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.

Installation Manual

180mm Low-Voltage DC Through-Wall/Ceiling Fan for Bathroom Extraction

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 first powered on, the fan will run at trickle speed for 30 seconds to initialise the sensors, and then increase to about 50% speed. It will run at this speed for 2 minutes to purge the bathroom and learn the environment.

Over the next 10 minutes the fan will gradually slow down until it reaches trickle speed again. The fan will now be monitoring the bathroom for a change in the environment (e.g. steam is generated). On detecting such a change, the fan will respond and increase the speed accordingly. Once the environment has been restored, the fan will once again slow down to trickle speed.

This fan model does not include an external boost switch option. Please refer to page 4 for more information.

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. This fan is powered by a low-voltage DC power supply and as such is suitable to be placed in wet areas inside the bathroom (see image 2).

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, replace the face plate 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.

Please note that this model of fan is not fitted with a power plug and must therefore be wired with a fixed permanent connection.

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.

EXTERNAL WALL SWITCH - OPTIONAL EXTRA

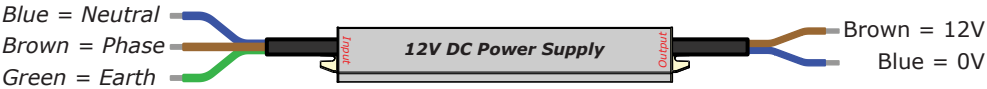
Please note, this particular fan model does not have a switch included and as such does not have any switch functionality enabled.

A wall switch option may be available upon request. If you would like to add an external switch input to the fan, please contact your installer or supplier to discuss available options.

FAN WIRING (IMG 1)

This fan is powered by 12V DC. A 12V power supply is included for powering the fan. This power supply includes two sets of wires - one is mains input to power the power supply, the other is the 12V output to power the fan. The fan is required to be permanently powered. Please refer to the image below to ensure the fan is wired correctly to prevent damaging the fan.

230V AC Input - 3-Wire Cable ***12V DC Output - 2-Wire Cable****

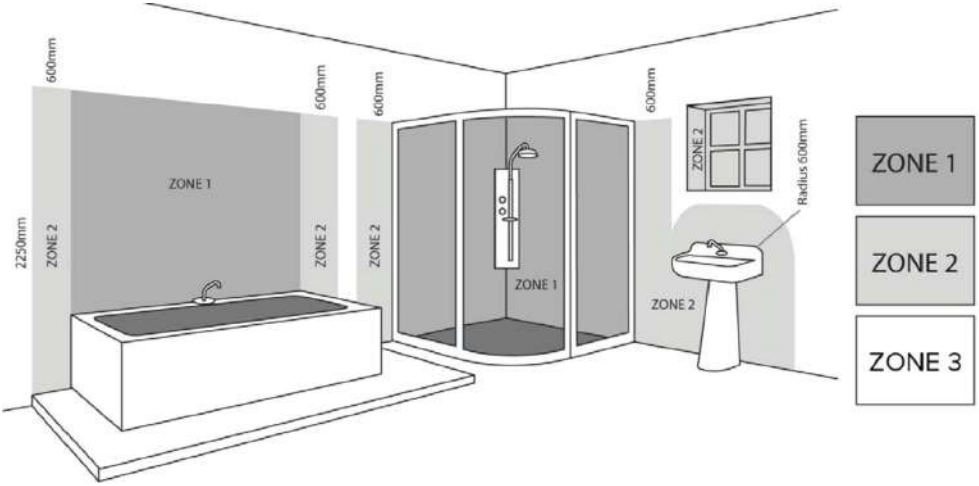


**12V Cable should already be wired into fan*

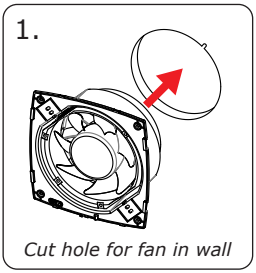
BATHROOM ZONES (IMG 2)

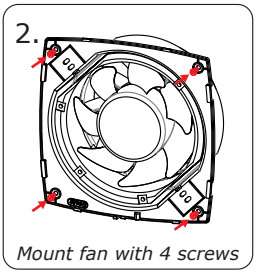
This through-wall fan model is suitable to be placed inside **all 3 zones** as shown on the image below.

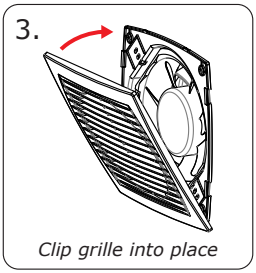
This fan is classified as low-voltage equipment. Only low voltage equipment may be installed in zone 1. This includes wet areas - directly above the shower or bath (up to 2250mm above floor level) and 150mm around the shower cubicle.

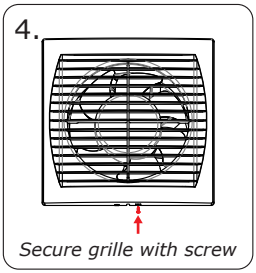


THRU-WALL BATHROOM FAN INSTALLATION (IMG 3-6)

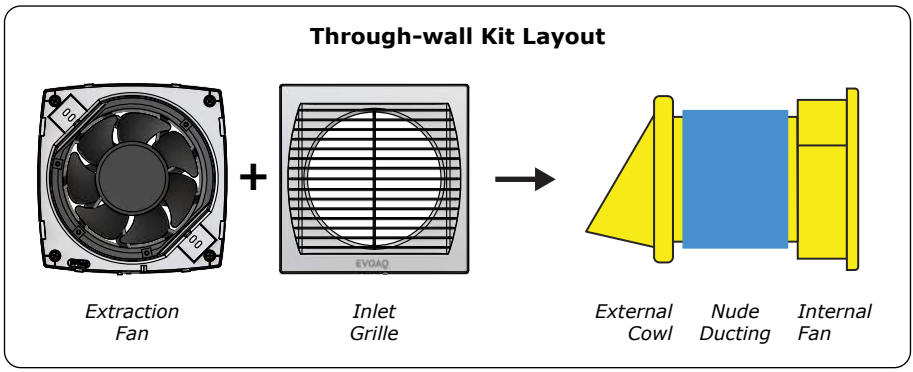


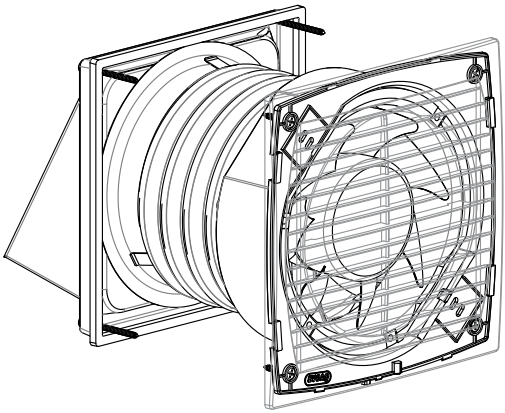


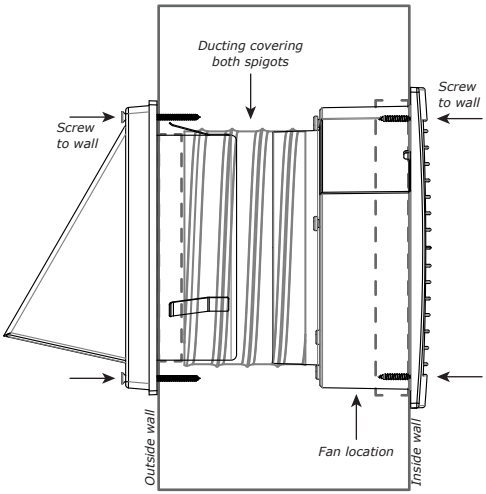




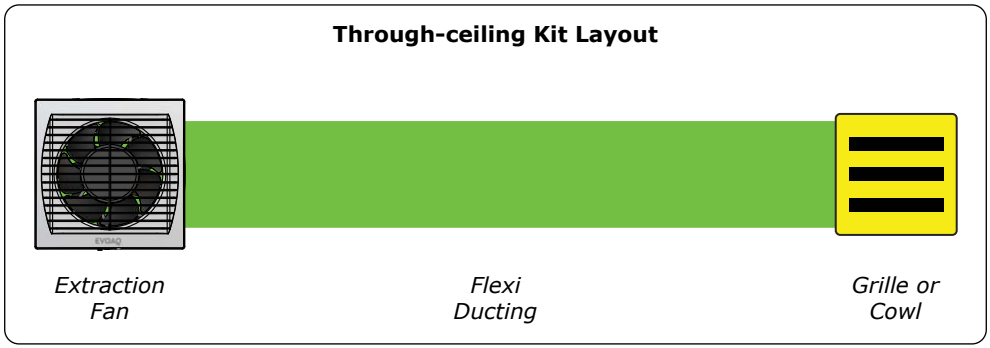
THRU-WALL BATHROOM KIT ASSEMBLY (IMG 7-9)



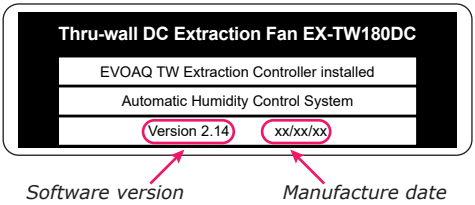




THRU-CEILING KIT INSTALLATION (IMG 10)



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-TW180DC Thru-Wall Fan Specifications	
Fan Part Number	*EX-TW180DC*
Fan Spigot Size	*150mm*
Voltage (V)	*12 DC*
Power (W)	*2.5 - 17*
Air Flow (L/s)	*16 ~ 95*
Static Pressure (Pa)	*240*
Noise Level (dB)	*31*
Speed (RPM)	*500 ~ 3000*
Specific Fan Power (SFP)	*0.108 W/Ls^{-1}*

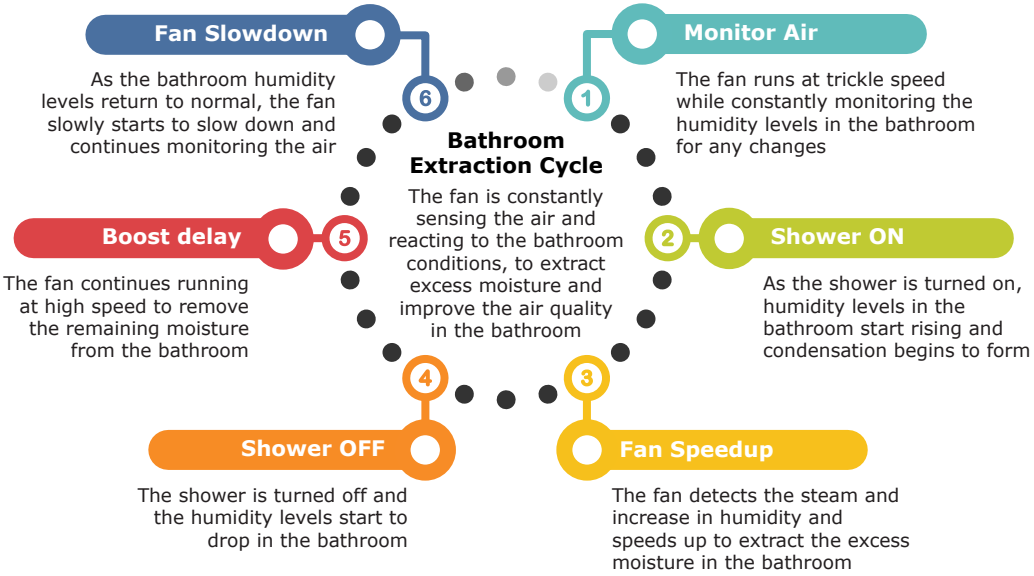
For all our manuals, fan specifications, system details and more information visit *www.evoaq.co.nz/downloads*

For further information, please contact EvolutionFX NZ Limited
email: *info@evolutionfx.co.nz*
phone: *+64 9 558 5590*

Automatic Bathroom Extraction Fans

EVOAQ Bathroom Extraction fans work by running at a low trickle speed and constantly monitoring the moisture levels within the bathroom environment.

In-built controls and sensors in the fan control the fan speed to extract any excess moisture and protect your bathroom.



Start-up Boost

30 seconds after being plugged in, the fan enters a 2-minute startup boost on high speed to ensure bad or stale air is removed from the bathroom, before the fan slowly slows down and begins its Bathroom Extraction Cycle

Boost Switch - *optional*

A remote low-voltage switch may be wired into selected fan models as a 'boost switch'. If the switch is on, the fan runs at high speed. When the switch is turned off again, the fan slowly slows down and resumes its Bathroom Extraction Cycle