

Blow Detection System

ULTRA-SCAN^{Mark 3}

Optimization of the Panel Production Process by using Ultrasonic Measurement

The quality of a panel product is influenced by various parameters as such moisture content, density, press time and temperature. While trying to increase the capacity and, at the same time, to limit the production cost, the quality level will become unstable. This critical development will be seen by ULTRA-SCAN, and counter measures can be taken.



Deciding on whether to continue the operation, accelerate or decelerate?

This is a basic question that is constantly faced by the press operator. If no blows occur, it's possible that certain acceleration is possible or, if any blows do occur, the press time should be extended. Continuous automatic ultrasonic inspection is the key to effective, money-saving production and is a standard feature of current advanced technology.

To achieve improved technical performance of the delamination scanning line, EWS has developed „ULTRA-SCAN 40+“ and „ULTRA-SCAN LD“. These systems have proven to be quite successful in actual commercial plant operations. The units employ a **patented sound resonance method** which makes the EWS System insensitive to dust, heat and external sound. It can be applied effectively to **both very thick or very lightweight panels**. The measuring method is known as „PowerSonic Resonance.“ A final advantage for plant operators is that the system **calibrates itself automatically** and online.

A multicolor sound picture of the panel will then show the variations on a monitor.

If, in case of the above analysis, blows (delaminations, voids or air pockets) should occur, there will be a clearly seen detection. Through the use of a so-called resonance method (PowerSonicResonance), the system is insensitive to the influences of environmental factors, such as dust, steam, heat or external noise (Patent).

No manual calibration is required thanks to the strong signal and automatic gain control.

Further advantages of the sound resonance method:

- Inspection of extra-thick panels > 40 to 200 mm (ULTRA-SCAN 40+)
- Inspection of extra-light panels < 400 kg/m³ (ULTRA-SCAN LD)
- Inspection very near the panel edges
- Inspection on vibrating panel near a noisy trim saw

The system can be easily extended to thickness measurement on the same support frame at reasonable cost.

Installation Location

- Behind hot press and cross cut saw
- Behind sander

Technical Data

- Technology: Sound resonance (patented)
- Number of inspection channels: unlimited
- Channel space: minimum 100 mm
- Smallest detectable blow: minimum Ø 50 mm
- Thickness: up to 200 mm

Remote Control

Technical assistance is available by „EWS-Online Support“.

Optional

- Connection to PLC by OPC-Interface
- Extendable to thickness measurement at reasonable cost
- Ink marking (on edge or surface)

Software

Clearly arranged visualization by PiperWare Software. (Please see description in this brochure).

- Location of blow
- Multi-color sound picture
- Memory and trending
- History, data base

Data Evaluation by EWS „GAUGE-CONTROLLER“

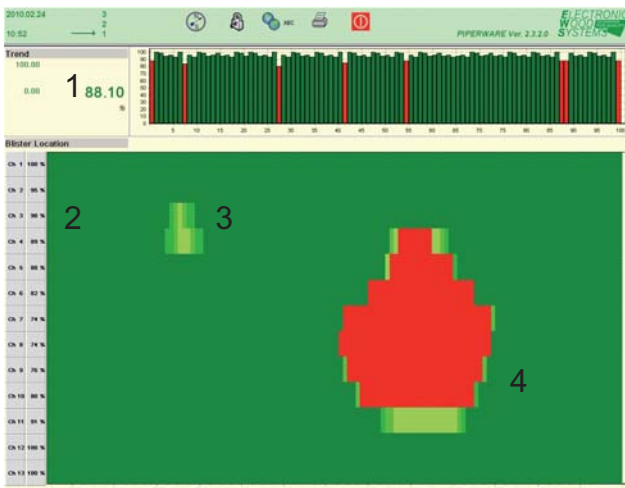
- Real time operating system
- Network connection for visualization-PC



Measurement on Particleboard (max. 100 mm)



Measurement of LVL (max. 200 mm)



- 1 Trend
(Each bar shows one panel.)
- 2 Inspection channels
(Example shows thirteen channels.)
- 3 Early warning indication
- 4 Location and size of blow

