



Installation Instructions

Thank you for purchasing your Solartherm Pool & Spa Heating System

When your system arrives unpack your system and read thru these installation notes before you start, this will insure the system is installed correctly and covered by our warranty.

Below are the items in your kit



Your packaged system



End & Middle Panels



Standard Connection Kit



Standard Controller



OR
Wireless Controller



Standard connection fittings

You will also have several lengths of HDPE pipe for connecting the system.

We recommend you start the pipe work in the filter box area first this gives any gluing you have to do more time to dry and run your pipe work up to the panels, this helps minimise the time the panels are empty.

The Pump Area: The plumbing in here will differ depending on your particular setup.

A Pool plumbed for Solar: (Typically) (Diagram 1 next page)

*The suction from the pool is connected to the front of the pump with PVC, also in this piece of pipe you should have your pool sensor (Fig A) for the Solar Controller, this effectively tells the controller the pool temp at all times.

*After the pump (Fig B) you should have a non- return valve, then a ball valve all of which are in your kit, this pipe then connects to the pipe going up to the panels, you have 2 options in pipe either Class 12 PVC all of the way to the panels and back or HDPE pipe (stronger & more durable) (Fig C) before you go up the wall, switch over fittings are in your kit, this pipe pushes your water up to and thru the panels.

*In most cases the return line from the panels goes straight back to the pool.

A Pool not plumbed for Solar (Diagram 2 next page)

*We connect our solar pump after the existing pool pump using a PVC Tee Piece fitting or 3 way valve and above this fitting we have a non return valve, so that our pump can only draw from the pool through the existing pump and not backwards through the filter.

*After the pump (Fig. B) you should have a non- return valve, then a ball valve all of which are in your kit, this pipe then connects to the pipe going up to the panels, you have 2 options in pipe either Class 12 PVC all of the way to the panels and back or HDPE pipe (stronger & more durable) (Fig. C) before you go up the wall, switch over fittings are in your kit, this pipe pushes your water up to and thru the panels.

*The return line from the panels, we enter back after the filter using a Tee Piece or 3 way valve.

The Solar Controller

This controller must stay on at all times; if it needs to be switched off you should contact us at Solartherm first.

*This is the brains of the system designed to run efficiently and only when there is heating possible but also continually monitoring the panels on the roof to protect them from overheating or freezing.

*The controller has 2 sensors one is a pool sensor this is in the PVC pipe before the Pump.

*The 2nd is the roof sensor that needs to be in the last box on the roof, the sensor stays in the matting cover and then clipped onto the Header pipe with a piece of 40mm PVC (Fig 18) so that the controller can monitor the panel temperature at all times. This wire should follow the pipe work to the panels.



Figure A



Figure B



Figure C

Diagram 1: POOL THAT IS PLUMBED FOR SOLAR HEATING

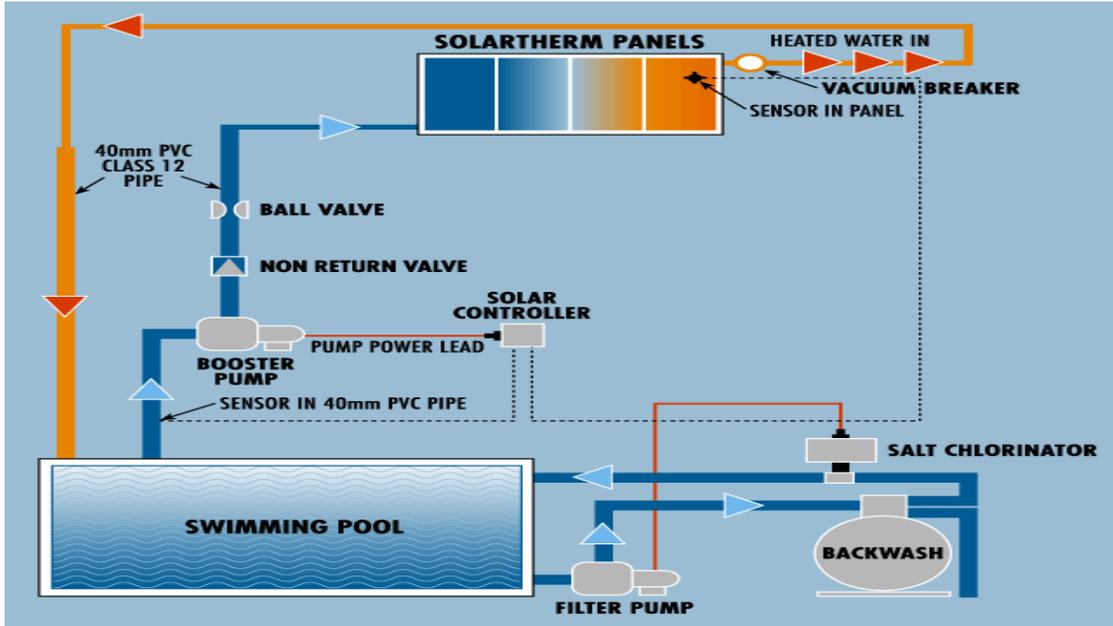
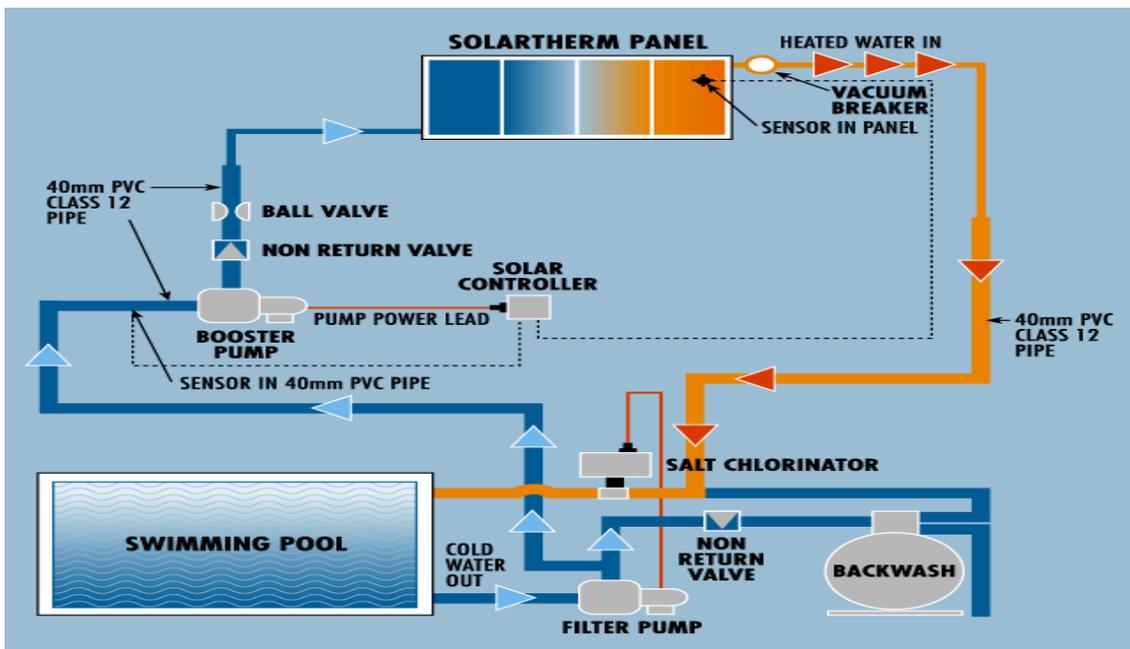


Diagram 2: POOL THAT IS NOT PLUMBED FOR SOLAR HEATING



Roof Installation:

Prepare your panels for install.

- *Using a flat head screw driver pry up the 4 pieces of trim (Fig 1) around the top of the box
- *Lift out the polycarbonate cover & panel insert from each box & place all in the shade (Fig 2).
- *Your boxes are empty & now ready to go on the roof (Fig 3).



Figure 1



Figure 2



Figure 3

Colorbond Roof:

- *You need to work out exactly where your system is going (Fig 4).
- *For a Colorbond roof we line the line shape & boxes with a pre stick foam to isolate from the roof.
- *Start Fixing your L-Shape brackets (Fig 5) (we use 25x25x2mm) to the roof using roofing screws & then the brackets to the boxes (Using 16mm Metal screws) across the bottom & then the top (Fig 6).
- * Making sure that the boxes are snug together (Fig 7).
- *A 5 panel system will have 6 brackets top & bottom.
- *Once all boxes are fixed in place, put in all of your insert panels and start connecting them together cutting short lengths of the poly pipe from the pipe provided as your connector pipe between each panel (Fig 8 & 9).
- *Once they are all connected you are now ready to connect your pipe work from the panels back to the ground (Fig 15 & 16).



Figure 4

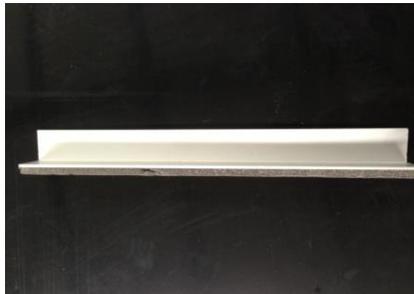


Figure 5



Figure 6



Figure 7



Figure 8



Figure 9

Tiled Roof:

- *You need to work out exactly where your system is going (Fig 10).
- *You need to slide up several tiles across the bottom to expose the roof battens or trusses.
- *We suggest 1 strap just in from each end of the system & 3 evenly spread across (A 5 Panel system).
- *Screw your strapping to the battens or trusses (Fig 11), using a good timber screw or timber roofing screw and then screw the strapping to the L-Shape bracket across the bottom (Fig 12) we use 25x25x2mm L-Shape and 16mm Metal Screws.
- * Now measure out your box position and repeat the process across the top, attaching the strapping to the roof battens & then the Boxed Rod 25x25x3 at the top (Fig 13).
- *Your bracketing is now in place (Fig 14), place your empty boxes in place & attach the bracketing and boxes you have just installed using 16mm Metal screws.
- * Making sure that the boxes are snug together (Fig 7).
- *Once all boxes are fixed in place, put in all of your insert panels and start connecting them together cutting short lengths of the poly pipe from the pipe provided as your connector pipe between each panel (Fig 8 & 9).
- *Once they are all connected you are now ready to connect your pipe work from the panels back to the ground (Fig 16 & 17).



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14



Figure 15

Home Stretch:

***Don't put the polycarbonate cover or trim on until the system has been run to ensure that all of your fittings are tight and there are no leaks.**

* Install a Vacuum Breaker in the system in the exit pipe (return line) from the last panel at the highest point as this will ensure that when the system turns off there is no pressure in the system and the return line should drain.

*Once all of your pipe work is connected and your fittings all done up and the pump and controller are also ready to go, connect your pump directly to the power point and turn it on to run water through the panels to fill them up for the first time.

*You may need to fill the pump with water the first time to help get it primed and drawing from the pool.

*Once the system is full and has been tested then plug the pump into the controller and the controller into the power point, so that the controller can now run the system as required.

*You can now peel off the blue protective coating on both sides of the polycarbonate cover and put it in the boxes you now also hammer your trim back on to hold the polycarbonate in place.



Figure 16



Figure 17



Figure 18





The following points must be adhered to, for your warranty to remain valid.

- 1. The panels must only be installed once there is water in the pool, as the panels need to be filled with water before the polycarbonate covers are placed on the system.**
- 2. The Solartherm Solar Controller must be the only controller used on the Solartherm system and installed correctly.**
- 3. The Solartherm Solar Controller must remain on at all times to protect the panels. The only exception is under maintenance conditions. We recommend that you contact Solartherm before turning off.**
- 4. The system can be plumbed in HDPE pipe or class 12 PVC but in both cases must have a Vacuum Breaker in place so that the return pipe back to the pool can drain when the system turns off for the day.**