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BALTICA

User's manual

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INTRODUCTION

Dear Customer,
Thank you for choosing the all-in-one heating solution AUTOTERM BALTICA. We are committed to ensuring that this product meets your requirements and delivers a level of quality that satisfies every customer.
The BALTICA system is designed to be intuitive and comfortable to use, providing you with an optimal experience in controlling your climate.

Always read and follow this manual before using the product. Failure to do so may result in injury, property damage, or voiding of warranty.

For the latest version of this manual and other language options, please visit www.autoterm.com/manuals.

GENERAL SAFETY

This product involves potential hazards related to heat, fuel, coolants, and electrical connections. Improper handling may result in burns, fire, toxic exposure, or electric shock. Always use appropriate protective measures, follow all instructions carefully, and ensure components are properly maintained and handled to reduce risk.

Detailed safety information for the liquid heater and control panel is provided in the operating manuals supplied with each respective unit.

In the event of heater malfunction, please contact an AUTOTERM-authorized service provider for inspection and repair.

LIABILITY

The manufacturer shall not be liable for any damage resulting from installation or repairs performed by uncertified personnel, or from the use of third-party parts and accessories without prior approval from the manufacturer.

In the event of any issues, we strongly recommend contacting certified service centers. Information on their locations and contact details is available on our website at www.autoterm.com.

PRODUCT OVERVIEW

It combines efficient air, water, and coolant heating in a single integrated solution - ideal for vehicles, boats, and specialized installations. The system features a 13 L expansion tank with a built-in heat exchanger, delivering hot water within 6–10 minutes of activation.
For additional heating performance, the system includes two 800 W heating cores that connect directly to the grid. These include a preset thermostat at 90 °C and a safety cutoff between 91 and 95 °C.

FEATURES

The AUTOTERM BALTICA system is designed for:

- Hydronic heating systems with radiators
- Fan coil units
- Instant domestic hot water supply via an internal heat exchanger
- Secondary compartment heating (BALTIC CONTROL option)

Key Features:

- Integrated **13 liter** expansion tank with internal heat exchanger
- Compatible with a 5 kW diesel liquid heater
- Hot water availability within **6–10 minutes**
- Maximum operating pressure: **1.1 bar**
- Test pressure: **1.9 bar**
- Maximum coolant temperature: **90°C**
- Designed for use with **propylene glycol-based** coolant
- Equipped with **two 800 W** electric heating elements (for grid connection)

CONTROL OPTIONS

AUTOTERM BALTICA offers two convenient control options, allowing users to manage the system efficiently according to their preferences.

Option 1 - BALTICA PushControl

- Basic control
- No automatic fan speed
- Auto start/stop pump
- Auto fan stop at target temperature

Option 2 - BALTICA Control

- Automatic pump control
- Automatic heating fan management
- Stops fans at target temperature
- Can heat compartment as secondary function

TECHNICAL DATA

- Volume: **13 L**
- Max pressure: **1.1 bar**
- Test pressure: **1.9 bar**
- Max coolant temp: **90°C**
- Heating cores: **2×800W**
- Thermostat: **90°C**
- Safety cutoff: **91–95°C**
- Coolant: **Propylene glycol** only

COOLANT REQUIREMENTS

For domestic water applications, use a **non-corrosive propylene glycol** compatible with aluminium and stainless steel, as it is less toxic and suitable for domestic systems.
Do not use water as a coolant. For non-domestic applications, G13 antifreeze may be used.

HEATING PRINCIPLE

When used with the Flow 5 BALTICA liquid heater and BALTICA CONTROL panel, the heater warms the coolant loop through a built-in heat exchanger and operates within an 18 °C delta-temperature range in a start/stop cycle, with a factory target temperature of 90 °C.

Heat demand is determined by the temperature sensor in the BALTICA CONTROL panel. When heating is required, the heater sends a signal to a relay, which activates a fan or other third-party device for heat-on-demand operation, enabling ambient temperature control.

For a detailed explanation of the operating principle of the Flow 5 liquid heater, please refer to the manual supplied with the unit.

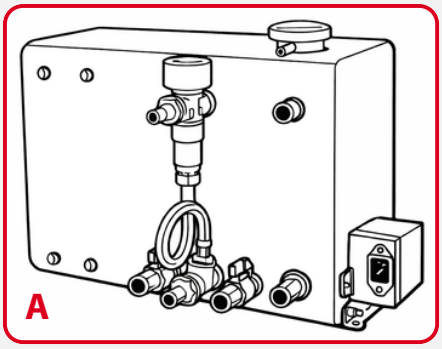
TANK INSTALLATION

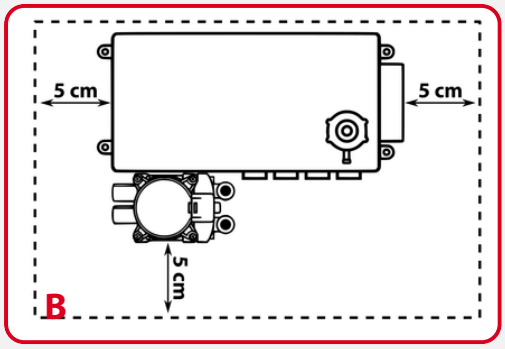
The BALTICA tank must be installed in a vertical position **(A)** and securely fixed to the floor using the original mounting brackets, with adequate ventilation maintained around the unit. - **alternative mounting positions are not permitted.**
Where possible, it should be positioned above the heater to support proper operation.

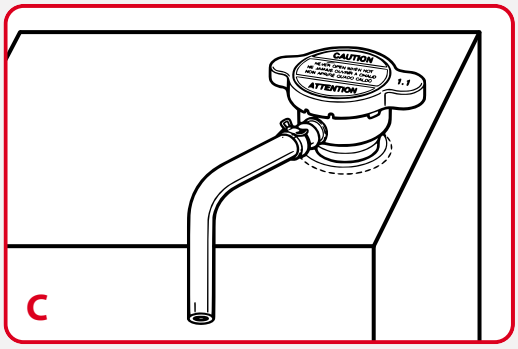
For improved user comfort and reduced noise, installation in a separate compartment is recommended.

Sufficient service space must be provided around the tank to allow for maintenance and coolant drainage. If necessary, a drain valve should be installed to protect surrounding materials during servicing. Maintain a **minimum clearance of 5 cm on all sides (B)**, ensuring access to electrical terminals and the safety valve.

A 10 mm overflow pipe must be connected to the filler neck or cap **(C)** and routed either **outside** or into a **drain tank** to prevent coolant or steam from discharging into the compartment. **The relief valve integrated in the cap opens when pressure exceeds 1.1 bar.**







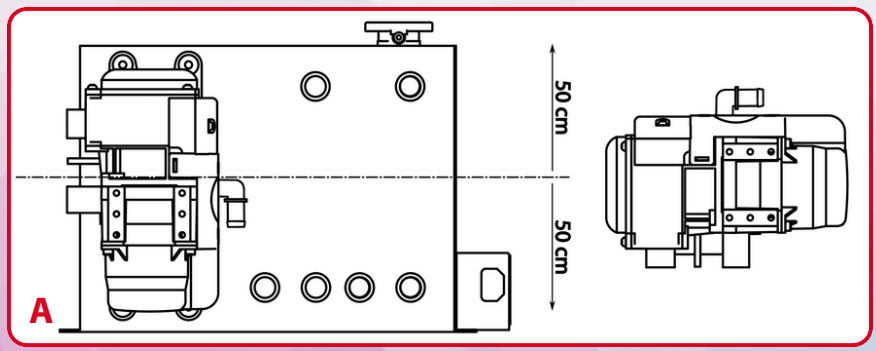
HEATER INSTALLATION

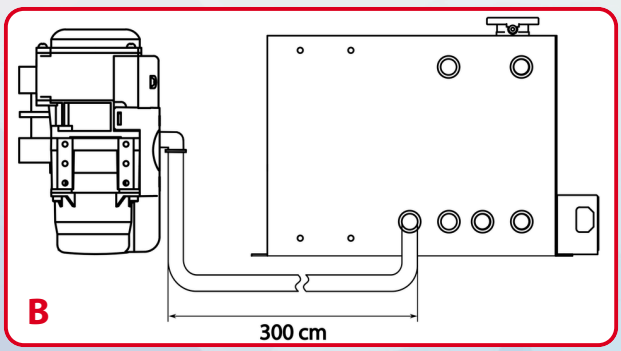
For heater installation requirements, refer to the manufacturer's installation instructions supplied with the unit.
All safety requirements specified in the heater's installation manual **must be strictly followed.**

The heater may be installed either directly on the BALTICA tank or separately in a safe, dedicated location. When installing the heater separately, it must be placed **within a height range of +/- 50cm** from the centerline of the tank **(A)**.

If the heater is mounted on the tank, the installation space must be **well ventilated** due to the increased risk associated with routing the exhaust pipe through enclosed areas.

The coolant piping between the heater and the tank must not exceed 3 meters in length. **(B)**.





HEATER & WATER CONNECTION

Heater must be connected directly to the BALTICA tank **(A)**:

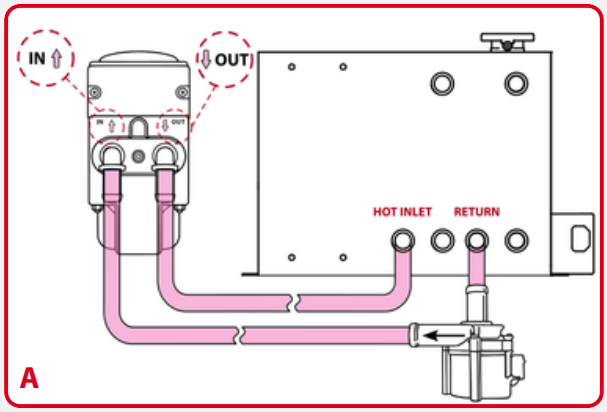
- Coolant port **OUT** on heater needs to be connected to **HOT INLET** on tank.
- Coolant port **IN** on heater needs to be connected to **COOLANT PUMP** to **RETURN LINE** on tank.

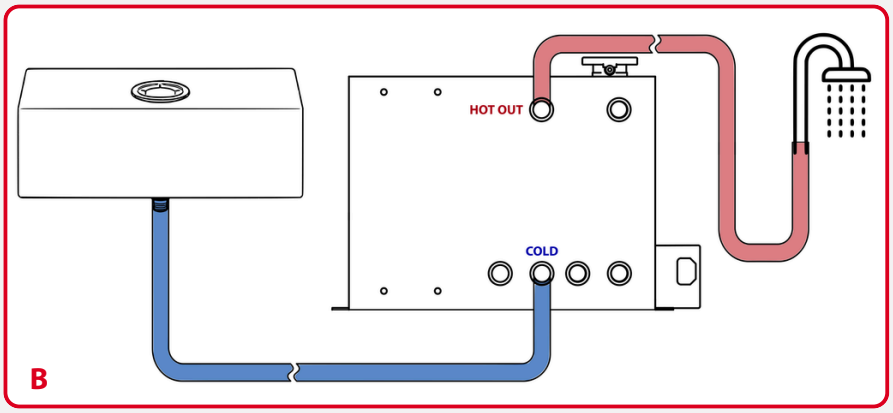
Adding additional consumers into this loop may cause excessive **temperature fluctuations** and **heater errors.** Therefore, this configuration **is strongly not recommended.**

For hot domestic water loop connect **(B)**:

- Water source to **COLD** port on the tank.
- Hot water outlet to **thermostatic valve HOT-OUT** port on the tank.

To ensure a steady supply of hot water, a flow regulator must be installed. The recommended flow rate is **3.5 L/min.**





GRID HEATING ELEMENTS

GRID heating elements are independent devices and are not controlled by the heater or the control panel. When powered, they maintain the coolant temperature within a range of **89–93 °C.**

The system can operate in combination **with the heater**, providing additional heating support when demand increases, or in **GRID-only mode**, where the heater remains inactive. In GRID-only mode, the stored heat can be used for both domestic applications and space heating.

When GRID mode is active, all diesel heating settings are locked. To enable diesel heating, GRID mode must be switched off.

To enable GRID heating, use the control panel to navigate to **Settings → Pre-heater → Advanced → GRID**, then activate GRID mode. The GRID functions will then appear on the main panel.

Never energize heating elements **without liquid inside** the tank. **Do not leave** GRID heating **ON** when it is not required.

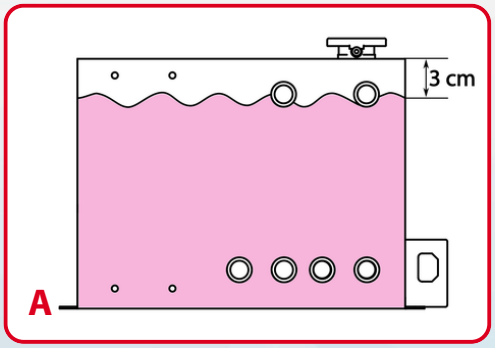
The unit features two 800 W heating elements for **direct grid connection**. It must be **properly grounded**, protected by **circuit breakers** and a r**esidual current device** (RCD).

SYSTEM FILLING & BLEEDING PROCEDURE

When filling the system for the first time or after it has been drained, a bleeding procedure must be performed:

1. Add **4–6 liters** of coolant.
2. Start the heater in either **coolant pump mode** or **GRID heating mode**.
3. Allow the system to run for **2–5 minutes** to ensure proper bleeding.
4. Fill the tank with coolant, ensuring a minimum **3 cm air gap** is maintained to allow for safe thermal expansion **(A).**
5. Inspect for **leaks**.
6. Run one of the heating modes. After **6–10 minutes**, check the hot water output.

GRID thermostat mode can be used to bleed both the heater circuit and the additional circuit.



MAINTENANCE

Regular maintenance must be carried out to ensure system reliability:

- Inspect for leaks **daily**
- Inspect safety valve **weekly**
- Inspect electrical terminals **every 6 months**
- Check the coolant **once a year**
- Flush system **every 2 years**

For the maintenance schedule of the Flow 5 liquid heater, refer to the manual supplied with the unit.

THIRD-PARTY ACCESORIES

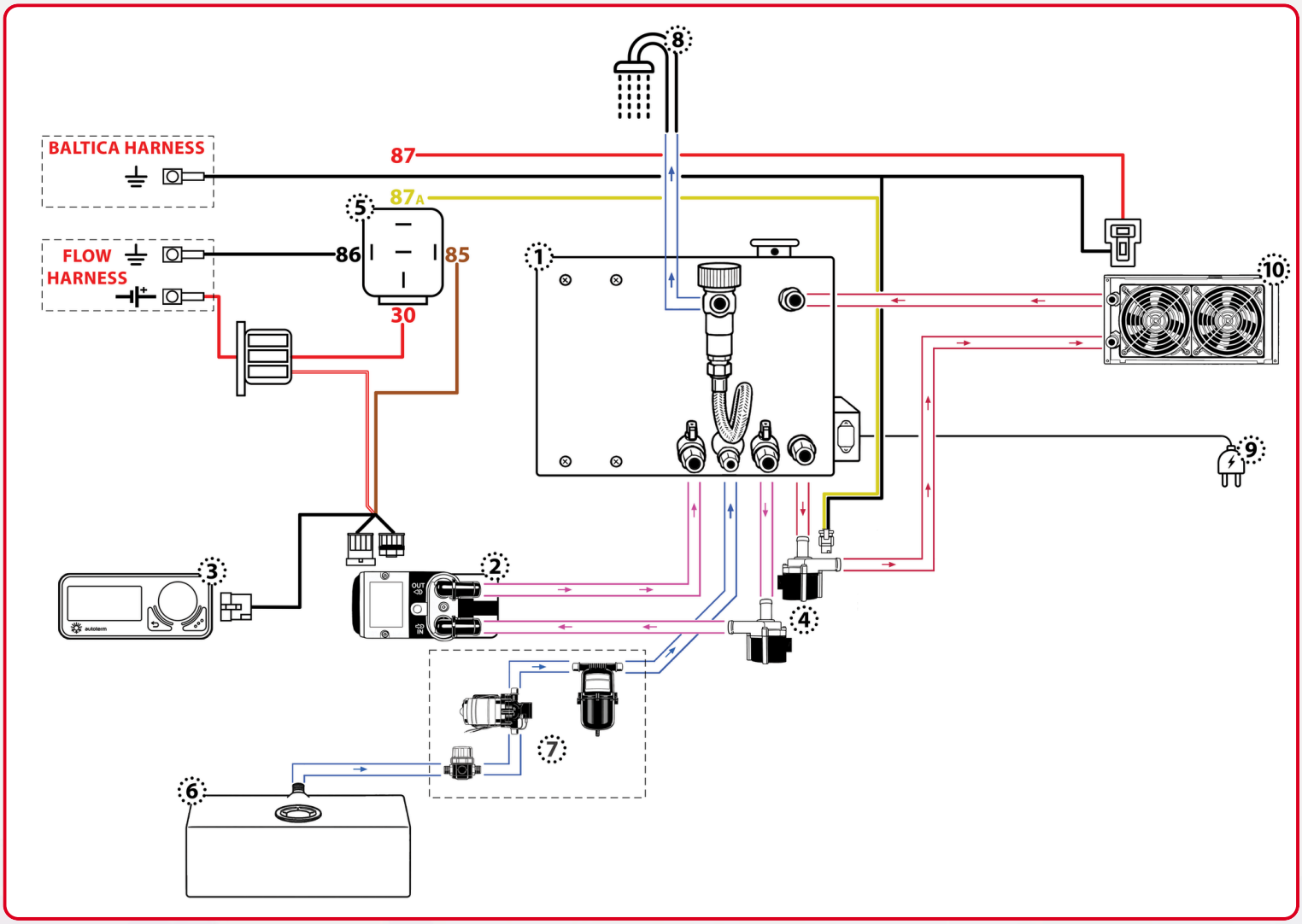
Third-party heating accessories connected to the BALTICA tank must comply with the tank and heater specifications. The accessory must be operated using a separate switch.

Radiators and fan coils must be mounted **not higher than 1.5 meters** above the coolant pump.
The **total length** of the loop for additional heating elements must **not exceed 6 meters.**

For **additional heating loop,** the coolant pump may be either an original or third-party unit, provided it operates on **12/24V** and **does not exceed a current consumption of 5A.**

It is recommended to install a bleeding valve at the highest point of the system.

CONNECTION OVERVIEW



COOLANT LOOP

1. BALTICA TANK
2. FLOW BALTICA HEATER
3. BALTICA CONTROL PANEL
4. COOLANT PUMPS

DOMESTIC WATER LOOP

5. RELAY
6. WATER SUPPLY
7. WATER FILTER, PUMP, ACCUMULATOR

ADDITIONAL HEATING LOOP

8. HOT WATER OUTPUT
9. 240V GRID CONNECTION
10. ADDITIONAL HEATING ELEMENT

GROUND CONNECTION

POWER SUPPLY **(U+)**

COOLANT PUMP CONNECTOR

FLOW HEATER CONNECTOR

CONTROL PANEL CONNECTOR

ADDITIONAL HEAT. ELEMENT CONNECTOR

FUSE BLOCK