

ENERGY-EFFICIENT DRYING

Fluidized bed drying and cooling
of high purity salts and minerals

ANDRITZ

ANDRITZ was among the first to introduce fluidized bed technology for use in industrial drying. We have been focusing on development of tailored process solutions for our customers since the early 1960s.



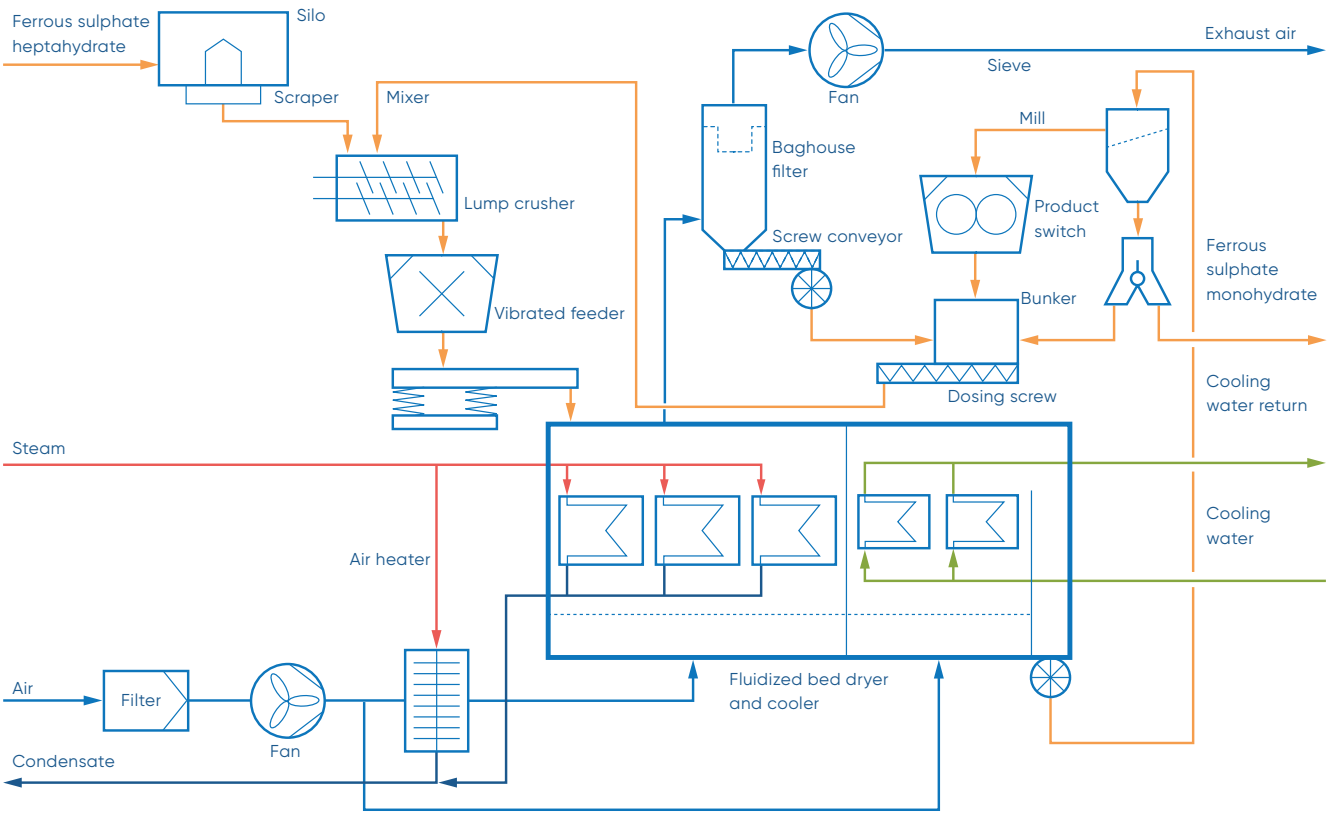
Experience makes the difference

With our experience and target-oriented development of process solutions in our pilot plants, we are able to provide you with the optimum solution for your process at any time.

When development work began, only vibrated fluidized bed dryers were used for drying. Nowadays, these are still being used for critical products with wide particle size distributions or higher feed moistures. The development of special distribution plates now enables the use of static dryers without vibration in most cases.

Static dryers have a low maintenance requirement and can be optimized to suit the application in terms of size, shape, and material of construction. The use of dryers with inlet air temperatures of above 500°C or dryers with integrated heat exchangers results in a significant drop in thermal energy consumption. Additionally, a fluidized bed with integrated heat exchangers provides greater flexibility in fluidization design, allowing the fluidization gas flow to be controlled more independently of the system's energy supply. This advantage is significant when drying fine and, at the same time, temperature-sensitive products. With our constant and target-oriented product development, we were able to multiply capacity and reduce specific energy consumption.





Drying, calcination and cooling of ferrous sulfate

Expertise for innovative applications

WE SUPPLY

- Competent consulting
- State-of-the-art technology tailor-made for your application
- Energy-optimized solutions with focus on feasibility
- Compact equipment layout
- Solution operating fully automatically for increased reliability
- High safety standard for every customer
- Low maintenance effort and turn-down times

OUR EXPERTISE OFFERS CUSTOMIZED SOLUTIONS BY USING

- De-dusting systems, such as cyclones, baghouse filters, and wet scrubbers
- Hot air systems, such as burners and air heaters
- Feed product formulation with granulation / agglomeration and pelletizing
- Final product treatment with granulation, milling, screening, and mixing
- Closed inert gas loops
- Heat recovery with partial recirculation of the exhaust gas

YOUR BENEFITS

- **Tailor-made systems to meet your particular needs**
- **Maximum energy efficiency from optimized process configuration**
- **Customized product quality**
- **Low costs over the entire life cycle**
- **Extensive test facilities to resolve your specific drying challenge**
- **Market leader in fluidized beds with incorporated heat exchangers**
- **Line capacities from less than 100 kg/h to more than 1000 t/h**

COMPLETE SYSTEMS FOR THE FOLLOWING DRYER TYPES

- Vibrated fluidized bed dryer and cooler
- Stationary fluidized bed dryer and cooler (direct heating)
- Stationary fluidized bed dryer and cooler with integrated heat exchangers
- Spray granulator



Fluidized bed dryer/cooler for technical salts

TYPICAL APPLICATIONS

- Potassium salts
- Sodium salts
- Ammonium salts
- Soda ash, sodium bicarbonate
- Fertilizer (NPK, urea)
- Ferrous salts
- Boric salts
- Metal hydroxides
- Coal
- Ore and sand





Reliable technology for your peace of mind

SAFETY FIRST

Most of the crystalline products and minerals are inorganic products that require strict environmental and plant safety standards during handling and plant operation. By choosing the right de-dusting system or a closed operation under low vacuum, ANDRITZ meets these requirements. Feasible options for flammable products are a pressure shock-resistant design with relief devices, explosion suppression systems, or inertized drying in closed gas loop systems.

LAB-SCALE AND PILOT TESTING

Our R&D center with its qualified personnel and integrated laboratory is at your dis posal to develop your process or examine your specific tasks. It has capacities for development of components and processes, and for providing product samples (over 2,100 products already tested on lab and pilot scale).



Main services

Our services include development, planning, design, manufacturing, and delivery of single key-components or complete systems, as well as supervising their installation and commissioning.

The right solution for any separation challenge

PEACE OF MIND, COST EFFICIENCY, AND SUSTAINABILITY – ALL FROM ONE TRUSTED PARTNER.

Regardless of your industry – whether environmental, chemicals, mining and minerals, or food and beverage – efficient separation processes are essential for high product quality, reduced waste, and the responsible use of valuable resources. With our advanced technologies, comprehensive services, and smart automation and digitalization solutions, we deliver peace of mind today and lasting success for tomorrow – efficiently, responsibly, and with measurable impact. What's more, with us you also gain access to one of the world's largest OEM manufacturers for solid/liquid separation for well-known brands such as 3Sys Technologies, Bird, Dedert, Delkor Capital Equipment (Pty) Ltd., Escher Wyss dryers, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, LENSER Filtration, Netzsch Filtration, REINEVELD centrifuges, Rittershaus and Blecher, Royal GMF Gouda, Sprout Bauer, and Vandenbroek.

SEPARATION EQUIPMENT AND SYSTEMS

- Decanter and filter centrifuges
- Filter presses
- Dryers
- Presses and screens
- Extractors
- Thickeners
- Evaporators and crystallizers
- Disc and drum filters
- Screening and filtration components
- Specialized thermal systems



FULL-SERVICE OFFERING

- OEM spare and wear parts
- Maintenance and repairs
- Service agreements
- Automation and digitalization
- Machine and process optimization
- Second-hand and rentals

AUTOMATION AND DIGITALIZATION SOLUTIONS

Site assessment and integration • Advanced process control and artificial intelligence • Simulation and training • Digital twin technology • Data analytics and prediction • Electrification, instrumentation and controls

Enabling the green transition

As a technology leader in a changing world, we strive to make a positive impact on our environment. We believe that what we do today can make a difference tomorrow and in the future. We drive change and enable our customers to achieve their sustainability goals and make the world greener with our sustainable solutions in decarbonization, circular economy, renewable energy, and environmental technologies. It all starts with your specific process requirements and ends with a system that gives you the best results – day in and day out, for decades to come.

ANDRITZ. FOR GROWTH THAT MATTERS.

A WORLD OF SEPARATION SOLUTIONS

ANDRITZ provides mechanical and thermal solid/liquid separation technologies, complemented by comprehensive services, automation, and digitalization solutions for the chemicals, environment, food and beverage, as well as mining and minerals industries. Our customized, innovative solutions focus on minimizing resource consumption and maximizing process efficiency, thus making a substantial contribution towards sustainable environmental protection. With over 150 years of experience and more than 2,700 separation specialists around the globe, we are a driving force in the evolution of separation solutions – enabling industries to meet tomorrow's demands responsibly. **ANDRITZ. FOR GROWTH THAT MATTERS.**

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