

INGETECSA

Flash Dryer

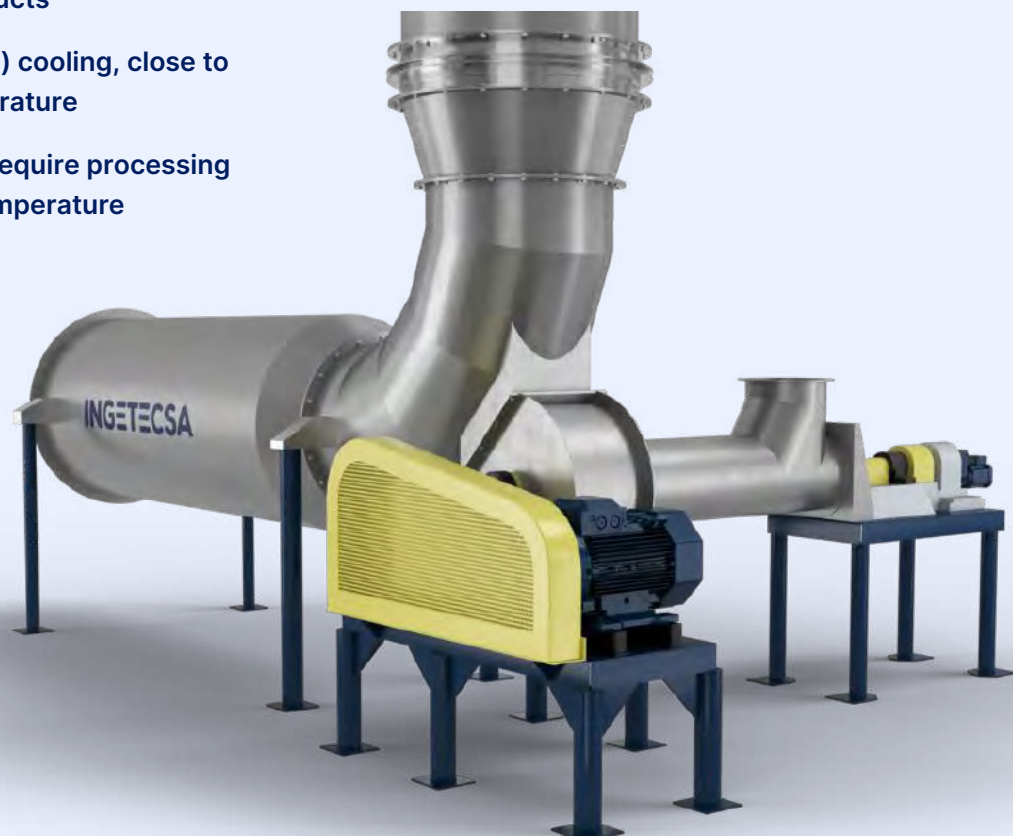
- Proven technology
- Suitable for bulk products
- Suitable for very high temperatures



For several decades INGETECSA has been constantly optimising its conventional flash dryer and flash cooler. These stand out for their gentle product treatment, low energy consumption, and minimal operational and maintenance costs, compared to other flash dryers.

INGETECSA has engineered distinguishing constructive elements, such as its centrifuge feeder, as well as a particularly refined aerodynamic design. This arrangement ensures an **outstanding dispersion of the product** with relatively **low pressure drops, minimising energy consumption**. Heat and mass transfer between solids and hot gases is extremely rapid, allowing an ultra fast drying or cooling of granules, powders or cakes.

- Suitable for a great range of products, including abrasive and corrosive products
- For rapid (flash) cooling, close to ambient temperature
- Products that require processing at very high temperature



Advantages



High product quality

Improved eccentric feeder design compared to other Flash Dryers resulting in less production stops for cleaning and substantially less maintenance



Energy saving

When heated by steam, more energy can be saved up to a guaranteed 25% reduction by reclaiming energy from condensates



Cleaning and maintenance requirement

The design is improved to offer full access for cleaning, inspection and maintenance



Tougher than tough

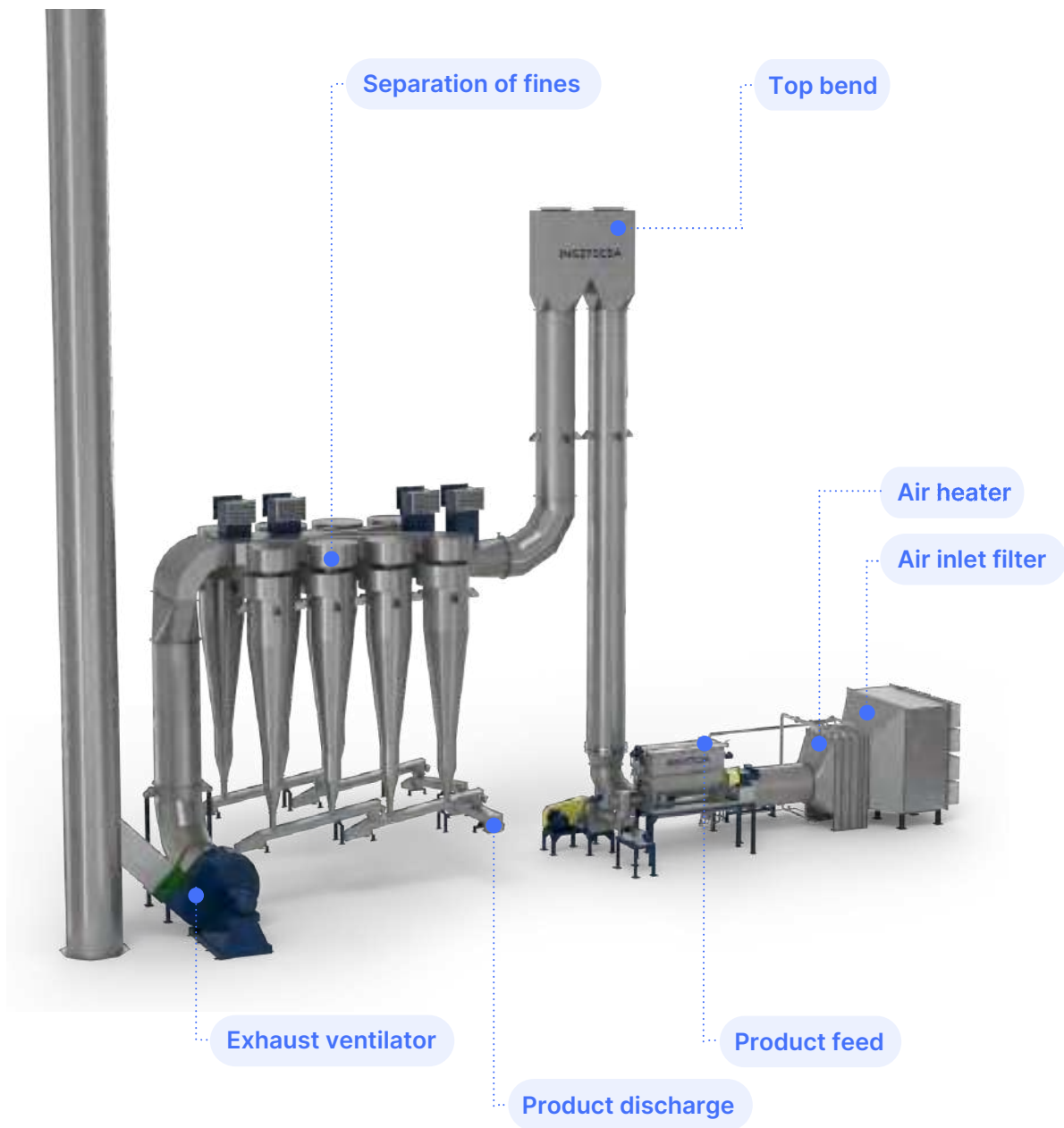
An optimised technology with a proven availability and reliability track record



Risk free

With a solid track record of references, the Flash Dryer comes with a promise it will work perfectly. Day in, day out

“An optimised technology with a proven availability and reliability track record.”



Working principle

Ambient air travels through an air intake filter and heat exchanger to a vertically positioned flash pipe.

Wet product is introduced in the eccentric feeder. The well-developed design disperses the product as fine particles evenly and accurately in the hot gas flow. This eliminates scaling the flash pipe or building up product in the feeding unit to avoid over-drying or burning of product.

The fine particles travel together with the hot gas flow upstream. The extremely fast heating up of the product, as a result of the **high heat transfer**, makes the moisture - typically water - in the product to **flash evaporate**. The particles are almost dried to specification in a matter of seconds while making their way up.

At the top of the flash pipe is the so called top bend. Not just a bended pipe, but a duct element that is designed to disturb the laminar flow of air and product in the flash pipe.

Optimised heat transfer ↘

In the top bend, the induced turbulence improves the heat transfer between hot gas and product at the final drying stage and keeps the end product relatively cooler while it further evaporates to the final moisture content. It is another element we use for **increasing energy efficiency and product quality**.

The dried product flows together with the evaporated water and the drying air to the cyclones or bag filter house for separation of the product from the air.

An exhaust fan keeps the entire drying system under vacuum and pulls the hot air with the product through the system. After removing the dry product, air is expelled to the atmosphere or to an air treatment system.



“The tailored feeding system optimizes the aerodynamics, the dispersion of particles, and so the heat and mass transfer.”

Typical applications



Chemical Industry

EXAMPLES

- Maize, wheat, rice and cereal products
- Potatoes, vegetables and fruit
- Pulp and fibres
- Intermediate and basic chemicals
- Polymers
- Pigments
- Fertilisers
- Detergents
- Minerals



Food & Feed Products



Minerals & Metals

- ➔ Products with a wider range of particle sizes
- ➔ Temperature-sensitive products
- ➔ Processes that require maximum availability and reliability



Let's test together ↘

INGETECSA's pilot plant and R&D centre, located in Barcelona in Spain, is available to our customers to simulate and optimise production processes, test our technology and define the ideal configuration of the customers' required industrial equipment.

Apart from the continuous tests with the pilot units, INGETECSA also has a laboratory where it is possible to analyse the results obtained and carry out small-scale simulations.

Test rigs are also available for test work at the client's premises in the event that longer

duration tests are required, or if the product can't be transported to our test centre. Our engineers assemble the equipment, conduct the tests or instruct the client's personnel on the correct operation of the machine.



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