SOLAR EEZY

DIY INSTALLATION MANUAL

For your nearest store
clarkrubber.com.au

13 80 90

MADE IN AUSTRALIA

Clark POOLS & SPAS

FOREWORD

This manual is a guide to introduce you to the Solar Eezy DIY solar pool heating kit. However please note that it cannot cover the requirements of every installation, so please contact your local Clark Rubber store for further advice should you need it.

SAFETY PRECAUTIONS

When installing a solar system, always exercise extreme caution when working with heights or near water; do not use short cuts, that risk your safety. Please refer to your state's relevant OH & S Regulations and Work Safe Code of Practice. By purchasing this product, the purchaser accepts all responsibility for their own safety precautions whilst installing or using this product.

DON'T INSTALL THIS SYSTEM ON*:

- Slate Tiles
- Terracotta Tiles
- Roof pitches over 28°

*Please seek professional advice if you wish to install under these conditions

INTRODUCTION

Congratulations on the purchase of your Solar Eezy DIY solar pool heating kit. This easy to install solar pool heating system is designed to double the normal swimming season using the Sun's free energy. Solar Eezy can extend your swimming season by up to 6-9 months (depending on your system and location). Create the outdoor lifestyle you have always dreamed of with Solar Eezy and enjoy the extra months of leisure in and around your swimming pool. Solar Eezy requires no specialist/ trade skills or tools. If you are a handyman with standard tools (measuring tape, dill, caulking gun etc.) you can install this system. Simply roll out the solar coils, clip and connect the components together quickly and easily.

Solar Eezy has a 10-year manufacturer backed warranty on main system components (Solar Coils, Rubber Components, Header Pipes and Acetal Barb Locks)*. With exceptionally low running costs and excellent heating efficiency, Solar Eezy the ideal choice.

*Refer to the website and warranty for full details.

SIZING YOUR SYSTEM

Use the table to select the Solar Eezy kit to suit your pool and roof (see the next step 'CHOOSING YOUR ROOF' for details).

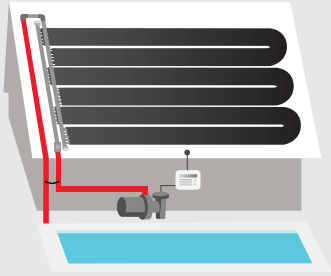
Solar system sizing is based on industry standards that requires the system's surface area to be at least 80% of the surface area of the pool. If higher than average water temperatures or extended swimming seasons are required, then a larger system may be necessary.

Pool Surface Area Range (m^2)	Total System		Active collector area	Model #
	Height	Length		
6m Roof Kit				
0-12	2.45	5.70	9.9m^2	SE012-6
12-18	3.50	5.70	14.85m^2	SE1218-6
18-25	4.55	5.70	19.8m^2	SE1825-6
25-30	5.60	5.70	24.75m^2	SE2530-6
9m Roof Kit				
0-12	1.75	8.70	10.2m^2	SE012-9
12-19	2.45	8.70	15.3m^2	SE1219-9
19-25	3.15	8.70	20.4m^2	SE1925-9
25-31	3.85	8.70	25.5m^2	SE2531-9
31-38	4.55	8.70	30.6m^2	SE3138-9
36-44	5.25	8.70	35.7m^2	SE3644-9
13m Roof Kit				
0-14	1.40	12.70	11.25m^2	SE014-13
14-18	1.75	12.70	15m^2	SE1418-13
18-28	2.45	12.70	22.5m^2	SE1828-13
26-32	2.80	12.70	26.25m^2	SE2632-13
30-37	3.15	12.70	30m^2	SE3037-13
37-46	3.85	12.70	37.5m^2	SE3746-13

For more information on system sizing visit https://www.clarkrubber.com.au/

HOW IT WORKS

The pool is heated by water circulating water through the Solar Eezy coils which are mounted to the roof of a building. The Solar Eezy collector coils which absorb the sun's free energy, transfering it to the circulating pool water, before the water is returned to the pool at an elevated temperature. Most solar systems include a separate pump and automatic solar controller to maximise heating efficiency and control and can be fitted to new and existing pools.



CHOOSING THE ROOF

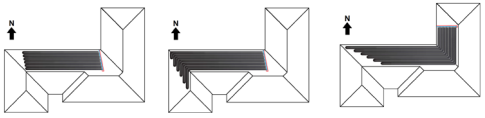
Determine where the kit will be installed, taking the following items into consideration:

Roof Size: Ensure that the selected kit will fit on the roof space you have selected. You will need to account for the entire kit including pipework, header pipes and collector coil.

Roof Orientation: The best position for solar is a north facing roof, followed by a flat roof or alternatively, a west facing roof. Solar Eezy can be installed on an east facing roof if no alternatives are available. South facing is not recommended.

Shade: Avoid installing the system in a location with heavy shading or obstructions. The selected roof(s) should be exposed to the sun for the majority of the day (9am-3pm or 10am-4pm during day-light savings). However, a degree of shading can be compensated by installing a larger system.

Positioning: Position the solar system close to the solar pump/filter to reduce plumbing requirements. You may also wish to take the aesthetics of the system into consideration if installing on the front of the house.



Single Face Installation

Dual Face Installation - Around a Hip

Dual Face Installation - Through a Valley

TOOLS REQUIRED

Standard Caulking Gun

Drill Driver

Tape Measure

Philips Head Bit

8.5mm Drill Bit

5/16 Hex Bit OR Flat Head Screwdriver

Marker

Type 'P' PVC Cement & Primer

INSTALLING YOUR SOLAR EEZY KIT

Please read and familiarise yourself with the instructions outlined below and the enclosed diagram before attempting installation. Ensure that the roof is dry, clean, and clear of any moss or other dangers.

Scan the QR Code to access installation videos or visit the Clark Rubber website.

STEP 1 - GLUE THE VACREL & BALANCE PIPE KITS

1.1 - GLUING THE VACREL KIT

Apply primer and then cement to both the VacRel® and top part of the Tee. Insert the VacRel® and give it a quarter twist. Hold for at least 30 seconds until the cement grabs.
Clean any excess glue. Apply primer and then cement to the supplied pipe and one side of the Tee. Insert the pipe into either side of the Tee, give it a quarter twist and hold. Clean any excess glue. Put aside to set.

1.2 - GLUING THE BALANCE PIPE CONNECTOR KIT

Apply primer and then cement to the shorter piece of PVC pipe and one side of one of the elbows. Insert the pipe into the elbow, give it a quarter twist and hold. Clean any excess glue. Repeat the process with the larger piece of pipe, gluing it into the other side of the same elbow. Apply primer and cement to the shorter piece of pipe and the remaining elbow. Insert the pipe and quickly lay the components on a flat surface, holding them together while also pressing down to ensure both elbows are installed evenly. Clean any excess glue. Put aside to set.

STEP 2 - INSTALL THE HEADER PIPES

2.1 - EZYCLIPS FOR METAL ROOFS

Referring to the enclosed diagram, measure and mark the positions of the Ezy Clips. Each EzyClip is supplied with 2 screws, which are installed at opposite corners of the clip. Mark the corners where you wish to install the screws and apply a bead of silicone to the roof. Place the EzyClip on top and fix using the 2 supplied screws. Snap the correct Header Pipes into their positions.

2.2 - EZYTIES FOR TILE ROOFS

Referring to the enclosed diagram, measure and mark the positions of the EzyTies. Lift the tile and slide the EzyTie underneath until it hooks onto the below tile. For extra security you may wish to apply a bead of silicone before releasing the tile. Lay the Header Pipe on top. If there is excess rubber, fold the Ezytie back on itself and rest the Header Pipe on top. Slide the supplied UV Resistant cable tie into the appropriate hole. Loop the cable tie around the pipe and tighten until firm. Do not over tighten. Trim excess cable tie with side cutters or scissors.

STEP 3 - INSTALL THE RUBBER COUPLINGS

3.1 - INSTALLING THE HEADER TO HEADER RUBBER COUPLING

Connect the Header Pipes together by pushing the Header to Header Rubber Couplings onto one end of the Header Pipe until it fits home. Then slide 2 loose stainless-steel hose clamps onto the coupling. Push the other Header Pipe into the coupling until it fits home. Make sure the smart assembly ports are aligned. Place the stainless-steel hose clamps into the grooves and tighten with a drill driver and a 5/16 attachment (or a flat head screwdriver). Repeat this process until all Header Pipes are connected.

3.2 - INSTALLING THE RUBBER END CAPS

Referring to the enclosed diagram, install the 2 Rubber End Caps into their correct position, pushing until they are seated correctly. Slide 1 stainless-steel hose clamp over each End Cap, position in the groove and tighten.

ATTENTION KLIP-LOK & SPANDEK ROOF OWNERS

Eliminate (or minimise) screws in your Klip-lok or Spandek roof with the Solar Manifold Tray available through Clark Rubber.

This 1200(L) x 195mm(W) black powder coat tray can support up to three pipes, including both the Supply and Return Header Pipes and the Balance Pipe. The trays come with a tongue and groove connection to allow multiple trays to be joined.

The tray/s can be secured to the roof using standard roof and gutter silicone and screws. The gap can be bridged by securing the tray to pre-installed metal or plastic strips. Consult your Clark Rubber representative for a completely drill-free solution. Header Pipes are attached to the tray using UV Resistant Cable Ties (available through Clark Rubber) in place of EzyClips/EzyTies.

STEP 3 - INSTALL THE RUBBER COUPLINGS

3.3 - INSTALLING THE HEADER TO PVC RUBBER COUPLINGS

Referring to the enclosed diagram, install the 2 Header to PVC Rubber Couplings into their correct position. Push the shorter end of the coupling onto the Header Pipe until they are seated correctly. Slide 1 stainless-steel hose clamp over the couplings, position in the groove and tighten with a drill driver and 5/16 attachment.

3.4 - INSTALL THE VACREL AND BALANCE PIPE CONNECTOR KITS

Slide 2 loose stainless-steel hose clamps onto the long end of the Header to PVC Rubber Couplings. Push the pipe end of the 'VacRel vacuum Relief Kit' into the bottom coupling and the 'Balance Pipe Connector Kit' into the top coupling until they are fully seated. Place the stainless-steel hose clamps into the grooves and tighten.

IMPORTANT INFORMATION - UNPACKING PROCEDURE FOR SOLAR COILS

The Solar Coils are made to be straight with rounded tubes. However, when you first remove them from the packaging, they may need to relax from being tightly coiled before they are glued down. To relax the Solar Coils, unwrap them and lay them in a straight line in a hot, sunny position. Once heated, the coils will relax back into shape. These steps are particularly important if installing in winter as the coils may take longer to fully relax. If installing on a hot sunny day, the coils should relax naturally during the 'Connect & Unroll the Solar Coils' steps below. **Ties (available through Clark Rubber) in place of EzyClips/EzyTies.**

STEP 4 - LAY THE SOLAR COILS

4.1 - CONNECT & UNROLL THE SOLAR COILS

Use the supplied Aerosolve 305 Silicone to lubricate the smart assembly ports (be careful to control overspray). Starting at the top of the system, push the collector into the top connection port (in the return Header Pipe) - Always check that the seals are clean, present and intact before insertion. Do not fold the coil over and push on the back of the barbs, as this may damage the tubing.

Ensure that the barbs are fully engaged before inserting the Acetal Barb Lock (with the raised lip facing towards the collector). Push down firmly in the centre and then the outsides until you hear a click. The barb lock will not go in if the coil is not fully inserted.

Unroll the coil in a straight line to the designated length. It may be useful to have a reference line marked to guarantee you lay the coil in a straight line. Once you reach the desired length, lead the coil around (do not flip) and continue unrolling towards the Header Pipes. Connect the other end to the next connection port (in the supply Header Pipe) using a Barb Lock. Repeat for a second coil only.

SHORTENING SOLAR COILS

You may wish to shorten a coil because the roof is shorter in one section or to avoid a large obstacle (like a skylight). You need to perform these steps before the silicone adhesive is applied under the collector.

You will require a pair of sharp scissors, silicone spray, pointy nosed pliers, a tape measure, a 'TufTool Rigid Collar Tool' and a '10 or 50 Tube Repair or Trim Kit' available through Clark Rubber. Measure how much collector needs to be removed and mark two straight lines. This can be anywhere along the collector run, except for within 30cm of the end barbs. Carefully cut the collector along one of the marked lines. Pull the collector until you reach the other marked line. Check that the length is correct before completing the second cut. Strip out the connecting webs on either side of by approximately 100mm using a pair of pointy nosed pliers. Slide a Collar over each tube, making sure that the shoulder is facing the cut end. Spray some silicone down into the tubes and onto the barbs. Insert the barbs, leaving a 2-3mm gap from the end. If you push it too far the collars will be difficult to install. Using your fingers, slide the collars on as far as you can. Then use the TufTool to ensure full engagement.

BYPASSING AN OBSTACLE

Bypassing a smaller obstacle, such as pipes, TV antennas pipes etc. is a relatively simple procedure:

If the Obstacle falls between two solar coils: Simply run the solar coils around the obstacle, allowing the tubes around the obstacle to bunch slightly while keeping the coils as straight and neat as possible.

If the Obstacle falls in the middle of the solar coil: Using a pair of scissors carefully cut the webbing between the tubes (being careful not to cut the tubes) until its large enough for the obstacle to fit. Slide the coil over the obstacle, allowing the tubes to bunch slightly.

STEP 4 - LAY THE SOLAR COILS (CONTINUED)

4.2 - GLUING THE SOLAR COILS

Adjust the two connected coils so they are straight and neat. Once satisfied, apply a generous line of Prosil 60 Black silicone adhesive under the solar coils with a caulking gun, apply at 400mm to 500mm intervals. Press the solar down firmly to ensure a good bond. Do not use any adhesive other than the Prosil product provided - untested silicones can have negative effects on the solar coil, additional tubes of Prosil can be purchased through Clark Rubber. Repeat this uncoiling, connecting and gluing process two coils at a time until all coils are installed - Installing two coils at a time means you will not have to stand on the coils, which can damage them.

4.3 - FOLDING THE LOOP RETURNS

Go to the end of the solar coils (known as the Loop Return) and fold the coil in on itself. This will allow the system to sit lower and neater to the roof. Apply a small quantity of Prosil under the loop return to secure it against strong winds. Repeat the process for all coils.

STEP 5 - INSTALL THE PIPEWORK & DRAIN DOWN KIT

5.1 - CONNECT THE SUPPLY AND RETURN PIPEWORK

You can now connect you Solar Eezy system to the Supply and Return Pipework.

IMPORTANT INFORMATION

All pipework should be 40mm (or 50mm reducing to 40mm) PVC class 12 pressure pipe

In Australia's Northern states black PVC (or white PVC painted black) is not recommended due to heat warping, sagging, etc. White PVC pipe is recommended for longevity and cost reasons.

Use type 'P' PVC Cement & Primer

EzyClips or saddle clamps can be used to secure pipework. Space at a maximum of 1800mm and 900mm apart on vertical walls and horizontal surfaces (respectively). They should be tightly spaced under eaves

Always design pipework in a manner that will allow for thermal expansion and contraction

Avoid running the pipework above the system (such as over the ridge capping) as it will become non-draining. Water is left inside the system can freeze and expand, or become hot, stagnant and soften the coils. Both situations have the potential to cause the system to swell and/or burst which is not a warrantable issue

PIPEWORK IS ALREADY ON THE ROOF (REPLACEMENT SYSTEM):

Check the existing pipework for suitability and condition. Repair or replace if required

Confirm the supply & return lines by tracing them back to the equipment pad before gluing/ connecting

Connect the Return (Hot) Pipework to the Balance Pipe Connector kit

Connect the Supply (Cold) Pipe to the VacRel Connector Kit

Please ensure the system can self-drain

INSTALLING NEW POOL-TO-ROOF PIPEWORK (NEW SYSTEM):

Plumb the PVC pipework from the system to the equipment pad in the most direct manner possible (less friction and heat loss)

Ensure the system can self-drain

Connect the Return (Hot) Pipework to the Balance Pipe Connector kit

Connect the Supply (Cold) Pipe to the VacRel Connector Kit

Mark the Supply & Return pipework for future reference

Make sure pipes are plumbed straight and neat

Plumb around eaves and roof hips using 45° and/ or 90° elbows as per the following images

PLUMBING AROUND ROOF HIPS

PLUMBING AROUND EAVES

5.2 - INSTALL THE DRAIN DOWN KIT

The Drain Tube allows the supply pipe to slowly drain back via the return pipe when the pump is switched off. To install, mark a location on both the supply and return pipework, approximately 1 – 1.5m above the pump level against the wall. Drill 8.5mm holes in the pipes, using an 8.5mm Drill Bit. It is highly recommended that you drill a small pilot hole first, then drill the holes by running the drill in reverse to minimise the risk of pipe shatter. Using a blunted drill bit is also preferable. Clean the drill swarf and burrs. Lubricate the holes with Aerosolve 305 Silicone and insert the rubber grommets. Lubricate the grommets and insert the header barbs. Lubricate and slide the tube over the barbs.

5.3 INSTALL THE PRESSURE GAUGE

The Pressure Gauge is supplied in the Pool-to-Roof plumbing kit available through Clark Rubber. To Install, screw the enclosed brass barb onto the thread at the back of the Pressure Gauge using Teflon sealing tape and two open end spanners (14 A/F & 16 A/F). Drill an 8.5 mm hole in the PVC supply pipe and clean the hole of any debris. Insert the tapered end of the rubber grommet into the hole. Lubricate the brass barb and insert it into the rubber grommet, ensuring full engagement. Ensure the pressure is between 1 and 100 kPa / 15 psi (top fed systems 50 kPa / 7 psi max.). If it is outside this range, please consult your Clark Rubber representative for possible remedies.

STEP 6 - INSTALL THE PUMP & SOLAR CONTROLLER

CONNECT THE PIPEWORK TO THE SOLAR PUMP

The way you connect the Supply and Return pipework to the pump house will depend on whether the pool has been plumbed to allow for solar heating (Independent / Separate Suction System) or if you will need to plumb into the filtration line (Simultaneous / Integrated / Retro Fit Configuration or Manual System). Consult the relevant plumbing diagram for installation instructions.

INDEPENDANT SOLAR CIRCUIT

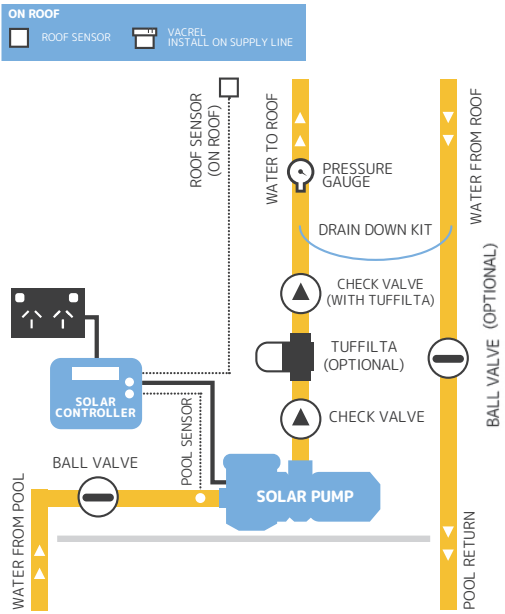
The pool water is pumped directly from the pool to the solar collector/absorber and then back. This configuration requires solar provisions to have been pre-installed or for the pool builder to plan and install them. It is simple to install and does not interrupt the filtration system. This type of plumbing allows the Solar System to operate independent of the filtration system and generally uses less power than integrated systems.

Requires:

1 x AS2, AS2_2S Digital Solar Controller or similar
1 x Check Valve (also known as a Non-Return or One-Way Valve)
1 x Solar Pump (that can deliver 3-4 litres per minute per m² of collector)

To Install

Identify and confirm the solar Supply and Return lines even if they are labelled. This can be achieved by removing the caps (if there are any) and yelling down the pipes or by pouring water down the line. The Suction line will generally be a dual line running one metre apart from the skimmer box or deep end. The Return line is generally a single line running from the opposite end of the pool or near the step area. It is usually higher on the pool wall than the Supply lines. Plumb as per the diagram above. Ensure all pipework is dry and clean before attempting to glue.



OPTIONAL UPGRADE - TUFFILTA INLINE SOLAR FILTER

The TufFilta® is a high performance inline solar filter that is responsible for filtering out debris and fibres which can cause blocked tubes and stagnant systems. The washable and replaceable synthetic inner filter cartridge collects the particles and prevents their progression through the system. The TufFilta is highly recommended for Independent / Separate Suction and Manual Systems.

INSTALL THE DIGITAL SOLAR CONTROLLER

Consult the Instruction Manual found inside the Digital Controller box for installation and set-up instructions. Keep the Digital Controller switched OFF if the Solar Pump still requires installation and/or priming.

RETRO-FIT - INTEGRATION ON FILTRATION CIRCUIT

This system involves cutting into the filtration line and retrofitting the solar lines. Water is then diverted from the filtration line into the solar system. This system is usually adopted when the solar suction and return lines do not exist, as it is an easy way to retro fit a solar system without affecting any other part of the pool structure. The only disadvantage with this set-up is that the solar can only operate when the filtration system is operating.

Requires:

1 x AS2_2S Digital Solar Controller or similar

1 x Check Valve (also known as a Non-Return or One-Way Valve)

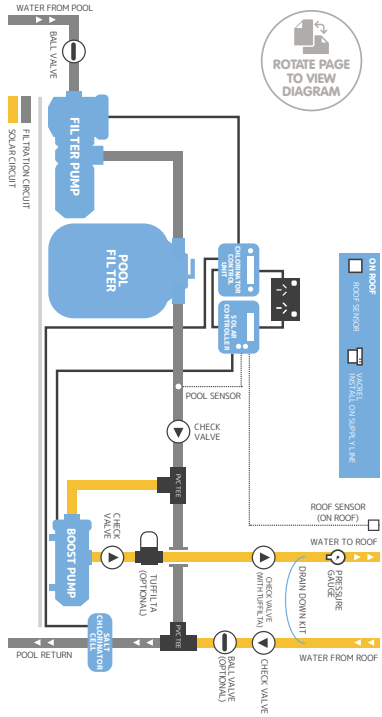
2 x PVC Tees

1 x Booster Pump (that can deliver 3 litres per minute per m² of collector)

To Install

Identify and confirm the Pool Return line that is running from the Pool Filter (this is the line returning to the pool with the salt cell chlorinator, secondary heater etc.). Switch the system off and isolate any valve/s (if possible) to minimise water loss. Identify the best position to cut into the line to install the two PVC Tees, Check Valve and Pump. Plumb as per the diagram. Ensure all pipework is dry and clean before attempting to glue.

Warning: If there are restrictions in the return line which could hinder water flowing freely to the pool, it is recommend that you install a pressure gauge. Do not allow the system to go over 100 kPa / 15 psi (top fed systems 50 kPa / 7 psi max.). Consult your Clark Rubber representative for possible remedies.



MANUAL SYSTEM (NO PUMP OR DIGITAL CONTROLLER)

Involves plumbing into the filtration line and manually opening and closing a 3-way valve to divert water to the system. It requires no Digital Controller or Solar Pump and is the cheapest way to plump the system. However, you have very limited control over the heating process and must remember to go out and adjust the valve if you want the system to operate. It also puts extra load on your pump and filter and is therefore only recommend for single story installations with limited head. The plumbing must be cut in before any other pool equipment (e.g. chlorinate, heat pump, gas heater etc.).

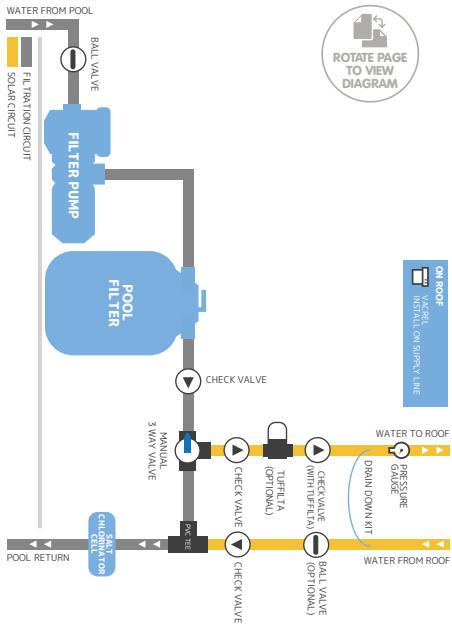
Requires:

- 1 x Check Valve (also known as a Non-Return or One-Way Valve)
- 1 x PVC Tee
- 1 x 3-Way Manual Valve

To Install

Identify and confirm the Pool Return line that is running from the Pool Filter (this is the line returning to the pool with the salt cell chlorinator, secondary heater etc.). Switch the system off and isolate any valve/s (if possible) to minimise water loss. Identify the best position to cut into the line to install the 3-Way Manual Valve, PVC Tee and Check Valve. Plumb as per the diagram above. Ensure all pipework is dry and clean before attempting to glue.

Warning: If there are restrictions in the return line which could hinder water flowing freely to the pool, it is recommend that you install a pressure gauge. Do not allow the system to go over 100 kPa / 15 psi (top fed systems 50 kPa / 7 psi max.). Consult your Clark Rubber representative for possible remedies.



PRIME THE SOLAR PUMP

Pumps are designed to suck water, not air. If the pump runs without water for too long it will overheat and fail, which may void the manufacturer's warranty. You must fill the pump with water before starting it, this is called priming. The Pump priming method will depend on the position of the pump – whether it is above or below water level. Please read the Pump's specific instructions regarding pump priming and starting.

Pump is below water level:

Make sure the Pump and/or Digital Controller is switched OFF

Close the Ball Valve

Remove the Pump Lid or remove the small plug at the base of the pump

Open the Ball Valve and allow the pool water to completely fill the pump

Close the valve and put the lid/plug back on

Open the valve and switch the Pump and/or Digital Controller ON

The pump should prime immediately. If not, check the seals and inspect the line for leaks or damage.

Pump is above water level:

Make sure the Pump and/or Digital Controller is switched OFF

Remove the pump lid

Using a bucket or hose fill the Pump

Put the lid back on and switch the Pump and/or Digital Controller ON

The pump may take several minutes to prime, gurgling and sputtering a little before filling with water. If the pump does not prime within approximately 2 minutes, switch it off, check the seals and inspect the line for leaks or damage. Repeat the above procedure.

The pump will be primed when the water has fully filled the pump housing.

SWITCH ON AND CHECK THE SYSTEM

Before switching the system on, please allow 24 hours for all adhesives to set.

Switch the pump on (or open the valve on a manual system). You will notice some air bubbles in the pool return outlets - this is normal and will clear after several minutes. Survey the entire system, ensuring you check:

- ☐ The fittings and fixtures are primed and cemented properly
- ☐ All valves are installed correctly and in the right positions
- ☐ The system is properly secured to the roof
- ☐ Screws and bolts are secure, and penetrations sealed
- ☐ All pipework has been properly secured and supported
- ☐ All collectors have been secured top and bottom with Barb Locks
- ☐ Check for leaks and/or weeps
- ☐ The system will automatically drain or is installed with manual drain valves
- ☐ Drain Down Kit is installed
- ☐ The Automatic Controller (if installed) has been switched on with no fault codes
- ☐ Pump is primed
- ☐ Check the Pressure Gauge. Ensure the pressure is between 1 and 100 kPa / 15 psi (top fed systems 50 kPa /7 psi max.). If it is outside this range, please consult your Clark Rubber representative for possible remedies.

If you come across any issues check the 'Trouble Shooting Guide' on the next page.

That's it! Jump in and enjoy your solar heated pool!

SERVICE AND MAINTENANCE SCHEDULE	MONTHLY	QUARTERLY	ANNUALLY
Winterising System: Put the Digital Solar Controller into winter mode. Do not switch the solar system off.			✓
Check the System: Check the system for leaks on a regular basis throughout the season as leaks can corrode metal roofs and gutters, if left unchecked. Leaks should be repaired as soon as possible.		✓	
VacRel Vacuum Relief Kit: The vacuum release valve is a critical system component. It should be checked that it is functioning correctly and that collectors drain fully when the pump stops. The collectors and/or piping should never appear collapsed (concave) by negative pressure.			✓
Debris Accumulation: Check that there is no build-up of debris around pipe work or collectors, and that rainwater has a clear path to run down.		✓	
TufFilta / Strainer (If Installed): Depending upon your pool usage and level of debris, the TufFilta / Strainer will need to be checked and cleaned regularly throughout the season	✓		

TROUBLESHOOTING GUIDE

ISSUE	CAUSE/S	SOLUTION/S
Air bubbles are constantly appearing in the pool returns	Air is entering through a leak on the supply side of the pump	Check that the pumps filter basket lid is on tight. Clean, lubricate or replace the O-ring on filter basket if required. Look inside the pumps lid for air bubbles appear. If present, run water over the lid and joints and see if the bubbles stop. If they do, locate, mark and fix the leak/s. If the pump doesn't have a clear lid – repeat the above process listening for a smoother operating sound. If the pool is using a suction type pool cleaner, try removing it. If the bubbles stop only use the cleaner while the system is turned "OFF
	There is a leak somewhere in the system	Check the entire system for leaks, paying special attention to the glue joints, valves, and rubber couplings. Locate, mark, and fix any leaks.
	Air is entering through the Vacuum Relief Valve	There is insufficient water pressure in the system. This results in the valve failing to close, and air being drawn into the system. Remedy the issue by cleaning and backwashing the filter to reduce pressure. If this fails, consider installing a Ball Valve on the return line to produce slightly more back pressure on the system.
There is a slight leak from the barbs during pressure testing	There is debris on the seal/s	Mark which collector is leaking and switch the pump off. Using a long, flat tipped screwdriver, carefully remove the barb lock and pull the collector out of the Header Pipe. Inspect to ensure all seals are in place, intact and clean. Replace if required. Once complete, lubricate and reinsert the collector and barb.
The water coming from the return outlets of the pool is not as warm as expected	The pump is oversized	The pump may be too large for the system. Australian Standards specifies that a pump should deliver 1.8-4.8 lpm per m^2 of collector (AS3634 8.1a). Size up for double story homes or if significant flow restrictions exist. Check the calculations and consider installing a smaller pump.
	The system is undersized or incorrectly positioned	Check your calculations to ensure you have installed the right amount of solar collector for your pool. Ensure that the roof is receiving ample sun and is not heavily shaded. Consider installing a larger solar system.
	Seasonal / Cooler Day	It is also important to note that the pool water will not increase in temperature as much during the cooler months of the year, or on cool, windy or particularly cloudy days. This is due to normal seasonal operation changes and cannot be helped.
There is a small leak in the tube/s	Accidental Damage	Purchase a '10T or 50T Solar Repair / Trim Kit' from Clark Rubber (you may also wish to purchase a TufTool Rigid Collar Tool for ease of installation). Mark the position of the leak. Shut off the pump. Cut a 3mm section around the leaking tube (do not damage the other tubes). Using your pointy nosed pilers strip out the connecting webs on either side of the leak by approximately 100mm. Slide a Collar on each side of the tube, making sure the shoulder is facing the cut end. Spray some silicone down into the tubes and onto the barb. Insert the barb into each tube, leaving a 2-3mm gap from the end (If you push it too far the collars will be difficult to install). Using your fingers, slide the collars on as far as you can. Then use the TufTool to ensure full engagement.
	Manufacturing Defect	Please take images and/or videos clearly showing the issue and send them through your local Clark Rubber store along with proof of purchase.

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