in compliance with local codes.

#### BEFORE BEGINNING INSTALLATION

Carefully read all instructions for the installation prior to installing unit. Make sure each step or procedure is understood and any special considerations are considered before starting installation. Assemble all tools, hardware and supplies needed to complete the installation.

After deciding where to install the kit, actively look the locations over - both in the house and the attic space. Note any potential obstacles or problems that might be encountered as noted in this manual. Choose a more suitable location if necessary.

#### REPLACEMENT PARTS

When reporting shortages or damages, or if ever required, ordering repair parts, give your local distributor the complete unit model and serial number as written on your warranty. Replacement parts for this system are available through your local distributor or contact:

**SERVICE PARTS DEPARTMENT**  
**AIRFLOW ENGINEERING (SI) LTD**  
**UNIT 2, 3 LANGSTONE LANE**  
**CHRISTCHURCH**

Free Phone: 0800 124 735

Email: [sales@thevacshop.co.nz](mailto:sales@thevacshop.co.nz)

#### TOOLS REQUIRED

\*Tape measure \* Large Scissors \* Wire cutters \* Screwdrivers (Flat & Phillips) \* Hole Saw

#### HARDWARE THAT MAY BE REQUIRED

\* Hanging Cord/Chain for Fan \* Electrical Components & Cable \* Duct Hanging Tape



#### **WARNING**

DO NOT, UNDER ANY CIRCUMSTANCES, CONNECT DUCT WORK TO ANY OTHER HEAT PRODUCING DEVICE SUCH AS FIREPLACE INSERT, STOVE, ETC. UNAUTHORIZED USE OF SUCH DEVICES MAY RESULT IN PROPERTY DAMAGE, FIRE, CARBON MONOXIDE POISONING EXPLOSION, PERSONAL INJURY OR DEATH.

## KIT CONTENT

The Airflow HT02 Heat Transfer kit comes packaged in one box and contains the following 8 items:



Airflow Engineering  
**THE HVAC SHOP**

1 to 2 Room  
System

1 x Airmaster 150x150-150 Inlet Grille  
1 x 150mm Inline Mixed Flow Fan EC  
4 x 150mmØ 3m lengths Insulated Duct  
2 x 150mmØ Downjet Ceiling Diffuser  
1 x Thermostat  
1 x Y Branch 150.150.150  
1 x Roll PVC Duct Tape  
1 x Instruction/Warranty Form

PACKED ON:

Tuesday, 27 April 2021

## INSTALLING OR ALTERING WIRING

We recommend that an electrician installs the system to ensure all electrical regulations and guidelines are met. The fan motor requires an earthed connection to the mains supply.



**You can only install or alter wiring in the home that you own or occupy. If you own a set of flats that you rent out, you cannot do your own electrical work. Installing your own wiring is not as simple as it seems. Wrongly installed wiring places you at risk of causing a fire or electric shock. Unless you know what, you are doing, we advise that you use a licensed electrician.**

## RECOMMENDED ELECTRICIANS

We recommend that you use an electrician who is a member of the New Zealand Electrical Contractors' Association (ECANZ) who operates under the **MASTERelectrician** scheme.

## WHAT ELECTRICAL WORK CAN I DO?

You must own and live in the property to do the following work on low voltage electrical installations (when there is no payment or reward): Remove and replace any of the following kinds of fittings, where the **work does not** involve work on any switchboard:

- ✓ Switches and socket outlets,
- ✓ Permanent connection units,
- ✓ Water heater switches,
- ✓ Thermostats,
- ✓ Remove and replace fuse links.
- ✓ Connect and disconnect fixed wired appliances.
- ✓ Relocate existing switches, socket outlets, and lighting outlets that are supplied with electricity by toughplastic- sheathed cables.

[Electricity Act 1992 section 79](#)

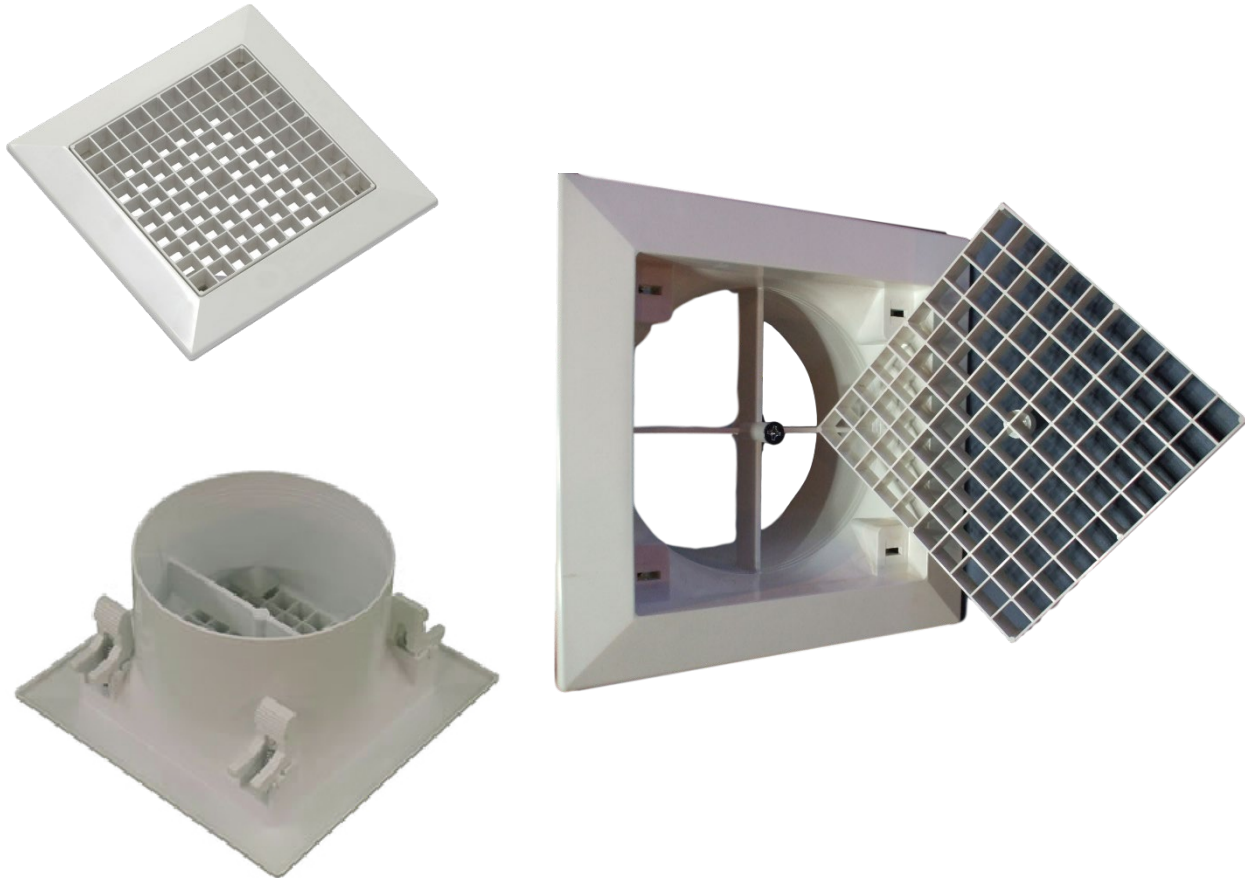
[NZECP 51: 2004](#)

**You cannot connect your work to the electricity supply yourself**

**You must get the finished work tested and connected by a licensed electrical inspector who will verify the safety of the completed work before connecting, you may not connect the wiring yourself** - this must be done by an electrical inspector

**You may not work on mains or main switchboards** - a licensed electrician must do this.

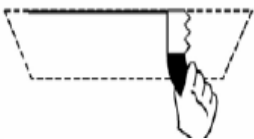
# AIRMASTER INLET GRILLE - 1 x Inlet Grille in HT02 Kit



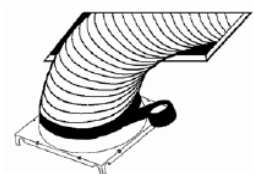
## WHERE TO PLACE YOUR INLET GRILLE

It is advisable not to place the grille directly above a log fire as it could draw smoke and ash from fire when fire door is open. To assist with circulation of warm air within the room the inlet grille may be placed across the opposite side of the room to the heat source.

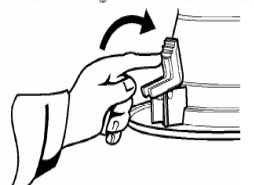
Select the required position for the grille. Ensure there are no obstructions above the ceiling in the selected location.



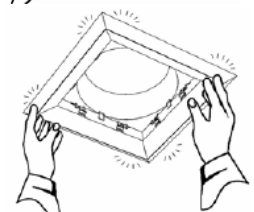
Carefully cut opening in ceiling.



Pull the duct through the opening in the ceiling and attach the grille to the duct using duct tape.



Load the clips in the upright position. TAKE CARE you do not accidentally trigger a clip and catch your finger



Carefully pass the grille up into the opening ensuring all clips are triggered down. Push grille core in place.

## FLEXIBLE DUCT - 4 x 3m in HT02 Kit Y BRANCH 1 x Y in HT02

Installing flexible duct correctly helps ensure the duct system does its job, without adversely affecting system performance.

Install duct fully extended do not install in the compress state or use excess lengths. Cut a length of flex duct that fits the installation site with little to none left over. Stretch the flex duct between the two points of attachment so that the duct does not sag. To prevent reduced airflow, insulated flexible duct must be fully extended when installed. Avoid any abrupt turns. Avoid bending flex duct across or around framing members, pipes, and other objects. Such bends can decrease the size of the duct at the bend point, restricting airflow and increasing air friction.



When using Y Branches do not connect directly to the fan, allow at least 1m of duct between the fan and Y Branch. If possible, try to keep duct runs even.

Do not use wire to support flexible duct. Instead, use a strapping material and anchor it to wood framing with staples. Avoid installations where exposure to direct or indirect sunlight. Prolonged exposure to sunlight or UV light may cause degradation of the outside plastic cover.

### Things you'll need:

- \*Tape measure
- \* Large Scissors
- \* Wire cutters
- \* Duct tape



**Step 1** Measure the distance between the points the flexible duct will connect to, using the tape measure. To the length you measure, add twice the flexible duct diameter to the measurement for each 90-degree bend you need to place in the length of flexible duct during installation. For example, add 300mm for each 90-degree bend in a 150mm flexible duct.

**Step 2** Stretch the length of flexible ductwork out on the floor or a stable work surface and place the stretched-out tape measure next to the flexible duct. Make sure that the end of the tape measure is aligned with the end of the flexible duct's inner liner.

**Step 3** Open the pair of large scissors and push the lower blade of the scissors into the flexible duct at the length you need to cut the flexible duct. Make sure that the lower blade of the scissors pierces all three layers of the flexible duct. (Plastic Jacket, Insulate, Inner Core)

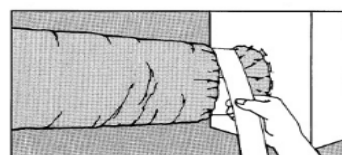
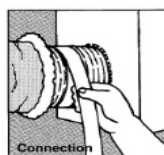
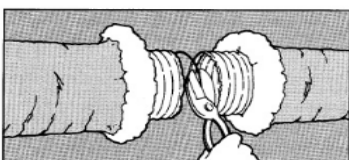
**Step 4** Cut around the flexible duct with the scissors. When you finish cutting the flexible duct, use the wire cutters to cut the support wire embedded in the inner core of the flexible duct.

**Step 5** Roll the plastic jacket and insulation back from the ends of the inner liner of the flexible duct. Expose at least 100mm of the inner liner at both ends of the flexible duct.

**Step 6** Slide the exposed inner liner at each end of the flexible duct over the ends of the connecting points i.e. fan, grilles, or Y Branches.

**Step 7** Wrap duct tape around each end of the flexible duct, making sure that the tape is over the connecting points.

**Step 8** Unroll the insulation and plastic jacket to cover the attached inner liner of the flexible duct and wrap duct tape around plastic jacket. Repeat steps 7 and 8 to complete the installation.



## FAN - 1 x 150mmØ Inline Mixed EC Flow Fan in HT02 Kit



### EC stands for Electronically Commutated

An electronically commutated (EC) fan design delivers the combined benefits of AC and DC Fans.

The EC fan's power comes from a brushless DC motor, but it offers the control that AC induction fans have over the fan rotor through a printed circuit board.

The electronically commutated fan's DC motor has the advantage of a variable speed control built in.

### FAN DETAILS

- IMF-150EC 150Ø Mixed Flow Inline Duct Fan
- Motor: 230-240VAC 50Hz High Efficiency EC
- Power: 0.05kW 2550 RPM
- Free Air Fan Performance: 150 l/s
- Sound level at 3m [dB(A)] 42
- Control I/O
  - 1 x Analogue Input E1
  - 1 x 10V DC output
- Maximum recommended duct run = 15m

**THIS IS AN EC FAN  
IT HAS AN INBUILT  
SPEED CONTROLLER.  
Do not wire to another  
controller**

### WHERE TO PLACE YOUR INDUCT FAN

When selecting fan mounting location the following criteria should be considered:

1. Mounting to minimize noise generated by fan operation. Mounting the fan as far as possible from the intake point will minimize fan operating noise from being transmitted back through the duct. Fan mounting can be at any point along the duct and in any angle.
2. Service accessibility

### INSTALLATION

To hang the fan from rafters, bungees or chains are great for reducing vibration; make sure that the bungees or chains are secured to a sturdy beam. By hanging the fan from bungees or chains and not directly mounting on beams or lying on ceiling you should virtually eliminate any vibration/low frequency noise. Vibration isolators need to be used if the fan is mounted onto beams rather than hanging.

**DO NOT CONNECT POWER SUPPLY** until fan is completely installed. This unit has rotating parts and safety precautions should be exercised during installation, operation, and maintenance.

Make sure that the fan blade can turn freely, by spinning it with your finger. Be sure to align the arrow on the unit in the direction of the airflow in your ducts.



Connect duct work to inlet and outlet of fan using duct tape. The inner core must be clamped or taped to the inlet and outlet and the outer jacket taped to the fan housing separately.

**WARNING:** To reduce the risk of fire, electrical shock, or injury to persons observe the following:

- Use this unit only in the manner intended by the manufacturer. If you have questions, contact your local distributor.

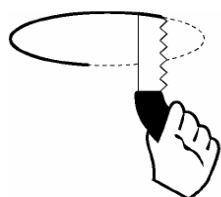
## OUTLET DIFFUSER - 2 x *Downjet Diffuser* in HT02 Kit



### Where to place your outlet diffuser

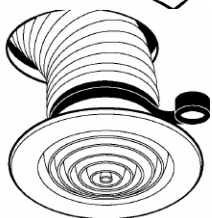
Downjet diffusers are designed to allow the air exiting to drop straight down or at a slight angle, the ideal approach would be to use a ceiling diffuser mounted in the centre of the room that discharges and throws the air in all directions toward the walls, but it is not critical. If placed more to the corner of a room the air will still be mixing with cooler air and doing its job. Perhaps not install over a bed in-case of draughts. Do make sure when installing the diffuser, you have enough room in the attic to fit the duct to the neck of the grille and allow a sweeping bend on the duct.

Select the required position for the grille.

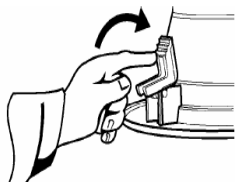


Ensure there are no obstructions above the ceiling in the selected location. Using the template provided, mark hole for the grille:

Carefully cut opening in ceiling.



Pull the duct through the opening in the ceiling and attach the grille to the duct using duct tape.



Load the clips in the upright position. TAKE CARE you do not accidentally trigger a clip and catch your finger



Carefully pass the grille up into the opening ensuring all clips are triggered down.



Adjust the air quantity using the centre damper controller.

## THERMOSTAT CONTROLLER - 1 x Thermostat in HT02 Kit



### WHERE YOU SHOULD PLACE THE THERMOSTAT!

The room thermostat should be located where the air temperature can be sensed as accurately as possible, without getting adversely affected by direct solar radiation or other heat or refrigeration sources. Mounting height is about 1.5 m above the floor. The thermostat is installed in your room with the heat source away from windows and door, out of cold draughts.

Once set at the required temperature (around 20°C), and the ceiling space reaches this temperature, the Heat Transfer Kit automatically switches on. The way to set and use your room thermostat is to find the temperature setting that you are comfortable with and then leave it alone to do its job. Room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture.

### INSTALLATION



We recommend that an electrician installs the system to ensure all electrical regulations and guidelines are met.

### INSTRUCTIONS

**PLEASE REFER TO INSTRUCTIONS IN BOX WITH THERMOSTAT**

# WARRANTY

Please read this warranty carefully. Attach your purchase receipt to this warranty card and keep in a safe place. You must produce proof of purchase in the event of a warranty repair being required.

The following warranty statement shall apply to all Airflow Heat Transfer Kits supplied to the New Zealand market. Your satisfaction is important to us, so we ask that you please familiarise yourself with our Installation Guide to ensure the best installation of your kit. If you have any questions, or in the unlikely event of a problem with the product, please contact Airflows Customer Service Team Phone: 0800 124 735 or email [sales@airflo.co.nz](mailto:sales@airflo.co.nz)

## **Airflow Engineering undertakes to:**

Repair or, at its option, replace without cost to the owner any part which is found to be defective within THREE YEARS from the date of purchase for domestic installations or ONE YEAR for commercial installations. This warranty is limited to the product only and is dependent on it being returned to point of purchase if service is required.

## **This warranty DOES NOT cover:**

1. Incorrect installation of the product.
2. Fault(s) caused by the user.
3. Noise or vibration that is considered normal.
4. Damage caused by extreme or abnormal conditions.
5. The product does not contain excessive debris or dust.
6. Power outages or surges.
7. Defects to the Product caused by accident, neglect, misuse or 'Act of God'.
8. Repairs when the appliance has been dismantled, repaired or serviced before talking to us.
9. Any electrical work not performed by registered electrician.
10. Equipment that has been re-installed at a location other than the original location.
11. Or any incidental or consequential loss or damage resulting from the defect, removal, reinstallation, shipment or otherwise.

## **Owner's Responsibility**

The owner is responsible for the correct operation and regular maintenance of the equipment supplied in this Heat Transfer Kit.

1. Ensuring the air inlet and outlet of the system is kept clear of any obstructions (dust, furniture, draperies). If the grilles are covered with dust or other items, this will restrict the airflow causing the fan to fail.
2. DO NOT try fixing the fan yourself – this will void your warranty!
3. Code of compliance for electrical installation must be provided at time of installation

## **Cleaning the fan**

We recommend that a qualified service technician complete service work to minimize damage.

Fans may accumulate dirt causing an imbalance and/or excessive vibration of the fan unit. A reduction in the airflow may also occur. In a new construction, this may result within the first year due to heavy dust.

## **Consumer Guarantees Act (CGA)**

You might still be covered by the Consumer Guarantees Act (CGA) even if your warranty has expired. This warranty is in addition to the Consumer Guarantees Act and does not override or replace it.

**My Invoice Number**

**Date Purchased**