9021432

# AIRFLOW™

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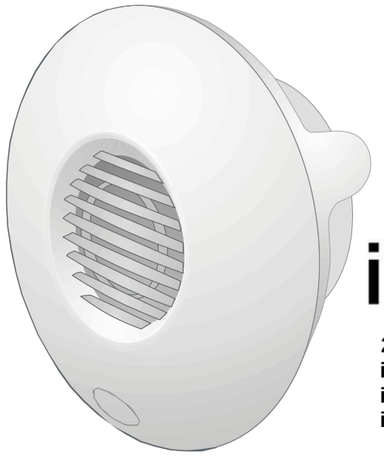


iCON™

**230V Base Models:**
**iCON15 – 72591501**
**iCON30 – 72591601**
**iCON60 – 72591701**

# iCON™ Domestic Ventilators – 230V

## Instructions for installation, maintenance and use

iCON ventilators are available in 3 model sizes and can be fitted to a wall or ceiling**.** Each fan requires a suitable sized hole through the wall or ceiling structure which connects into a ducting system venting to the outside. The external opening should be covered by an external grille, available separately from Airflow.
The iCON 230V range has IPX4 rated housings, they are double-insulated Class II equipment and are suitable for fitting in Zone 2 and Zone 3 in bathrooms, toilets, kitchens and utility rooms.

**Note:** On-off switches for ventilators shall be selected and sited in accordance with electrical safety regulations and standards.

Whilst the iCON range can be used as a simple ventilator powered either from a switch or connected into a lighting circuit, each ventilator unit can also be fitted with an internal control module. The control function options include: timer, PIR, humidity, pull-cord and various standard combinations of these. Modules are available separately and can be fitted at the time of installation or retrofitted. [See: Modules for iCON 230V].

## All installation to be carried out by a qualified person.

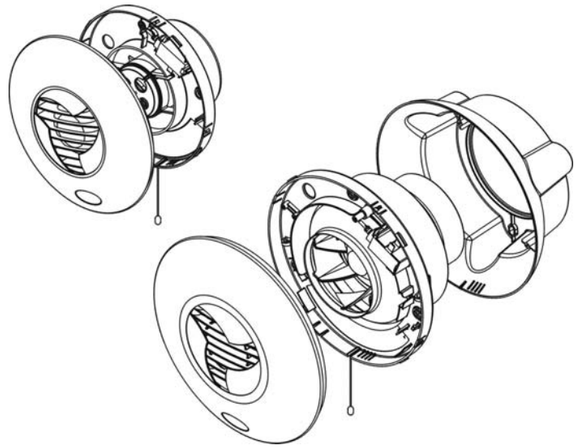
### Safety Precautions and General Recommendations

- Observe all appropriate safety precautions when using steps and ladders.
- Wear eye protection when drilling, cutting and breaking out wall and ceiling materials.
- Check that there are no buried cables or pipes before drilling or cutting away walls and ceilings.

**IMPORTANT: Read all instructions fully, in conjunction with the diagrams, before commencing installation.**

- All relevant regulations and requirements must be strictly obeyed to ensure safe operation and maintenance of iCON domestic ventilators.
- The ventilator unit must be sited and connected in accordance with all current European regulations or the appropriate National standards in other countries.
- iCON 230V units are not suitable for use in Zone 0 or 1 [See also: Fitting/Installation]. (iCON SELV ventilators are available for use in Zone 1 – Contact Airflow for details)
- Do not place the ventilator near direct heat sources, e.g. radiant heaters, or where temperatures can exceed 40°C (104°F).
- If a ventilator is placed in a room containing a fuel-burning appliance, e.g. a gas-fired boiler, the installer is responsible for ensuring that the air replacement in the room is adequate for both the ventilator and the fuel-burning appliance.
- The installer is responsible for ensuring that the capacity of the ventilator does not cause combustion fumes to be drawn into a room containing non-balanced flue fuel-burning appliances. Air intakes should be at least 500 mm away from the flue.
- To optimise airflow within the room, ventilators should be placed as far away as possible and opposite to the main source of air replacement, without infringing forbidden zones.
- All wall and ceiling holes for iCON ventilators should be lined with ducting, such as rigid plastic soil pipe; aluminium or stainless steel are also acceptable. Flexible ducting can also be used provided that it is fixed to remain taut and has generous bend radii to avoid kinking.
- Do not connect the exhaust from the ventilator into ducting that is also used for venting non-electrical appliances or equipment.
- Do not connect the exhaust air from the ventilator into the flues of fuel-burning appliances.
- The ventilator unit shall be connected to a double-pole, isolating mains switch (230V/50Hz) that conforms to Cat.III or has a contact separation of at least 3 mm.
- An external 3A fuse is required for each ventilator unit. The ventilator unit does not have an internal fuse.
- iCON 230V ventilators are double insulated, Class II equipment and therefore do not require an earth connection.
- Always isolate the ventilator unit from the mains supply before removing the cover for maintenance, [See also: Maintenance].

## Installation



Your iCON ventilator packaging contains:

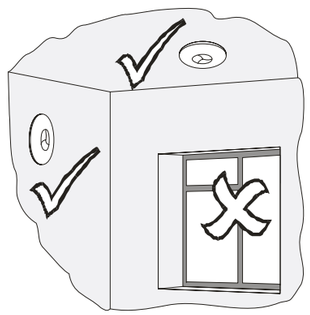
| iCON15 | iCON30 | iCON60 |
|---|---|---|
| Fan assembly (72591501) | Fan assembly (72591601) | Fan assembly (72591701) |
| - | Skirt (82594401) | Skirt (82595601) |
| Fixing Pack (82592901)<br>2 x Plastic wall Plugs<br>2 x 5mm x 32mm Pan head screws<br>1 x Cable clamp<br>2 x M3 x 10mm Flange head screws<br>1 x Cable grommet | Fixing Pack (82593301)<br>3 x Plastic wall Plugs<br>3 x 4mm x 32mm Pan head screws<br>1 x Cable clamp<br>2 x M3 x 10mm Flange head screws<br>3 x M3 x 8mm Flange head screws<br>1 x Cable grommet | |
| **Instruction Booklet** (9021432) - keep for future reference | | |

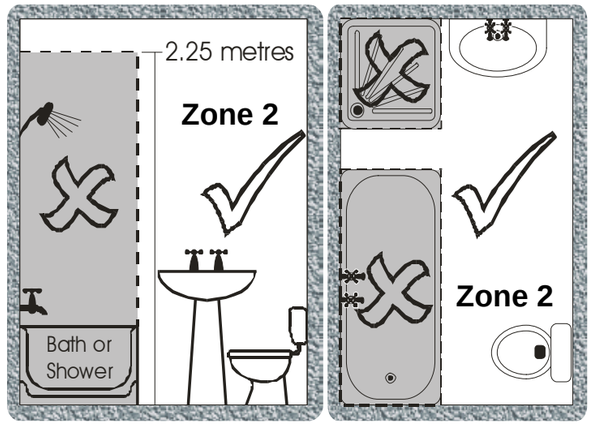
**Note**: Control modules are packaged separately.

### Positioning

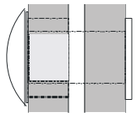
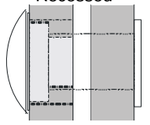
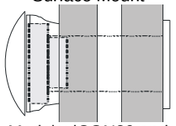
The iCON 230V range of ventilators is suitable for bathrooms, toilets and kitchens and utility rooms and can be fitted in Zone 2 and Zone 3 (BS 7671:2001).

**Note**: The assignment of Zone numbers is affected by the internal layout of any particular room, e.g. position of water sources, the presence of permanent wall partitions, whether shower heads are demountable or fixed, [See also Safety Recommendations].






### Surface or Recessed Mount

| Configuration options (Ceiling or wall mounting) | | |
|---|---|---|
| Recessed | Recessed | Surface Mount |
|  |  |  |
| Models: iCON15 only | Models: iCON30 and iCON60 | Models: iCON30 and iCON60 using the skirt supplied. |

### Ducting

The iCON ventilator units are designed to slide into standard sized ducting or pipes, [See: Safety Recommendations]. The sizes of the holes made in ceiling or walls largely depend on the type of ducting used, [See: Cutting holes].

### Cutting holes

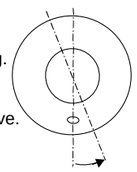
| Configuration options | Typical hole size required (mm) | | |
|---|---|---|---|
| | ICON15 | ICON30 | ICON60 |
| **Recessed** | 110 [1] | 160 [2] | 190 [3] |
| **Surface Mount** | Not available | 110 [1] | 160 [4] |

**Notes**:
1: Hole size to suit duct 100mm ID, e.g. typical soil pipe, or to suit the pipe being used.
2: In cavity wall, make hole in inner wall to clear 150mm diameter. In outer wall make hole as per Note 1.
3: Hole size to suit the 150mm ID pipe to be used, e.g. 160mm, typically.
4: In cavity wall, make hole through inner wall to clear 190mm diameter. In outer wall make hole to suit 150mm ID pipe, e.g. 160mm typically.

### Ventilator Front Cover

#### Removal

The front cover of the ventilator unit has a bayonet-type fitting. Remove the retaining screw in the front cover using a screwdriver.
Rotate the front cover a few degrees anticlockwise and remove.



#### Refitting

Reverse the removal procedure to refit the front cover.

### Fixing holes

#### Recessed Mount

- Slide ventilator unit into the ducting in the wall or ceiling.
- Check orientation is correct, i.e. for wall mount, the pull-cord slot is at bottom.
- Spot through fixing hole positions (2 fixing holes for iCON15; 3 fixing holes for iCON30 and iCON60).
- Drill holes suitable for wall plugs supplied in the fixing kit.
- Secure ventilator unit to structure using screws supplied (two 5mm x 32mm for iCON15; three 4mm x 32mm for iCON30 and iCON60).

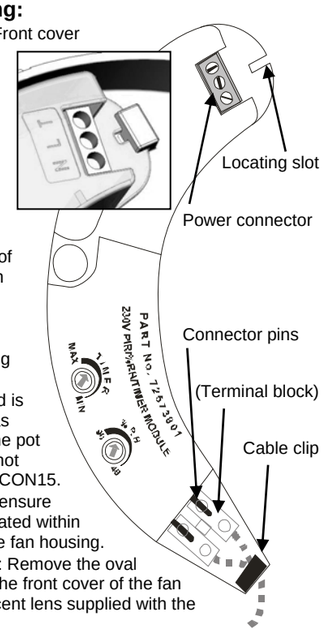
#### Surface Mount

- Position skirt over the hole in the wall or ceiling.
- Check orientation is correct, i.e. pull-cord slot is at the bottom of skirt for wall mounting, [See: Installation diagram].
- Spot through three fixing hole positions in skirt.
- Drill holes suitable for wall plugs supplied in the fixing kit.
- Secure skirt to wall or ceiling using screws supplied in fixing kit (three size 4mm x 32mm screws).
- Fit ventilator unit into skirt.
- Check orientation is correct, i.e. align pull cord slots in fan and skirt, [See: Installation diagram].
- Secure ventilator unit with three M3 x 8mm screws.

**Module: All installation and adjustment to be carried out by a qualified person.**
**Always isolate the ventilator unit from the power supply before disassembling the equipment.**

### Fitting and Wiring Adjusting:

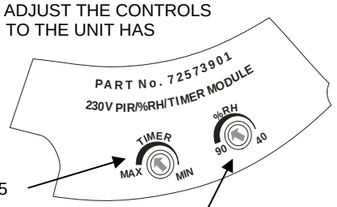
- Remove the front cover, [See: Front cover removal].
- Lift the terminal block away from fan housing. Push the two connector pins at one end of the module into the electrical terminal block and tighten with a suitable screwdriver. Ensure that the leads are under the retaining clip.
- Fit slot in power connector end of module into the location block in the fan housing.
- Push module back into the fan body ensuring that the terminal block locates over the 2 retaining pillars.
- **Two speed module**; Low speed is factory set for the iCON30 fan as received. For the iCON60 fan the pot must be turned fully ACW. It is not recommended for use with the iCON15.
- **For modules with pull-cords**; ensure that the pull-cord is properly located within the cord slot at the bottom of the fan housing.
- **For modules with PIR control**: Remove the oval lens cap fitted at the bottom of the front cover of the fan unit. Replace it with the translucent lens supplied with the PIR module.
  **Note**: The lens must be replaced in order for the PIR module to function properly. Ensure that the orientation of the lens is correct, i.e. Lens face should be flush with surface.
- **Connecting mains cable into the Ventilator:** Fix the supplied sealed grommet into the cable entry hole. Pierce the grommet to allow the mains cable to be pulled through while maintaining the integrity of the seal. Connect the cable to the 3 way power connector [See **Wiring** for possible wiring schemes] ensuring the supplied cable clamp is fitted.
- Refit the front cover, [See: Ventilator Front Cover - Refitting].




### Module adjustment

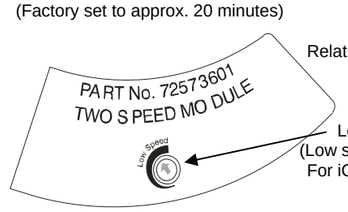
DO NOT OPEN THE UNIT OR ADJUST THE CONTROLS UNLESS THE MAINS POWER TO THE UNIT HAS BEEN DISCONNECTED.

A module with Timer, Humidistat or 2 speed control is supplied preset, but may be adjusted by the installer.




Timer: MAX = 45 minutes, MIN = 2 minute.
(Factory set to approx. 20 minutes)

Relative humidity (%RH): 40% to 90%
(Factory set to approx. 60%RH)



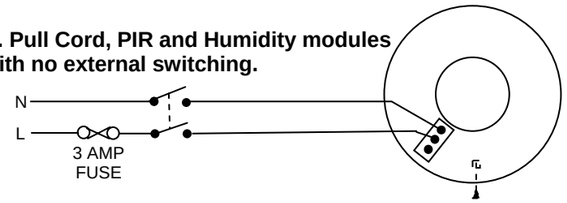

Low speed adjustment
(Low speed is factory set for iCON30.
For iCON60 turn pot fully ACW)

## Wiring

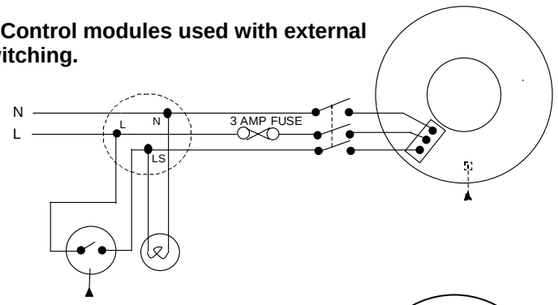
### All installation to be carried out by a qualified person.

iCON domestic ventilators without modules connect to a suitable 230V/50Hz main power supply, either via an independent mains rated on/off switch, or into the lighting circuit switch. The mains connections are made in the fan housing to the live (L) and neutral (N) positions shown.

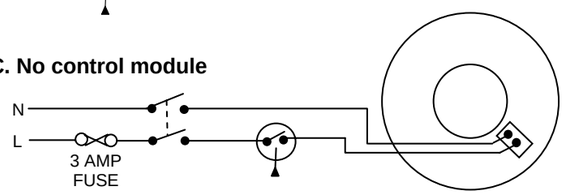
**A. Pull Cord, PIR and Humidity modules with no external switching.**




**B. Control modules used with external switching.**




**C. No control module**




**Note**: Check that the cable clamp and sealed grommet, supplied in the fixing kit, are properly fitted and ensure that the mains cable is firmly secured.

For electrical connections to modules, [See: Modules].

# Operating instructions

When the iCON ventilator is switched on, the motor will run for approximately 45 seconds before the iris shutters open. When the mains power is switched off, the motor will stop and the iris shutters will start closing after 25 seconds. The delay in opening and closing of the iris shutters is normal.

## Installation with control module

Operation with control modules varies with the particular one fitted.

- A TWO-SPEED module will run at low speed if the pull cord is used, or high speed if externally triggered. Low speed is always overridden by external high speed.

An iCON ventilator with a control module fitted starts either when the:

- infra-red sensor (PIR) detects someone in the room.
- humidity exceeds the level set (HUMIDISTAT).
- unit is switched on (TIMER) and continues to work for a pre-set period.

Units with a combination of these functions start when any one triggers.

The iCON ventilator will stop when the control module senses:

- no one in the room (PIR) and set period has elapsed.
- humidity has reduced to the level set (HUMIDISTAT) and set period has elapsed.
- pull cord being operated and set period has elapsed (Pull Cord options).
- set period has elapsed (TIMER).

Units with a combination of these functions stop when the last function no longer triggers and the set period has elapsed.

# Trouble-shooting

If, after carrying out the following checks, the iCON ventilator then fails to work correctly, contact the installer or AIRFLOW Service Department.

ALWAYS ISOLATE THE VENTILATOR UNIT FROM THE POWER SUPPLY BEFORE REMOVING THE COVER.

| | |
|---|---|
| Ventilator iris shutters do not open or shut immediately when fan is switched on or off. | A delay of approximately 45 seconds is normal operation for iCON ventilators. |
| Ventilator does not switch on | Check wiring to mains supply.<br>Check external 3A fuse<br>Check wiring to module.<br>Check Pull Cord on unit. |
| Ventilator iris shutters do not open | An incorrectly assembled front cover may impede the iris shutters:<br>Remove and replace front cover, [See: Ventilator Front Cover – Removal/Refitting].<br>Contact Airflow. |
| Ventilator iris shutters do not close | |
| Ventilator does not switch off | Check wiring connections to switch, unit and module. |
| Ventilator continues to work for an excessively long time after leaving the room | Adjust modules: Reduce TIMER, increase HUMIDISTAT, [See: Fitting/Installation - Modules]. |

# Maintenance

ALWAYS ISOLATE THE VENTILATOR UNIT FROM THE POWER SUPPLY BEFORE REMOVING THE COVER.

## Safety

When installed according to these instructions the iCON range of ventilators is completely safe. The materials used do not constitute a hazard. The module covers are made of a flame retardant material.

## Cleaning

- The external housing of the ventilator can be wiped with a damp cloth. Do not use household cleaners containing abrasives.
- Cleaning of the internal parts such as the impeller should be carried out using a soft brush. **Note:** Always ensure that the ventilator is isolated from the power supply before inserting the brush into the impeller duct.
- Never clean any parts of the fan assembly by immersing in water or using a dishwasher.

# Technical specification

## Features

Flexible operation for a range of domestic uses in bathrooms, toilets, kitchens and utility rooms.

- Lubricated for life motor with thermal cut-out.
- IPX4 housing.
- Double insulated Class II rated.
- Conforms to current building regulations.

## iCON 230V Range Ventilator Unit

| ICON model | iCON15 | iCON30 | ICON60 |
|---|---|---|---|
| Part number | 72591501 | 72591601 | 72591701 |
| Fan size (mm) | Ø197 x 89 | Ø225 x 141 | Ø280 x 165 |
| Maximum ambient temperature (°C) | 40 | 40 | 40 |
| Frequency (Hz) | 50 | 50 | 50 |
| Power (W) | 14.5 | 30 | 75 |
| Voltage (V) | 230 | 230 | 230 |
| Colour | White | White | White |
| Mounting | Wall or Ceiling | | |
| | Recessed | Surface or Recessed | |
| Usage | Bathroom, Toilet, Kitchen, Utility room | | |

## Modules for 230V iCON Range

| 230V Module Description | Part No. | Wiring Diagram | Trigger Input | Timer[3] | PIR | Humidity[4] | Pull Cord Momentary | Pull Cord Latching |
|---|---|---|---|---|---|---|---|---|
| PIR Humidity Timer Module | 72573901 | A,B | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ |
| Humidity Pull Cord Module | 72573902 | A,B | ✓ | ✓ | ✗ | ✓ | ✓ | ✗ |
| PIR Timer Module | 72573903 | A,B | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ |
| Timer Module | 72612601 | B | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ |
| Two Speed Module[5] | 72573601 | B | ✓[1] | ✗ | ✗ | ✗ | ✗ | ✓[2] |
| Pull Cord Module | 72573602 | A | ✗ | ✗ | ✗ | ✗ | ✗ | ✓[1] |

**Note**s: 1: full speed 2: low speed 3: 2 - 45minutes 4: 40% - 90 %RH
5: Not recommended for iCON15 fan.

## Options and spares

| Description | iCON Model Part Number | | |
|---|---|---|---|
| | ICON15 | ICON30 | ICON60 |
| | 72591501 | 72591601 | 72591701 |
| Skirt [1] | ✗ | 82594401 | 82595601 |
| External grille (∅ 100 mm) | 82596201 | 82596201 | ✗ |
| External grille (∅ 150 mm) | ✗ | ✗ | 82593101 |

**Note** 1: A skirt is supplied with iCON30 and iCON60 ventilator units for surface mounting.

# Contacting AIRFLOW

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