ANDRITZ Separation

Krauss-Maffei HZ peeler centrifuge

Maximum efficiency in starch dewatering

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Starch – a key source of carbohydrate – plays a vital role not only in the food industry, but especially in the pharmaceutical, chemical, and paper industries. With its peeler centrifuge, ANDRITZ SEPARATION makes sure that you obtain the maximum possible out of your starch source and at the same time optimize your production. Excellence in reliability, consistent throughput, and performance all contribute to ensuring your peace of mind.

Corn, tapioca, wheat, potato, rice, native or modified starch – whatever the type of starch you might produce, our peeler centrifuge makes sure you extract the maximum possible. Decades of experience in the starch centrifuge business enable us to serve you with proven technology that stands the test of time.

Krauss-Maffei HZ peeler centrifuges are batch-operated filtration centrifuges known for their reliable performance at high capacities. Engineered and manufactured to fulfill highest quality standards, they are a benchmark. Serving the starch industry successfully since 1949 with more than 350 units sold, we are well aware of the requirements in the starch production process.

That is why we are constantly innovating and optimizing our machines to tackle your production challenges. The decades of experience and constant innovation lead to durable designs, reliable performance parameters, a broad range of available sizes, and an array of optional features to cover your individual needs.

Special starch features

- **Second feed pipe:** to facilitate floating protein separation
- **Door skimming pipe:** to extract supernatant liquid with protein
- **Auto CIP cleaning:** to conform with food grade regulations

Starch applications

- Corn
- Tapioca
- Wheat
- Potatoes
- Rice

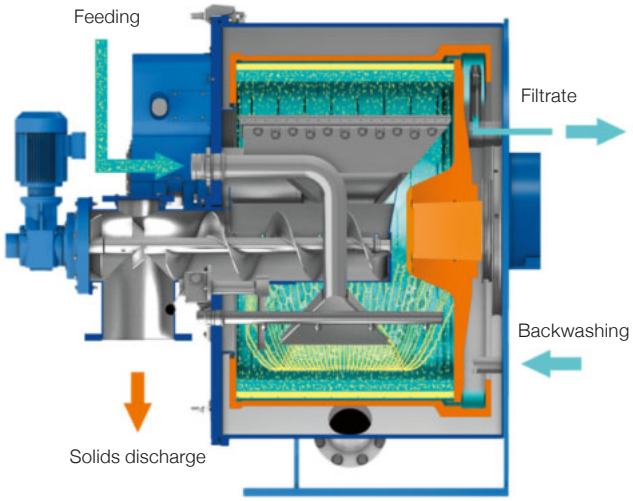
Processing parameters

- Feed solids concentration: >20° Be
- Max. throughput/machine: 15 MT/h
- Min. residual moisture: 33% wt/wt.

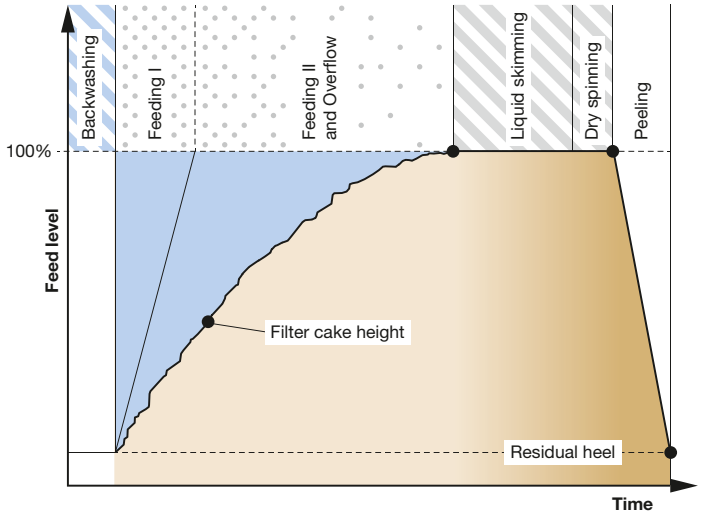
▲ Krauss-Maffei HZ peeler centrifuge for starch application

"…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



▲ Rotary siphon basket design – feeding step



▲ Operational steps

Basket design

Unlike the conventional perforated basket, the rotary siphon basket has a solid cylindrical shell with filtrate bores arranged radially at the rear end of the basket, where they are connected to a siphon-shaped chamber. Once the filtrate has penetrated the filter cake and the filter medium, it is redirected into the siphon chamber, where a pivoting skimmer pipe extracts it from the centrifuge. With the siphon design, the filtration rate is improved and backwashing is enabled, which increases both the capacity and the flexibility of the peeler centrifuge.

"We use Krauss-Maffei peeler centrifuges in our tapioca starch production plant, where reliability and availability with competent commissioning are a "must". We are very pleased with the overall customer experience."

THIDARAT RODANANT
MANAGING DIRECTOR
SANGUAN WONGSE INDUSTRIES LTD.

Your benefits

- Siphon design ensures a constant, low level of residual moisture with high capacities
- Minimum starch losses in the process
- Low energy consumption due to constant rotational speed throughout batch operation
- Gentle peeling for minimized particle breakage
- Reliable emergency system in case of power shutdown
- Highly efficient, automatic CIP cleaning procedure for hygienic production
- Worldwide service network with experienced field-service engineers provides comprehensive support

"We have been using peeler centrifuges from ANDRITZ for more than 50 years to dewater native and modified wheat starch. In particular, the reliability and experienced service provided by ANDRITZ is an excellent basis for a good long-term relationship."

DR.-ING. MICHAEL CHRISTOPH
DIRECTOR OF OPERATIONS
CRESPEL & DEITERS GMBH & CO. KG

Operating principle

- **Backwashing** with mother liquid (or fresh water) to re-suspend the compressed residual heel and restore its permeability. Additionally, the liquid pool created by backwashing on top of the heel will help to distribute the subsequent cycle's incoming suspension evenly and virtually eliminate the potential for imbalance during the feed step.
- **Feeding** the slurry into the basket with two feed pipes, monitored and regulated by a feed controller. The second feed pipe creates a certain overflow to utilize the whole volume of the basket and remove protein and fine fibers at the same time.
- **Liquid skimming** to remove the remaining mother liquor above the starch cake and which contains protein and fine fibers.
- **Dry spinning** at high g-forces to reduce the residual moisture to 33%
- **Cake discharge** with a large peeler knife at full basket speed and adjustable swivel velocity. The peeled starch is discharged from the centrifuge gently via a screw conveyor.

FOOD

Krauss-Maffei HZ peeler centrifuge

Technical data for starch application

Model	Basket inside diameter (mm)	Basket length (mm)	Basket volume (l)	Filter area (m^2)	Maximum g-force (-)	Maximum speed * (rpm)	Weight **/*** (kg)
HZ 125/2.5 Si	1,250	630	323.6	2.46	1,030	1,220	5,500/15,000
HZ 125/3.2 Si	1,250	800	410.9	3.14	1,030	1,220	7,000/19,000
HZ 160/4.0 Si	1,600	800	683.6	4.02	805	950	10,000/31,000
HZ 160/5.0 Si	1,600	1,000	854.6	5.03	805	950	13,000/36,000
HZ 180/7.1 Si	1,800	1,250	1,350	7.07	710	840	23,500/55,700
HZ 200/9.0 Si	2,000	1,430	1,965	9.00	680	780	28,000/70,000

* The speeds stated are standard speeds and can be adjusted to your process requirements.
/* without motor/with inertia block and drive
All information is subject to change.

Well-known companies serving the starch industry for decades – KMPT Krauss Maffei peeler centrifuges, GMF Gouda dryers, Netzsch filter press, Sprout-Bauer disc mills – with literally thousands of reference installations are now part of the global ANDRITZ SEPARATION organization.

ANDRITZ SEPARATION is the world's leading separation specialist, with the broadest technology portfolio and more than 2,000 specialists in 40 countries. We have been a driving force for more than 150 years in the evolution of separation solutions and services for industries ranging from environment to food, chemicals, and mining and 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.

What is your separation challenge?
Ask your separation specialist.

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