

Blow Detection Systems

PLY-SCAN *Mark 1* **BLOW-SCAN** *Mark 1* **CONTI-SOUND** *Mark 1*



Every type of panelboard is different.

This is the same as with other requirements of panel production. Blows, blisters, areas with no bond and air pockets are always unwanted. Today it is not a technical problem to detect these production defects automatically, using ultrasonic measuring technology.

Today's technical competition of the measurement suppliers is seeking to customize blow detection systems to the individual products. For plywood production the system can be limited to blow/no blow detection. This is not enough information for blow detection in particleboard, MDF and OSB-production lines. Here it is required to detect changes of the panel properties and to supply early warning functions before blows/blisters occur. With a new generation of blow detection systems PLY-SCAN, BLOW-SCAN and CONTI-SOUND Electronic Wood Systems is the leader of this technical development.

Blow Detection Systems

automatically detect blows, blisters, areas with no bond and air pockets during production of wood panelboards. They transmit ultrasonic sound which is unhearable to humans and which constantly penetrate the panels. The number of inspection channels can be chosen to specify the inspection density. EWS blow detection systems can operate in the harsh environment of a panelboard production, i.e. dust, steam and high temperature.

An outstanding feature of all three systems is that they flash into automatic calibration in between the panel gaps by using a no-load calibration method. Influences generated by dust coating on the sensors are compensated automatically.

A movable and expensive support frame construction is not necessary any more.

PLY-SCAN

As a consequence of too high or too low moisture content of the veneers or in case of inadequate glue, blows or unbonded areas can occur. These production failures can be easily detected and shown by PLY-SCAN. The system provides "blow/noblow" functions, is reasonably priced and easy to operate.

BLOW-SCAN

preferably will be installed in particleboard, MDF and OSB production lines.

In addition to reliable blow detection a multi-color sound picture will be shown on a monitor and the average value of sound penetration will be shown on a graph. So the measurement can be used as an early warning system. Changes of the panel properties can be shown.

CONTI-SOUND

provides extended evaluations of the sound signals. Additional sound receivers are used to measure the reflection of sound from the panel surface. This is especially helpful to supervise continuous production processes. In addition to the average sound value the minimum and maximum values will be analyzed and shown. This also improves the early warning function.



CONTI-SOUND Early Warning System equipped with additional reflection receivers (red)

Technical Data

- Technology: ultrasound
- No. of inspection channels: max. 22
- Channel space: min. 100 mm
- Detectable blow size: Ø 50mm
- Thickness of panel: max. 45mm
- Density of panel: >550kg/m³
- Remote control: online support

Visualization (PiperWare)

- Location of blow
- Multi-color sound picture (except in PLY-SCAN)
- Trend / history function

Specific Features

- Automatic online-calibration
Benefit: replaces movable frame construction
- Automatic alignment of sensor sensitivity
Benefit: replaces calibration plates
- Automatic detection and compensation of dust contamination on sensors
- GAUGE-CONTROLLER
Real time system
Benefit: high system stability, "Open-Source" system does not require software license
high production speed allowed (3m/s)
Measurement and visualization separate managed (autarkic)
- At site interface for service purpose
Benefit: Configuration of system near measurement system possible
- Automatic compensation of temperature drifts
Benefit: Improvement of measurement accuracy

Optional

- Interfacing of process control system and PLC
- Color marking (edge or channel)
- ATEX 22

Remarks: For blow detection in very thick panels (>45 to 200mm) or of very low density panels (<550kg/m³) the proven EWS System **ULTRA-SCAN** can be used.
(see separate leaflet)

