



# THE RIGHT INGREDIENTS FOR YOUR SUCCESS IN STARCH PRODUCTION

ANDRITZ technology, automation and  
digitalization, and proven service



**ANDRITZ**

The ANDRITZ logo is located at the bottom center of the page. It features the brand name in a bold, white, sans-serif font. The background of the logo area is a light blue triangle that points downwards, matching the design elements seen in the top left.

# Expertise that comes full circle



Need to optimize your natural starch ingredient? Improve the taste or solubility? Reduce your energy consumption in the wet and drying process or ensure minimum downtimes? Whatever your specific need, our aim is to put all the right solutions at your fingertips to ensure success. With one of the broadest portfolios of separation solutions and more than 100 years of experience in the food industry, we have a full array of tools for optimizing both performance and quality.

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**“Working for many years with ANDRITZ’s siphon peeler centrifuges, we see that these machines are reliable and capable of handling a wide variety of difficult-to-dewater products.”**

**PIM VAN DER GRAAF**  
Process development leader  
for Starch & Dextrins, Cargill

# Maintaining the nature of your product while increasing quality and yield

Starch. An indispensable, sustainable ingredient for many products. Whether you're producing native or modified starches from tapioca, potatoes, wheat, or corn, we have the in-depth process knowledge and a range of technologies as well as service and automation and digitalization solutions to help make your operation successful.

## THE RIGHT SOLUTION

Being an ingredient supplier nowadays isn't easy. Consumers are more demanding and want to know whether the ingredients used are healthy, sustainable and natural. Here, the focus lies on clear labeling as well as non-GMO, vegan and gluten-free products. But starch is also applied as a binder and stiffener in the textile, paper and packaging industries, and animals love their feed when it contains starch because this gives it a great taste. So depending on the final use, different modifications are required.

Meeting all these requirements and ensuring that the optimum process is applied can be challenging. To help you respond to these challenges, ANDRITZ has developed innovative processes for starch manufacturing.

## YOUR GOALS COME FIRST

Having served the food industry for more than 100 years, rapidly changing demands are not unknown to us. In fact, we're working to respond to them every day for customers ranging from niche local producers to vast multinational operations. We have the in-depth process knowledge and a range of technologies as well as service and automation solutions to help make your operation successful.

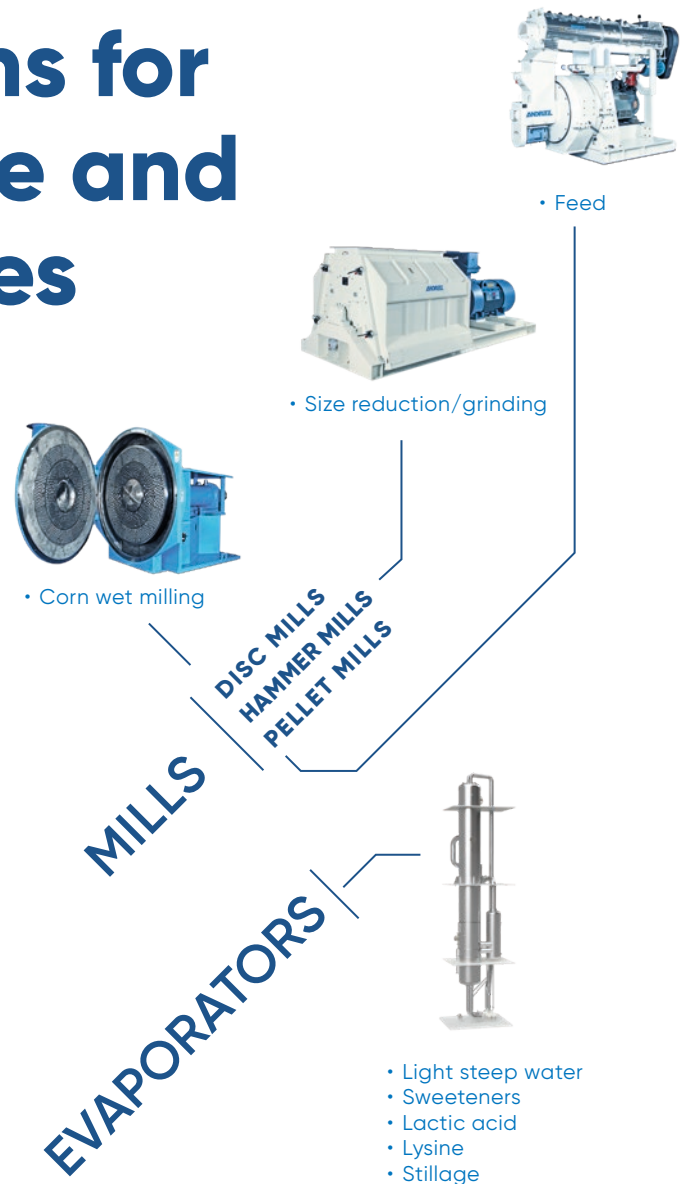
## YOUR ADDED VALUE WHEN WORKING WITH ANDRITZ

- Higher yield
- Very low energy consumption
- Lowest downtimes, longer lifetimes
- Maintenance-friendly
- Excellent and stable, homogeneous product quality (e.g. improved viscosity and increased solubility)

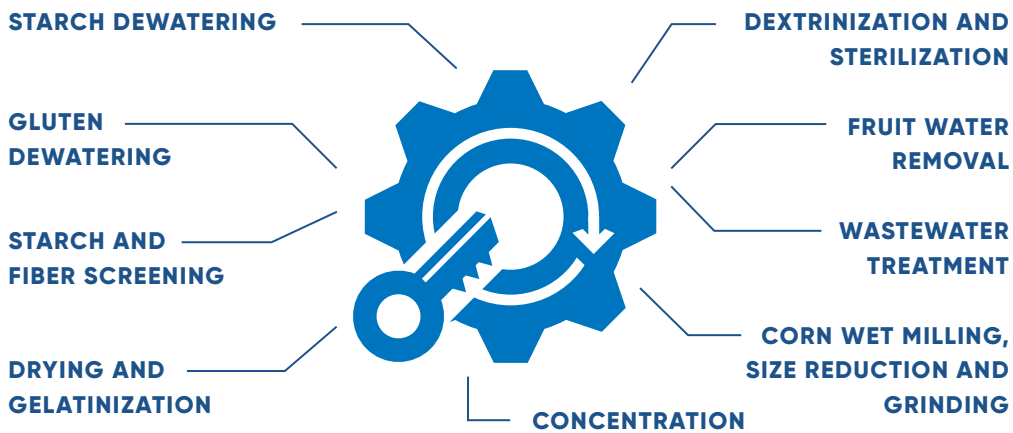


# Leading solutions for producing native and modified starches

ANDRITZ has acquired extensive knowledge on starch dewatering and drying through multiple projects at different starch manufacturing plants. With the current portfolio, we are able to respond to the requirements for low energy consumption, minimum starch losses, hygienic operation as well as better taste and viscosity of the final product.



## Key process steps we serve





- Starch dewatering



- Modified starch
- Dextrinization process



- Post-drying of starch to low moisture levels
- Thermal treatment of special starch, germ, and sweeteners



- Modified starch
- Gelatinized starch



- Integrated wheat gluten screw press for gluten dewatering
- Gluten meal and fiber
- Native and modified starches
- Vital wheat gluten
- DDG, other derivative products



## PUMPS | PROCESS PUMPS



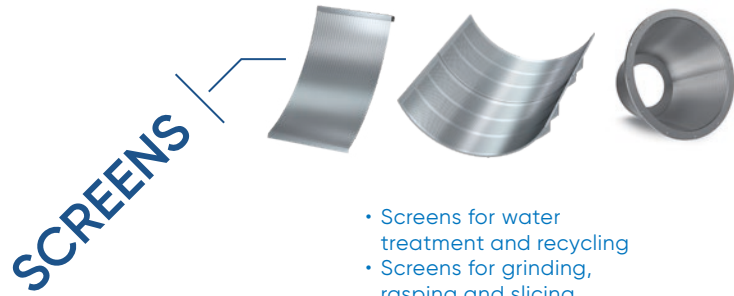
## DRYERS | CONTACT DRUM DRYERS PADDLE DRYERS/ROASTERS FLUID BED DRYERS RING DRYER FLASH DRYER SPRAY DRYER



- Maltodextrin



- Native and modified starches



## SCREENS

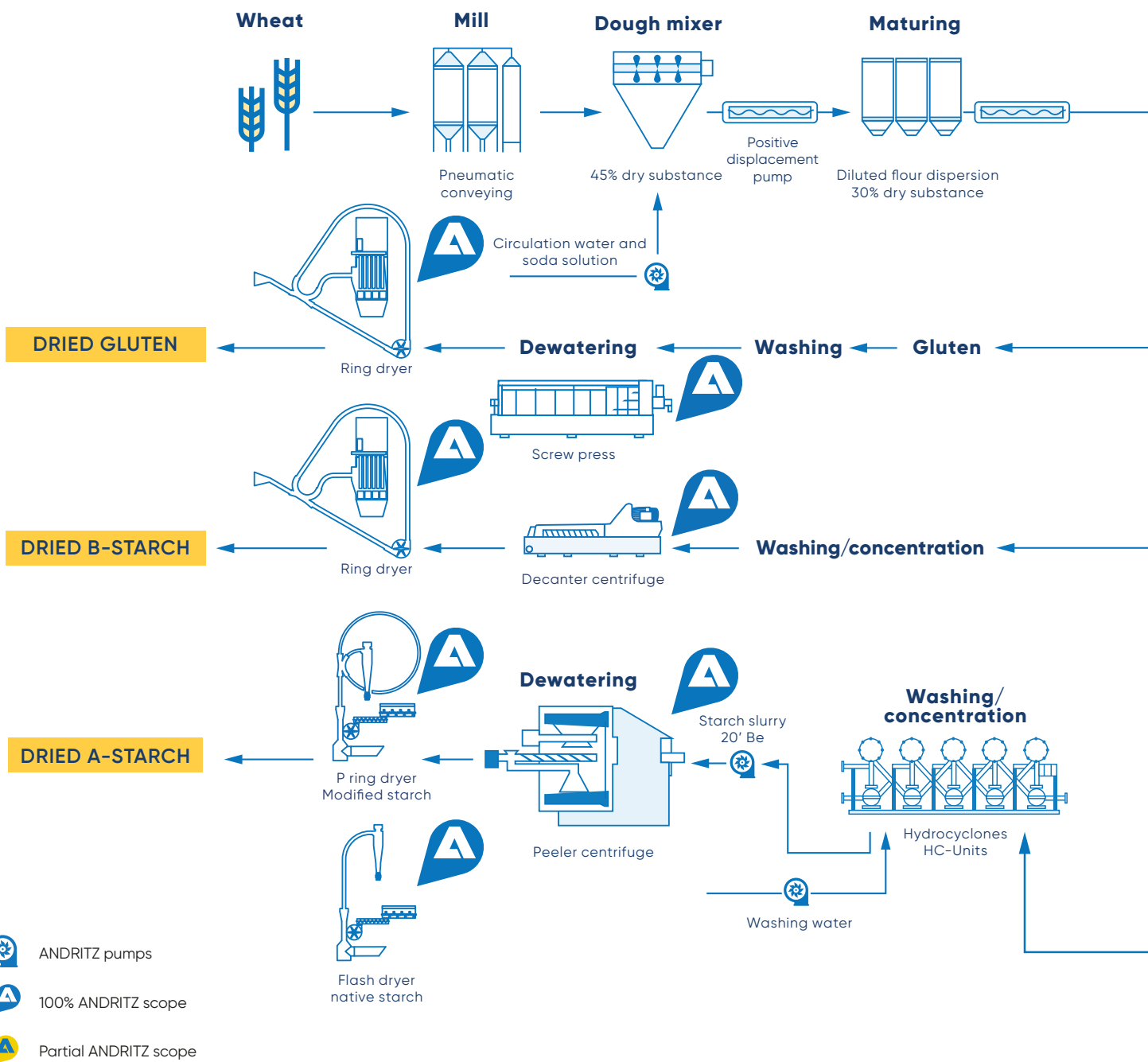
- Screens for water treatment and recycling
- Screens for grinding, rasping and slicing
- Screens for filtration, separation and dewatering
- Screens for static and vibrating dryers

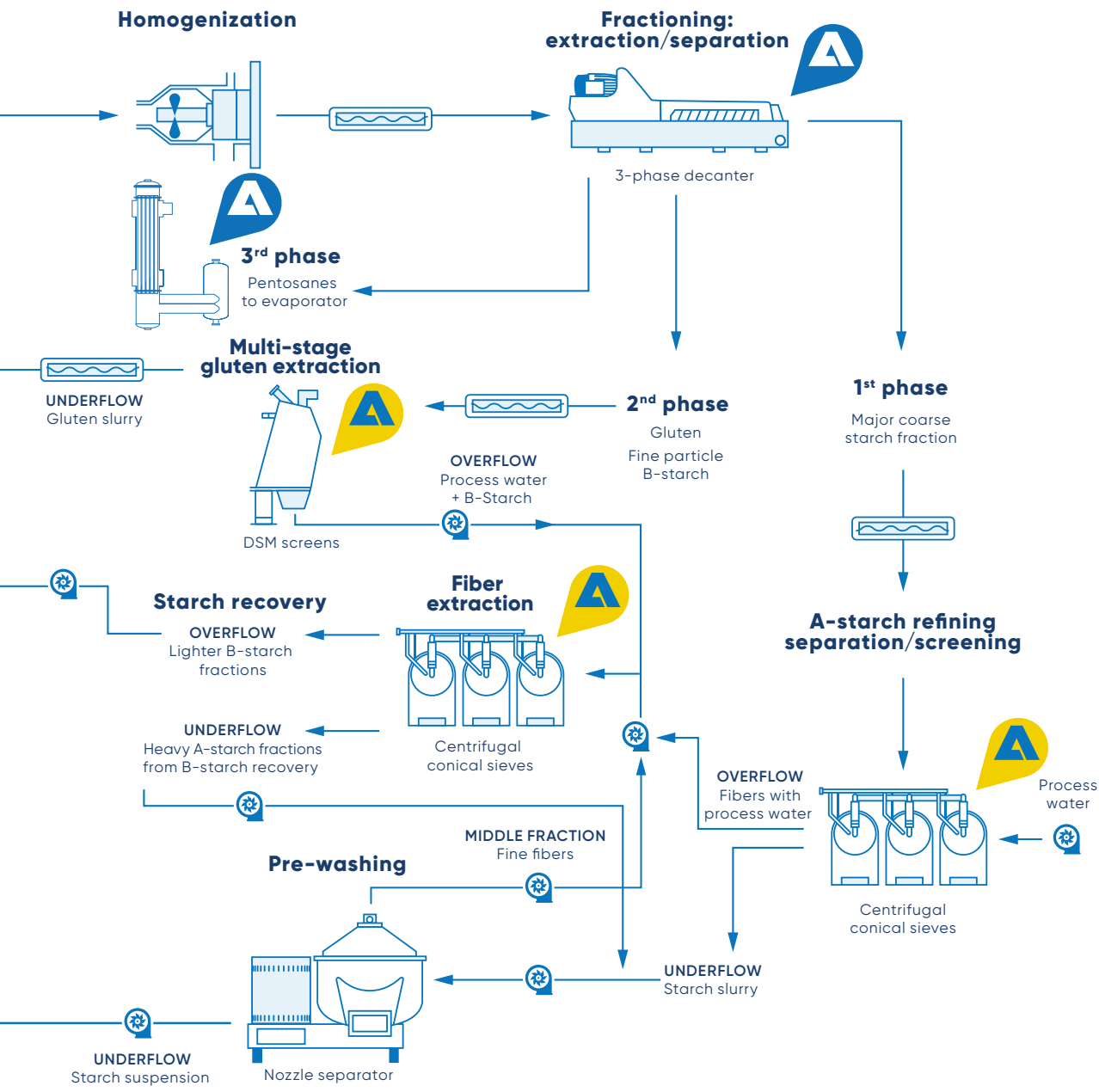
## OTHERS

- Vacuum filters
- Belt presses
- Rotary valves and double agitator mixers
- Belt dryers
- Clarifying separators
- Screw presses

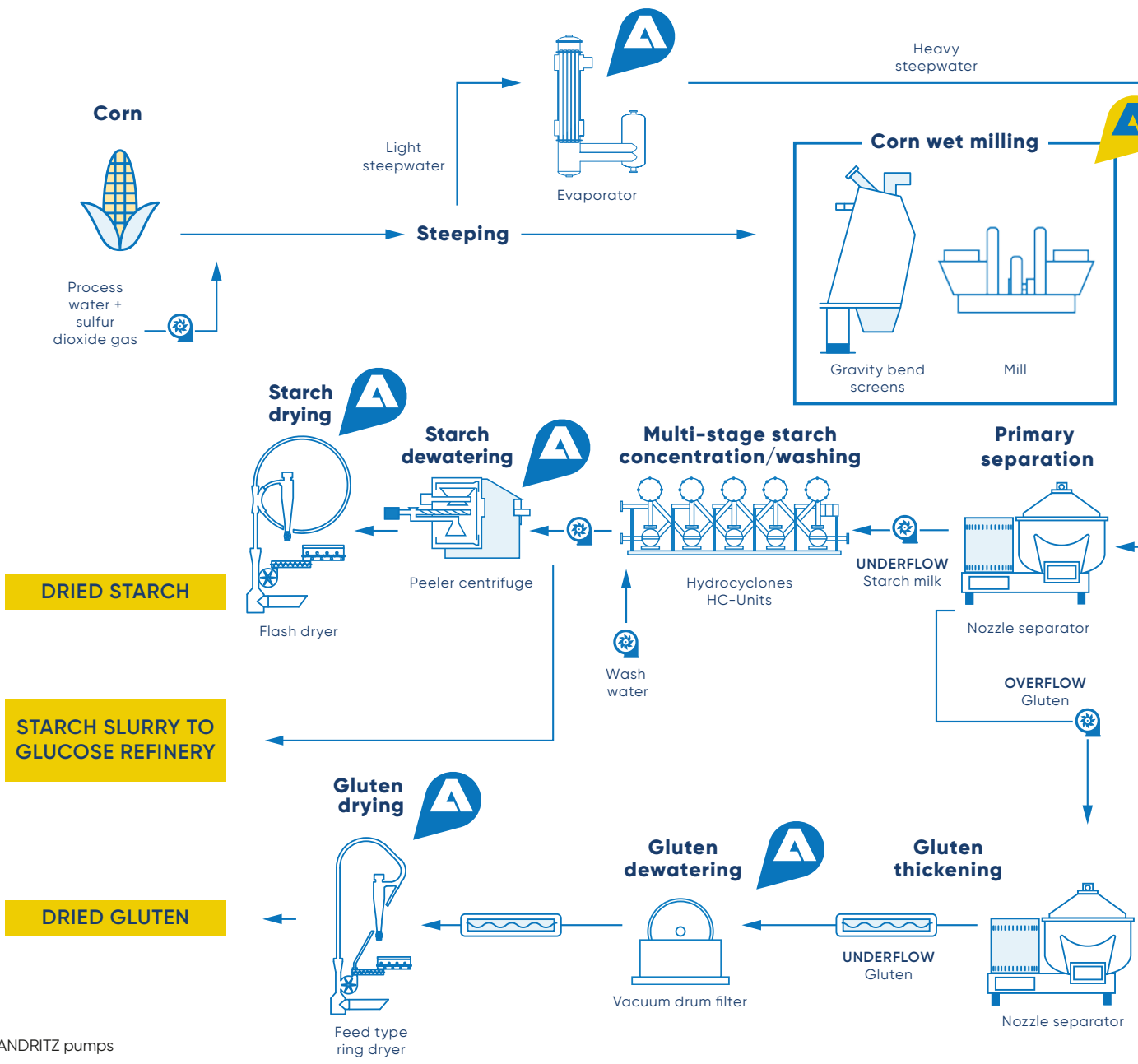
**ANDRITZ**  
portfolio



# Where we support your wheat starch process

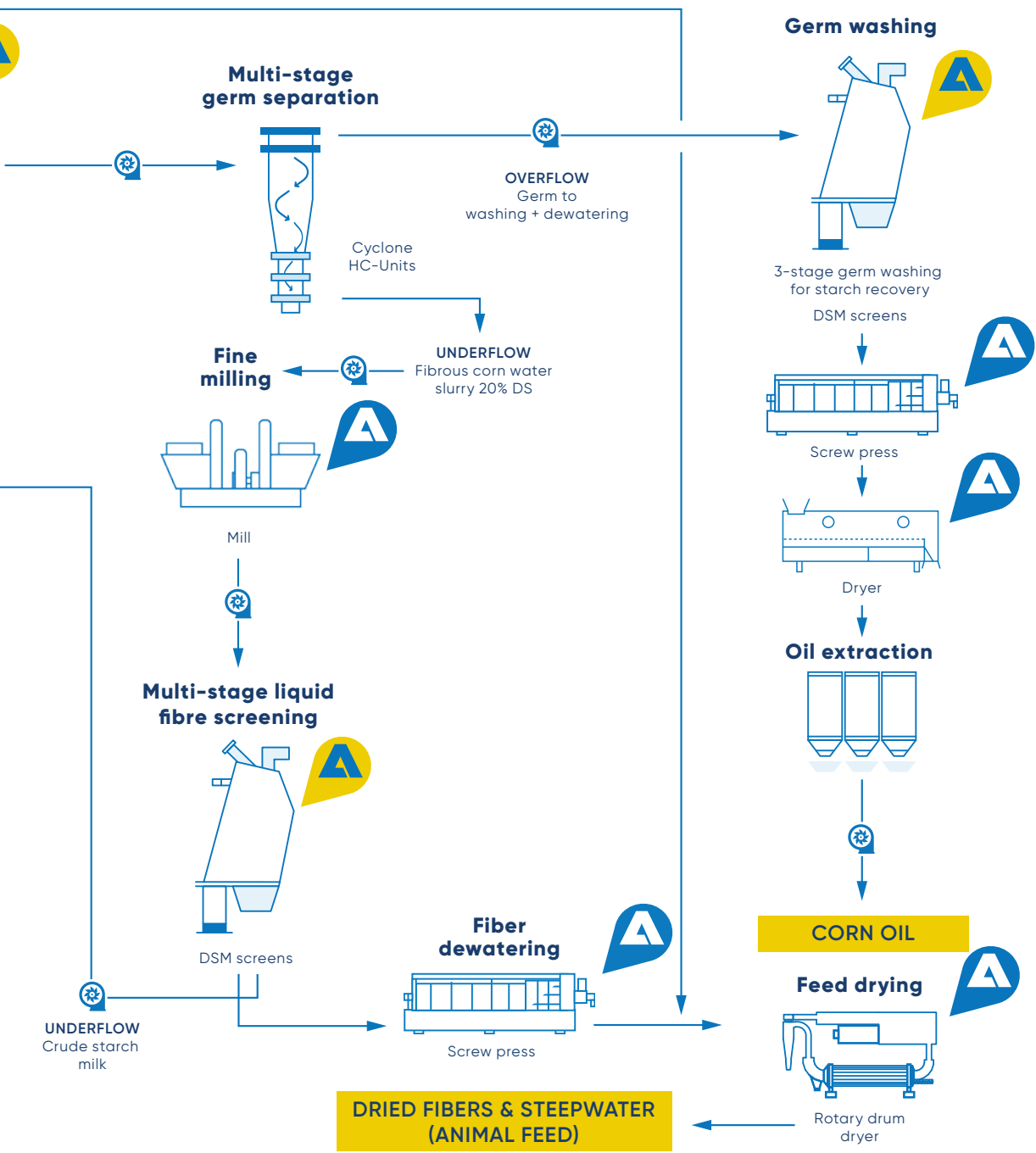




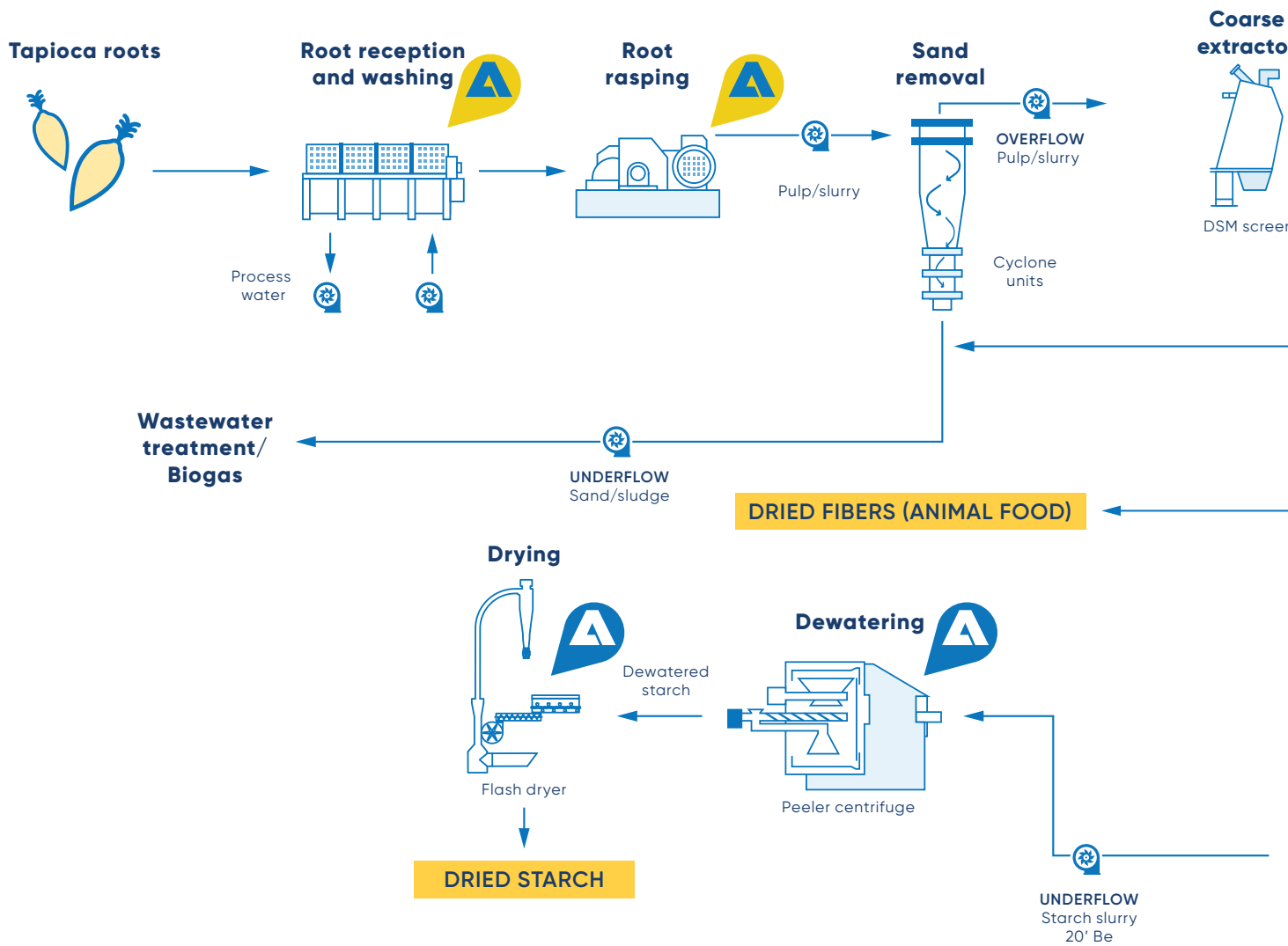
# Where we support your corn starch process



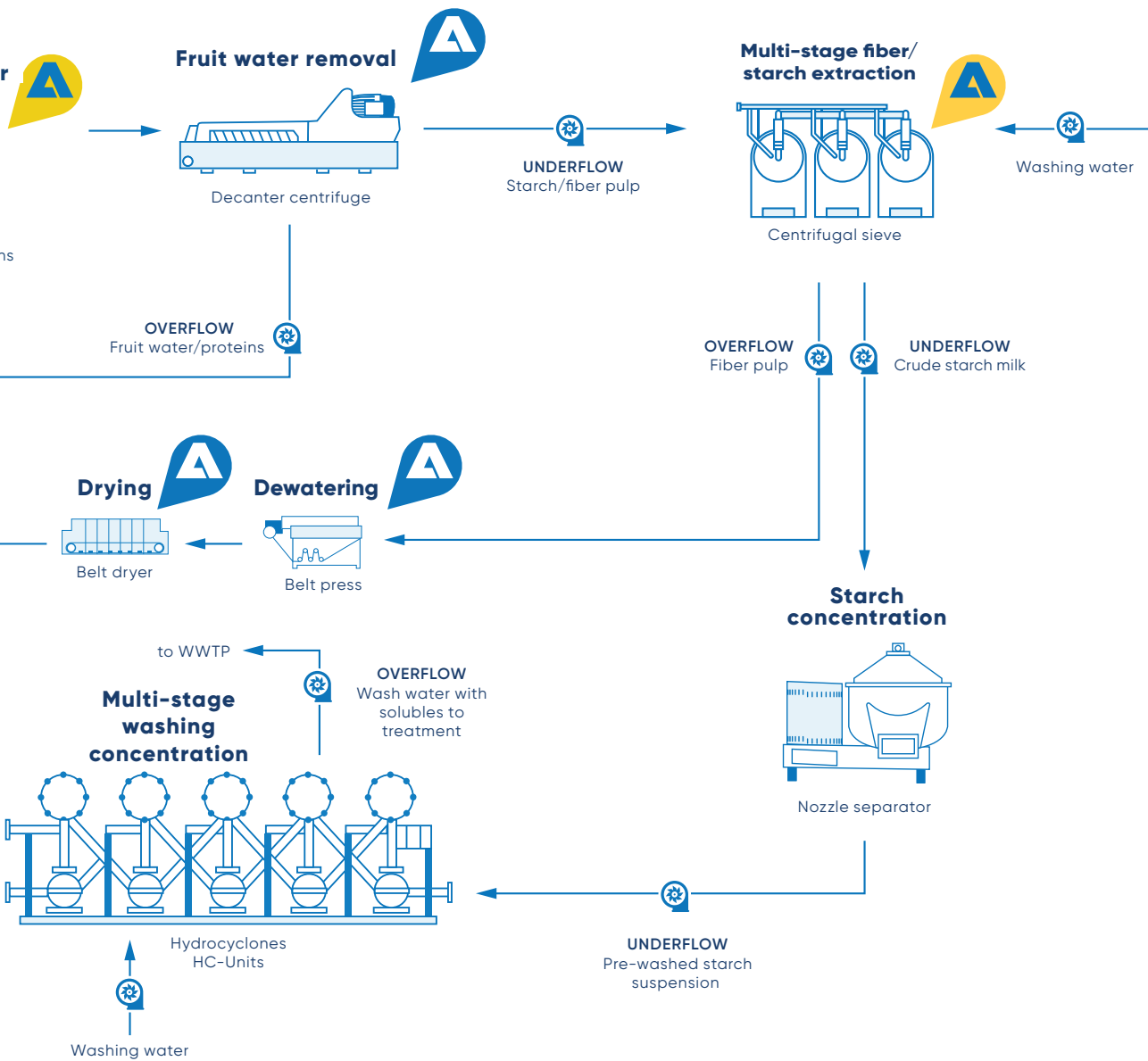
-  ANDRITZ pumps
-  100% ANDRITZ scope
-  Partial ANDRITZ scope



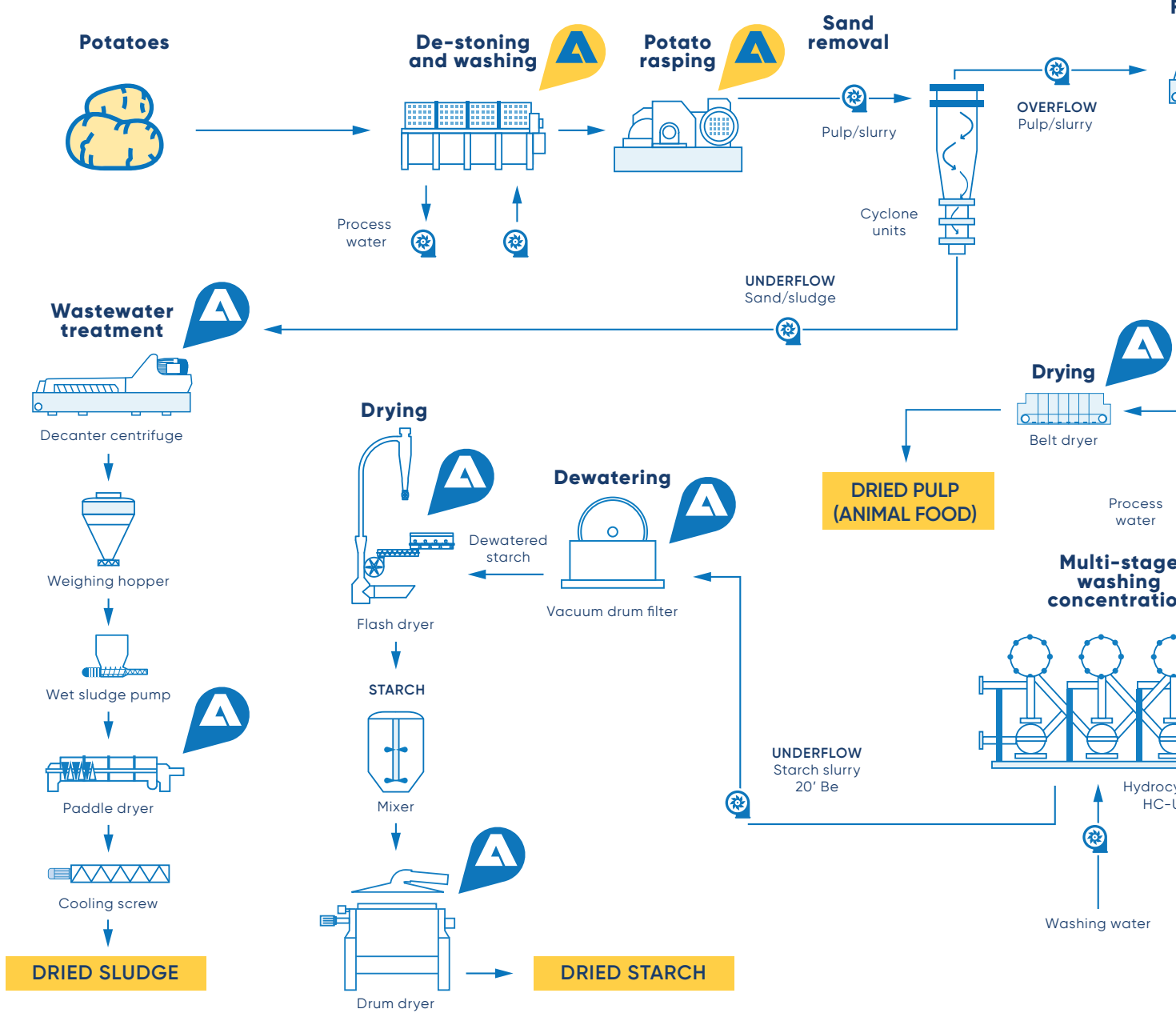
# Where we support your tapioca starch process

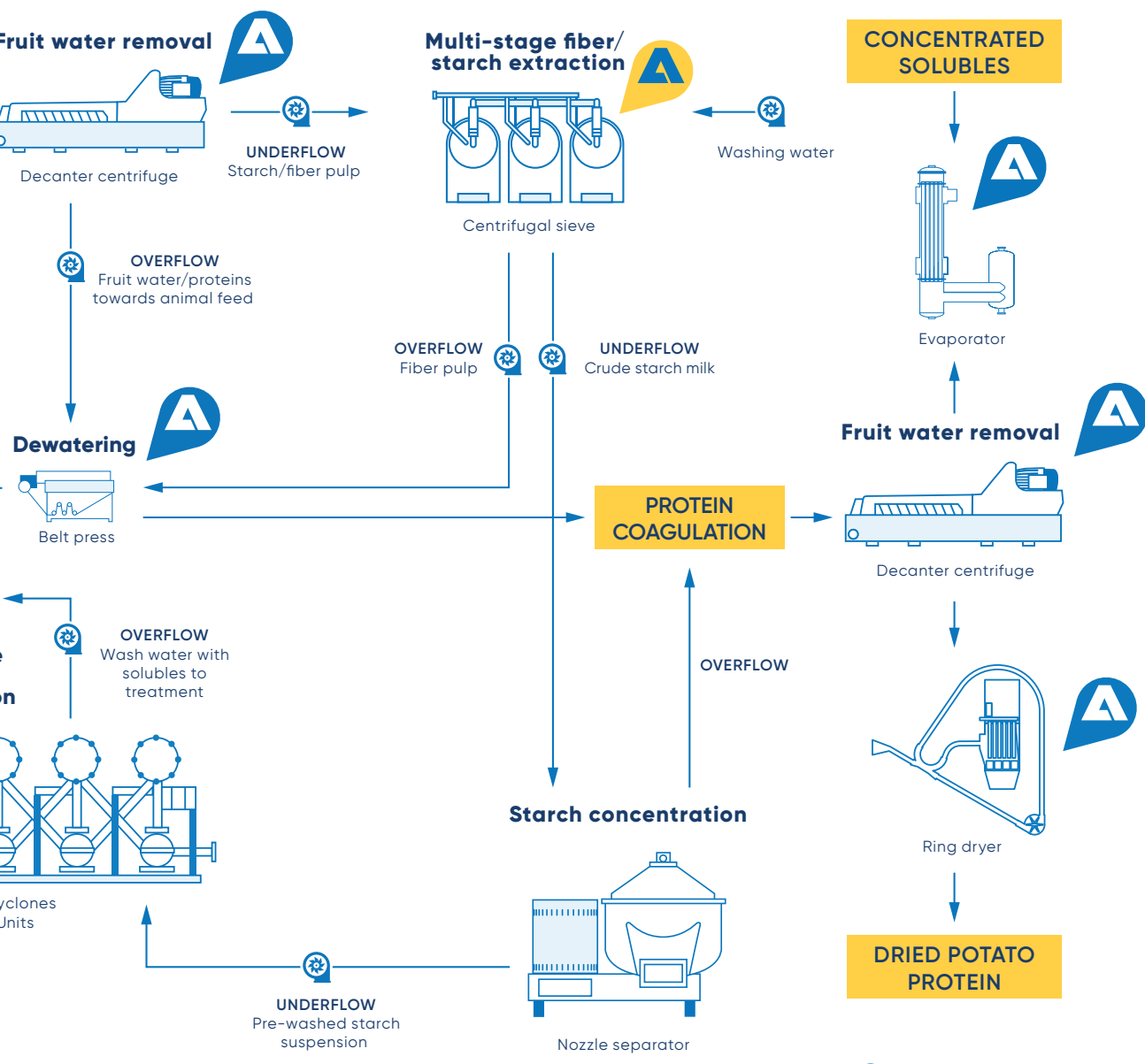





- ANDRITZ pumps
- 100% ANDRITZ scope
- Partial ANDRITZ scope



# Where we support your potato starch process





-  ANDRITZ pumps
-  100% ANDRITZ scope
-  Partial ANDRITZ scope

# Solutions for starch dewatering and drying

## Peeler centrifuge



The well-known ANDRITZ horizontal peeler centrifuge with its siphon basket design is the world's leading starch dewatering machine and ensures a constant, low level of residual moisture with high capacities of up to 300 t/d and minimum starch losses in the process.

### YOUR BENEFITS

- Siphon design ensures a constant, low level of residual moisture
- Minimum starch losses in the process ensure high capacities
- Low energy consumption due to constant rotational speed
- Gentle peeling for minimized particle breakage
- Reliable emergency system in case of power shutdown
- Highly efficient, automatic CIP cleaning procedure for hygienic production

## Paddle dryer/roaster



The ANDRITZ Gouda paddle dryer is a machine with multiple functionalities for the starch manufacturing process, like drying, heating, roasting and cooling. In dextrinization, the dryer roasts the starch till the required molecular structure is obtained.

### YOUR BENEFITS

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

## Contact drum dryer

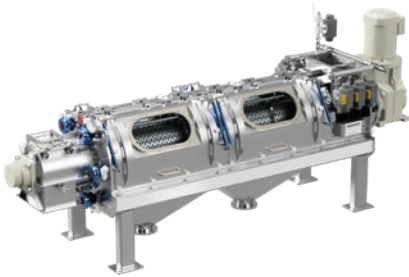


The ANDRITZ Gouda contact drum dryer is the heart of a starch modification installation – a process to improve freezing and dew stability. ANDRITZ offers processing solutions for starch modification, from the initial design, through laboratory tests and engineering, to delivery of the required industrial equipment.

### YOUR BENEFITS

- Improved solubility
- Improved organoleptic quality
- Improved freezing and dew stability
- Less gel synerisis
- Increased cloudiness of gel and films

## Gluten screw press



The high-performance ANDRITZ Dedert screw press is a leading solution for mechanical dewatering of vital wheat gluten, delivering exceptionally efficient liquid–solid separation. The screw press features a high-pressure clean-in-place (CIP) system providing 360° and full-length coverage with minimal moving parts. The CIP feature automatically cleans the screw press while the plant is in operation without any operator intervention.

### YOUR BENEFITS

- Hygienic and compact design
- Robust design for viscous applications
- Efficient dewatering
- Easy maintenance
- Operator safety
- No downtime due to maintenance

## Flash dryer

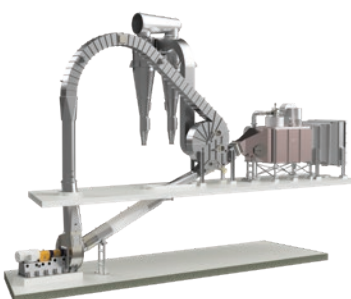


ANDRITZ Dedert flash dryer is a pneumatic system, ideal for drying thermally sensitive products due to its short residence time. Features a low-impact feed disperser for introducing material into the drying system.

### YOUR BENEFITS

- Simple economic design
- Short residence time (<1 second)
- 1-pass configuration for native starch products
- Low-impact disperser for feeding wet product into the dryer
- Gentle treatment of the material and higher product quality through uniform co-current drying
- Custom designs and sizes from pilot to large commercial scale
- Available with an extended flash duct to provide additional residence time

## Ring dryer



ANDRITZ Dedert ring dryer is an energy-efficient pneumatic dryer that delivers higher product quality compared to other drying technologies. It features a manifold classifier allowing semi-dry solids to internally circulate until fully dry.

### YOUR BENEFITS

- Simple economic design
- Extended residence time (<5 seconds)
- Versatile design used for drying modified starches and co-products (gluten, fiber)
- Can operate in an open circuit or partial gas recycle (PGR) configuration for optimal thermal efficiency
- Potential energy recovery using dryer exhaust gases
- Custom designs and sizes from pilot to large commercial scale
- Available in P-type, Feed-type, and Full-ring arrangements

## Spray dryer



ANDRITZ Dedert spray dryers are flexible solutions for drying a wide range of products in the food industry. The spray drying system can be single or multi-stage, with integrated fluid-bed processing for post-drying, agglomeration, cooling, and conditioning.

### YOUR BENEFITS

- Available with rotary or nozzle atomization
- Innovative air bearing atomizer – ABA technology
- Versatile design used for drying starch and maltodextrin products
- Hygienic designs with CIP systems available
- Various chamber configurations available depending on the product requirements
- Potential energy recovery using dryer exhaust gases
- Custom designs and sizes from pilot to large commercial scale

## Evaporator



ANDRITZ Dedert evaporators can be used to concentrate steepwater, a variety of sugars from starch. It is a staple in the industry, known for its low energy consumption.

### YOUR BENEFITS

- Available in falling film and forced circulation
- Shell and tube, and plate evaporator designs available
- Innovative spray nozzle distribution system for viscous feeds
- Can operate using various energy sources, including:
  - Steam
  - Electrical energy (MVR technology)
  - Dryer exhaust gases
- Energy efficient
- Custom designs and sizes from pilot to large commercial scale

“ANDRITZ drum drying technology is flexible enough to meet all our needs – from wheat to potato to dent or waxy corn starch. This turnkey flexibility allows us to control everything from the residence time for drying to the viscosity.”

**DR. ANTON YAKOVENKO**

Production Manager at Allstarch in Germany

## Decanter centrifuge



The ANDRITZ decanter centrifuge F acts as key equipment for tapioca/potato fruit water removal or corn gluten dewatering. In the starch washing step, it can concentrate the starch from typically 20°Be to 25°Be and the fine fiber is removed with the liquid phase.

### YOUR BENEFITS

- Optimum product quality (special feed chamber ensuring gentle treatment)
- Increase in yield (e.g. for tapioca starch: less starch in the fibers/pulp from the fourth extraction stage due to improved starch extraction efficiency and less pasty material sticking to the fibers)
- Longer production time without requiring manual or automatic cleaning and thus, lower cleaning costs
- Less fresh water consumption because less water is needed to clean the pasty material off the screen

## Additional technologies



### VACUUM FILTERS

for potato starch and corn gluten dewatering



### SCREW PRESSES

for gluten and fiber dewatering



### BELT PRESSES

for fiber dewatering



### FLUID BED DRYER

for starch drying



### BELT DRYERS

for fiber drying

# Solutions for corn wet milling, mixing and pumping

## Disc mills



ANDRITZ disc mills for the corn wet milling industry cover the widest range of power and capacities for each stage of grinding. The range of machinery and aftermarket components coupled with decades of experience in the corn wet milling industry make ANDRITZ the leader in the industry. Additionally, ANDRITZ manufactures and designs replacement grinding plates for all brands of disc mills.

### YOUR BENEFITS

- Disc mills designed uniquely for the corn wet mill industry to reduce maintenance time
- Outboard V-belt drives except for the directly coupled units
- Optional plate positioning packages

## Hammer mills

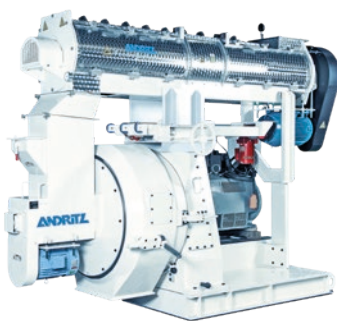


ANDRITZ offers high-performance hammer mills for optimum size reduction of raw material. Decades of experience and highly qualified product specialists make us a strong partner in the supply of hammer mills for size reduction. The ANDRITZ range of hammer mills covers the need for extremely fine or coarse grinding at high capacity.

### YOUR BENEFITS

- Robust design with replaceable wear liners
- Large screen areas with a non-restrictive flow through design grinding chamber
- Door interlock system to insure zero rotation before entry

## Pellet mills



Today's demands for high-quality products also require advanced pelleting equipment. Decades of pelleting experience and detailed know-how of the pelleting process have resulted in a range of well-proven ANDRITZ pellet mills. Additionally, ANDRITZ manufactures and designs replacement dies and rolls for all brands of pellet mills.

### YOUR BENEFITS

- High-performance and hygienic design
- Easy and fast maintenance
- Low energy consumption

## Process pumps

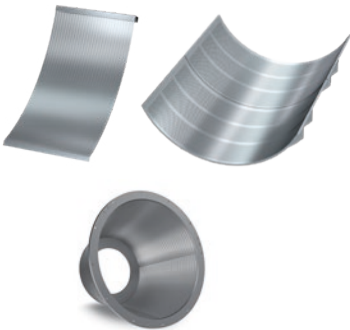


ANDRITZ offers innovative and targeted pumping solutions throughout the entire starch production process – from raw material preparation to extraction and fiber separation and on to final washing and concentration.

### YOUR BENEFITS

- Efficiencies of up to 90%
- Modular assembly system
- Cost reduction if self-priming centrifugal pumps are used instead of positive displacement pumps

## Screens



As a manufacturer with all technological options, ANDRITZ delivers the following components for the starch industry: 120° Bent Screens (DSM) used in corn wet milling for fiber washing, drilled screw press baskets (half-screens, cylindrical or conical baskets) for fiber and germ dewatering, and conical centrifuge baskets made of wedge wire, ConiPerf, or drilled.

### YOUR BENEFITS

- Improved product quality
- Longer service life
- Higher efficiencies

## Rotary valves



ANDRITZ offers a line of heavy-duty rotary valves that can function as a volumetric metering device (feeder), airlock and combined feeder/airlock for both pneumatic conveying and atmospheric applications.

### YOUR BENEFITS

- Full-length removable inspection panel; inspection panel allows for easy cleaning and tip adjustment/replacement without removing inlet or outlet components
- The precision-crafted, closed-end eight blade rotors maintain two blade air seals without loss of pocket capacity

## Double agitator mixers



This versatile, continuous mixer blends all types of products, including dry free-flowing granular materials, thin slurries and high-moisture materials. Mixing intensity, retention time and material characteristics can be controlled simply by changing agitator speed or paddle angle.

### YOUR BENEFITS

- Compact design allows installation in low headroom areas
- New series design to reduce maintenance downtime
- Optional discharge weir for applications with high liquid volume

# Automation and digitalization solutions for starch producers

ANDRITZ automation and digitalization solutions help starch producers make their processes more stable, transparent, and efficient. The portfolio ranges from modular control systems to advanced sensors, analysis tools, and AI-based optimization solutions that support smarter operation across the entire separation process.

At the core of this portfolio are the modular ANDRITZ addIQ control systems, which can be tailored to specific applications, machine types, and regional requirements. For starch processes, they are available as addIQ PureS, addIQ Eco, addIQ Dynamic, addIQ

Prime, and addIQ Flex. Additional digital functionalities such as ANDRITZ Connect, ANDRITZ Monitoring, and ANDRITZ Optimizing can be added depending on the selected system and application requirements.

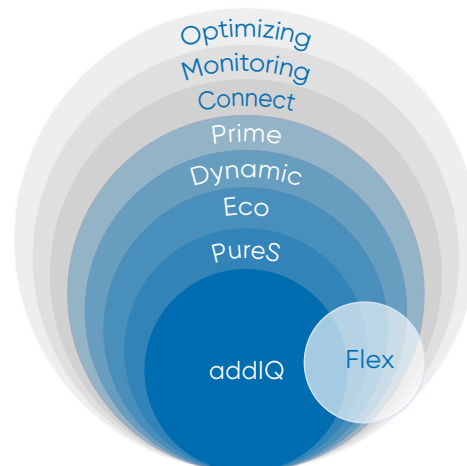
## addIQ control systems

FEATURES	PURE S*	ECO	DYNAMIC*	PRIME	FLEX
Compact retrofit design	x				
Cost-efficient solution for standalone machines	x	x			
Specific machine control functions		x	x	x	
HMI panel for monitoring and parameter setup	7"	7" with upscale possibility	10" touchscreen with upscale possibility	15" touchscreen	
Easy integration into overall control systems		x	x	x	
Ready for future functional updates		x	x	x	
Basic trending functions		x	x	x	
Monitoring and control of machine and machine auxiliaries			x	x	
High-end trending, optimization and diagnostic functions				x	
ANDRITZ Connect	Option	Option	Option	x	
ANDRITZ Monitoring	Option	Option	Option	x	
ANDRITZ Optimizing	Option	Option	Option	Option	

Customized solution to meet specific customer mill standard

\*only available for selected equipments

**GET AN OVERVIEW**  
ANDRITZ addIQ  
control system



# ARGOS



ARGOS is an AI-powered optical measurement system designed for dewatering and drying equipment such as decanter centrifuges, contact drum dryers, or screw presses. It continuously monitors conditions and other machine health parameters to detect deviations at an early stage and supports predictive maintenance strategies.

### YOUR BENEFITS

- Automatic adjustment and optimization of polymer dosing improves process stability and efficiency
- Early detection of process irregularities with automatic alarm notifications helps reduce unplanned downtime and supports optimized maintenance planning
- Increased equipment availability and operational reliability while lowering service and operating costs

# RheoScan



RheoScan is an AI-based control solution for belt presses that continuously optimizes polymer dosing in thickening and dewatering processes. It automatically adapts dosing in real time to changing sludge conditions – 24/7 and without the need for permanent operator supervision.

### YOUR BENEFITS

- AI-based continuous self-optimization reduces polymer consumption and operating costs
- Stable cake dryness and improved dewatering performance are ensured while preventing overdosing and process instability
- Remote monitoring provides full operational transparency

# VibePro

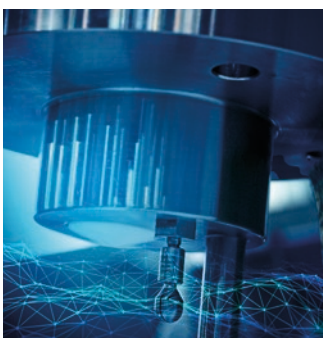


VibePro is an intelligent vibration monitoring system for critical rotating equipment such as decanter centrifuges. It provides continuous condition monitoring and detailed diagnostics to safeguard machine performance and reliability.

### YOUR BENEFITS

- Continuous vibration and condition monitoring enables early fault detection, extends equipment lifetime, and supports predictive maintenance
- Improved plant safety helps reduce unplanned downtime

# Radar feed controller



The radar feed controller ensures accurate and continuous feed control for peeler centrifuges using contactless radar measurement technology. It optimizes cake build-up and improves overall separation performance.

### YOUR BENEFITS

- Optimized basket filling and throughput increase separation efficiency while reducing product losses
- Improved operational stability ensures reliable performance





# Turning ideas into industrial reality

At the ANDRITZ Food Innovation Xperience center, customers and experts work together to turn process ideas into scalable production concepts. Combining investigative trials, analytical measurements, advanced automation, and process expertise, the center helps validate feasibility, define process parameters, and create a sound basis for industrial implementation.

## IMAGINE – EXPLORE – CREATE

The ANDRITZ Food Innovation Xperience center in Gouda, the Netherlands, is a development and technology hub for the food and feed industry, bringing together cutting-edge separation, dewatering, and drying solutions in one location. Its purpose is clear: to help customers find the ultimate manufacturing process for their specific requirements and translate it into a robust and practical line solution.

## FROM PILOT TESTING TO PROCESS SCALE-UP

Pilot testing is a central part of this approach. In the center's fully equipped test environment, customers can evaluate new process concepts under realistic conditions and generate a reliable basis for scale-up to industrial production. Pilot plant tests typically take three to four days, including preparation and cleaning, usually require around 100 kg of product, and include a report.

Beyond pilot testing, the center also offers feasibility tests, tests on site, engineering support, and R&D activities. This allows customers not only to validate new ideas, but also to optimize existing processes, improve equipment and product performance, and develop robust manufacturing solutions tailored to their specific requirements.

## SCALING UP WITH PERFORMANCE AND SUSTAINABILITY IN MIND

The Food Innovation Xperience center also supports customers in optimizing existing processes, reducing carbon footprint, and valorizing side streams. This is especially relevant as food and feed manufacturers must respond quickly to changing market demands, consumer expectations, regulations, and environmental requirements. In this context, faster scale-up, more efficient production processes, and lower environmental impact, including freshwater consumption and CO<sub>2</sub> footprint, become key advantages.

To support this work, the center is equipped with the latest dewatering, drying, extraction, and milling technologies from ANDRITZ. This enables feasibility studies, pilot plant tests for scale-up, and R&D activities under food-grade and even ATEX conditions.

**GET AN OVERVIEW**  
ANDRITZ Food Innovation  
Xperience center







## A WORLD OF SEPARATION SOLUTIONS

ANDRITZ provides mechanical and thermal solid/liquid separation technologies, complemented by comprehensive services, automation, and digitalization solutions for the chemicals, environment, food and beverage, as well as mining and minerals industries. Our customized, innovative solutions focus on minimizing resource consumption and maximizing process efficiency, thus making a substantial contribution towards sustainable environmental protection. With over 150 years of experience and more than 2,700 separation specialists around the globe, we are a driving force in the evolution of separation solutions – enabling industries to meet tomorrow's demands responsibly. **ANDRITZ. FOR GROWTH THAT MATTERS.**

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