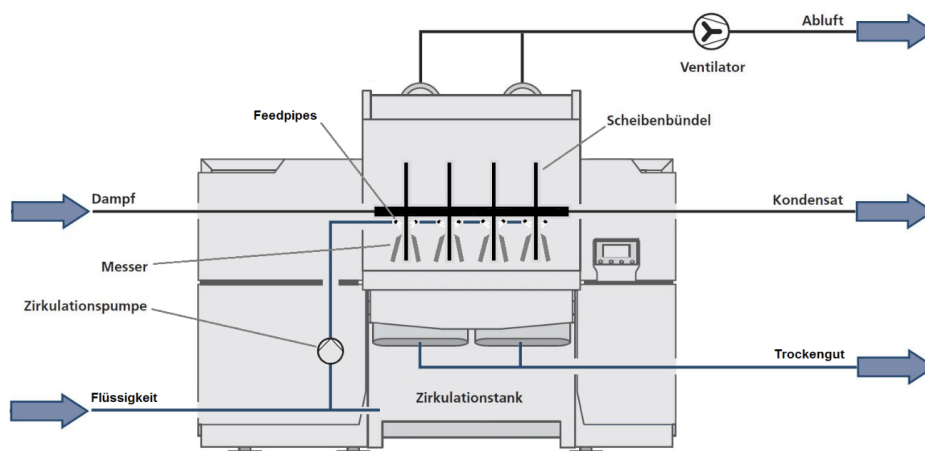


## Milk dried in one revolution - Allgaier enables inserts with hygienic contact disc dryer

Disc dryers have proven themselves in many applications in the process industry. Allgaier Process Technology also makes the principle of fast and gentle drying available to the food industry with the CDry food. For this purpose, the design of the process chamber and the components integrated in it were modified in strict compliance with the latest EHEDG guidelines. The Deutsche Landwirtschafts-Gesellschaft (DLG - German Agricultural Society) awarded the International FoodTec Award 2021 in gold for the development.



Process diagram of a CDry drying system. (Photo: © Allgaier Process Technology)

### (Bildlegende))

**Dampf = Steam**  
**Messer = Knife**  
**Zirkulationspumpe = Circulation pump**  
**Flüssigkeit = Liquid**  
**Feedpipes = Feedpipes**  
**Zirkulationstank = Circulation tank**  
**Ventilator = Fan**  
**Scheibenbündel = Disc bundle**  
**Abluft = Exhaust air**  
**Kondensat = Condensed water**  
**Trockengut = Dry product**

### Designed according to EHEDG specifications

The CDry is a steam-heated disc dryer that works according to the principle of contact drying. Due to the large heat transfer surface in a small space and the robust mode of operation, it

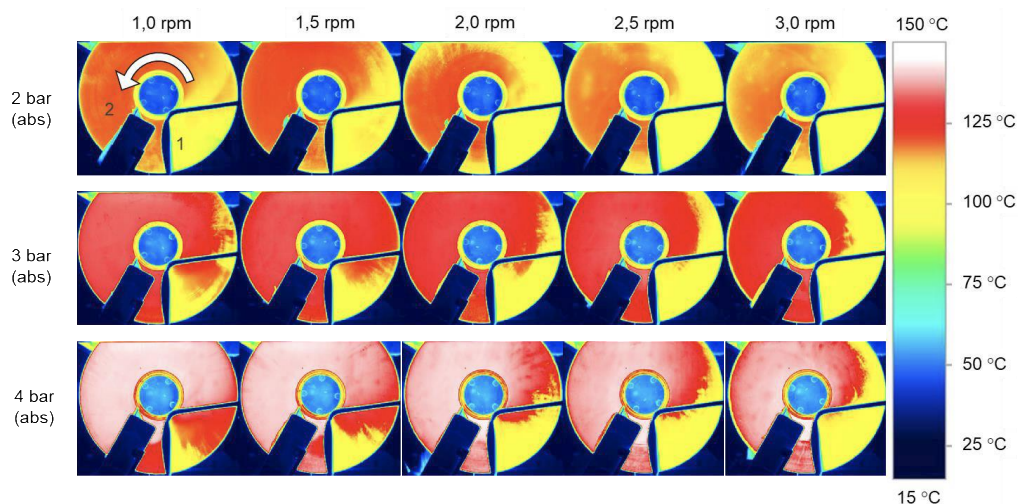
has established itself in recent years for drying solid-laden liquids in the fine chemicals, pigment, ceramics and fertiliser industries and even in waste-water technology. It is available as CDry food in a version for food applications. For this purpose, the entire construction of the process area that contacts the product was designed to be hygienic and CIP-capable in accordance with the requirements of the guidelines of the European Hygienic Engineering and Design Group (EHEDG).

"Our disc dryer is the only known system of this type on the market worldwide that meets the demanding hygiene requirements of the food industry," said Dr. Mathias Trojosky, responsible for research and development. The system is suitable for a wide range of applications, such as drying milk-based products. This was examined in extensive test series and compared with commercially available spray and roller-dried powders. "Through the targeted combination of temperature and dwell time, an extremely broad range of powder properties can be produced when drying milk," said Trojosky.

### Dried after one rotation

Contact drying follows a sophisticated principle here: The liquid to be treated is poured in excess onto both sides of a rotating, hollow disc bundle by means of so-called feed pipes. The liquid drains off the discs into the circulation tank below, leaving the liquid film to be dried on the disc surfaces.

After one revolution, the blade system scrapes the dried solid off the discs, causing it to fall into a product drop chute for collection or discharging and further processing. "The easy-to-adjust knives for scraping off the dry material are short due to their design," explains Trojosky. "They adjust themselves by spring action through a movable mounting at a low preset contact pressure, so that they always optimally contact the disc and scrape off the dried solid material reliably and with little wear."



Thermal images of a dried skimmed milk concentrate as a function of pressure and speed. (Photo: © Allgaier Process Technology)

### Bildlegende

((In Zahlen , = .))

## Suitable for temperature-sensitive products

The desired degree of dryness of the solid material obtained can be set stably and reproducibly via the speed of the discs and the steam pressure of the disc heating system. As the excess liquid placed on the hot discs drains into the circulation tank, "there is no risk of liquid breakthrough into the dry material due to the system," said Trojosky.

The fill level in the circulation tank is continuously monitored and refilled as required. An optional heat exchanger for cooling the liquid in the circuit enables temperature-sensitive products to be processed gently. Depending on the product behaviour, a granulate-like product, a fine powder or a film-like dry material is produced.

## Additional information and contact

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