Your complete solar solutions company
Nastep Solar has secured the exclusive right to distribute Himin Solar Energy Products throughout Sub-Sahara Africa. We offer an extensive range of Himin solar products, which include:

- Solar Geysers and Collectors
- Photovoltaic panels
- A range of solar lights; traffic, garden, and street lights
- Win-Pin Energy saving glass

Nastep’s range of Himin solar water heaters varies from complete integrated units, suitable for both flat and pitched roofs, to complete split systems and heat collectors, which can be fitted to existing electrical geysers.

**Split systems**

**Pumped**
Consists of our Himin heat collectors which vary in size from 12 to 36 heat pipes attached to specially designed, fully SABS approved solar geyser tanks, ranging from 100 Liters to 350 Liters, manufactured in South Africa by W.E. Geysers, and carrying a unique 10 year guarantee. The heat collectors will typically be installed on top of the roof of a house, with the geyser tank located inside the roof. To enable transfer of the hot water from the heat collector to the tank, a specially designed pumped system is utilised.
Thermo siphon
Consists of our Himin heat collectors which vary in size from 12 to 36 heat pipes attached to specially designed fully SABS approved solar geyser tanks, ranging from 100 Liters to 350 Liters, manufactured in South Africa by W.E. Geysers, and carrying a unique 10 year guarantee. The heat collectors will typically be installed on the roof of a house, with the geyser situated either inside or outside the roof of the dwelling – at a position higher than the top of the heat collector to enable transfer of the hot water from the heat collector to the tank through a natural thermo siphon process.

<table>
<thead>
<tr>
<th></th>
<th>HJR-12/18</th>
<th>HJR-16/18</th>
<th>HJR-20/18</th>
<th>HJR-36/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vacuum Tube diameter (mm)</td>
<td>58 mm</td>
<td>58 mm</td>
<td>58 mm</td>
<td>58 mm</td>
</tr>
<tr>
<td>Length of Vacuum Tube</td>
<td>1800 mm</td>
<td>1800 mm</td>
<td>1800 mm</td>
<td>1800 mm</td>
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<tr>
<td>Material of Frame</td>
<td>Colour galvanised steel plate</td>
<td>Colour galvanised steel plate</td>
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<tr>
<td>Quantity of Vacuum Tubes</td>
<td>12</td>
<td>16</td>
<td>20</td>
<td>36</td>
</tr>
<tr>
<td>Heat Collection Area</td>
<td>1.2 m²</td>
<td>1.6 m²</td>
<td>2.0 m²</td>
<td>3.6 m²</td>
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<tr>
<td>Working Pressure</td>
<td>0.6 MPa</td>
<td>0.6 MPa</td>
<td>0.6 MPa</td>
<td>0.6 MPa</td>
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<tr>
<td>Capacity</td>
<td>100 L</td>
<td>150 L</td>
<td>200 L</td>
<td>300 L</td>
</tr>
<tr>
<td>Gross Weight</td>
<td>45 Kg</td>
<td>50 Kg</td>
<td>53 Kg</td>
<td>76 Kg</td>
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<tr>
<td>Dimension (mm)</td>
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<td>L 1318 W 1985 H 150 mm</td>
<td>L 1606 W 1985 H 150 mm</td>
<td>L 2758 W 1985 H 150 mm</td>
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</table>
Intergrated Solar Water Heaters (SWH)

Integrated systems
An integrated system comprises of a solar water tank, evacuated tubes which are permanently attached to the tank, as well as a frame, holding the complete unit together as one. Himin manufactures two types of integrated systems, namely high - and low pressure solar geysers. These geysers are highly efficient, utilizing evacuated tube technology which, other than flat panel technology utilizes ultra violet (UV) rays to generate solar heat even when the sun is obscured by clouds or rainy weather. Himin solar geysers are fitted with electric elements, should heating of water be needed during the night or during prolonged periods of bad weather when the generation of solar power is less efficient.

High pressure
The high pressure unit has been designed to operate at a pressure of 400kpa, similar to standard electrical geysers available in South Africa. Hot water is generated through a thermo siphon process, utilizing heat pipe technology. A heat pipe comprises of an evacuated tube with an aluminium insert which holds a thin copper heat pipe in place. The copper heat pipe, which extends into the geyser tank and which becomes a solar heat exchanger or “element” is filled with a glycol type mixture which produces the heat transfer to the water in the tank.

Low pressure
The low pressure unit has been designed to operate in both low as well as high pressure environments, although the actual water tank is a low pressure unit. In a high pressure environment, an electronic control system reduces the pressure from the standard 400Kpa to 0Kpa before it enters the tank, and increases the pressure to around 2.5Kpa through a specially designed pressure pump once it exits the tank (when a tap is opened). Hot water is generated through a thermo siphon process, utilizing evacuated tubes. When the geyser is filled, the evacuated tubes fills automatically with water, and once full, heats the water and circulates it continuously into the tank through a natural thermo siphon process. Low pressure systems generally are more affordable than high pressure systems.

<table>
<thead>
<tr>
<th>Material Inner Vessel</th>
<th>HMJ120Lt</th>
<th>HMSD200Lt</th>
<th>HDR210Lt</th>
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<tr>
<td>Vacuum Tube diameter (mm)</td>
<td>47 mm</td>
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<tr>
<td>Length of Vacuum Tube</td>
<td>1600 mm</td>
<td>1600 mm</td>
<td>1600 mm</td>
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<tr>
<td>Material of External Shell</td>
<td>Colour galvanised steel plate</td>
<td>Colour galvanised steel plate</td>
<td>Colour galvanised steel plate</td>
</tr>
<tr>
<td>Material of Frame</td>
<td>Colour galvanised steel plate</td>
<td>Colour galvanised steel plate</td>
<td>Colour galvanised steel plate</td>
</tr>
<tr>
<td>Quantity of Vacuum Tubes</td>
<td>15</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Heat Collection Area (m²)</td>
<td>1.81 m²</td>
<td>2.82 m²</td>
<td>2.81 m²</td>
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<tr>
<td>Capacity</td>
<td>120 L</td>
<td>200 L</td>
<td>210 L</td>
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<tr>
<td>Gross Weight</td>
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<td>365 Kg</td>
<td>365 Kg</td>
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<td>Dimension (mm)</td>
<td>L 1253 W 1775 H 1349</td>
<td>L 1756 W 2040 H 1508</td>
<td>L 1760 W 2220 H 1585</td>
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</tbody>
</table>
Photovoltaic Power Generation

PV module

Portable Solar Power

Himin solar lighting series

Street lights

Electricity configuration:
Light source power: 40W – 140W
Mono/ poly crystalline module: 110W – 500W
Lead acid / gel battery: 100Ah – 400Ah
Intelligent controller: overcast weather operation - 1 – 6 days, or custom designed to meet requirements of the user

Pole height: 5m to 10m
Pole material: seamless steel pipe or wrapped prime steel plate with heat galvanization and powder coated
Light source: energy-saving lamp/ LVD/ low-pressure sodium lamp/ high-pressure sodium lamp.
Configuration can be designed according to the requirements of the customer

Garden lights

Electricity configuration:
Power of light source: 25W – 120W
Mono/ poly crystalline module: 110W – 440W
Lead acid / gel battery: 30Ah – 100Ah
Intelligent controller: Rainy days - 1 – 6 days, or according to the requirements of the user

Pole Height: 2.5m to 4m
Pole material: seamless steel pipe or wrapped prime steel plate with heat galvanization and powder paint
Light source: energy-saving light/ LED light
Configuration can be designed according to the requirements of the customer

Lawn lights

Traffic lights
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