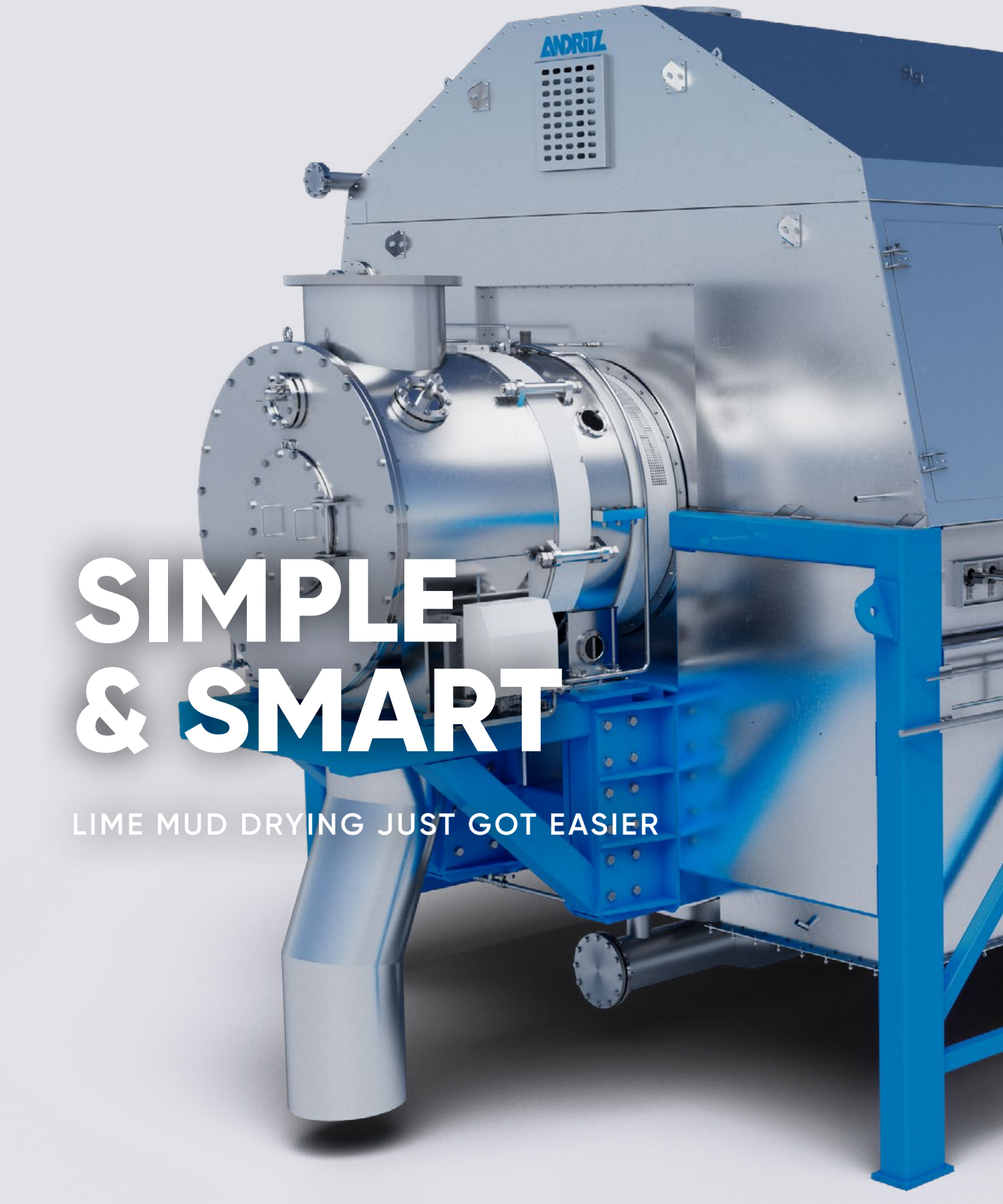


SIMPLE & SMART

LIME MUD DRYING JUST GOT EASIER

A STORY FROM
SPECTRUM ISSUE NR. 44

ANDRITZ
ENGINEERED SUCCESS

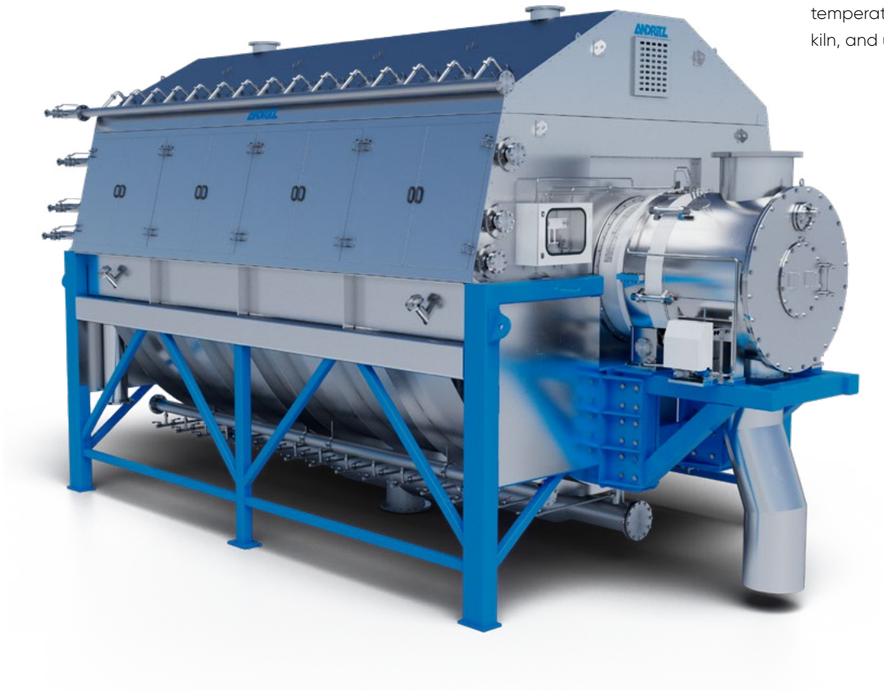
LIME MUD DRYING JUST GOT EASIER

In further efforts towards maximizing efficiencies of white liquor plants, ANDRITZ has developed LimeDry-H™, a uniquely simplified and ultimately more efficient technology for lime mud feeding. The new system also allows the option for the latest ANDRITZ autonomous white liquor plant solutions for increased autonomous operation.

As pulp producers come under increasing pressure to maximize efficiencies across the whole mill, ANDRITZ has identified key areas where gains can be made in the white liquor plant. After the success of its recently released LimeWhite-H and LimeFlash-H technologies, the next area on which ANDRITZ has focused for improvement is lime mud drying.

Utilizing some of the proven concepts featured on the latest LimeWhite-H White Liquor Disc Filter, for example, the implementation of center shaft axial movement, a hollow shaft and fixed scraper – ANDRITZ has applied similar, tailored principles to its LimeDry-H lime mud drying system.

The end result is a much more simplified vat construction and stable feeding system, providing increased homogenous lime mud, which enables less swinging of temperatures in the flue gases of the lime kiln, and ultimately savings in energy.



Watch our video

"Our success with LimeWhite-H has allowed us to confidently apply the same features and methodology to lime mud feeding"

Ville Seppänen
ANDRITZ Sales Manager
White Liquor Plant

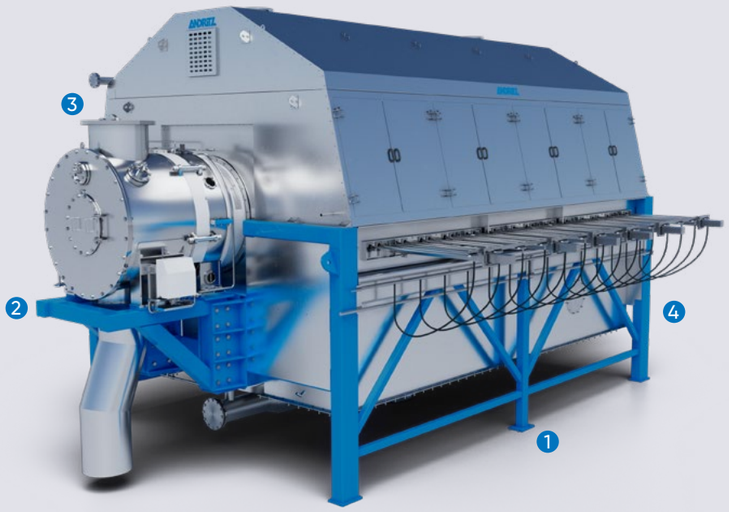
The new system also comes with a smaller footprint, which saves space and investment costs, as well as an updated design that improves maintenance access and provides a safer working environment.

Additionally, ANDRITZ is bringing smart technologies into the lime mud feed area with the introduction of various tools to help operators analyze and manage the system remotely, further improving efficiencies.

SIMPLICITY IS KEY FOR EFFICIENT LIME MUD DRYING

One of the most important developments to be applied to LimeDry-H is the introduction of an oscillating hollow central shaft that moves back and forth in an axial direction of up to 6 mm. With the fixed scraper, this movement allows the constant renewing of the surface of the lime mud. This feature has provided ANDRITZ the opportunity to modify the Continuous Precoat Renewal (CPR) system by eliminating the low-pressure wash that affects the quality of the lime mud. High-pressure washing remains to ensure the continuous renewal of the precoat and efficient cloth wash. All this results in a more simplified process, which ensures more stable dryness and feed of lime mud to the lime kiln.

"Our success with LimeWhite-H has allowed us to confidently apply the same features and methodology to lime mud feeding," says Ville Seppänen, ANDRITZ Sales Manager, White Liquor Plant. "With the back and forth axial movement of the shaft we get continuous precoat renewal, which allows for a more



1 Lime mud feeding
2 Filtrade outlet
3 Gas outlet
4 Lime mud outlet

homogeneous feed to the lime kiln and a reduction of temperature swings.

"Ultimately, this means a more steady operation and energy savings in the lime kiln."

ANDRITZ has also improved vat mixing with the LimeDry-H. Seppänen continues, "In the present model, the vat mixing is done with a lime mud feeding agitator. In the new system, we can have even better lime mud mixing results by introducing a stationary mammoth pump in the feed that allows for improved circulation in the vat. This means we can further improve the issue of the settling of lime mud with less moving parts and enable a more simplified vat design."

The vat design has also been simplified, thus making the running and operating of the system much easier. And, improvements have been made to the operation with doors now on both sides of the hood for more convenient maintenance access and a safer working environment.

An additional development applied to LimeDry-H is the introduction a new feature in which separating of filtrate and gas takes place in the hollow shaft, alleviating the need for the usual large vacuum tank. "Our experience has shown that separation of filtrate and gas take place effectively in the hollow center shaft," says Mika Mussalo, ANDRITZ Head of Product Management, White Liquor Plant. This gives us the possibility to leave out the traditional large vacuum tank. This has reduced the footprint of the system by around 30%."

"The new features applied to the LimeDry-H system mean that our customers can expect better and more stable running of the lime mud feeding and a simplified system at the same time as reducing footprint and investment costs," concludes Seppänen.

GETTING SMART

In one of the latest developments, ANDRITZ is now offering SMART technology as an option to be applied to LimeDry-H by utilizing machine vision and other new instrumentation. This is part of ANDRITZ's main goal and vision to enable increased automation levels in the white liquor plant, as well as across all mill processes. These additions will improve operator transparency, at the same time as enabling a more autonomous operation of the plant, for instance, allowing automatic start-up sequences. SMART tools are connected to the Distributed Control System (DCS) controls as well as to higher level controls including KilnACE & RecaustACE.

Vision via cameras can now be installed at various points across the process, allowing the viewing of possible build-ups as well as monitoring the status of lime mud chutes and doctor blades. This means operators will be able to monitor the system from the control room as opposed to manual checking. Visual technology can also be used to monitor the condition of disc and filter fabrics. In addition, an automated cleaning system for lime mud scraping and chutes has been developed. These new developments reduce the need for operator checks and manual action, therefore taking another step towards a fully autonomous mill operation.

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