HOLZWERKE LADENBURGER

From sawmill by-products *to* premium fuel

At its site in Kerkingen/DE, Holzwerke Ladenburger built a new pellet mill with an annual production capacity of 160,000 t to make the best possible use of sawmill by-products and increase added value. Rudnick & Enners, Alpenrod/DE, supplied the machine and plant technology for pellet production – from the sawmill to truck loading.

Martina Nöstler Rundick & Enners (1), Holzwerke Ladenburger (1), Martina Nöstler

With an annual cutting volume of 1.1 million m³ of log wood, a correspondingly large amount of sawmill by-products accumulates at Holzwerke Ladenburger's site in Kerkingen. Due to growing demand for pellets and the challenging situation in the pulp market, the company decided to invest in its own large pellet mill in Kerkingen. About five years ago, Ladenburger launched the "Central Drying" project that involved a cumulative investment of around €120 million. "The main goals were to reduce internal traffic between our sites and to optimize processes and value creation," Managing Director Steffen Häußlein explains. In addition to increasing drying capacities, a new energy center with a combined heat and power plant and a new pellet mill were also built. For the latter, the company relied on the expertise and technology of Rudnick & Enners. "We wanted a high-performance and economical pellet production facility from a single source. A complete package – except for the belt dryer – with only one contact person," Häußlein says and adds: "We have worked with Rudnick & Enners several times and were therefore convinced that they would built the plant to our satisfaction."

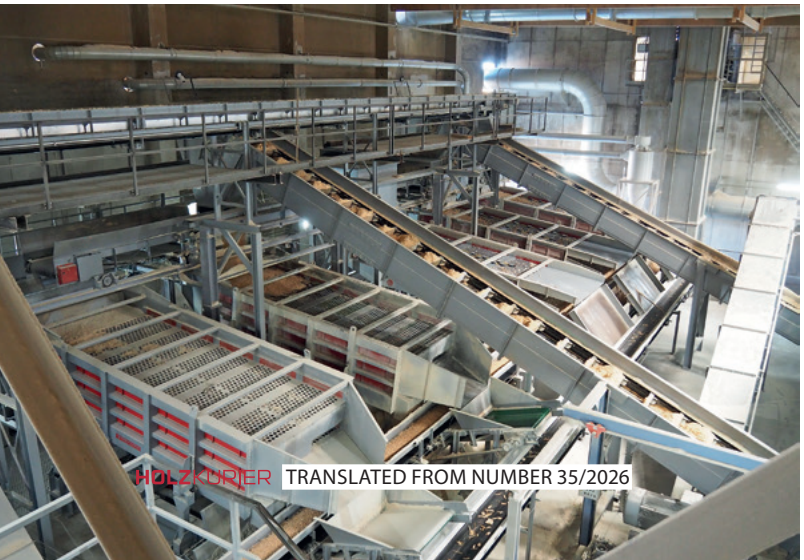
On the left, the over 700 m long tubular belt conveyor; in the background, the CHP plant and next to it, the respective silos for the finished pellets and the raw material

720 m long connection between sawmill and pellet mill

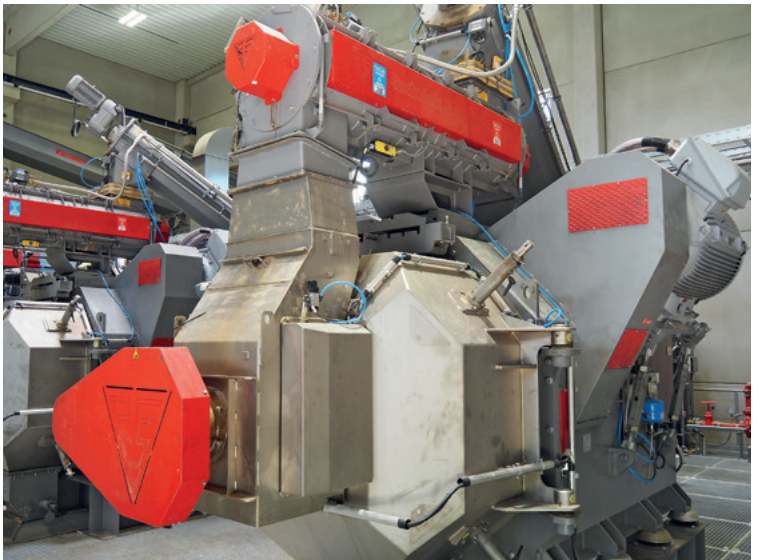
The pellet mill has been in operation since November 2025 and is designed for a capacity of 160,000 t a year. Production runs 24/7. Approximately 50 % of the sawmill by-products are processed in the pellet mill; the remainder is sold externally. Ladenburger also has an existing pellet mill in Bopfingen/DE with a production capacity of 40,000 t a year. Delivery of the equipment from Rudnick & Enners begins at the sawmill, where an external infeed station has also been installed. Sawdust and wood chips are conveyed from the existing wood waste disposal system either directly to the pelleting plant or into the existing residual wood bins.

An approximately 720 m long tubular belt conveyor transports the wood chips and sawdust to the two wet chip silos at the pellet mill. This eliminates the need for internal transport using wheel loaders. A

View of the sawmill waste disposal system with screening machines that Rudnick & Enners installed



The RE PM 7 pellet presses each have a production capacity of 7 t/h and feature fully automatic roller adjustment



bucket elevator lifts the material to a height of around 37 m and then empties it into the two wet chip silos.

After silo discharge, the wet chips undergo processing with an upstream screening machine. The Rudnick & Enners wet chip hammer mill reduces the wood chips to a particle size that is suitable for drying. In order to react to fluctuations in the raw material composition as energy-efficiently as possible, Rudnick & Enners equipped the hammer mill with a load-dependent Twin Drive. Furthermore, the wet chip hammer mill operates without additional extraction and achieves a capacity of 18 t/h. The chips are conveyed directly into the large intermediate storage container in front of the belt dryer. The dried chips are then temporarily stored in a separate silo. From there, they enter the heart of the plant.

Three pellet presses including horizontal coolers

Rudnick & Enners gave the actual pellet production a very compact layout. It consists of three Rudnick & Enners pellet presses, each with a capacity of 7 t/h. First, a discharge screw conveys the wood chips to the high-performance Rudnick & Enners RE-TSM dry chip hammer mill. Next, cold water and starch are added, before the material is conveyed to the mixing container via a chain conveyor. From there, the pelletizable material is dosed and fed to the three pellet presses.

The Rudnick & Enners RE PM 7 presses form the heart of the plant and feature several technical innovations, including fully automatic roller adjustment and integrated pellet density control. "The pellet press has a wide working and control range. This reduces the need for manual intervention by the operator. In addition, the automatic roller adjustment makes starting and stopping the pellet press much easier," Sven Rudnick says.

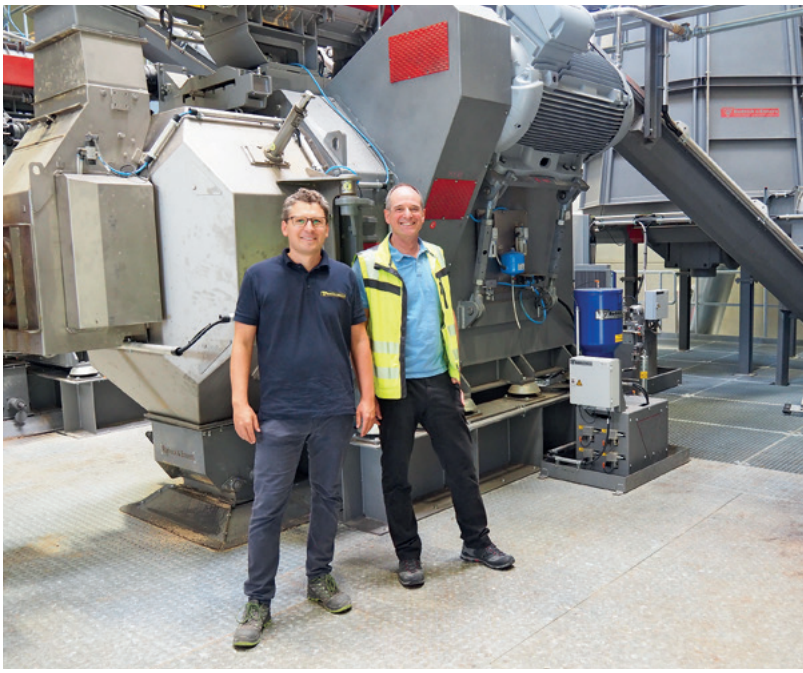
Below the pellet presses, Rudnick & Enners installed three horizontal coolers. "These gently cool down the pellets without over-drying them. Furthermore, gentle transport reduces pellet breakage and fine dust," Rudnick explains. After subsequent screening, the pellets are transported to the three pellet silos, which have a total capacity of 16,800 t. "The size of the silos is ideal, especially for the summer months, although we have experienced consistently high demand this year," Häußlein tells us.

Two truck loading stations

Via additional tubular belt conveyors and a bucket elevator, the finished pellets are conveyed to the intermediate container before being loaded onto trucks. Holzwerke Ladenburger opted for two fully enclosed loading stations, each of which is equipped with a high-performance vibrating screen for winnowing and a mobile loading conveyor. "Our vibrating screens with downstream winnowing provide a high separation rate combined with high throughput," Rudnick explains during a tour of the site. Drivers can load the pellets themselves, and one truck is usually filled in under 20 minutes.

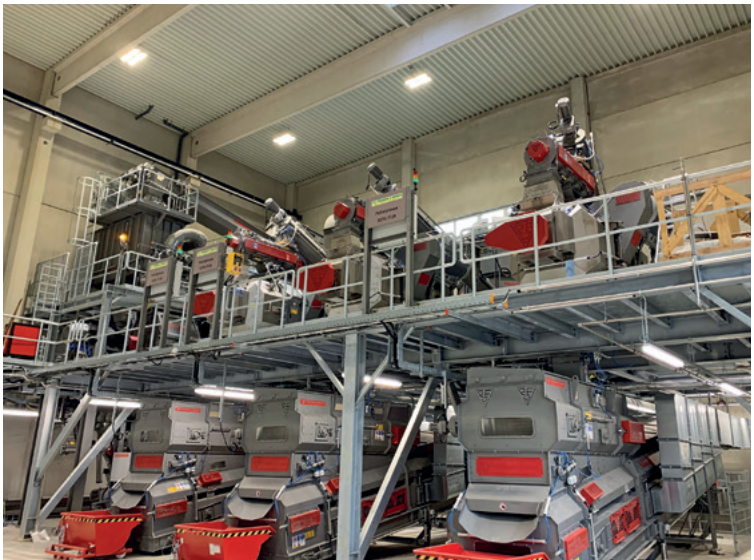
Rudnick & Enners installed the plant visualization system in the control room of the pellet mill. From the sawmill connection to truck loading, operators can view the entire plant process on four screens. Rudnick & Enners supplied the complete switching and control system, including the plant visualization.

Häußlein is very satisfied with the way Rudnick & Enners handled the project. "The collaboration was very good, and the plant components are running flawlessly. Whenever we have any questions, someone is always available." Rudnick also praises the excellent and pleasant cooperation with Holzwerke Ladenburger's management. Given the ambitious schedule, on-time completion was a particular challenge. It is all the more remarkable that the first pellets were produced just a few months after assembly began. In fact, the foundation slab for the pellet mill was finished in July, and the first pellets were produced in late October. Rudnick & Enners has already been commissioned with further projects. //



Excellent cooperation: Ladenburger's Managing Director Steffen Häußlein (right) with Rudnick & Enners's Managing Director Sven Rudnick

Holzwerke Ladenburger's pellet mill in Kerkingen is designed for a capacity of 160,000 t a year



View of the actual compact pellet production: above, the three R+E pellet presses and below, the associated horizontal coolers