

Sulzer cooperates with Metsä Group's bioproduct mills in Kemi and Äänekoski

Sulzer has thorough experience and a proven track record of reliable and energy-efficient pumping and mixing solutions and is the key equipment supplier for many recent pulp, paper and board mill projects globally. Also new applications and technologies based on wood raw materials represent high-priority partnership areas. This development goes hand in hand with the company's systematic aim to reduce its own environmental footprint.



We set high material, energy and environmental goals for the Kemi bioproduct mill. Only the best available technology is used. That is why we require that also our partners provide the technically most reliable solutions and that they are familiar with our processes and needs. Based on our experience, Sulzer's solutions fall into this category.

Jari-Pekka Johansson
Director of the bioproduct mill project at Metsä Fibre

A few years back, Sulzer was chosen as the main pumping and mixing system supplier for the main processes of Metsä Fibre's, part of Metsä Group, Äänekoski bioproduct mill. The huge delivery included highly efficient AHLSTAR process pumps, the latest generation of MCE medium consistency pumps, and agitators. Altogether more than 400 pieces of equipment, designed for high reliability and energy efficiency as well as for low operating costs, were delivered.

The Äänekoski mill is the largest wood-processing plant in operation in the northern hemisphere. It produces 1.3 million tons of softwood and birch pulp for board and tissue as well as specialty products. It is called a bioproduct mill because in addition to high-quality pulp, it produces other bioproducts such as tall oil, turpentine, bioelectricity, product gas, sulphuric acid and biogas. Also upgrading of lignin and manufacture of textile fibers from pulp are being researched. The mill generates excess bioenergy and uses no fossil fuels.

Energy efficiency and low emissions were the central design criteria for the greenfield bioproduct mill. Sulzer invested a lot of design and planning work in this significant project to find the best solutions and to achieve a good customer experience. The delivery also included uploading of the customer documentation to the electronic portal of Metsä Fibre. During the guarantee period, project meetings with the customer were held on a monthly basis to ensure that everything was working as it should. The mill has been in full operation since 2018 and, according to the customer's feedback, the Sulzer equipment is performing well.

The customer has also been very satisfied with the exchange unit service Sulzer provides. This service makes it possible for the customer to order a process pump exchange unit as a fast delivery before a scheduled process downtime or sometimes due to a sudden failure. Sulzer keeps the equipment information up to date in the system, and this allows delivery of exactly the right type of exchange unit based solely on the customer's location, the equipment's functional location and Sulzer's serial number. The 24/7 service agreement enables a replacement or service on site within a few hours from notification.

In the proximity of the bioproduct mill, recovery plants for different fractions are being built. Wood raw material based, totally new bio processes, such as 3D packaging and textile fiber processes, are under very active development. Sulzer is involved in the development projects by providing the latest pumping and mixing solutions for the new technology.

AHLSTAR pumps have been designed to meet also the most demanding hydraulic requirements.



Sulzer's specialists in front of the bioproduct mill in Äänekoski, Finland.



A manifestation of the good cooperation between the companies is that Metsä Fibre selected Sulzer as supplier also of the process pumps, medium-density pumps and mixers for the main processes of the next bioproduct mill that is being built in Kemi, Finland. Also this delivery includes several hundred devices. The EUR 1.85 billion project in Kemi is the largest investment ever in the forest industry in Finland. The bioproduct mill will produce approximately 1.5 million tons of softwood and hardwood pulp annually. The pulp will be used as raw material for board, tissue, printing paper and special products, as well as various bioproducts.

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Sulzer’s competence center with the world’s biggest full-scale research facility for the pulp, paper and board segment and for new process applications based on wood raw materials is located in Kotka, Finland. This is where the main product platforms for new applications are developed.

“Technological know-how also includes the ability to manage the whole process from product design to follow-up. We understand the customer’s processes and tailor the equipment accordingly. Our staff is curious. We keep our finger on the pulse and we are genuinely interested in what our customers need,” says Jukka Vanhala, Sales Manager for Finland.



MCE™ pump testing at Sulzer’s full-scale R&D center in Kotka, Finland.



SALOMIX SSF side-mounted agitators are used for mixing and agitating process liquids in industrial applications.

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