KWIKOT

Kwik SOL

CISTERN TYPE SOLAR WATER HEATER

INSTRUCTION, INSTALLATION & WARRANTY MANUAL

REV0421

This equipment must be installed, maintained and repaired strictly in accordance with the appropriate and relevant requirements of SANS 10254 and SANS 10106.

Refer to installation diagrams for component names, abbreviations and common terminology used in manual on pages 7, 8 and 9

1. INSTALLER COMPETENCY

The assembly and installation of the Cistern Type Solar Water Heater System must be installed by suitably trained and competent person to ensure correct installation specifications in order to assure safety to the public as well as warranty of the system.

2. OCCUPATIONAL HEALTH AND SAFETY

When installing the solar system, the OHS act should be observed and applied. A competent trained person installing the system must also be competent with the OHS Act and the application there off.

Suitable personal protection equipment must be worn at all times, such as; Overall, non-slip safety shoes, eye, head and hands protection.

Fall arrest harness must be worn and suitably anchored to the roof to prevent an accidental fall.

Take note of roof structure to ensure safe working environment.

Working at heights rules and specification are to be adhered too at all times, especially ladders and scaffolding.

The competent person shall ensure his/her safety as well as any assistant's safety and safe work procedures

3. SAFE AND CORRECT OPERATION OF SOLAR WATER HEATER

Ensure sufficient water flow to self-filler tank, failure to keep system filled can result in water boiling off, resulting in burst collector tubes when cold water enters hot system. Its compulsory to have a thermostatic mixing valve installed at hot water outlet, ensuring balanced water pressure to both hot and cold water inlet of thermostatic mixing valve.

Note operational design of Kwikot Thermostatic Mixing Valve: The mixing valve is pre-set at 55 degrees centigrade, if no cold water supply is present, the mixing valve shall shut-off, preventing hot water supply to user. The same will apply if the cold water supply (self-filler tank) is at, or above 55 degrees centigrade, due to stagnation of the system.

4. INSTALLATION LOCATION AND OTHER CONSIDERATIONS

The correct location of the installation is extremely important in order to obtain the maximum working efficiency of the Cistern Type Solar Water Heater. The following must be taken into consideration when deciding on the location:

1. The distance from the installation to the hot water supply tap.
To save on hot water draw-off or usage and heat loss, the installation should be as close to the hot water outlet as possible. Long distances of piping results in timorously delays in delivering hot water from the installation to the hot water tap.

2. Installation should be void of shadows.
Care must be taken that the installation is not exposed to shadows from buildings, trees and shrubs and especially between 10am and 4pm when solar irradiance occurs.

3. Orientation and angle of the installation.
For optimum performance the installation must face the Equator, which is true north. Variations to North West and North East are also acceptable. The vacuum tubes allow for flexibility on the angle of performance. The stand and vacuum tube frame is for ground level or flat roof installation, however can be modified for a pitch roof installation where the pitch is greater than 8° and less than 30°. Inclination of frame can be adjusted by cutting rear legs to suitable length, ensuring that cut pieces are painted and protected with suitable inhabitants or rust proof paint. Rear legs must be cut to a suitable length to ensure a collector angle of 45 degrees and top of Self-filler tank must be horizontally level. See installation diagrams for guidance to different roof angles.

4. Weight of Installation when filled.
The installed system when filled weighs approximately 140kgs. If the installation is to be on a roof, careful inspection must be carried out to ensure that the roof can support this weight. Rear legs of frame must be installed on a roof bearing truss. Roof must be inspected by a competent person prior to installation.

5. System Pressure.
The system operates at 0kPa pressure and therefore the hot water tap is not pressurised as its an open vented system and relies on gravity to feed hot water. Cold water inlet can handle municipal pressure

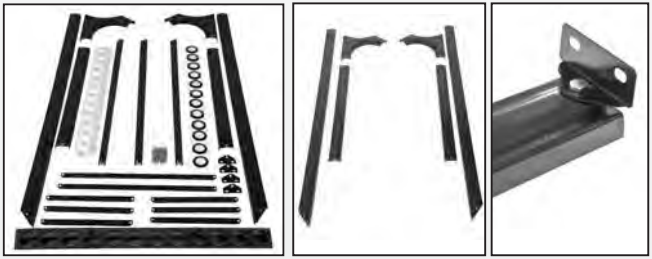
5. STAND ASSEMBLY

3.1. Stand Components
It is advised that all the stand components be unpacked and laid out in an orderly fashion on the ground before any assembly begins.

3.2. Assembly Procedure
The assembly must be undertaken on the ground and hoisted onto the roof if it is a roof installation. The solar water tank and vacuum tubes must not be installed until the stand is secured on the roof.

The following step-by-step procedure must be followed:

Step 1. Back Support Legs, Mounting Feet, Tank Cradle Brackets, and Long Sided Support Assembly



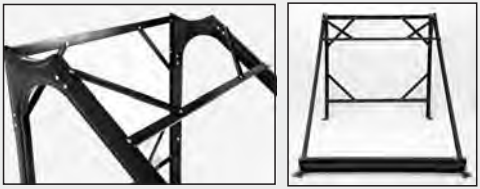
Attach the mounting feet to the two back support legs and side supports.

Attach the back support legs and sided supports to the cradle brackets.

Step 2. Cross Support and Bottom Vacuum Tube Support Bracket

Attach the cross support and bottom vacuum tube support bracket and front mounting feet.

Step 3. Back Support and Back Diagonal Support Section Assembly. Attach the top and bottom support bars with diagonal support section to the back support legs.



Step 4. Front Diagonal Support Section Assembly
Attach the front diagonal support section to the two long sided supports and cross support. Attach the load spreading beam to rear legs of assembled frame. It is compulsory to have a load spreading beam installed to prevent damage to roofing structure. The stand assembly is now complete and can be hoisted onto the roof if it is a roof installation and the back support legs can be cut down for a pitched roof installation.

6. INSTALLING THE SOLAR WATER HEATER AND SELF-FILLER TANK

Mount the Solar Geyser onto the cradle brackets, insert the bolts and nuts however do not tightly fasten the bolts and nuts at this stage.

The port at the top of the Solar Geyser is for the self-filler tank, which automates the filling of the Solar Geyser. Place the supporting plastic cup over the port. Place some plumbing tape around the threaded port and screw the tank onto the port.

The Cistern tank has a high-pressure valve that will fill the solar water heater with cold water when hot water is drawn off from the system. It will shut off the cold water supply once the system is filled.

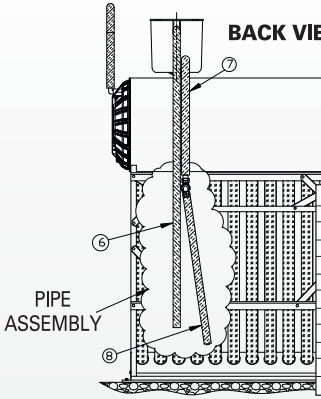
The float ball valve needs to be placed higher than the overflow. The hole opposite the float ball valve is the overflow, the 90 degree plastic elbow needs to be fitted with the supplied black overflow pipe, ensuring pipe is facing downwards and away from the solar collector.

7. COLD WATER FEED AND HOT WATER DRAW OFF PIPE WORK

It is highly recommended to carry out all the pipe work installations and connections before installing the vacuum tubes, in order to prevent the vacuum tubes from been exposed to the sun for a lengthy period, which reach extremely high temperatures and to prevent the hot tubes from cracking when the system is filled with cold water.

The system can be connected to any municipal water supply or other water supply. The open exhaust/overflow port on the self-filler tank prevents any pressure build up in the tank.

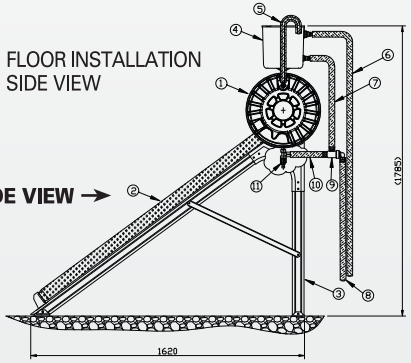
FLAT ROOF INSTALLATION DIAGRAM

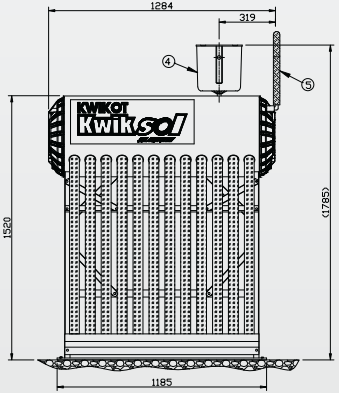


KEY		PRODUCT CODE	QTY
1	Cistern Type 110lt Solar Geyser	SOL-110G-LPTANK	1
2	Solar Vacuum Tubes	SOL-LPTUBE	12
3	Assembly Stand	SOL-LPFRAME-1	1
4	Cistern Tank Assembly	SOL-LPFDR-ASSY	1
5	Vent Pipe Assembly	SOL-LPBREATHER	1
6	Cold Water Supply Pipe	SOL-LP-P1	1
7	Cold Water Supply to Mixing Valve	SOL-LP-P3	1
8	Mixed Water Supply to Consumer	SOL-LP-P2	1
9	Thermostatic Mixing Valve 15mm	KH6-215	1
10	Hot Water Supply to Mixing Valve	SOLL-LP-P5	1
11	15mm Drain Cock with Comp. Inlet	KH5-006	1

Note: A stand is available for floor mounting (as shown) & for pitched roof installation with pitches of more than 8° & less than 30°. All dimensions in mm.

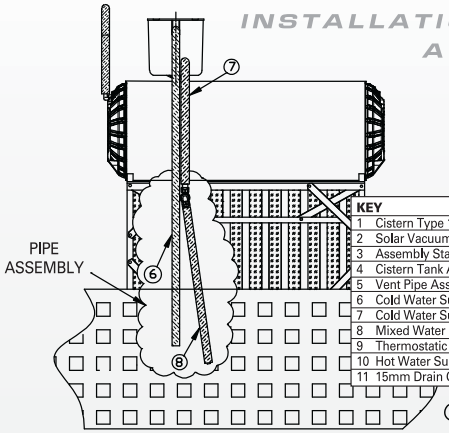
FLOOR INSTALLATION SIDE VIEW





← FRONT VIEW

PITCHED VIEW INSTALLATION DIAGRAM AT 15° ANGLE



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5	Vent Pipe Assembly	SOL-LPBREATHER	1
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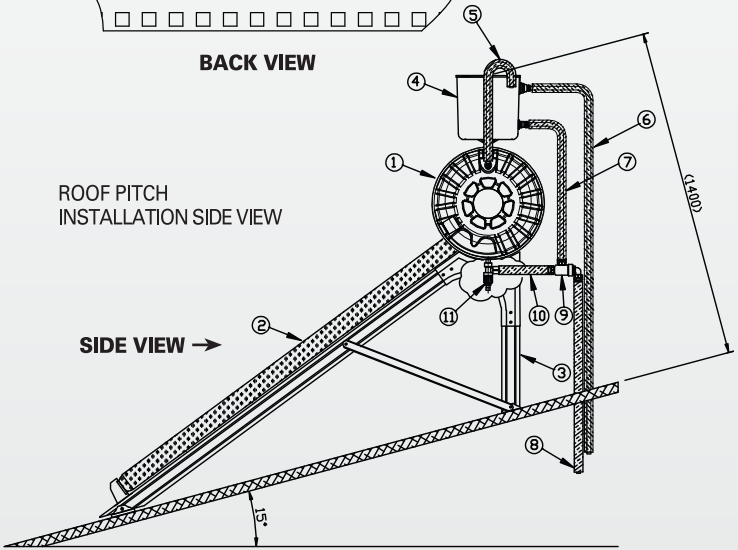
7	Cold Water Supply to Mixing Valve	SOL-LP-P3	1
8	Mixed Water Supply to Consumer	SOL-LP-P2	1
9	Thermostatic Mixing Valve 15mm	KH6-215	1
10	Hot Water Supply to Mixing Valve	SOLL-LP-P5	1
11	15mm Drain Cock with Comp. Inlet	KH5-006	1

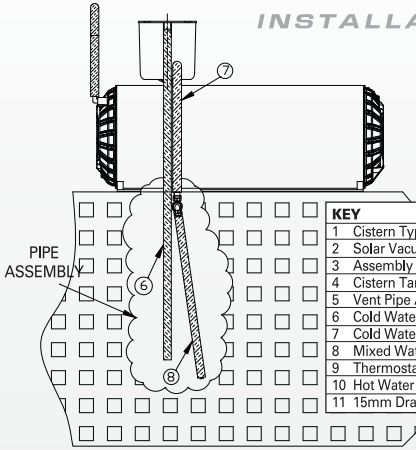
BACK VIEW

ROOF PITCH
INSTALLATION SIDE VIEW

SIDE VIEW →



PITCHED VIEW INSTALLATION DIAGRAM AT 26° ANGLE



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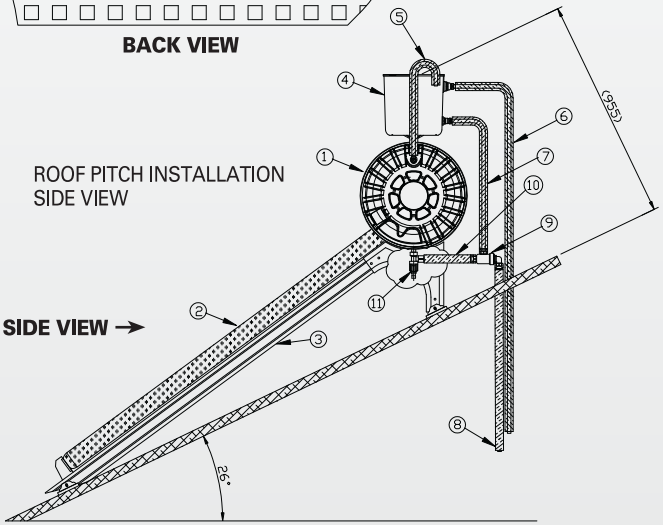
11 15mm Drain Cock with Comp. Inlet	KH5-006	1

BACK VIEW

ROOF PITCH INSTALLATION
SIDE VIEW



SIDE VIEW →

8. INSTALLING THE VACUUM TUBES

Perform safety equipment check as per point 2. " Occupational Health and Safety". Before commencing with the installation of the seals and vacuum tubes, have a bucket of water with a light solution of dishwashing liquid, which acts as a lubricant. The following step-by-step procedure must be followed:

Step 1. Fitment of the Plastic Cup Holders

Place the 12 plastic cup holders into the holes on the bottom vacuum tube support bracket. The cup holders support the bottom of the tubes.

Step 2. Positioning of the Vacuum Tubes into the Solar Water Heater Tank

Make sure that the silicone seals are all in place between the inner and outer tank casing. A leak may occur as a result of the seal being incorrectly positioned.

Step 3. Lubricating and Fitment of the Vacuum Tubes

The first tube to be fitted is to be used to align the solar water heater tank with the cup holders at the bottom of the stand. At this stage the tank has not been tightly fastened to the cradle brackets.

Use the soapy water solution to lubricate the top open end of the outer tube well and slide the black rubber dust cover over the vacuum tube. Failure to use the lubricant can result in the inner tank silicone seal been pushed out of position and preventing a perfect seal.

Insert the top end of the tube into the 5th or 6th hole in the tank and the bottom of the tube in the appropriate number plastic cup holder at the bottom of the

stand. Slide the black rubber dust cover into position against the tank and ensure it is correctly positioned in the tank and around the vacuum tube. Check that the vacuum tube is centred and straight with evenly spaced clearance around the parameter of the tube, by gentle moving the solar water heater on the cradle brackets. Tighten the bolts and nuts, which hold the solar water heater to the cradle brackets. Insert the remainder of the vacuum tubes and the assembly is now complete.

9. FILLING THE SOLAR SYSTEM

Open the mains water supply to fill the system and check for any water leaks in the pipe work and connections and around the rubber seals holding the vacuum tubes in place in the tank. Repair all leaks.

10. MAINTENANCE

- Maintenance should be performed by a suitably qualified / trained person.
- Regularly inspect complete system and piping, especially pipe connectors for leaks, repair / replace if necessary
- Regular inspection of the self-filler valve is recommended to ensure proper operation of the system.
- Inspect pipe insolation material for damage, repair or replace when necessary, failure can result in in-efficiency of the system, as well as burst pipes, especially in freeze areas.
- Inspect vacuum tubes tube collector for cracks or breakage, replace when damage is found.
- Every 2 Years: Remove evacuated vacuum tubes, flush and clean inside of tubes, as well as inside of hot water storage tank. Inspect vacuum tubes seals for damage, replace if necessary.

11. PRODUCT WARRANTY

The warranty period on the Kwikot Kwiksol Cistern Type Low Pressure Solar Water Heater System is from date of installation, providing that the documented proof of the installation (Warranty Reply Card) is received by **Electrolux SA (Pty) Ltd** to validate the warranty period, or alternatively from date of manufacture as determined from code on the serial plate, which is applied to the solar water heater.

The following warranty periods are applicable:

- One year on the cistern and ball valve.
- Five years on the inner cylinder (tank) of the solar geyser, subject to water conditions equivalent to main Metropolitan supply authorities.
- Five years on the solar vacuum tubes. Breakages or cracks to the tubes are not covered by the warranty.

The following warranty conditions are applicable:

- The warranty only applies to defects, which have arisen solely due to faulty materials or workmanship during the manufacturing process.
- If any component fails during the guarantee period, **Electrolux** will replace or repair the failed component. The warranty is a carry-in warranty where the failed component must be brought to an **Electrolux** branch office for replace or repairs.
- The warranty on the installation is the responsibility by the installer.

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Western Cape Division

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Electrolux SA (Pty) Ltd
Kwazulu-Natal Division

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Electrolux

www.kwikot.com

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13. PERTINENT INFORMATION FOR Electrolux SA (Pty) Ltd TO VALIDATE THE WARRANTY

NB: Complete, Scan and Email to: ZA_insure@electrolux.com

HOMEOWNERS/CUSTOMERS DETAILS

Name: ----------

Physical address: ----------

Postal address if different: ----------

Tel or cell number: ---------- Email address: ----------

INSTALLERS DETAILS (person who signed off the solar installation)

Personal name: ---------- Company name: ----------

Physical address: ----------

Office telephone number: ---------- Cell number: ----------

Email address: ----------

INFORMATION PERTAINING TO THE LOW PRESSURE SOLAR WATER HEATER SYSTEM

Date of Installation: ----------

The following is to be obtained from the serial plate on the solar water heater.

Serial Number: ---------- Code: ----------


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