

# About EVOVX

EVOVX is a range of Next Generation Energy Efficient air movement and extraction products that are using EVOAQ Intelligent Technology developed by the team of EvolutionFX. Built-In Intelligent Fan Controller using EVOAQ Intelligent Technology is designed proprietary for New Zealand.

Our EVMF150-EC Mixed Flow Fan is designed to ensure your property remains fully ventilated at the right levels with the highest energy savings.

This inline mixed flow fan is designed to be a simple plug in and go without user intervention.

Smartboard incorporated into the fan monitors and is constantly sensing temperature and humidity of the air. The fan will speed up very fast or slow down to a very low rate (from 10% to 100%) if required depending on the quality of the air to maintain a healthy, moisture-free home environment. The advantage of this system is that it is capable to ventilate at the very low rate and still bring fresh air into the house in situations where all other systems on a market just switch off. Maintaining a continuous trickle ventilation of the house, especially at night when humidity is the highest, is important in order to prevent the heat and energy loss and be able to enjoy a healthier indoor environment.

[www.evolutionfx.co.nz](http://www.evolutionfx.co.nz)

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# Mixed Flow EC Fan

## EVMF150-EC

## Installation Instructions



## Mounting the motor



Mount the motor so it sits above any ceiling material  
We recommend about 100-200mm above the ceiling  
It is important to keep the duct level and straight for best airflows



We recommend mounting the motor away from bedrooms but close to the ceiling access hatch. The filter needs to be checked/replaced every 12 months

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## Duct layout.



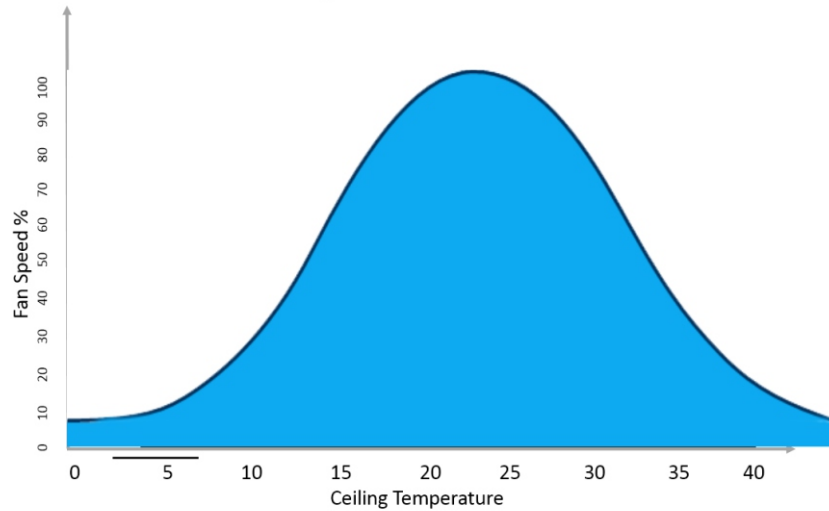
Spending time planning the duct layout is important.

Some simple rules apply to ensure you achieve the best possible results.

- Lay the ducting so there is an equal length from each adaptor.
- The shortest length should be greater than 3 metres.
- Avoid tight bends.
- Ensure the duct is stretched out fully.
- Do not crush the duct.
- Remember other tradesmen use the ceiling space for services.
- So avoid installing ducting where it may be crushed or damaged.

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# Variable Speed Ventilation



## ENERGY EFFICIENCY

EVOVX

EVMF150-EC



Model	Voltage (V)	Power (W)	Speed (RPM)	Airflow (m³/hr)
EVMF150-EC	220-230 50/60 Hz	3 ~ 73	500 ~ 3000	63 ~ 650

Specific Fan Power (SFP)

**0.356** Watts per l/s

## Technical Specifications

Voltage	(V)	100~240
Current	(A)	0.02~0.19
Power	(W)	6~73
Speed	(RPM)	500~3000
Airflow	(m³/hr)	63~650
	(l/s)	17~181
Air Pressure	(PA)	4.1~403
Net Weight	(kg)	3.0

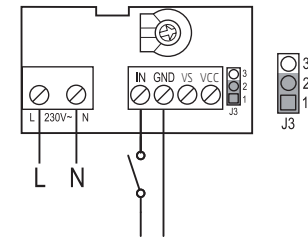
## Features

- Latest Electronically Commutated (EC) Motor
- Ultra-Low power for significant energy saving
- Optimal continuous ventilation and extraction
- Speed control: 10-100% (0-10V)
- Very quiet, especially on a speed control
- Long working life 50000 hours
- In-built Smart Fan Controller with humidity management

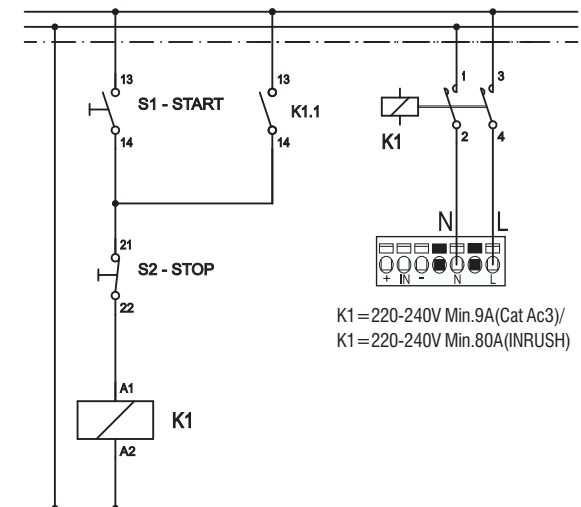
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## Alternative Fan control

NO/OFF cycles via control



ON/OFF cycles via supply

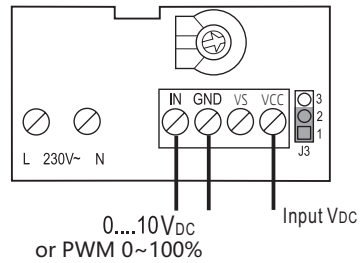


K1 = 220-240V Min.9A(Cat Ac3)/  
K1 = 220-240V Min.80A(INRUSH)

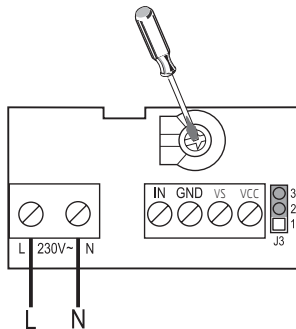
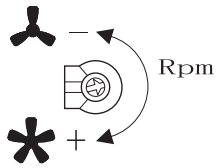
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### Operation of fan on external control

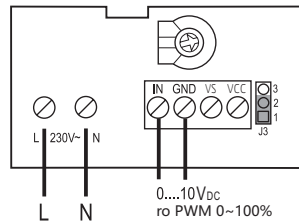
Input DC Voltage to supply power and speed control, connect pin 1.2



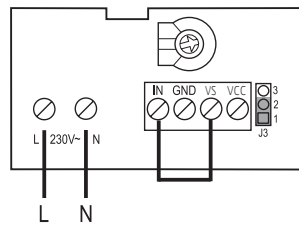
Rotate the potentiometer to control fan speed (connect pin 2.3)



Control fan speed via external input signal the control signal is 0~10Vdc, or 0~100%PWM (V<sub>in</sub>=10Vdc, 1K~20KHz)



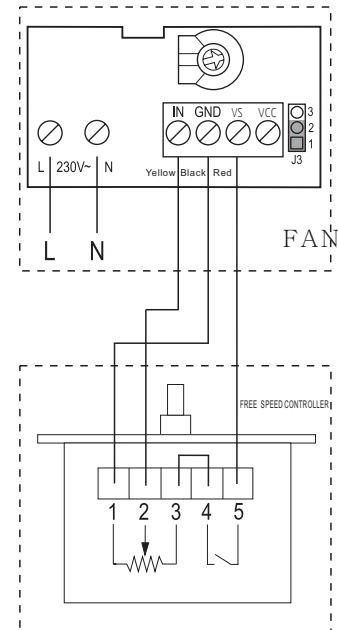
Run the fan at full speed via connecting IN and VS



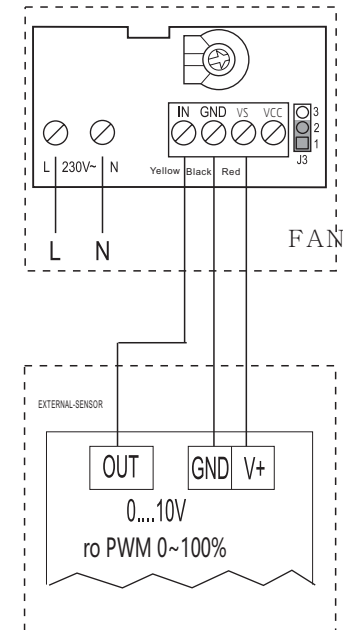
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### Operation of fan on external control

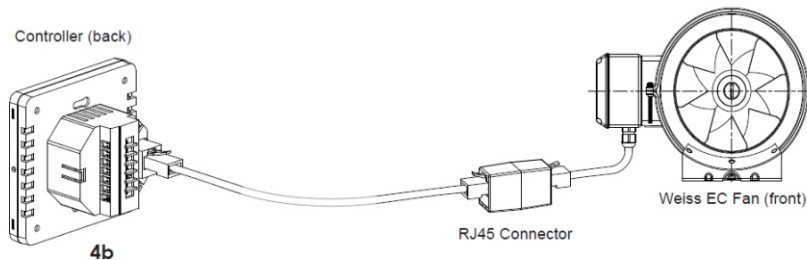
External speed control signal case 1:  
Connect free speed controller.



External speed control signal case 2:  
Connect external sensor.



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The fan can be used with or without the controller (landlord mode). The connection between the fan and controller is done with the enclosed cat5 cable.

**Do not connect directly to IT equipment as this may result in damage to the connected devices.**

All voltages on the Cat 5 cable are extra low voltages and are safe working voltages that can be connected by the home user. Ensure the fan is powered off before connecting the cable.

Install duct fan noting the direction of required airflow. Plug the supplied power lead in to a suitable General purpose outlet (GPO).

***It recommended to suspend the fan so not to transmit vibrations***

The fan will start a calibrations cycle for several minutes before settling to the programmed air flow.

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Technical support Please call +64 9 558 5590

## Instructions Manual

Thank you for your purchase of the company products. It has been manufactured following current technical safety regulations and in compliance with AS/NZ60335 standard.

Please read this instructions 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 in this booklet to the end user.

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 instructions plate fulfil your requirements.

## 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.

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.

Do not place heavy weights on the packed product and avoid knocking or dropping 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 building and electrical regulations.\*Fans may have delayed startup times or operate under the control of the inbuilt controlling electronics included in them. Always take extreme care as the fan may start unexpectedly. Always Disconnect from the supply during maintenance. This apparatus must not be used in explosive or corrosive atmospheres.

If a ventilator 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 exhaust smoke or fumes from any appliance that uses gas or any other type of fuel.

## Instructions Manual

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.

Safety during installation.

Make sure there are no loose elements near the ventilator, 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 clean of any element that could be sucked up by the ventilator.

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 manipulating the apparatus, make sure the mains supply is disconnected, even if the machine is switched off.

Check that the mains supply voltage and frequency values coincide with the stipulations on the characteristics plate.

The electrical installation must include an isolating switch with a contact clearance of at least 3 mm, correctly sized and in accordance with the electrical standards.

Please follow the connections diagram for the electrical connections.

If an earth connection is necessary, check that it is correctly connected and that adequate thermal and overloading protection has been connected and adjusted to the corresponding limits.

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If a ventilator is installed in a duct, the duct must be exclusively for the ventilation system.

### Starting up.

Before starting up the machine, make sure that:

The apparatus is well secured and the electrical connections have been carried out correctly.

The safety devices have been adequately connected.<sup>9</sup>

No loose material or fitting remains can be sucked up by the ventilator. If the ventilator has been mounted in a duct, make sure it is clear of loose material.

The electrical safety devices are correctly connected, adequately adjusted and ready for use.

The wire and electrical connections inputs are correctly sealed and water-tight.

When starting up the fan, make sure that:

The propeller turns in the correct direction.

There are no abnormal vibrations.

If circuit protection device tripping 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.

Before manipulating the ventilator, make sure it is disconnected from the mains supply even if it has previously been switched off. Prevent the possibility of anyone else connecting it while it is being manipulated.

The apparatus must be regularly inspected. These inspections should be carried out bearing in mind the machine's working conditions, in order to avoid dirt or dust accumulating on the propeller, turbine, motor or grids. This could be dangerous and perceptibly shorten the working life of the ventilator unit.

While cleaning, great care should be taken not to unbalance the propeller or turbine.

All maintenance and repair work should be carried out in strict compliance with each country's current safety regulations.

For further information Please contact EvolutionFX NZ limited

info@evolutionfx.co.nz

+64 95585590

***When the fan first starts from being powered up there is a momentary delay of the fan motor while the sensors are calibrated.***

***The fan goes through a startup calibration test before going in to operation.***

***Abnormal fan speeds during this phase is normal operation of the system***