

Installation Manual

Please take the time to read these instructions in full before commencing your installation.

Careful planning prior to starting work will guarantee the fastest and best results regarding the installation.



Working in the ceiling space can be a hazard, and all safety precautions should be used to ensure the safety of yourself and any others.



Installation Manual

EVOAQ Standalone Heat Transfer System

Thank you for your purchase of our company's product. It has been manufactured following current technical safety regulations and is in compliance with AS/NZ60335 standard.

Please read this instruction booklet carefully before installing or starting up the product.

It contains important information on personal and user safety measures to be followed while installing, using, and carrying out maintenance work on the equipment. Once the product has been installed, please hand this booklet to the end user.

The fan included with this heat transfer system is designed as simply plug in and go without requiring user intervention.

The smart in-built electronics are constantly monitoring the supply air temperature. The fan will vary its speed between very low and very high rates (10 - 100%) depending on available heat and the operating mode, in order to take excess heat from the heat source room and redistribute it to the bedrooms.

The system is designed to continue transferring heat at low levels even while the heat source room is cooling down (e.g. at night when everyone has gone to bed) and as long as there is still some lingering heat that the bedrooms may benefit from. This helps to create a more comfortable and evenly distributed temperature throughout the home.

INSTALLATION OVERVIEW

Before commencing installation, select a suitable place for the fan to be installed in the ceiling cavity. It is recommended to place the fan near the manhole for easy access where possible. The fan is to be placed centrally in the system, within ~3m of the inlet. Ensure the fan is placed in an accessible location for carrying out maintenance to the system. Suspend the fan from the ceiling framing with the chain and cable ties provided in order to minimise the sound levels resonating through the ceiling framing.

Take care not to place the inlet grille too close (within 1.5m) to the heat source, as the air generated can exceed the temperatures that the fan is designed to operate under. If the intake air is too hot the fan may shut down or be damaged. We recommend placing the heat room inlet grille 3-6m away from the heat source where possible.

Attach one side of the fan to the ~3m length of acoustic ducting from the inlet grille with the duct tape provided. Connect the ~1m length of acoustic ducting to the outlet side of the fan, in between the fan and any branches or adapters. Ensure both the inner ducting and outer sleeve are fully taped onto the fan, and the outer sleeve of the acoustic ducting is without tears or holes. The acoustic ducting is to be placed on either side of the fan to eliminate sounds from the fan motor reverberating throughout the system.

Please note:

The inlet of the fan unit is on the side of the fan blades, the side that is not obstructed by the fan frame. There are also arrows on the unit and rating label showing airflow direction. Please be aware that the system is designed for air to flow from the inlet grille, through the fan, and into the bedrooms. Ensure the fan is oriented correctly for this during installation.

Spending time planning the layout of the ducting system is important. See the inside page

of this instruction manual for further details and example layouts.

Some simple rules to apply to ensure the best possible results:

- Place the fan in an easily accessible location for maintenance;
- Lay the ducting so there is a similar length of ducting to each diffuser where possible;
- Ensure the shortest length of ducting from fan to grille is no shorter than 3 metres;
- Avoid tight bends in the ducting;
- Ensure the ducting is stretched out fully. Cut the ducting where needed;
- Ensure the inner duct of the insulated ducting, and both layers of the acoustic ducting are securely taped;
- Avoid installing the ducting where it may be crushed or damaged by you or other tradespeople;
- **Avoid installing the diffusers near doors/hallways and directly above beds or couches.**

The wall controller included with this system is connected to the fan via the supplied network cable. The controller is low-voltage only, however to prevent any damage to both the fan and controller, please ensure that the fan is disconnected from the mains supply before connecting the controller.

Important information for the safety of installers and user:

Installation must only be carried out by qualified persons. Make sure that the installation complies with the applicable building and electrical regulations. This apparatus must not be used in explosive or corrosive atmospheres.

This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.

TRANSPORT AND MANIPULATION

The packaging used for this apparatus has been designed to support normal transporting conditions. The apparatus must always be transported in its original packaging as not doing so could deform or damage the product. Do not place heavy weights on the packed product and avoid knocking or dropping it.

The product should be stored in a dry place in its original packaging, protected from dust and dirt until it is installed in its final location. Do not accept delivery if the apparatus is not in its original packaging or shows clear signs of having been manipulated in any way.

Check that the apparatus is in perfect condition while unpacking. *Any fault or damage caused in origin is covered by our company guarantee.* Please make sure that the apparatus coincides with the product you have ordered and that the details on the rating label fulfil your requirements.

ELECTRICAL CONNECTION

The heat transfer fan must be connected to a single-phase mains network, with the specific voltage and frequency according to the specifications on the fan rating label and in accordance with New Zealand electrical standards.

If the fan model you have purchased is fitted with a power plug then please note removing this plug will void the warranty of the fan.

In case of damage to the power plug, cord, or device itself, switch off the device and do not tamper with it. Damaged product must only be repaired or replaced exclusively by the

manufacturer or by an appointed representative. Failure to comply with the above may endanger the safety of people and cause possible damage to the whole system.

SAFETY DURING INSTALLATION

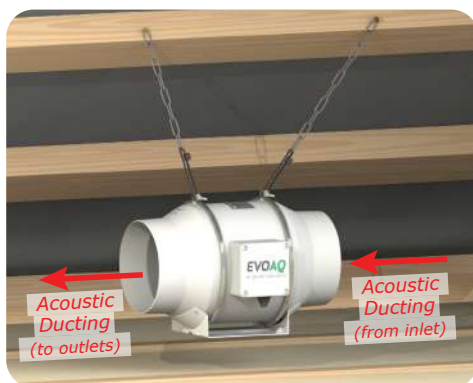
Make sure there are no loose elements near the fan, as they could run the risk of being sucked up by it. When connecting the fan to the ducting, check that the ducting is clean of any element that could be sucked up by the fan. When installing the fan, make sure that all the fittings are in place and that the structure which supports it is resistant enough to bear its weight at full functioning power.

Before installing the fan, make sure the mains supply is disconnected, even if the system is switched off.

FAN INSTALLATION

Some things to consider when installing the fan:

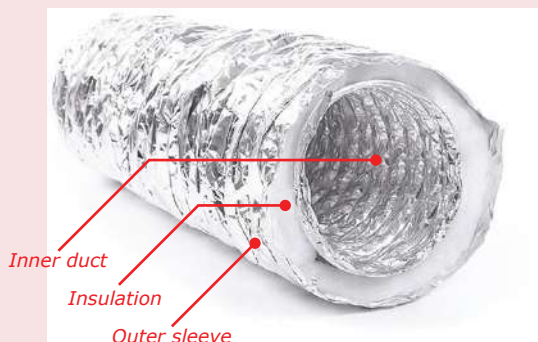
- Mount the fan so it sits above any ceiling material (~200mm above the ceiling);
- Connect acoustic ducting to both sides of the fan;
- Hang up the fan with the chain and cable ties provided (e.g. see below image);
- Ensure the fan body is placed upright (see below) to avoid damage to the electronics;
- Keep the acoustic ducting straight and level with the fan for optimal airflows;
- Place the fan away from bedrooms to minimise noise issues.



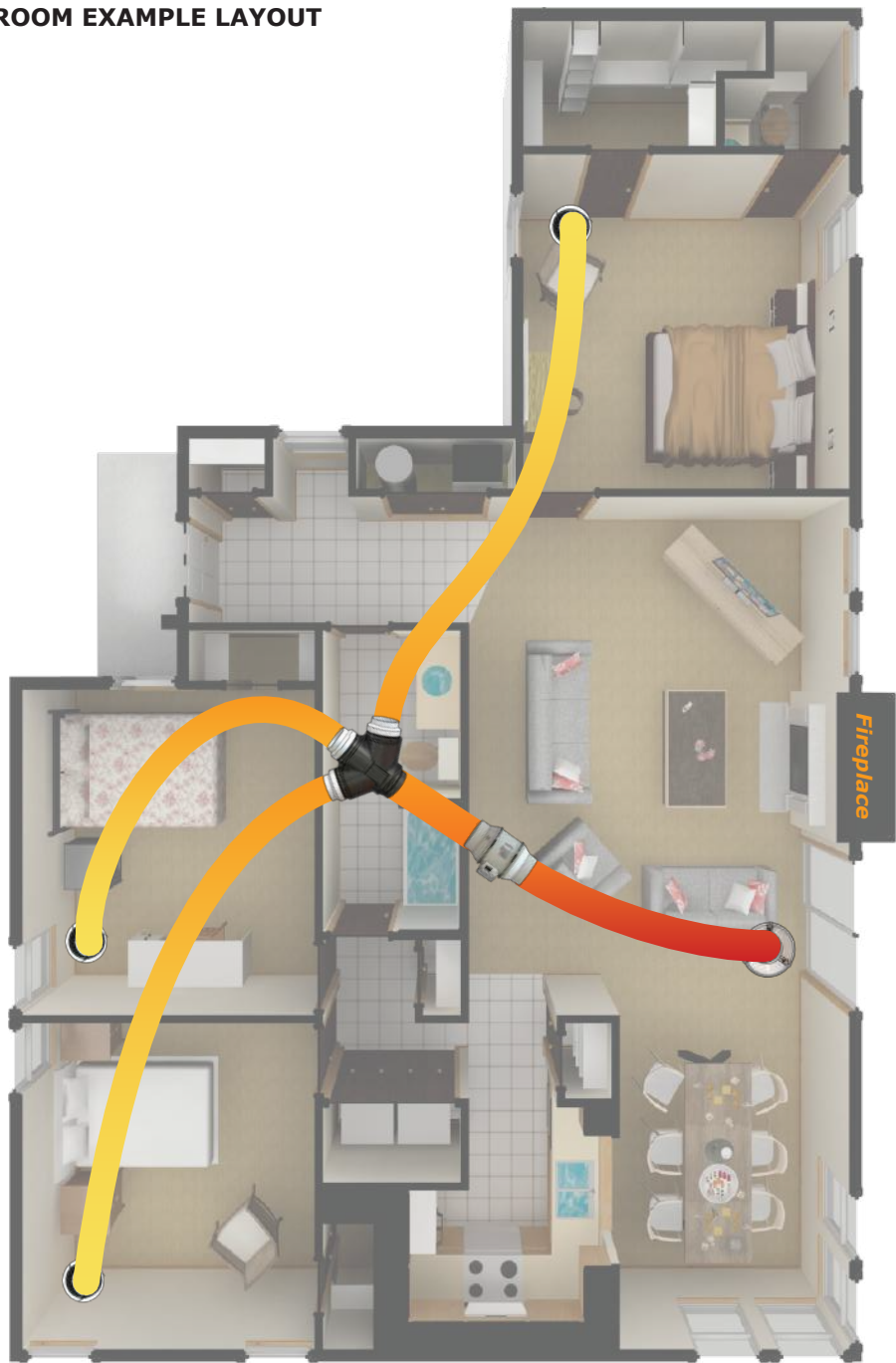
Notes about installation of acoustic and insulated ducting

When installing acoustic ducting, it is essential to ensure both the inner duct and the outer sleeve are taped firmly. Acoustic ducting can be identified by the many small holes in the inner duct, which are missing in insulated ducting.

When installing insulated ducting, you must tape the inner duct, and it is recommended to tape the outer sleeve where possible (this generally does not include the diffusers).



3-ROOM EXAMPLE LAYOUT



STARTING UP THE FAN

Fans may have delayed startup, or may operate under the control of the inbuilt controlling electronics included with the fan. Always take extreme care as the fan may start unexpectedly. Before carrying out any maintenance, make sure the mains supply is disconnected, even if the machine is switched off. Never insert your hands into the inlet side of the fan without first unplugging the fan.

Before starting up the fan, ensure that:

- The fan is well secured and the electrical connections have been carried out correctly;
- Any electrical safety devices are correctly connected, adequately adjusted and ready for use;
- The wire and electrical connection inputs are correctly sealed and water-tight;
- The duct is clear of any loose material that could be sucked up by the fan.

When starting up the fan, ensure that:

- The propeller turns in the correct direction;
- There are no abnormal vibrations.

If the circuit protection device is tripping during operation, the apparatus must be quickly disconnected from the mains supply. The whole installation should be carefully checked before trying to start up the machine again.

MAINTENANCE AND REPAIR

Before servicing the fan, make sure it is disconnected from the mains supply - *even if it has previously been switched off*. Avoid the risk of anyone else plugging it in while you're working on it.

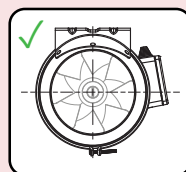
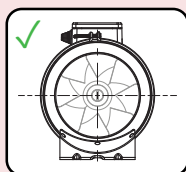
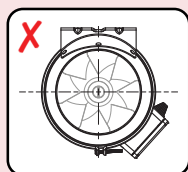
The fan must be regularly inspected. These inspections should consider the fan's working conditions, ensuring no dirt or dust builds up on the propeller, turbine, motor or grilles. This could be dangerous and perceptibly shorten the fan's lifespan. While cleaning, take extra care not to damage the propeller. The filters should be checked at least every 12 months, and replaced at least every 2 years, or earlier if necessary. Any and all maintenance work should be carried out in strict compliance with New Zealand safety regulations.

All our products contain repairable or replaceable parts. Repair or replacement of these parts should only be handled by the manufacturer. In the case of damage or malfunction of the fan, please contact the manufacturer or installer to arrange for repair. Please note that a small fee may apply for repair services not covered under warranty.

HEAT TRANSFER OPERATION

Before installing the system, it is important to understand how this heat transfer system works. The fan itself is controlled by internal electronics and sensors, and its operation mode can be adjusted using the wall controller provided. If no wall controller is connected, the fan

Do not install the electronics box upside down as this will damage the fan



will revert to its default mode which is HIGH speed.

When the fan is first turned on using the wall controller, it runs at a low TRICKLE speed sensing the air temperature going through the fan. Once the room heats up and this air reaches a pre-defined minimum temperature, the fan will speed up to about 40% speed. After this, the fan will continue to measure the air temperature and adjust its speed accordingly, speeding up if there is enough heat available in the heat source room, and slowing down if the temperature drops again.

After the heat source stops to provide heat to the room, the fan will keep running, slowing down as the room starts to cool down, until it reaches its minimum TRICKLE speed again. It will then keep running at this speed until the room heats up to the minimum temperature again, or the controller is turned off.

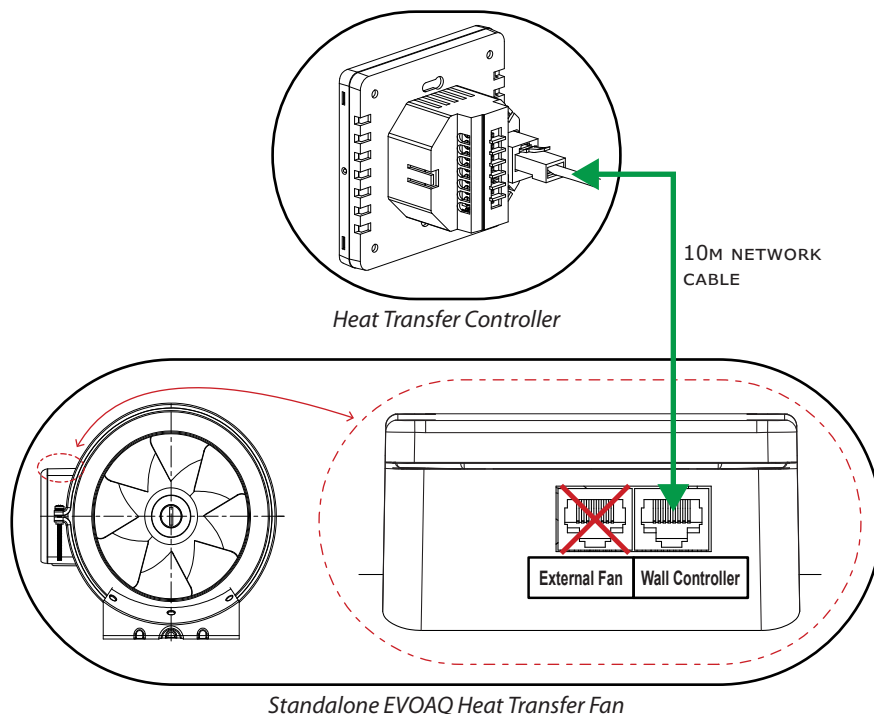
The controller can be set to LOW, MED, HIGH, or AUTO speed. This speed setting limits the maximum speed the fan will speed up to, but the fan itself will determine which speed it should go to depending on the temperature of the air flowing through the fan.

Refer to the wall controller manual for more specific installation and operation instructions.

SYSTEM WIRING

This system should be permanently powered via the heat transfer fan. The fan is fitted with a power plug; if there is no power point available for the fan one should be installed by a registered electrician.

The wall controller is connected to the fan via a network cable; as this cable is low-voltage it does not need to be wired by an electrician.





EVOAQ Heat Transfer Fan Specifications

System Codes	AQHTR-1	AQHTR-2 AQHTR-3	AQHTR-4 AQHTR-5
Fan Spigot Size	125mm	150mm	200mm
Voltage (V/Hz)	230 / 50	230 / 50	230 / 50
Power (W)	2 - 17	3 - 70	3 - 165
Air Flow (L/s)	12 ~ 80	17 ~ 180	30 ~ 348
Static Pressure (Pa)	159	503	746
Noise Level (dB)	28	31	38
Speed (RPM)	180 - 2250	500 - 3000	500 - 3000
Specific Fan Power (SFP)	0.175 W/Ls ⁻¹	0.398 W/Ls ⁻¹	0.294 W/Ls ⁻¹

For further information, please contact EvolutionFX NZ Limited

email: info@evolutionfx.co.nz

phone: +64 9 558 5590