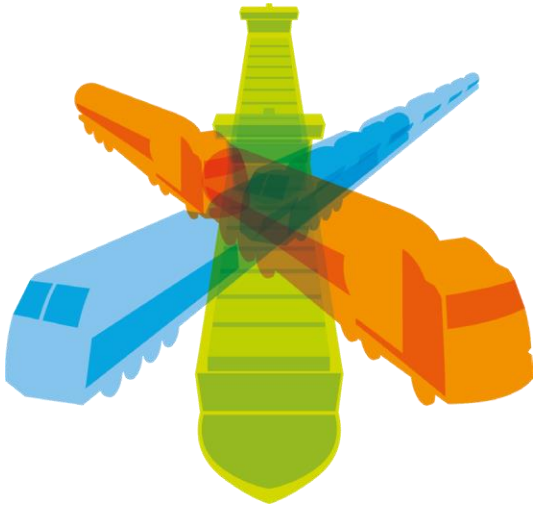


External heating

In our HACCP analysis, there are two major risks that can affect the condition of the product:

3. No or incorrect sealing.
4. Product temperature is not safeguarded.

There are three reasons for heating:

1. The temperature of many liquid products must be safeguarded.
2. The tank must be heated before loading to prevent residual load.
3. The tank must be heated for cleaning.

At locations with a high unloading frequency, Löbbe units are used. At Van den Bosch, we have two types:

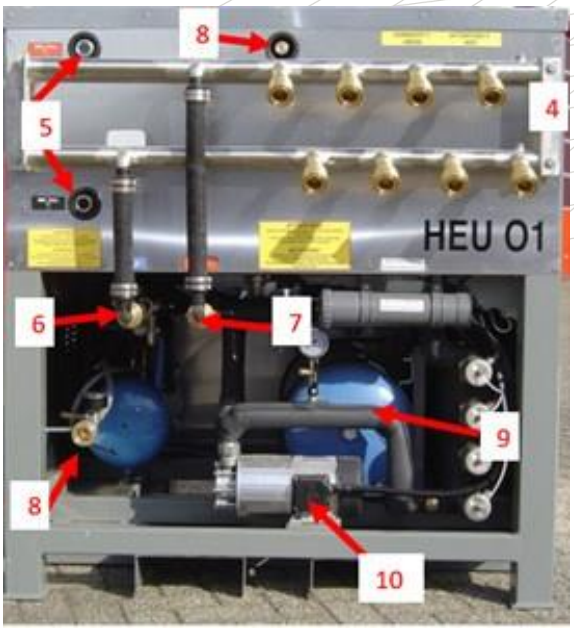
1. Löbbe heating unit.
2. Löbbe cooling and heating unit.

Löbbe heating unit

The heating unit consists of a 500-litre reservoir, a pump, four container connections, a compressor, and a control panel. It is heated with glycol or a mix of glycol and water (40/60). It can also be heated with water alone, but only in a frost-free environment. The container can also be preheated (optional), so that the glycol is already at temperature before the container is connected.

Structure

1. Plug 1 Master (380V connection for when one container is connected).
2. Plug 2 Slave (380V connection for when two or more containers are connected).
3. Control panel.



4. Connections containers (4x)
5. Level indicators
6. Backflow
7. Pre-flow
8. Compressor connections
9. Heater
10. Pump

Pre-flow and Backflow

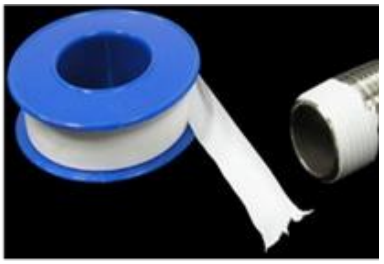
Four containers can be connected to the heating unit through quick connectors. The top four connections are for pre-flow (7), the bottom four connections for backflow (6).

Level indicators

Always check the glycol level (5) before use. In case it is below the minimum, do not use the heating unit before refilling the reservoir with water or glycol.

Connection

Ensure that the threading of the steam pipes is fitted with Teflon tape and that Stucchi quick couplings are available. When connecting, ensure that the Stucchi couplings are locked in place (2).



GEBRUIK HET SYSTEEM NOOIT ZONDER DAT ER EEN CONTAINER IS AANGESLOTEN!

SCHAKEL HET SYSTEEM UIT VOOR HET WISSELEN VAN CONTAINER!

Overview of controls

1. Main switch
2. Selection switch
3. Thermostat reservoir temperature
4. Thermostat pre-flow temperature
5. Thermostat backflow temperature
6. Compressor switch

Setting the temperature

To maintain/reach the product temperature, the pre-flow temperature should always be set 10 Cº higher than the backflow temperature. Only one temperature can be set for all connected containers.

The desired temperature is set by pressing the SET button and then using the UP or DOWN button to set it to the desired value. The set temperature can be checked by pressing the SET button again.

Disconnecting

Our heating units are equipped with a compressor. After disconnecting, the glycol must be returned to the reservoir. To do this, attach the hoses to the two compressor connections and switch on the compressor from the control panel. The valve on the compressor connection (1) must be open.

Failing to return the glycol has the following consequences:

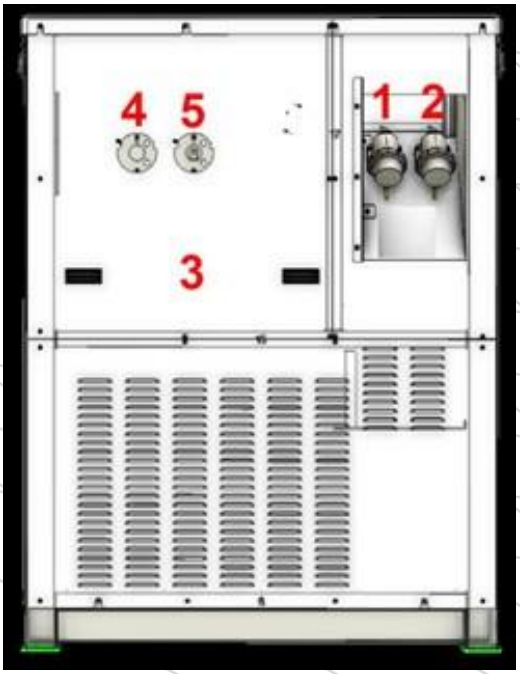
- Insufficient amount of glycol in the reservoir, thus leaving the next user with a problem
- The total weight of the charge unit differs from the weight stated on the weighing slip.

Löbbe Cooling and **heating unit**

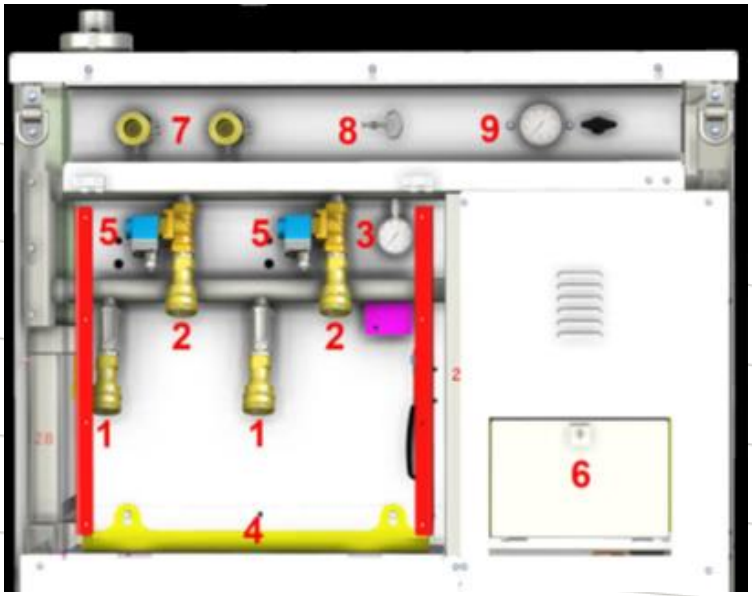
cooling
& HEATING-SYSTEM by LÖBBE

The Löbbe cooling and heating unit consists of a 440-litre reservoir, a pump, two container connections, a compressor, and a control panel.

Structure



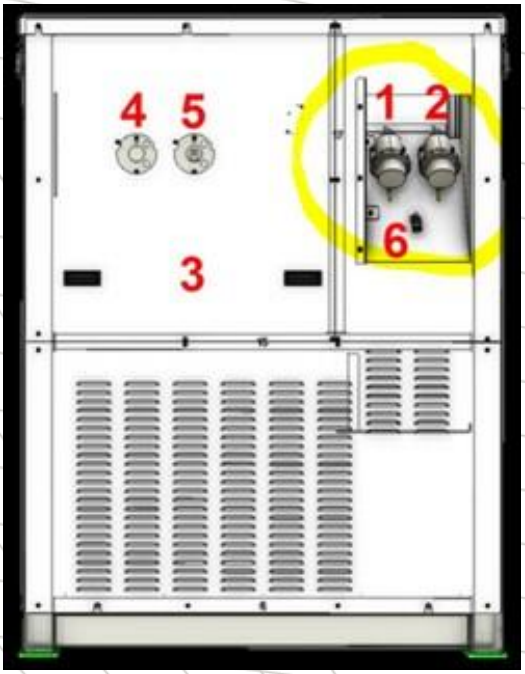
1. Plug 1 connection main supply
2. Plug 2 connection Slave
3. Maintenance lid
4. Main valve backflow
5. Main valve pre-flow



1. Backflow connections with filter
2. Pre-flow connections
3. Pre-flow pressure gauge
4. Drip tray
5. Solenoid valves
6. Equipment storage compartment
7. Compressor connections
8. Key for storage compartment
9. Air pressure gauge

1. Compressor connection (glycol return reservoir)
2. Compressor connection (aeration)
3. Compressor air pressure gauge
4. Compressor valve (open/closed)

Connecting



1.

Make sure both 380V connections (plug 1 and 2) are connected to the mains voltage.

2.

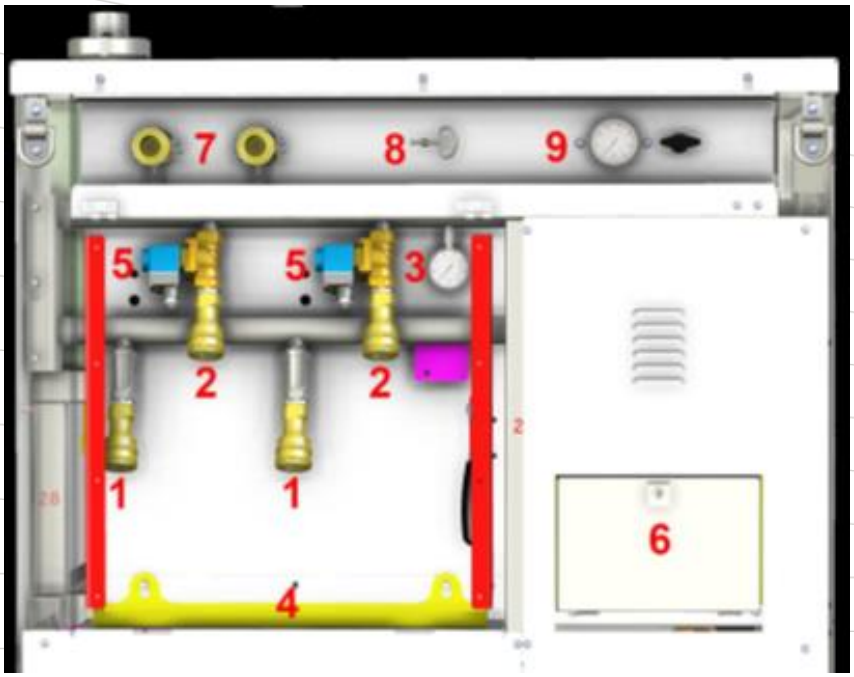
Set both switches to 'on'.

3.

Fit the threading of the steam pipes with Teflon tape and ensure that Stucchi quick couplings are available.

When connecting, ensure that the Stucchi couplings are locked in place (2).

(see instruction of Löbbe heating unit).



4.

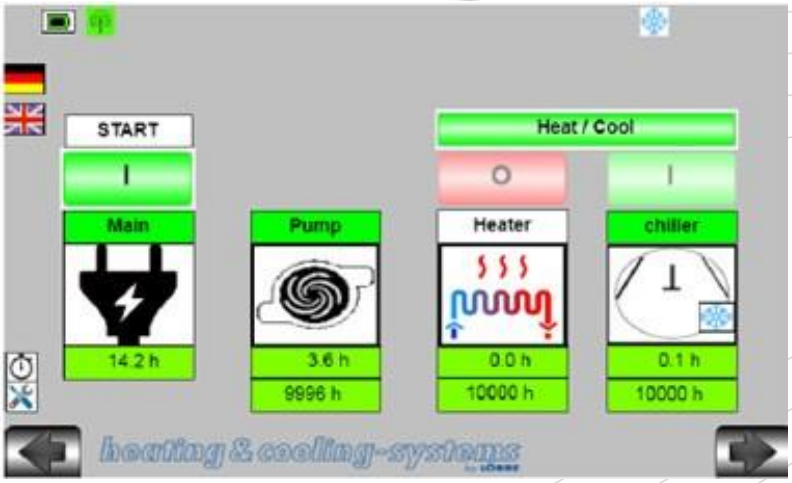
Connect the hoses:

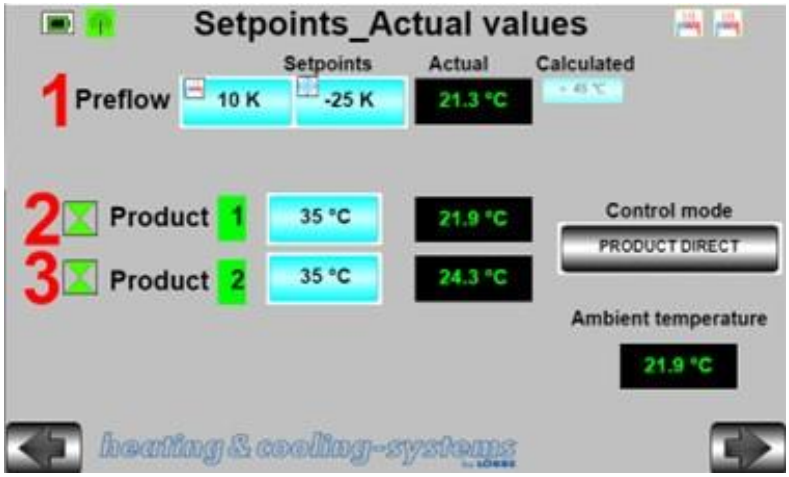
1. Connections for the backflow (steam outlet).
2. Connections for the pre-flow (steam inlet).

Operating

1.

Switch on the main power to pump glycol into the pipes of the container; this takes about 15 minutes. Then activate the heater or chiller (cooler).



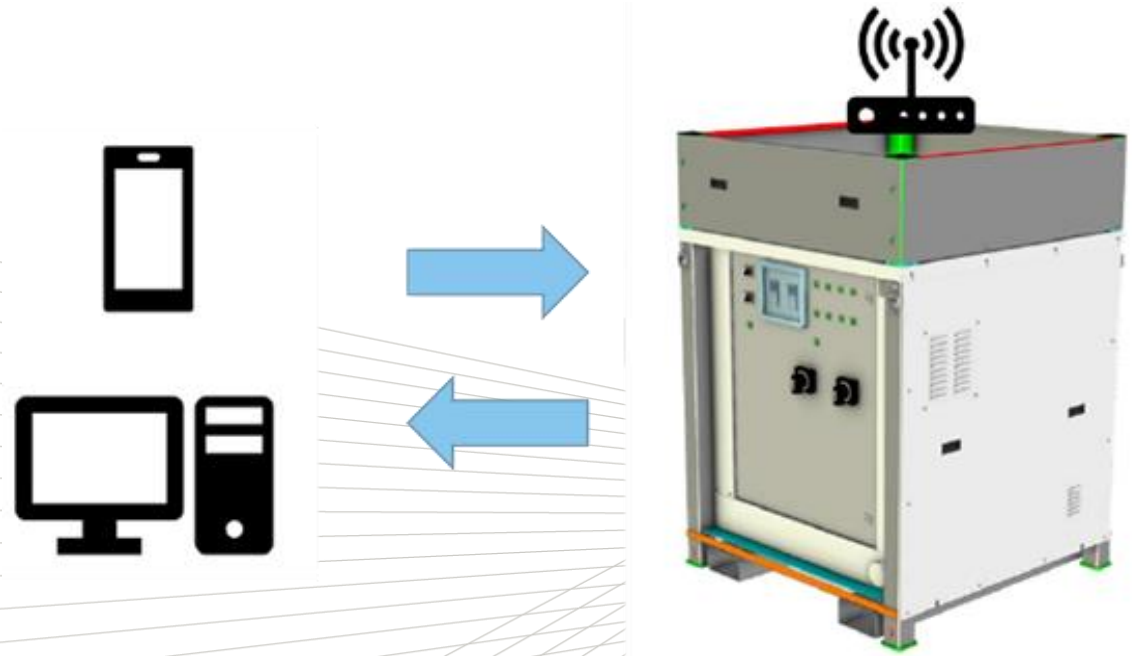


2.

Set the desired temperature; this is found on your Trimble on-board computer. Only do this if a container is indeed connected, or else an error will appear.

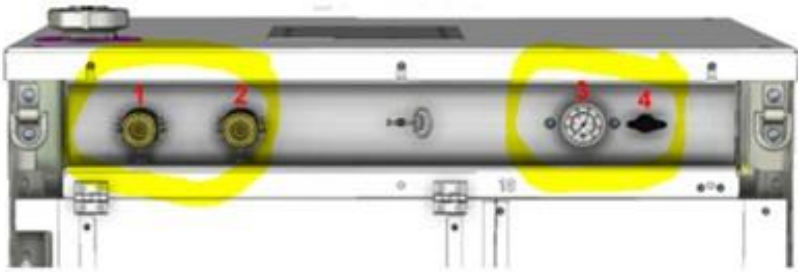
3.

The unit will now start heating or cooling, depending on the set temperature. The temperature of the pre-flow increases or decreases.



The Löbbe cooling and heating units can be operated remotely. If this method is chosen, close the container and switch on the unit. Then contact the planner to check whether the connection to the offices has been established and proceed to follow the planner's instructions.

Disconnecting



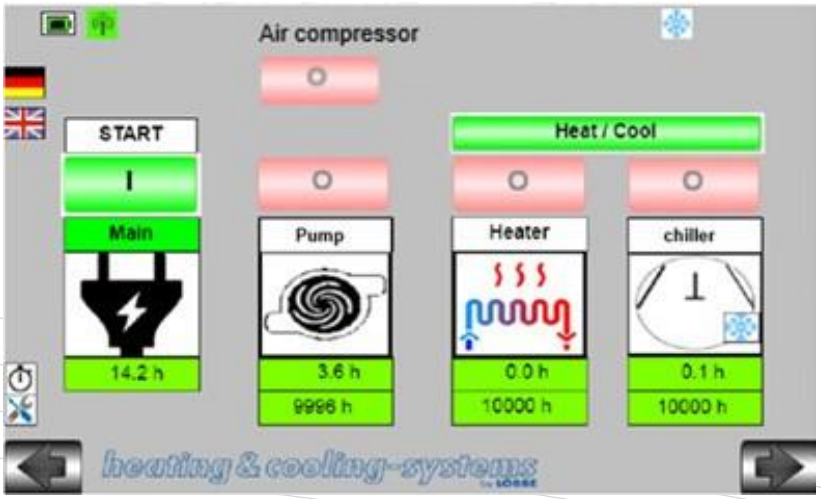
1.

When the heating or cooling process can be ended, the glycol must be returned from the container to the unit's reservoir.

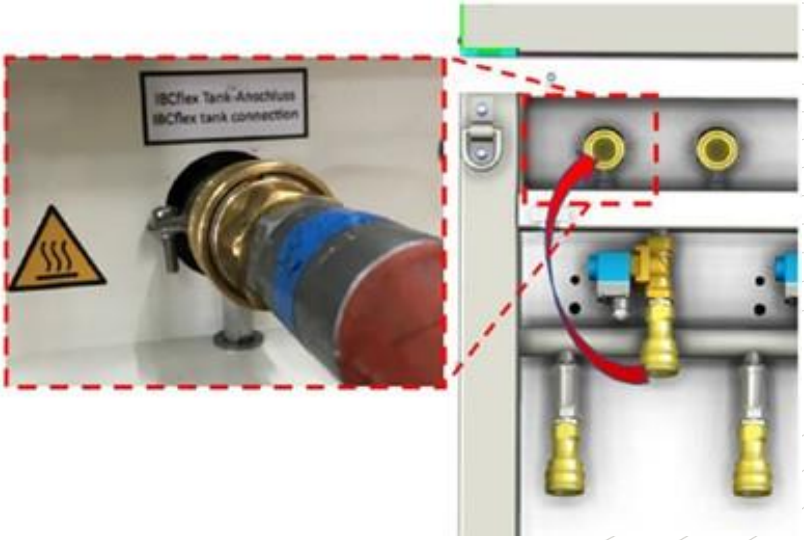
2.

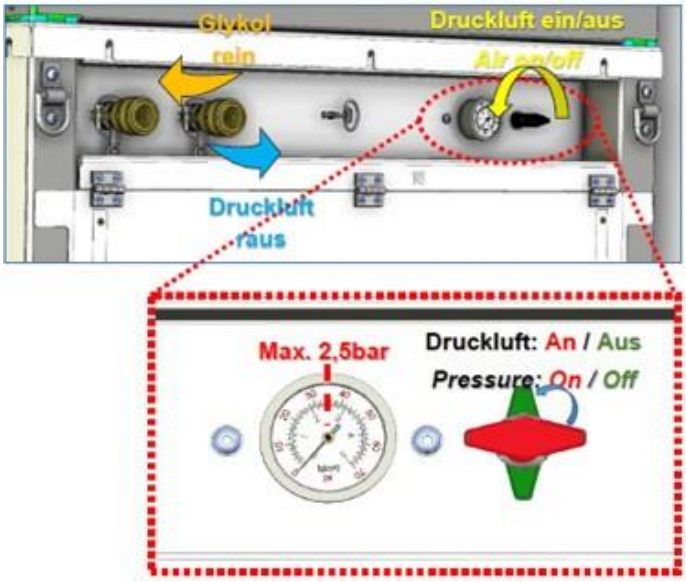
Switch the heater or chiller off by selecting the corresponding button.

Switch off the pump by selecting the corresponding button.



You do this by disconnecting both pre-flow and backflow connections on the unit and then reconnecting them to both compressor connections.





3.

Then turn the compressor's air pressure valve to the 'on' position.

4.

Turn on the compressor from the control panel. It will take +/- 15 min for all glycol to be returned to the reservoir. Only then turn off the compressor and disconnect the hoses from the container. The container is ready for transport.

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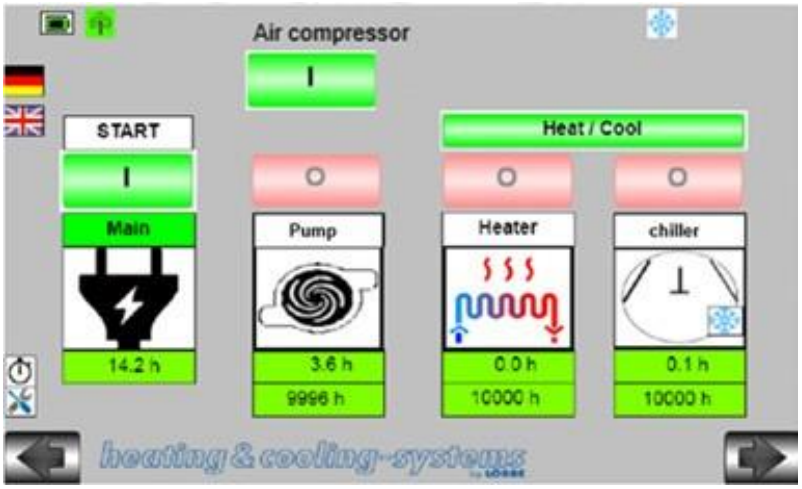

Please ensure that the unit is left tidy after use:

- **hoses clean and rolled up.**
- **drip tray emptied.**
- **accessories stowed away in the storage compartment.**