

5 Putting into operation

This chapter describes how the instrument is installed and gives instructions on initial startup.

NOTE

Inspect the instrument for damages during unpacking. If necessary, prepare a status report immediately to inform the postal company, railway company or transportation company.

Keep the original packaging for future transportation.

5.1 Installation site

Place the instrument on a stable, horizontal plane and consider the maximum product dimensions. Perform the distillations under vacuum with the Rotavapor placed under a fume hood. If this is not possible due to shortage of space, mount the protective shield (optional accessory) and lead the exhaust gas from the pump into the fume hood.

5.2 Electrical connections



ATTENTION

Make sure that the voltage on the socket corresponds to the voltage given on the type plate of the instrument.

Always connect the instrument to an earthed socket. External connections and extension cables must be provided with an earthed conductor lead (3-pole couplings, cable or plug equipment) as the mains lead has a molded plug, thus avoiding risks due to inadvertent defective wiring.

Make sure that no electric sparks form in the instrument or its surroundings as they might damage the instrument.

5.3 Commissioning the heating bath

Place the bath on the base plate of the Rotavapor.



If you need to adjust the position of the bath, lift it up slightly at the right-hand side and pull or push it to the desired position.

Fig. 5.1: Moving the heating bath

Saving energy

For heating baths there are various ways to save energy. By using floating balls in the water bath, evaporation of water is reduced. As a result, the bath heating has to switch on less often. This measure helps to save up to 50 % of energy. At the same time approximately 70 % less water is used. Additionally, a cover is available to put over the heating bath during operation which also saves energy between distillations.



Fig. 5.2: Floating balls in the heating bath medium and cover for heating bath

NOTE

Turn on the heating bath about 10 –15 minutes before starting the distillation, since the bath has a certain warm-up time. Turn off the heating bath after a distillation.



ATTENTION

As soon as the power plug is connected and the mains switch is turned on, the bath starts heating if the actual temperature is below the set temperature. For this reason, make sure that there is always heating medium in the bath to prevent instrument damage.

5.3.1 Heating Bath B-495

The Heating Bath B-495 is delivered with the bath replenishment mounted, see figure below.



Fig. 5.3: Heating Bath B-495 with water replenishment on the right-hand side

The function and water flux of the Heating Bath B-495 can be seen from the figure below.

6 Operation

This chapter explains the operating elements and possible operating modes. It gives instructions on how to operate the Rotavapor properly and safely.



ATTENTION

Check the glassware for damages prior to each operation and use only glassware in perfect condition. Glassware with cracks, stars or other damages can break during operation.

6.1 Settings at the heating bath

6.1.1 Setting the heating bath temperature



ATTENTION

As soon as the power plug is connected and the mains switch is turned on, the bath starts heating if the actual temperature is below the set temperature. For this reason, make sure that there is always heating medium in the bath to prevent heating bath damage.



WARNING

The heating bath can reach temperatures up to 180 °C. To avoid burns, consider the following:

- *Never remove a rotating flask from the bath because splashing oil can result in burns.*
- *Make sure that no liquid can overflow from the bath when the evaporating flask is submerged.*
- *Install the protective shield (optional accessory) only to a cold heating bath.*

6.1.2 Switching the B-491 from water bath mode to oil bath mode

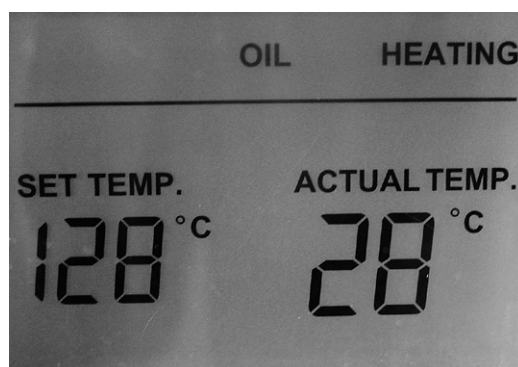


Fig. 6.1: Display in oil bath mode

To switch the heating bath from water bath mode to oil bath mode, proceed as follows:

- Switch off the heating bath.
- Turn the adjusting knob to any position except for 0 °C or 180 °C.
- Switch on the heating bath.
- As soon as the temperature is indicated on the display, turn the knob to the 180 °C position within 3 seconds. The indication "OIL" will now appear on the display.



ATTENTION

In the oil bath mode, always operate the bath with oil as the heating medium as water might start boiling and evaporating which would lead to a heating bath damage.

After the oil bath has been standing opened for a prolonged period, condensation water can accumulate at the bottom. When the bath is used again, it must be heated above 100 °C with rotating flask to drive the water out.

NOTE

A setting up to 180 °C is only possible in oil bath mode.

6.1.3 Switching the B-491 from oil bath mode to water bath mode

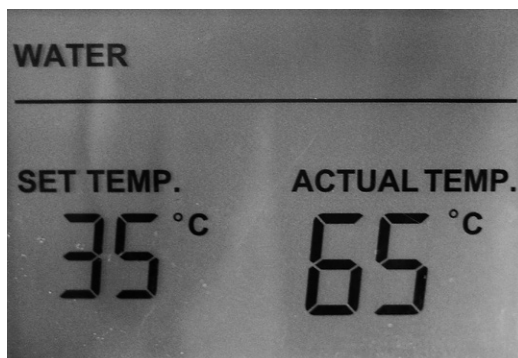


Fig. 6.2: Display in water bath mode

To switch the heating bath from oil bath mode to water bath mode, proceed as follows:

- Switch off the heating bath.
- Turn the adjusting knob to any position except for 0 °C or 180 °C.
- Switch on the heating bath.
- As soon as the temperature is indicated on the display, turn the knob to the 0 °C position within 3 seconds. The indication "WATER" will now appear on the display.

NOTE

In water bath mode, the heating bath can be operated with both water or oil.

A setting up to 95 °C is possible in water bath mode.

6.1.4 Selecting the set temperature

With this setting you can ensure, that the heating bath temperature cannot be changed during the distillation process.

To carry out the setting, proceed as follows:

- Switch off the heating bath.
- Turn the adjusting knob to the 180 °C/95 °C (max) position.
- Switch on the heating bath. The set temperature setting flashes in the display.
- Turn the knob within 10 seconds to the desired set temperature, e.g. 60 °C and wait until the set temperature setting stops flashing.

This temperature is now kept whenever the heating bath is switched on and cannot be changed with the adjusting knob anymore.

6.1.5 Changing/switching off the set temperature

To change or switch off the set temperature, proceed as follows:

- Switch off the heating bath.
- Turn the adjusting knob to the 0 °C (min) position.
- Switch on the heating bath. The set temperature setting is now deleted and the temperature can be selected via the knob again.