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GreCon

Non-Contact
High-Precision Scale to
Measure Panel Weight and
Material Distribution

GreCon

Fire
Protection

GreCon

Measuring
Technology

GreCon

Service



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HPS 5000

Your Benefit



- Complete (100 %) non-contact measurement
- Detection and optimisation of material consumption
- High accuracy and flexibility due to fine resolution
- Weight measurement of the entire panel and grid evaluation in a selectable resolution
- Fluctuations in weight along and across production are immediately detected and can be corrected
- Product classification
- Confidence against underweight panels or panel sections
- Possibility for optimum nominal value adaptation
- Little space required for installation
- Measuring reliability due to quick calibration
- Parallel measurements and comparison of laboratory cuts by HPS and in the laboratory
- Calculation of raw density in combination with a thickness gauge
- Optional linkage with DIEFFENSOR for automatic regulation

Why GreCon



- Customer-specific system design
- High innovative capacity: more than 10 % of the employees work in the R & D division
- Worldwide customer service network: more than 80 service technicians on duty worldwide
- Efficient sales network: represented in more than 35 countries
- High expertise: more than 40 years of experience in the measuring technology sector

High-Precision and Reliable Measurement of Material Distribution and Weight Per Unit Area for Production Optimisation

The high-precision scale "HPS 5000" by GreCon measures, in high resolution and across the entire material width, the weight per unit area distribution of finished materials (panels) directly after the press or saw. With this, minute deviations in the weight per unit area distribution can be detected.

The HPS 5000 uses the absorption measuring method. One or more X-ray sources are installed above the material flow. High-precision detectors below the material flow measure the residual radiation that has not been absorbed by the material. The weight per unit area and the material distribution can be determined from the degree of attenuation of the specific density of the penetrated material.

The panel weight is calculated from the measured weight per unit area considering the panel size.

The panels are weighed inline and continuously. Even light or short panels can be weighed, independent of the production speed.



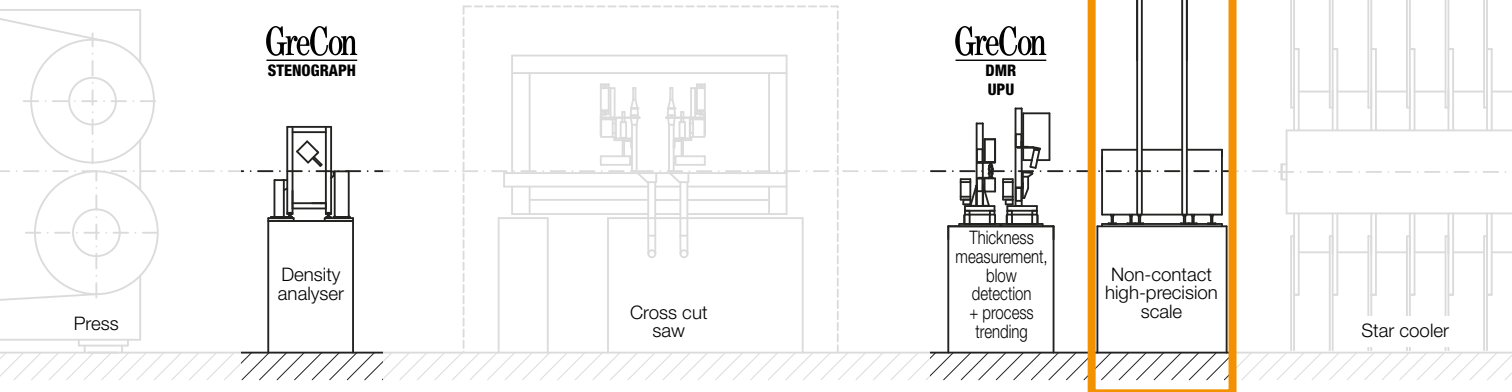
HPS after the Press or Cross Cut Saw

The HPS 5000 is the optimum solution for production lines running at very high speeds, for an unfavourable ratio of tare and panel weight and/or for small spaces.

Optionally, the HPS 5000 can be linked with a GreCon Thickness Gauge to calculate the average raw density as well as its distribution within the panel and to optimise the production process. Thus, all production reserves can be exploited for optimisation.

Besides weight measurement, the material fluctuations of each panel are determined along and across the production direction. The weighing technology in the forming line can be monitored. The measured values are visualised and stored in a database and can be used to adjust and optimise the production process with the goal to reduce material consumption.

Detail of a wood based panel production with HPS 5000





Software Functions

The visualisation software of all GreCon measuring systems is based on Windows.

■ Visualisation

The core of the software package is the visualisation software. It records, stores and graphically represents all measured data. The simple menu structure, which is identical for all GreCon measuring systems, provides intuitive operation. Clear information and graphics enable the operator to quickly and effectively adjust the production process.

■ Recipe Management

Process fluctuations are indicated by recipe-specific comparison of nominal and actual values. Precise measured values and their clear numerical and graphical representation allow a timely interven-

tion in the production process to ensure consistent product quality while the consumption of material and energy is optimised.

■ Database

The database stores the measured values and provides a function to export them to other file formats for additional processing and evaluation. A uniform data structure provides easily accessible data for process control systems.

■ Reporting

The measured values allow a quick view of the production trend at any time. Long-term evaluations graphically show the effects of changes in production parameters. Reports for additional analysis can be generated from the evaluated process data (provision of the values for control systems).

■ Network Connection

For the data transmission to higher-ranking process control systems, different network connections, such as OPC or ODBC, are available. Profibus and Profinet are available on demand.

HPS control console with visualisation like in control station



Visualisation and operation surface of the HPS 5000 (left screen)

- ① Cross profile of current panel
- ② Weight per unit area distribution of current panel
- ③ Long-term distribution of the weight per unit area
- ④ Proportion of underweight areas
- ⑤ Test cut - segmentation of virtual cut of samples in the HPS software

GreCon

HPS 5000

Calibration

The HPS 5000 is equipped with a calibration check, using a sample drawer with which samples cut from production are measured during production.

The sample measurement simulates the procedure of laboratory cuts, based on the measured data of the HPS. The recipe-specific weight per unit area is adjusted to the measured absorption coefficient.

References

- Wood based panels
- Plastics
- Transformer board

Sample Measuring Procedure

The sample is fixed by pneumatic cylinders. The sample is placed in the drawer at the side. Measurement is started with a hand-actuated auxiliary switch and conducted in a panel gap.

