KWIKOT

powered by Haier

Kwiksol Direct

Solar Thermal Water Heating System for Frost-Free Locations

Add warmth to life.

Kwiksol Direct Frost Free Locations

Features

- **High-Efficiency Solar Heating**
  Harnesses solar energy through high-performance collector panels to deliver energy-efficient hot water.
- **Flexible Installation Options**
  Can be installed as a close-coupled or split system depending on site requirements.
- **Durable Corrosion Protection**
  Thermofused porcelain enamel inner cylinder with dual sacrificial anodes for extended product life.
- **Energy-Efficient Insulation**
  Polyurethane insulation reduces heat loss and helps maintain B-rated energy efficiency.
- **SABS Approved Performance**
  Designed to meet SABS 400kPa standards for reliable operation.

Solar Hot Water Made Efficient

Harness the Power of the Sun for Reliable Hot Water

Solar Water Heating Features

- The Kwikot Kwiksol Solar Water Heater Direct System is SABS 400kPa approved and can be used as a close coupled system or split system.
- The inner cylinder is manufactured from enamel quality steel and is thermofused porcelain enamelled for corrosion protection and hygiene.
- Polyurethane insulation between the inner cylinder and outer casement reduces energy and heat loss, resulting in the Solar Water Heaters being B Rated Energy Efficient.
- 2 x aluminium sacrificial anodes are fitted for corrosion protection.
- The solar water heater is designed for domestic hot water application in conjunction with one or more solar collector panels.
- A dual draincock (supplied) is used to create an additional connection on the cold water inlet. This is the solar inlet connection. The renewable port is used as the solar return connection
- The solar water heater thermostat will automatically switch on when the incoming hot water from the solar collector panels has not reached the set temperature setting on the thermostat.

Close Coupled and Split - Direct System

The direct system is used in frost-free locations, where the ambient temperature never falls below 5°C and where the water quality is good (less than 600ppm Total Dissolved Solids/Minerals). The system is used with one or two Solar Collector Panels dependant on the capacity of the Solar tank.

The direct system, is where the water to be used in the household (hot water) circulates through the solar collector panels, transferring solar energy into the storage tank of the solar water heater.

The direct system can be installed as a Split System (pumped or thermosyphoned circulation methods), where the solar water heater is installed inside the roof or away from the solar collector panels or installed as a Close Coupled System (thermosyphoe circulation), where the solar water heater is installed outside on the roof and above or higher than the solar collector panels (see section Circulation Methods).

150L

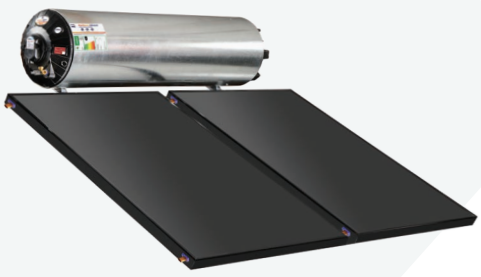
SOL-150-DC

200L

SOL-200-DC

300L

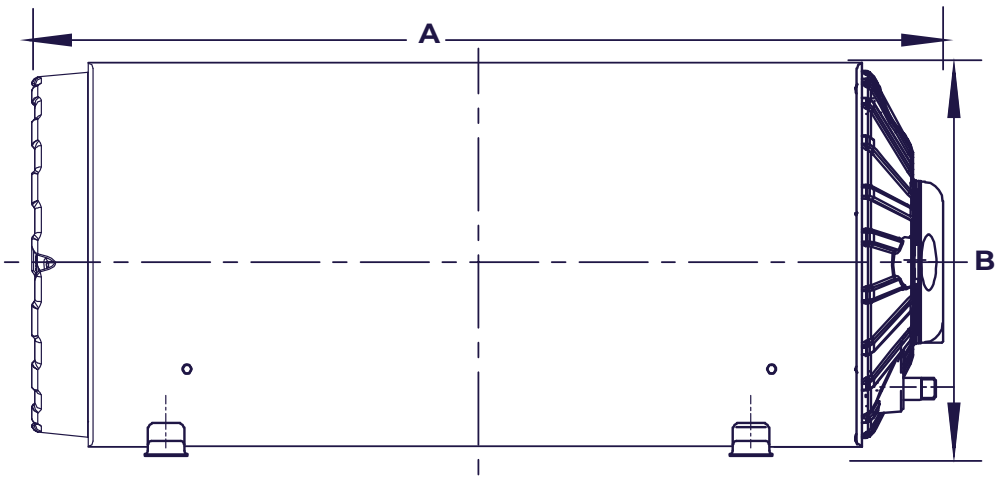
SOL-300-DC



Product Specifications

Capacity (Litres)	Element Rating (kW)	Operating Pressure (kPa)	Mass Empty (kg)	Water Connections (BSP Male)	Solar Connections (BSP Male)
150	3	Up to 400	39	3/4"	3/4"
200	4	Up to 400	45	3/4"	3/4"
300	3	Up to 400	64	3/4"	3/4"

Product Code	SOL-150-DIR-B	SOL-200-DIR-B	SOL-2300-DIR-B
Capacity	150L	200L	300L
Dimension A (mm)	1320	1346	1935
Dimension B (mm)	543	596	596



Product Installation Data

- Where the solar water heater is installed in the roof, it must be installed in compliance with SANS 10106 Solar Water Heater and SANS 10254 Specification complete with a Temperature & Pressure Valve (Safety Valve), Dual Drain Cock (both supplied with the solar water heater), Pressure Control Valve 400kPa, Drip Tray and Vacuum Breakers on the cold water supply and hot water supply.
- Geyser feet can be moved from a horizontal angle to a 30° angle.
- If the solar water heater is installed on the roof, careful inspection must be carried out to ensure that the roof can support the weight of the entire installation system once it is filled with water. Care must be taken where the front feet of the solar water heater are located. The feet should be located over a tile batten, purlin or similar for maximum strength.
- If the solar water heater is installed in the roof, the following minimum installation clearance must be allowed for on each side of the solar water heater in order to remove the element or thermostat and the anode/s from the opposite end: 150lt - 800mm; 200lt and 300lt-1000mm.

Geyser feet can be moved to 30° angle

Geyser feet (horizontal angle)

Product Warranty and Anode Servicing

The period of warranty is from the date of installation providing that documented proof of installation is furnished, or alternatively from date of manufacture as determined from the serial plate code on the solar water heater.

- One year on the heating element and thermostat.
- Two years on the Safety Valve and Drain Cock.
- Five Years on the inner cylinder, flange assembly plate and gasket subject to water conditions equivalent to main Metropolitan supply authorities. This warranty is subject to only genuine Kwikot replacement parts (heating element and thermostat etc) being used whilst the inner cylinder is still under guarantee.
- The warranty on the installation is the responsibility of the installer.

Warranties are applicable only in South Africa, Namibia, Botswana, Swaziland and Lesotho and subject to the solar system being used for water, which is of a quality equivalent SANS 241 for drinking water.

The **solar collector panel** has a comprehensive 5 year warranty from date of installation and is subject to the following conditions:

- The warranty only applies to defects which have arisen solely due to faulty materials and workmanship during the manufacturing process of the solar collector panel.
- If any component fails during the warranty period, Kwikot (Haier) SA (Pty) Ltd will replace or repair the failed component free of charge.
- The solar collector glass is not covered by the warranty.
- The warranty on the installation is the responsibility of the installer.

Solar Control Panel

Product Features

- Manufactured with an aluminium frame, 3.2mm toughened prismatic, non-reflective, anti-hail tempered glass.
- Durable copper waterway tubes.
- Rubber seals ensure durability and reliability in extreme climatic conditions.
- Semi-selective black chrome surface on copper substrate offering maximum absorption efficiency.
- Total and useful energy rating 4.19kWh/m².

Product Code	Description	Dimensions L x W x H [mm]	Mass Full (kg)
SOL-PANELH-2B *New	Flat Plate Collector Panel Black Finish	2000 x 1000 x 80	32
SOL-PANELH-1-5 *New	Flat Plate Collector Panel Black Finish (1,5m²)	1500 x 1000 x 80	46
SOL-PANELH-2-5 *New	Flat Plate Collector Panel Black Finish	2000 x 1250 x 80	43

Product Installation Data

Roof Location and Pitch

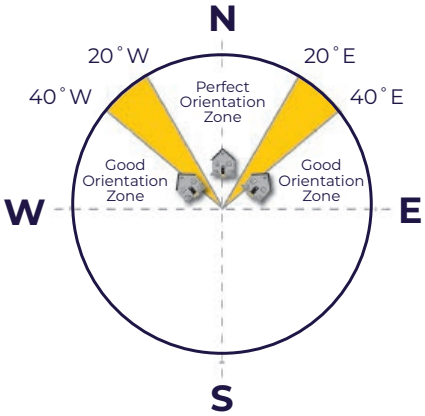
For optimum performance the solar collector panels need to face the equator (facing north for southern hemisphere installations). Installation on angles of up to 45° away from the equator do not have a major effect on the annual solar output, consequently roof locations which face less than 45°away from the equator are acceptable. Solar radiance from the sun begins at about 10:00 until about 16:00 and is at its peak between 12:00 and 14:00

If the solar collector panels are installed with an east facing bias, the solar capture is best achieved in the morning, and if installed with west facing biased, in the afternoon.

The location should not be subject to excessive shading from trees and adjacent buildings particularly between 9am and 15:00. Remember that shadows are longer in winter than in summer so a location that is free of shadows in summer may have some shadows in winter.

The solar collector panels should be installed on a roof pitch greater than 15°and less than 30°. Where the roof pitch is greater than 30°, the installation will require additional support to prevent it from moving downwards when installing, and after installing. If the solar water heater is mounted on the roof above the solar collector panels, additional support for the solar collector panels can be made at the solar water heater. If the roof pitch is less than 8°, the installation will require a mounting frame to increase the pitch to above 15°.

Installations below 15° do not thermosyphon effectively and the solar collector panel glass condensation will not clear properly when it rains If the solar water heater is installed on the roof, careful inspection must be carried out to ensure that the roof can support the weight of the entire installation system once it is filled with water.



Circulation Methods

Pump Circulation in a Split System

It is not always possible or convenient to place the solar water heater in a higher position than the solar collector panels. A circulating pump controlled by an electronic control unit therefore becomes necessary. The control unit using two sensors constantly monitors the temperature of the solar collector panels and the solar water heater, powering the circulation pump only when the water in the solar collector panels is hotter than the water in the solar water heater.

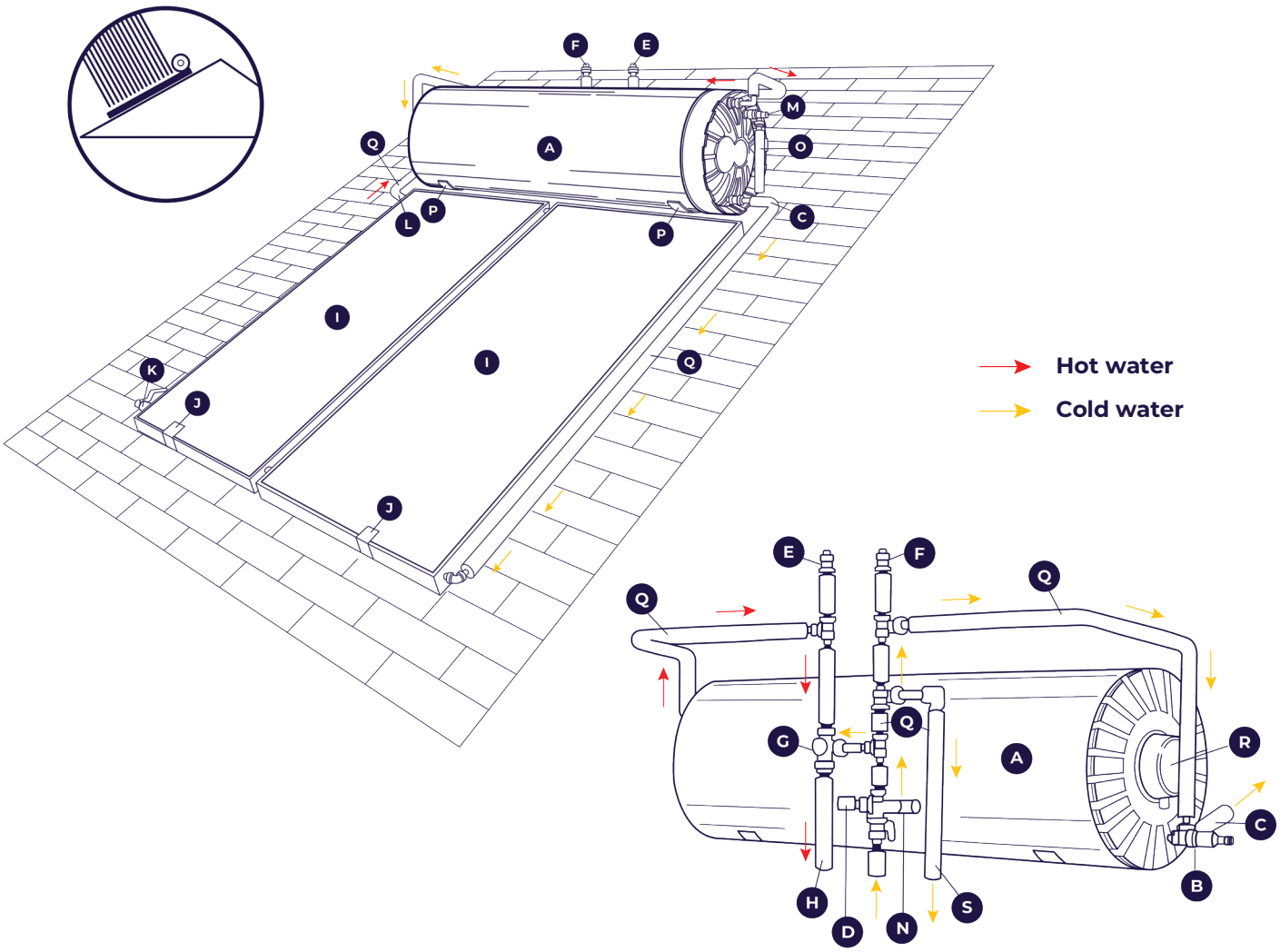
- When the temperature difference is less than the set point during the working process of the circulating pump, the pump will stop.
- When the temperature of the water in the solar water heater reaches the highest set point, the controller will stop the circulating pump.
- The electrical thermostat and element will automatically maintain the water temperature of the upper part of the solar water heater.
- The set temperature on the thermostat must be lower than the maximum temperature attainable on the solar collector panels.
- The circulating pump must be installed in accordance with the manufacturers instructions and ease of access for maintenance/repair.
- A 12V solar circulating pump can also be used, powered by a 12V photovoltaic panel and can operate with or without a differential controller.
- Split systems can also be installed as thermosyphon systems, if there is sufficient roof space to locate the solar water heater above the solar collector panels (see installation diagram on back page).

Thermosyphon Circulation in a Close Coupled and Split System

- The compulsory requirement for a thermosyphon system is that the solar water heater is placed in a position higher than the solar collector panels and circulation occurs without any moving parts or auxiliary electrical energy input to the system.
- This system operates according to a basic principle of physics: a liquid, if heated, becomes less dense and rises upwards.
- Heated water in the solar collector panels rises up into the solar water heater and displaces cold water, which travels back down to the solar collector panels.
- When there is no solar radiation, the water in the solar collector panels, which becomes heavy, blocks the circulation and prevents the heat accumulated in the solar water heater from being dispersed.

Installation Diagram

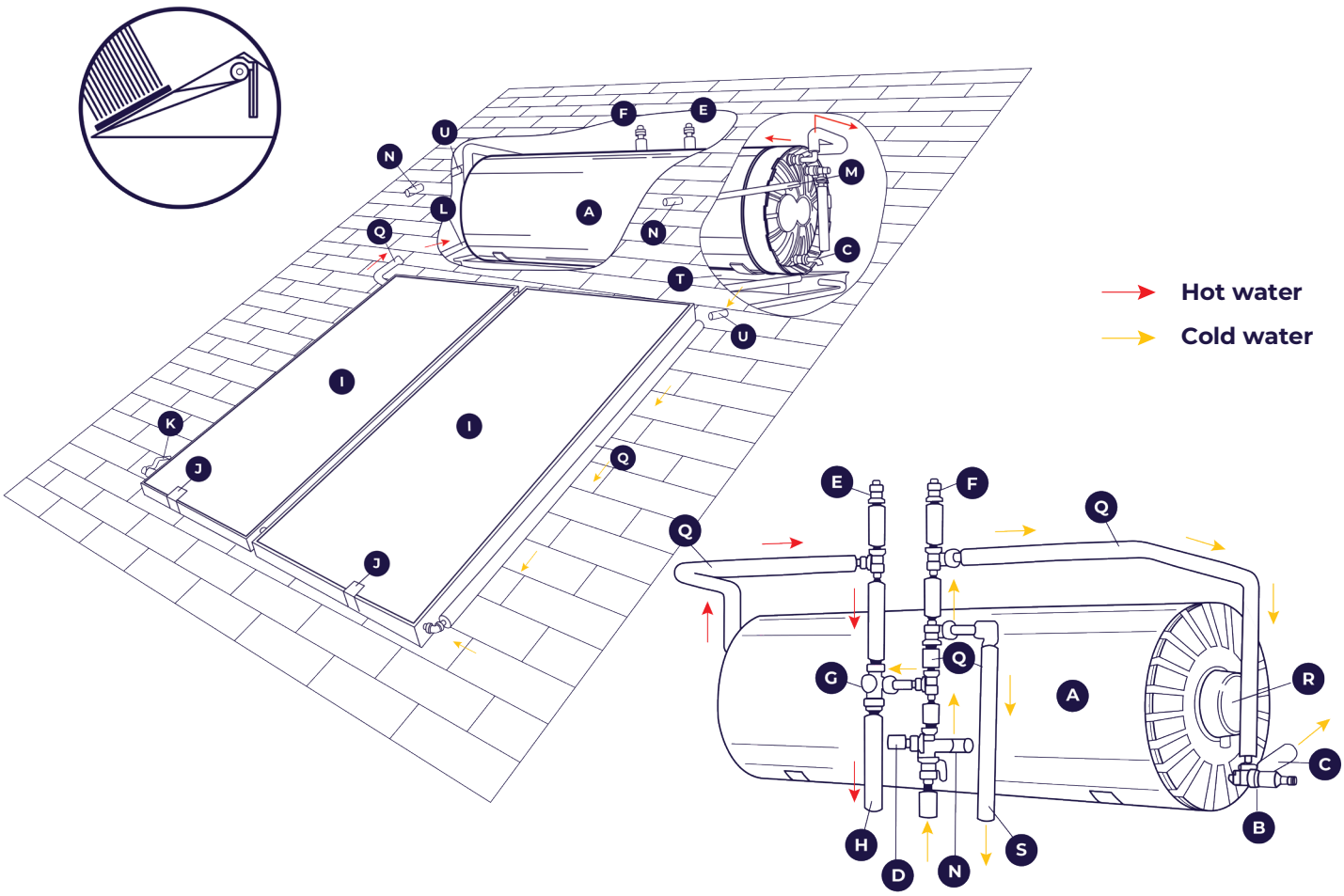
Direct Close Coupled Thermosyphon Method



A. Kwiksol Direct water heater, 400kPa
B. Drain cock
C. Cold water feed to solar collector panels
D. Multi pressure control valve, 400kPa
E. Vacuum breaker hot side
F. Vacuum breaker cold side
G. Thermostatic mixing valve
H. Hot water feed to taps (balanced pressure)
I. Solar collector panels
J. Roof mounting brackets for solar collector panel
K. Lever ball valve
L. Hot water feed to solar water heater
M. Safety valve, 400kPa
N. Expansion overflow pipe
O. Safety valve overflow (metallic pipe)
P. Pitch roof support for solar water heater
Q. Thermal pipe lagging (R1 rating)
R. Electrical cover plate
S. Cold water feed to taps (balanced pressure)
T. Drip tray
U. Overflow from drip tray (min 40mm)

Installation Diagram

Direct Close Coupled Thermosyphon Method



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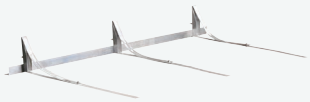
P. Pitch roof support for solar water heater
Q. Thermal pipe lagging (R1 rating)
R. Electrical cover plate
S. Cold water feed to taps (balanced pressure)
T. Drip tray
U. Overflow from drip tray (min 40mm)

Solar Installation Components and Accessories

Product Code	Description
	Mounting Brackets & Supports
SOL-BRCT-RM	Roof Mounting Bracket for Solar Collector Panel (all sizes)
SOL-BRCT-UN	Pitch Roof Support for 150lt Solar Water Heater and Panel
SOL-BRCT-UN	Pitch Roof Support for 200lt Solar Water Heater and Panel
SOL-BRCT-300	Pitch Roof Support for 300lt Solar Water Heater and Panels
	Frames
SOL-FRM-150	Flat Roof Frame for 150lt Solar Water Heater and Panel
SOL-FRM-200	Flat Roof Frame for 200lt Solar Water Heater and Panel
SOL-FRM-300	Flat Roof Frame for 300lt Solar Water Heater and Panel
	Air Release Valve
KH4-510	Auto Vent Valve (UV Resistant)
	Vacuum Breakers
KHN4-150CX	Kwikot Vacuum Breakers 15mm
KHN4-200CX	Kwikot Vacuum Breakers 22mm
	Circulating Pumps & Solar Photovoltaic Panel
SOL-PUMP-WISE	1. Solar Circulating Plastic Pump
SOL-PANEL-WISE	2. Solar Crystallite Panel 10 Watt
IND-CPN-25-6	3. Electrical Circulating Pump 220V
	Controllers and Timers
SOL-TIMER-1	Programmable Geyser Timer Switch
	Thermal Pipe Lagging (Insulation)
SOL-LAG-15R1	1. High Temperature Lagging 16mm x 1.8m (R1 Rating) 16mm inner Ø & 25mm outer Ø
SOL-LAG-22R1	2. High Temperature Lagging 22mm x 1.8m (R1 Rating) 22mm inner Ø & 25mm outer Ø

Roof Mounting Bracket



Optional flat roof frame

Kwikot Vacuum Breakers 15mm

Kwikot Vacuum Breakers 22mm

Electrical Circulating Pump

Programmable Geyser Timer Switch

Scan and Register Your Kwikot Product
(Please Register Online)

Register your Kwikot product today by scanning the QR code on your water heater or by visiting **www.kwikot.com** to complete the online registration form.

This simple process allows our service team to quickly access your product information, ensuring faster warranty validation and more efficient handling of service calls.

By registering your product, you help us provide a seamless and convenient support experience.

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