

HEINOLA news

HEINOLA SAWMILL MACHINERY INC. Customer Magazine



HEINOLA SAWLINES LINE AND EUROS IN SYNC

HEINOLA SAWMILL MACHINERY INC.'S circular sawing system, the HEINOLA Syncro Cutting System, developed by the company, has been up and running at two sawmills for over three years already. With this solution both shafts of the double arbour saw are installed one on top of the other in the same line, allowing us to minimise the area where the saw blades are in contact with the wood lengthways in the cutting section. This also allows the outer edges of the saw blades to pass each other on the cutting section, minimising the central seam created. This method allows us to achieve a particularly good surface quality on our lumber, as well as providing the opportunity to saw precisely with circular blades to create heavily curved cants. Shortening the amount of space the saw blades require lengthwise allows the rollers that support the wood to be placed as close as possible to the cutting section, meaning that

they can then follow the profile of the cant's outer surface, which creates optimal conditions for curve sawing. Practical experiences have demonstrated the indisputable benefits of this method. With curve sawing, the lateral forces placed on the circular blades are smaller and the replacement interval for the blades longer. Over the course of two shifts they only need to be replaced in the morning prior to the start of the sawing shift. As the blades can work their way through as many as 15,000 logs before they require resharping, in practice this means working hours can be put to more efficient use and blade costs lowered.



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Efficient and solid sawline solutions



Precise utilisation of raw materials



High levels of accuracy and impeccable surface quality



Controlled curvesawing with a minimum radius



NLK Sodruzhestvo, Sawline, Russia

LLC Novgorod Timber Company Sodruzhestvo, operating out of Russia's Novgorod Oblast, has been sawing logs at its plant in the town of Nebolchi for over 20 years. Sawline purchased at the end of the last millennium have now reached the end of their life cycle, and last spring a long procurement process concluded with the decision

to modernise the sawline with a new HEINOLA SL100 sawline. In Heinola and at the machinery workshops of its partner companies, the manufacturing of the sawline equipment is progressing rapidly, with installation work due to start in the final quarter of 2017, in time for production to begin in 2018. The new sawline is, like its predecessor, a circular sawline, and is equipped with LLC Automatika Vektor's 3D scanning technology, placement optimisation, and automatic log turning based on the optimisation results. In addition to the HEINOLA LC700 chipper canter, the saw line will also feature two brand new HEINOLA SP4 profiling units, allowing for profiling of the sides of logs and cants whilst skew cutting 1+1 or 2+2 side boards. The actual cant sawing/resawing will be carried out with a new HEINOLA CH/RG-440/6 sawing unit, which uses the HEINOLA Syncro Cutting System method.

RAPID growth underway

GROWTH is clearly picking up. Investments have increased, and trade has increased with them. Hard work on projects always pays off with time.



KARI KIISKINEN
CEO

A few years ago it might have been difficult to believe that at this moment in time we would be the leading supplier of drying kilns in Finland, and that we would be receiving as many different plant orders from Russia as we are currently seeing.

Over recent years we have received orders for over 70 different drying kiln solutions from throughout the Nordic and Baltic countries and Russia. In total, these drying kilns can dry over three million cubic metres of lumber a year. Our kilns have become well-known for their uncompromising drying quality and high capacity. Around half of these kilns were delivered to sites in Finland.

New plant investments have given us no shortage of work in all of our product areas and for a number of countries.

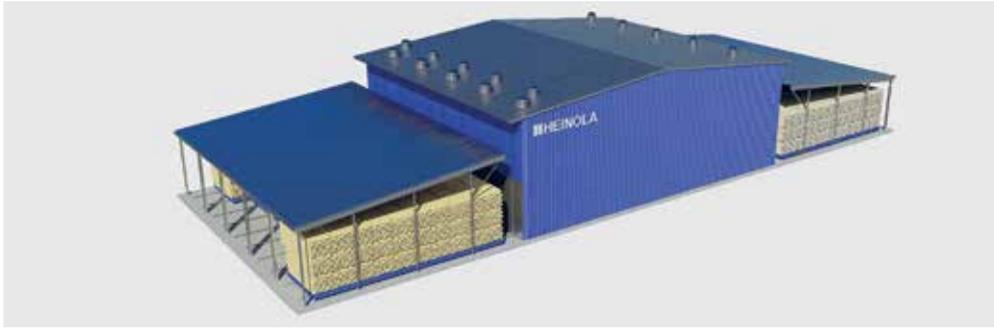
MANUFACTURING currently underway:

- 2 HEINOLA sawlines
- 3 HEINOLA sorting lines
- 3 HEINOLA packaging machines
- 18 HEINOLA progressive kilns
- 15 HEINOLA chamber kilns

These orders have a total value of approx. MEUR 35, and are due for delivery in 2017 and 2018. We are proud of the trust placed in us and will continue our efforts with both these and new projects.

Nowadays, customers are looking for an increasing degree of efficiency and flexibility in the products they purchase, as well as the ability to process large numbers of smaller pieces generated. Our methods have allowed us to meet this demand. All the lumber processing lines currently being manufactured are high-capacity lines with a processing capacity in the region of 400,000 m³ of lumber a year. In terms of number of individual pieces, this equates to over 30 million pieces of lumber processed each year.





HEINOLA DRYING KILNS

DRYING CAPACITY OF 3 MILLION CUBIC METRES

For demanding Nordic sawmill companies only the best will do

AN ever-growing number of sawmills in Russia and the Nordic and Baltic countries have chosen HEINOLA drying kilns and advanced HEINOLA Eco Kiln Control System, into which the QualityChamber Opti® Drying Kiln Simulator has been integrated, optimising movement of the internal moisture in the timber to be dried, the shrinkage of the wood and the drying stresses. We are the only supplier on the market with an integrated QualityChamber simulator included in our drying kiln control system.

According to the customers, HEINOLA's drying kilns provide consistent high quality, HEINOLA's control system is particularly user-friendly, and HEINOLA's drying kiln equipment and structures are of excellent quality. Furthermore, we are seen as a reliable supplier, offering good support services close

to customers' facilities. We currently have the following products on our order book: 18 HEINOLA automatic progressive kilns and 15 HEINOLA chamber kilns. HEINOLA is authorised to use the Key Flag symbol of the Association for Finnish Work on its products – signifying that they are of high quality and made in Finland. "We are the only drying kiln supplier on the market with the right to use this domestic content symbol.

In total, over 70 drying kiln units, with an annual capacity of over three million cubic metres, have been ordered over the course of just a few years! Heinola Sawmill Machinery Inc. would like to thank our customers for their confidence in us; we intend to continue our long-term focus on ensuring the best drying quality.

Special features of HEINOLA DRYING KILNS

■ STAINLESS STEEL

structure featuring wide self-supporting panels, reducing installation time and with 50% fewer potential leaks.

■ The stainless steel is austenitic-ferritic, EN1.4307, and can withstand highly aggressive drying conditions.

■ The heat radiators' plate thickness is 0.4 mm, and they can be cleaned with a high-pressure washer. The radiators also come with automatic triple freezing protection system.

■ The fan is welded robust construction, resistant structure, eliminating vibrations. shaking.

■ The lifting doors come with double fall protection.

■ Heat and electric energy power and consumption measurements can be monitored online as standard.

■ The exhaust fan motor is located outside the exhaust duct, and is easy to service and long-lasting.

■ All servicing and maintenance measures can be carried out through the kiln's loft: press frame cylinders, wet sensor basins, motor greasing, radiator aeration etc.

■ The cylinders are equipped with a position sensor, making load movement without problems easy.

■ The load movement motors are located outside the kiln.

■ The HEINOLA Drying Kiln Control System is easy to use and equipped with safety features. Control System is approved for a Swedish furniture manufacturer's production plants in many projects.



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Superior drying quality



Customer-orientated technical support



At the forefront of drying innovation



Energy-efficient drying control system using an integrated drying simulator



SWEDISH COMPANY MOELVEN NOTNÄS AB

ordered two HCH forklift-loaded chamber kilns in 2016, with an annual capacity of approx. 40,000 m³. The order included the turnkey delivery of the two chamber kilns. At the same time, the customer's 12 existing chamber kilns were to be connected to the HEINOLA Eco Kiln Control System. The deal includes the option for two new chamber kilns, which the customer ordered in summer 2017. The kilns will be equipped with load presses, a HWHP spraying system, heat and electric energy measurement systems and the advanced HEINOLA Eco Kiln Automation System, with an integrated i QualityChamber Opti® Drying Kiln Simulator. Moelven Notnäs AB CEO Peter Broberg has the following to say: "HEINOLA is an experienced equipment supplier. These investments will provide us with well-tested solutions and the very latest expertise in the drying technology. For us, their project management, technical support, maintenance services, and the user-friendly HEINOLA Eco Kiln Control System were deciding factors in our selection of a drying kiln supplier."

AS TOFTAN of Võrumaa in Estonia, part of the Swedish Karl Hedin AB group, ordered six drive-through HCHD chamber kilns in 2016, with an annual capacity of approx. 130,000 m³. The customer was so satisfied with this order from HEINOLA that they ordered six more of the same kind of chamber kilns in 2017. The total capacity of the HEINOLA chamber kilns is set to stand at 260,000 m³. The new chamber kilns are equipped with load press frames and a HWHP spraying system.



HEINOLA CARE

TEAM HEINOLA TAKES CARE



Spare parts



Mechanical maintenance



Automation maintenance



Remote services



Contract and preventive maintenance



Modernisation



PLENTY OF POTENTIAL IN HEINOLA'S SORTING LINES

LUMBER sorting lines need to be able to accommodate the growing number of pieces produced in modern cutting operations. With more and more smaller pieces being sawn into shallow cant, the number of pieces to be processed grows significantly and the capabilities of the old sorting lines are put to the test. HEINOLA has received dozens of orders for sorting lines over the last decades. These lines are still very much capable of providing a basic sorting service, they merely require increased processing speed. Faced with this issue we have made plans and already delivered a number of solutions, allowing lines that previously processed approximately 120 pieces per minute to now process as many as 180 pieces per minute.

In our experience HEINOLA's basic sorting line solutions can reach these new speeds simply by increasing the pace and reinforcing and adapting the key areas of the line. These areas can be metering, cutting, sorting and automation, for example. Nowadays, trimmers can be equipped with pressurised air damping presses, allowing for smooth and controlled cutting operations at a speed of 180 pieces/minute. The damping ensures that the equipment will last longer after commissioning. Sticker-stacker machines and packaging machines also require a boost when it comes to speed, and one such new solution we have provided in this area is servo-controlled transfer arms for stacking.



ULK, RUSSIA

We are currently in the process of delivering a dry lumber sorting and packaging plant to a Russian customer in the Archangel area. The plant features a Finscan quality scanner, stepless cutting technology, a trimmer, and a total of 50 sorting pockets, as well as HEINOLA automation technology. The plant's production speed will be 180 pieces/minute for sorting and 200 pieces/minute for packaging. The annual capacity will be approx. 400,000 cubic metres of lumber, and the plant will begin operating towards the end of 2017.

KUHMO OY, FINLAND

Kuhmo Oy's dry lumber sorting line is currently operating at a speed of 180 pieces/minute, whilst the packaging line is running at over 200 pieces/minute. This plant, which is based on a HEINOLA plant delivered in 1988, has been fine-tuned over the years with great success. Since then, the world has changed a great deal, and we have been able to respond to the demands presented. The processing speed was increased substantially from 120 pieces/minute. New functions and equipment have been added, and the foundations have managed to withstand all these amendments. The plant now features stepless cutting technology, a trimmer, and a total of 75 pockets.



POMOR TIMBER, RUSSIA

We are delivering two dry lumber sorting and packaging plants to a customer in the Archangel area. Both plants feature a Finscan quality scanner, stepless cutting technology, a trimmer, and a total of 50 sorting pockets. The plants will also include HEINOLA automation technology. The production speed for both plants will be 180 pieces/minute for sorting and 200 pieces/minute for packaging. The plants' annual capacity will stand at over 800,000 cubic metres of lumber. Installation of the plants will begin in 2018.

ELEMENTS to increase speed

IMPLEMENTATION

of stepless cutting measurements is highly popular in cutting operations nowadays. When pieces need to be made to customer-specified lengths, cutting equipment based on previous foot measurements cannot meet these requirements. This is where changes in the cutting area come into play. Steplessly adjustable fences, multi-blade trimmers and changes to automation are ways of dealing with this issue. This package has also been added to many existing plants in recent years. Both of these pieces of equipment also allow for production at high processing speeds.



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Nowadays, modern camera-based measuring and grading equipment processes lengths, the quality information established through its photographs, and all this data at speeds and with accuracy that no human would be capable of, presenting new challenges for surrounding equipment. There is also a constant need for more pockets, both for the sorting itself and to allow for minimal stoppages during transition between different exchange situations.

Synchronous operation has brought new opportunities to increase processing speeds. The division of current operations into several precise electrically-controlled synchronous operations provides the opportunity to stop relying on long mechanical synchronisation and operating chains, as well as making the plant more precise at all speed ranges.



Efficient at high speeds



Accurate with stepless cutting measurements



Gentle processing



Sturdy packages

ROBUST project expertise

I HAVE been working for Heinola Sawmill Machinery since autumn 2014. Prior to that I worked in a number of jobs within the mechanical forestry industry. In spring this year I was given the responsibility of managing Heinola Sawmill Machinery's project



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department. The few years I've spent working for Heinola Sawmill Machinery have reinforced my understanding of what it means to have truly skilled and professional staff. HEINOLA's customer orientation and genuine desire to solve customers' problems form a key part of the operating culture here. HEINOLA's project organisation comprises both the young promising talents of the future and skilled professionals with decades of experience, with whom it is a pleasure to work. This combination also creates a durable and secure basis for successful completion of future projects.

HEINOLA CHIPPERS

SIMPLE IS UNBEATABLE

Direct passage for chips from the knife drum to the chip pipe

THEIR operatin principle and simple structure are what make HEINOLA mobile chippers reliable. Simplicity does not mean compromising on capacity or chip quality, quite the opposite; in HEINOLA chippers the chip is not rotated unnecessarily around the knife drum, but instead passed immediately after cutting through the chip accelerator to the chip pipe, from where it flows efficiently to the chip truck. As no bottleneck is formed in the flow of chips within HEINOLA chippers, the amount of fine material produced is also small. HEINOLA chippers unnecessarily spin the chips, which leads to the pieces being recut. Only oversized pieces are returned to the knife

drum by the internal sieve.

In addition to its reliability, high capacity and chip quality, the aforementioned chipper operating principle ensures that the chippers are designed to be affordable to use. The low number of moving parts means a low number of consumables and spare parts, while the knife drum's utilisation of kinetic energy in moving the chips significantly reduces fuel costs, as the flow of chips within the chipper does not need to be stopped and reaccelerated.

All of this, combined with a strong structure, high-quality Finnish work, and availability of spare parts directly from HEINOLA, ensures a machine that allows you to focus on producing chips, instead of maintenance and repair work.

THE NEW HEINOLA 1014 MODEL

HEINOLA chipper range will be gaining a new member next year. Our line of mobile chippers will be complemented with the new wider HEINOLA 1014 model. Product development work is underway with the aim of presenting the new model at the FinnMETKO 2018 exhibition. The new 1400 mm-wide model, equipped with a lamella chain, will make feeding in logging residues easier than ever. The knife drum's diameter will be 1000 mm, and the chipper itself will be based on well-established and popular HEINOLA technology.



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Low fuel consumption



Even chip quality



Suitable for tree trunks and whole trees, as well as knot pulp



Strong structure

HEINOLA AUTOMATION

INTELLIGENCE FOR SAWMILL INDUSTRY PROCESSES

Safe and intelligent guidance for the whole chain



KUHMO

Commissioning of one of our largest software projects ever began in summer 2017 in Kuhmo. The task at hand involved a dry lumber sorting and packaging overhaul, with the aim of both processes being controlled by a Siemens industrial PC; at the same time the software was almost completely overhauled to form a complete unit corresponding to the existing modulated and archived software. This made maintenance significantly easier. The delivery was made more challenging by the short commissioning period, just under two weeks, and the fact that countless software features had been added and external connections set up to both processes over the decades.



ER SAHA OY

Similarly, a green sorting modernisation project was carried out within a tight schedule for the Viitasaari-based ER-Saha, with the commissioning falling on the same weeks as that in Kuhmo. In this instance, the mechanics were also being renewed, which meant that the delivery also involved tailoring of the software to suit the client's needs. The software contained both modules and standard components, however. A Siemens industrial PC and Siemens PLC were installed for process control at the same time, and changes were also made to the reporting system. All field devices and safety systems were modernised, which posed its own challenges for the delivery.



Reliable real-time operating system



Ready-to-use connections to ERP systems



Versatile software



Scalable



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