



FEEL THE SUN ...



OPEN-CLOSED LOOP THERMOSIPHON SYSTEMS



## MODEL SERIES "AG - KG" THERMOSIPHON SOLAR TANKS

*Thermosiphon refers to a method of passive heat exchange based on natural convection, which circulates liquid without the necessity of a mechanical pump.*

*This circulation can either be open-loop or closed-loop. Its intended purpose is to simplify moving liquid and/or heat transfer, by avoiding the cost and complexity of a conventional liquid pump.*

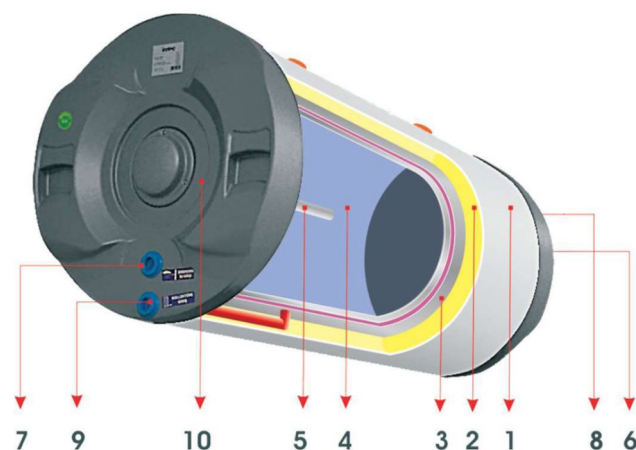
*Convective movement of the liquid starts when liquid in the loop is heated, causing it to expand and become less dense, and thus more buoyant than the cooler water in the bottom of the loop. Convection moves heated liquid upwards in the system as it is simultaneously replaced by cooler liquid returning by gravity. Ideally, the liquid flows easily because a good thermosiphon should have very little hydraulic resistance.*

### **TECHNICAL INFORMATION**

- *Double layer enamel coated, low-carbon steel tank.*
- *Cathodic protection by magnesium anode bar.*
- *Direct-injected monoblock eco polyurethane insulation of 50 mm and electrostatic powder coated steel outer cover*
- *2.000 W electrical heating element with security thermostat (optional).*
- *Open-Loop (Direct) and Closed-Loop (Indirect) circuit tanks are available.*
- *Capacities starting from 120 lt to 500 lt.*
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### **PRODUCT FEATURES**

- *Eco friendly; because of its organic composition and do not cause any damage to the ecosystem when disposed.*
- *The life time is longer when compared to the stainless steel tanks.*
- *Additional glass enamel layers on steel increase strength of the tank as well as the resistance against corrosion and abrasion and guarantees a highly hygienic water quality for a long time.*
- *Very strict quality control and leak tests ensure the delivery of only good quality tanks to our customers.*



- 1- Outer cover: Steel coated by electrostatic powder coating baked at 220°C to protect the tank from outdoor conditions
  - 2- Insulation: Direct-injected, CFC-free polyurethane foam in 50 mm thickness.
  - 3- Jacket type heat exchanger.
  - 4- Domestic hot water tank: Enamelled low-carbon steel.
  - 5- Cathodic protection: Magnesium anode bar.
  - 6- Hot thermal fluid inlet to the heat exchanger jacket from collector.
  - 7- Cold water inlet from the main supply.
  - 8- Domestic hot water to usage.
  - 9- Cold thermal fluid outlet from heat exchanger jacket to the collector.
  - 10- UV resistant plastic cap.
- \*Optional electrical heating element with thermostat*

### Open Loop system

An open-loop (direct) system circulates household (potable) water through the collector. Open-loop systems are both simple and economical. They are best suited to warm climate regions because they operate with potable water only and they were not considered suitable for cold climates. Open-loop systems are not recommended in extreme hard-water areas as well.

### Closed Loop system

Closed loop (in-direct) systems use a heat exchanger that separates the potable water from the fluid, known as the "heattransfer fluid" that circulates through the collector. After the heat transfer fluid being heated in the panels, it travels to the jacket heat exchanger surrounding the inner tank, where its heat is transferred to the potable water. Indirect systems offer freeze protection and typically offer overheat protection as well.

## MODEL SERIES "KG" CLOSED-LOOP THERMOSIPHON SOLAR TANKS

<b>MODEL</b>		<b>KG-120</b>	<b>KG-150</b>	<b>KG-170</b>
<b>Nominal Capacity</b>		120 Lt	150 Lt	170 Lt
<b>Tank Type</b>		Closed-Loop (Indirect)	Closed-Loop (Indirect)	Closed-Loop (Indirect)
<b>Tank Dimensions</b>	<b>Diameter</b>	520	520	520
<b>(mm)</b>	<b>Length</b>	1170	1370	1570
<b>Net Weight</b>		~ 64 Kg	~ 74 Kg	~ 81 Kg

<b>MODEL</b>		<b>KG-200</b>	<b>KG-300</b>	<b>KG-500</b>
<b>Nominal Capacity</b>		200 Lt	300 Lt	500 Lt
<b>Tank Type</b>		Closed-Loop (Indirect)	Closed-Loop (Indirect)	Closed-Loop (Indirect)
<b>Tank Dimensions</b>	<b>Diameter</b>	620	620	750
<b>(mm)</b>	<b>Length</b>	1570	1620	1800
<b>Net Weight</b>		~ 90 Kg	~ 123 Kg	~ 200 Kg

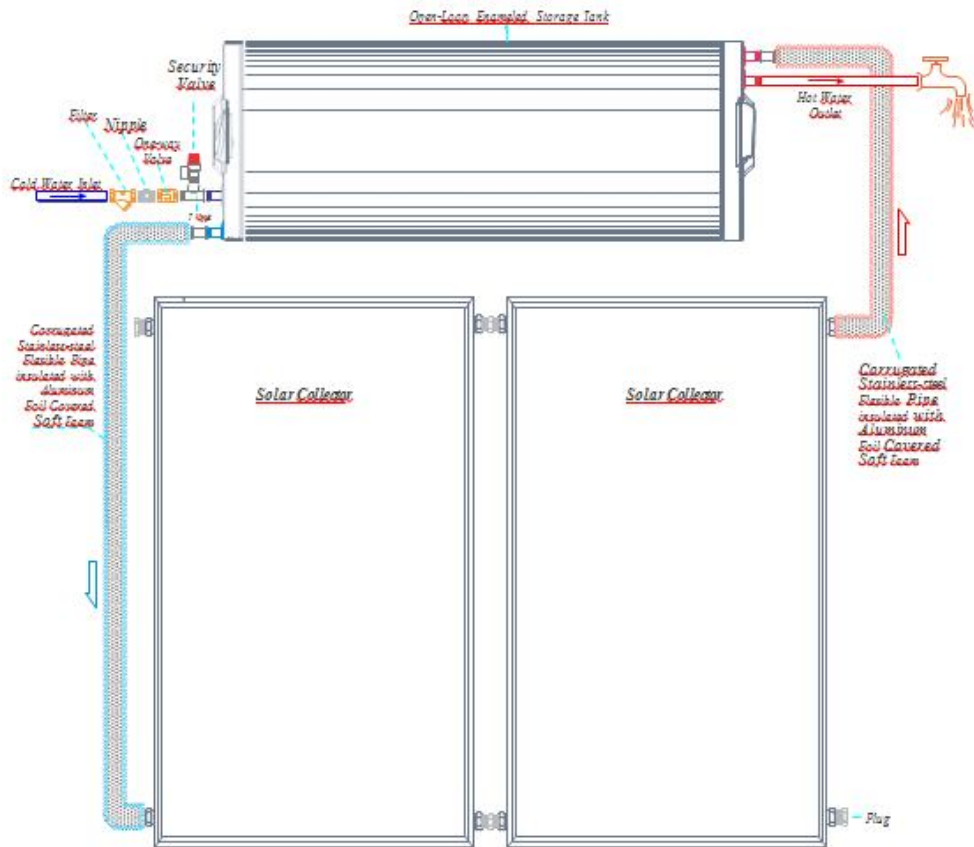
## MODEL SERIES "AG" OPEN-LOOP THERMOSIPHON SOLAR TANKS

<b>MODEL</b>		<b>AG-120</b>	<b>AG-150</b>	<b>AG-170</b>
<b>Nominal Capacity</b>		120 Lt	150 Lt	170 Lt
<b>Tank Type</b>		Open-Loop (Direct)	Open-Loop (Direct)	Open-Loop (Direct)
<b>Tank Dimensions</b>	<b>Diameter</b>	520	520	520
<b>(mm)</b>	<b>Length</b>	1170	1370	1570
<b>Net Weight</b>		~ 57 Kg	~ 64 Kg	~ 72 Kg

<b>MODEL</b>		<b>AG-200</b>	<b>AG-300</b>	<b>AG-500</b>
<b>Nominal Capacity</b>		200 Lt	300 Lt	500 Lt
<b>Tank Type</b>		Open-Loop (Direct)	Open-Loop (Direct)	Open-Loop (Direct)
<b>Tank Dimensions</b>	<b>Diameter</b>	620	620	750
<b>(mm)</b>	<b>Length</b>	1570	1620	1800
<b>Net Weight</b>		~ 85 Kg	~ 98 Kg	~ 170 Kg

# INSTALLATION & OPERATION INSTRUCTIONS

## **Open-Loop (direct) Systems**



## **Closed-Loop (indirect) Systems**

