

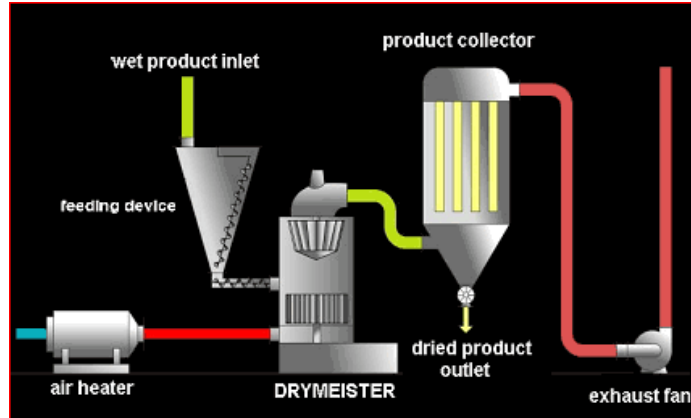
Drying

Custom Powders has over the years dried a number of different types of raw materials for, among others, the chemical and food industries. We have available a wide range of drying equipment that is designed to dry powders, pastes, slurries and other forms of raw materials.

We started off with developing our drying capabilities by choosing a technique that suited the needs of a specific customer. As we started building

up our expertise we diversified slowly into different techniques. The starting-point for developing new types of processing is always by reacting to the specific needs of our customers. On average we invest every 12 months in a new type of plant or the further development of an existing processing system.

We are looking forward to discuss with you the possibilities and feasibility of installing customer specific installations.



Drying

Batch Systems – Hüttlin / Glatt

The principal of batch fluid bed drying is that the individual particles of a raw material are being brought in motion by hot air streams that consequently dry the product as well. This continuous movement of hot air within an enclosed area enables us to achieve reproducible results time and time again. This is one of the big advantages of batch fluid bed drying.



These types of systems guarantee extremely fast drying in combination with a low product temperature and very low amount of shear on the product. These systems are emptied by making use of gravity or applying a suction system.

Custom Powders has available a small 150 litre, a 300 litre and a 1200 litre batch fluid bed dryer. The 150 litre machine is a small machine that is available for smaller drying campaigns or for smaller development trials. In the larger machine we can process batches of say 150 – 250 kg and in the largest machine batches varying from 600 – 1000 kg per batch. These fluid bed dryers are very suitable for the drying of powders, pastes and granules.

The Hüttlin Turbo Jet is a specially designed type of fluid bed dryer that is capable of drying with relatively low product temperatures up to about 150°C. This makes this machine ideal for drying tanker loads of heat sensitive materials.



Drying

Continuous Systems - Flash drying:

The flash dryer is the first system we selected once moving into the area of drying. It was selected because of its ability to dry heat sensitive materials quickly, to a very specific level of moisture reduction, in combination with producing a uniform particle size. What makes this piece of equipment unique is that three different types of processing can be combined: drying, milling and classifying.

We have learnt from experience that this dryer is mainly appreciated for the reason that the product has a very short residence time in the dryer and that the chances of degeneration of the product are quite minimal. The flash dryer is capable of drying powders, pastes and filter cakes with temperatures ranging from 60 – 350°C, bringing the moisture down from 50% to an end specification of 0.003%.

Transporting the wet raw materials to the dryer is often one of the most critical steps in this process and therefore is done by specially developed feeding equipment.



The flash dryer offers the option to combine the rapid drying of a heat sensitive product with a milling and classification action. This enables the machine to produce a uniform product regarding both moisture and particle size distribution. The system works under negative pressure and therefore the amount of dust that is released into the workspace is minimized. The evaporation capacity of the equipment lies in the range of about 400 kg of moisture per hour.



Drying

Continuous systems - Fluid bed dryers:

For the drying of granules we have available a continuous fluid bed dryer from Shugi, that has a capacity of more than one tonne per hour (depending on the application). In this dryer, granules can be de-dusted as an additional service.

This type of fluid bed dryer is divided in a number of compartments that each have their own air inlet. This makes it possible to set a specific temperature for each compartment or even to set them to cooling. The Shugi Fluid bed dryer is a stationary dryer that has no moving parts and the product is moved along by means of air. This has the advantage that this type of drying can be used for relatively fragile products.

The dried and cooled product is discharged from the dryer by means of a rotary valve and a weir that influences the level of the product in the dryer and thus the residence time.



Advice and Cooperation

For advice on the selection of the most suitable drying technique for your product you can rely on our highly skilled and trained engineers. In order to help you further develop your product and a process we also do work closely together with the suppliers of the equipment. This enables us to pull all the available expertise together and provide you with a service from development trial to full tilt production campaigns.

