

Sky Tunnel - Flexible

INS 600/6

April 2007

Installation Instructions

For Tiled, Slate, Pitched and Flat Roofs



IMPORTANT

Before attempting to fit a Sky Tunnel, please take the time to read these instructions. It is imperative to the SkyTunnel's performance that it be fitted in accordance with the manufacturers instructions. Sola Skylights will not be held responsible for deficiency in performance due to incorrect positioning or installation.

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Sky Tunnel efficiently pipes available daylight into dark interiors. The units innovative Flexi-Tube incorporates a highly reflective inner surface that transmits the light entering the crystal clear roof dome down to the ceiling diffuser. In addition standard units can be configured to act as trickle ventilators.



Accessories for your Sky Tunnel

Design your Sky Tunnel to suit your home with our range of accessories.

Available accessories cater for power ventilation for bathrooms, wet rooms and kitchens (all systems come with passive ventilation as standard), variable light control, double glazed ceiling diffuser for additional insulation, security, fire protection, and a light kit to allow use at night.

Adjustair Ceiling Frame

Sky Tunnel models ST400 and ST500 can utilise the Adjustair Ceiling Frame in lieu of the standard diffuser to provide controlled room ventilation.



Eclipse Varilight

Installed within the Sky Tunnel roof assembly this system enables adjustment of brightness or light cut-off. Ideal for use in a bedroom or home office where a computer is installed.



Ceiling Diffuser Fire Collar

Protects against fire spread by collapsing the Sky Tunnel.



Security Collar

Fitted to the roof dome to prevent intrusion.



Double Glazed Ceiling Diffuser

Where room ventilation via the Sky Tunnel is not required this unit can be fitted in lieu of the standard unit.



Sola Skylights Electric Light Kit

Can be installed into any Sky Tunnel model including those supplied with the Adjustair system. This kit removes the need for a separate light fitting in a small room such as a WC or bathroom.



For more information telephone

0800 3897361

Sola Skylights

Naturally Lighter Living

Introduction

This booklet describes the installation procedure for Sky Tunnel models on tiled, slate and flat roofs. Sky Tunnels are available in 350, 400, 500 and 550mm nominal diameters. Also available is our Air Extract Unit which comprises an electric fan ventilation system integrated with the Sky Tunnel, available in either 400mm or 500mm diameters. The ST350 model fits between 400mm (16 inch) frame centres whilst the ST400, ST500 and ST550 models fit between 600mm (24 inch) centres.

Please note, it is the size and function of the interior that decides the model size and number of units required and NOT the rafter spacing in the roof.

Best fitted on a south facing roof, Sky Tunnel directs light to where it's needed, be it a windowless room, dark corridor or north facing room. The flexibility of Flexi-Tube simplifies installation. Sky Tunnel can eliminate the need for costly framing, dry lining, painting and ceiling re-texturing so it is far more economic to install than a traditional skylight.

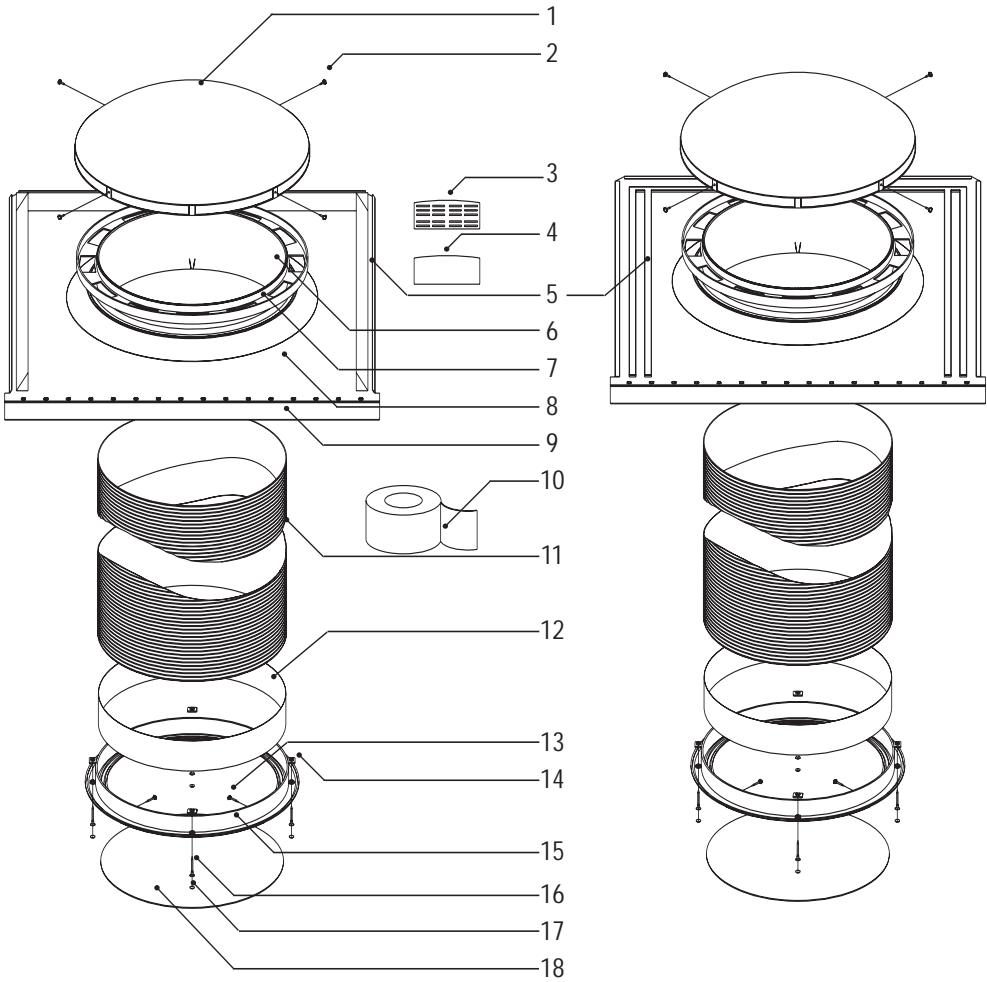
Optional components include, sealed double glazed ceiling diffuser for extra heat insulation, a one to four hour ceiling diffuser fire collar, an electric light unit that fits within the Flexi-Tube and Eclipse Varilight factory fitted (a clever system that allows the user to cut off daylight transmission when desired.) The ST400 and ST500 models can have Adjustair; a ceiling diffuser that can be opened and closed by the end user to provide controlled ventilation. A 150mm uPVC up-stand is also available for use with membranes on flat roofs. Standard Sky Tunnels are stocked by selected UK Building Merchants with optional components normally despatched by Sola Skylights for next working day delivery.

Guarantee

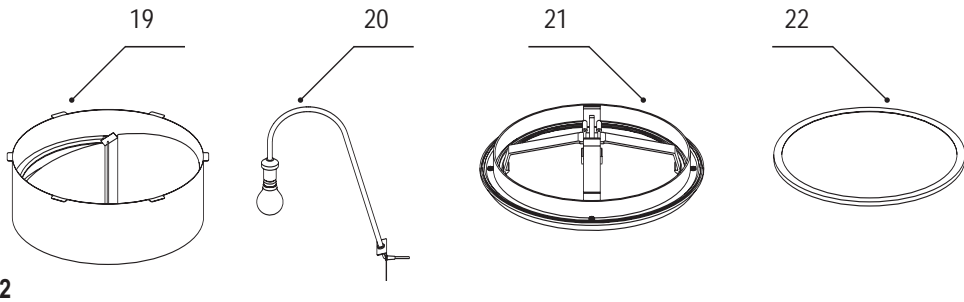
A twenty year manufacturer's certificate is issued with each Sky Tunnel to guarantee against manufacturing defects, rust corrosion and weather deterioration of the main components.

Standard Sky Tunnel - Tile roofs

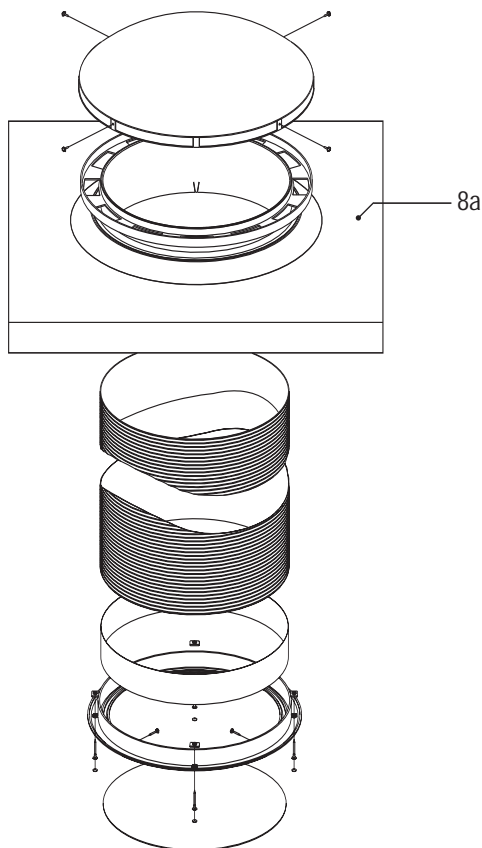
Standard Sky Tunnel - Slate roofs



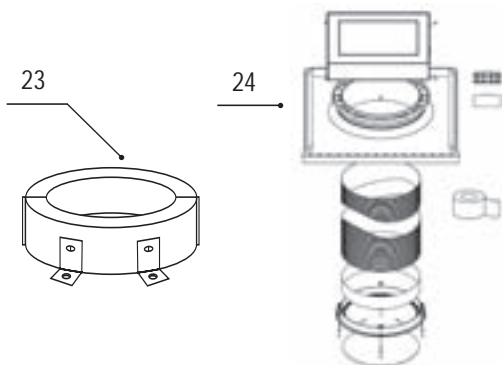
Optional Components



Standard Sky Tunnel - Flat roof



Please note that a recommended 150mm self-build up-stand is required for flat roof units - Page 12.



Component Identification

Item	Description
1	Polycarbonate dome
2	25mm galvanised self drilling screws
3	Vent tab(s)
4	Blank tab(s)
5	Foam sealing strips tile roof model Pre-moulded adhesive mastic slate roof model
6	Upper stainless steel reflector
7	Holes for blank/vent tabs
8	Soaker tray pitched roofs
8a	Soaker tray flat roof
9	Lead flashing
10	PVC Adhesive tape
11	Flexi-Tube – 3 meter standard. (4,5 and 6 metre optional)
12	Diffuser stainless steel ring
13	25mm bright zinc plated self tapping screw(s)
14	Plastic retainer block(s)
15	Ceiling frame
16	45mm zinc plated self tapping screw(s)
17	Screw cap(s)
18	Prismatic diffuser panel
19	Eclipse Varilight
20	Electric light fitting
21	Adjustair (ST400 and ST500 only)
22	Sealed double glazed diffuser
23	Fire collar
24	Heritage Sky Tunnel polycarbonate window in lieu of polycarbonate dome

Other components (not illustrated) include:

- 150mm uPVC up-stand
- Security bars

Delivery Check List

SKY TUNNEL SIZE	ROOF TYPE				DOME MATERIAL		OPTIONAL COMPONENTS																				
	Tile	Slate	Flat	Custom specification	PC	PO	/EL	/EV	/AA	/DC	/SD	/US	/SB	/FC	N/A	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M			
NB: Sky Tunnel models are normally despatched with 3 metres of Flexi-Tube and a standard ceiling diffuser	T	S	F	C	PC	PO	/EL	/EV	/AA	/DC	/SD	/US	/SB	/FC	N/A	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M
	T	S	F	C	PC	PO	/EL	/EV	/AA	/DC	/SD	/US	/SB	/FC	N/A	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M
	T	S	F	C	PC	PO	/EL	/EV	/AA	/DC	/SD	/US	/SB	/FC	N/A	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M
	T	S	F	C	PC	PO	/EL	/EV	/AA	/DC	/SD	/US	/SB	/FC	N/A	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M	/4M	/5M	/6M
Example: Model reference = ST400T – PC / EL / 4M (Sky Tunnel ST400 for tiled roof with polycarbonate clear dome, optional electric light and 4 metre Flexi-Tube)																											

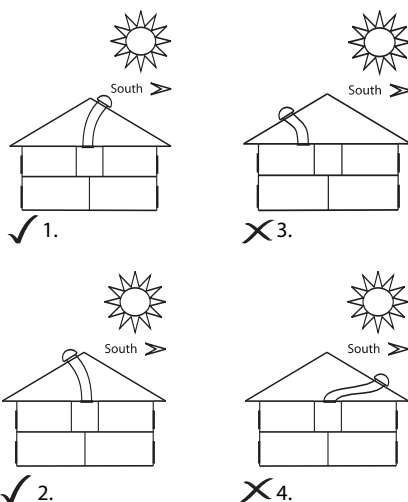
Position and orientation...

Before installing Sky Tunnel please take into account the following parameters...

- To optimise transmission of available daylight, the Sky Tunnel dome assembly is best positioned on a south facing pitched roof that is not overshadowed by tall buildings or large trees.
- The location of the roof dome should be directly above, or as near as possible to, the ceiling diffuser.
- The dome assembly should be installed as high as possible on the roof.
- Avoid bends in the Flexi-Tube as this will affect light transmission. Ideally the Flexi-Tube should be configured as shown on the front of this publication.
- When deciding the exact location it is **IMPORTANT** to check the position of rafters, roof supporting struts and joists. Rafters or joists may require modification with structural grade timber. The ST350 model fits between 400mm rafter centres. ST400, ST500 and ST550 models fit between 600mm rafter centres.
- Check if there are any obstructions in the attic such as water tanks, central heating header tanks, pipe work and electrical wiring.

Sky Tunnel is designed to efficiently pipe daylight into a...

1. Windowless room or dark corridor where the dome is ideally located on a south facing roof.
2. Windowless room or dark corridor where the dome is located on a north, east or west facing roof. In these applications it may be necessary to fit a larger Sky Tunnel than shown in the table on page 1.
Please telephone the Helpline if further advice is required.
3. Please note, installing the Sky Tunnel to provide additional daylight in a room that has large windows or patio doors, may have little effect on overall illumination.
4. Dome assembly located too low on roof is not desirable as this creates too many bends in the Flexi-Tube.



For further advice on sizing please phone Helpline
For UK - 0800 389 7361. For Ireland - 071 91 46343

Assembling Procedure

1.1 Tools and supplies recommended for installation of a Sky Tunnel.

- Scaffolding or other safe means of accessing the roof area.
- Safety equipment including, safety helmet and harness, site jacket, goggles and work gloves.
- Snipe pliers (with wire cutter)
- Cordless electric drill with Philips driver bit – recommended size, ph2.
- 2mm twist drill.
- Claw hammer, pencil, metal measuring tape.
- 4 x 25mm (1 inch) galvanised flathead nails.
- Short blade crosscut saw to cut through tile/slate battens.
- Electric grinder with masonry disks to cut roof tiles or slates where necessary.
- Electric power extension lead.
- Folding steps for access to loft and interior work.
- Keyhole plaster handsaw.
- Craft knife.
- Trowel, sand and cement render for corrugated tiled roofs.
- Structural grade timber 90mm x 35/40mm thick, for supporting any roof members requiring modification. 1 x box of 80mm (3 inch) bullet-head nails
- Roofs with flat tiles. A number of verge tiles (248mm wide) will be required – see instruction 13.2.
- Slate shingle roofs – a number of extra width verge slates may be required – see instruction 13.3.
- Depending on the size of slate shingles, additional lead flashing may be required.
- Mastic gun and frame mastic to seal flat roof soaker tray to self built upstand.

2.1

Carefully remove the Sky Tunnel from its carton and check that the correct model and all optional components ordered have been delivered.



**STEPS 2.1 - 4.1 MAY ALREADY BE COMPLETED
BY SOLA SKYLIGHTS**

3.1

Using snipe pliers, bend the four tabs on the stainless steel reflector (spigot protruding from the bottom of the soaker tray) outwards to form hooks. Gather at LEAST TWO STRANDS OF THE FLEXI-TUBE WIRE and locate these over the hooks. ASSEMBLY TIP – With a craft knife make a small incision in the Flexi-Tube membrane to allow the each hook to pass through easily. Press the hooks down to trap the wire strands/top edge of the Flexi-Tube.



4.1

Wrap the PVC adhesive tape provided at least three times around the joint, covering the hooks and sealing the Flexi-Tube to the outside rim of the stainless steel reflector.



5.1

Fit two of the black vent tabs in the shaped holes at the top and bottom of the moulded support rim. For trickle vent option, fit four or more vent tabs depending on the ventilation level required. Close off the remaining holes using the black blank tabs supplied.



6.1

IMPORTANT
REMOVE THE PROTECTIVE FILM FROM THE INSIDE
SURFACE OF THE STAINLESS STEEL REFLECTOR.



7.1

Position the polycarbonate roof dome on to the moulded support rim and secure using the four galvanized 20mm long, self drilling screws supplied in the screw pack. Please note, the dome has a protective film covering its outside surface, this film must be removed AFTER the soaker tray/dome assembly has been fitted on the roof. **ASSEMBLY TIP** - To simplify handling, temporarily tape the compressed Flexi-Tube to the underside of the soaker tray.



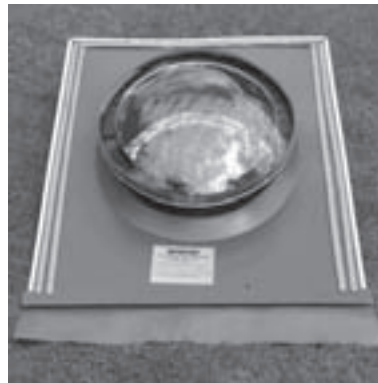
IMPORTANT
ENSURE DOME IS SECURED WITH
SELF DRILLING SCREWS

8.1 Tile and Slate Pitched Roofs

Fold out and flatten the lead flashing on the bottom edge of the soaker tray.



Tile roof assembly



Slate roof assembly

9.1

Installing the roof dome/soaker tray assembly for Air Extract Unit

An area of roof measuring about 1 x 1.5 metre (39 x 39 inches) needs to be clear of tiles/slates to allow for the dome/soaker tray assembly. The assembly should be located above the NEAREST point to where the ceiling diffuser will be positioned and as high as practicable on the roof.

10.1

Saw through the tile/slate battens and cut the roofing felt/insulation to form a hole suitable for the Sky Tunnel model to be fitted. Roof members may require modification.

Sky Tunnel model	Minimum hole required mm
ST350	360 to 375
ST400	410 to 425
ST500	510 to 525
ST550	560 to 575

Sky Tunnel model	Minimum hole \varnothing req'd for Extract Tube
Air Extract	
AE400	\varnothing 220 - 235 centre distance 500
AE500	\varnothing 220 - 235 centre distance 500



11.1

Carefully feed the Flexi-Tube through the hole and position the roof dome/soaker tray assembly on the tile/slate battens. The bottom of the soaker tray should sit flat on the tiles/slates below.



12.1

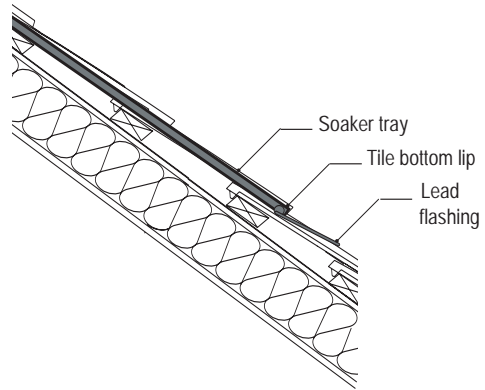
Secure the soaker tray on both sides to the tile/slate battens using the 4 x 25mm (1 inch) galvanised flathead nails. The nails must be partly hammered in, adjacent to the tray edge and tapped over to secure the tray.



ASSEMBLY TIP – Ensure the soaker tray is positioned so that when replaced, the bottom lips of the lower right and left tiles/slates are ON TOP of the lead flashing – see 13.1

13.1 Roofs with corrugated tiles

Position and secure the tiles (if necessary cutting to fit) over the soaker tray. Place the bottom right and left edge tile lips so that they sit on TOP of the lead flashing. Tamp down the lead flashing. The edges of the tiles can be pointed with cement render.

**13.2 Roofs with flat tiles**

Position and secure the tiles (if necessary cutting to fit) over the soaker tray. Verge tiles (248mm wide) will be required to bridge over the soaker tray. Place the bottom right and left edge tile lips so that they sit on TOP of the lead flashing. Tamp down the lead flashing.

13.3 Slate shingle roofs

Remove the protective paper from the adhesive strips on the top surface of the soaker tray. Position and secure the slates (if necessary cutting to fit) over the soaker tray. Extra width verge slates may be required to bridge over the soaker tray. Place the bottom right and left edge slates so that they sit on TOP of the lead flashing. When fitting each slate, press it down onto the adhesive sealing strips. Tamp down the lead flashing.

13.4 Other roofing materials and historic roofs.

Refer to supplier of materials for advice.

For advice on lead flashing details contact the LEAD SHEET ASSOCIATION

14.1

View of completed exterior installation on a corrugated tiled roof (left) and on a slate roof (right).

REMOVE THE PROTECTIVE FILM FROM THE DOME BEFORE LEAVING THE ROOF.



Sky Tunnel - Tile Flashing



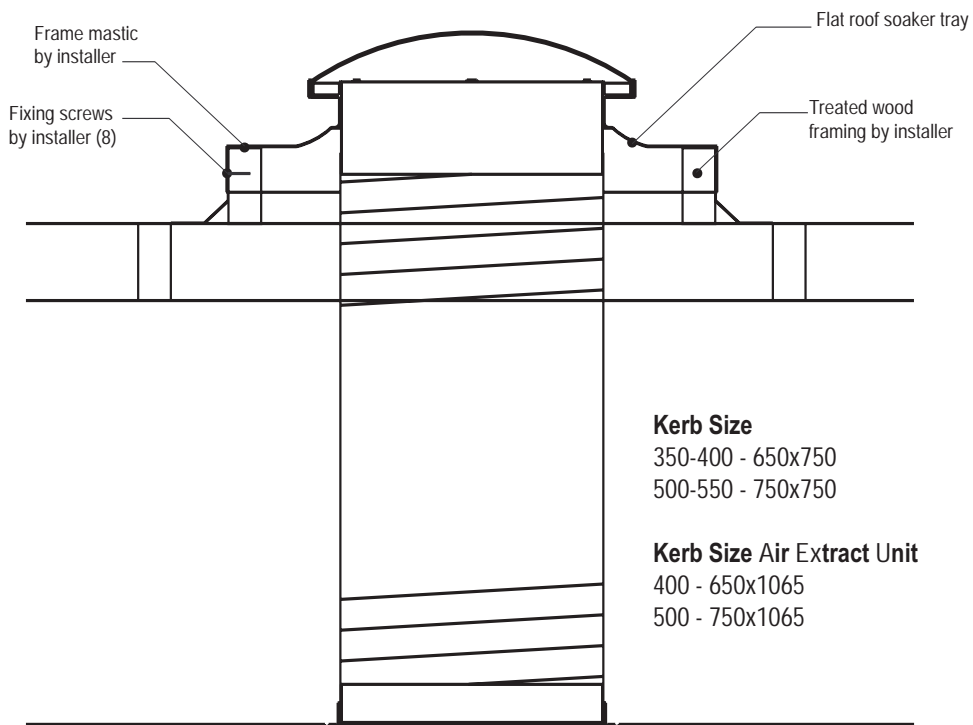
Sky Tunnel - Slate Flashing



Power Unit - Available for Tile, Slate and Flat Roofs

15.1 Flat Roofs

Installer can either self build an up-stand (recommended height 150mm) or use the optional 150mm uPVC up-stand for flat roof applications available from Sola Skylights.



Flat roof assembly

15.2

Apply a bead of frame mastic on top of the treated wood framing before fixing the flat roof soaker tray.

16.1 Installing a standard ceiling diffuser

For optional components, refer to separate instruction sheets.

Clear away any insulation where the ceiling diffuser is to be installed. Measure the centre position of the diffuser between the joists and tap a small nail through the ceiling. Check that the diffuser is in the desired position inside the room or corridor and its relationship to the dome/soaker tray assembly on the roof.

The ceiling joists may have to be modified if the diffuser is not in the desired position.

Using the diffusers ceiling frame as a template, mark out the position of the hole required.



Cut out the circular hole with a keyhole saw.



16.2

When fitting Adjust Air Unit please follow installation procedure provided with unit.

ASSEMBLY TIP

The hole should have a diameter about 6mm greater than the up-stand rim of the ceiling frame. For example, the diameter of the rim on a standard ST400 model is 412mm so the hole should be about 418 mm diameter to allow for easy fitting.

17.1

Locate the ceiling frame into the hole and secure with the 4 x 45mm zinc plated screws and white plastic retainer blocks supplied in the screw pack. The blocks are positioned on the top side of the ceiling plasterboard. Fit the white plastic caps to the screw heads.

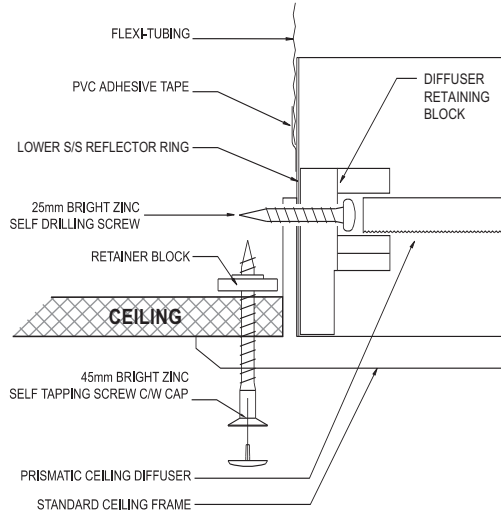
18.1

From inside the attic, fully stretch the Flexi-Tube down to the ceiling level and mark off the required length. Where marked, snip through the Flexi-Tube wire and cut off the excess tubing.

ENSURE THAT THE FLEXI-TUBE IS WELL STRETCHED TO MAXIMISE LIGHT TRANSMISSION.

18.2

Locate the ceiling diffuser stainless steel reflector ring INSIDE the Flexi-Tube leaving about 35mm exposed then wrap PVC adhesive tape at least three times around the joint to secure and seal.

**19.1 Ceiling diffuser without trickle ventilation**

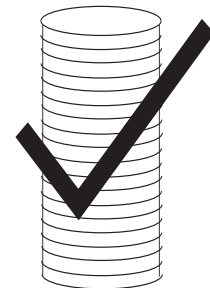
From inside the room, pull down the stainless steel reflector ring with the Flexi-Tube attached and locate this into the ceiling frame up-stand. Secure the ring to the up-stand with the bright zinc 25mm self drilling screws and spacer brackets - see diagram above.

Use four screws with models ST350 and ST400. Use six screws with models ST500 and ST550.

ASSEMBLY TIP – Drill a 2mm pilot hole for the screws.



Flexi-tube not cut out to correct size



Flexi-tube stretched out

18.1



REMOVE THE PROTECTIVE FILM FROM THE INSIDE SURFACE OF THE REFLECTOR RING.

20.1

Slightly flex the polycarbonate diffuser panel and pass it through the ceiling frame. Allow it to drop into position.

If ventilation is required place the diffuser on the top section of the diffuser retaining block.
If ventilation is not required place the diffuser on the bottom section of the diffuser retaining block.
(see diagram page 14)



REMEMBER TO REPOSITION INSULATION AROUND THE FLEXI-TUBE IN THE ATTIC

21.1

When fitting an Air Extract Unit please follow installation procedure. Locate the ceiling ring, ensuring the spigot lines up with the extractor tubing. From inside the room secure the reflector ring to the upstand on the ceiling ring using the bright zinc 25mm self drilling screws. Use 4 screws with 400 unit, use six screws with 500 unit. (ASSEMBLY TIP - Drill a 2mm pilot hole for the screws).

From inside the attic, fully stretch the flexi-tube to a point just above the spigot. Mark off the required length. Where marked, snip through the flexi-tube wire and cut off excess tubing.

ENSURE THAT THE FLEXI-TUBE IS WELL STRETCHED TO MAXIMISE LIGHT TRANSMISSION.

Repeat the above procedure with the extractor tubing. Before fixing the tubing to the spigot ensure that the wire for the fan is protruding from the upper joint.

WE RECOMMEND THAT A QUALIFIED ELECTRICIAN IS USED TO CONNECT THE UNIT TO THE MAINS ELECTRICITY.



Customer Check List

Please tick off the following check points to ensure Skylight has been fitted according to instruction booklet.

- Important - Remove the protective film from the inside surface of the stainless steel reflector ring, located inside the diffuser and up in the black rim on the roof. See 6.1/19.2

- Ensure that the flexi-tube is well stretched to maximise light transmission. See 18.1

- Ensure that the flexi-tube is connected to the reflector ring inside the ceiling diffuser with PVC adhesive tape three times. See 18.2

- Ensure the dome is located at the nearest point to where the ceiling diffuser is positioned. See 9.1

- Ensure there are no finger prints, dust or debris on the reflector rings and flexi-tube inside the unit.

- Ensure the diffuser panel is smooth side up i.e. prismatic side down to throw out the light.

This publication is subject to alteration or withdrawal without notice.

The photographic images, illustrations and specifications are not binding in detail.

All offers and sales are subject to the company's current terms

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