



SEPARATION

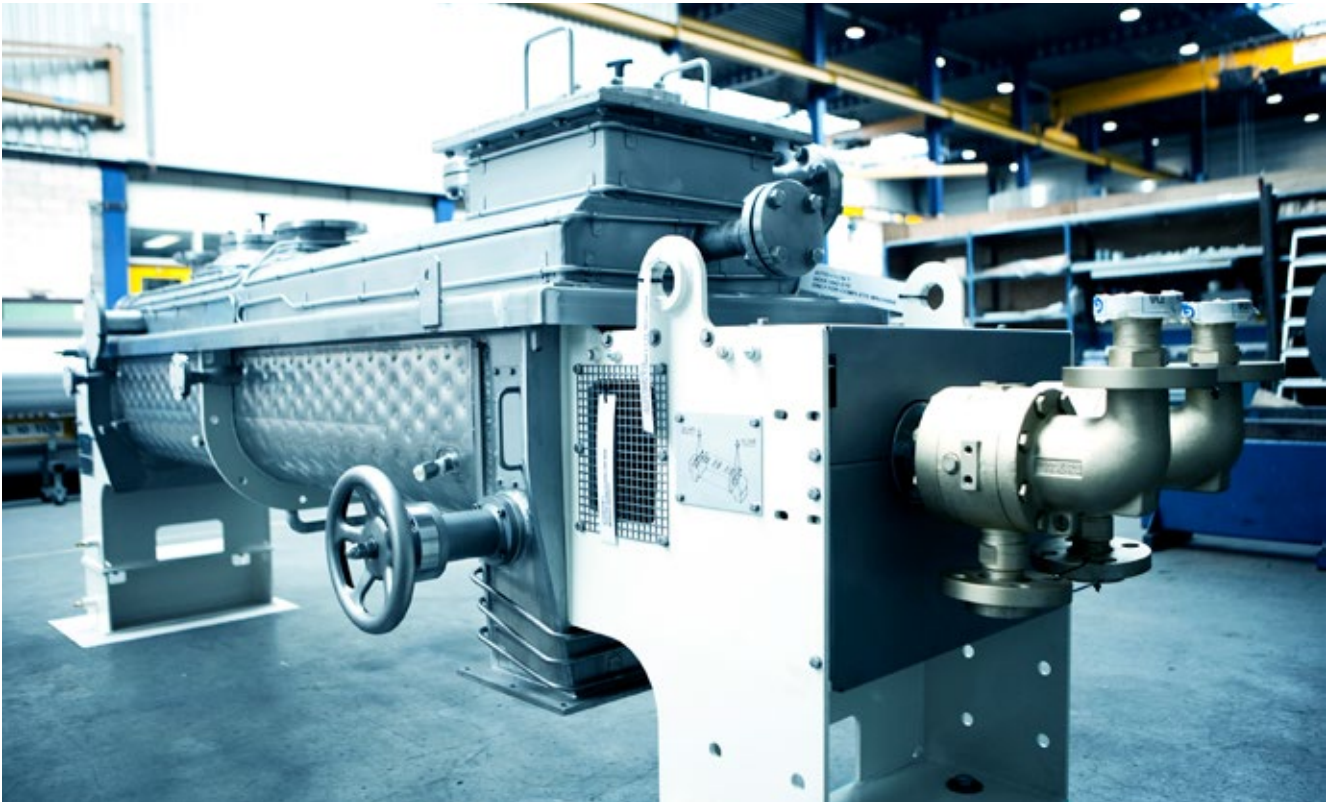
# DEXTRINIZATION OF STARCH THAT FITS YOUR PRODUCT REQUIREMENT

THE PROCESS OF DRYING AND ROASTING

**ANDRITZ**

ENGINEERED SUCCESS

# Starch dextrinization for structural changes



ANDRITZ Gouda paddle dryer

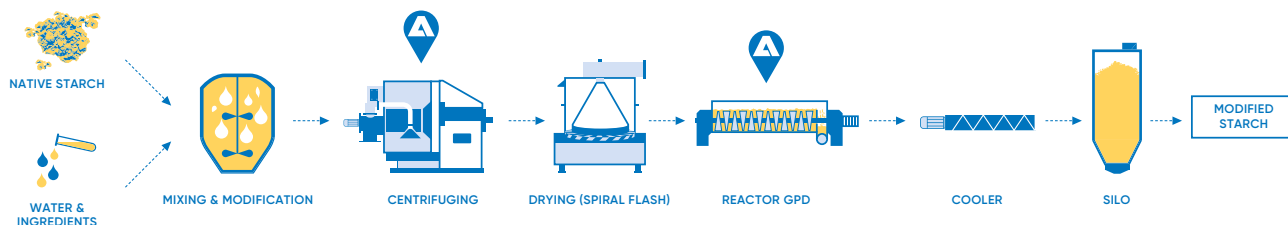
Dextrinization leads to a structural change in the starch, obtained by means of physical or chemical treatment. An important aspect of dextrinization is the properties of the raw material itself. The dextrinization process has to be adjusted to the properties of the raw material that can be obtained from potatoes, tapioca, rice, or corn.

Depending on the intended use of the starch, for example paper processing, binder for pigments, or glue production, it has to be dextrinated in such a way as to ensure that the structure fits the production process. Important process parameters for roasted dextrine are the amount of additives, the pH level, moisture content, roasting time, and roasting temperature. In close co-operation with experienced partners for recipe development, ANDRITZ Gouda offers turnkey processing solutions for starch dextrinization from initial design, through lab tests and engineering, to delivery of the industrial equipment needed.

## THE PROCESS

After tests have been completed successfully, dextrinization can be implemented based on the following flow sheet. The native starch is mixed with the necessary additives and processed for a certain period and under defined conditions for maturing so that intensive mixing of starch and additives is guaranteed. The next process step is to dry the starch to the required moisture content in a spiral flash dryer. After drying, the process continues by roasting the starch under pre-defined conditions in the ANDRITZ Gouda paddle roaster, followed by cooling in the ANDRITZ Gouda paddle cooler.

# Excellent control of retention time and temperature

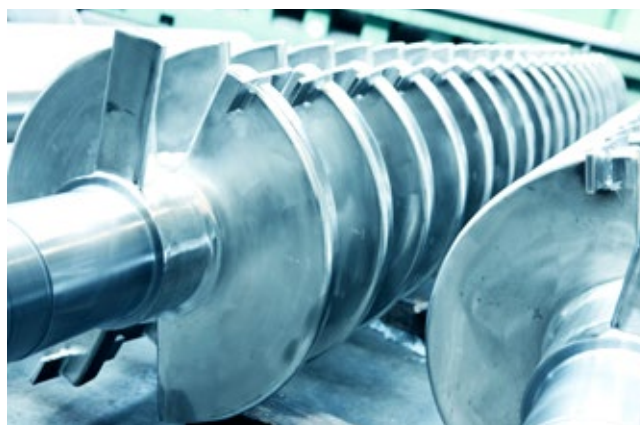


Starch dextrinization process

## ANDRITZ GOUDA PADDLE ROASTER/COOLER

The ANDRITZ Gouda paddle roaster/cooler is the heart of the process. It has a heated or cooled trough containing rotating, heated, or cooled paddle shafts. The product comes into intensive contact with the walls of the trough, the shafts, and the paddles, thus heating or cooling the product. It is fed continuously into the front of the machine. Being oriented at a low angle of inclination, the trough leans slightly towards the unloading position, which makes the product move towards the outlet under the force of gravity. The paddles do not have any transport function, but are designed for maximum heat transfer. On the outlet side, the product exits from the machine via the overflow unit.

The operating principle of the ANDRITZ Gouda paddle roaster/cooler, with its low rotation speed of the paddle shaft and indirect roasting or cooling principle, contributes to the equipment having a negligible or even zero substance emission. Nevertheless, if a decision is made to use a gas cleaner, such as a gas scrubber or gas filter, its size can be kept small due to the low gas flow rates. After this heating and cooling process, the dextrinated starch is stored or packed in bulk bags (FIBCs).



Paddles designed for maximum heat transfer

## BENEFITS

- Uniform product quality
- Improved viscosity
- Increased solubility
- Color treatment of starch (yellow or white)



## 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!**

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