

Steam sterilization for germ reduction of dry products in the food industry

For various reasons, dry raw materials, such as vegetables, herbs/spices, mushrooms, tea and various pharmaceutical raw materials, which are completely cut or pulverized, can be contaminated with high bacterial counts. For further processing, a reduction of the bacterial count is essential to ensure shelf life and hygiene.

ZIRBUS technology steam sterilizers operate according to the saturated steam process with fractionated pre-vacuum and drying in vacuum. In order to reduce the thermal load on the product, a product-specific temperature and holding time can be selected with this process. On the one hand, this minimizes thermal destruction and preserves the ingredients and etheric oils, while optimizing sterilization on the other.

To achieve high process reliability, a very dry steam and a very deep vacuum are required. This is realized by appropriate hardware and software. The combination of vacuum and steam makes it possible to introduce the necessary amount of condensation for the formation of the sterilizing agent without over-humidifying the product. The final vacuum drying ensures that the germ-reduced sterilized product has the same moisture content after the process as the original product. Thanks to a sophisticated cooling system, further processing can take place immediately after unloading.

ZIRBUS technology develops and produces in Germany Steam sterilization systems for germ reduction.

These include, for example:

- Steam generation with water treatment.
- Automatic loading and unloading systems with a connection to existing modules
- Software customization and development

So far, the following services have been realized:

- Capacity: 30 - 1,300 kg/h with a resulting Annual output from 100 - 3,600t in two-shift operation
- Drive-through systems for loading at ground level
- Fully automatic loading and unloading systems

Together with our customers, we are constantly developing our sterilization processes to incorporate the latest findings into our products and software.

Zirbus technology builds and supplies sterilization and Freeze drying equipment for:

- Research and development
- Food industry
- Pharmaceutical industry
- Electrical and automotive industry
- Medical applications

