

DRYING SOLUTIONS | INSPECTION



**Optimizing Process Flows with  
CFD Calculation and Optimization**  
Achieving Optimized Drying Results,  
Reduced Energy Consumption, and  
Improved Process Efficiency

## DRYING SOLUTIONS | INSPECTION

Optimizing drying processes is crucial for improving efficiency and reducing energy consumption. Computational Fluid Dynamics (CFD) allows flow patterns within complex manufacturing systems to be analyzed and optimized. This technology enables improvements without production downtime or extensive modifications, leading to enhanced drying results and energy efficiency.

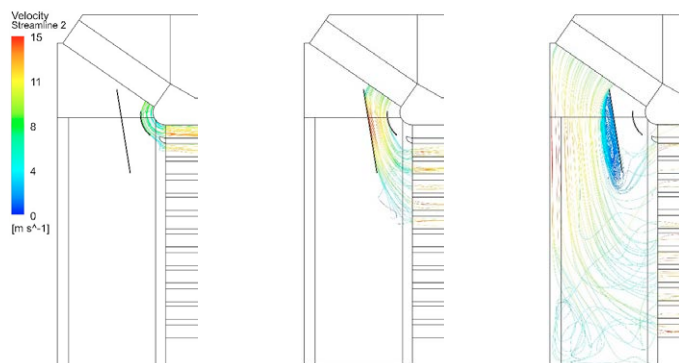
### Details

- » **Computational Fluid Dynamics (CFD):** A modern tool for analyzing and optimizing fluid flow in highly complex manufacturing processes, allowing virtual testing and adjustments.
- » **Optimizations Without Production Downtime:** Necessary optimizations, e.g., on baffles and control dampers, can be tested virtually. This allows the precise elimination of individual weak spots in your plant's fluid mechanics, thus avoiding production stoppages and costly physical testing.
- » **Precise Identification of Weak Spots:** CFD helps locate specific flow issues, which can be addressed for improved process efficiency.
- » **Optimized Flow to and from Fans and Radiators:** Improved flow dynamics reduce significantly energy consumption, particularly in fan and radiator systems.

### Advantages

- » **Efficient Testing Without Production Downtime:** CFD allows testing of multiple versions and changes without halting production, saving time and resources.
- » **Reduced Energy Consumption:** Optimized flow reduces energy use, particularly in fan and radiator systems, contributing to substantial cost savings and sustainability.
- » **Uniform Drying Results:** CFD provides even flow distribution throughout the dryer height, resulting in consistent drying performance.
- » **Fast and Precise Improvements:** Weak points in fluid dynamics can be quickly identified and addressed, minimizing the need for manual interventions or lengthy experiments.

Air baffles in the dryer section  
and their impact on the dryer decks



**Did you know?** As leading experts in dryer technology, Grenzebach can also upgrade **Babcock** dryers—part of Grenzebach since 2002. Please do not hesitate to ask your service contact for further details and support regarding this upgrade. They will be happy to provide you with an individual offer.



- + Increased productivity
- + Extended service life
- + Maximized machine availability
- + Higher profitability
- + Lower total operating costs

**We**SERVICE

ADDED LIFETIME – ADDED VALUE

### Grenzebach BSH GmbH

Rudolf-Grenzebach-Straße 1  
36251 Bad Hersfeld  
Germany  
Phone: +49 6621 81 3000  
E-mail: [service.gbsh@grenzebach.com](mailto:service.gbsh@grenzebach.com)

[www.grenzebach.com/service](http://www.grenzebach.com/service)



Version 04/2025