

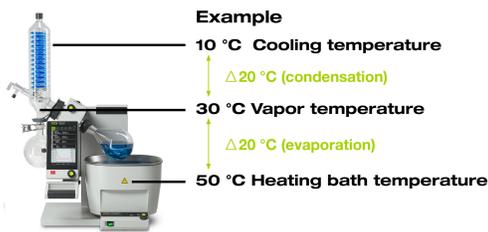


Time for science

Don't let your time evaporate

Respect the $\Delta 20$ rule

The rule says that the temperature difference between heating bath and vapor temperature, as well as vapor and cooling is 20 °C.

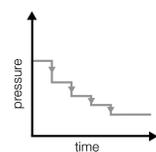


Too low pressure can cause re-evaporation in the receiving flask due to the boiling point being very close to the room temperature. Increasing the temperature difference results in a higher evaporation rate as well as in a higher energy consumption.

Tip: The solvent library of the interface sets the ideal vacuum according to the current heating bath and coolant temperatures. It allows an immediate start of the distillation process even if the parameters have not been reached yet.

Optimize the pressure

Vacuum is used to lower the boiling point of the solvent far enough that the distillation can be carried out at a lower temperature.

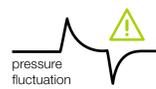


Begin slowly

Gently reduce the pressure to the desired set value to avoid bumping or foaming.

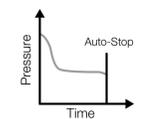
Choose working pressure wisely

Use a solvent table or an integrated solvent library to look up the recommended values for the respective solvent.



Keep the pressure consistent

Sudden changes of pressure will either stop the distillation or create bumping. An interface controlled system reduces such occurrences.



AutoDest sensor

Performs automatic distillation with specific settings continuously adjusted by the system.



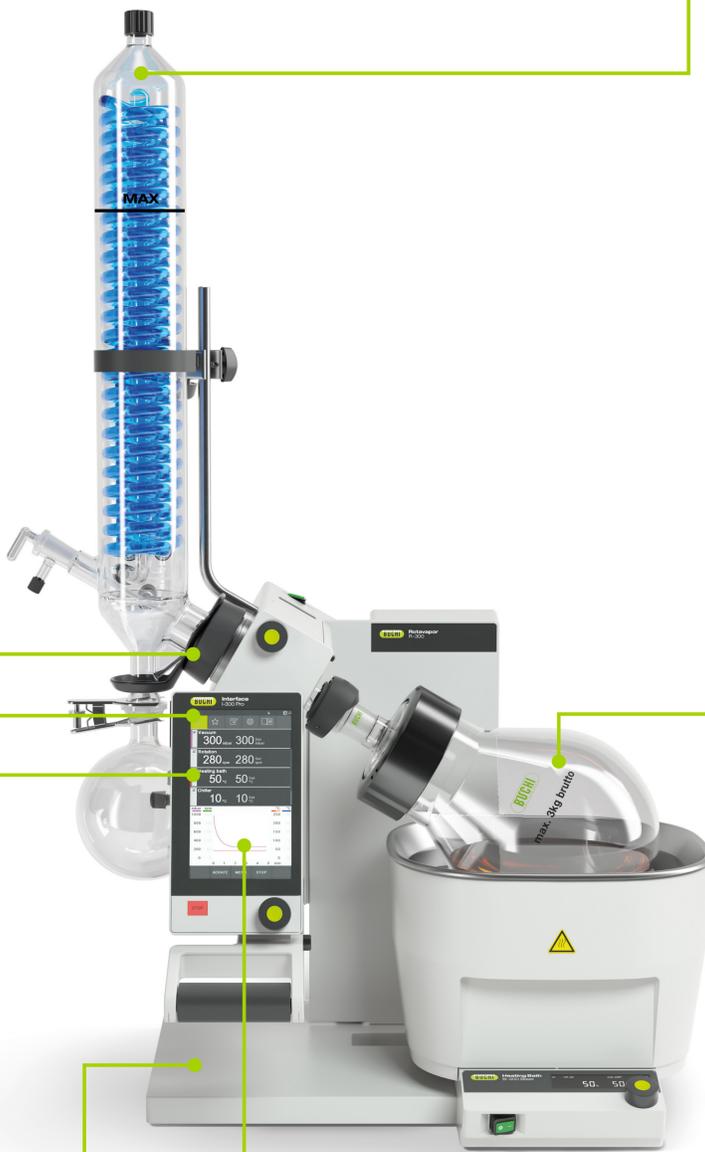
Foam sensor

Prevents sample from foaming into the condenser by temporarily aerating the system.

Tip: For unattended automatic distillation you can use the foam sensor in combination with the AutoDest sensor.

App

Tip: The Monitor App offers a live view and displays graphics of the process parameters. Push notifications are also sent to your PC or mobile allowing you better use of your time!



Load 75% of condenser

Monitor the height of the condensed solvent on the coils of the condenser. This height determines the loading. The pressure determines the boiling point of the solvent.



Condenser is overloaded

- † Increase the pressure (e.g. 300 to 430 mbar)
- † Lower the cooling temperature
- † Respect the delta 20 rule



Condenser is underloaded

- † Decrease the pressure (e.g. 340 to 300 mbar)
- † Increase the heating bath temperature
- † Respect the delta 20 rule



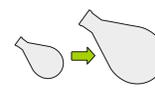
Optimal condenser loading

The distillation is in balance – the energy input for evaporation and the energy output through the condenser are in equilibrium.

Tip: To achieve higher distillation efficiency and distill low boiling point solvents, use the High Performance condenser with double the cooling area (3000 cm²).

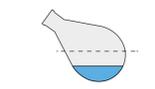
Use larger flasks

A larger flask means a larger surface area which positively influences the evaporation performance. Furthermore, larger flasks decrease the impact of foaming and bumping.



Up to 50% performance increase

Doubling the evaporation flask volume can increase the performance up to 50%.



Keep fill level below 1/2

For handling reasons – the level of solvent should be kept below 1/2 of the evaporation flask.



Immerse the flask deeply

The solvent level inside the evaporation flask should be lower than the level of the heating bath medium.

Tip: Use beaker flasks with a larger opening to save time! They make it easier to remove your product at the end of the process and are user friendly to clean.

Basic User Training

BUCHI ACADEMY "User"

Improve time efficiency of laboratory staff thanks to advanced training courses, scientific support and feasibility studies and continuous consulting programs. Our certified service specialist will train your staff in easy maintenance and exchange of wear parts as well as basic trouble-shooting.

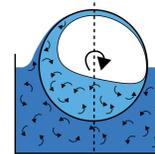
Fast reaction time

BUCHI START "Install"

Professional installation to achieve the highest efficiency from the beginning. Specific application training and tailored support solutions are provided to improve set-up of the instruments, speed up processes and save time in procedures.

Increase rotation speed

Rotation greatly increases the surface area available for evaporation as well as turbulence in the bath and solvent. This turbulence increases the efficiency of heat transfer from the bath.



Set rotation speed to the maximum

- † Higher distillation rate
- † Can reduce bumping / foaming

Keep the rotation speed low if

- † High viscosity sample
- † Drying of powders

Tip: Choose the Drying mode on the Interface to dry your samples. The Drying mode alternates rotation direction in user-defined intervals for a defined period of time to enhance drying a slurry.

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