

Appliance design

A temperature control chamber generally consists of an outer casing, a temperature-insulating layer, and an interior.

The inner design of **temperature control chambers** varies in terms of heating, cooling and ventilation, depending on the appliance type, manufacturer and application.

When the air inside the chamber (with the exception of the **vacuum drying oven**) moves past the heating element, it warms up. Openings for fresh air and exhaust air ensure the required exchange of air. During drying procedures in particular, the damp air must be quickly replaced by dry fresh air from the surroundings, which is why the air exchange rate (amount of the replacement of the chamber volume per hour) can generally be controlled for all appliances. To avoid temperature fluctuations in the working chamber, caused by the supply of fresh air, in some appliances the air is fed through a heated pre-warming chamber before it is introduced into the working chamber.



basic design of a temperature control chamber

[Overview Glossary Temperature control chamber](#)

Picture credit: Memmert GmbH + Co. KG

Autor:

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