



Installation & Operating Instructions

For 12V Extractor Fans Models: (4") G510SELV, (6") G242SELV

For 12V Controllers Models: 12VFC, 12VFCT & 12VFCHS

Thank you for purchasing a quality 12V Extractor Fan & Controller from GreenBrook. Please read these instructions fully prior to initial use.

Every effort has been made to ensure that the guidance information on this sheet will enable the installation of the fan to be carried out safely and correctly.

IMPORTANT

This safety extra low voltage (SELV) fan and its controller should be installed by a competent person and in accordance with the current IEE Wiring Regulations.

If in doubt, consult a qualified electrician.

When installing fans or controllers, switch off mains supply before making any electrical connections.

POSITIONING OF THE CONTROLLER

1. It is a requirement of the IEE regulations that the controller is installed in a position that is out of reach of a person using a bath or shower. Controller models that do NOT have a humidistat (12VFC/12VFCT) may be fitted outside the room containing the fan.
2. Humidistat Model (12VFCHS) **MUST** be fitted inside the room containing the fan and sited high on the wall as possible, but NOT within 50mm of the ceiling and adjacent wall.
3. All controller models must NOT be installed in a shower cubicle, above a bath or where there is any possibility of liquid spray.
4. They must NOT be installed where the normal air temperature may exceed 40°C or in an area containing excessive levels of grease.
5. All models should NOT be covered with any heat insulation material, air flow around the controllers should not be restricted. Note: 50mm minimum distance to all adjacent surfaces.
6. All models come complete with a pattress box but can also be flush mounted by using a suitable 25mm deep fixing box.

POSITIONING OF THE FAN

1. All (SELV) fans may be fitted to a wall or window.
2. These fans are double insulated and do NOT require an earth connection.
3. They may be fitted in a ceiling providing adequate condensation control and suitable ducting runs are used.
4. The electrical supply to the low voltage fan is 12V AC 50Hz (SELV) from the mains controller, this means the fan may be sited within reach of a person using a bath or shower i.e. in a nearby wall or window. However the fan must NOT be sited where it could be submerged in water or exposed to direct water spray e.g from a shower head whether permanently fixed or moveable.
5. They must NOT be installed where the normal air temperature may exceed 40°C or in an area containing excessive levels of grease.

6. Precaution must be taken if they are fitted in a room with a fuel burning device which has a non balanced flue to ensure there is enough replacement air available.
7. For best performance the fans should be sited on an external wall as high and as far as possible from the main air replacement for the room.

INSTALLATION

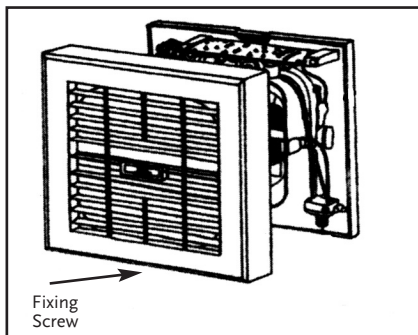
Select a suitable mounting position for the fan and controller ensuring there are no hidden obstructions and work out the cable runs.

Please Note: Using long lengths of ducting will reduce the efficiency of the fan, whenever possible keep the ducting straight and the distances as short as possible.

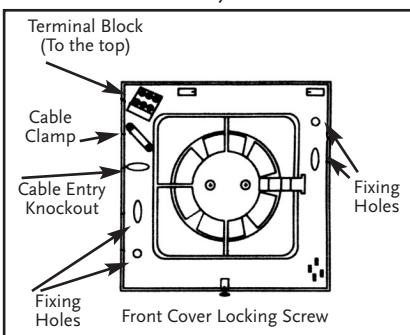
Warning: Ensure that the mains supply is isolated before making any electrical connections.

Installing The Fan in an External Wall

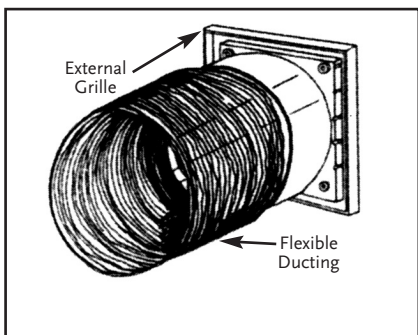
Dia 1- Front Cover



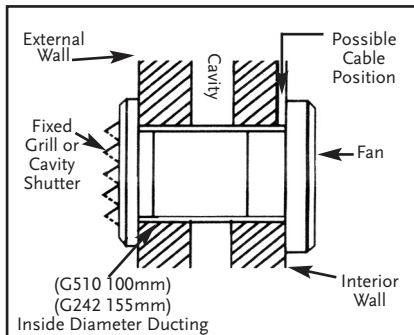
Dia 2- Internal Fan Layout



Dia 3 - Wall Kit



Dia 4 - Installation in an External Wall



1. Cut a hole through the wall, sized to give a small clearance on inside diameter ducting: **G510SELV** = 100mm or **G242SELV** = 155mm.
2. Remove the front cover from the fan by loosening its locking screw (Dia.1)
3. Remove the cable entry knockout.
4. Hold the fan body assembly (terminal block to the top) centrally in the hole and mark two fixing positions and the cable entry.
5. Drill and plug the two fixing positions and chase a groove for the cable. Fix the cable in position, ensuring sufficient length is left for the connections.
6. Bridge the wall cavity using a length of rigid or flexible inside diameter ducting and make good the wall surfaces where necessary. **G510SELV** = 100mm or **G242SELV** = 155mm.

7. Fix the fan body assembly to the wall using pan head screws of a suitable length.
8. Make the correct electrical connections (see wiring diagrams) to the terminal block and clamp the cable securely to the fan body.

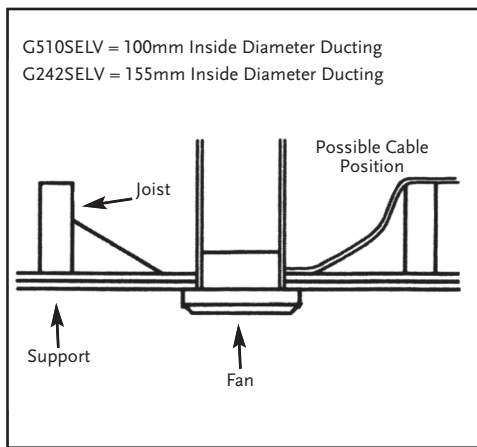
IMPORTANT

Ensure that the fan blades rotate freely.

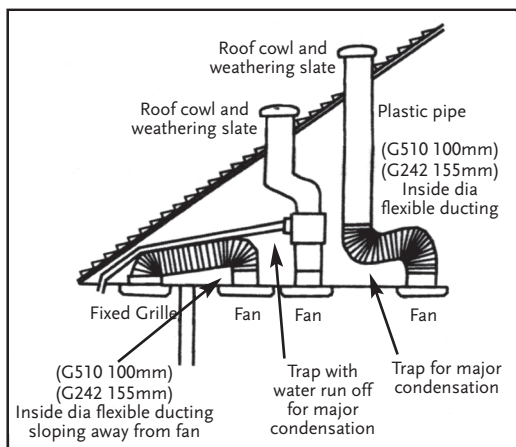
Refit the front cover and tighten its locking screw. Fit a suitable external grille or gravity shutter KingShield models **G425/G400** for G510SELV, and **G625/G600** for G242SELV shown in Dia 3.

Installing The Fan in a Ceiling

Dia 5 - Installation in a ceiling



Dia 6 - Venting through a roof



1. Fit a firm support between the joists.
2. Cut a hole through the ceiling and support sized to give a small clearance on inside diameter ducting. **G510SELV** = 100mm or **G242SELV** = 155mm
3. Remove the front cover from the fan by loosening its locking screw (Dia.1)
4. Remove the cable entry knockout.
5. Hold the fan body assembly centrally in the hole and mark two fixing positions and the cable entry.
6. Drill pilot holes for the fixing positions and a clearance hole for the cable.
7. Fix the supply cable in position ensuring sufficient length is left for the electrical connections.
8. Fix the fan body assembly to the ceiling using pan head screws of a suitable length.
9. Install ducting from the fan spigot either through the roof using a weatherproof slate and roof cowl, or under the eaves using an external fixed grille model **G425** for the **G510SELV** or **G625** for the **G242SELV**.
10. Make the correct electrical connections (see wiring diagrams) to the terminal block and clamp the cable securely to the fan body.

WARNING

If installing any ducting which will be positioned higher than the fan itself, a condensation trap must be used, this should be fitted as close to the fan as possible.

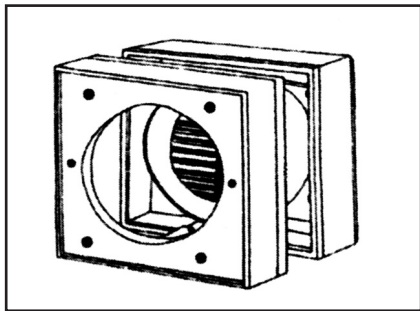
Fan ducting outlet must be positioned well away from any existing flue gas outlets such as central heating exhausts

IMPORTANT

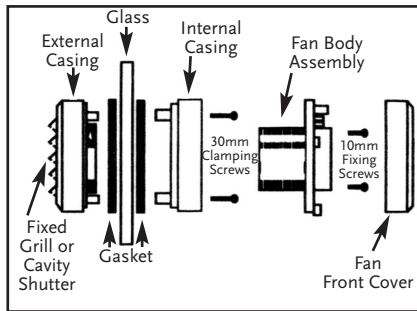
Ensure that the fan blades rotate freely. Refit the front cover and tighten its locking screw.

Installing the Fan in a Window

Dia 7 - Window Conversion Kit



Dia 8 - Installation in a Window



Please Note: This installation requires a window fan and a conversion kit KingShield models CK4GS or CK4FG for G510SELV or CK6GS or CK6FG for G242SELV. Fans can be fitted into most types of glass with varying thickness (including double glazed units) from 4mm to 28mm. It is advisable to have the hole pre-cut in a new pane of glass by a professional glazier. If the fan is to be mounted in hermetically sealed double glazing it will be necessary to obtain a window from a glazing manufacturer.

1. Pre-cut diameter hole in the glass: **G510SELV** =140mm or **G242SELV** =184mm.
2. Remove the front cover from the fan by loosening its locking screw (Dia.1)
3. Undo the clamping screws **G510SELV** = 2 x 30mm or **G242SELV** 4 x 30mm, positioned top and bottom on the internal casing and separate from the external casing.

IMPORTANT

Ensure the sealing gaskets are fitted correctly to the edges of the casings.

From the Inside:

1. With the clamping screw holes positioned top and bottom, place the internal casing and gasket centrally in the hole.

From the Outside:

1. With the louvres/shutters slanting downward, re-locate the external casing and gasket squarely on to the internal casing.
2. Re-locate and tighten the two or four clamping screws sufficiently to create a seal on the glass.

DO NOT OVERTIGHTEN

3. Fix the fan body assembly to the internal casing (terminal block to the top) using the two 10mm fixing screws.
4. Fix the cable in position, ensuring sufficient length is left for the connections.
5. Remove the knockout or form a suitable cable entry in the front cover (not immediately above the overrun timer when fitted).
6. Make the correct electrical connections (see wiring diagrams) to the terminal block and clamp the cable securely to the fan body.

IMPORTANT: Ensure that the fan blades rotates freely. Refit the front cover and tighten its locking screw.

Installing the Controller

1. Separate the controller and pattress box by undoing the two recessed screws.
2. Fix the (SELV) fan cable and the mains supply cable in position ensuring sufficient length is left for connections.

- Remove suitable cable entry knockouts from the pattress box and fix in position using screws and (possible masonry plugs) compatible with the mounting surface.
- Make the correct electrical connections (see below for which wiring diagram to follow) to the controller terminal blocks.
- Refit the controller to the pattress box taking care not to overtighten the fixing screws or trap any wires.

WIRING DIAGRAMS

MODEL	WIRING DIAGRAM	DESCRIPTION	OPERATING
Standard 12VFC	9	For remote switching.	Remote switch on - Fan runs Remote switch off - Fan stops
Overrun Timer 12VFT	10	Adjustable (2-30 mins) Overrun timer for remote switching.	Remote switch on - Fan runs Remote switch off - Fan overruns for preset time.
Overrun Timer & Humidistat 12VCHS	10	Adjustable (2-30 mins) overrun timer for remote switching. Integral humidity sensor switching.	Remote switch on - Fan runs Remote switch off - Fan overruns for preset time. Automatic operation when relative humidity level in room rises above 70%.

DIAGRAM 9

12VFC - Standard Model

Terminal L = Live Supply
Terminal N = Neutral Supply

Terminal 1 - to Fan 1
Terminal 2 - to Fan 2

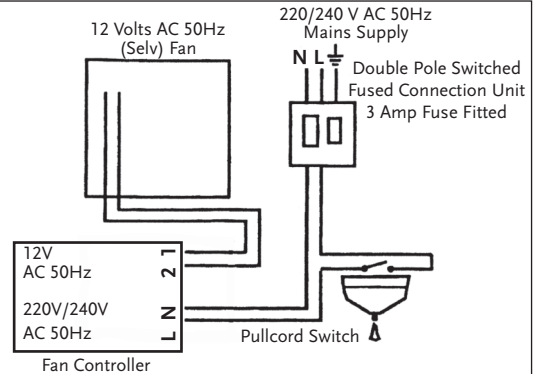
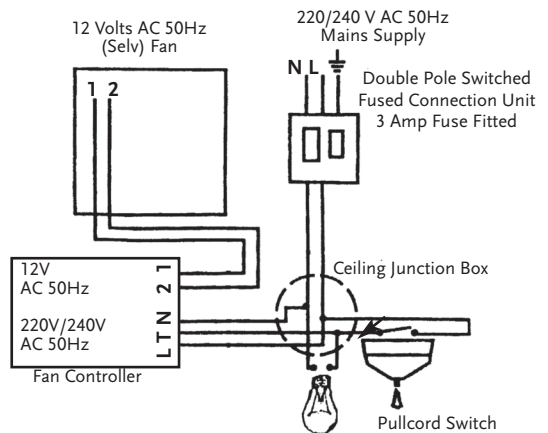


DIAGRAM 10

12VFT - Overrun Timer Model 12VCHS - Humidistat Model For Remote Pullcord Switch Operation

Terminal L = Live Supply
Terminal T = Switched Live Supply
Terminal N = Neutral Supply

Terminal 1 - to Fan 1
Terminal 2 - to Fan 2



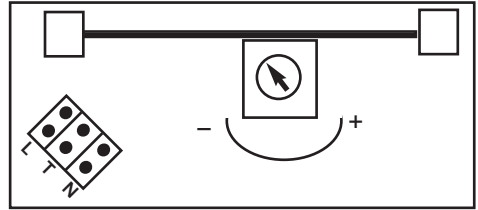
HUMIDISTAT MODELS

Upon initial installation, the fan may run continuously for up to 10 days until the relative humidity has been reduced to an acceptable level. Prevailing weather conditions can also have its effect and in humid conditions its normal running periods may be extended.

OVERRUN TIMER MODELS

To comply with current building regulations the overrun timer has been preset for approximately 15 minutes. To reduce the overrun time, first ensure the fan is isolated from the mains supply, then remove the front cover by loosening its locking screw and turn the timer control clockwise on the timer board. Adjustable from 2 - 30 minutes.

Dia 11- Timer Control



CLEANING

Before cleaning, ensure the fan is isolated from the mains supply. The front cover of the fan may be cleaned with a damp cloth. The interior of the fan should be cleaned occasionally. To do this, first remove the front cover by loosening its locking screw, then clean carefully with a dry cloth if necessary the fan blade may be cleaned with a soft brush.

TECHNICAL INFORMATION

Fan Rated Voltage:	12V AC - 50Hz Safety Extra Low Voltage (SELV)
Controller Rated Voltage:	220 - 240V, AC 50Hz input providing , 12V 50Hz 30VA 30W max, Safety Extra Low Voltage (SELV) output
Fan IP Rating:	IP22
Insulated:	Class II Double
Air Movement:	
4" G510SELV	Up to 80 Cubic Metres/Hour (22.2 Litres/Sec)
6" G242SELV	Up to 230 Cubic Metres/Hour (64 Litres/Sec)

NOTE:

1. The controller's electrical supply must be connected via an RCD double pole fused connection unit (suggest the PowerBreaker H92 model) having a contact separation of at least 3mm in all poles and fitted with a 3Amp fuse. The controller is only suitable for operating ONE (SELV) fan.
2. The fans (SELV) supply from the controller must be made using mains voltage rated non-metallic sheathed 1.5mm cable and should be physically separated and insulated from any mains supply or any other cable
3. A direct replacement, without a wiring change, need not be notified to your Building Control Department.

GUARANTEE

Your KingShield 4"/6" Extractor Fan or 12V Controller is guaranteed for 12 months from the date of purchase. This is in addition to your statutory rights.

**PLEASE KEEP THESE INSTRUCTIONS
SAFE FOR FUTURE REFERENCE**

GREENBROOK
ELECTRICAL PLC
WEST ROAD . HARLOW
ESSEX . CM20 2BG . UK
sales@greenbrook.co.uk
WWW.GREENBROOK.CO.UK

