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pinomatic NEWS
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Pinomatic Ltd 's
customer magazine

Significant production capacity increase with the Pinomatic Wood Vision Scanner

The first Pinomatic Wood Vision scanner was delivered in October to E.T. Listat Oy in Ylivieska, Finland. The two companies had cooperated previously and E.T. Listat Oy had no doubts about the quality of the new Pinomatic product.

Pinomatic Wood Vision is a wood optimising and grading system that scans from four sides in a longitudinal direction. The system usually consists of four cameras, four laser projectors and a PC. The maximum measuring range is 250 mm and the speed 0-300 metres per minute. The device recognises almost all the defects that it is possible to see with camera technology.

The device has been developed together with Swedish Erik Åstrand. The program for device is his latest application in scanner technology. The starting point for his design was the clearly structured program resulting in easy operation of the device. Another important aim was to produce a scanner that would be within the purchasing power of smaller producers unable to make the investment required for earlier, high-cost models.

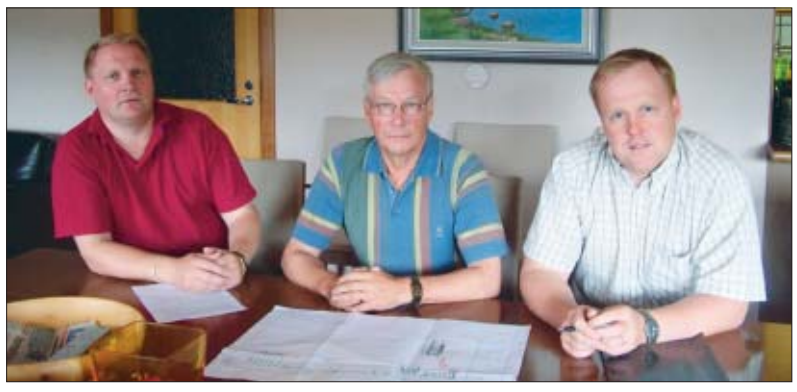
The scanner device can be used in quality grinding in optimising cutting saw lines and after planning machines, for example, and in other operations, where wood is being graded.

"Pinomatic is a reliable partner", says Managing Director Ensio Torvi from E.T. Listat Oy

E.T. Listat Oy was established in 1972 and has become a market leader, in Finland, in the field of wooden mouldings and panels. E.T. Listat Oy employs 65 persons and its budgeted turnover for 2005 is 11.5 million Euros.

Their brand is well-known for its top quality, short delivery times and reliability. The subsidiary company E.T. Maalaus Oy was established in 1998, and it specialises in finishing and painting the mouldings and panels, as well as in the manufacturing of MDF based products.

All the wooden mouldings are manufactured from Finnish pine and many of the products are also available in MDF, ready painted or finished. The company develops its products and production methods along environmentally friendly way, for example, the new painting line, which has Pinomatic's mechanisation and Sasmetor's ovens for drying, uses only water based paints.



Sales/Purchasing Manager Pasi Rautio and Managing Director Ensio Torvi, from E.T. Listat Oy and Petri Oravamäki from Pinomatic Ltd.

Last year the biggest investment was the previously mentioned painting line, which is company's third. This year the company has already purchased a planing machine. The new Pinomatic Wood Vision scanner system is used in the finger jointing production unit. "The Pinomatic Wood Vision scanner has changed the hand-marking system to automatic grading and has increased the capacity of the cross-cutting saw line significantly", says the Sales/ Purchasing Manager Pasi Rautio from E.T. Listat Oy. As the capacity of the cross-cutting saw line increased significantly, also the finger jointing line's capacity increased by half. But now the finger jointing line is the bottleneck in production, as the output of the cross-cutting line is five-time greater than before. The investments that will be made next year at E.T. Listat include improving the finger jointing line. In this way, also the finger jointing line can reap the whole advantage of the scanner system. This new project has already been planned with Pinomatic.

The cooperation between E.T. Listat and Pinomatic has already lasted many years and their joint projects have always proceeded successfully. Besides the painting line, several mechanisation devices have been delivered to E.T. Listat Oy and this scanner system is the fifth joint project that E.T. Listat and Pinomatic have completed over the last three years.

According to Managing Director Ensio Torvi from E.T. Listat, deliveries from Pinomatic have always arrived on time and everything has always worked perfectly. Pinomatic has always lived up to its responsibilities and followed through the project procedure efficiently right up to the end. The scanner project made no exception.

Portrait

Ph.D. Erik Åstrand, Pinomatic Wood Vision program designer

Erik Åstrand (44) was awarded his Master of Science degree in computer engineering at Linköping University, Sweden, in 1985 and after that he stayed at the University for a few years to do research in computer image processing. In 1989 he left the University for a job at Innovativ Vision AB where he came into contact with the wood industry. In those days, the company was working with computer image processing in automatic inspection of wood, the so-called WoodEye system. There he was part of a team pioneering the development of this new technology and he was also project leader for a number of installations of this new system.

However, the technology was not very mature in those days and it was difficult to achieve enough computer power at a reasonable cost. Many systems therefore, failed, to some extent, to meet the expectations of the customers. He therefore left the company after a couple of years in order to initiate a new research project at Linköping University, specifically aimed at finding new methods and algorithms for the problem of wood inspection. They had a good starting point for this project in Åstrand's first-hand experience of installations of the system in a real industrial setting. The research project took four years. A new technology was developed, together with Dr Anders Åström, which was excellent for inspection of wood.

Another major result of the research project was a completely new crosscut optimisation algorithm. Since the scanner has detailed information about every individual defect, it is possible to do very complex optimisation.

A new company, Soliton Elektronik AB, was founded in 1994 in order to commercialise the results of the research project. In practice, the real activities at Soliton started in 1996 after Erik Åstrand had finished his Ph.D. degree at the University (Åstrand E., *Automatic Inspection of Sawn Wood*, Linköping University, 1996). The product was good, but the beginning of the new century was a tough time for all machine suppliers in the wood industry and the business did not succeed as hoped. Therefore, as the only person with full knowledge of the technology inside the Soliton scanner, Erik Åstrand founded a new company of his own. Initially, the purpose of the company was to provide service and support to existing Soliton customers.

In parallel with the work on the old Soliton scanners, Åstrand also started to develop a completely new scanner, for which all the software was rewritten. Another major difference is that the new scanner is entirely based on standard cameras and components whereas the previous company used specialised cameras that it made itself. The capacity of systems based on standard components is now within the same range as, or superior to, previous specialised solutions.

Erik Åstrand's new company does not produce any systems but provides the scanner software for Pinomatic Wood Vision, and commissioning is carried out together with Pinomatic.

Erik Åstrand has worked for this field over 15 years and is one of the pioneers and the leading specialists in this field. He has written his Ph.D. thesis on the subject and has also written numerous publications on the subject.

Pinomatic 1900 stacking device pays for itself fast

The Pinomatic 1900 stacking device was the Pinomatic Ltd.'s first product. In fact, the company was named after the product. Year after year, more and more stackers are being delivered to our customers. The first Pinomatic 1900 stacker was delivered in 1991 and the model has kept its position as the cornerstone of our production ever since. Over the last 15 years the product has also been developed and improved, according to our customers' wishes. The product is manufactured in series, which aids favourable pricing.

The 100th Pinomatic 1900 stacker was delivered in the summer of 2005 to a door factory; the first two Pinomatic 1900 stackers had been delivered to the same factory in 1994 and now there is a total of 10 identical model stackers in usage. The historical 100th model stacker 1900 was at the same time the 200th stacker that Pinomatic has manufactured.

The distinctive feature of the Pinomatic 1900 may well lie in the fact that, due to its favourable price and reliability, it is usually the first stacker that is purchased in a growing woodworking factory and when production increases, more are purchased. In fact, we can guarantee that the product will pay for itself in double shift work in less than 6 months, with the additional savings it makes in production costs! Delivery time for the product is rapid and installation does not usually take more than one day.

The Pinomatic 1900 is a versatile product. It requires little space and is easy to move around in the production. It needs only a couple of adjustments to fit different products.

There is a great variety of different gripper types for different kind of usages.

The first stacker was bought back for "renovation".

Range of special small series of parquet is pressed by Pinomatic SmartPress

Pinomatic exhibited for the first time in the Ligna + trade fair in Hanover from the 2nd to the 6th May, 2005 and the edge-gluing press SmartPress 25 was sold to Italy on 5th May for the wood-flooring manufacturer Labor Legno Spa.

Labor Legno, with Itlas and Italparchetti, is the leading flooring manufacturer in Italy. After visiting our stand at Ligna, Managing Director Patrizio Dei Tos was very interested in the edge-gluing press. He returned to our stand the next day and the contract was agreed.

Labor Legno Spa's business began at the end of the 1950s with Italparchetti. The manufacturer's philosophy, created for consumer needs, led to the foundation of Labor Legno, which has collaborated with Italparchetti since the first half of the 1980s. Thanks to this new business impulse, the production of parquet gained new strength and the market began to see successful new products. Itlas was then established, inspired by the evolution of the building industry and the need to introduce wholesome, ecological materials.

Edge-gluing press for edge-glued oak panel manufacture

Pinomatic SmartPress 25 is used to manufacture different kinds of edge-glued panels. The process of manufacturing thin panels can quickly be changed to produce normal panels. The versatility of the machine was one important aspect in making the decision. Programming the machine does not take long. The most important thing is of course the high quality edge-glued panel. Labor Legno Spa uses only hardwood in their production and SmartPress is mainly implemented for oak panels. SmartPress produces oak panels with a maximum thickness of around 40 mm.

Managing Director Patrizio Dei Tos (right) watching SmartPress in use.

Product news

Efficiency for board-cutting saws with the new Pinomatic stacker

In the board furniture industry there has often been a problem with the manual transportation of heavy board bundles, difficult and time-consuming work. Now the system can be changed totally - by the new Pinomatic stacker!

The device is equipped with a special gripper, which enables the lifting of several boards into a stack. Different sized boards can be stacked in different stack stations. The equipment was first used at the beginning of 2005 at Sahaus Team Oy in Kauhajoki, Finland.

Greater efficiency with the stacker

Sahaus Team Oy's activities are based on a sawing service. Sahaus Team saws furniture board as a subcontractor for many furniture manufacturers. Annual production reaches about 12000 m^3.

Managing Director Markku Saarela has been delighted with the Pinomatic stacking device: “The stacker is very reliable in use and Pinomatic's after sales service works perfectly”.

Lifting of heavy board bundles is now possible with the new Pinomatic stacker.

Pinomatic Ltd.'s facilities are expanding

The current facilities of Pinomatic Ltd., extending over 2500m^2, were built in the summer of 2002. At that point all the company's activities were moved under the same roof. An extension will be built to the production hall as production is increasing and the production line testing and test drives must be carried out more and more carefully. Construction work started in the summer and constitutes the biggest investment of the year. The extension work should be finished by the end of the year. The expansion will bring the total production area to 3200m^2.

Appointment news

Tommi Nikkola, Bachelor of Engineering (mechatronics), was appointed to our company on 1st May, 2005 to design and produce. His main sphere of responsibilities includes the design of the grippers. Tommi has already worked in the firm for over a year, completing his practical training and taking on summer jobs here. He has, for example, been part of our installation team. Tommi has also written his thesis on Pinomatic, investigating the suitability of vacuum gripping for wooden materials.

Ville Hautanen was appointed to our machine and equipment sales team on 14th March, 2005. The "almost graduated" Bachelor of Engineering (automation) is mainly dealing with domestic sales. Ville completed his previous work experience over several summers in the windows industry, which has made the whole wood processing industry pretty familiar to Ville.

Anne-Mari Hautala, BBA, has been dealing with the marketing of Pinomatic since 1st December, 2004. Besides marketing her tasks relate to sales and export. Anne-Mari's main responsibilities also include the editing of the Pinomatic News customer magazine. Anne-Mari has previously worked at a sawmill and has been dealing with tasks related to export. The sawmill industry and the further processing of sawn timber is therefore quite familiar to her.

Pinomatic exhibited at Trade Fair Wood 2005

On September 14th to 16th 2005 Pinomatic Ltd exhibited at the Trade Fair Wood 2005 in Jyväskylä, Finland. The Pinomatic Wood Vision scanner system was presented for the first time and aroused a great deal of interest. Demonstrations of the system were given and Erik Åstrand, developer of the program, attended. He showed versatile examples of the systems' wood grading.

Two of our stacker models were also presented. The extra- fast Pinomatic Servo 2400 was running throughout the whole fair and stacked very different kind of pieces, with just one adjustment. Pinomatic OSF, the world's fastest stacker for optimising cross cutting saws, was also presented.

Our entire Pinomatic sales team attended the fair. “Important new customer relations were built during the fair and for our old customers we were again able to present something new from Pinomatic,” says Sales Manager Petri Oravamäki.

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