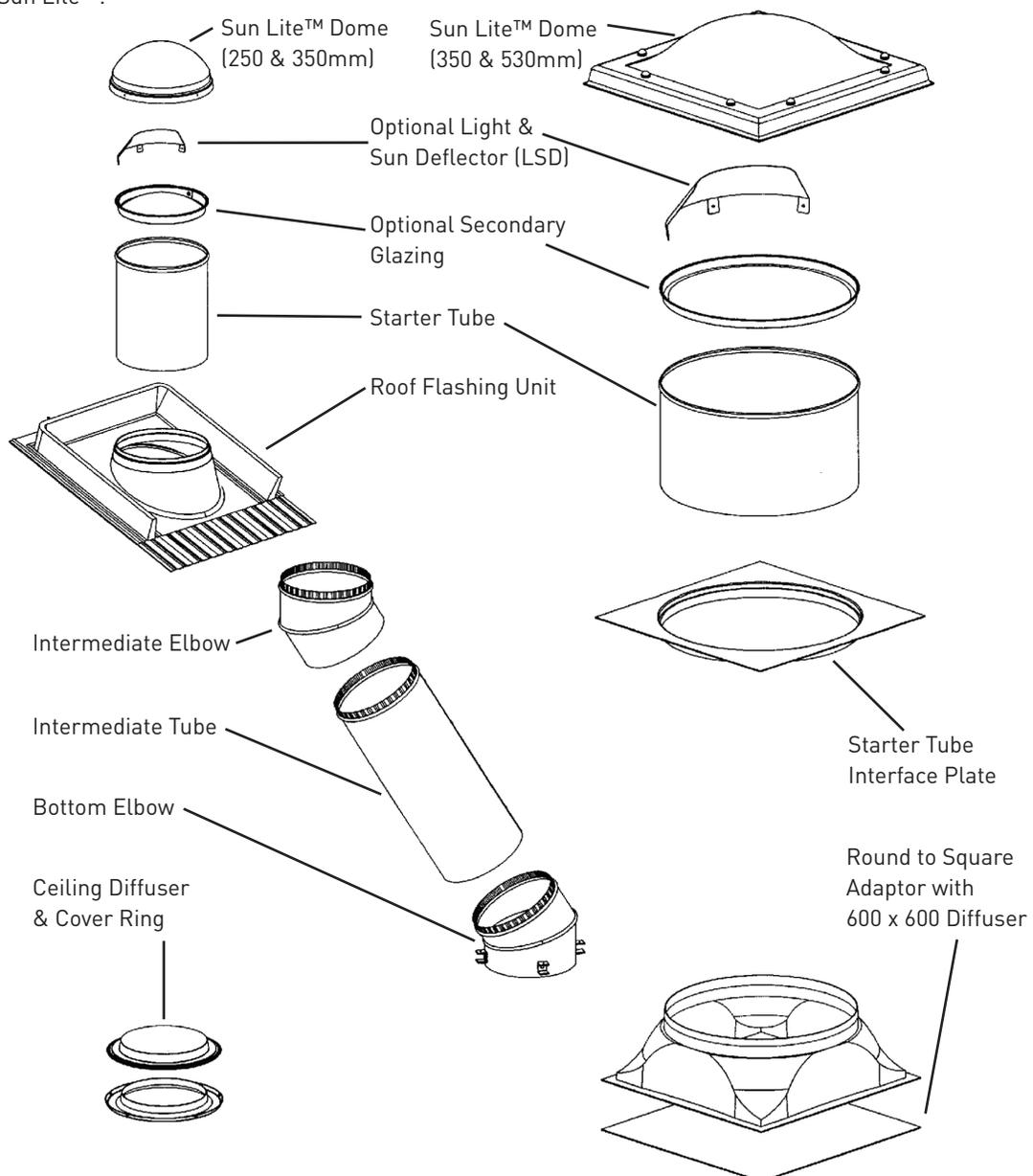


These instructions refer to installations on a flat and pitched roof.
Various roof flashing units are available according to the particular roof covering. The roof flashing will be boxed separately and installation instructions are included with the unit.
The rigid reflective tubes are protected by a film which should only be removed during installation as advised in the instructions.

Planning the layout

It is advisable to familiarise yourself with the particular types of roof and ceiling constructions involved, the elements of the Sun Lite™ system purchased and give careful thought to the locations of the various elements of the Sun Lite™.



Deciding on the ceiling location for the circular diffuser

Turning off the lights in the room during the day should assist in showing the spread of natural light entering the room and indicate the best position for maximum effect. If a specific area is to be lit, the diffuser should be located over that area.

In the loft area, check the location of the diffuser is free from any obstacles such as water tanks, ducting, pipework or electrical cables etc.

As a general rule it is best to fit the Sun Lite™ between joists and in most cases the clearance between 600mm c/c joists will accommodate up to a 350mm Sun Lite™. For 530mm systems with joists at 600mm c/c, it will be necessary to trim out an opening at least 600mm x 600mm.

A clearance will be required from the centre of the diffuser hole to the face of any joist etc.

For 250mm systems this is 155mm, for 350mm systems this is 205mm and for 530mm systems this is 295mm (Figure 1).

Deciding on the ceiling location of the square diffuser (suspended ceilings only)

Turning off the lights in the room during the day should assist in showing the spread of natural light entering the room and indicate the best position for maximum effect. If a specific area is to be lit, the diffuser should be located over that area.

In the suspended ceiling void area, check the location of the diffuser is free from any obstacles such as water tanks, ducting, pipework or electrical cables etc.

Deciding on the roof position for the dome

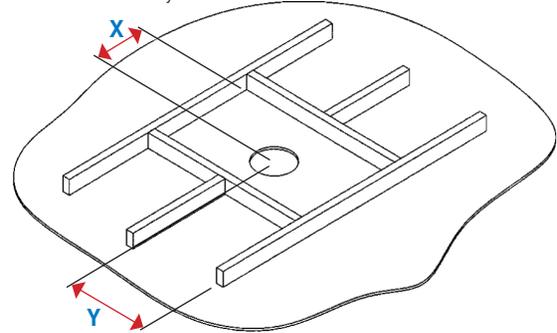
The maximum benefit from the Sun Lite™ will be gained by siting the dome on a south facing roof as close to the ridge as possible. Try to avoid locations which are sheltered by trees, chimneys etc.

The efficiency of the Sun Lite™ will also be aided by keeping the pipe run to the diffuser short and reducing the angle of the elbows.

A Sun Lite™ will in most cases be able to be fitted between the rafters and it is advisable to do this where possible (Figure 2). If necessary the roof location should be adjusted to suit.

Figure 1

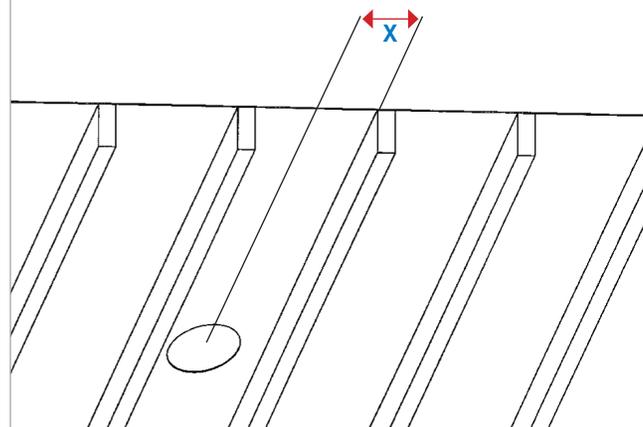
X = 155mm for 250mm systems
205mm for 350mm systems
295mm for 530mm systems



Y = 155mm for 250mm systems
205mm for 350mm systems
295mm for 530mm systems

Figure 2

X = 130mm for 250mm systems
180mm for 350mm systems
270mm for 530mm systems



Installing the roof flashing unit

- From inside the loft, mark the centre of the desired location of the tube on the underside of the roof construction.

Note: Clearance is required from the centre of the starter tube to the face of adjacent rafters etc. For 250mm systems this is 130mm, for 350mm systems this is 270mm (See Figure 2).

- As a location guide when on the roof, drill a small hole through the underside of the roof construction / underlay and insert a piece of dowel or a screw.
- The rest of the installation work for the roof flashing unit will be carried out on the roof. Refer to the instructions included with the roof mounting unit.

Starter tube and dome installation

- Having completed installation of the roof flashing unit or builders kerb, take the starter tube and thoroughly clean and dry the top above the collar.

- Take the length of brush pile seal and remove the backing paper. Then wrap the pile around the top of the tube above the collar so that the ends butt tightly together. If necessary the brush pile can be cut to length with a sharp knife or scissors (Figure 3).

- If a starter tube interface plate is supplied, bed on silicone mastic on top of the finished builders kerb.

Note: Two optional components are available to separate order for the starter tube assembly i.e. Light & Sun Deflector (LSD) and a secondary glazing element. If you have the LSD, but not the secondary glazing it should be fitted at this stage as follows: Gently curve the LSD and attach it by pushing the lugs firmly into place in the attachment band on the top of the tube, ensuring that the LSD is level. Leave the protective film on the LSD for now. This must be removed prior to fitting the dome as described later.

- Wipe the area directly beneath the integral collar to ensure it is clean and dry. Also clean the adjacent top edge of the roof flashing unit or interface plate and slide it fully down against the collar stop (Figure 4).

- If an LSD has been fitted, rotate the starter tube so that the internal face of the LSD points south (Figure 4a). Use a magnetic compass if necessary.

- Ensure the tube is correctly seated. Apply a mastic bead around the joint and allow to dry (Figure 5).

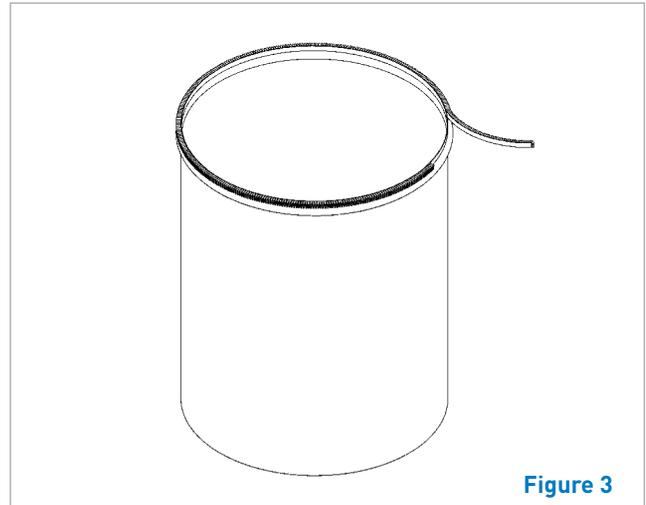


Figure 3

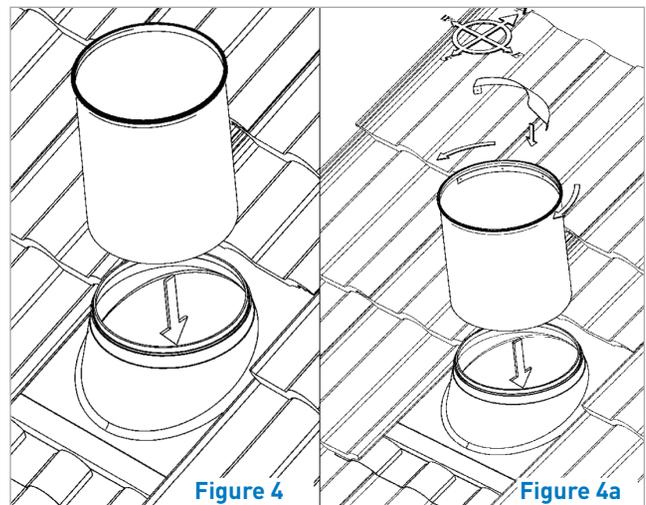


Figure 4

Figure 4a

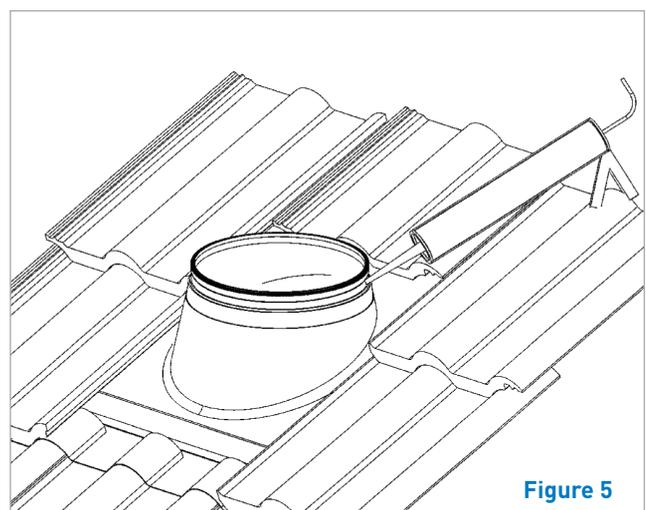


Figure 5

- **(For 250mm and 350mm systems)** Place the polycarbonate dome over the tube and push down over the brush seal until the dome has located onto the shoulder of the roof mounting unit. Using the holes in the dome edge as a guide, drill 3mm pilot holes into the sides of the roof flashing unit and through to the tube (**Figure 7, 7a or 7b depending on which secondary glazing and LSD options being used**).

- Fix the dome securely into place with the fixing screws provided into the pilot holes drilled into the mounting unit. Do not overtighten (**Figures 8 & 9**).

- **(For 350mm and 530mm systems)** Place the polycarbonate dome over the top of the starter tube interface plate. Fix to the kerb by means of security screws and cover caps supplied (**Figure 10**).

Preparing the ceiling for circular diffusers

- From inside the loft area, carefully remove any insulation medium from the desired location of the diffuser and mark the centre point on the ceiling. Note: as mentioned earlier, ensure that there is the minimum clearance from the centre to the face of any joist etc. Make sure also that any electrical cables etc. will not be fouled by the tube in this area.

- Position the supplied hole cutting template on the centre point and mark a circle on the ceiling surface. For reference, the diameter is as follows: For 250mm systems this is 265mm, for 350mm systems this is 365mm and for 530mm systems this is 545mm. Then using a jigsaw or pad saw carefully cut around the circle. Alternatively a series of holes can be drilled around the circumference of the circle on the inside of the line and the intermediate sections then cut with a pad saw or coping saw (**Figure 11**).

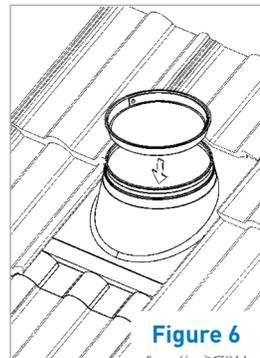


Figure 6

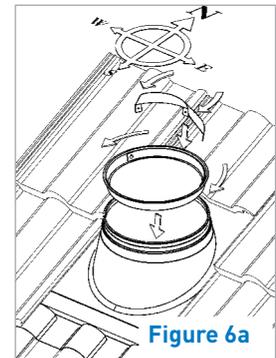


Figure 6a

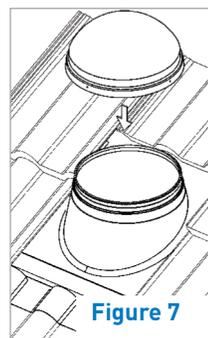


Figure 7

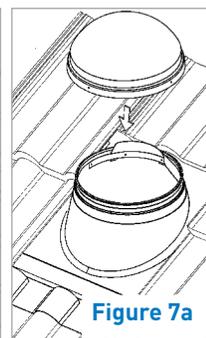


Figure 7a

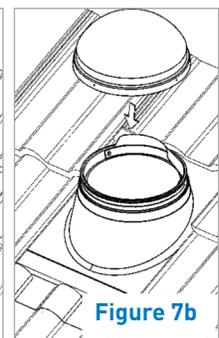


Figure 7b

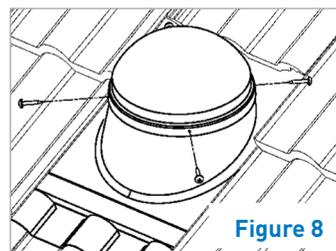


Figure 8

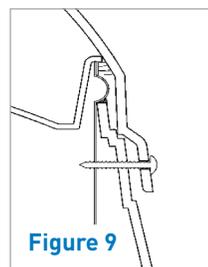


Figure 9

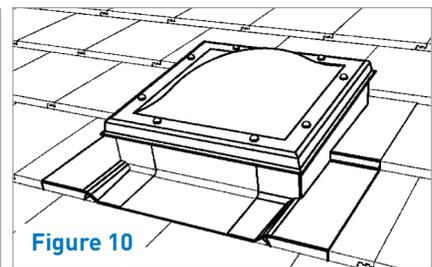


Figure 10

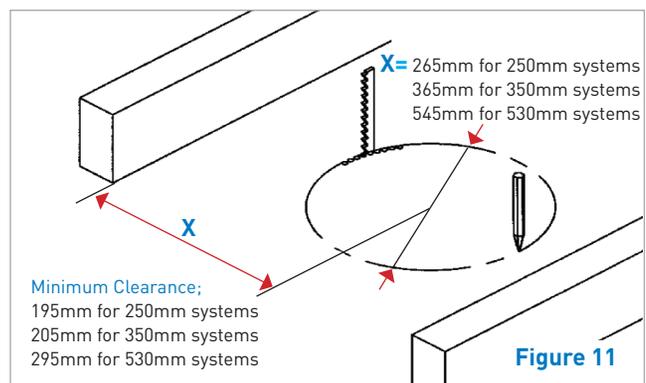


Figure 11

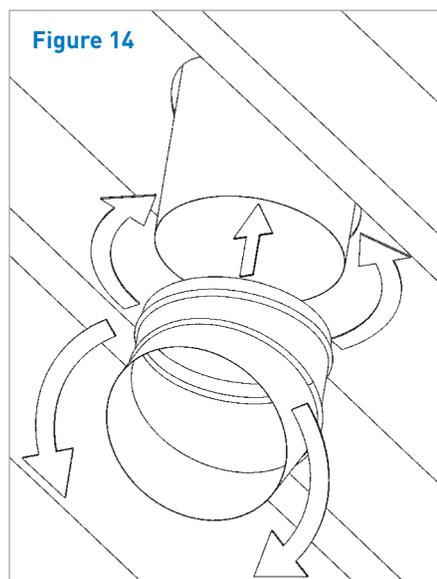
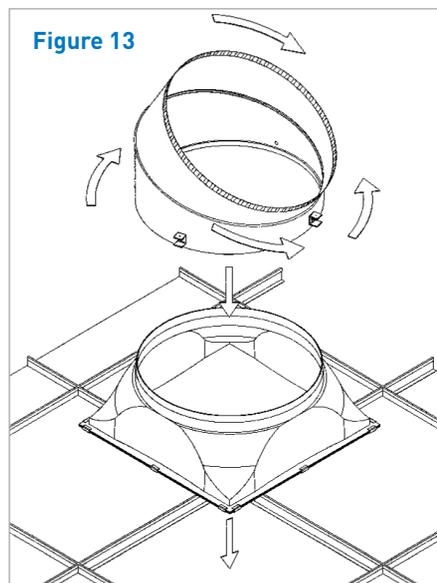
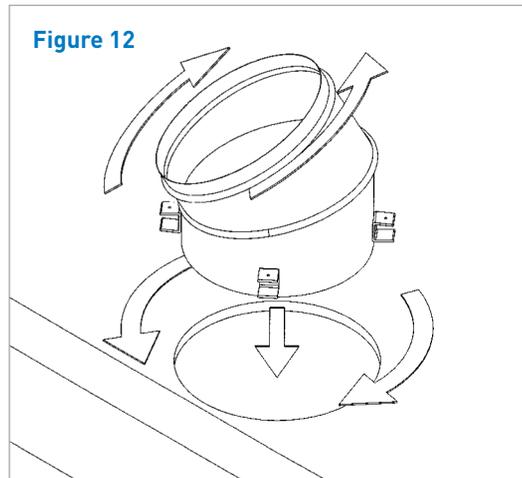
- Clean away any dust & debris and then take the bottom elbow tube and lower it onto the ceiling hole. The bottom end of the elbow has pre-fixed clips which will temporarily support it over the hole. Roughly align the top end of the elbow in the direction of the top tube fitted into the roof. The angle of the elbow section can be adjusted by rotating the tube in the ceiling hole if necessary. Do not worry about the accuracy of the positioning as final adjustment will be made later (Figure 12).

Preparing the ceiling for square diffusers (suspended ceilings only)

- In the selected position within suspended ceiling grid, drop in the round to square adaptor and diffuser panel into the T bar section. Ensure that the adhesive side of the foam strip is applied to the perimeter of the round to square adaptor using clips provided. Take the bottom elbow tube and slide it over the round to square adaptor spigot.
- Roughly align the top end of the elbow in the direction of the top tube fitted into the roof. The angle of the elbow section can be adjusted by rotating the top and bottom sections, and additional adjustment can be gained at this stage by rotating the tube in the ceiling hole if necessary. Do not worry about the accuracy of the positioning as final adjustment will be made later. Place the bag which contained the diffuser panel over the top of the elbow so it provides some temporary protection from dust and debris falling onto the diffuser (Figure 13).

Installing the tubes

- Reach up into the starter tube already fitted in the roof and gently peel back the protective film from the inside surface. Withdraw the film to the bottom of the tube and gather together so as to create a temporary block to the entry of any dirt or dust.
- Take the intermediate elbow section and push it onto the end of the starter tube. Note: The elbow has a crimped end at the top to grip the starter tube and this should be pushed into place until the edge of the starter tube contacts the crimp on the elbow (Figure 14).



- Roughly align the bottom end of the intermediate elbow in the direction of the bottom elbow in the ceiling. The angle of the intermediate elbow section can be adjusted by rotating the top and bottom sections, and additional adjustment can be gained by rotating the elbow on the tube. Do not worry about the accuracy of the positioning, as final adjustment will be made later.
- Using a 3mm bit, drill a pilot hole through the overlapped end of the starter tube and the crimped end of the top elbow. Secure into place using one of the self tapping screws provided. Repeat this process to fix another screw in place opposite the first.
- The joint below the elbow and starter tube should now be fully sealed by wrapping with the adhesive tape supplied. Ensure that the joint is fully covered (Figure 15). At the same time, seal between underlay and starter tube with adhesive tape.
- Reaching into the elbow, completely remove the protective liner from bottom of the tube. Then peel back the liner from the elbow section and withdraw to the bottom opening to form a temporary dust block as with the starter tube earlier.

Intermediate tubes

- To determine if you have enough sections of intermediate tube, measure the distance between the ends of the intermediate and bottom elbows. Each tube has an effective length of 570mm. Divide the measured distance (Dim A) in mm by 570 and then round up the result to the next whole number to calculate how many tubes are required. If you do not have enough, you will need to obtain additional tubes before continuing with the installation (Figure 16).
- If necessary, one of the tubes can be cut down to achieve the required finished length. The tubes have a crimped edge at the top and the length required should be measured from this edge plus an additional 40mm which will allow for the overlap. It is advisable to cut this tube only after any other straight lengths have been fitted so as to ensure accuracy of measurement. Once the cut length has been determined the end of the tube can be cut using tinsnips. **Take care as the cut edges will be sharp and it is recommended that protective gloves are worn (Figure 17).**

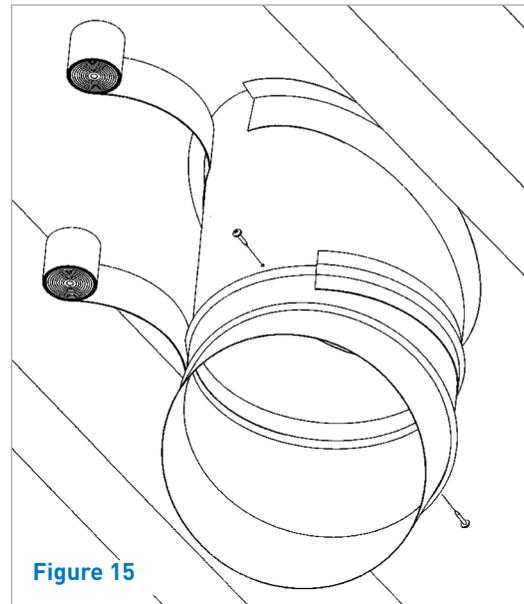


Figure 15

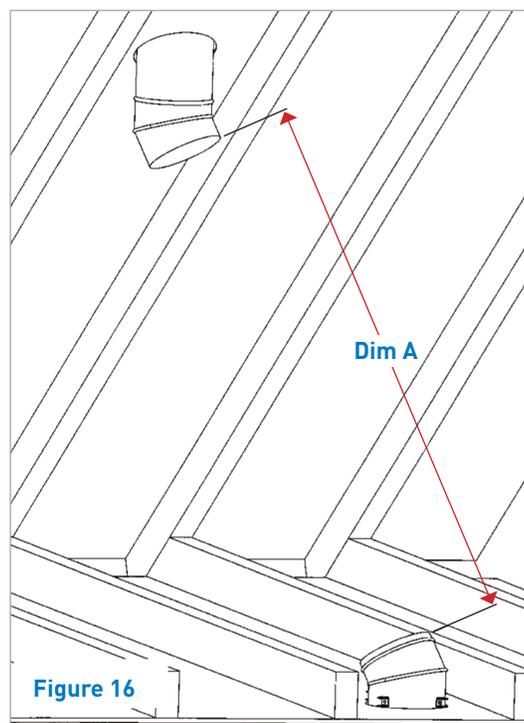


Figure 16

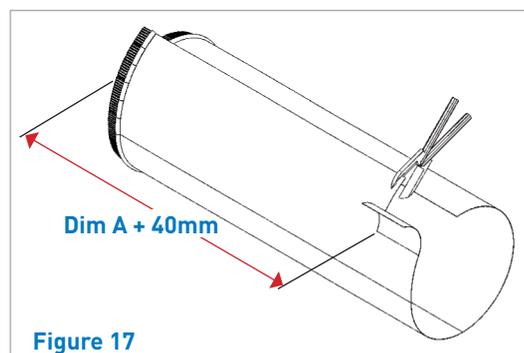


Figure 17

- Join the seams of the intermediate tubes by interlocking the pre-punched tabs to make a complete cylinder. Completely seal the outside of the seam with the adhesive tape supplied, ensuring that the joint is fully covered (Figure 18).

- Now fully remove the protective film that has been left gathered in the end of the top elbow.

- For the first intermediate tube length, gently peel the edge of the protective film from the inside of the crimped end of the tube. It may be necessary to slit the film long ways along the tube seam with a sharp knife, but take care not to scratch the surface of the tube.

- Push the crimped end of the intermediate tube onto the end of the intermediate elbow until the edge of the elbow seats firmly on the stop.

- Using a 3mm bit, drill a pilot hole through the overlapped end of the intermediate elbow and the crimped end of the intermediate tube. Secure into place using one of the self tapping screws provided. Repeat this process to fix another screw in place directly opposite to the first (Figure 19).

- Peel back the protective liner from inside of the tube and withdraw to the bottom opening to form a temporary dust block as with the earlier sections.

- Completely seal the outside of the overlapping tube joint using the adhesive tape. Ensure that the joint is fully covered.

- Repeat these steps for any additional tube lengths remembering to remove the protective film blocks from the bottom of each preceding tube.

- The end of the last tube (which has been cut to length if necessary) should now be inserted over the crimped end of the bottom elbow. Final adjustment of the elbows can now be made by rotating the sections if necessary in order to align the last intermediate tube and bottom elbow (Figure 20).

- Secure the last tube and bottom elbow joint using self tapping screws into pilot holes as with previous joints. Seal the joint with adhesive tape (Figure 21).

- Long unsupported lengths of tube (in excess of 3m) should be given additional support by fixing to nearby joists or rafters or by additional suspension wires along the length of the tube which can be hung from rafters overhead.

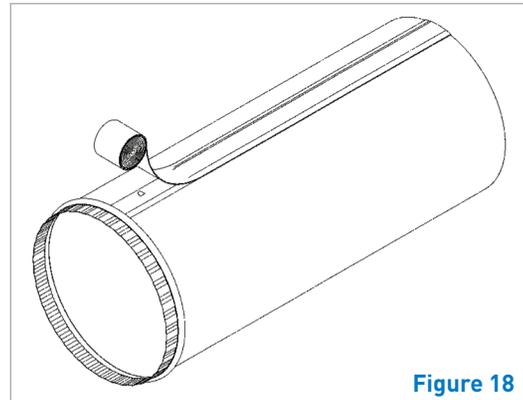


Figure 18

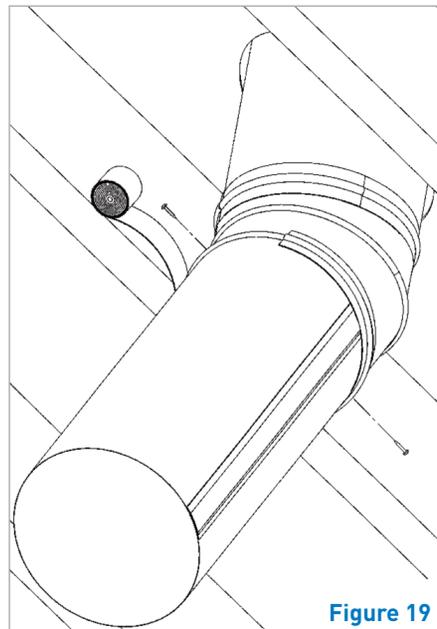


Figure 19

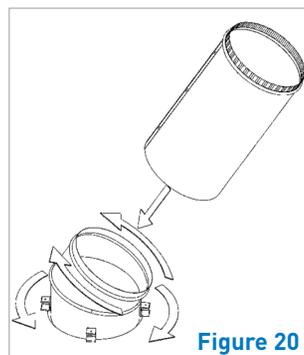


Figure 20

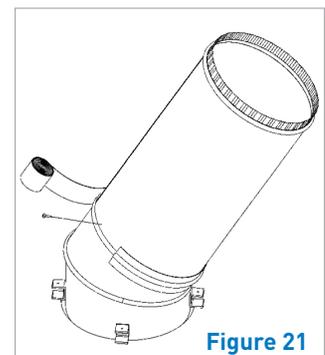
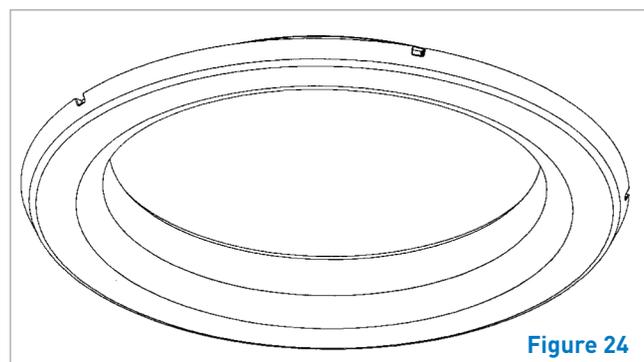
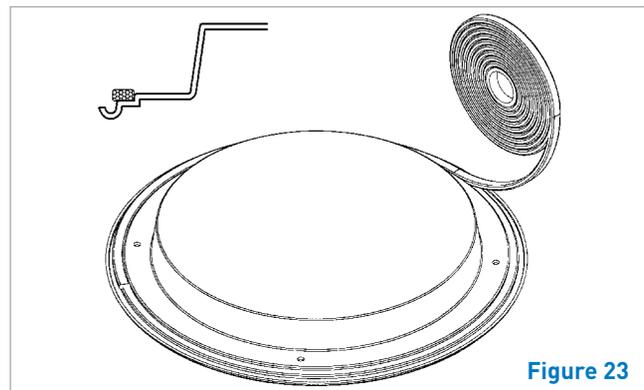
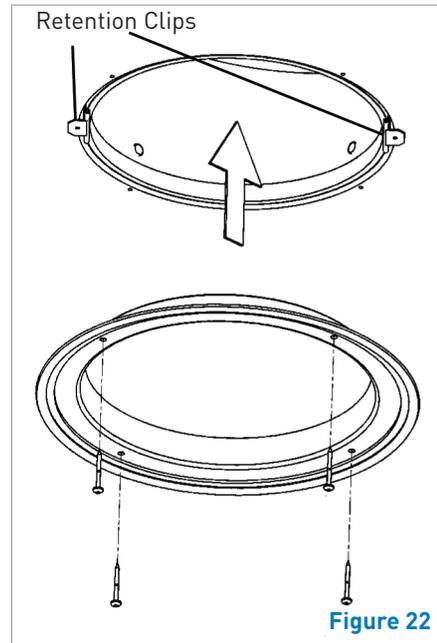


Figure 21

If using Tube insulation please refer to the installation instructions included in the pack.

Fitting the circular ceiling diffuser

- Before installing the diffuser, fit the retention clips on the bottom edge of the elbow from inside the room. The flat area which contacts the ceiling will stop any movement of the elbow for the next operation (Figure 22).
- Offer up the ceiling diffuser so that the inside face is recessed into the elbow tube. Rotate the diffuser so that the pre-drilled holes align with the four support clips that are fixed to the tube. If these are not visible through the hole in the ceiling, the rivet positions inside the tube will indicate their location.
- Using the holes in the diffuser as a guide, drill small pilot holes up through the ceiling and into the four support clips (Figure 22).
- Remove the diffuser and clear and dust or debris from the tube and carefully clean the diffuser to remove all traces of dust.
- Take a length of 6mm x 6mm adhesive foam strip, remove the backing paper and apply the strip to the flange of the diffuser placing it firmly against the formed shoulder (Figure 23).
- Reach up into the top elbow and gently peel back the protective film from the inside surface and withdraw it all of the way out of the bottom of the tube so that it is completely removed.
- Take a length of 13mm x 4.5mm adhesive foam strip, remove the backing paper and apply the strip to the reflective surface inside the bottom of the elbow.
- Once again offer up the diffuser so that it is fully recessed into the holes and rotate it so that the holes in the diffuser align with the pilot holes drilled earlier. Fix the diffuser firmly into place with the four screws provided ensuring that the foam seal is compressed against the surface of the ceiling.
- Finally, take the diffuser cover ring and ensure that the protruding edge sits inside the recessed area of the diffuser and press firmly towards the ceiling until all of the location points around the edge are correctly engaged onto the edge of the diffuser (Figure 24).



Our Guarantee is valid only when the Sun Lite™ is fitted according to these instructions.

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