SAWCO -for sawmill efficiency

ProCon-Measurement Control

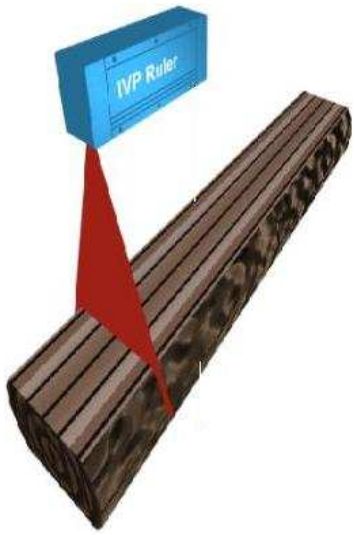
The ProCon measurement control system performs continuous measuring of thickness and height of the center yield, directly after the saw machine. ProCon continuously gives measurement evaluation, representation of results and statistics.

Benefits

- **Increase of yield.** The continuous measuring of the thickness and height, makes it possible to use narrower tolerances of upper values, thus resulting in a higher yield.
- **Increased machine availability.** The continuous measuring makes the time between dimension errors and error detection shorter. The availability also increases as no stops for manual measuring are needed.
- A **modern user interface** makes it easy to supervise and work with the application.
- The camera has its own microprocessor that pre-processes the image data. This relieves the system PC from image processing, which makes the system **very fast.**
- ProCon can **communicate with the control system** of the sawline to make sure that the right cant-value is used in ProCon.

System structure

ProCon consists of a measuring device (camera) placed above the conveyor, and a PC with the ProCon application. The PC has a special adapter card through which the camera is connected.



Measuring device

The ProCon measuring device consists of a camera and a laser, integrated to one robust unit - factory calibrated. The camera has its own microprocessor and software, which pre-processes the measurement data in the camera images. This increases the overall speed of the system, as the PC is largely relieved of the demanding image evaluation.

Functions

From the image of the laser line, the thickness and height of the center yield are calculated by the method of triangulation.
The camera produces about 200 images/sec, which are transformed into 30 thickness and height values, distributed evenly over the length of the board package. The system handles different kinds of tolerances, defined as warning and alarm limits, upward as well as downward from the set point values. The limits can be set individually for width, height and wobbling. There are also limits for a

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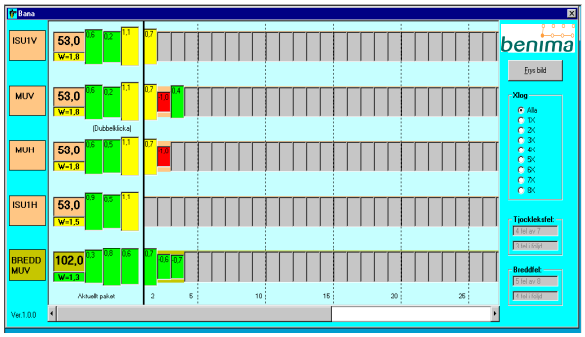
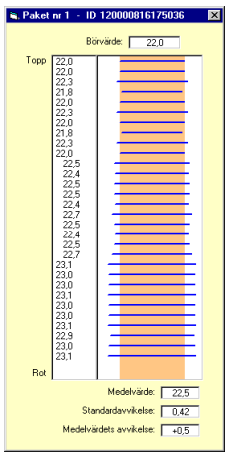
number of repeated errors, as well as the number of error within a specified interval.

The overview screen in ProCon shows a representation of the sawn boards. The most recently sawn boards are shown in greater detail. The picture can be frozen at any time, for a more detailed analysis, while measuring continues normally in the background. The boards shown are color coded to quickly get an idea of what is going on, and how measured values correspond to the limits.



In the most detailed picture all of the 30 measurement values are shown. The average values of the measurements are shown, as well as standard deviation, and how much the average differ from the set point values.



Statistics

The system provides functions for follow-up, which for instance makes it possible to detect if an error originates from one particular blade. There are report possibilities for the yield, which enables production statistics and documentation for use in ISO 9000 certification.

Data

Board height min/max:	75-300mm
Board thickness at max height:	400mm
Measurement accuracy, thickness:	±0,1mm
Measurement accuracy, height:	±0,5mm
Max number of boards:	8 pcs

Basic conditions

- No direct or indirect sunlight or other bright lights or reflections must interfere in the measuring area, or in its background.
- The boards must not shake or move around during measuring.
- The surrounding temperature must stay within 0-40 degrees Celsius or 32-104 degrees Fahrenheit.
- The gap between the boards must be at least 1,5 mm.

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