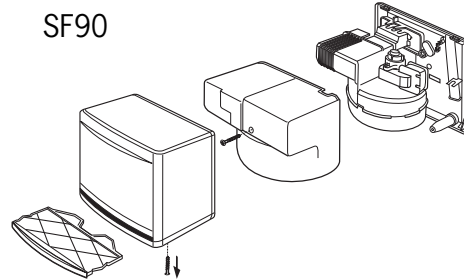
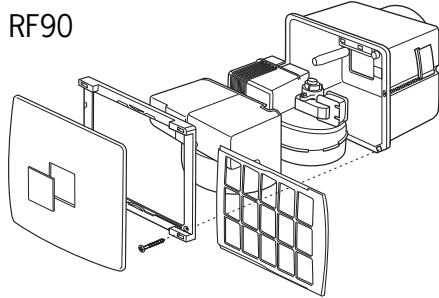


# Installation Instructions for RF90, SF90 Fans for Bathroom and Toilets



## READ ALL INSTRUCTIONS BEFORE COMMENCING INSTALLATIONS

- **Warning:** This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in safe way and understand the hazards involved. Children shall not play with the appliance.
- Where an open-flued oil or gas-fuelled appliance is installed, precautions must be taken to avoid a back-flow of gases into the room.
- When installing wall mounted fans, ensure that there are no buried cables or pipes in the way. It is recommended that this fan is mounted >1.8m above floor level.
- The fan should not be sited where it would be subject to a direct source of heat in excess of 40°C.
- Observe appropriate safety precautions if working on steps or ladders. Wear eye protection when breaking out wall or window materials, etc.
- A clearance of 75 mm to be allowed on at least one side of the fan for the removal of the internal grille.
- Always isolate fan from mains supply before cleaning. Do not use solvents to clean this fan.
- Cleaning and user maintenance shall

not be made by children without supervision.

- The RF90 product has a unique feature which will allow the filter to be removed and replaced from both sides avoiding any problems when installing the unit hard up against a wall. For filter removal please allow a travel distance of 250mm to allow the filter to be fully retracted from the unit.
  - SF90SELV fans shall only be installed by using the supplied Safety Extra Low Voltage (SELV) controller.
  - If product comes with a pull cord please do not remove the break-link found within casing.
  - To disassemble the unit, disconnect from mains supply and use a screwdriver to segregate the electronic components and motor from the plastic housing. Dispose items in accordance with WEEE.
  - **WEEE Statement**  
This product may not be treated as household waste. Instead it should be handed to an appropriate collection point for the recycling of electrical and Electronic equipment.
- For more detailed information about the recycling of this product, please contact your local council office or your household waste disposal service.

**A Models.** Dual speed, continuously running at trickle speed. Operation between trickle/normal speeds by pull-cord/light/remote switch or sensor.

**HT/HTW Models.** Single speed. Automatic and manual operation. Unique manual override with automatic switch-off. An integral humidity sensor will operate the fan whilst the RH (Relative Humidity) exceeds the pre-set activation point. The RH is then reduced back to the activation point. The linked overrun timer continues to operate the fan for the pre-set time period to ensure the RH level is further reduced within the room to prevent 'hunting'. The sensor also features a set-back facility helping to eliminate night-time running. Manual operation of the fans pull cord (contact switch) will activate the fan for the pre-set overrun timer period. If wired into a room light or remote switch the fan will operate whilst the room light or switch is on. Once the fan is switched off the overrun timer will run for the pre-set time period. Humidistat adjustable 50 – 90% RH @ 20° C. Adjustable overrun timer (up to 30 mins).

**T/TW Models.** Single speed. Unique manual override with automatic switch off. Operation by pull cord, light switch or remote switch.

Integral pull cord will activate the fan for pre-set overrun timer operation. If wired into room light or remote switch the fan will operate whilst the switch is on. Once the fan is switched off the overrun timer will run for the pre-set time period. Adjustable overrun timer (up to 30 mins).

**SVIHT Models (Safety Extra Low Voltage).** Single speed, automatic and manual operation. Unique manual override with automatic switch-off.

The fans integral humidity sensor will operate the fan whilst the RH exceeds the pre-set activation point. When the RH is reduced back to the activation point the linked overrun timer continues to operate the fan for the pre-set time period. This feature ensures the RH level is further reduced within the room to prevent 'hunting'. In addition the sensor also features a set-back facility to help eliminate night-time running.

Manual operation of the fans pull cord (contact switch) will activate the fan for the pre-set overrun timer period. If wired into a room light or remote switch the fan will operate whilst the room light or switch is on. Once the fan is switched off the overrun timer will run for the pre-set time period.

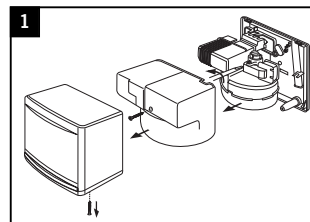
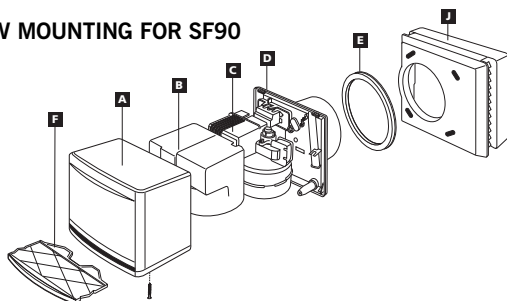
Humidistat adjustable 50 – 90% RH @ 20° C. Adjustable overrun timer (up to 30 mins).

**SVIT Models (Safety Extra Low Voltage).** Single speed. Operation by pull cord, light switch or remote switch. Integral pull cord will activate the fan for pre-set overrun timer operation. If wired into room light or remote switch the fan will operate whilst the switch is on. Once the fan is switched off the overrun timer will run for the pre-set time period. Adjustable overrun timer (up to 30 mins).

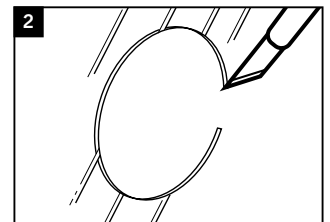
## OPERATION

**B/BW Models.** Single speed. Operation by pull cord, remote switch, light switch or remote sensor. Pull cord complying to BS EN 60669-1:2000.

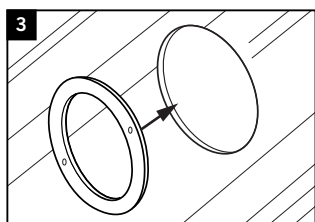
## WINDOW MOUNTING FOR SF90



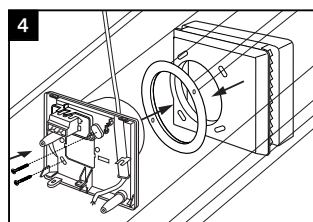
1 Remove 1-piece front cover (A). Remove internal cover (B) and power unit (C).



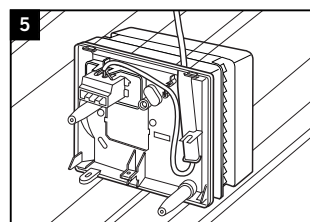
2 Cut a 108mm diameter hole in the window.



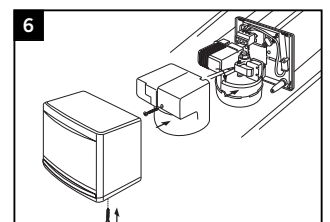
3 Fit seal (E) around the hole.



4 Fix mounting plate and external grille (J) to window with the screws provided.

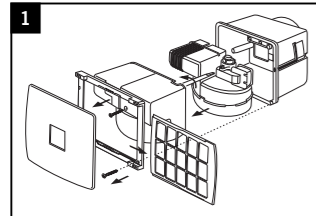
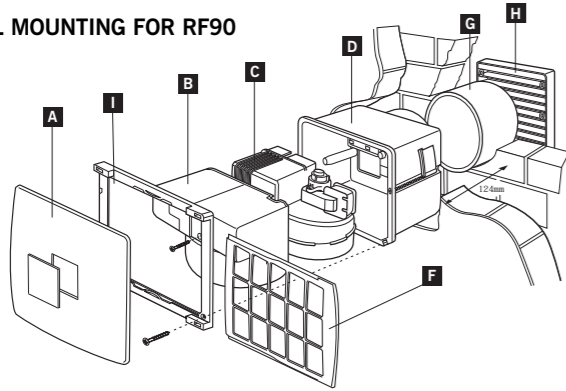


5 Wire fan into terminal block located on fan case back plate (D) as required. (see back page for wiring details).

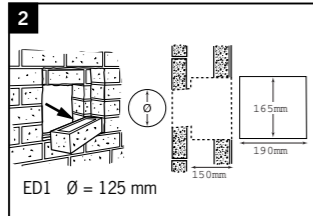


6 Replace power unit (C) ensuring no wires are trapped before securing unit. Replace internal casing (B) and front cover (A).

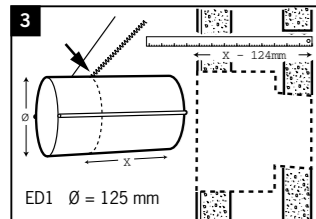
WALL MOUNTING FOR RF90



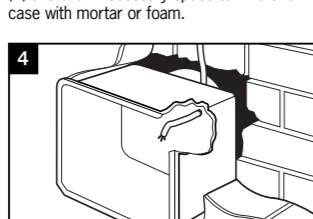
1 Unclip front cover (A), withdraw screw from corner of filter frame (I). Remove internal cover (B) and power unit (C).



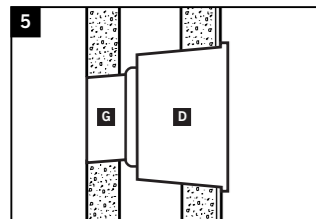
2 Cut an opening through the wall for ED1 duct (Ø110mm). Cut an opening in the internal wall 190 x 165 x 150mm deep to accept fan case (D) and allow necessary space to fix the fan case with mortar or foam.



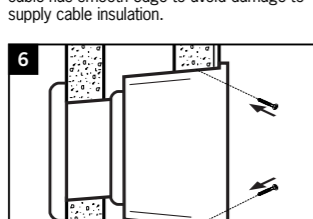
3 Cut the ED1 duct pipe (G) to width of the plasterboard or tiled wall less 124mm, make good with slight fall to exterior. (Make provisions for cable).



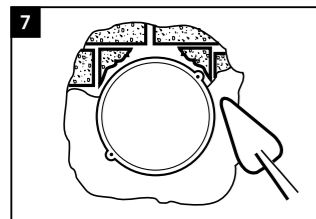
4 Feed flexible cable through conduit entry hole in the fan case. Make sure knock-out hole for cable has smooth edge to avoid damage to supply cable insulation.



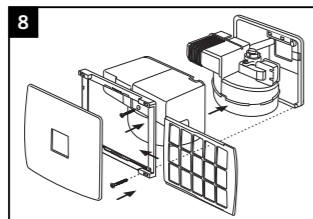
5 Fix the fan case direct to duct pipe (G) after fitting rubber seal to fan outlet on fan case. Make sure that the fixing holes in the ducting are at 45° before securing ducting.



6 Secure fan case by using No. 8 screws, through top and bottom of fan case.

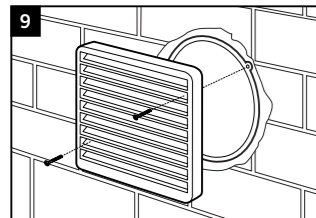


7 Fill the gap with mortar or foam. Make good on external wall. Wire fan as required (See wiring details on back page).



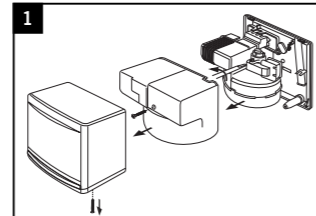
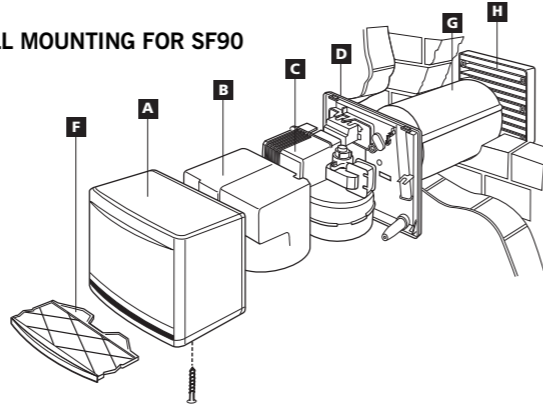
8 Replace power unit (C) ensuring no wires are trapped before securing unit. Replace internal cover (B). Replace fixing screw at corner of filter frame (I), insert filter (F) and fit front cover (A).

**DO NOT OVERTIGHTEN SCREWS.**

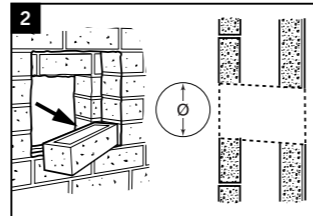


9 A protective wall-grille (H) may be used on the external opening.

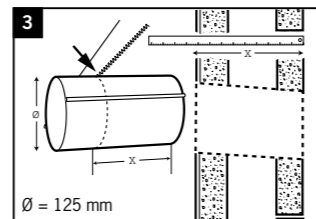
WALL MOUNTING FOR SF90



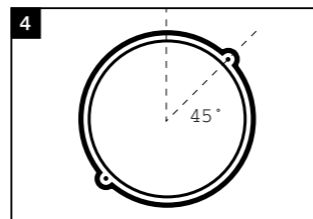
1 Remove 1-piece front cover (A). Remove internal cover (B) and power unit (C), loosen but do not remove central screw.



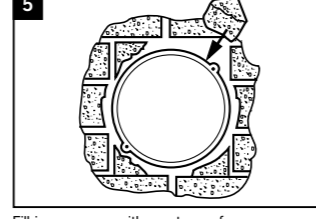
2 Cut an opening through the wall for ED1 duct (Ø125mm).



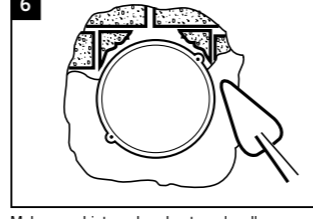
3 Cut the duct pipe (G) to width of the plasterboard or tiled wall with slight fall to exterior. (Make provisions for cable).



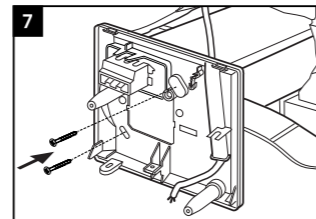
4 Make sure that the fixing holes in the ducting are at 45° before securing ducting.



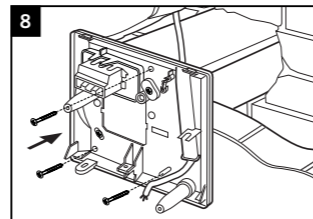
5 Fill in any gaps with mortar or foam.



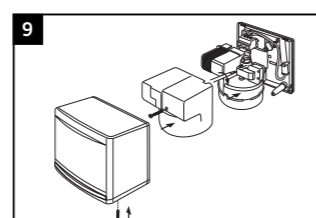
6 Make good internal and external walls.



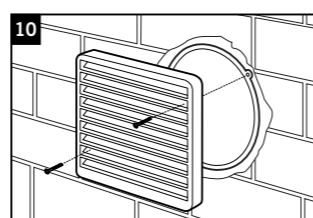
7 Mark and plug wall for fan casing back plate. Fit rubber seal to fan outlet on fan casing back plate (D) before fixing the fan case direct to duct pipe (G).



8 Using No 8 screws, secure fan case back plate (D) to the wall using the pre-plugged holes. Wire fan as required (See wiring details on back page).

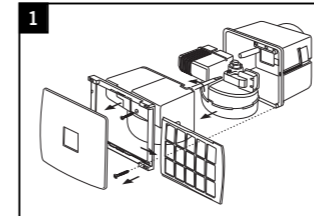
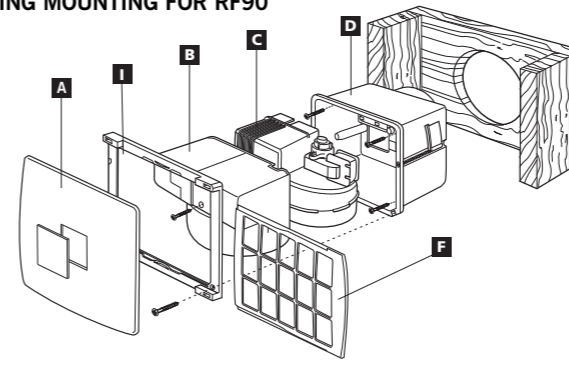


9 Replace power unit (C) ensuring no wires are trapped before securing unit. Replace internal casing (B) and front cover (A).

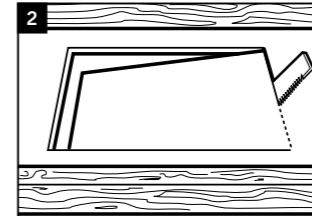


10 A protective wall-grille (H) may be used on the external opening.

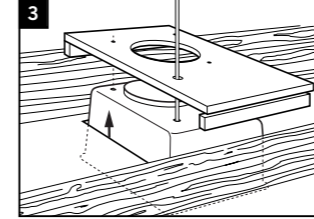
CEILING MOUNTING FOR RF90



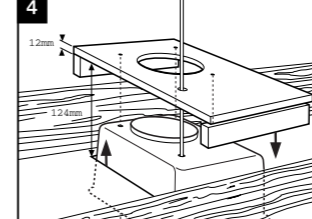
1 Unclip front cover (A), withdraw screw from corner of filter frame (I). Remove internal cover (B) and power unit (C).



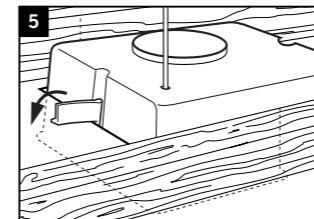
2 Cut an opening through ceiling 190 x 165mm for fan case.



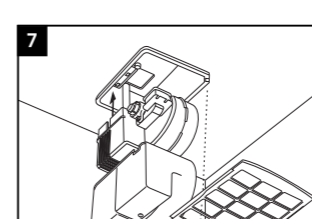
3 Construct timber support plate between two joists (See diagram). Cut holes for outlet pipe (120mm dia.) and electrical cable. (refer to template supplied). Mark internal fixing holes, feed cable through entry hole in fan case. Make sure knock-out hole for cable has smooth edge to avoid damage to supply cable insulation.



4 Screw fix fan case to timber support, using No.8 screws, after fitting rubber seal to fan outlet on fan case. Wire fan as required (See wiring details on page 4).

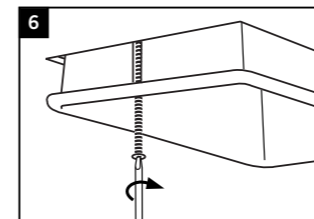


5 Alternatively use the simple "screw fixing". Push the casing through cut hole in ceiling. Turn both fixing arms outwards (See diagram).

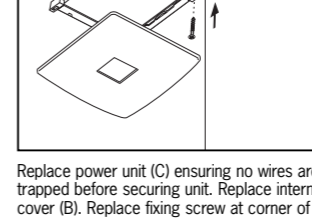


6 Replace power unit (C) ensuring no wires are trapped before securing unit. Replace internal cover (B). Replace fixing screw at corner of filter frame (I), insert filter (F) and fit front cover (A).

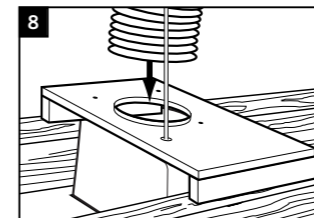
**DO NOT OVERTIGHTEN SCREWS.**



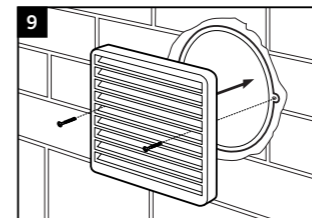
7 Screw casing to ceiling, making sure fixing arms are secure to the ceiling. Wire fan as required (See wiring details on page 4).



8 Fit required ducting to fan outlet and vent to outside grille.

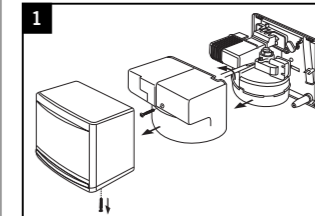
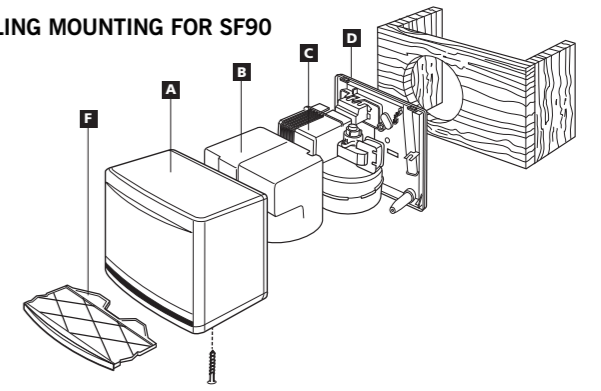


9 Fit required ducting to fan outlet and vent to outside grille.

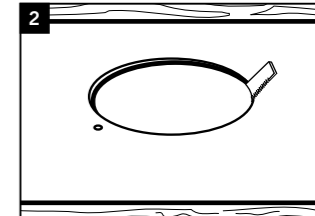


10 A protective wall-grille may be used on the external opening.

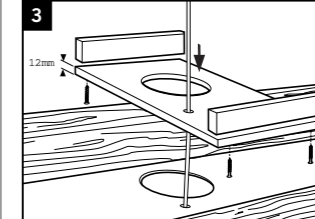
CEILING MOUNTING FOR SF90



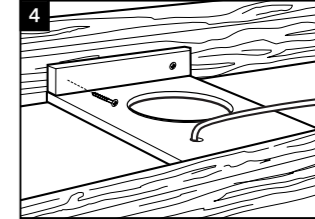
1 Remove 1-piece front cover (A). Remove internal cover (B) and power unit (C), loosen but do not remove central screw.



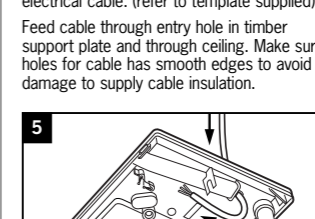
2 Cut an opening through ceiling 120mm diameter for fan case.



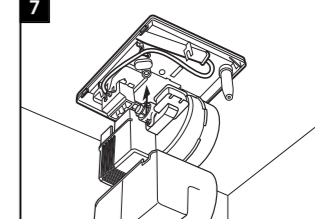
3 Construct timber support plate between two joists (See diagram). Cut holes for outlet pipe (120mm dia.) and electrical cable. (refer to template supplied).



4 Screw timber support plate to the joist, ensuring that it is flat against the plasterboard.



5 Cut holes for outlet pipe (120mm dia.) and electrical cable. (refer to template supplied). Feed cable through entry hole in timber support plate and through ceiling. Make sure holes for cable has smooth edges to avoid damage to supply cable insulation.

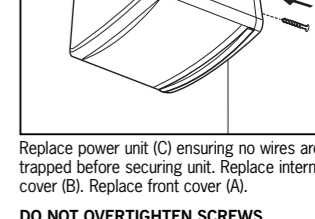


6 Replace power unit (C) ensuring no wires are trapped before securing unit. Replace internal cover (B). Replace front cover (A).

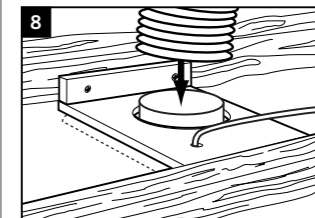
**DO NOT OVERTIGHTEN SCREWS.**



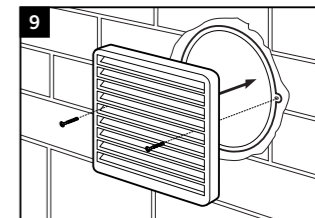
7 Secure fan casing back plate (D) to the ceiling using screws.



8 Fit required ducting to fan outlet and vent to outside grille.



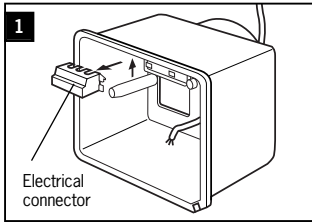
9 Fit required ducting to fan outlet and vent to outside grille.



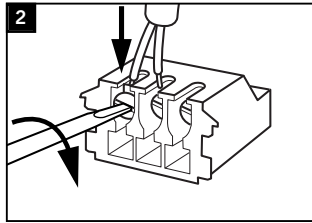
10 A protective wall-grille may be used on the external opening.

# Installation Instructions for RF90, SF90 Centrifugal Fans for Bathroom and Toilets

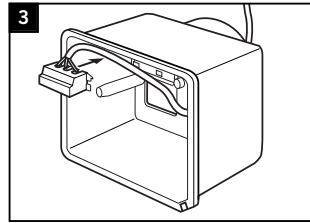
## WIRING DETAILS FOR RF90



With the covers and power unit removed, slide the electrical connector up and remove from the fan case.

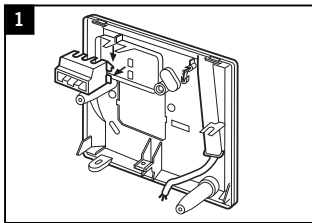


Strip wires and connect to the connector block. NOTE: Wires must be fixed under screw head not under isolator contact.

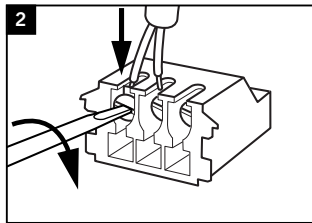


Replace the electrical connector by sliding it in and down into the fan case. Replace power unit and covers ensuring no wiring is trapped.

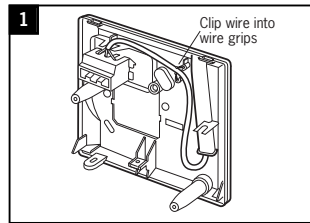
## WIRING DETAILS FOR SF90



With the covers and power unit removed, slide the electrical connector up and remove from the fan case.



Strip wires and connect to the connector block. NOTE: Wires must be fixed under screw head not under isolator contact.



Clip wire into wire grips (see diagram). Replace electrical connector to fan casing. Replace power unit (C) ensuring that no wires are trapped before securing unit. Replace internal and front cover.

## WIRING DIAGRAMS

Installation or disconnection must be carried out by a qualified Electrician and all wiring must conform to IEE Wiring or local Regulations.

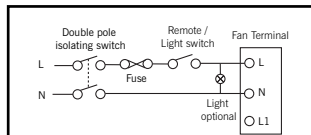
Isolate electricity supply before starting work.

- The fans are double insulated and do not require an earth connection.
- When supplied from a 6 amp lighting circuit no local fuse is required.
- The fan must be connected to a switched connection unit having contact separation of at least 3mm at each pole. For single units use 3 amp fuse.

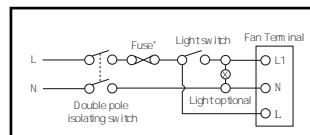
Specification: 220-240V~50 Hz.

Consumption: 20W (AC Only)  
30W (SELV)  
Trickle speed (A) 10W

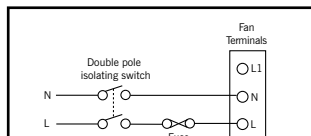
Cable Size: 2 or 3 Core 1mm<sup>2</sup> Max.



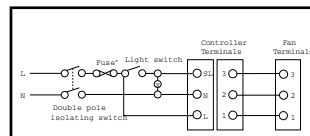
Wiring for remote switch/light switch B/BW Models



Wiring for room light and pull cord A, T/TW, HT/HTW and Continuous Models



Wiring for pull cord only A, B/BW, T/TW and HT/HTW Models



Wiring for room light and pull cord SVIT and SVIHT Models

## SELV FANS ONLY TO WIRE THE CONTROLLER

Install SELV controller, using the two fixing holes, in a suitable location outside of the room where the SF90SELV fan is installed. The location should be as such that air can circulate around the SELV controller and it should never be covered.

The distance between the fan and SELV controller should be kept to a minimum and ideally not greater than 3.0m.

Remove the controller's electrical cover. Make all connections to the connector blocks.

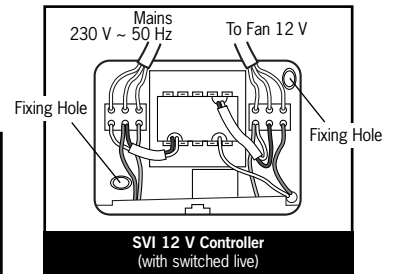
**Note:** Mains cable must be fixed back to the wall using appropriate cable cleats.

Replace electrical cover.

**Note:** Do not fit more than one fan to the controller or connect with any other product.

Maximum cable length between fan and controller:

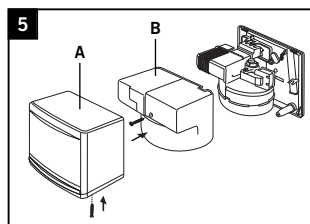
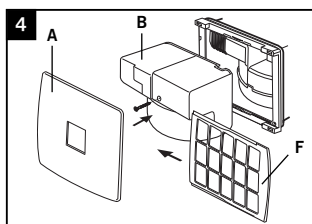
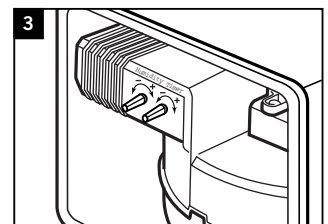
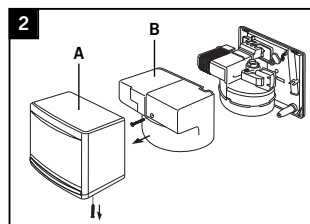
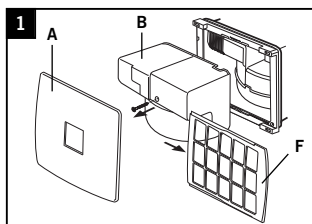
Conductor Size	Maximum length
0.50mm <sup>2</sup>	1.5m
0.75mm <sup>2</sup>	2.3m
1.00mm <sup>2</sup>	3.0m
1.5mm <sup>2</sup>	4.5m



## SENSOR/TIMER ADJUSTMENTS

**Note:** Switch off the mains electricity before adjusting controls.

- For RF90 fans, unclip front cover (A), slide filter out (F), Remove internal cover (B). The sensor/timer adjustments are situated on the front face of the power unit.
- For SF90 fans, remove 1-piece front cover (A). Remove internal cover (B). The sensor/timer adjustments are situated on the front face of the power unit.
- The sensor/timer are pre-set but may be adjusted by rotating the knobs between + and - .  
Rotate clockwise to increase and anti-clockwise to decrease time or humidity sensor sensitivity.
- For RF90 fans, reassembly is the reverse of dismantling.
- For SF90 fans, reassembly is the reverse of dismantling.



## TO CLEAN OR SERVICE FAN & FILTER

The fan & filter may be cleaned using a brush or damp cloth. DO NOT IMMERSE THE FAN UNIT IN WATER. A visible check of the filter should be made every 6 months.

**WARNING:** Always isolate fan from mains supply before cleaning. Do not use solvents to clean this fan.

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