



PULP & PAPER

ADVANCED SOLUTIONS FOR YOUR RGP REFINING SYSTEM

**BOOST PERFORMANCE, INCREASE PLANT AVAILABILITY,
AND REDUCE MAINTENANCE COSTS**

ANDRTZ

ENGINEERED SUCCESS

Advanced solutions for process and maintenance



ANDRITZ is very committed to offering innovative solutions for optimizing and better controlling the whole paper & pulp process and for boosting availability and minimizing maintenance activities. Clear goals are to increase a plant's performance and competitive position while decreasing operation and maintenance costs. These solutions are based on ANDRITZ know-how and long experience, and are designed for your specific RGP refining system.

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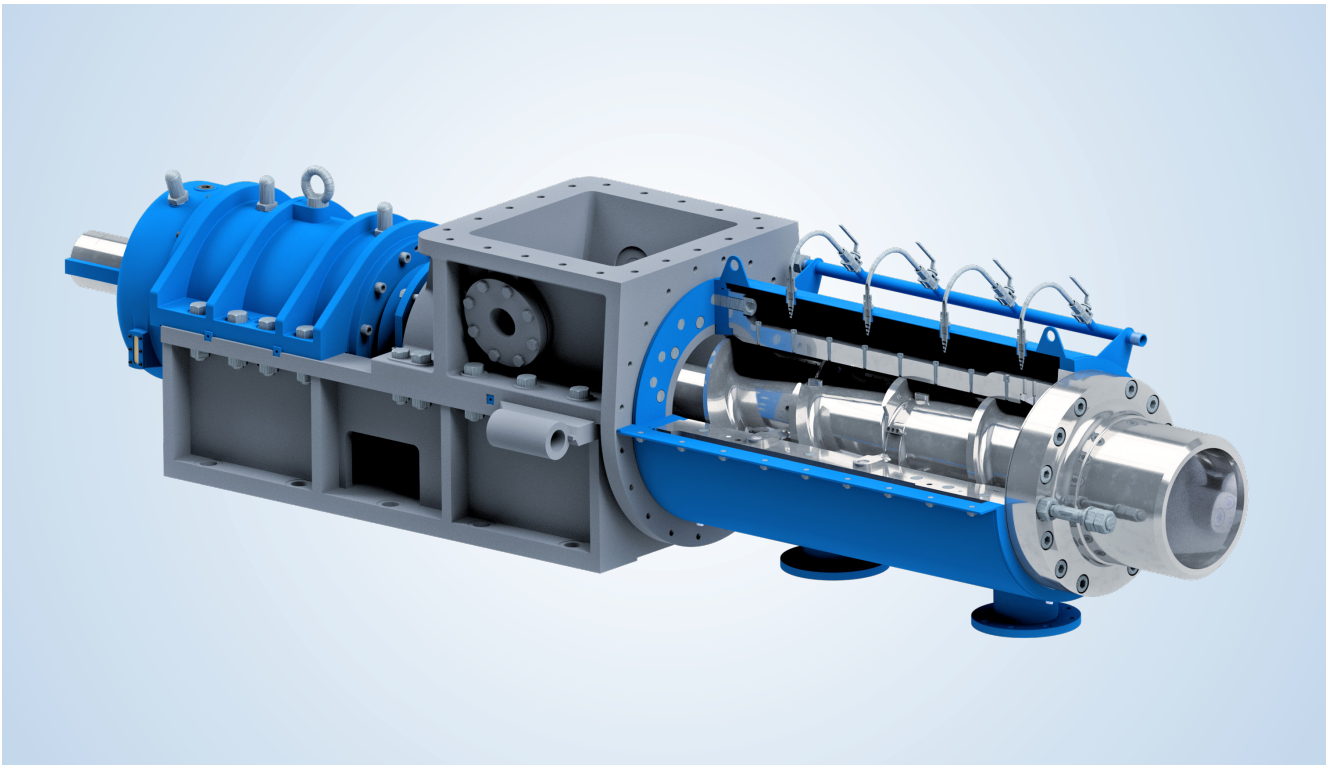
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Pre-steaming bin, PSF, and pre-heater

Plug screw feeders transport raw materials from atmospheric conditions to the pressurized process zone. ANDRITZ offers rebuilds, spare and wear parts, upgrades, and on-site services for all of this equipment.



ANDRITZ vibrating discharger with center steaming

Center steaming design for pre-steaming bins

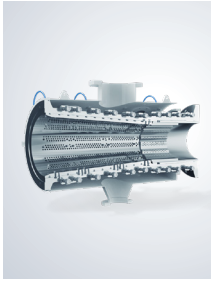
- First-in, first-out principle for uniform wood chip retention time
- Even temperature and moisture distribution thanks to ANDRITZ center steaming system
- No risk of bridging or blocking



Wear protection for PSF

A new generation of wear protection for a long lifespan

- Wear protection for longest lifetime
- Low operating costs



AdvaProtect segments – Multiple system

An innovative solution for on-site refurbishment with exchangeable wear segments. All-in-one solution, replacing existing inlet housing, compression housing, plug pipe.

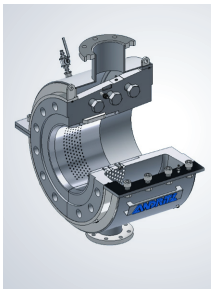
- Extremely wear-resistant material with excellent price-performance ratio
- Fast replacement of wear segments on-site
- All parts stay in your plant – no need to send parts out for refurbishment anymore
- Longer lifespan of the housing thanks to refurbishment without welding



AdvaProtect liner – for compression housing

An innovative solution for on-site refurbishment – with exchangeable wear liner

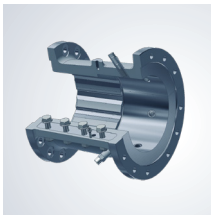
- Flexible and cost-efficient system due to customized holes for dewatering purposes
- Fast replacement on-site
- Longer lifespan of the housing thanks to refurbishment without welding



Dewatering unit

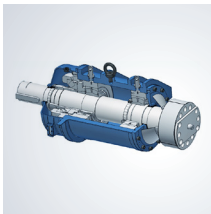
Replacement of existing dewatering unit

- Replacement of existing plug pipe
- Increased dewatering area – dewatering on almost the entire circumference possible instead of single small windows
- Exchangeable split dewatering wear liner for on-site exchange. Customer-specific number of rows and bore holes possible e.g., for summer/winter operation



ANDRITZ plug pipe with plug jet

- Max. uptake of chemicals
- Reduced consumable demand by multiple dosing points
- Chip penetration immediately after max. compression



Bearing unit

Refurbishment, spare parts or new delivery of your PSF Bearing unit

- New bearing unit
- Professional refurbishment in workshop
- Delivery of spare and wear parts (shaft, bearing/seal kit...)



Blow-back valve

Proven ANDRITZ design also for ADI/SFA/PDA plug screw feeder

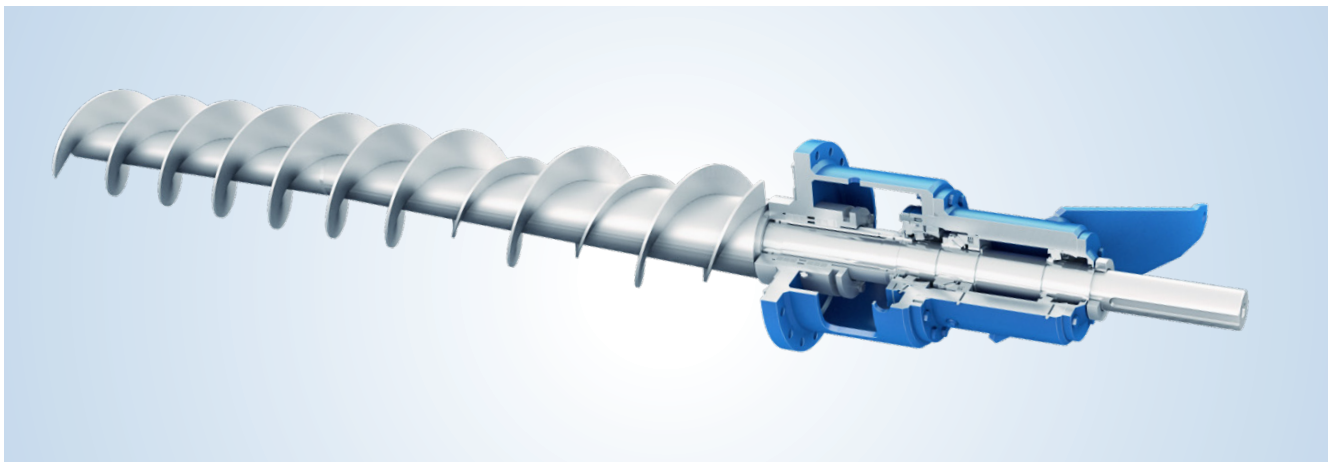
- Lower risk of bending, breakage or shaft blockage
- State-of-the-art pneumatic control system
- Maximum safety combined with maintenance-friendly design

DESIGN UPGRADE FOR

- Process improvement
- Production optimization
- Energy utilization

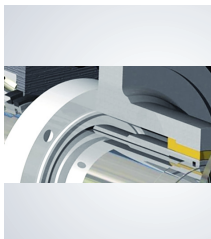
Discharger of pre-heater

The raw material is transported from the vessel with a discharger system that meters the feedstock according to the throughput capacity to the pressurized refiner.



Discharge screw drop-in unit

- Complete drop-in unit (bearing unit & screw) with packing or mechanical seal design
- Professional refurbishment in workshop
- Spare parts



Upgrade of discharge screw & agitator to mechanical seal type LF (low-flow)

- Replacement of existing stuffing boxes or existing mechanical seal solutions
- Low-flow design reduces water and operating costs
- Safe, stable, and clean system
- Less maintenance



Discharge screw

New discharge screw and refurbishments with ANDRITZ wear protection

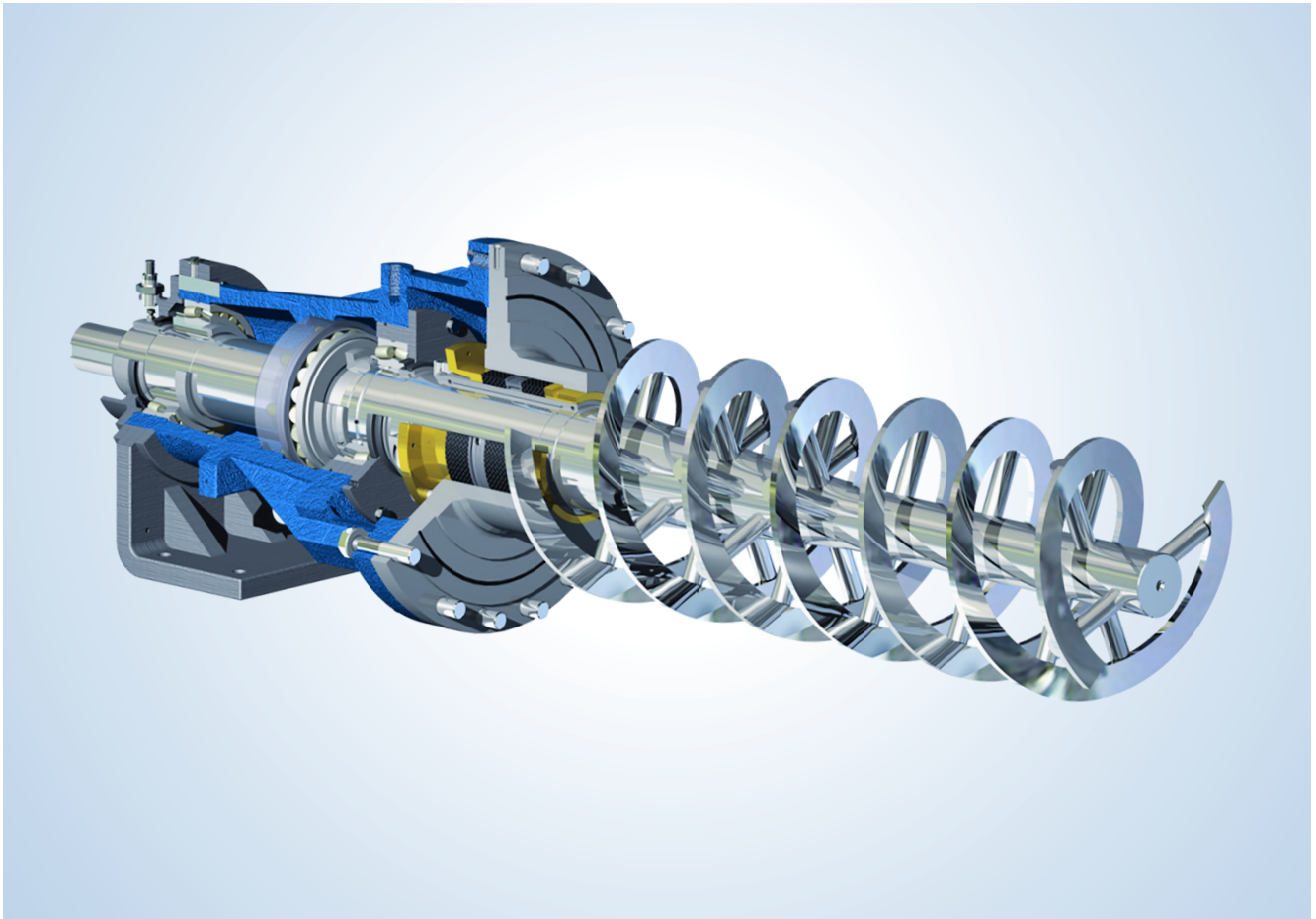
- Highest raw material quality and manufacturing accuracy
- ANDRITZ wear protection for maximum lifetime and reliability
- Capacity upgrades and customized screws according to plant operation parameters

DESIGN UPGRADE FOR

- Process improvement
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- Energy utilization

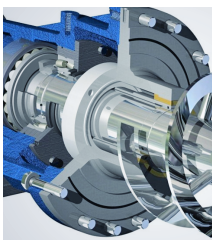
Ribbon feeder

The ribbon feeder moves the raw material continuously to the refiner while allowing the heat in the refiner-produced steam to flow backwards against the feeding direction of the material.



Ribbon feeder drop-in unit & spare parts

- Complete drop-in unit (bearing unit & screw) with packing or mechanical seal design
- Available as single spare part

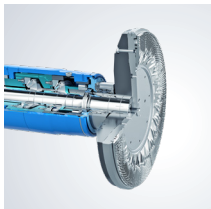
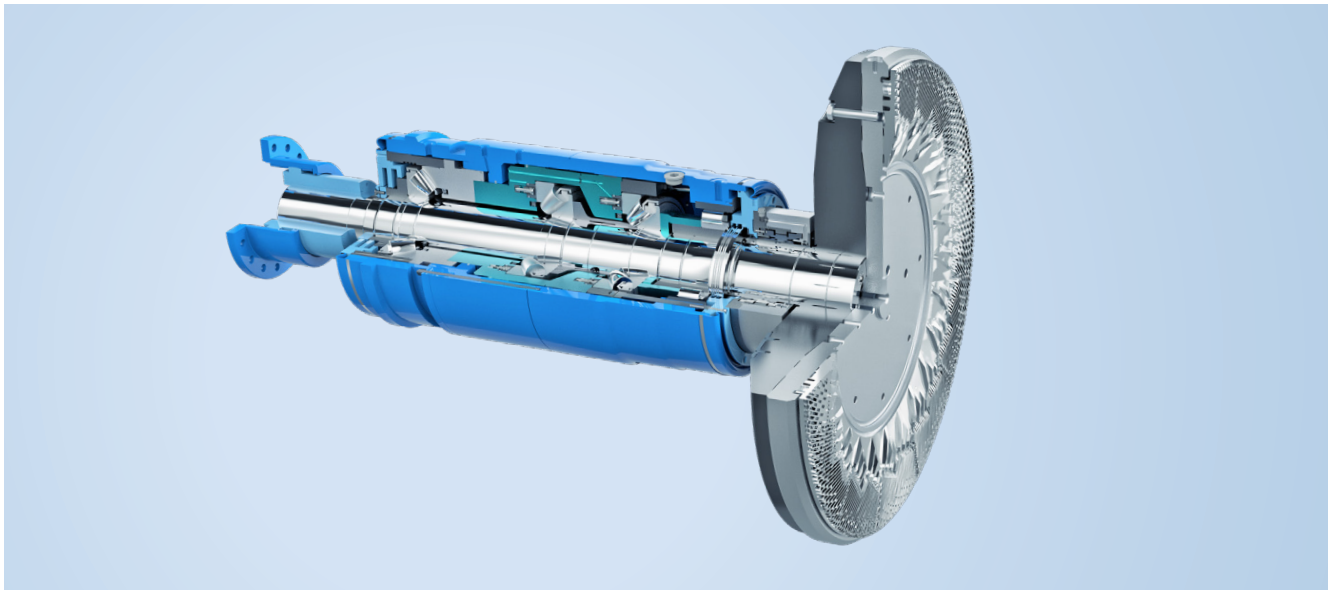


Upgrade of ribbon feeder to mechanical seal type LF (low-flow)

- Replacement of existing stuffing box or existing mechanical seal solution
- Low-flow design reduces water and operating costs
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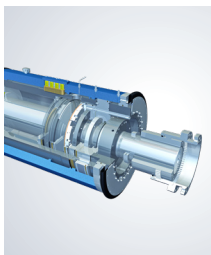
Refiner

The refiner is the heart of the fiber preparation process. ANDRITZ service is designed to ensure high machine availability and maximum performance across the entire lifespan of your pressurized refining system for your RGP refiner.



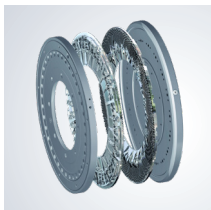
Refiner drop-in unit

- Brand-new drop-in units
- Professional refurbishment of refiner drop-in units
- Exchange program



ABS – ANDRITZ bearing solution for RGP refiner bearing units

- Reliable bearing unit with hydrodynamic lubricated axial bearing ensures long service life, regardless of operation condition
- Fits in existing frame
- Existing rotor disc, mechanical seal, and coupling half can be reused



Rotor discs & plate holder (segment holder)

- 100% safe and approved forged material for a longer lifespan
- Standard design, or
- Innovative design with dovetail scrapers for advanced protection of full outer diameter



Premium scrapers and rotor blades for rotor disc and rotor plate holder

- 1:1 replacement of existing scrapers and rotor blades
- Long-lasting premium material



Dovetail premium scraper upgrade – for RGP refiner rotor disc and rotor plate holder

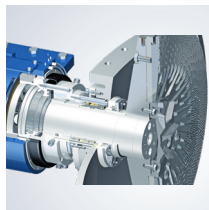
Wear parts with longer service life and additional protection

- Protection of full outer disc diameter– for new discs or as an upgrade of existing discs
- Ensures longer service life for rotor disc and plate holder itself due to better protection
- New high wear-resistant materials
- Longer service life for wear parts and longer lifetime for main components



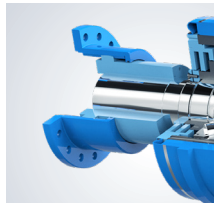
Stuffing box with premium shaft wear sleeve

- Diamond-coated shaft wear sleeve with twice the service life as compared to the standard coating



Mechanical seal

- Upgrade of stuffing box to mechanical seal
- New mechanical seal for RGP refiners can be replaced 1:1
- Repair of mechanical seals and spare- and spare and wear part kits



Coupling and intermediate shaft upgrade

- New coupling or coupling half for your refiner



Tool set

Tool sets for sale or to rent for on-site services

- Change of drop-in units
- Change of rotor disc, mechanical seal, and coupling half



Bearing & seal kits

- Complete service kits for emergency on-site repair or individual spare part required



Exchange program

- Exchange of new bearing- and drop-in units

Fiber steam separation

The equipment uses centrifugal force to separate steam from the wood fibers. It is designed to transfer wood fibers from a high-pressure environment to a lower pressure environment. The plug of feed material creates a seal between the pressurized infeed and the lower pressure downstream equipment.



Helix scraper

- Improved fiber/steam separation
- Lowest level of fiber carry-over



Screw design

- Highest raw material quality and manufacturing accuracy
- ANDRITZ wear protection for maximum lifespan and reliability
- Capacity upgrades and customized screws according to plant operation parameters



Anti-rotation bars

- Innovative solution for on-site refurbishment – with exchangeable wear bars
- Long-lasting premium material



Blow-back valve

Proven ANDRITZ design also for ADI/SFA/PDA plug screw feeder

- Lower risk of bending, breakage or shaft blockage
- State-of-the-art pneumatic control system
- Maximum safety combined with maintenance-friendly design



Service of fiber/steam separation equipment

- Professional refurbishment in workshop
- Delivery of spare and wear parts

Automation upgrades

Whether it is the fully autonomous control system system with a specially designed sensor for our customers' refiners or our solutions for monitoring the health of other rotating equipment, we offer regular ANDRITZ automation and digitalization updates to optimize your system.



ANDRITZ hydraulic commander

Flexible solutions for fully automatic refiner control

- Fully autonomous monitoring and control system for refiners
- Hydraulic control block with servo valve for optimum refiner plate positioning
- Control of the refiner plate's position and/or closing pressure, allowing operators to control refiners remotely



AdvaCon – predictive maintenance

Automatic refiner plate protection and bearing condition monitoring

- Available for all refiner types regardless of the OEM
- Cost reductions: Avoid unplanned shutdowns, optimize preventive maintenance schedule
- Accuracy: provide consistent and exact dynamic zeroing of plate gap



PulpEye

Measuring device designed to measure the fiber quality consistently at the blow line

- Production monitoring and determination of fiber properties after the refining process
- Automatic, fast, and reliable fiber measurement results
- Enhances energy-saving potential in production
- Sampling possible from multiple refiners



ANDRITZ control system

- Fully autonomous control system for centrifuges and plug screw dischargers
- Variable-speed drive



TO FIND THE BEST SOLUTIONS FOR YOUR NEEDS, PLEASE CONTACT YOUR KEY ACCOUNT MANAGER

We want to help you confront all of your challenges. For more information about ANDRITZ's services, please visit andritz.com/refiner-service for details.

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