

IT'S ALL ABOUT

CUSTOMER SATISFACTION

When integrated Swedish mill Holmen Paper Hallsta wanted to further enhance its book paper production process, it called on ANDRITZ to carry out a rather unique project of utilizing two second-hand twin wire presses, and an existing, pre-used screw press to increase capacity and improve pulp quality for its PM12.

Customer satisfaction is everything when it comes to making quality paper. In the competitive world of book printing paper, it is essential that the final product being delivered delights the customer with both features of runability and good surface printability. The only way to really make sure this happens is to start at the beginning – with the quality of the pulp.

Hallsta Paper Mill, part of Holmen Paper, located in Sweden, has always had something of a pioneering spirit in the way it approaches the production of paper. In fact, it is said to be the very first mill in the world to have used the TMP production process on a large scale, starting up its first process in 1974. Also, at one time, the mill was one of the largest production sites for newsprint in the world.

Fast forward to 2018, and the mill has been through the recent market shake ups of graphic paper decline, particularly in newsprint, and has become adept at adapting to different market needs. In early 2014, Holmen Hallsta got out of newsprint production altogether and concentrated its two remaining machines, PM11 and PM12, on making lightweight uncoated and book papers respectively.

Magnus Rydstrand, Production Engineer, TMP, Hallsta Paper Mill says, "The strategy from Holmen Paper recently has been to get away from newsprint production completely and to focus on making higher quality papers using virgin fiber. In this area of Sweden we have a lot of access to wood, particularly

spruce, which we now use for 100% of our products coming out of the mill.

"We converted PM12 to Holmen BOOK grades in the process of closing down PM2, 11 years ago."

Holmen Hallsta sends its 570,000 t/a of paper products from the mill in Sweden mainly to the European market, including the Nordics, Germany, UK, Netherlands, Poland, and France.

AN IMPROVEMENT PROJECT

In an effort to continually improve the quality of its book paper grades Holmen Hallsta decided that it needed to look into its water management between the TMP line and PM12, and particularly at the dewatering stage

ERIK SANDGREN
Project Manager
Hallsta Paper Mill

"I have been working on various projects here for over 30 years, and I know that ANDRITZ always does a good job. We can always trust that they take full responsibility for the end result."



on the line feeding the paper machine. Rydstrand explains, "We knew in 2008 that there was a problem with the separation of water between the pulp mill and the paper machine. We needed to have clean water going into the paper machine, otherwise we would have to use extra chemicals because any dead fibers going around will darken the water, encourage bacteria to grow, and cause all sorts of problems with brightness and potentially paper quality and runability."

Due to machine movements and conversions in the past, the dewatering stage between the TMP line and PM12 at the mill was always considered to be a temporary arrangement, and the plan had been to improve the system as soon as the time was right. In the meantime, the mill managed to acquire two 15-year-old ANDRITZ twin wire presses from another Holmen mill, at the same time as having an ANDRITZ

screw press from a DIP line that was shut down at Hallsta Paper Mill in the past. It was decided by the mill that it would be a good idea to utilize all three dewatering presses for the improvement project.

"The twin wire presses we acquired, as well as the screw press, were still in excellent condition, which gives an idea of the engineering and manufacturing quality of ANDRITZ equipment. We decided that utilizing the equipment we had would be an excellent solution for our needs for improving pulp washing for PM12," says Rydstrand.

ANDRITZ TRUSTED TECHNOLOGY WITH FULL RESPONSIBILITY FOR SUCCESS

ANDRITZ was the first port of call for the mill and its pulp washing improvement plan, as not only was the equipment known, but also the mill has had some history with the company as a major supplier in the past.

Erik Sandgren, Project Manager, Holmen Paper Hallsta, says, "I have been working on various projects here at the mill for over 30 years, and I know that ANDRITZ always does a good job. We can always trust that the engineers, experts, and management take full responsibility for the end results. Also, we like the dewatering technology from ANDRITZ; in fact, we already had 12 twin wire presses installed here before this project commenced, the oldest ones dating back to 1989."

With its long history in dewatering technologies – ANDRITZ built its first dewatering press in 1950 – the company was the perfect fit for the project at Holmen Hallsta. ANDRITZ has now built and supplied more than 600 twin wire presses and 500 screw presses to pulp and paper mills around the world but, most importantly for this project, it also has vast experience in servicing both types of presses,

The two twin wire presses were refurbished and installed, adding to 12 existing ANDRITZ twin wire presses already successfully running at Holmen Hallsta.





As well as the two twin wire presses, Holmen Paper Hallsta also utilized a second-hand ANDRITZ pulp screw press to improve pulp washing for PM12.



(Left to right): Magnus Rydstrand, Production Engineer, TMP, Holmen Paper Hallsta; Erik Sandgren, Project Manager, Holmen Paper Hallsta; Axel Elfving, Development Engineer, Holmen Paper Hallsta; Patrik Rådmans, Project Manager Pulp & Paper Services, ANDRITZ; Mahir Mehinagic, Product Engineer, Twin Wire Press, ANDRITZ; and Henrik Fernström, Product Manager Dewatering and Pulping, ANDRITZ.

integrating second-hand equipment, rebuilds, retrofits, upgrades, as well as spare and wear parts and consumables.

In the case of Hallsta Paper Mill, ANDRITZ was contracted to refurbish, install, commission, and start up all three dewatering presses. This included the overhaul and reutilization of the two second-hand wire presses, the relocation and light overhaul of the existing screw press, rebuilds and relocation of two existing conveyors, installation of a new conveyor, and basic engineering and erection.

The first customer contact was in January 2015, with the contract and project start

taking place in March 2018. Start-up took place just seven months later in November 2018, after major works undertaken by Hallsta Paper Mill in civil construction, and the installation of tanks, pipes and piping, and agitators.

AN UNUSUAL PROJECT WITH VERSATILE RESULTS

This was an exceptional project, even for ANDRITZ, in as much that installation took place using two different types of dewatering technology, the twin wire and screw presses, both pre-used. Henrik Fernström, ANDRITZ Product Manager, Dewatering and Pulping, says, "Utilizing a screw press in this process stage was unusual, thus

challenging. However, it was obvious to integrate it, since this piece of equipment was at the mill already."

"The screw press was almost ready to be integrated in the new line, but the wire presses had to be dismantled for transport," adds Patrik Rådmans, ANDRITZ Project Manager, Pulp & Paper Services. "The condition of the twin wire presses was really good. After refurbishment of the rolls, and due to the stainless steel construction, they looked like new machines. Yes, there were some parts that needed replacing, but after the refurbishment work over four or five months, both twin wire presses were as good as new.

MAHIR MEHINAGIC
Production Engineer
Twin Wire Press, ANDRITZ

"This was a really interesting project we took part in at Hallsta Paper Mill. We can all be happy that such reliable equipment from ANDRITZ is up and running again."



GETTING TECHNICAL

ANDRITZ PROJECT SCOPE

- Overhaul and re-utilization of two second-hand twin wire presses TWP 285LL
- Relocation and light overhaul of an existing pulp screw press SCP 1407MM (used in the former DIP plant at Holmen Hallsta)
- Installation of a new conveyor for pulp diluting and shredding after washing
- Rebuild and relocation of two existing screw conveyors
- The equipment was installed in the former location of PM 2 (already dismantled)
- The ANDRITZ scope included basic engineering, erection, commissioning, and start-up of the above equipment

"We refurbished most of the moving parts and bearing housings, blasted and painted them to keep them running for years to come, and replaced all rubber covers and seals as they had perished a bit after 15 years. The motors were all pretty much intact; we just serviced them and checked them over."

The refurbished presses were connected commissioned and started up during a

short shutdown at the mill in November last year.

Rydstrand says of the results being obtained since start-up, "We have seen a great improvement in the dewatering of the pulp that we are producing, but also a decrease in the use of bleaching chemicals on PM12.

"We are still looking for perfect consistency, and ANDRITZ continues to assist

us in optimizing both the twin wire presses and the screw press to achieve this, but already it can be seen that we will obtain even better results than the ones we were expecting when we first embarked on this project."

Mahir Mehinagic, Product Engineer, Twin Wire Press, ANDRITZ, says, "This was a really interesting project we took part in at Hallsta Paper Mill, and the mill team was a pleasure to work with. Even though this was a used equipment project, the presses looked like new when they were installed and started up, and we can all be happy that such reliable equipment from ANDRITZ is up and running again."

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