

RemaSOL

Solar hot water calorifer

150SE-1S



User Guide

Contents

1	Safety instructions	4
	1.1 Safety instructions	4
	1.2 Recommendations	6
	1.3 Liabilities	7
	1.3.1 Manufacturer's liability	7
	1.3.2 Installer's liability	7
	1.3.3 User's liability	8
2	About this manual	9
	2.1 Symbols used	9
	2.1.1 Symbols used in the manual	9
	2.1.2 Symbols used on the equipment	9
	2.2 Abbreviations	9
3	Technical description	10
	3.1 Homologations	10
	3.2 Main parts	10
	3.2.1 Solar domestic hot water calorifier	10
	3.3 Control panels	10
	3.3.1 Description of the keys	10
	3.3.2 Description of the display	11
4	Operating the appliance	13
	4.1 Reading out measured values	13
	4.1.1 Resetting the values to zero	13
	4.2 User settings	14
	4.2.1 Setting the time	14
	4.2.2 Force back-up	14
	4.2.3 Modifying the back-up authorisations	14
	4.2.4 In the event of prolonged absences	14

	4.3	Starting and stopping the control system	15
5		Checking and maintenance	16
	5.1	General instructions	16
	5.2	Safety valve or safety unit	16
	5.3	Cleaning the casing material	16
	5.4	Checking the magnesium anode	16
6		Troubleshooting	17
	6.1	Incidents and solutions	17
7		Technical specifications	18
	7.1	Solar domestic hot water calorifier	18
8		Warranty	19
	8.1	General	19
	8.2	Warranty terms	19
9		Appendix – Information on the Ecodesign and Energy Labelling Directives	20

1 Safety instructions

1.1 Safety instructions



DANGER

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



CAUTION

1. Turn off the domestic cold water inlet.
2. Open a hot water tap on the installation.
3. Open a safety unit valve.
4. When the water stops flowing, the appliance has been drained.

**CAUTION****Pressure limiter device**

- ▶ The pressure limiter device (safety valve or safety unit) must be operated regularly in order to clear out any limescale deposits and ensure that it is not blocked.
- ▶ The pressure limiter device must be connected to a discharge pipe.
- ▶ As water may flow from the discharge pipe, it must be kept open to the air, in a frost-free environment, in a continuous downward gradient.

For the type, characteristics and connection of the pressure limiter device, please refer to the section entitled Connecting the domestic hot water tank to the drinking water network in the installation and service manual for the domestic hot water tank.



The user guide and the installation manual can also be found on our internet site.

**CAUTION**

Allowance must be made for a means of disconnection in the fixed pipes in accordance with the regulations on installations.

**CAUTION**

If a power cord is provided with the appliance and it turns out to be damaged, it must be replaced by the manufacturer, its after sales service or persons with similar qualifications in order to obviate any danger.

**CAUTION**

Respect the maximum water inlet pressure to ensure correct operation of the appliance, referring to the chapter "Technical Specifications".

**DANGER**

If smoke is released or in case of refrigerant leak:

1. Switch the appliance off.
2. Open the windows.
3. Evacuate the premises.
4. Contact a qualified professional.

**CAUTION**

Do not neglect to service the appliance. Contact a qualified professional or take out a maintenance contract for the annual servicing of the appliance.

**CAUTION**

Before any work, switch off the mains supply to the appliance.

1.2 Recommendations

**WARNING**

Only qualified professionals are authorised to work on the appliance and the installation. Never drain the installation. Do not replace or add water or solar fluid to the installation. These actions must be carried out by a qualified technician

To take advantage of the guarantee, no modifications must be made to the appliance. Only remove the covers for maintenance and breakdown repair operations and put the covers back in place after the maintenance and breakdown repair operations.

Instructions stickers

The instructions and warnings affixed to the appliance must never be removed or covered and must remain legible during the entire lifespan of the appliance. Immediately replace damaged or illegible instructions and warning stickers.

**WARNING**

Never cut the power to the solar control system, even during extended absences. The control system protects the installation against overheating in summer when it is running.

**WARNING**

Do not modify the control system parameters unless fully conversant with them.

During extended absences, we recommend lowering the set point temperature in the solar DHW calorifier to 45°C. When the user is present, the set point must be set to 60°C.

1.3 Liabilities

1.3.1. Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various applicable European

Directives. They are therefore delivered with **CE** marking and all relevant documentation.

In the interest of customers, we are continuously endeavouring to make improvements in product quality. All the specifications stated in this document are therefore subject to change without notice.

Our liability as the manufacturer may not be invoked in the following cases:

- ▶ Failure to abide by the instructions on using the appliance.
- ▶ Faulty or insufficient maintenance of the appliance.
- ▶ Failure to abide by the instructions on installing the appliance.

1.3.2. Installer's liability

The installer is responsible for the installation and commissioning of the appliance. The installer must respect the following instructions:

- ▶ Read and follow the instructions given in the manuals provided with the appliance.

- ▶ Carry out installation in compliance with the prevailing legislation and standards.
- ▶ Perform the initial start up and carry out any checks necessary.
- ▶ Explain the installation to the user.
- ▶ If a maintenance is necessary, warn the user of the obligation to check the appliance and maintain it in good working order.
- ▶ Give all the instruction manuals to the user.

1.3.3. User's liability

To guarantee optimum operation of the appliance, the user must respect the following instructions:

- ▶ Read and follow the instructions given in the manuals provided with the appliance.
- ▶ Call on qualified professionals to carry out installation and initial start up.
- ▶ Get your installer to explain your installation to you.
- ▶ Ensure the Appliance is serviced in accordance with the manufacturer's instructions by a suitable qualified person.
- ▶ Keep the instruction manuals in good condition close to the appliance.

2 About this manual

2.1 Symbols used

2.1.1. Symbols used in the manual

In these instructions, various danger levels are employed to draw the user's attention to particular information. In so doing, we wish to safeguard the user's safety, highlight hazards and guarantee correct operation of the appliance.



DANGER

Risk of a dangerous situation causing serious physical injury.



WARNING

Risk of a dangerous situation causing slight physical injury.



CAUTION

Risk of material damage.



Signals important information.



Signals a referral to other instructions or other pages in the instructions.

2.1.2. Symbols used on the equipment



Before installing and commissioning the device, read carefully the instruction manuals provided.



Dispose of the used products in an appropriate recovery and recycling structure.



2.2 Abbreviations

- ▶ **CFC:** Chlorofluorocarbon
- ▶ **DHW:** Domestic hot water

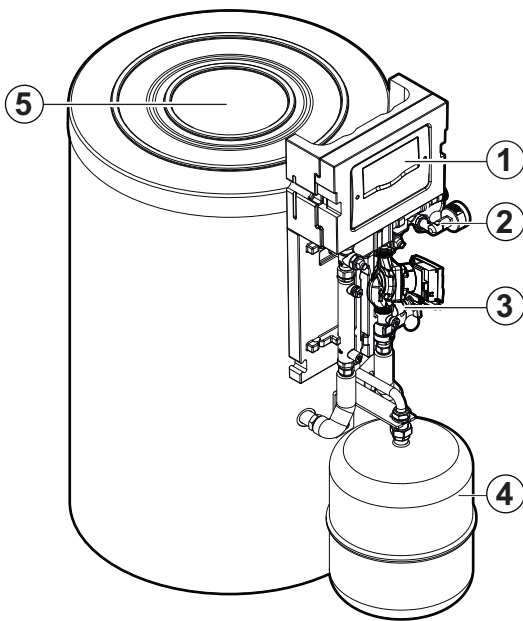
3 Technical description

3.1 Homologations

3.2 Main parts

3.2.1. Solar domestic hot water calorifier

External view

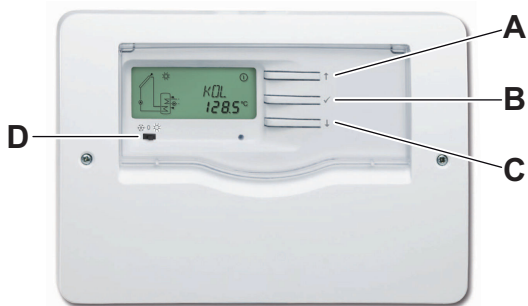


- ① Solar regulator
- ② Safety control unit for the solar circuit
- ③ Solar station
- ④ Expansion vessel
- ⑤ Solar exchanger
- ⑥ Anode
- ⑦ Top inspection trap

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3.3 Control panels

3.3.1. Description of the keys



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- A** **Key ↑:**
 - ▶ Move the cursor upwards.
 - ▶ Increase the value of parameter .
- B** **Key ✓:**
 - ▶ Access a selected parameter.
 - ▶ Confirm a value modification.

C Key ↓:

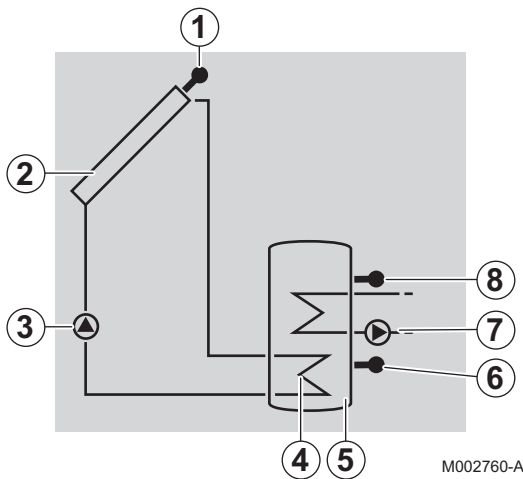
- ▶ Move the cursor downwards.
- ▶ Reduce the parameter value.

D 3-position switch:

- ▶ ☀: The back-up may be active in day mode and night mode.
- ▶ 0: The back-up is deactivated.
- ▶ ☀: The back-up is active in night mode only.

3.3.2. Description of the display

■ System schematics (System-Screen)



- ① Solar sensor probe
- ② Solar collectors
- ③ Solar circulation pump
- ④ Solar exchanger
- ⑤ Solar hot water calorifer
- ⑥ Solar sensor
- ⑦ Back-up (except BSL 150)
- ⑧ DHW sensor - Back-up

■ Operating indicators

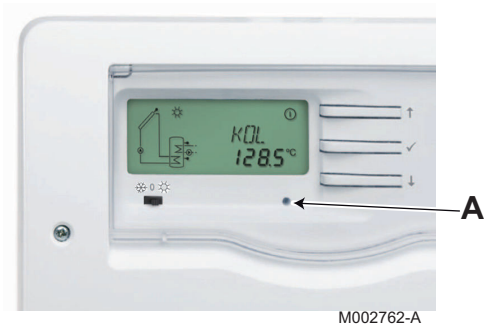


Steady symbol	Flashing symbol	State
①		Solar pump activated.
Ⓜ		Back-up activated.
☀		DHW calorifer set point temperature exceeded.
①	☀	Cooling function of the collector or DHW calorifer activated.
☀		Antifreeze function activated.
①	☀	Antifreeze function active (running).
	☀	Minimum collector temperature exceeded.
	⚠☀	Maximum DHW tank temperature exceeded.
	⚠	Maximum collector temperature exceeded.
SET		Adjustment parameter.
	SET	Changing the settings.

Steady symbol	Flashing symbol	State
		Sensor fault.
		Forcing of the solar pump.
		Forcing the additional heating.

■ LED display

A LED







LED message code	Heating pump status	Description
Continuously green	Pump relay is closed.	Regulation operating normally (System Operating).
Green/red flashing	<ul style="list-style-type: none"> ▶ Initialisation phase ▶ Manual mode 	<ul style="list-style-type: none"> ▶ The installation is in manual mode: Set the regulator to automatic mode.
Red flashing	<ul style="list-style-type: none"> ▶ Sensor fault. ▶ Maximum tank temperature exceeded. 	<ul style="list-style-type: none"> ▶ The hot water tank has reached the set temperature and the installation is in overheating safety mode or in cooling mode. ▶ There is a sensor fault.


4 Operating the appliance

4.1 Reading out measured values

Scroll down the values measured using the **↓** and **↑** keys.

Parameter	Description	Remarks
TC	Collector temperature	S1 sensor. The value TC shows the temperature in °C given by the collector sensor in real time.
TR	Calorifier temperature (Solar exchanger - lower)	S2 sensor. The value TR shows the temperature in °C in real time measured by the sensor in the lower zone of the DHW calorifier.
THR	Calorifier temperature (Back-up)	S3 sensor. The value THR shows the temperature in °C in real time measured by the sensor in the upper zone of the DHW tank.
PC %	Pump regime	Value PC % gives the solar heating pump regime in real time (0-100%).
tc	Auto-calibration time	The value tc shows the self-calibration phase time remaining in seconds.
RAP	Force back-up	On : Back-up powered up. AUTO : Back-up managed by the control system.  See chapter: "Force back-up", page 14.
h P1	Hour run meter on the solar pump	Reset to zero possible.  See chapter: "Resetting the values to zero", page 13.
KWh	Amount of heat (kWh)	<ul style="list-style-type: none"> ▶ The amount of heat received is calculated according to the parameters input on commissioning (DMAX). ▶ Reset to zero possible.  See chapter: "Resetting the values to zero", page 13. Values KWh or MWh give an estimate of the total amount of heat produced by the installation in kWh or MWh since commissioning of the control system. The amount of heat received is calculated according to the parameters input on commissioning (DMAX).
MWh	Amount of heat (MWh)	
HRE	Time	 See chapter: "Setting the time", page 14.

4.1.1. Resetting the values to zero

It is possible to reset the value to zero when the symbol  is displayed.

1. Select a value using the **↓** and **↑** keys.
2. Press the **✓** key for 2 seconds. The value is reset to zero.



To suspend the operation, do not press any keys for 5 seconds. The control system will automatically go back to the value display mode.

4.2 User settings

4.2.1. Setting the time


1. Select the **HRE** channel with the **↓** and **↑** keys.
2. Press the **✓** key for 2 seconds.
3. Set the hour with the **↓** and **↑** keys.
4. Press the **✓** key to confirm.
5. Set the minutes with the **↓** and **↑** keys.
6. Press the **✓** key to confirm.



CAUTION

The controller does not switch between summer and winter time.

4.2.2. Force back-up



1. Select the **RAP** channel with the **↓** and **↑** keys.
2. Press the **✓** key for 2 seconds. The symbol  flashes.
3. Set the **RAP** parameter to **ON** using the **↑** key.
4. Press the **✓** key to confirm the setting.



The electrical back-up shuts down when the set point temperature is attained.

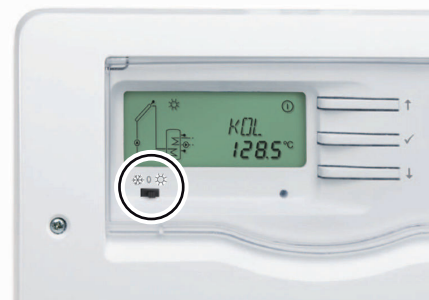
4.2.3. Modifying the back-up authorisations

Throw the switch to modify the electrical back-up authorisations.

	Winter: Electrical back-up is authorised day and night.
0	Electrical back-up is not authorised. No back-up heating.
	Summer: Electrical back-up is only authorised at night.



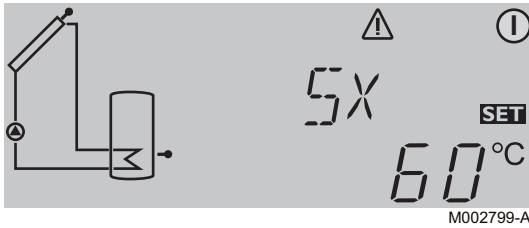
The back-up is deactivated if the solar pump is running.



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4.2.4. In the event of prolonged absences

In the event of prolonged absence, shut down the electrical back-up if the function is activated and reduce the setpoint of the solar DHW tank:



1. Set the 3-position switch to 0.
2. Go forward to the last display channel (**HRE**) with the **↓** key.
3. Press the **↓** key for 5 seconds.
A setting parameter is displayed, with the symbol **SET**.
4. Select parameter **SX** using keys **↑** and **↓**.
5. Briefly press the **✓** key.
The symbol **SET** flashes, the parameter can be set.
6. Modify the parameter using the **↓** and **↑** keys.
For example 45(°C).
7. Press **✓** to confirm the setting.

■ Return from prolonged absence

On return from a prolonged absence:

- ▶ Adjust the set point of the solar calorifier **SX** to its installation value.
- ▶ Re-authorise the back-ups.
- ▶ Set the 3-position switch to winter or summer, according to the season.

4.3 Starting and stopping the control system



CAUTION

If the temperature in the solar collectors is higher than 130°C, the control system operates in safety mode. Wait until the evening before start-up or cool down (cover) the solar collectors.

Commissioning is performed by the installer. Once connected to the power supply, the control system is in automatic mode. To initiate the solar pump, a minimum temperature of 30 °C is required at the collector and a temperature difference of 6 °C with respect to the domestic hot water calorifier.



If the particular conditions make it necessary to adjust the settings, contact the installer.

5 Checking and maintenance

5.1 General instructions



CAUTION

- ▶ Maintenance operations must be done by a qualified engineer.
- ▶ Only original spare parts must be used.

5.2 Safety valve or safety unit

The safety valve or unit on the domestic cold water inlet must be operated at least **once a month** to ensure proper operating and to prevent from any overpressure which may that may damage the domestic hot water calorifier.



WARNING

Failure to abide by this maintenance rule may damage the domestic hot water calorifier and void its warranty.

5.3 Cleaning the casing material

Clean the outside of appliances using a damp cloth and a mild detergent.

5.4 Checking the magnesium anode

Have the installer check the condition of the anode. The magnesium anode must be checked at least every 2 years. After the first check, determine the frequency of future checks on the basis of anode wear.

6 Troubleshooting

6.1 Incidents and solutions

Description	Checks	Solutions
The indicator light is off.	The current has been cut.	Restore the current.

7 Technical specifications

7.1 Solar domestic hot water calorifier

Primary circuit: Solar exchanger		
Maximum operating temperature	°C	110
Maximum operating pressure	bar (MPa)	10 (1)
Exchanger capacity	litres	4.5
Exchange surface	m ²	0.67
Secondary circuit (domestic water)		
Maximum operating temperature	°C	95
Maximum operating pressure	bar (MPa)	10 (1)
Water content	litres	145
Top up volume	litres	-
Solar volume	litres	145
Weight		
Shipping weight - DHW calorifier package	kg	68
Performance		
Maintenance consumption ($\Delta T=45K$) ⁽¹⁾	kWh/24h	1.4
(1) Satisfies the requirements of the EN 12977-1 standard		

8 Warranty

8.1 General

You have just purchased one of our appliances and we thank you for the trust you have placed in our products.

Please note that your appliance will provide good service for a longer period of time if it is regularly checked and maintained.

Your installer and our customer support network are at your disposal at all times.

8.2 Warranty terms

The following provisions are not exclusive of the buyer being able benefit from the legal provisions applicable regarding hidden defects in the buyer's country.

Starting from the purchase date shown on the original installer's invoice, your appliance has a contractual guarantee against any manufacturing defect.

The length of the guarantee is mentioned in the price catalogue. The manufacturer is not liable for any improper use of the appliance or failure to maintain or install the unit correctly (the user shall take care to ensure that the system is installed by a qualified engineer).

In particular, the manufacturer shall not be held responsible for any damage, loss or injury caused by installations which do not comply with the following:

- ▶ applicable local laws and regulations,
- ▶ specific requirements relating to the installation, such as national and/or local regulations,
- ▶ the manufacturer's instructions, in particular those relating to the regular maintenance of the unit,
- ▶ the rules of the profession.

The warranty is limited to the exchange or repair of such parts as have been recognised to be faulty by our technical department and does not cover labour, travel and carriage costs.

The warranty shall not apply to the replacement or repair of parts damaged by normal wear and tear, negligence, repairs by unqualified parties, faulty or insufficient monitoring and maintenance, faulty power supply or the use of unsuitable fuel.

Sub-assemblies such as motors, pumps, electric valves etc. are guaranteed only if they have never been dismantled.

The legislation laid down by european directive 99/44/EEC, transposed by legislative decree No. 24 of 2 February 2002 published in O.J. No. 57 of 8 March 2002, continues to apply.

Appendix

Information on the ecodesign and energy labelling directives

Contents

1	Specific information	3
1.1	Recommendations	3
1.2	Ecodesign Directive	3
1.3	Technical data - Hot water storage tank	3
1.4	Circulation pump	3
1.5	Disposal and Recycling	3
1.6	Product fiche - Solar devices	3

1 Specific information

1.1 Recommendations



Note

Only qualified persons are authorised to assemble, install and maintain the installation.

1.2 Ecodesign Directive

This product conforms to the requirements of European Directive 2009/125/EC on the ecodesign of energy-related products.

1.3 Technical data - Hot water storage tank

Tab.1 Technical parameters for hot water storage tank

			150SE-1S
Storage volume	V	l	145
Standing loss	S	W	58

1.4 Circulation pump



Note

The benchmark for the most efficient circulators is $EEL \leq 0.20$.

1.5 Disposal and Recycling



Note

Removal and disposal of the domestic hot water tank must be carried out by a qualified installer in accordance with local and national regulations.

1. Cut the electricity to the domestic hot water tank.
2. Disconnect the cables on the electrical components.
3. Close the domestic water inlet valve.
4. Drain the installation.
5. Dismantle all water connections fitted to the domestic hot water tank outlet.
6. Scrap and recycle the domestic hot water tank in accordance with local and national regulations.

1.6 Product fiche - Solar devices

Tab.2 Product fiche for solar devices

		150SE-1S
Solar hot water storage tank - Energy efficiency class		C
Solar hot water storage tank - Standing loss	W	58
Solar hot water storage tank - Storage volume	l m ³	145 0.145
Power consumption - Pump	W	23
Power consumption - Standby	W	0.36
Annual auxiliary energy consumption (Q_{aux})	kWh	49

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