

EBER SERIES HIGH CAPACITY VERTICAL TANKS WITH EXTRACTIBLE HEAT EXCHANGERS TECHNICAL MANUAL

... BECAUSE WITH ENVIROENERGY SOLUTIONS THE SUN SHINES FOR EVERYONE...



V1-1.17

Before the installation and use of an ENVIROENERGY SOLUTIONS Solar Tank, Buffer Tank, Heat Pump Tank or electric Calorifier please read and observe carefully all the instructions concerning the installation, maintenance and use of the product, in this manual. The non-observance of these instructions may result in the cancelation of the warranty.

GENERAL SAFETY INSTRUCTIONS

- Attention when lifting the tank and always take precautions in order to avoid possible accidents, injuries and other hazards._During transportation and handling of the tank avoid abrupt movements as they may result in fall and damaging of the Tanks. To avoid damaging the tank, do not remove the packaging, until it reaches the installation location.
- All installations and maintenance must be performed by qualified and certified professionals, following all relevant local norms and regulations (1), industry codes, and according to the manufacturer's instructions.
- Always make sure that the installation site, especially on roof tops, is adapted to the weight and mechanical restraints of Tank when full (and eventually a 30% margin), as well as any further weight expected (snow, rain, etc...). ENVIROENERGY SOLUTIONS declines any responsibility that may arise from an improper or defective installation or from incorrect manipulation of the system or accessories composing it.
- Always make sure there is enough space around the Tank for maintenance purposes, as well as for the electric cabling and plumbing. It is recommended to agree with the client for the location of the installation and the routing of pipes and cabling.
- In case the Tank is placed Outdoors in regions with heavy snow fall or strong winds, it may be necessary to further anchor the system to the point of installation. In this case it is up to the installer along with the client to determine the best and safe way to install the Tank. Additional fixing points or equipment may be required.
- Never fill the closed circuit or connect the electric element with an empty tank. The tank must always be filled with water during these operations due to a risk of severe damage to the Tank.
- Before starting the installation or maintenance, the main power supply to the system must always be turned OFF, and the Heat Exchangers in case of Removable Heat Exchangers, must be removed.
- Improper installation and works can contaminate the potable water. Install the Tank hygienically and rinse the Tanks and piping thoroughly with potable water
- Install and use potable water pipes according to current standards and local norms and regulations.
- The use of plastic, PVC or polypropylene piping is not recommended, especially for the closed circuit, due to the very high temperatures developed by the installations. In any case, make sure that all the piping used in contact or close to the systems outlets can withstand minimum temperatures of 100°C, or 180°C if in contact with the primary (closed) circuit.

ENVIROENERGY SOLUTIONS recommends the use of copper or stainless-steel piping for safer and higher performance.

- It is recommended that the Tanks be maintained by a professional, checked and cleaned at least every 2 years. In locations with hard or dirty water an annual maintenance and cleaning is recommended. Please refer to the "Maintenance and Servicing" section of this manual.
- A pressure release and safety valve is mandatory on the cold-water inlet of the tank and a pressure reducing valve is mandatory in case the pressure of the water coming into the tank is above 3 bar.
- A mixing valve is compulsory on the hot water outlet in order to limit risks of burning and Expansion Vessels are recommended in order to limit pressures in the Tank and unnecessary loss of Water.

GENERAL INSTALLATION INSTRUCTIONS

- Always make sure that all the piping of the primary and secondary circuits, going to and coming from the Tank, are very well insulated, even in hot climate regions and treated for UV radiation.
- Avoid leaving the Tanks for long periods without using hot water (holidays, prolonged absences, etc...) due to risks of overheating, or make sure all the heating sources (solar panels, heat pumps, electric elements, burners, etc...) are turned off or inactive during this period.
- In case of use of Electric Heating Elements, the Tanks must be grounded
- It is recommended that the installation location be equipped with functional drainage on the floor
- Hydraulic connections to the tank must be such as to limit the phenomenon of electrolysis
- Every service and maintenance should be recorded in the maintenance book. This record is a key element to the validity of the warranty and should be made available on request
- Under no circumstances should any welding or repairing be made on the tank's metal structure. Risk of deterioration or destruction of the tank and annulation of the warranty.
- The electric heating element is not part of the system but an additional part and it should be installed by a certified electrician. The electric back-up should be used only in case the water temperature in the Tank is under 50°C. The constant and unreasonable use of the electric back-up may cause damage to the tank and cause annulation of the warranty.
- The quality of the water entering the Tanks should be within potable standards and in any case be within the values of the table below. If the quality of the water does not correspond to these values then special filters and water softeners may need to be installed to satisfy these conditions, or the warranty will not be valid.

WATER QUALITY REQUIRMENTS							
Specification	ph	Total Hardness	Chlorides	Free Chlorine	Conductivity	TDS	
Value	7-9	<100 mg/1	<0,5 mg/lt	<80 mg/lt	<650 mS/cm 25°C	<600 mg/lt	

WARNING:

IF THE HOT WATER SYSTEM IS NOT USED FOR TWO WEEKS OR MORE, A QUANTITY OF HIGHLY FLAMMABLE HYDROGEN GAS MAY BE ACCUMULATED IN THE WATER HEATER. TO DISSIPATE THIS GAS SAFELY, IT IS RECOMMENDED THAT A HOT TAP BE TURNED ON FOR SEVERAL MINUTES UNTIL DISCHARGE OF GAS CEASES. USE A SINK, BASIN, OR BATH OUTLET, BUT NOT A DISHWASHER, CLOTHES WASHER OR OTHER APPLIANCE. DURING THE PROCEDURE THERE MUST BE NO SMOKING, OPEN FLAME OR ANY ELECTRICAL APPLIANCE OPERATING NEARBY. IF HYDROGEN IS DISCHARGED THROUGH THE TAP, IT WILL PROBABLY MAKE AN UNUSUAL SOUND AS WITH AIR ESCAPING.

• The safety of the Tanks and validity of the warranty are conditioned by the use of genuine ENVIROENERGY SOLUTIONS spare parts and accessories. Please only use genuine ENVIROENERGY spare parts and accessories from your nearest ENVIROENERGY SOLUTIONS dealer or contact the manufacturer.

ENVIROENERGY SOLUTIONS declines any responsibility that may arise from the non-observance of the installation, maintenance and use instructions herein, non-observance of relevant local norms, regulations and industry codes, improper or defective installation, or incorrect manipulation of the system or the accessories composing it.

TECHNICAL SPECIFICATIONS



- Internal Tank Material: Steel
- Welding Type: Automatic
- Internal Tank Protection: Alimentary quality Epoxy Resin
- Anodic Protection: Magnesium Rod
- Maximum Working Pressure: 10 bar
- Water Test Pressure: 15 bar
- Maximum Operating Temperature: 95°C
- Insulation: Removable Polyurethane foam
 thickness 55mm, density 52kg/m3
- Coil: Steel Tube
- Maximum Coil Test Pressure: 25 bar
- Electric Heater: Optional, Power Output Upon Request
- Flange Diameter: internal Ø420 mm external Ø508 mm
- External Cover: Metallic or Soft PVC (color upon request)

EBER SERIES TANKS WITH	L,2 OR 3	REMOVAE	BLE HEAT I	EXCHANG	ERS, FLANG	GE AND EL	ECTRIC EL	EMENT OF	TIONS
Model	EBER 800	EBER 1000	EBER 1500	EBER 2000	EBER 3000	EBER 4000	EBER 5000	EBER 7000	EBER 9000
Nominal Volume (Lt)	750	1000	1500	2000	3000	4000	5000	7000	9000
Actual Volume (Lt)	757	940	1480	1940	2940	3960	4700	6950	8960
Internal Tank Weight (kg)	265	405	420	490	645	850	930	1400	1800
3,2m ² Heat Exchanger Weight (kg)			78				N,	/A	
5,4m ² Heat Exchanger Weight (kg)				109				N,	/A
7,8m ² Heat Exchanger Weight (kg)			1	N/A				154	
External Cover and Insulation Weight (kg)	14	16	20	24	34	39	45	58	67
Total Tank Weight with 3,2m ² Coil (Kg)	357	499	518	592	757				
Total Tank Weight with 5,4m ² Coil (Kg)	388	530	549	623	788	998	1084	1567	1976
Total Tank Weight with 7,8m ² Coil (Kg)							1129	1612	2021
Internal Tank Body Thickness (mm)	4	4		5			6	7	8
Internal Tank Upper and Lower Caps Thickness (mm)	4	4		6			7	8	9
Tilt Height (mm)	2060	2236	2386	2442	2916	3149	3287	3774	3966
Flange Ø (mm)					508				
Ventilation VEN	1 ½"					1 ½"			
Drain					1 ½"				
Electric Back-up Heating Element (EH1 and EH2)					1 ½"				

EBER 1500 WITH 1 OR 2 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION



ABREVIATIONS		
CWI	Cold Water Inlet	
HWO	Hot Water Outlet	
R	Recirculation	
VEN	Ventilation	
CI	Coil Inlet	
CO	Coil Outlet	
S	Sensor	
Т	Thermostat	
TR	Thermometer	
EH	Electric Heating Element	

HEAT EXCHANGER COMBINATIONS AVAILABLE			
Lower Heat Exchanger	Upper Heat Exchanger	Total H.E. Surface	
3,2m ²	3,2m ²	6,4m²	
5,4m²	3,2m ²	8,6m²	
5,4m²	5,4m²	10,8m²	

LOWER HEAT EXCHANGER EFFICIENCY			
FLOW RATE	3,2m ² Heat Exchanger Efficiency	5,4m ² Heat Exchanger Efficiency	
1800 Lt/h	49,10kW	65,30kW	
2600 Lt/h	55,20kW	78,40kW	
3900 Lt/h	62,20kW	91,10kW	

UPPER HEAT EXCHANGER EFFICIENCY				
FLOW RATE	3,2m ² Heat Exchanger Efficiency	5,4m ² Heat Exchanger Efficiency		
1800 Lt/h	48,10kW	64,60kW		
2600 Lt/h	54,50kW	79,20kW		
3900 Lt/h	61,40kW	90,90kW		

Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

> The Lower Heat Exchanger Heats 88% of the Tank

> The Upper Heat Exchanger Heats 52% of the Tank

EBER 2000 WITH 1 OR 2 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION



ABREVIATIONS		
CWI	Cold Water Inlet	
HWO	Hot Water Outlet	
R	Recirculation	
VEN	Ventilation	
CI	Coil Inlet	
CO	Coil Outlet	
S	Sensor	
Т	Thermostat	
TR	Thermometer	
EH	Electric Heating Element	

HEAT EXCHANGER COMBINATIONS AVAILABLE			
Lower Heat Exchanger	Upper Heat Exchanger	Total H.E. Surface	
3,2m ²	3,2m ²	6,4m ²	
5,4m ²	3,2m ²	8,6m ²	
5,4m ²	5,4m ²	10,8m ²	

LOWER HEAT EXCHANGER EFFICIENCY				
FLOW RATE	3,2m ² Heat Exchanger Efficiency	5,4m ² Heat Exchanger Efficiency		
1800 Lt/h	47,80kW	65,00kW		
2600 Lt/h	55,10kW	77,95kW		
3900 Lt/h	61,10kW	90,50kW		

UPPER HEAT EXCHANGER EFFICIENCY				
FLOW RATE	3,2m ² Heat Exchanger Efficiency	5,4m ² Heat Exchanger Efficiency		
1800 Lt/h	47,80kW	64,70kW		
2600 Lt/h	54,95kW	78,50kW		
3900 Lt/h	61,10kW	91,60kW		

Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

> The Lower Heat Exchanger Heats 88% of the Tank

> The Upper Heat Exchanger Heats 52% of the Tank

EBER 3000 WITH 1 OR 2 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION

	→ 1500 →
	1 1/2"(VEN)
	3" (HWO)
+	
	3"(R) 11/2"(C 2)
	1 1/2"(EH2)
	1 1/2"(CO2)
	1/2"(S)
	3"(R)
0	218(
198	
-14	1/2"(S)
	1 1/2"(EH1)
05	
310	
	→ 1240

ABREVIATIONS			
CWI	Cold Water Inlet		
HWO	Hot Water Outlet		
R	Recirculation		
VEN	Ventilation		
CI	Coil Inlet		
CO	Coil Outlet		
S	Sensor		
Т	Thermostat		
TR	Thermometer		
EH	Electric Heating Element		

HEAT EXCHANGER COMBINATIONS AVAILABLE		
Lower Heat Exchanger	Upper Heat Exchanger	Total H.E. Surface
3,2m ²	3,2m ²	6,4m²
5,4m²	3,2m ²	8,6m²
5,4m ²	5,4m²	10,8m ²

LOWER HEAT EXCHANGER EFFICIENCY		
FLOW RATE	3,2m ² Heat Exchanger Efficiency	5,4m ² Heat Exchanger Efficiency
3000 Lt/h	57,30kW	82,10kW
4000 Lt/h	62,20kW	91,50kW
5000 Lt/h	64,70kW	98,30kW

UPPER HEAT EXCHANGER EFFICIENCY		
FLOW RATE	3,2m ² Heat Exchanger Efficiency	5,4m ² Heat Exchanger Efficiency
3000 Lt/h	57,20kW	82,00kW
4000 Lt/h	62,15kW	90,60kW
5000 Lt/h	64,90kW	98,80kW

Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

> The Lower Heat Exchanger Heats 86% of the Tank

> The Upper Heat Exchanger Heats 4% of the Tank

EBER 4000 WITH 1 OR 2 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION



ABREVIATIONS		
CWI	Cold Water Inlet	
HWO	Hot Water Outlet	
R	Recirculation	
VEN	Ventilation	
CI	Coil Inlet	
CO	Coil Outlet	
S	Sensor	
Т	Thermostat	
TR	Thermometer	
EH	Electric Heating Element	

HEAT EXCHANGER COMBINATIONS AVAILABLE		
Lower Heat	Lower Heat Upper Heat Total H.E.	
Exchanger	Exchanger	Surface
5,4m²	5,4m²	10,8m ²

LOWER HEAT EXCHANGER EFFICIENCY	
FLOW RATE	5,4m ² Heat Exchanger Efficiency
3000 Lt/h	82,30kW
4000 Lt/h	91,45kW
5000 Lt/h	97,30kW

UPPER HEAT EXCHANGER EFFICIENCY	
FLOW RATE	5,4m ² Heat Exchanger Efficiency
3000 Lt/h	82,50kW
4000 Lt/h	91,55kW
5000 Lt/h	96,80kW

Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

> The Lower Heat Exchanger Heats 86% of the Tank

> The Upper Heat Exchanger Heats 43% of the Tank

EBER 5000 WITH 1 OR 2 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION



ABREVIATIONS		
CWI	Cold Water Inlet	
HWO	Hot Water Outlet	
R	Recirculation	
VEN	Ventilation	
CI	Coil Inlet	
СО	Coil Outlet	
S	Sensor	
Т	Thermostat	
TR	Thermometer	
EH	Electric Heating Element	

HEAT EXCHANGER COMBINATIONS AVAILABLE		
Lower Heat	ver Heat Upper Heat Total H.E.	
Exchanger	Exchanger	Surface
5,4m ²	5,4m ²	10,8m ²

LOWER HEAT EXCHANGER EFFICIENCY	
FLOW RATE	5,4m ² Heat Exchanger Efficiency
3000 Lt/h	81,95kW
4000 Lt/h	91,30kW
5000 Lt/h	97,50kW

UPPER HEAT EXCHANGER EFFICIENCY		
FLOW RATE	5,4m ² Heat Exchanger Efficiency	
3000 Lt/h	82,15kW	
4000 Lt/h	91,20kW	
5000 Lt/h	97,90kW	

Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

> The Lower Heat Exchanger Heats 87% of the Tank

> The Upper Heat Exchanger Heats 45% of the Tank

EBER 7000 WITH 1,2 OR 3 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION



ABREVIATIONS		
CWI	Cold Water Inlet	
HWO	Hot Water Outlet	
R	Recirculation	
VEN	Ventilation	
CI	Coil Inlet	
CO	Coil Outlet	
S	Sensor	
Т	Thermostat	
TR	Thermometer	
EH	Electric Heating Element	

HEAT EXCHANGER COMBINATIONS AVAILABLE			
Lower Heat Exchanger	Upper Heat Exchanger	Middle Heat Exchanger	Total H.E. Surface
7,8m ²	7,8m²	7,8m²	23,4m ²

EFFICIENCY OF ALL 3 HEAT EXCHANGERS			
FLOW RATE	7,8m ² Lower Heat Exchanger Efficiency	7,8m ² Middle Heat Exchanger Efficiency	7,8m ² Upper Heat Exchanger Efficiency
3000 Lt/h	104,60Kw	104,15Kw	104,80Kw
4000 Lt/h	119,40Kw	119,30Kw	119,50Kw
5000 Lt/h	130,00Kw	129,90Kw	129,60Kw

• Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

- > The Lower Heat Exchanger Heats 88% of the Tank
- > The Middle Heat Exchanger Heats 60% of the Tank
- > The Upper Heat Exchanger Heats 35% of the Tank

EBER 9000 WITH 1,2 OR 3 REMOVABLE HEAT EXCHANGERS AND ELECTRIC ELEMENT OPTION



ABREVIATIONS		
CWI	Cold Water Inlet	
HWO	Hot Water Outlet	
R	Recirculation	
VEN	Ventilation	
CI	Coil Inlet	
CO	Coil Outlet	
S	Sensor	
Т	Thermostat	
TR	Thermometer	
EH	Electric Heating Element	

HEAT EXCHANGER COMBINATIONS AVAILABLE			
Lower Heat	Upper Heat	Middle Heat	Total H.E. Surface
Exchanger	Exchanger	Exchanger	
7,8 m ²	7,8m²	7,8m²	23,4m²

EFFICIENCY OF ALL 3 HEAT EXCHANGERS			
FLOW RATE	7,8m ² Lower Heat Exchanger Efficiency	7,8m ² Middle Heat Exchanger Efficiency	7,8m ² Upper Heat Exchanger Efficiency
3000 Lt/h	104,70Kw	104,30Kw	105,40Kw
4500 Lt/h	125,30Kw	124,60Kw	124,20Kw
6000 Lt/h	138,60Kw	137,60Kw	137,30Kw

• Heat Exchanger Efficiencies for DHW Heating from 15°C to 60°C

• Heat Exchanger Inlet Temperatures 80°C

- > The Lower Heat Exchanger Heats 88% of the Tank
- > The Middle Heat Exchanger Heats 61% of the Tank
- > The Upper Heat Exchanger Heats 37% of the Tank

INSTALLATION INSTRUCTIONS

A. LIFTING THE TANKS INTO POSITION



Tanks above 5000Lt come on a metallic Pallet for safe and secure transportation, as per picture 1 on the left. First carefully remove the cardboard covers and tape without using sharp tools in order to avoid damage to the tanks external cover and insulation.



The Tank must be lifted into position using the hooks available either on the Metallic Pallet as per picture 2 on the left, or on the Top of the Internal Tank as per picture 3 on the right. Never lift the tank using the inlets of the Tank or the Heat Exchangers by risk of damaging the Tank.

>> Lifting Hooks





Lifting



When lifting the Tank into position, the bottom of the metallic Transportation Pallet must always remain in contact with the Floor as per Picture 4 on the Left. When in Position the Pallet remains fixed on the Tank as per picture 5 on the Right.



Pic. 5



Pic. 6

Once the Tank Is placed in its final installation location and positioned properly, unscrew the bolts that fix the Metallic Pallet to the Flanges of the Tank as per picture 6 above left and remove it as per picture 7 above in the middle. Then put the bolts back in place screwing the flanges to the Tank as per picture 8 above on the right.





Pic. 9

Place the Insulation of the Top of the Tank and the Top Cover as per picture 9 above left. Then Install the Flanges and Flange Covers as per picture 10 above in the middle and finally install the plastic gaskets on the Flange Covers as per picture 11 above right.

B. INSTALLING AND REMOVING THE HARD INSULATION SHELL

When Installing or Removing the Hard Insulation Shell, it is Imperative to follow the order 1 to 7 as per the pictures below. The smallest part is placed last.

















Pic. 7

Pic. 6

C. REMOVING THE HEAT EXCHANGERS





Attention: When placing or removing the Heat Exchangers from the Tank, never drag them or let them come into contact with the inner surface of the Flange Hole. Risk of damaging the Heat Exchanger and the Enamel coating which may result to corrosion.

MAINTENANCE AND TROUBLESHOOTING

A. MAINTENANCE AND SERVICING OF THE SYSTEM

1. General maintenance

In order to ensure the constant well-functioning of the Tanks, they must be reviewed and maintained periodically (see warranty sheet) and the warranty sheet accompanying must be completed accordingly by the installer.

All installations and maintenance must be performed by qualified and certified professionals, following all relevant local norms and regulations (1), industry codes, and according to the manufacturer's instructions.

Before starting any maintenance work, the main power supply to the system must always be turned OFF, and the Heat Exchangers in case of Removable Heat Exchangers, must be removed.

Revisions consists of:

- The optical and physical inspection of the tightness of all joints and connections (hydraulic and electrical), verification that all safety valves, pressure reducing valves and mixing valves are working properly (safety valves on primary and secondary circuit), that the insulation of all the pipes is in good condition.
- Making sure that scale and salts have not accumulated in the valves or in the Tank. Poor water quality at the water can result in scale formation and may block the safety valves and Tank outlets leaving the tank unprotected against very high temperatures above 90°C and high pressure (greater than 10 bars).
- Making sure the electrical heating elements and thermostats are working properly and do not have scale or salts accumulation.
- Cleaning of the Tanks and removal of scale or deposits inside the Tanks, on the Heat Exchangers and on the electric elements, valves, etc...
- > Making sure that the Heat exchanger is in good conditions and perfect working order
- The anode (magnesium rod) must be checked every year and replaced if it has been worn-out or reduced to 50% of its initial size or weight or if it has been covered by the accumulation of salts.
- Verifying that the weight of the thermal fluid in the primary circuit is adapted to local climatic conditions. The thermal fluid must in any case be changed at least every 3 years as it loses its properties through time.
- Verifying that the water quality entering the Tank is within standards as per the requirements in the table in the General Installation Instructions in this manual and the eventual filters and water softeners are in proper working order.

Attention: do not use any detergents, acids or any other corrosive products that may damage the enamel lining of the Tanks.

2. Replacing the sacrificial anodes (magnesium rods)

For optimal protection of the system against electrolysis, all **ENVIROENERGY SOLUTIONS** tanks include magnesium rods (sacrificial anodes) which must be checked and replaced if necessary, at least every year depending on the quality of the water. The size of the anode varies depending on local norms and requirements. For replacing the anode, proceed as follows:

- Shut down the main power supply
- Remove the safety valves or expansion vessel.
- Empty the tank.
- Remove the protective cover of the flange and Heat exchanger.
- Pull out the thermostat with caution.
- Remove the flange and unscrew the anode. Screw-on a new anode and following the same procedure backwards prepare and set the system back to work.

B. TROUBLESHOOTING

In case the Solar Water Heater does not produce enough hot water, please verify the following:

- 1. That all hydraulic connections of the system are water tight and there are no leaks.
- 2. That there are no leaks on the taps or on the piping of the building
- 3. That the heating sources are working properly.
- 4. If the level of the thermal fluid in the closed circuit is not too low. Set to level filling with thermal fluid mixture through the fluid inlet where the safety valve or expansion vessel is placed.
- 5. That the pipes connecting the heating source to the tank are not bent twisted nor have any angles.
- 6. That there is no air trapped in the closed circuit of the system.
- 7. That the supply of cold and hot water is connected.
- 8. That the temperature set on the mixing valve is not too low (below 50°C depending on local regulations)
- 9. If the electric back-up is working. In case it is not working please check the following:
 - That the main power supply is ON
 - That the thermostat is not set too low
 - That the back-up element is not on security mode. The security button must be pushed-in
 - That the thermostat and back-up element are not damaged
 - That the back-up element wiring is properly connected and to the relevant terminals

If problems persist, then please consider:

- a) That the weather conditions allow the proper heating of the system
- b) The hot water consumption does not exceed the installation's capacity, or the consumers' expectations of are not above this capacity.
- c) The consumer has understood the use of the electrical back-up

Note: all verifications and interventions must be carried out by qualified and certified personnel.

dalid in the following cases: d by non-authorized personnel y authorised by the company allation Manual. The 1st service f the product at the clients care ed personnel at the bottom of f the service from the service product itself due to accident,), negligence, maltreatment or t echnical intervention on the stance or other electrical parts, liftions and natural disasters or es, fires, arson, etc) cessive salt, scale, dirt or other ng or excessive pressure of the xtrinsic factors. Damage due to as safety valves, mixing valves, ce, or unauthorized third-party correspond to the standards ach stage of product repair and led) in this case the conditions s these are foreseen by Cypriot	α ^t
esent warranty is inv d, altered or installe rs t been performed t i in the product Insta e date of purchase o amp of the authoris of the authoris ople or thing or the nal or unintentional the product, wrong of the electrical resi of the parts includ met.	Zth
onsibility and the pri- ten checked, repaired butor – or his partne he product have noi ce Recommendations the signature and sti ombination with the ombination with the priate use (intentio lack of servicing of connexions – cabling y the manufacturer. the system is due to the system is due to the system is due to the system or the amage of the tank or the amage of the	ه t
rier assumes no resp e product has not be facturer or the distril dinary services of th dinary services of th as per Maintenanc ducted within 1 year . Proof of service is the warranty card in co warranty card in co w damage or malfur improper or inappro- ion of the product, s parts, or to wrong of tructions provides by e or malfunction of uch as: natural disast to the heating eleme ies concentration. D network or generallat vequipment installat diffect the product us affect the proper us affect the prosent w stall in the present w	La
 8. The manufactu A. When thu by the manufactu by the manufactu B. If the orner personnel an must be concand expense the present technician. C. When an mishandling, bad installating product or its other the ins 0. If damage vandalism (steps bad installating product or its other the ins by lack of safety lack of safety lack of safety pressure redo intervention. F. In case o which do not valves, press and values as and values as and values as and values as and values at to charge the other charge the oth	
e parts or part uplete product malfunction of s well as the case does not ny authorized are on clients are on clients in the company lients charge. at the client's on on the type air crew visit, enses and fees is presented outor and the s buyer must tors copy) and n the date of arranty period arranty period ment	4 ^t
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WARRANTY CONDITIONS

DATE STAMP AND SIGNITURE OF MAINTENANCE PERSON



We do not inherit the earth from our fathers, We borrow it from our children..."



...BECAUSE WITH ENVIROENERGY SOLUTIONS THE SUN SHINES FOR EVERYONE...



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