NEUSCHMIED HOLZ

More added value thanks to a new pellet mill

In order to be able to process the accumulating wood waste, i.e. wood chips, sawdust and shavings, at its own production site in Hopfgarten in the Brixental, Neuschmied Holz decided to invest in a pellet mill. Rudnick & Enners was chosen as general supplier of the project.

& Martina Nöstler

Neuschmied Holz's pellet mill has been in operation since October 2023. "The idea was to use not only the wood waste which accumulates in the sawmill and planing mill but also the excess heat from the heating plant," managing director Hansjörg Neuschmied says, explaining the intention behind the newly built plant. The company also plans to use wood chips for the production of pellets. The necessary technology is already there. "We want to create as much added value as possible at our production site and avoid unnecessary, long-distance transport. We work with a regional contractual partner who sells the pellets mainly in the district. So, we have taken another step in the right direction," Neuschmied adds.

Customized solution

The convincing plant technology and the long-term good collaboration with Rudnick & Enners of Alpenrod/DE in the sawmill prompted Neuschmied Holz to rely on the German company's expertise for the pellet mill as well. When planning the mill, the experts from the Westerwald took Neuschmied's wishes and requirements into account and developed a suitable plant layout. Rudnick & Enners built a pelleting plant which was adapted to the limited space available and includes a belt dryer and truck loading station. "We basically built the pellet plant around the existing heating plant in order to create as many synergies as possible," Christian Gebele, project manager at Rudnick & Enners, explains.

A wheel loader feeds the sawdust into a specially designed infeed station with a quick emptying mechanism. Then, the sawdust enters a 1,000-stere rectangular container with a conveyor which can be raised and lowered for automatic loading and unloading. "Having a large buffer space is important because it allows us to balance fluctuations in production in the sawmill while ensuring a continuous use of the generated heat," Neuschmied tells us. The conveyor also doses the sawdust as it is transported to the belt dryer.

Belt dryer with heat recovery unit

The belt dryer developed by Rudnick & Enners and Swiss Combi has a drying area of 70 m^2 and is installed on a stable false ceiling above the fuel container of the heating plant. The dryer's belt is 5 m wide. For this particular belt dryer, Rudnick & Enners developed and installed a heat recovery unit to increase thermal efficiency. "This results in a much more homogenous seasonal heat consumption, and a higher throughput per MWh of heat can be achieved, too. This way, we can supply the pellet mill with sufficient sawdust and wood chips despite limited heat resources," Sven Rudnick, managing director of Rudnick & Enners, explains. The belt dryer is integrated into the overall plant control system and is regulated by it. "This makes operating the plant very easy," Neuschmied confirms.

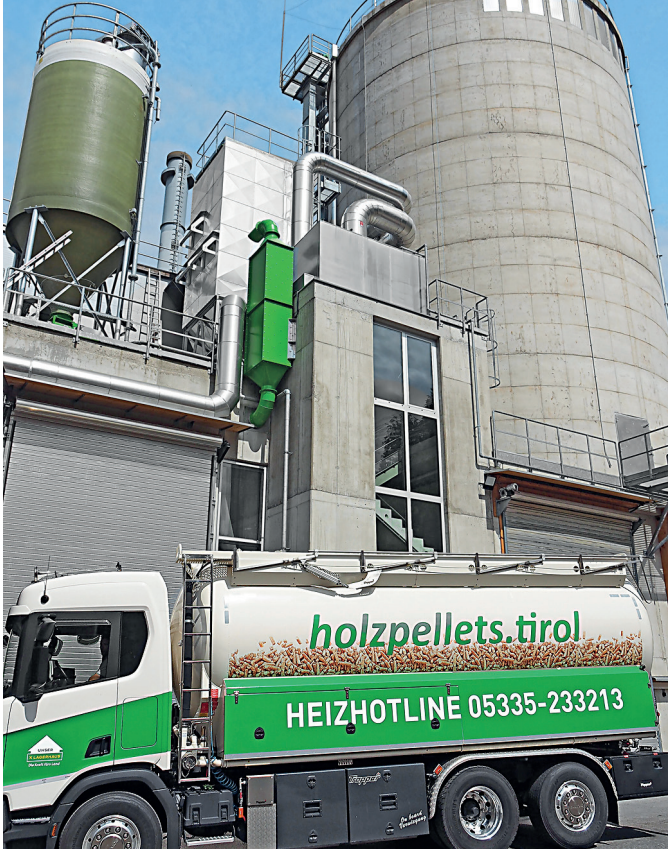
After it has left the belt dryer, the dried sawdust enters the dry chip silo which has a capacity of 1,700 m^3. There, it is mixed with the wood shavings, which are fed directly into the silo via a high-pressure pipe.

Flexible use

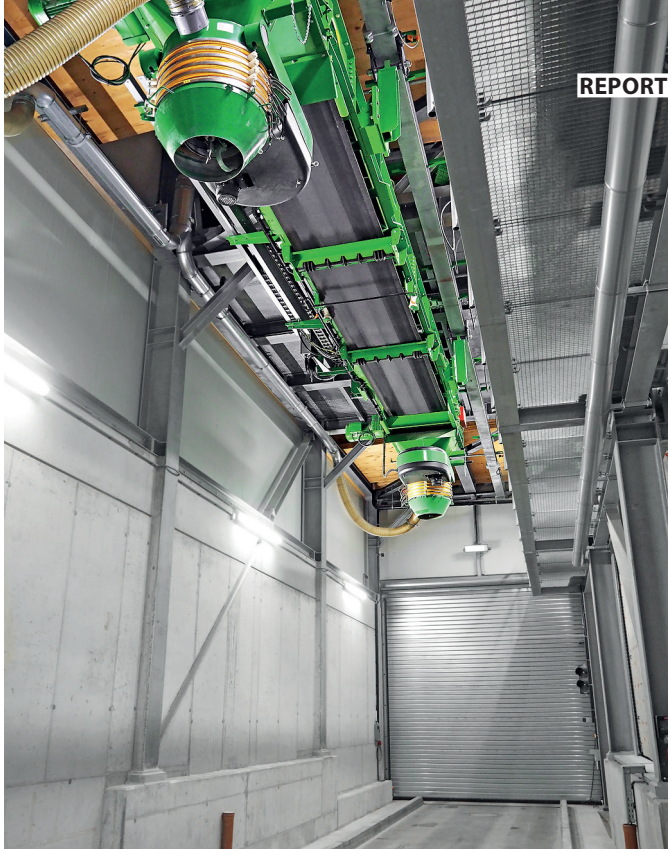
Neuschmied can also use wood chips to produce pellets. For this purpose, Rudnick & Enners installed a wet chip hammer mill in front of the belt dryer. The wet chip hammer mill works without an extraction system. "The belt dryer can also be used for drying wood chips only. To make that possible, we installed a bypass for the supply and remo-

Hansjörg and Iris Neuschmied with Rudnick & Enners's project manager Christian Gebele (from left)

A wheel loader feeds the sawdust into a specially designed infeed station. Then, the sawdust is buffered inside a 1,000-stere rectangular container



Rudnick & Enners delivered a space-optimized pellet mill to Neuschmied Holz. The pellets are distributed by a regional partner



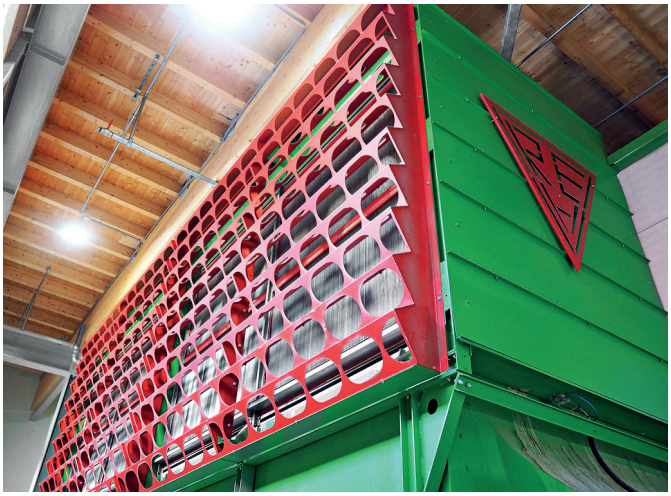
In order to meet the strict requirements for noise protection, a housing surrounds the entire loading station

val. This offers the customer additional flexibility in the raw material and sales market," Gebele tells us during the tour in Hopfgarten.

From the dry chip silo, the sawdust and wood chips are transported to the actual pelleting plant. First, they are crushed using a hammer mill and mixed with a binding agent. Next, they enter the mixing container where they are conditioned. The pellet press behind it has an output of 5.5 tonnes per hour. The pellet mill's production capacity is around 20,000 tonnes a year and more. "Once they have left the press, the pellets enter our horizontal cooler, where they are cooled down gently. This reduces the mechanical abrasion of the pellets and increases their quality," Gebele tells us. After being screened into three fractions, a bucket elevator transports the pellets to two silos, each of which has a capacity of 850 t.

In addition to the complete control and monitoring technology, Rudnick & Enners also supplied the loading station. In order to meet the demanding requirements for noise protection, a housing surrounds the loading station. The mobile loading conveyor makes it easier to fill the trucks. The drivers do the filling themselves.

"With this particular project, our goal was to install efficient plant technology in the limited available space and to use as much of the existing infrastructure as possible. Together, we reached this goal," Gebele says. "We are very satisfied with the way Rudnick & Enners handled the project. We were supplied with a customized plant and, despite the demanding requirements of the building authorities, we were always able to find a good solution," Neuschmied emphasizes in conclusion. //



To ensure the efficient operation of the belt dryer, Rudnick & Enners installed a belt dryer with an integrated heat unit