

Excellent drying for high-quality sourdough

The future of bread lies in the past



Sourdough feeds the modern preference for traditional crafts

Purely natural

Sourdough or leaven is a flour dough – a mixture of flour and water – soured by fermentation. It develops in a natural way from fresh dough after a certain period of time thanks to the interaction of bacteria and natural yeasts. Sourdough is a flavoring and a leavening agent. It gives bread products taste and makes them light because of the symbiosis of several small organisms that interact beneficially and form carbon dioxide.

The benefits of olden times

Sourdough, mostly in powder form, is used in a variety of bakery products and bread improvers for the production of cakes, crackers, pizza crusts, baguettes, bread, and so on. Most of us know sourdough bread. Sourdough bread is not baked by adding cultivated, commercial yeast, but using sourdough, full of natural yeasts. Sourdough bread is bread as it was before, 'old-fashioned' bread. It keeps longer, it is well flavored, and it has a nice texture, pearly colored crumbs, and a special, crusty aroma. The use of leaven has become trendy again thanks to the handicraft image and traditional taste, and because of today's omnipresent allergies, such as yeast allergy.

Contemporary applications

According to some, sourdough bread is healthier. The bread certainly has a characteristic aroma. Preparation of sourdough bread in the traditional way – by spontaneous fermentation – takes much longer than the preparation of ordinary bread so many bakers opt for sourdough powder as an alternative. The baker then takes the usual bread ingredients, including yeast, and adds sourdough powder in order to obtain



▲ Sourdough dried at a high temperature

the flavor and other qualities of sourdough bread. Naturally fermented and carefully dried sourdough powder is claiming an increasingly important position in the food sector, in particular the baking industry. It combines the qualitative properties of natural products with the requirements of industrial applications. The simple addition of sourdough powder gives baking products and bread improvers a fuller flavor and a longer shelf life.

The unsurpassed ANDRITZ Gouda drum dryer

For a well-controlled industrial drying process

Due to the viscosity of sourdough, the product is best dried using an atmospheric drum dryer, including applicator rolls, which is an open machine operating at atmospheric pressure (normal air pressure). For more than a century, ANDRITZ Gouda has been specializing in food processing production lines based on advanced drum drying technology.

The perfect powder

The drum dryer is a so-called thin-film contact dryer. A very thin layer of the product to be dried is applied to the outside of a rotating cylinder (drum). This drum is heated on the inside by steam. When in contact with the heated surface, the liquid evaporates very quickly from the thin product layer. After almost one complete rotation of the drum, the remaining dried product is scraped off the drum surface with a sharp knife, forming flakes that are then ground into powder. Steam heating provides uniform temperature distribution over the drum surface, which results in a consistent product quality. Thanks to the continuous, indirect drying method and the product's short retention time at high temperature, there is virtually no heat damage. Taste, smell, and texture quality of the product are also guaranteed. The temperature at which sourdough is dried determines the color and taste of the final product – the higher the temperature, the darker the flakes. The color also depends on the drum rotation speed.

Quality and safety

Sourdough powder dried with a drum dryer has proven to be of superior quality to powder originating from other types of dryers, such as a spray dryer. Better retention of acidity is one of the advantages.



▲ ANDRITZ Gouda drum dryer

Unique selling points

- Highly efficient and well-controlled drying process
- Particularly suitable for viscous materials
- Superior and constant product quality

The dryer itself is made acid-resistant by using stainless steel (SS316) components. Moreover, our drum dryers can be supplied with a scrubber to minimize the impact on the environment. A complete ANDRITZ Gouda drum drying line consists of a drum dryer with exhaust system and scrubber, a cooling screw to cool the flakes, crusher, metal detector, and pneumatic transport to packaging in big bags. The final product of a drum dryer is quite coarse and, therefore, less susceptible to dust explosions than finer material is. It does not even need ATEX certification.

ANDRITZ Gouda

ANDRITZ Gouda has been implementing complete process solutions for the environmental, chemical, and food industries for over 100 years. As a machine manufacturer as well as process solutions expert, ANDRITZ Gouda is able to handle all of the stages involved in designing and building plants, including engineering, service, installation, and commissioning.

ANDRITZ Gouda, as part of the international ANDRITZ GROUP, has several pilot plants available to test new materials, generate design data, and provide representative product samples. The proven calculation model for scaling up to industrial size ensures successful application in full-scale processing.



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