



Industrial Materials.

Thermal processing technologies for the production of a variety of industrial products.

Thermal Processing for Industrial Materials. **Intelligent. Robust. Efficient.**



Bühler's process knowledge, advanced dryer design, and global support network are why multinational and world class companies utilize Bühler's AeroDry drying systems in plants on six continents.

Experience

With more than 100 years of manufacturing and production experience, and Installations with every major global producer, Bühler has a long and successful history in dryer production. Today, Bühler provides the industry with advanced thermal processing systems for reliably and consistently producing top quality industrial materials, with the lowest energy requirements and maximum efficiency and productivity.

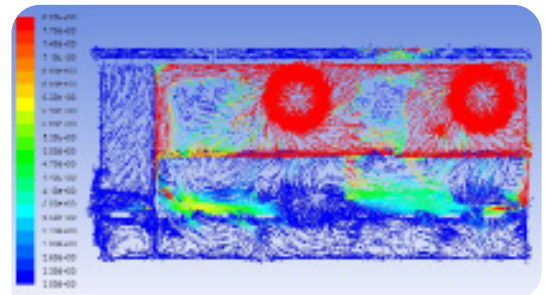
Knowledge

Bühler technologists are experts in thermal processing, heat and mass transfer. Specific application needs are ensured through customer collaboration, incorporation of knowledge from existing processes, and trials in Bühler's technology centers located throughout the world.

Bühler is guided by practical experience and advanced modeling, and can demonstrate the results in pilot scale to ensure optimized processes and machinery.

Solutions

With thousands of successful dryers and applications, Bühler engineers build proven technologies into dryer design, matched to your specific product and plant needs.



Example of Computational Fluid Dynamics modeling.



Bühler T-11 pilot dryer.



Briquettes



Granulates



Agglomerates



Flakes



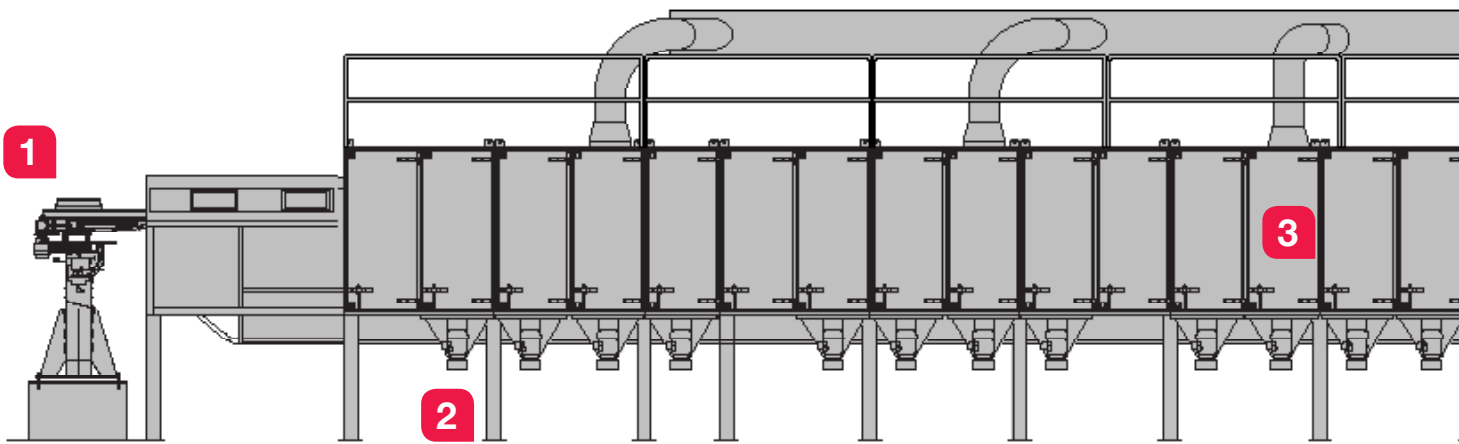
Extrudates



Pellets

AeroDry industrial conveyor dryers.

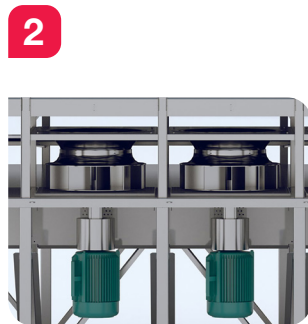
Built to perform.



1

Oscillating belt feeder.

At the dryer infeed, a heavy-duty feeder loads the conveyor belt with an even product bed. Feeders can be oscillating belt, vibratory trough, hopper, or other custom design.



2

Circulation fans.

Direct drive, variable speed circulation fans provide the needed airflow throughout the process zone. These fans provide greater energy efficiency and less maintenance than pulley driven fans.



3

Conveyor chain.

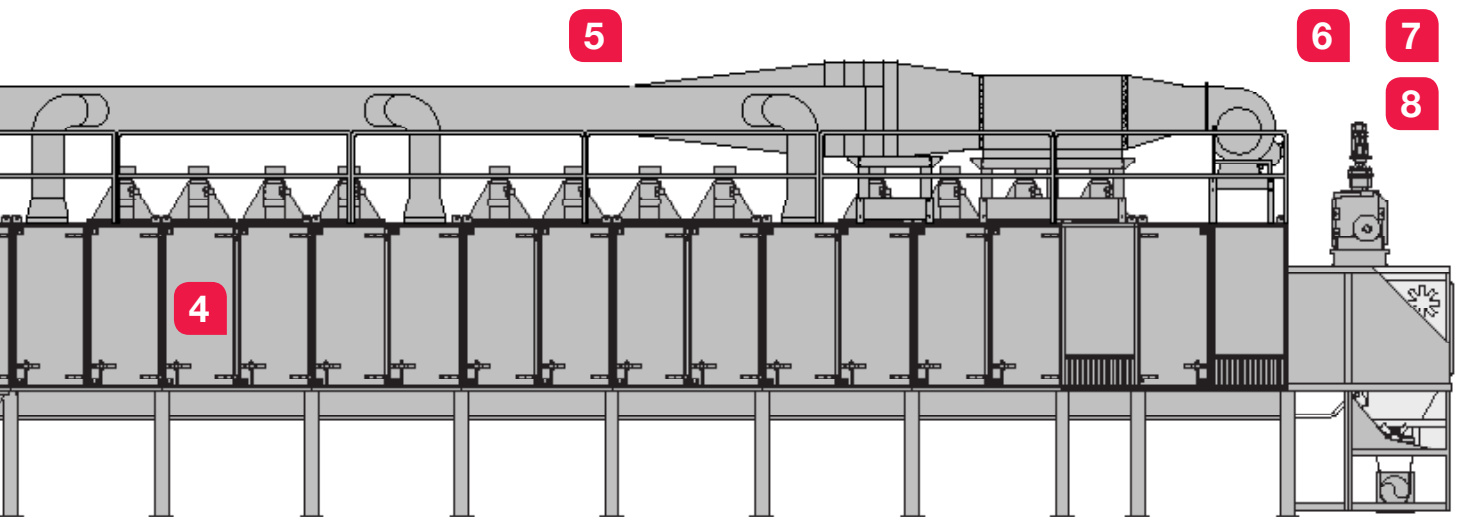
Built to withstand the rigors of extended use in harsh environments, our conveyor chains keep the product moving reliably through the process zones.



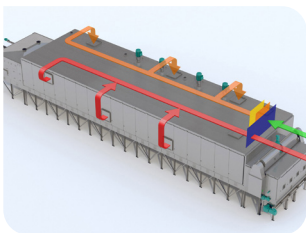
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Conveyor bedplates.

Perforated metal interlocking or pinless slip hinge bedplates deliver consistent performance, while a deep truss arrangement ensures heavy loading capability.



5



Energy recovery.

An integrated air-to-air heat exchanger reduces dryer energy consumption as well as overall exhaust to pollution control systems. Other recovery systems like flash/steam can also be used.

6



Picker/breaker.

For applications requiring aggressive handling, specially designed rotating pickers or breaker guides can be added to loosen the product on the conveyor.

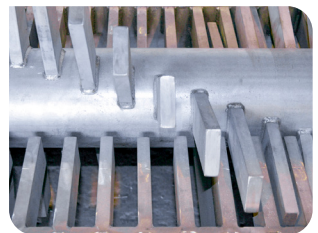
7



Doffer.

An optional rotating doffer is positioned at the dryer discharge to assist in releasing product from the bedplates, making sure it stays in the product stream, and keeping the dryer efficiency high.

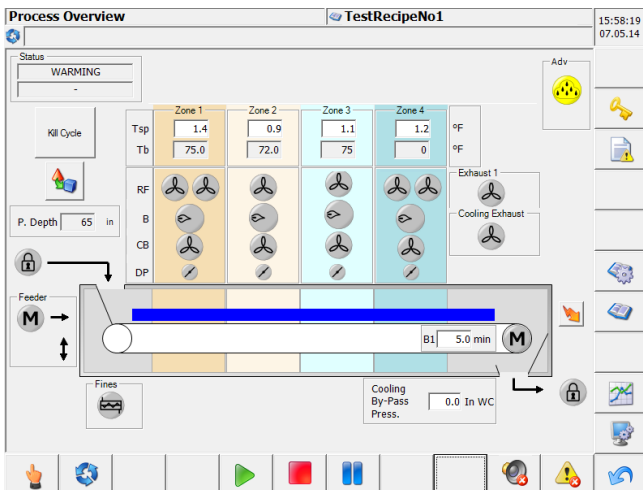
8



Rotating tine breaker.

A heavy duty reinforced rotating blade and tine breaker system provides initial product size reduction, reducing particulate to a consistent size and breaking up clumps, for downstream conveying.

Reliable, consistent production. Designed to perform.



Optimized Process Design and Energy Efficiency

The AeroDry design is optimized for performance, with zones to provide precise control of air velocities and direction, temperature and humidity gradients, and product dwell time to match specific product criteria. This maximizes production rates in the smallest possible dryer.

Heating media can also be optimized for the process or the plant site, utilizing gas combustion, steam, thermal fluid, or even waste thermal energy from kiln gases or other available heat sources.

Advanced energy management can reuse energy from the dryer or cooler exhausts through air to air heat exchangers, or flash steam/fluid recovery units to reduce the energy consumption of the dryers, as well as to reduce the overall exhaust to pollution control equipment. An optional advanced control system manages production changes and accommodates flexibility in grade, inlet moisture content, and throughput. The system also increases moisture uniformity at the discharge, and reduces product and energy waste.

Heavy-duty construction

AeroDry's reinforced formed structure, and thermally compensating design, ensures long term stability and strength, even on the longest and widest machines. The walk-on platform roof serves as a further structural element, as well as a thermal barrier, while the heavy-gauge doors provide an air tight seal around the dryer, preventing air leakage and thermal loss.

Reliability and Maintainability

Our AeroDry conveyor dryer is designed for decades of life in heavy duty industrial environments. The dryer is fully automated for operation without manual intervention. An easy-to-clean design allows full access to the full dryer interior, and to all moving parts. Routine maintenance items are external for minimal down time.



Product handling. **Ensuring drying success.**



Advanced material handling

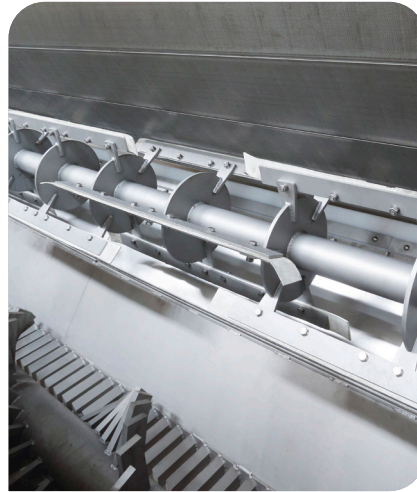
AeroDry thermal processing systems are fitted with heavy-duty feeders to load the dryer downstream of product formers, reactors, extruders, etc. A precision control system ensures uniform conveyor loading and maximizes the overall consistency of the product's final moisture content or thermal treatment. Feeders can be oscillating, hopper, or customized devices.



Picker.

For critical applications requiring aggressive handling, specially designed rotating pickers or breaker guides can be added to loosen the product on the conveyor, ensuring an even flow of product to the breaker system.

The flexibility of the AeroDry design allows for multiple mounting locations for the picker, ensuring the greatest effectiveness for your specific application.

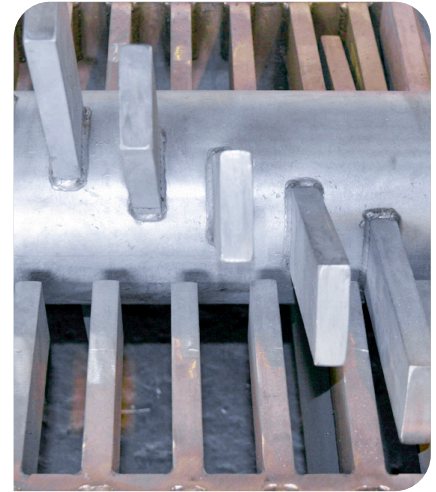


Doffer.

The doffer performs two vital functions in efficient drying. The first is keeping the conveyor belt clean, thereby ensuring proper airflow through the product. Not only will this provide greater product uniformity, but it also makes the best use of energy needed for heating the air.

The second vital function the doffer provides is ensuring that product waste is reduced to a minimum. As stuck or stray product is removed from the conveyor belt at the dryer exit, it combines with the product stream, rather than building up inside the dryer or collecting on the factory floor.

In order to minimize the impact of the doffer's replaceable UHMW contact blades on the conveyor, an offset design is used.



Tine and blade lump breaker.

A heavy duty reinforced rotating blade and tine breaker system can also be provided for initial product size reduction. The breaker system reduces particulate to a consistent size and breaks up clumps, allowing effective downstream conveying and grinding.

An add-on cut flight discharge screw can provide additional uniform size reduction, if needed.

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**SERVICE
Worldwide**

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Expertise and collaboration. **Support at every step.**



Thermal processing science and technology.

Bühler's unique know-how in the science of modern thermal processing is proven out at laboratories and innovation centers around the world. Our technologists can help you develop your product, create your unique thermal process, and then scale it for production.



Global presence, local support.

Twenty-four hour support draws from the expertise of more than 1,200 field engineers around the world. Bühler conducts field evaluations for drying processes and mechanical performance around the world. The company also offer parts, retrofits and expansion support regardless of the dryer make or model.



Processing education and training.

Bühler knows the drying step like no other. Specialized seminars help processors learn the theory of drying and how to apply it, to ensure product yield and profit margins. Customers frequently discover opportunities to improve processing operations and this results in new bottomline profits.

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