EVOAQ
Air Quality Innovation

# Fan 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.***


| | | | |
|---|---|---|---|
| **Adjustable Speed Extraction** | Fan Model **EX-TW180MC** | Software Version **V1.2** | Manual Version **V3.1.0** *02-2026* |

# Installation Manual

## *180mm EC Through-Wall/Ceiling Fan for Manual Extraction (Adjustable Speed)*

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.

***Before installing the fan, it is important to understand the way this fan functions.***

The fan is designed to be continuously powered.

When powered on, the fan will run at LOW speed. It will keep running at this speed while the switch is off.

When the switch is turned on, the fan will gradually speed up to HIGH speed. If the switch is released after less than 30 seconds, it will immediately start slowing down again. If the switch is released after more than 30 seconds, the fan will stay at its current speed for 5 minutes, before gradually slowing down again.

Both the LOW and HIGH speed can be adjusted via a button located on the back of the fan.

**Please refer to page 5 for details on remote boost switch wiring and changing the fan speed settings.**

## INSTALLATION OVERVIEW

Before commencing installation, select a suitable place for the fan to be installed in the external wall. Locate and avoid wall studs when determining fan placement. **The fan must NOT be placed inside zone 1** (see image 4 on page 7) as the fan is powered by mains voltage and could pose an electrocution hazard.

Using the provided cutting template, drill a 185mm hole through the internal wall for the fan, either using a circular hole saw or other suitable means. Cut a 152mm round hole through the external wall for the cowl, ensuring the two holes are as aligned as possible.

Making sure that power is turned off, wire the fan power lead as per the wiring diagram (see image 1), then mount the fan and grille on the internal wall. Take care to ensure the power cable is not cinched or damaged as the fan case is placed into the wall. Place a short length of ducting over the fan's 150mm spigot from outside and tape into place.

Place the other end of the ducting over the cowl and tape into place. Position the cowl inside the 150mm hole. Mount the cowl onto the wall with the screws provided.

Check that both the fan case and cowl are level and flush with the wall, and that the fan can spin freely before turning on power to the fan.

Once the fan is mounted, place the grille over the fan and screw in place, making sure the grille is positioned correctly and no wires are cinched beneath the grille or face plate. **Note: wiring mains power should only be carried out by a registered electrician.**

Once the fan is in installed, place a short length of 150mm aluminium ducting over the fan spigot from outside, then install a cowl or louvre grille on the other side as required.

***Please note:***

Excessive ducting and sharp bends lower the fan's performance. If installing as a through-ceiling fan ensure the ducting is long enough, with gradual bends, before cutting it.

***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 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.

This apparatus must not be used in explosive or corrosive atmospheres. If a fan is going to be installed to extract air from premises where a boiler or other combustion apparatus are installed, make sure that the building has sufficient air intakes to assure adequate combustion. The extractor outlet must not be connected to a duct used to exhaust smoke or fumes from any appliance that uses gas or any other type of fuel.

## 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 extractor 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. If it is going to be installed in a duct, check that it is clear of any element that could be sucked up by the fan. When installing an apparatus, 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 fan is switched off.

If the fan is installed in a duct, the duct must be used for the extraction system only.

## 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. Always disconnect the fan from power during maintenance.

*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;
- If the fan has been mounted in a duct, 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.

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.

## ISOLATION SWITCH - OPTIONAL ADD-ON

If required, the switch input wire to the fan can be interconnected with a mains signal such as a bathroom light or PIR sensor. This can be done by wiring in our isolation switch box **EVO-AC-BST** between the fan and the mains signal.

This isolation switch box is sold separately to the fan. Refer to the relevant manual for wiring and user instructions.

## FAN WIRING

This fan includes two sets of cables/wires: the power lead and the external switch. The fan is required to be permanently powered. Please refer to the images below to ensure the fan is wired correctly to prevent damaging the fan.

***Power lead - Fan is fitted with plug; do not cut off plug unless necessary:***

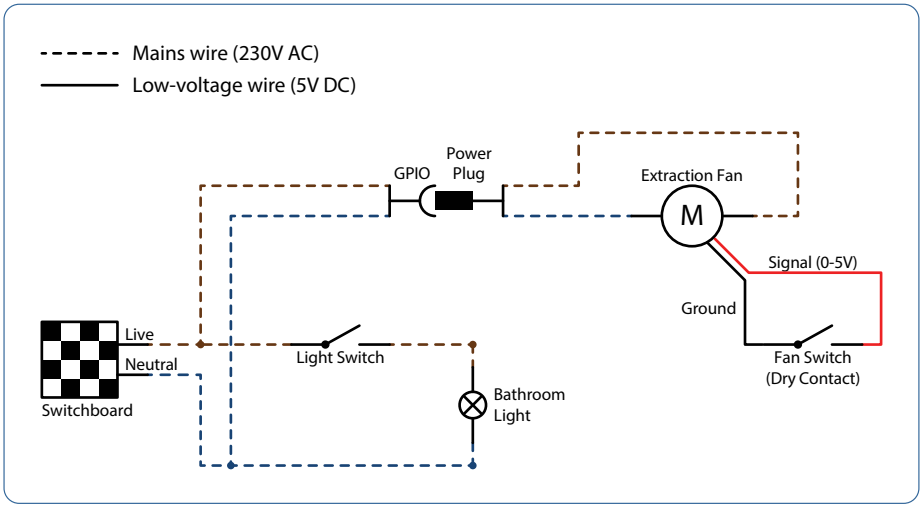
*Blue = Neutral*
*Brown = Phase (Live)*


***External switch - Dry contact (can be latching or non-latching switch):***

*Red = Switch Signal (0-5V)*
*Black = Common (0V)*


## WIRING DIAGRAM (IMG 1)

The fan is designed to be permanently powered (see image below). The switch wire is low-voltage only. If a boost switch is not required, it can be left unconnected.




## SWITCH FUNCTIONALITY

*Short press (3 - 30s):* Fan speeds up to high speed gradually. When the switch is released the fan starts slowing down immediately and resumes normal operation once the low speed is reached again.

*Long press (over 30s):* Fan continues to speed up to high speed while the switch is active; after the switch is released the fan continues running at the current speed for 5 minutes before slowing down again and resuming normal operation.

The default LOW speed is 10%. The default HIGH speed is 100%. Refer to the **Button Functionality** section for instructions on changing the set speeds.

Please note that if the LOW speed setting is higher than the HGIH speed setting (e.g. LOW speed is 80%, HIGH speed is 30%), the fan will slow down while the switch is active, and vice versa.

## BUTTON FUNCTIONALITY

**applies to software version 1.2 and later**

This fan has 12 selectable speed settings in total, including off (0%). Select the desired speed by pressing the button at the center of the black box at the back of the fan.

**Changing the LOW speed setting:**

Press the button while the switch is released.

**Changing the HIGH speed setting:**

Press the button while the switch is active.

**Button press length:**

***Short Press: 0.5 - 3 seconds***

*Press and release the button quickly.*

The fan slows down to the next speed and saves the new speed setting.

If the fan was already running at its lowest speed, the fan will turn off.

If the fan was off, the fan will return to 100% speed instead.

As the change is not instant, please allow ~3 seconds for the fan speed to adjust before pressing the button again.

***Long Press: > 3 seconds***

*Press and hold the button until the fan starts to speed up.*

The fan ramps back up from the current speed to full speed and saves the new speed.

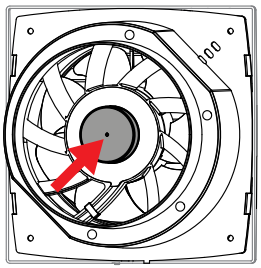
As the change is not instant, please allow up to 15 seconds for the fan speed to adjust before pressing the button again.

## BUTTON LOCATION (IMG 2-3)

The button is located on the back of the fan, in the center of the black box. It can be pressed without any tools - but using your nails might be required to press it more easily.

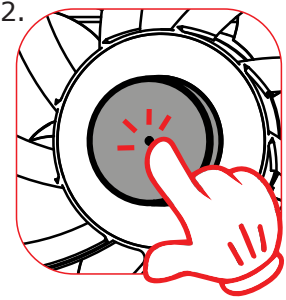
The button only works while the fan is powered, so take care not to touch the fan blades while they are spinning. We recommend placing the fan on a flat surface like a table, with the button facing upwards, to adjust the speed settings before installation.

1.



*Locate button on back of fan*

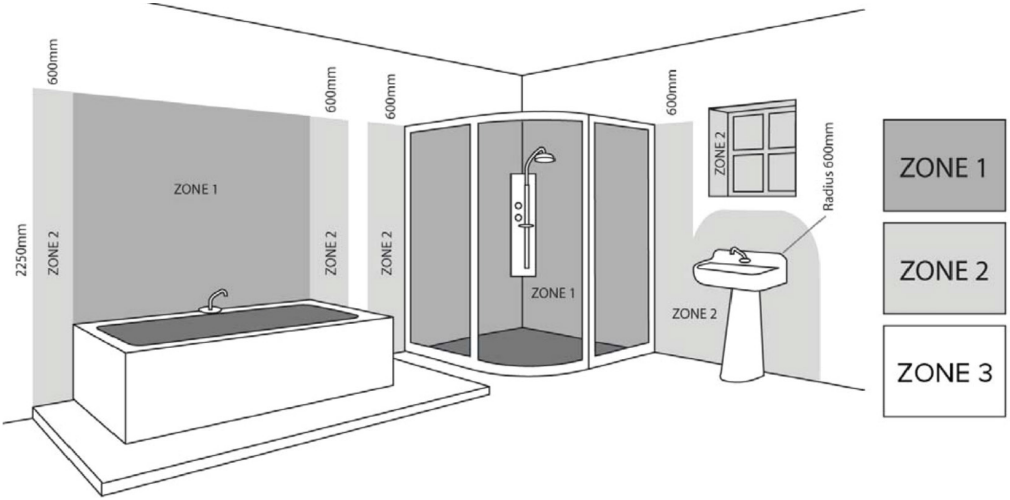
2.



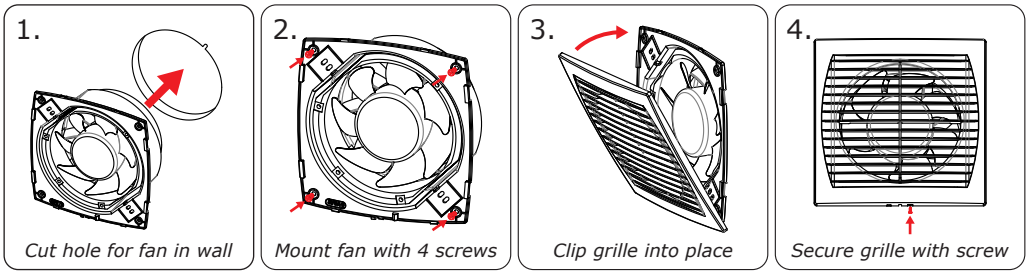
*Press button to change speed*

## BATHROOM ZONES (IMG 4)

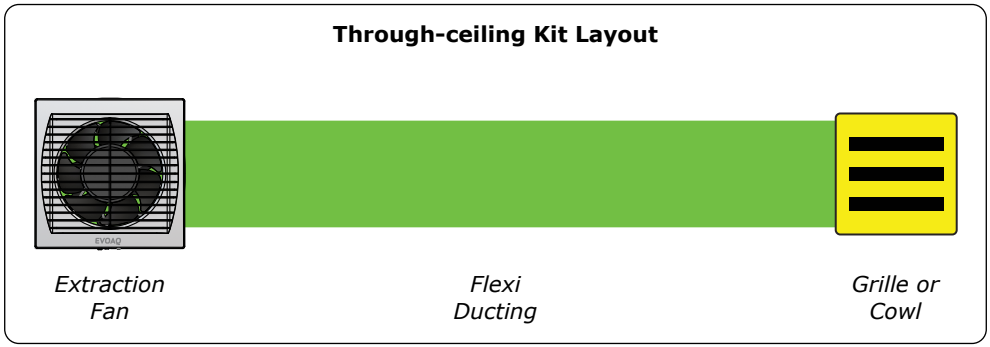
This through-wall fan model is suitable to be placed inside zone 2 and zone 3 only. **DO NOT install the fan inside zone 1 (image below).** Only low voltage equipment may be installed in zone 1. This means avoiding wet areas - directly above the shower or bath (up to 2250mm above floor level) and 150mm around the shower cubicle.




## THRU-WALL BATHROOM FAN INSTALLATION (IMG 5-8)

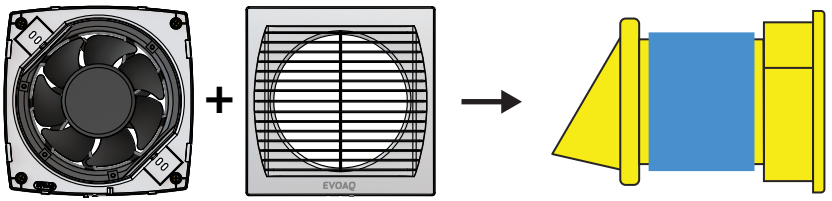



## THRU-CEILING KIT INSTALLATION (IMG 9)



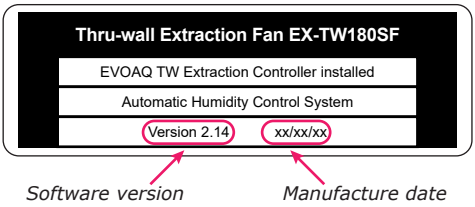
## THRU-WALL BATHROOM KIT ASSEMBLY (IMG 10)

**Through-wall Kit Layout**




*Extraction Fan* | *Inlet Grille* | *External Cowl* | *Nude Ducting* | *Internal Fan*

To check which software version is installed and when your fan was manufactured, check the label on the fan - located underneath the face plate (grille) of the fan




| EX-TW180MC Thru-Wall Fan Specifications | |
|---|---|
| Fan Part Number | *EX-TW180MC* |
| Fan Spigot Size | *150mm* |
| Voltage (V/Hz) | *230 / 50* |
| Power (W) | *2.5 - 17* |
| Air Flow (L/s) | *16 ~ 110* |
| Static Pressure (Pa) | *240* |
| Noise Level (dB) | *31* |
| Speed (RPM) | *500 ~ 3300* |
| Specific Fan Power (SFP) | *0.151 W/Ls$^{-1}$* |

For all our manuals, fan specifications, system details and more information visit *www.evoaq.co.nz/downloads*

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