

Gelatine Drying



Gelatine can originate from a variety of starting materials, such as bones and waste from hides and leather. Whilst the initial treatment of the raw materials will therefore vary, the drying process will be similar for the manufacture of either edible, pharmaceutical, photographic or technical gelatines. Mitchell Dryers manufacture plant for several of the drying processing stages in the production of gelatine and its by-products.

The well proven range of "Mitchell" continuous conveyor band dryers contain

Above: Gelatine being pre-formed into noodles

Right: Gelatine Dryer feed end

Below: Gelatine Dryer discharge end showing pneumatic conveying to intermediate storage

many special features required when drying gelatine products to ensure hygienic operation.

Prior to drying, a scraped surface heat exchanger is first used to chill the gelatine solution and produce extrudates. These are

evenly spread onto the mesh conveyor at the infeed of the conveyor band dryer by means of a reciprocating belt feeder. The mesh conveyor carries the extrudates through the band dryer, which comprises a number of drying sections. Each section is equipped with a circulating air fan and heater battery to



optimise the dryer's temperature profile and its efficiency.

Gelatine has a relatively low melting point and is susceptible to humidity. Therefore, the air supply to the dryer incorporates a dehumidifier system to control accurately the humidity and temperature of the air. The drying air is passed in serpentine fashion through the drying sections, before being exhausted at the discharge end. Heat recovery systems are available for maximising overall energy efficiency.

Heat losses are minimised by the use of composite thermal insulating panels to give a fully insulated drying enclosure. The use of standard modular construction enables erection time to be minimised and permits easy extension to the dryer to accommodate future increased production.

Mitchell conveyor band dryers for gelatine are designed with hygiene in mind. There is good access through doors along both sides of the enclosure, and cleaning is facilitated by incorporation of flat internal surfaces with a minimum of ledges. To facilitate optimum drying, the heat source can either be hot water or steam

Mitchell Dryers have been actively engaged in the design, development and manufacture of dryers for the chemical and food industries for over half a century. The company has extensive test facilities, and have been involved in considerable development activities in gelatine processing, resulting in installation of many drying plants world wide. We are able to offer a comprehensive range of specially designed dryers covering not only the manufacture of gelatine but related products such as dicalcium phosphate, table jellies and confectionery products.

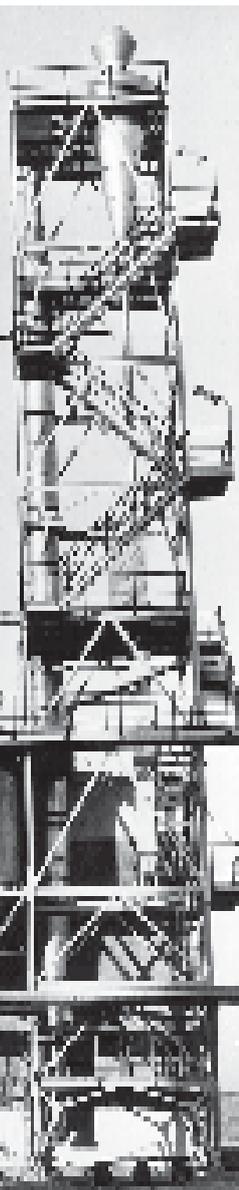


Dryers For Dicalcium Phosphate

Dicalcium phosphate is an important by-product where gelatine is produced from the treatment of bones. It has many useful applications, often requiring a product of high quality. The Mitchell Thermo Venturi dryer offers an ideal method of handling this type of material. Operation of the dryer involves first dispersing the wet calcium phosphate in a current of hot air. This serves both to convey the product through the system and to supply heat for evaporation. At the dryer outlet the product is separated from the exhaust air by a high efficiency cyclone, or alternatively a self cleaning bag collector.

The initial moisture content of dicalcium phosphate can vary depending on the method of filtration and other factors. The Thermo Venturi dryer compensates for this by preconditioning the wet feed in a paddle back-mixer; where the wet filter cake is mixed with a proportion of recycled material to give a damp, friable, powder which is suitable for dispersion in the dryer. Typical residence times in the dryer are in the order of seconds and relatively high inlet air temperatures can be used. The rapid flash evaporation ensures a cool product.

The Mitchell Thermo Venturi dryers are fully automated, compact and occupy little floor space. They offer a flexible and highly efficient method of processing dicalcium phosphate and many other food and chemical products.



Top: Milling & pneumatic conveying to intermediate storage.

Right: Milling, sieving & blending system

Left: A Mitchell Thermo-Venturi Dryer

Additional related equipment available:

- Pneumatic conveying
- Milling
- Blending
- Sieving
- Horizontal & Rotary delimiting screens
- Dryer & Cooler for Bone Chip

plus a wide range of industrial dryers.

Mitchell designs are backed by a comprehensive test centre.

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LEADERS IN DRYING TECHNOLOGY



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