

New ultrafiltration technology saves fresh water at tissue mills

Water is a scarce natural resource, and its consumption is something that needs to be considered in all industries today. Valmet's new ultrafiltration technology is a unique solution for decreasing tissue mills' fresh water consumption.

TEXT Marianne Valta

Valmet's ultrafiltration technology uses the tissue machine's process water to produce ultrapure water: permeate. The permeate is used for the wire and press sections' high-pressure showers instead of fresh water. The permeate is free from solid substances, turbidity and bacteria, and therefore helps to maintain the performance and efficiency of the tissue machine.

The first prototype Valmet Ultrafiltration Tissue will be finalized and transferred to Essity's tissue mill for test use during spring 2018.

Savings in water and energy

Ultrafiltration technology is already being used at mills producing, for example, printing or packaging grades. For tissue mills, Valmet's new cross-rotational ultrafiltration process is unique.

"Using permeate instead of fresh water decreases the overall water consumption in the tissue-making process and creates savings in the energy used for heating the fresh water. A modern tissue machine consumes 5–15 m³ of water per tonne of paper, but our solution decreases

the consumption by 1–2 m³," explains **Pasi Nurminen**, Technical Product Manager at Valmet.

New technology developed to improve sustainability

Valmet has developed the ultrafiltration technology for tissue mills under the EU-funded project SpotView. Other members of the Finnish consortium are VTT Technical Research Centre of Finland, XerChem and the hygiene and health company Essity (formerly SCA).

Valmet's ultrafiltration technology and its possibilities for purifying water in the tissue process have been verified at VTT's laboratories.

"Water is a scarce natural resource and its consumption is something that needs to be carefully considered in all industries today. In Europe, the P&P industries are strongly reducing their intake of fresh water. Modern tissue machines have various possibilities for saving water, and Valmet's technology provides a unique solution to further decrease their fresh water consumption," says **Antti Grönroos**, Senior Scientist from VTT.





Innovating through networking

Through research and technology development work, Valmet aims to ensure that it has an advanced and competitive range of technologies and services for customers; to enhance raw material, water and energy efficiency; and to promote the use of renewable raw materials.

“I see that being part of different networks is a must for our R&D activities. Our goal is to build a value chain by combining expertise from research institutes and our customers’ needs with our own technological expertise to develop successful innovations. Co-operation is also beneficial from the financial point of view. In the SpotView project, we have developed a solution that will decrease the use of water in the tissue-making process, and I’m looking forward to seeing how our customers will benefit from the technology,” says

Ari Saario, Head of Research and Development at Valmet. ■

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SpotView in brief:

- Intended to develop innovative and sustainable processes and technology components to optimize the use of natural resources, especially water, in selected industrial sectors
- Coordinated by Centre Technique du Papier CTP in France
- Funding from the European Union’s Horizon 2020 research and innovation program under the grant agreement No 723577

More information: www.spotview.eu