

BoardProfiler 3D-TT

Transversal measurement system for trimmers



Laser based board scanning with high resolution

- Cutting optimization for trimmers
- Dimensional control of boards for sorting

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Trimmer optimization

The BoardProfiler 3D-TT is a scanning system for detection of board geometrical defects in a transversal process at a green mill, dry mill or planar mill.

Every mm along the board is scanned and the system detects wane, thickness, width and other dimensional defects. This information is then processed by our proprietary software and optimizes each board to the best yield and highest value.

The system can be customized and equipped with different sensor configurations, from a full board scanning with multiple ProfiCura 600 sensors or a combination between ProfiCura and PreciCura sensors to the basic set-up including PreciCura sensors mounted modular in front of each trimmer blade. There is always a combination that will fit each customer requirements.

The installation needs a minimum of space and the system can easily be retrofitted to an existing line.

Functions:

- Full scanning of board when passing measurement frame
- The BoardProfiler 3D-TT software will analyze the board dimensions as well as defects
- The measured dimensions and defects are used to do a product mapping where tolerances and rules for a specific product are applied
- The chosen product and quality will then decide how the board will be optimized or sorted
- The result of the optimized board will be shown on the operator interface in a 3D view and in numerical figures:
 - Dimensions of board
 - Saw blade positions
 - Selected product
- Cutting proposal is communicated to plant automation system and optimization will be done: trim defects out-of-tolerance, downgrade board to lower class or reject board.



Wane optimization in trimmers

The BoardProfiler 3D-TT calculates the optimum cutting position for each board based on customers specified rule tables. By comparing the size and location of measured width, thickness and wane, the system determines the optimum cutting position. The system can be used with trimmers that cut at one or both ends of the board.

High accuracy 3D measurements

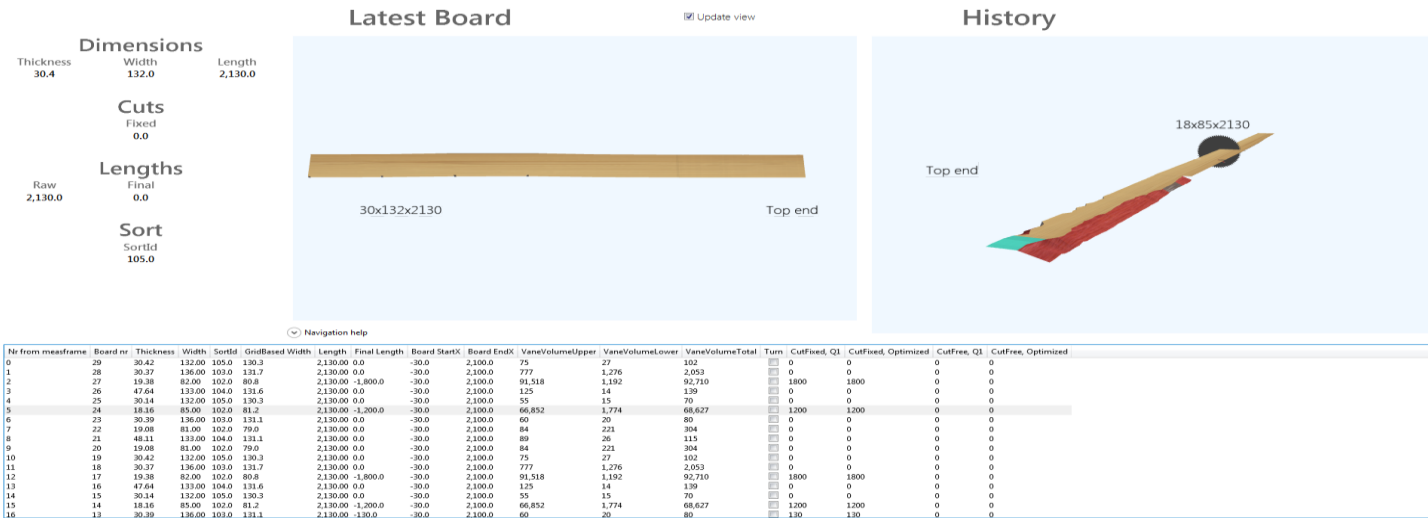
The BoardProfiler 3D-TT is mainly based on our 2D sensor platform, the ProfiCura 600. These sensors are specially designed for high accuracy measurements and integrates the latest development in laser and CCD technology.

BoardProfiler 3D-TT

Benefits

- Best-in-class dimensional measurement accuracy
 - High accuracy thickness measurement secures accurate sorting
 - Possible to distinguish between flat surface and wane for best trimming
 - Measures every mm along the board for optimum trimming yield
- Modular system
 - The number and positions of the ProfiCura and PreciCura sensors can be combined into an optimum solution for the specific customer application
 - Simple upgrade to more sensors
- Complete board scanning with up to 20 pcs ProfiCura
- All LIMAB sensors are factory calibrated, which simplifies installation and calibration
- Easy integration with saw mill automation system. System needs less than 1.000 mm space in board direction for frame and sensor installation
- Gives possibility to sell finished or further refine product directly after green mill

Results



Thickness and width sorting

The overall dimensions of finished boards are accurately measured at multiple positions along the board length for quality assurance purposes. Non conforming products will be rejected and statistics are compiled for a complete run, displayed or printed on request. The system can also be used for enhanced sorting of boards into drop sorters.

Cup measurement

Mounted in a planer or sorting mill the BoardProfiler 3D-TT will determine the orientation of the cup and provide a signal for board turning. A big advantage is that it works in transversal conveyor lines instead of in lineal conveyors. This means that the space needed for measuring is less than 1m of the conveyor instead of otherwise typically 10m.

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Technical Specification

Measurement objects	Sawn timber for trimming or sorting
Amount of sensors	Up to 20 ProfiCura 600 or mix with PreciCura RR SR
Resolution	From 1 mm along the board
Accuracy thickness	From 0,05 mm
Scan rate	1.000 Hz
Laser class	3B



We reserve the right to introduce modifications without prior notice

LIMAB – the complete solution provider for non contact dimensional measurements

Our core capability resides in our ability to deliver effective laser scanning sensors and systems for our customers. Through our experience and understanding of your needs, we engineer and produce sensor and system solutions that will fulfil your requirements of best-in-class technology and quality.

LIMAB was founded 30 years ago and has a long tradition of developing and manufacturing laser based technology. We supply laser guide lines, laser sensors and complete systems for dimensional and profile measurement in sawmills, panel production and steel mills. Headquarters and manufacturing plant is located in Gothenburg, Sweden. LIMAB has regional offices in the USA, UK and Germany as well as approved distributors and partners in other regions.



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