

PEELED VENEER | SLICED VENEER



Wood Technology

High tech solutions have a name – Grenzebach



Grenzebach is renowned for intelligent handling, processing and automation technology.

We design, manufacture and deliver complete systems as well as individual components for the manufacturing and processing of flat glass and building panels, for processing gypsum from raw material to finished wallboard and special equipment for cutting and drying veneers. Display glass manufacturing technology under clean room conditions is another core strength of the Grenzebach Group. As such we supply production lines for crystalline and thin film photovoltaic panels as well as joining and module lines for concentrator technology (CSP and CPV). Grenzebach also offer process technology and automation systems for various industries as well as baggage handling equipment for airports and our Grenzebach FlightSim, the first robot-based flight simulator.

Various process and optical quality inspection systems and a wide range of other products offered by our Specialist Service Center complement our scope of supply. We develop, implement and integrate customized solutions for the automation and optimization of complex processes. Our many years of experience in mechanical and electrical plant engineering coupled with highly sophisticated plant controls guarantee optimum line functioning. All are designed within the Grenzebach Group.

Grenzebach offer solutions for all aspects of conveyor technology, material, flow and intralogistics, supported by customized, high-performance control elements and components. Control technology, inductive technology, camera and inspection systems all enhance our portfolio.

Grenzebach place great emphasis on maintaining cooperative partnerships with its customers. With production facilities in Germany, the USA and China we are always close at hand. Our representatives provide on-site support and service around the world.

A competent partner for the wood industry



Grenzebach BSH GmbH, located in Bad Hersfeld, Germany, plans, builds and supplies systems and plants for **the building materials and veneer industries.**

Relying on 125 years of experience and extensive research and development, the company's products stand out for their superior technical standard, quality and availability, a long service life and optimum efficiency. Wood is a material that must constantly meet new requirements. Grenzebach BSH has accepted this challenge and thus acquired a high level of competence and expertise.

Our wood processing technology offers a full range of veneer production systems such as:

- Veneer dryers
- Veneer slicers
- Rotary slicers
- Grading lines
- Sorting and stacking systems
- Production lines for peeled and sliced veneer
- Infeed and outfeed systems

Our prime objective is to provide our customers with system components and industrial plants that are safe, reliable and environmentally acceptable. The Grenzebach BSH product range also includes paper impregnating and coating lines for the production of decorative films, overlay films with or without corundum coating, phenolic resin impregnated core papers, finish foils and edge banding material.

New generation of roller dryers

Up to 8 decks and up to 6.2 meters working width. The name Grenzebach stands for the best veneer drying technology

Whether as a complete line or as single components, for simple or for complicated production processes, based on our long experience in drying we offer technology of high standards with best results.

The features of Grenzebach's new generation of modular roller dryers reflect the company's extensive experience gained during its long history in the field of drying highest quality peeled veneer.

- No need for special foundations
- Fast installation
- Insulated floor
- New door design
- Improved sealing system
- Airlock system
- Better air distribution
- Uniform drying
- Higher drying capacity
- Higher energy efficiency

Following our tradition of being pioneers in veneer drying technology, we have optimized the drying process itself by means of flow-optimized air distribution zones and a better balanced air volume over all decks to obtain more uniform drying results. The result is a higher drying capacity at lower energy consumption, and a high quality final product. The entire dryer skin itself, from the seal welded insulated floor up to the seal welded upper duct, is made of aluminized sheet metal. The same material is used for the floating skin type dryer doors. Each of these access doors extends over an entire section. It can be opened with one hand and features a special door hinge design. The door seals are fixed to the frame and consist of a flexible stainless steel construction covered with Kevlar® reinforced fabric. Soft bends instead of sharp ninety degree corners ensure a long lasting and perfect sealing effect.

In combination with the thick insulation, this well-engineered system ensures minimum heat losses and fast, homogeneous heat-up times. To solve the problems of condensation and resinification, Grenzebach has developed infeed and outfeed air lock systems as well as a fresh air preheating device. In combination with the right insulation, these devices ensure that there will be no condensation on the hot wall between the air locks and the dryer. Each modular dryer section is 2.25 m long. These modules are combined to obtain the required dryer length. Four, six or eight deck dryers with a working width of 4 m, 4.8 m, 5 m, 5.8 m and 6.2 m are available. This new generation of roller track dryers features the excellent reliability, minimized downtimes, low energy consumption and highest final product quality for which all Grenzebach systems stand out.



Automatic infeed system with accumulator



6-deck roller dryer



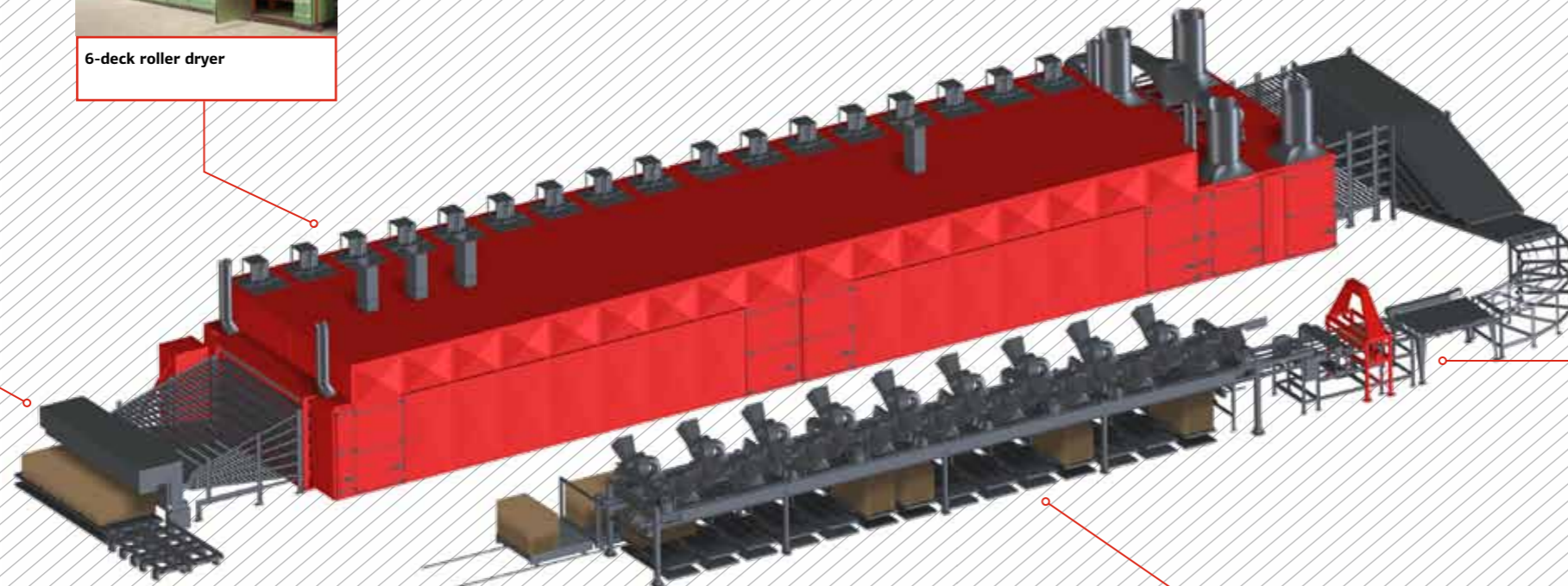
Outfeed system with curve



High speed veneer grading colour scanner



High speed veneer stacker



New generation of screen dryers

Up to 4 decks and up to 6.2 meters working width.

The name Grenzebach stands for the best veneer drying technology

Whether as a complete line or as single components, for simple or for complex production processes, based on our long experience in drying we offer technology of high standards with best results.

The features of Grenzebach's new generation of modular screen dryers reflect the company's extensive experience gained during its long history in the field of drying highest quality peeled veneer.

- No need for special foundations
- New door design
- Improved sealing system
- Airlock system
- Insulated floor
- Better air distribution
- Uniform drying
- Higher drying capacity
- Higher energy efficiency
- Reliable belt control and tensioning system
- Easy maintenance

With its belt dryer Grenzebach BSH presents a new generation of dryers. The new belt dryer has been specially developed for drying difficult wood species, such as poplar, without any loss in quality. This is ensured by gentle veneer transport through the dryer between two screen belts, free from jams, which makes the Grenzebach BSH belt dryer an excellent choice for drying thin peeled veneers. Grenzebach BSH belt dryers are built with working widths from 4,000 to 6,200 mm. They can be combined with various feeding and unloading systems and with all heating systems currently available. The modular design allows the dryer length to be adapted to the customer's production requirements. Through optimized air flows with precisely matched fans and high-efficiency heat exchangers the Grenzebach BSH belt dryers combine high throughput rates with minimized energy consumption.

Excellent thermal insulation is provided by an improved lagging system (120 mm) and a dryer floor panel that is insulated throughout. The new design does not need any chains and sprockets inside the dryer, which minimizes maintenance. The dryer belts in the cooling zone can be separated from those in the heated part to minimize energy losses. The operators enter the different drying parameters via touch screen monitors on the control panels. These parameters can be saved as "recipes", making reliable operation and control very easy. The world's largest belt dryer with a working width of 6,200 mm and a heated length of 50 m comes from Grenzebach BSH.



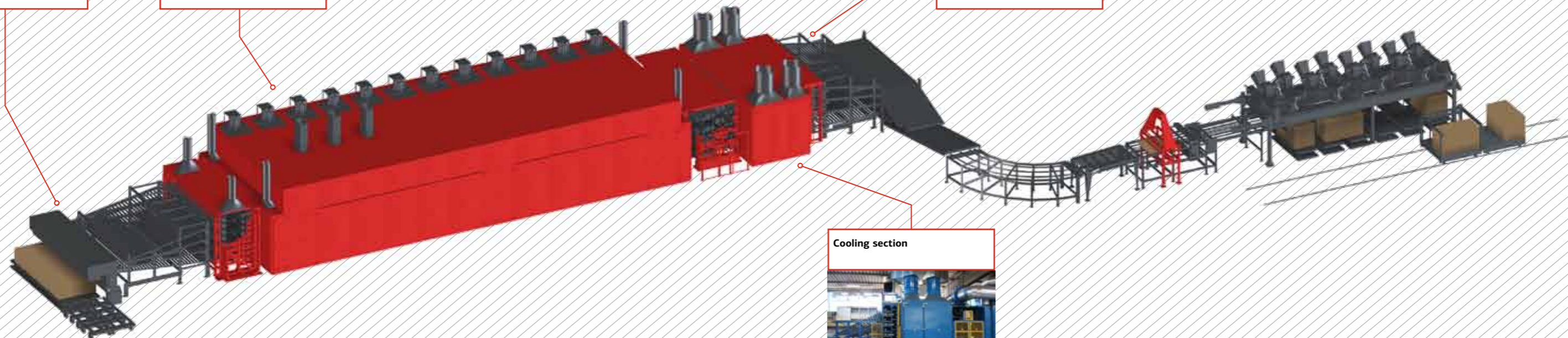
Automatic infeed system



4-deck screen dryer



Manual outfeed system



Cooling section



New generation of infeeders scanners and stackers for peeled veneer

The features of **Grenzebach's new generation of feeders, scanners and stackers** for peeled veneers reflect the company's extensive experience gained during its long history in the field of drying highest quality peeled veneer.

With up to 22 infeed cycles/min it's a high speed feeder with direct driven pinch roller, suitable for the infeed of sheets as well as of narrows. Depending on the needs, several options such as additional back suction cups, stop bars for aligning and overlapping as well as non-stop accumulators can be installed on the feeder. Operation can be semi or fully automatic. Customers can choose from a full range of conveyors and platforms to be installed in front of the feeder.

With its special LED lighting the new Grenzebach scanner detects wood defects bigger than 1x1 mm as well the roughness and waviness of the veneer sheets at a transport speed of up to 300 m/min.

A low energy consumption and a high stacking accuracy in combination with a high speed over 300 m/min are the main performance features of our new stacker. With its modular construction the stacker can be assembled to have more than 20 stacking stations with a total length of over 40 meters. A wide range of stacking combinations can be selected in accordance with the production requirements.



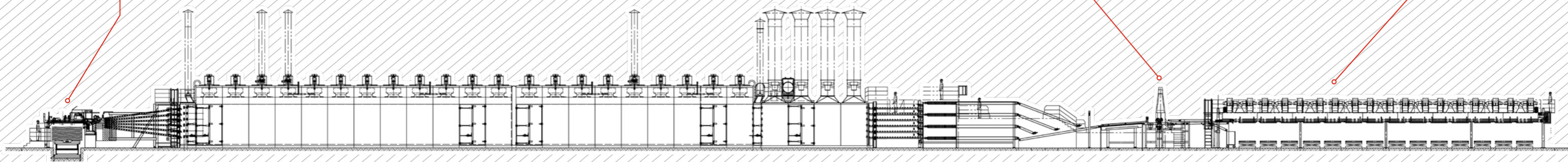
Automatic infeed system



High speed veneer grading colour scanner



High speed veneer stacker



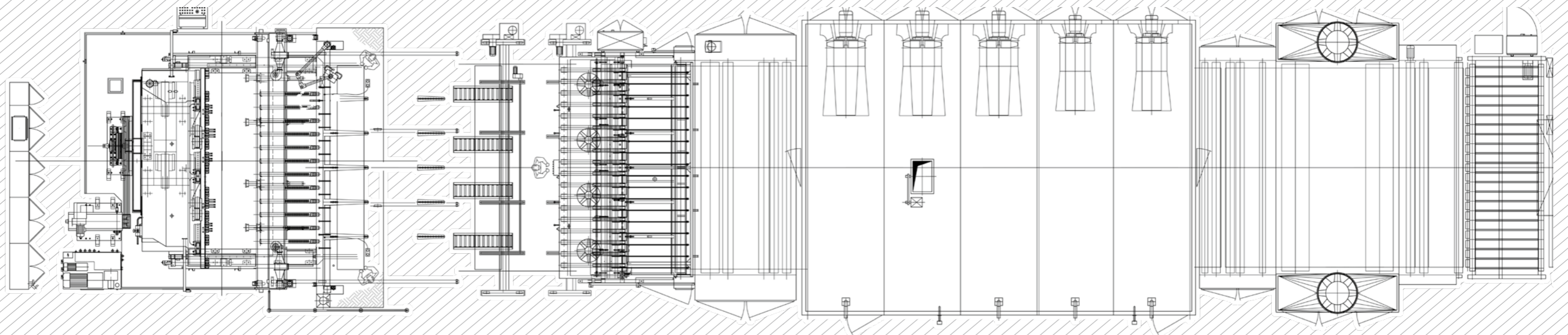
The high end machines for the production of the best sliced veneers

In the sliced veneer industry the name Grenzebach is synonymous with **high end machines with highest precision and efficiency** for the biggest producers of sliced veneers.

The vertical slicers with a maximum output of 105 sheets/minute and the rotary slicers with a maximum production of 120 sheets/minute are typical examples of the Grenzebach technology. The machines are designed for high performance production, with best sliced veneer quality, as well as smooth and safe operation, easy handling and fast adjustment. With several options and auxiliary features, such as the slanting of the knife carriage, the vacuum table, the liquid cooling of the table guides, the log turning device and the flitch detection system, it is possible to optimize the machines according to the needs of the individual sliced veneer manufacturers. When almost 30 years ago the press dryer was introduced in the sliced veneer industry, this was a quantum leap in drying

sliced veneers. For the first time it was possible to obtain flat veneers after drying and to manufacture them without additional pressing.

Today this technology is an absolute must for all sliced veneer manufacturers. To give access to this technology also to producers with a medium / small production volume, Grenzebach has developed the compact and midi press dryer with integrated preheating, four-drum-pressing, and cooling section for the production of high quality pressed veneers despite the system's small and compact overall dimensions. The dryers can be designed for steam, hot water or thermal oil heating.



Vacuum outfeed system of slicer machine



Beam of staylog



Half-automatic infeed system for sliced veneer



Midi press dryer



Midi press dryer outlet



Press dryer outfeed system



GLASS | BUILDING MATERIALS | GENERAL INDUSTRY | SERVICE



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