SEPARATION

ADDITION VALUE TO
A BY-PRODUCT

INDIRECT DRYING OF BREWER’S
YEAST WITH ANDRITZ GOUDA DRUM
DRYING TECHNOLOGY
The heart of the process: ANDRITZ Gouda drum dryer

The heart of the installation is the ANDRITZ Gouda double drum dryer. The dryer mainly consists of two cast iron cylinders that are heated inside with saturated steam. The thickened yeast concentrate is fed between the rotating drying cylinders so that the product can form a so-called hot “sump”. From this sump, the yeast is distributed over the rollers in a thin layer. Inside the drum dryers, the cylinders are heated with saturated steam, which then condenses on the wall of the drum.

The condensate is removed continuously from the drum so that the largest possible surface area remains available on the inside of the drum for condensation of the steam. The steam system is a closed loop, which means that the product cannot come into contact with the steam or condensate. As a result of its contact with the hot cylinder surface, the water in the thin yeast layer evaporates. When the cylinders have rotated through two-thirds of a revolution, the dry, solid matter is scraped off the cylinders with a knife.

When brewing beer, yeast is produced as a by-product. This product is usually treated as waste. Brewer’s yeast, however, contains valuable ingredients, such as amino acids, proteins, and minerals. These ingredients can be re-used in several food products. For this purpose, ANDRITZ has developed an efficient drying process.

DESCRIPTION OF THE YEAST-DRYING PROCESS
First of all, the yeast is dewatered mechanically to the highest achievable dry solids content and then dried on an ANDRITZ Gouda contact drum dryer, thus ensuring low energy consumption. This process can also be used for the yeast by-product from large-scale alcohol production facilities. The wet yeast is collected and processed in a decanter. In the decanter, the yeast is separated to 30% dry solids content and then fed to a holding tank. From there, the product is fed to the contact drum dryer by means of a pump. As a result of the dryer’s heat treatment process, no further treatment is needed to break down the yeast cells. After the yeast has been dried to a dry solids content of 95%, it is transported by a pneumatic conveyor, passes through a mill-sifter, and finally arrives in a storage silo. After this, the dried yeast is prepared for packaging.

KNIFE HOLDER FOR EVEN KNIFE PRESSURE
The clever design of the knife holder guarantees even knife pressure over the entire length of the drum. The use of specific materials prevents vibrations that result from scraping and guarantees uniform product removal. The knife pressure can be controlled easily from outside the process area.

Two discharge screws and a pneumatic conveying system transport the dried yeast to the downstream process steps. This drum dryer is available in a variety of sizes, from 1.5 m² up to 38 m². A large number of ANDRITZ Gouda drum dryers for this application are operating around the world.
WHAT’S YOUR SEPARATION CHALLENGE?

ANDRITZ Separation is the world’s leading separation specialist with the broadest technology portfolio and more than 2,000 specialists in 40 countries. For more than 150 years, we have been a driving force in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining & minerals. As the OEM for many of the world’s leading brands, we have the solutions and services to transform your business to meet tomorrow’s changing demands – wherever you are and whatever your separation challenge. Ask your separation specialist!

AFRICA
ANDRITZ Delkor (Pty) Ltd.
p: +27 11 012 7300
separation.za@andritz.com

ASIA
ANDRITZ Singapore Pte. Ltd.
p: +65 6512 1800
separation.sg@andritz.com

AUSTRALIA
ANDRITZ Pty. Ltd.
p: +61 3 8773 4888
separation.au@andritz.com

CHINA
ANDRITZ (China) Ltd.
p: +86 757 8258 6802
separation.cn@andritz.com

EUROPE
ANDRITZ Gouda BV
p: +31 182 623 723
gouda@andritz.com

NORTH AMERICA
ANDRITZ Separation Inc.
p: +1 817 465 5611
separation.us@andritz.com

SOUTH AMERICA
ANDRITZ Separation Ltda.
p: +55 47 3387 9100
separation.bra@andritz.com

ANDRITZ.COM/SEPARATION

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