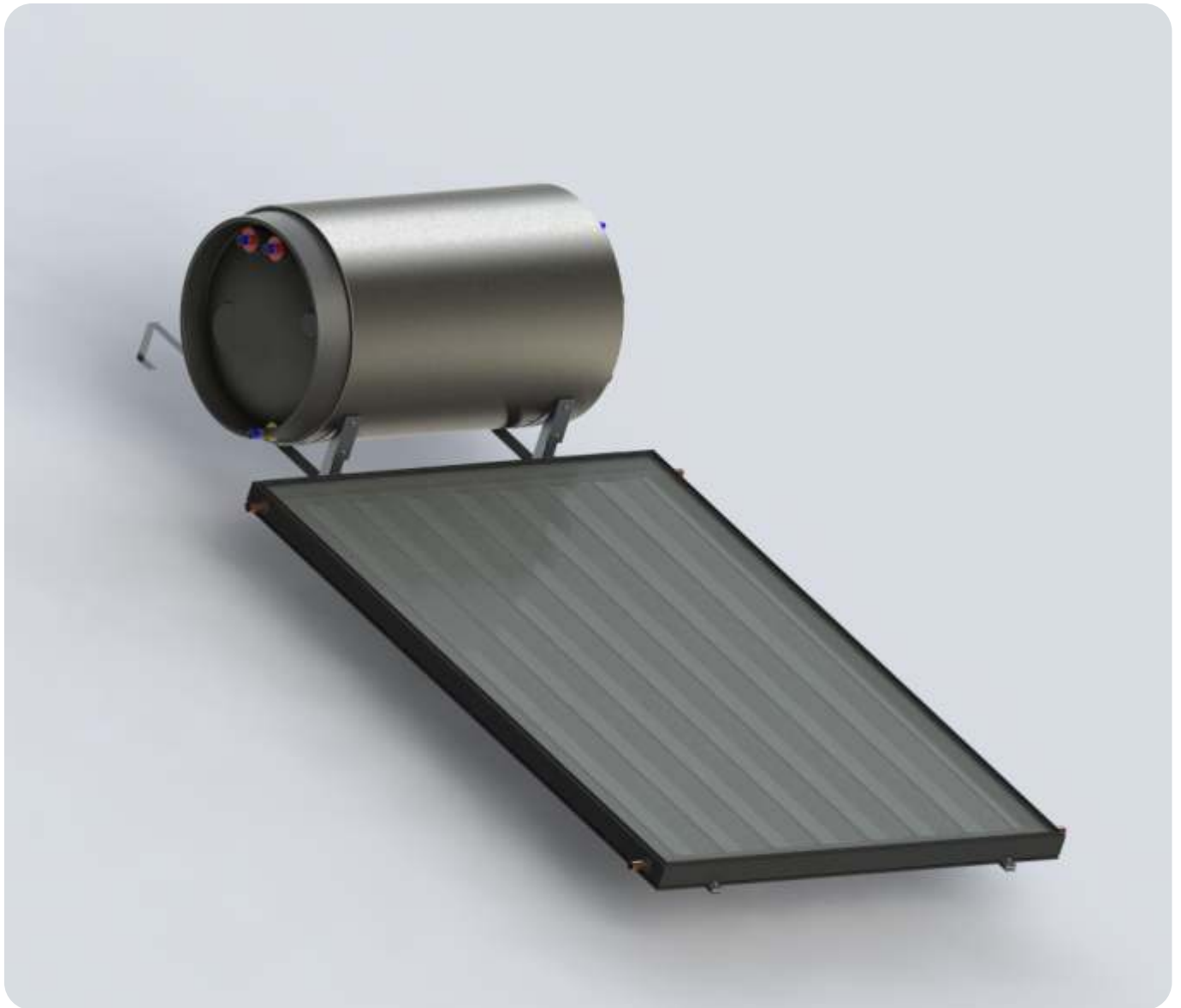




INSTALLATION MANUAL

INSTALLATION MANUAL THERMOSIPHON - INDIRECT

Thermosiphon Double Jacketed Indirect system





INSTALLATION MANUAL

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Components:

- 1 x ST or Eco Series Collector (Kit Dependant)
- 1 X Double Jacketed In-direct Solar Geyser (Kit Dependant)
- 1 x Mounting Kit (Kit Dependant)
- 1 x TP Valve
- 1 x Drain Cock
- 4 x 22mm Aircon Spec Lagging
- 3 x Glycol (3Lt. containers) (Kit Dependant)



INSTALLATION MANUAL

Powerz-On Eco-1.5 Solar Collector - 2.77 Kw/m²/Day

Powerz-On ST-2.2 Solar Collector - 4.5 Kw/m²/Day

Powerz-On ST-2.5 Solar Collector - 5.2 Kw/m²/Day

Technical Specifications:

System Specifications							
No.:	System:	Collector:	Geyser:	Volume:	Circulation Type:	Transfer Type:	Freeze Resistance:
1.	K-100DJT1.5	Eco-1.5	Kwiksol	100Lt	Thermosiphon	Indirect	YES
2.	K-150DJT2.2	ST-2.2	Kwiksol	150Lt	Thermosiphon	Indirect	YES
3.	K-200DJT2.5	ST-2.5	Kwiksol	200Lt	Thermosiphon	Indirect	YES
4.	K-300DJT2.2	2 x ST-2.2	Kwiksol	300Lt	Thermosiphon	Indirect	YES

System Application:	Sys	Thermosiphon	Sys	Thermosiphon	Sys	Thermosiphon
Aperture area:	m ²	1.46	m ²	2	m ²	2.3
Total collector size: (outer frame)	m ²	1.56	m ²	2.2	m ²	2.5
Pipe connections:	mm	22mm copper	mm	22mm copper	mm	22mm copper
Number of Ports:	No.	4	No.	4	No.	4
Freeze Protection:	NO	Coastal Areas Only	Yes	System Dependant	Yes	System Dependant
Dimensions: (D x W x H)	mm	1620 x 980 x 65	mm	1782 x 1232 x 75	mm	2035 x 1232 x 75
Working pressure:	kpa	400	kpa	400	kpa	400
Glazing: (tempered / toughened)	mm	4 (Low Iron Toughened)	mm	4 (Low Iron Toughened)	mm	4 (Low Iron Toughened)
Insulation materials:	type	Polyurethane	type	Polyurethane with embossed Aluminium foil	type	Polyurethane with embossed Aluminium foil
Fin Absorber:	type	Aluminium (Solar Absorber Coating)(0.40mm)	type	Aluminium (Solar Absorber Coating)(0.40mm)	type	Aluminium (Solar Absorber Coating)(0.40mm)
Frame materials:	type	Vacuum Formed Polymer Composit	type	Extruded, Powder coated , Profiled Aluminium	type	Extruded, Powder coated , Profiled Aluminium
Absorber coating:	type	Specially formulated Solar Selective Coating	type	Specially formulated Solar Selective Coating (Miro)	type	Specially formulated Solar Selective Coating (Miro)
Riser material:	Qty	6 - 15mm copper tubing	Qty	8 - 15mm copper tubing	Qty	8 - 15mm copper tubing
Header material:	Qty	2 - 22mm copper tubing	Qty	2 - 22mm copper tubing	Qty	2 - 22mm copper tubing
Installation footprint: (D x W)	mm	1620 x 1070	mm	1782 x 1350	mm	2035 x 1350
Internal volume:	L	2.31	L	2.7	L	2.9
Dry weight:	Kg	22.5	Kg	37	Kg	37
Filled weight:	Kg	24.8	Kg	39.7	Kg	39.9
Packaged dimensions: (D x W x H)	mm	1630 x 1090 x 80	mm	1810 x 1360 x 100	mm	2045 x 1360 x 100
Recommended standard capacity:	L	100 (Geyser)	L	150 (Geyser)	L	200 (Geyser)
SABS Q-factor:	MJ	10	MJ	22.5	MJ	27
Total & Use full Energy:	KW	2.77 Kw m ² /Day	KW	6.25 Kw m ² /Day	KW	7.5 Kw m ² /Day

Freeze Resistance:

The Powerz-On K-Series are Thermosiphon Indirect systems, as a result they are rated as being Freeze resistant. The systems rely on Glycol for freeze protection, and thermal transfer. Please follow the instructions for maintenance to maintain performance and freeze protection.

Hail Resistance:

The Powerz-On Flat Plate collector has been tested by SABS and is rated as being Hail Resistant. Please note the Powerz-On flat plate collector is not hail proof.



Before You Begin

Site Assessment:

1. Check condition of roof structure.

- 1.1 Is the roof strong enough. (Do not Install if in doubt.)
 - 1.1.1 Bare in mind the average 150L Thermosiphon System will weigh about 250Kg.
- 1.2 We recommend consulting a Structural Engineer before beginning.
- 1.2 What type of roof (Tile, Corrugated, Flat.)(Appendex A)
- 1.3 Is there any existing damage. **NB.: If yes, you must point this out to the client before you begin.** (it is advisable to photograph the damage)

3. Inclination:

- 3.1 The Solar collector should be raised as close to 36° (Gauteng) as possible.
(Inclination = Latitude + 10°)(Eg.: Gauteng = Latitude 26° + 10° = 36°)
- 3.2 What type of frame will you need.
- 3.3 In order to reach the correct installation angle, how much will you need to raise the collector by.

4. Direction:

- 4.1 The Solar collector should face North, with a slight bias towards the West.
(this is so we can collect more Sun in the afternoon)
- 4.2 Is there a side of the roof structure that will be acceptable.

5. Once you have decided on the location, it is advisable that you erect the unit in place **without** securing. Once you have done this, ask the client if they are satisfied with the location.

6. Safety Precautions:

- 6.1 Ensure that the Electrical supply to the Geyser is switched off.
- 6.2 Ensure that there is sufficient light to be able to clearly see what you are doing.
- 6.3 Check condition of the roof thoroughly before attempting any installation.
- 6.4 Ensure all Ladders or other forms of rigging are well secured.
- 6.5 Be careful of spills, surfaces may become slippery.
- 6.6 Wear appropriate clothing for the conditions.
- 6.7 Ensure all Plumbing and Electrical connections are well secured before continuing to the next operation.

Please Ensure the Geyser Installation complies with SANS 10254 Regulations.

Once the location has been decided and approved by the client, you may begin.



Appendix 1.

How to Secure to the Roof (Types)

1.1. **Tile.**

- With a tiled roof it will be more difficult to drill the holes for the tubing.
- Drill a small hole (10mm) then enlarge it to the size you require.
- Do not use the hammer function on your drill.
- To secure the Collector, use hope iron. Slide the Hope Iron under a tile and secure to the brandering.
- When you arrive on site ask if the client has spare tiles, incase you break any while you are working on the roof.

1.2. **Corrugated Iron.**

- Corrugated iron is the easiest roof to work on, look out for rust or weak areas.
- Drill holes with a hole saw.
- To secure, use nuts & bolts.
- Make sure you silicon all the holes thoroughly.

1.3. **Slate.**

- With a Slate roof it is even more difficult to drill the holes for the tubing.
- Drill a small hole (10mm) then enlarge it to the size you require.
- Do not use the hammer function on your drill.
- To secure the Collector, use hope iron. Slide the hope iron under the Slate and secure to the brandering.
- When you arrive on site, ask if the client has spare Slate tiles, incase you break any while you are working on the roof.

1.4. **Flat Roof.**

- A frame for the collector will be required to raise the Solar Collector to the correct inclination.
- Make sure nothing punctures the water proofing on the roof while you are working.
- The frame will need to be secured to the side of a wall or parapit.
- All tubing will need to be run to the side of the building, NOT through the roof (that will damage the water proofing)

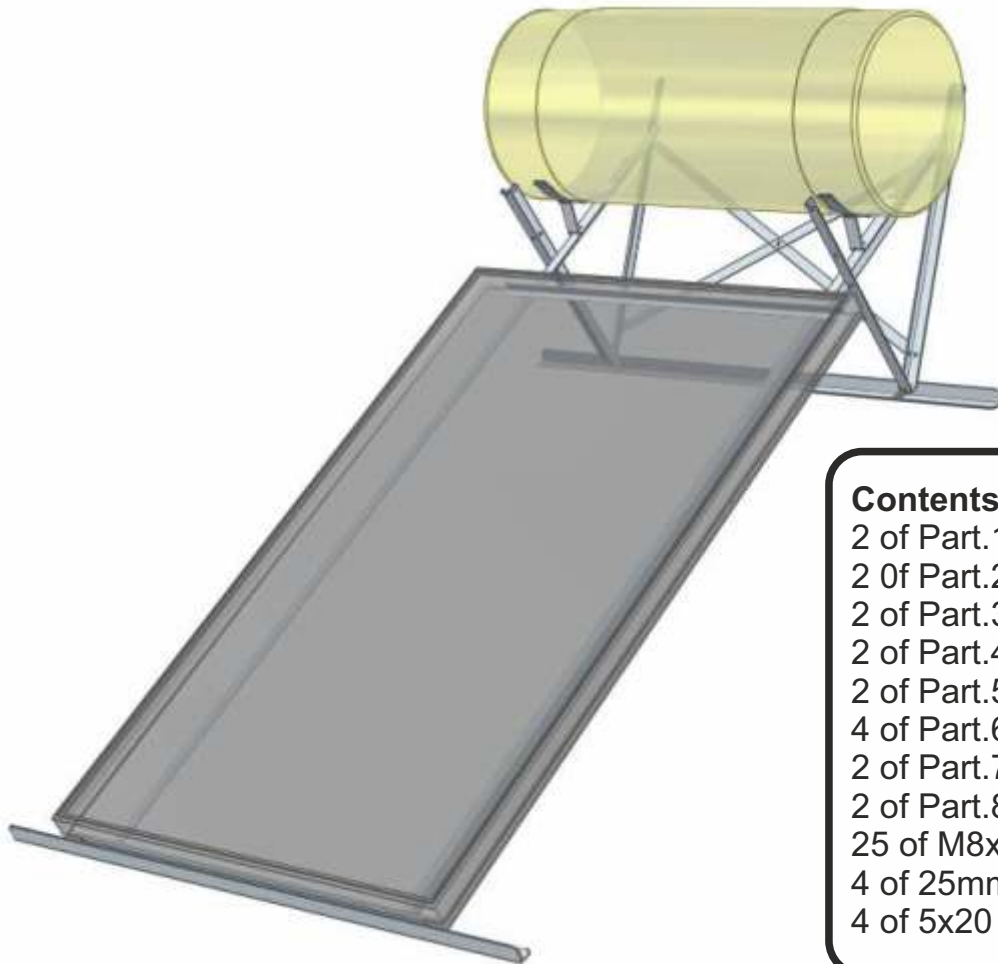
1.5. **Thatch.**

- **NO GO!!**. You cannot install on thatch. Thatch needs to breathe, so anything directly on the thatch will cause rotting.
- You cannot float the Collector above the roof, any holes you make for the tubing or reinforcement will leak.
- The only way to do this is to mount the system on a wall on the side of the building, or on the ground.
- You will need to run tubing to the house either way.



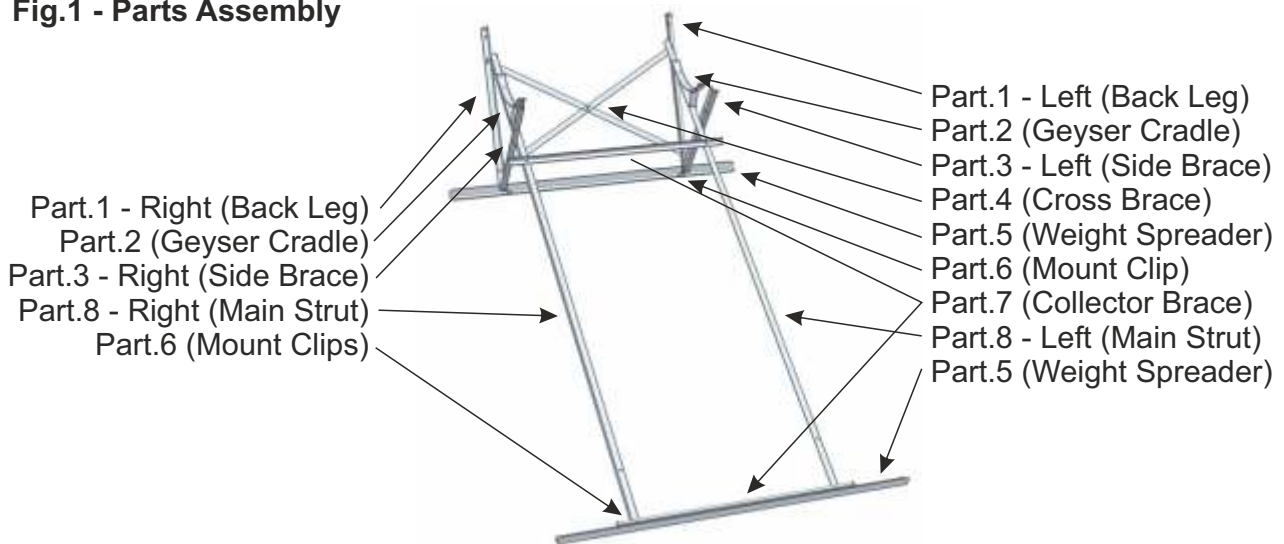
INSTALLATION MANUAL

100 Adjustable Inclined Roof Stand



- Contents:**
- 2 of Part.1 - (Left/Right)
 - 2 of Part.2
 - 2 of Part.3 - (Left/Right)
 - 2 of Part.4
 - 2 of Part.5
 - 4 of Part.6
 - 2 of Part.7
 - 2 of Part.8 - (Left/Right)
 - 25 of M8x25 Nut & Bolt
 - 4 of 25mm Tec. Screw
 - 4 of 5x20 Self Tapp Screw

Fig.1 - Parts Assembly





INSTALLATION MANUAL

Assembly

Step 1 - Back Brace Assembly.

Using parts: 2x Part.1, 2x Part.3, 1x Part.5, 2x Part.6 and 9 of M8x25 Nut & Bolt. Assemble as shown, but do not securely tighten nuts and bolts at this stage.



Step 2 - Geyser and Collector Cradle.

Using parts: 2x Part.8, 2x Part.2, 2x Part.7, 2x Part.6, 1x Part.5 and 12 of M8x25 Nut & Bolt. Assemble as shown, these nuts and bolts can be securely tightened.

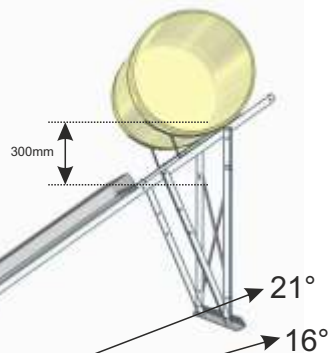


Step 3 - Roof Mounting.

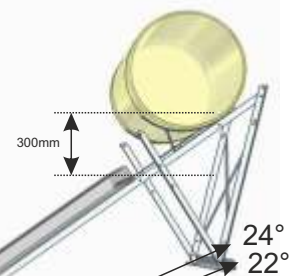
1. Using an inclinometer, determine the angle of the roof.
2. Once you know the angle of the roof, determine which angle assembly system best meets your requirements.
3. Assemble as seen in the diagram.

NB: for Flat Roof Types please use Flat Roof Stand.

Inclination:
16° to 21° Roof

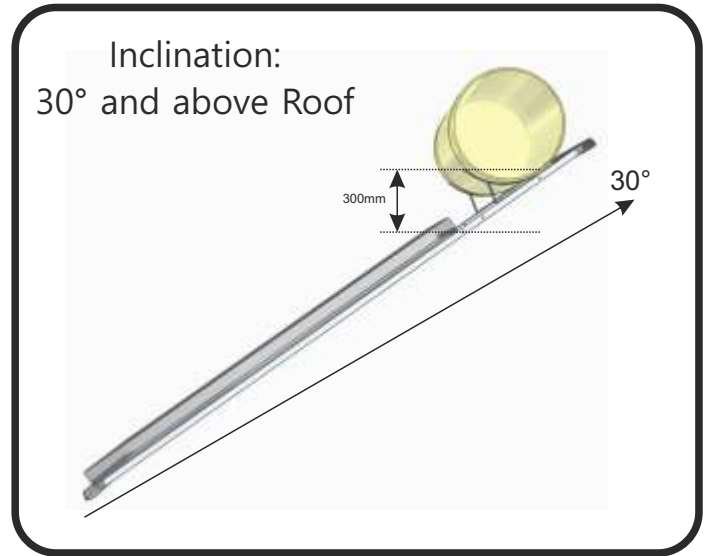
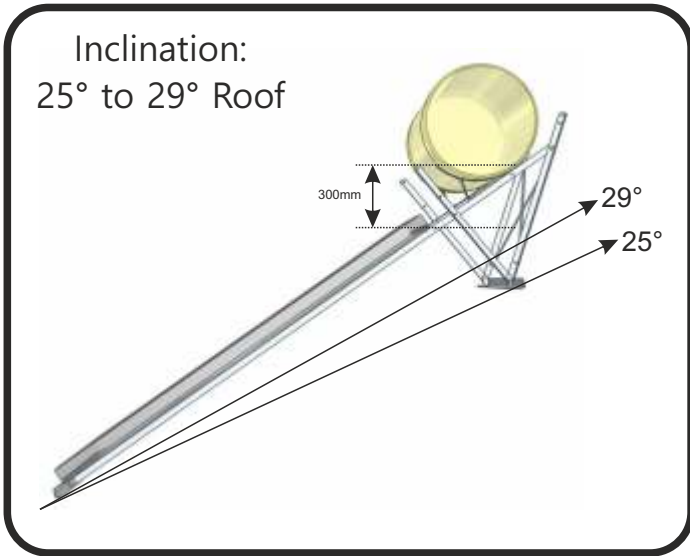


Inclination:
22° to 24° Roof



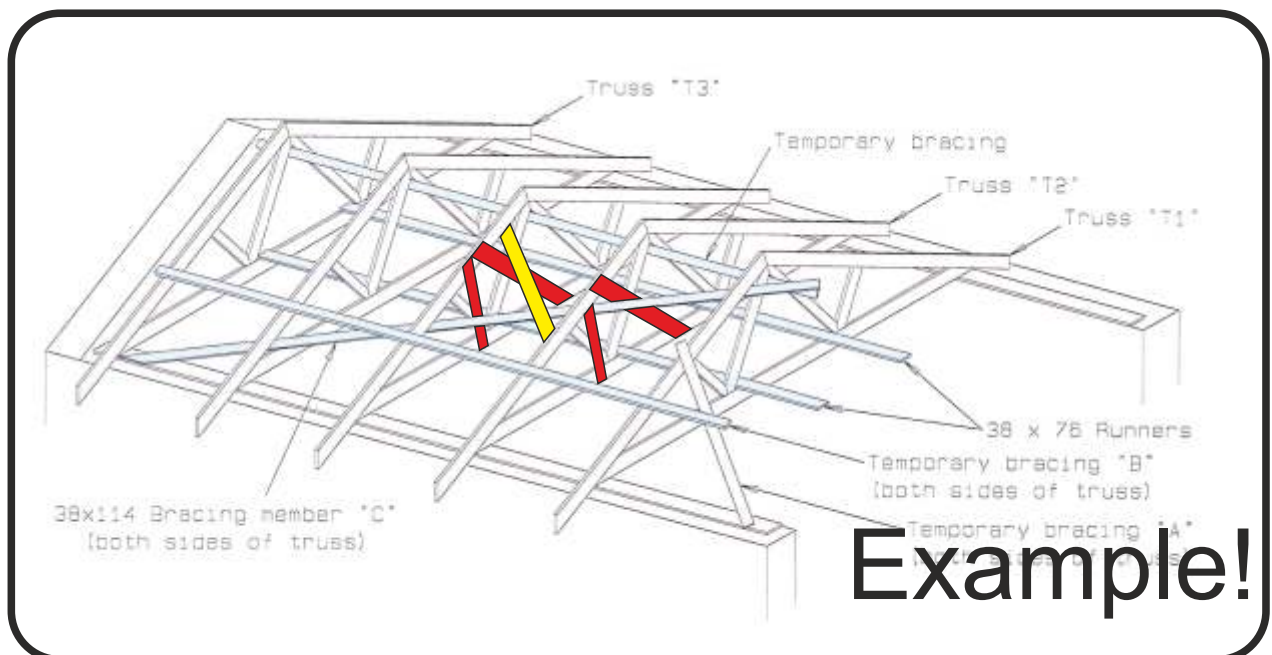


INSTALLATION MANUAL

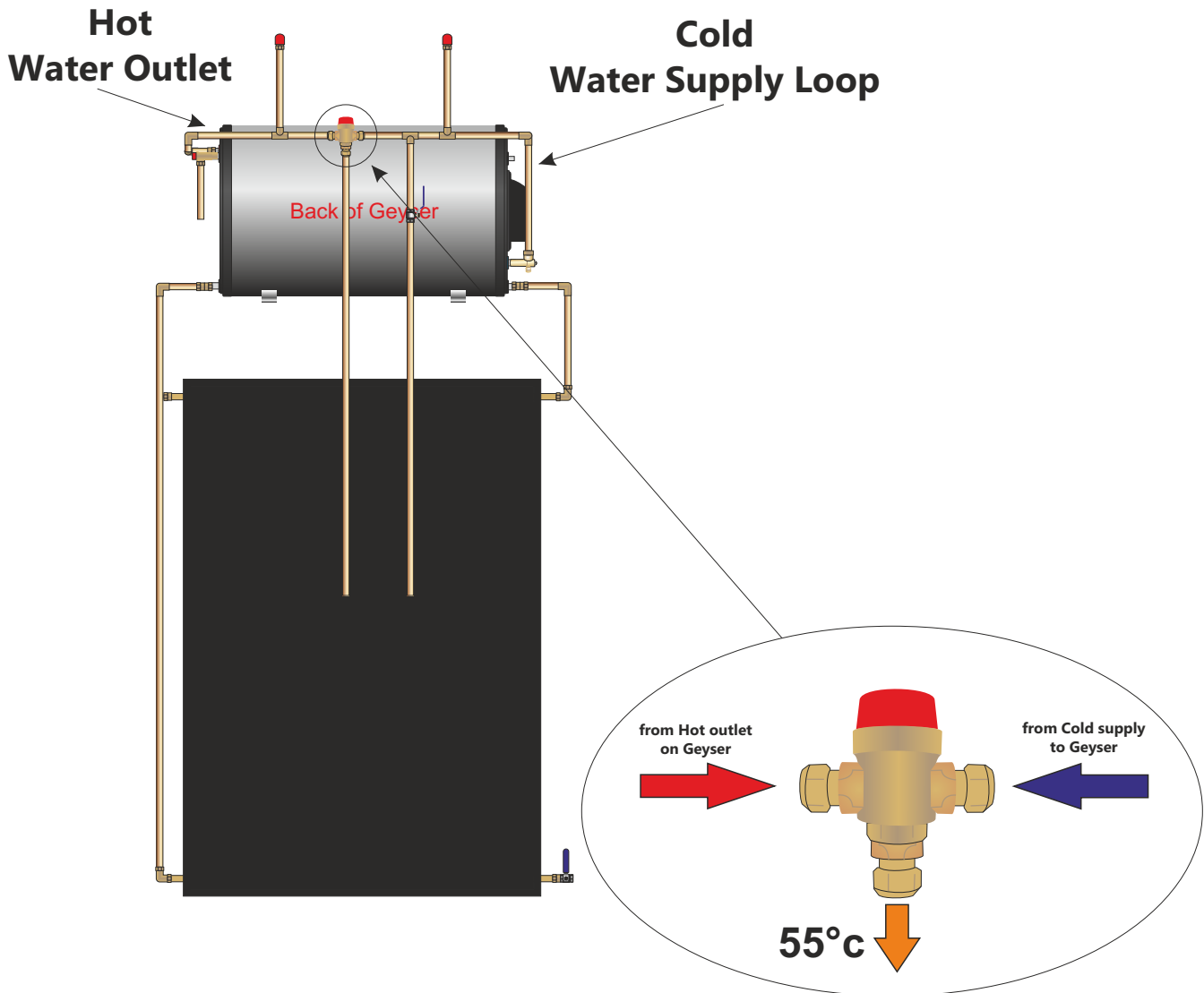


Step 4 - Securing to the Roof.

1. Make sure the frame is situated across at least two roof trusses.
2. Once the frame is in place, and all nuts and bolts are properly secure, you may secure to roof.
3. Ensure strengthening is added to the trusses carrying the weight. See example below
2. Slip Hoop Iron under the tile and secure to roof truss.
3. Secure the same hoop iron to the frame, make sure all four corners of the frame are secured in this manner.
4. Install Collector and Geyser as per Manufacturers directions.



Tempering Valve



Tempering Valve Installation:

1. A Tempering valve is required for all Thermosiphon systems.
2. A tempering valve reduces the temperature of the hot water in the piping to a safe temperature of 55°C.

Installation:

- a. Connect a pipe from the Cold water supply to the cold water side of the valve.
- b. Connect a pipe from the Hot water out let to the hot side of the valve.
- c. Complete the piping for the bottom (outlet) of the valve to the piping for the hot taps.

NB.: some Tempering valves can be set to different temperature we recommend keeping the valve set to 55°C.



Installation Procedure

1. **Preparation:** where applicable

1.1 Turn off the Electricity to the Geyser at the DB board and at the switch by the geyser
NB: Test with a multimeter before you work on the Electrical supply.

1.2 Turn off the cold water feed to the Geyser.

1.3 Drain the Geyser.

a: Open the drain-cock

b: Open the closest hot water tap to the Geyser.

c: Remove one Vacuum Break valve.

2. **Decommissioning & Removing the existing Geyser:** where applicable

2.1. Ensure that all copper tubing has been removed from the existing geyser and sealed properly. (This will prevent any potential leaks)

2.2 Remove all Electrical connections from the existing Geyser and from the breaker switch in the roof. (You will want to replace this wiring with new wiring to the new Geyser)

2.3 Once All Connections to the Geyser have been removed, and it is completely empty you will be able to remove the old Geyser.

2.4 You will need to open the roof for this action. Be careful not to cause any damage during this action.

2.5 Once the old Geyser has been removed, you will be able to begin the New Solar Geyser installation.

2.6 We recommend you place the new Geyser in the same location as the old one, this will make the installation process faster. (Please bear in mind the Solar Collectors will need to be as close to the new Geyser as possible.

Decommissioning Complete.



INSTALLATION MANUAL

Positioning & Securing of the new Thermosiphon Direct Solar System:

3. Stand Installation.

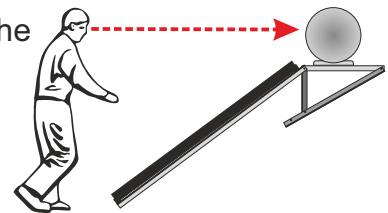
Installation options:

- 3.1 For Flat roof installation use T27-Series.
Please refer to Installation manual of specific products.
- 3.2 For Inclined roof installations use LC-100(Appendix 2.)
Please refer to Installation manual of specific products.

4. Securing the Geyser & Collector:

The Geyser:

- 4.1 Raise the Geyser to the roof and place on the Geyser Cradle.
- Place the Geyser Correctly: if you are in the front of the System facing to the back the Electrical connection must be on the Left.
 - Rotate the Geyser in the Cradle until the T/P valve is at the highest point.
 - Secure the Geyser to the Cradle.
(Please ensure all bolts are securely tightened)



NB.: please note the markings on the Geyser are misleading.

The Collector:

- 4.2 Raise the collector to the roof and secure to the Stand (see stand installation)
- For single collector systems make sure the collector is installed with the two ports to the top.
 - For Twin collector systems you will need to make sure the collector ports line up correctly.

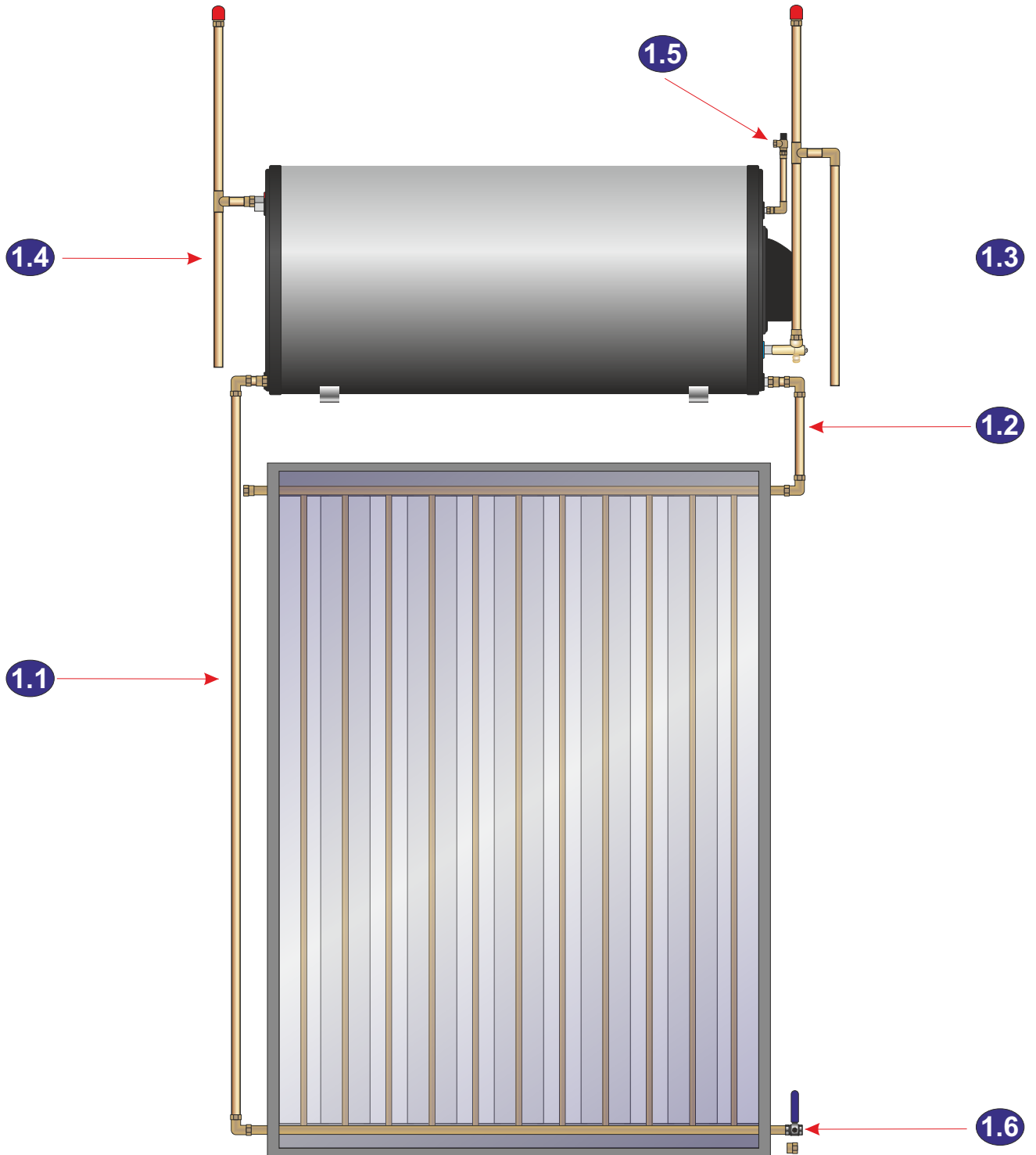
Make sure the collectors are level using a spirit level, and secure in place.



INSTALLATION MANUAL

Connection Diagram for 100, 150 & 200 Lt. Geysers (Single Collector)

(FIG. 1)





INSTALLATION MANUAL

5. Connecting the Geyser & Collector:

Make sure all Pipe work connecting the Collector to the Geyser never goes above horizontal. If it does the Thermosiphon flow will be broken.

5.1 Cold water Feed: Left side of Geyser. (Send Side) (Fig.1)(1.1)

COLLECTOR INSTALLATIONS: Connect the cold water supply to the Bottom Left of the Collector.

(Before you make all your connections secure, we recommend dry fitting them first)

- a. From the Left side of the Collector connect a straight Conex coupler to a 50mm piece of copper. (Position see above)
- b. Connect a 90° solder elbow to the 50mm copper tube.(Elbow pointing towards the Geyser)
- c. Now connect a piece of copper tubing to the 90° elbow and cut to the desired length.
- d. If you are Using an Expansion Tank. You will need to add the expansion tank. At the appropriate point add a tee piece to the copper length, and add the required connector for the Expansion tank. NB.: Expansion Tank should be pressurized to 1 bar.
- e. Connect a 90° solder elbow to the top of the copper tube facing the Geyser outlet.
- f. Add a piece of Copper tubing to the 90° elbow.
- g. Using a Conex Female Geyser connection, connect the copper tube to the Geyser inlet.
- g. Bottom Right of Collector must have a Gate Valve attached, this will allow the system to be drained when needed. (Fig.1)(1.6)

Note: Always refer to Geyser manufacturer for correct pipe connections.

NB: Before making everything secure, add your lagging.

5.2 Hot Water Return: Right side of Geyser. (Return) (Fig.1)(1.2)

Both **Single** and **Twin collector** installations have the Hot water return port at the top Right of the collector.

(Before you make all your connections secure, we recommend dry fitting them first)

- a. From the Collector connect a straight Conex coupler to a 50mm piece of copper.
- b. Connect a 90° solder elbow to the 50mm copper tube.(Elbow pointing towards the Geyser)
- c. Now connect a piece of copper tubing to the 90° elbow and cut to the desired length.
- d. Connect a 90° solder elbow to the top of the copper tube facing the Geyser inlet.
- e. Using a section of 22mm copper tubing connect to a conex Female Geyser connection, which will be connected to the return port on the Geyser.
- f. Top Left of Collector must be Capped with a conex End Cap.

Note: Always refer to Geyser manufacturer for correct pipe connections.

NB: Before making everything secure add your lagging.



INSTALLATION MANUAL

6. Connecting the Geyser: (Please ensure the Geyser is connected as per SANS 10254)

NB: Before sending the copper tubing through the roof please refer to [Appendix A](#).

6.1 Cold Water Supply: (Fig.1)(1.3)

- a. Disconnect the old cold water supply from the Gate Valve in the roof.
- b. Connect a new copper tube to the Gate Valve.
- c. Complete the copper tubing through the roof to the Right of the new Thermosiphon System.
- d. Connect the drain cock to the Geyser.
- e. Connect the cold water supply to the drain cock, including an anti-siphon loop & a vacuum breaker (Vacuum Breaker must be 300mm above the top of the Geyser)

NB: Before completing the connection make sure all exposed copper tubing is lagged.

6.2 Hot Water Supply: (Fig.1)(1.4)

- a. Connect a copper tube to the top of the new Geyser using a Female Conex connector.
- b. Add a 90° Elbow above the connection.
- c. Extend a copper tube from the 90° elbow by 300mm.
- d. Use a tees connector (To extend a 300mm copper tube above the Geyser for a Vacuum Breaker).
- e. Connect the copper tubing to the original Hot water inlet, or to the nearest hot water tube.
- f. Install the T/P valve in the Geyser at the correct connection point.

NB: Before completing the connections make sure all the tubing is lagged, both inside and outside the roof.

Once all the connections are complete and correct you can open the Gate valve to allow the system to fill.

NB: Please inspect the entire installation for any leaks.

7. Filling the Glycole:

- a. Make sure the collectors are not hot (Cover them if need be.)
- b. We recomend you use premixed Glycole. The glycole must be Food Grade.
- c. Slowly add the Glycole allowing the air to escape.
- d. Once all the air has been removed from the system, you can close the inlet port.

If you are using a Pressure release valve the top of the Geyser will need to be capped with it. You will need to make sure it is rater at 1 Bar. only. (Fig.1)(1.5)



INSTALLATION MANUAL

Connecting the Electricity:

(Please note this section needs to be completed by a certified Electrician)

Please Ensure an Isolator Switch is installed within 1m of the geyser

NB: Please ensure the electricity is switched off for this section of the installation.

8. Option 1

8.1 Replacing the breaker switch on the DB board with a digital timer.

- a. Ensure the power is switched off at the main breaker.
- b. Remove the Geyser breaker.
- c. Install the new Digital timer switch as per Instructions Supplied.
(Instructions are supplied with the digital timer switch for installation and commissioning)

8.2 From the breaker switch in the roof, run 4mm shielded 3 core wiring to the new geyser.

8.3 Connect the wiring to the new Geyser.

(Ensure the wiring is well insulated and protected).

Once your connections are secure and correct, and the Geyser is full you may commission the system.

NB: Programming instructions are supplied with the Digital Timer Switch.

9. Option 2:

9.1 Installing A Geyser Wise Timer:

(Please consult the supplied instructions for full installation and programming requirements)

- a. Ensure the Geyser Wise Timer is mounted in a safe and secure manner.
- b. Connect the Geyser Wise Timer to the breaker switch in the roof.
- c. Connect 4mm shielded 3 core wiring to the Geyser Wise timer.
- d. Run the wiring to the Element in the Geyser, (ensuring the wiring is well insulated and protected) and connect.
- e. Replace the thermostat with the supplied Sensor and connect to the Geyser wise timer.
- f. Program the geyser wise timer according to the supplied instructions.

Once your connections are secure and correct, and the geyser is full, you may commission the system.

NB: Programming instructions are supplied with the Geyser Wise Timer.



SAFE OPERATION OF THE SYSTEM:

- 1. The system being a thermosiphon system relies on the natural process of water being heated by the Sun natural rises to the highest point of the system and is replaced by the cooler water in the same system.*
- 2. This being a natural process, it will continue as long as the sun supplies sufficient energy to heat the water. No mechanical assistance is required.*
- 3. Should the system be left for 4 or more consecutive days in high summer, it is possible that the system could over heat and become unstable, it is recommended that should the system not be used for 3 or more days, the collector be covered, to reduce the likelihood of the system over heating.*
- 4. The system topical takes a full day to heat the water in the geyser to a decent temperature. This is not an instant process but rather requires the full day on average. The ultimate temperature is determined by Usage and the energy of the Sun.*
- 5. Once the water has been heated by the Sun, and once you have depleted such water, either you will have to wait for the Sun to reheat the system, or you will need to activate the electrical element if more hot water is needed urgently.*
- 6. It is recommended you take this into account when using hot water, do not let the hot water simply run for no reason, showering using a low flow shower head can reduce your hot water usage bu up to 50%*
- 7. The electrical element consumes a large amount of electricity when it is active, it is recommended the use of the element be kept to the absolute minimum, by doing this your potential energy saving will be maximised. We recommend activating the element in the early hours of the morning, which would allow for normal early morning requirements, thereafter allow the Sun to provide the rest of the heating during the day.*
- 8. For maintenance and other safety information please refer to the section on Maintenance.*



MAINTENANCE:

1. *If at any time you suspect a leak or problem with the system please call your Installer immediately.*
2. *In-Land Areas:* The Solar Collector should be kept free from dust or pollen.
3. *Coastal Areas:* The Solar Collector should be kept free from salt crystallization. Collector must be Anodized for corrosion protection.
3. The anti-freeze fluid (Glycol) will degrade over time. The Collector and piping should be drained and refilled every (3) three years.
4. The entire system should be checked periodically for any leaks or problems. If you suspect a problem the Installer should be contacted immediately.
5. We recommend the thermostat in the Geyser be set to 55°C.
6. Never allow trees, shrubs or other large obstacles to cast a shadow on the solar collector. Please check during summer and winter.
7. Please Refer to Geyser Manufacturer of Anode Replacement (on Average replace every 18 Months)
8. Winter Time:
 - 8.1 Active Systems: Make sure the Frost protection system is activated.
 - 8.2 Make sure all Piping is Insulated.

Away Periods

When in summer, hot water is not going to be used for weeks, it is advisable to cover the panel(s) with a canvas or an old blanket (NOT WITH BLACK PVC!). This will prevent the system from over-heating.

Once a Year

The temperature and pressure valve(s) should be checked for proper operation. **This should be done by an accredited technician.**

NB.: It is also recommended that a Qualified Installer performs a full system check-up once a year, this will allow the system to perform at its fullest at all times.



MANUFACTURING THE FUTURE

INSTALLATION MANUAL

WARRANTY

ST Range of solar collectors



Powerz-On gives the buyer the assurance that all components of the Solar System supplied by Powerz-On have been tested both as individual components and as a part of an integrated system. The system complies with all the relevant SANS requirements and carries the SABS mark of Approval.

- Please Note:**
1. All installations must be carried out by, and signed off by a Powerz-On accredited Installer. Failure to do so will render the Warranty Null and Void.
 2. All installations must comply with SANS 10106.
 3. The Powerz-On Warranty applies to the Powerz-On Collector only, all other components supplied by, but forming part of the system, but not manufactured by Powerz-On carry their own Warranty provided by their respective Manufacturers.

Warranty:

The Powerz-On Solar Collector comes with a comprehensive one (1) year parts and labour warranty and guarantee to replace the Solar Collector if the Collector fails within ten (10) Years.

10 Year Replacement Guarantee:

Powerz-On will provide a free replacement Solar Collector from it's nearest branch office or approved agent. Under this replacement guarantee, the transport, installation and labour costs of delivering the replacement Solar Collector and removing the existing Solar Collector and installing the replacement Collector, will be for the account of the owner of the existing Solar Water Heater.

Where a Solar Collector or a component of the solar system is replaced, the balance of any original Warranty or Replacement Guarantee period will remain effective. The replacement Solar Water Heater or part does not carry any additional warranty or replacement Guarantee.

The period of Warranty is from date of Installation providing the documented proof of Installation and sale is furnished, or alternatively from date of manufacturer as determined from the serial plate code on the Solar Collector. The following conditions apply.:

1. The Warranty only applies to defects, which have arisen solely due to faulty materials or workmanship during the manufacturing process of the Solar Collector.
 2. The Solar Collector Glass is not covered by the Warranty, manufacturers defects excluded.
 3. Any Freeze damage caused as a result of the Solar Collector being installed as a direct system in frost areas, is not covered by the Warranty.
 4. Frost protection in the Pumped Direct system is dependant on an electrical supply. Any frost damage resulting from loss of, or intermittent Electrical supply, is not covered by the warranty.
 5. Any damage caused to the Solar Collector due to propylene glycol not being used, or the propylene glycol failing in the Indirect System, is not covered by the Warranty.
 6. Any damage caused to the Solar Collector due to improper installation, or modifications made to the Solar Collector, is not covered by the Warranty.
 7. Any damage caused due to an act of nature, is not covered by the Warranty.
 8. Any damage caused due to Collector over heating is not covered by the Warranty.
- Note:** If Collector temperature exceeds 100°C, permanent damage can occur.
9. Any damage caused to the Solar System due to water quality being outside the chemical parameters stated below, is not covered by the Warranty.:

PH	6.5-8.5
Total dissolved solids	600 mg/L
Calcium coronate level (Hardness)	200 mg/L
Chlorides	250 mg/L
Magnesium	10 mg/L

The Warranty on the Installation is the responsibility of the Installer. The System must be installed in compliance with SANS 10106.

Safety:

1. Do not tamper with any part of the installation.
2. Do not touch the Hot supply pipe from the Solar Collector/s, as this pipe can get extremely hot.
3. The Draining and Replacing of the heat transfer fluid (Glycol) must be carried out every three (3) years, and must be done by an authorized Powerz-On Installer.

Emergency and Shutdown Procedures:

In the event of a problem arising with the Solar Water Heater, the following procedure should be followed.

1. Switch off the Geyser at the electrical distribution board (DB board).
2. If there is any evidence of a water leak from any part of the system, shut off the water supply to the Solar Water Heater, at the shutoff valve before the Solar Water Heater, or at the mains water supply.
3. If there is any evidence of a heat transfer fluid leak (Glycol) in any part of the system, try and capture the leaking fluid into a bucket or container. Keep the container for inspection by the Installer.
4. Contact the company that installed the Solar Water Heater, or an authorised Solar Water Heater Installer.



MANUFACTURING THE FUTURE

INSTALLATION MANUAL

WARRANTY

Eco & EVT Range of solar collectors



Powerz-On gives the buyer the assurance that all components of the Solar System supplied by Powerz-On have been tested both as individual components and as a part of an integrated system. The system complies with all the relevant SANS requirements and carries the SABS mark of Approval.

- Please Note:**
1. All installations must be carried out by, and signed off by a Powerz-On accredited Installer. Failure to do so will render the Warranty Null and Void.
 2. All installations must comply with SANS 10106.
 3. The Powerz-On Warranty applies to the Powerz-On Collector only, all other components supplied by, but forming part of the system, but not manufactured by Powerz-On carry their own Warranty provided by their respective Manufacturers.

Warranty:

The Powerz-On Solar Collector comes with a comprehensive one (1) year parts and labour warranty and guarantee to replace the Solar Collector if the Collector fails within five (5) Years.

5 Year Replacement Guarantee:

Powerz-On will provide a free replacement Solar Collector from it's nearest branch office or approved agent. Under this replacement guarantee, the transport, installation and labour costs of delivering the replacement Solar Collector and removing the existing Solar Collector and installing the replacement Collector, will be for the account of the owner of the existing Solar Water Heater.

Where a Solar Collector or a component of the solar system is replaced, the balance of any original Warranty or Replacement Guarantee period will remain effective. The replacement Solar Water Heater or part does not carry any additional warranty or replacement Guarantee.

The period of Warranty is from date of Installation providing the documented proof of Installation and sale is furnished, or alternatively from date of manufacturer as determined from the serial plate code on the Solar Collector. The following conditions apply.:

1. The Warranty only applies to defects, which have arisen solely due to faulty materials or workmanship during the manufacturing process of the Solar Collector.
 2. The Solar Collector Glass is not covered by the Warranty, manufacturers defects excluded.
 3. Any Freeze damage caused as a result of the Solar Collector being installed as a direct system in frost areas, is not covered by the Warranty.
 4. Frost protection in the Pumped Direct system is dependant on an electrical supply. Any frost damage resulting from loss of, or intermittent Electrical supply, is not covered by the warranty.
 5. Any damage caused to the Solar Collector due to propylene glycol not being used, or the propylene glycol failing in the Indirect System, is not covered by the Warranty.
 6. Any damage caused to the Solar Collector due to improper installation, or modifications made to the Solar Collector, is not covered by the Warranty.
 7. Any damage caused due to an act of nature, is not covered by the Warranty.
 8. Any damage caused due to Collector over heating is not covered by the Warranty.
- Note:** If Collector temperature exceeds 100°C, permanent damage can occur.
9. Any damage caused to the Solar System due to water quality being outside the chemical parameters stated below, is not covered by the Warranty.:

PH	6.5-8.5
Total dissolved solids	600 mg/L
Calcium coronate level (Hardness)	200 mg/L
Chlorides	250 mg/L
Magnesium	10 mg/L

The Warranty on the Installation is the responsibility of the Installer. The System must be installed in compliance with SANS 10106.

Safety:

1. Do not tamper with any part of the installation.
2. Do not touch the Hot supply pipe from the Solar Collector/s, as this pipe can get extremely hot.
3. The Draining and Replacing of the heat transfer fluid (Glycol) must be carried out every three (3) years, and must be done by an authorized Powerz-On Installer.

Emergency and Shutdown Procedures:

In the event of a problem arising with the Solar Water Heater, the following procedure should be followed.

1. Switch off the Geyser at the electrical distribution board (DB board).
2. If there is any evidence of a water leak from any part of the system, shut off the water supply to the Solar Water Heater, at the shutoff valve before the Solar Water Heater, or at the mains water supply.
3. If there is any evidence of a heat transfer fluid leak (Glycol) in any part of the system, try and capture the leaking fluid into a bucket or container. Keep the container for inspection by the Installer.
4. Contact the company that installed the Solar Water Heater, or an authorised Solar Water Heater Installer.



INSTALLATION MANUAL

Warranty Activation Form

Pleas Note: The warranty comes into force when the activation has been registered with Powerz-On Solar Systems. This is the responsibility of the owner of the solar system.
Please E-mail to activate@powerz-on.co.za or Fax to 011 965-0187

Home Owners Details: (to be completed by the Home Owner)

Name: _____
 Physical Address: _____

 Tel (Home): _____ Tel (office): _____
 Cell : _____ E-Mail: _____

Installer Information: (to be completed by the Installer)

Name: _____
 Company Name: _____
 Physical Address: _____

 Tel (office): _____ Cell: _____
 E-Mail: _____

Declaration:

Powerz-On Authorized Installer Certificate No.: _____

I, the above-mentioned Powerz-On Authorized Solar Water Heater installer, confirm that the solar water heater and/or Solar Collector installation carried out by myself, complies with Powerz-On requirements and SANS 10106 Installation Specifications.

Signature: _____ Date: _____

System Description: (to be completed by the Installer) Geyser manufacturer: _____

System	Split or Close Coupled		Circulation Method		Tick Appropriate Block
Direct	Split		Pumped		
	Split		Thermosiphon		
	Close Coupled		Thermosiphon		
Indirect	Split		Pumped		
	Split		Thermosiphon		
	Close Coupled		Thermosiphon		
Tank Size:	100Lt.	150Lt.	200Lt.	250Lt.	300Lt.
Tick Block					
Collector:	ST-2.2bsc	ST-2.2msc	ST-2.5bsc	ST-2.5msc	Eco-1.5
Tick Block					

Installation Date: _____

Collector.

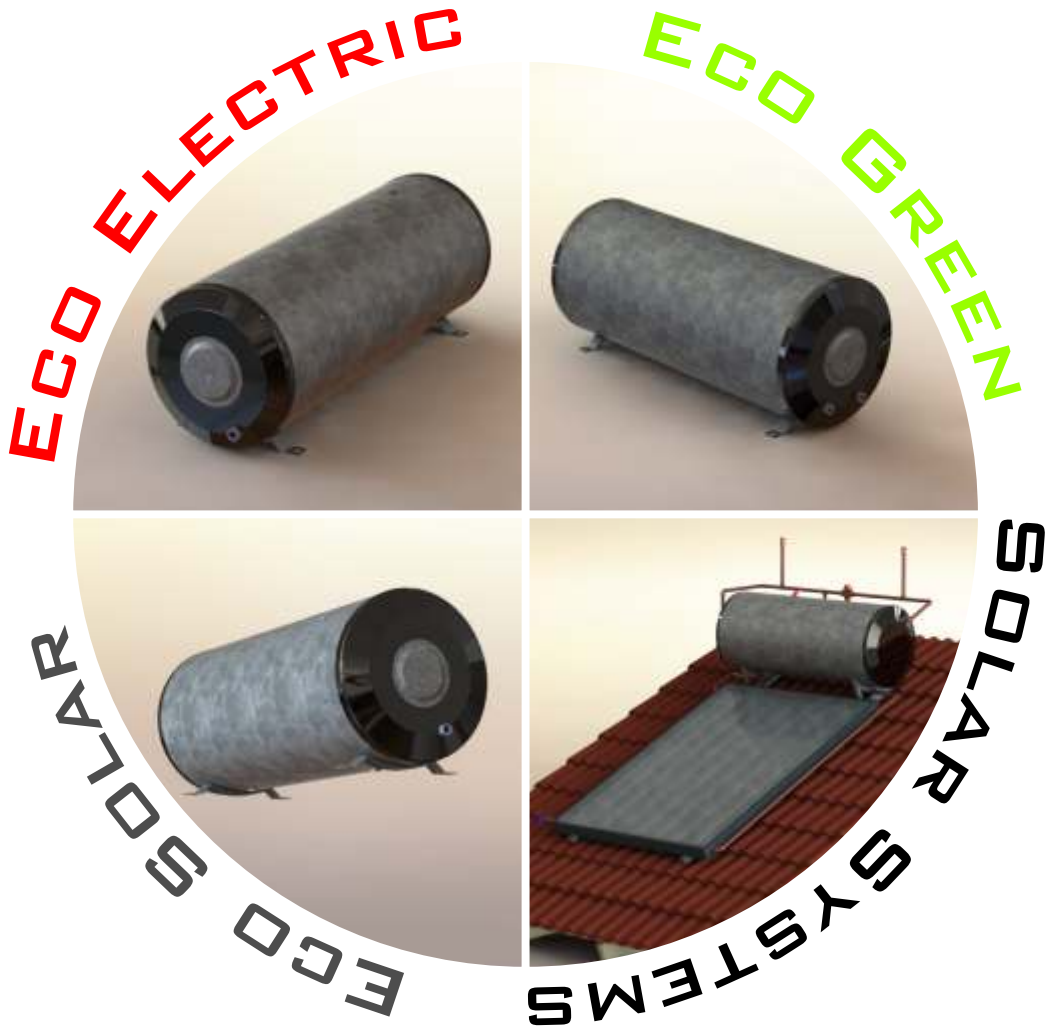
Serial Number: 1. _____ 2. _____

Geyser.

Serial Number: 1. _____ 2. _____



INSTALLATION MANUAL



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INFO@GAPHOLDINGS.CO.ZA

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