



Tasowheel's comprehensive delivery for the modernisation of the UPM Pietarsaari pulp mill's drying machine dilution water control system consisted of the stepper motor actuators, valves and actuator server with interconnection cables required for the drying machine's headbox dilution water control.

# Tasowheel delivers modernisation of headbox dilution water control to UPM Pietarsaari

**Tasowheel Systems Oy has delivered a dilution water control modernisation for a drying machine, the KK2, at the UPM Pietarsaari pulp mill in Finland. The comprehensive delivery consisted of the stepper motor actuators, valves and actuator server with interconnection cables required for the drying machine's headbox dilution water control. The modernisation was carried out in May 2012 and operating experience has already shown that everything is operating perfectly.**

The modernisation of the UPM Pietarsaari pulp mill's drying machine dilution water valve control system became necessary when it was no longer possible to obtain spare parts for the previous valves and actuators. "We conducted an invitation to tender and ended up with the Tasowheel solution. Our selection criteria were functionality, durability and reliability as well as the fact that the whole delivery had to be of high quality. The availability of spare parts was also a determining factor. In this case, we trusted in Finnish technology expertise," says the UPM Pietarsaari

pulp mill's **Jorma Sara**, who was project manager for the modernisation.

### No plastic parts in the dilution water valves

UPM also set as a requirement that the dilution water valves should not have any plastic parts. "We consider this issue to be absolutely essential. The valves must not contain any plastic parts, to ensure that no plastic can get into the pulp. Steel is naturally also more durable than plastic and extends the operating life of the valves," explains Automation Engineer **Risto Hautanen**. A total of 35 LDA 1520 lin-

ear control actuators and LDV dilution valves were installed in the UPM Pietarsaari pulp mill's drying machine KK2.

Practice has shown that the actuator server's touch-screen user interface is clear and easy to use. According to Machine Operator **Jorma Jaatinen**, the previous solution also had a touch screen, but in Tasowheel's server it is larger, clearer and easier to use in every way. The actuators are connected to the bus using the existing control interface, and this solution has proved to be successful. The actuator server's communication with the Metso DNA

automation system has also been established without any problems.

The basis weight of the UPM Pietarsaari pulp mill's drying machine pulp product is 1200 g/m<sup>2</sup> and its 2-sigma value is 3-4 g/m<sup>2</sup>. According to the drying machine's operating manager, **John-Erik Vestvik**, Tasowheel's technical solutions are modern. "Manual control is absolutely a thing of the past, to which there will be no return," he says. "We require the profile to remain straight and the basis weight to match our requirements across the full width. That's how things are now."

A uniform basis weight for market pulp is significant in terms of logistics. "When pulp bale stacks are of uniform size they remain vertical better, which is an important issue in loading and intermediate storage," says Jorma Sara.



According to the UPM Pietarsaari pulp mill's drying machine operator, Jarmo Jaatinen, Tasowheel's touch screen is clear and easy to use.

### Smooth installation and start-up

The installation and start-up of Tasowheel's delivery took place in May 2012. According to Operating Manager Vestvik, these work stages are always critical in a project, because the shutdown cannot stretch beyond the agreed period. "We have only three shutdowns a year and everything must be planned efficiently. With Tasowheel we experienced no problems; installation was on schedule, start-up took place as planned and everything is now operating flawlessly," says Vestvik,

summing up his experiences with Tasowheel.

As an option in the UPM Pietarsaari delivery, Tasowheel submitted an offer for a dilution water control modernisation of similar scope for the mill's other pulp drying machine, the KK1, for which 65 control devices will be required. "No investment decision has been made, but this will come up for review in the near future," says Jorma Sara.



The dilution water valves delivered by Tasowheel have no plastic parts.

### Key functions of the Tasowheel actuator server

- actuator positioning
- communication with QCS system
- power supply for actuators
- calibration of actuators
- scaling of actuators
- actuator diagnostics
- control of actuator parameters

### User interface

- alternative solutions on a customised basis