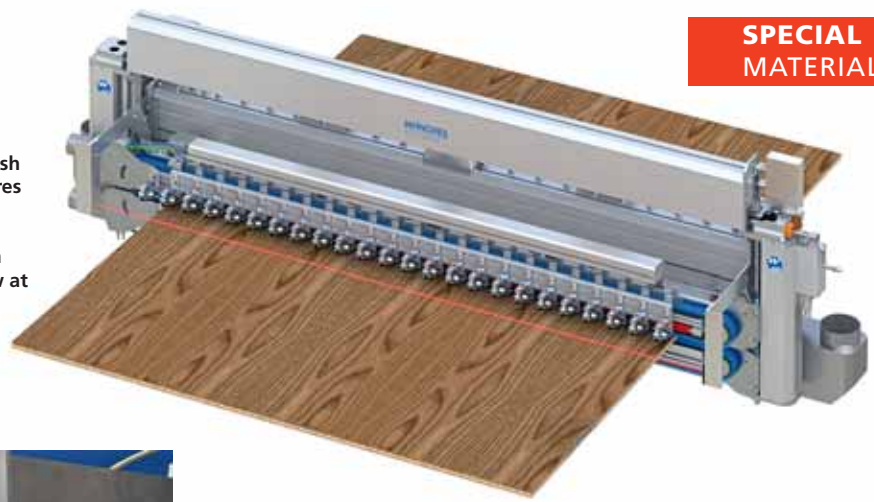


The Combi Sword Brush 'Una H-XFT 621' features Sword Brushes at the infeed and a Tornado Channel cleaning from above and from below at the outfeed.



Photos: Wandres

Optimal Cleaning of Chipboard

Due to a build-up of thermal residue stress in the material, melamine-faced chipboard can display blister defects or blown areas near the edges of the panels after the short cycle press. For this reason Wandres GmbH Micro-Cleaning has developed a cleaning installation specifically designed to effectively clean chipboard, including oversized panels, after edge trimming.

Combi Sword Brushes from the Una H-XFT 621 series of machines are already being deployed with remarkable results on multiple short cycle press lines. The cleaning concept ensures 24/7 operations run smoothly and supports automated quality control. Downstream camera-based inspection can therefore proceed without disruption.

Substantial differences in height will occur on boards that display blistering and blown areas. To detect and compensate for these, the cleaning installation is equipped with tactile sensor control. This feature enables the linear brush of the upper cleaning module to be automatically lifted in the event of any protrusions thereby preventing damage to the brushes. Sword Brushes wipe across the upper and lower surfaces of the boards, crosswise to the direction of travel. In the process, they remove edge-trim and

fragments from the cover layer. Finer particles cling to the micro-moistened brush filaments and are swept along towards a suction system. The linear brushes are flexibly mounted on a pneumatically regulated pressure buffer. This ensures that the wiping pressure remains consistent even when cleaning uneven surfaces thus helping to deliver optimal cleaning results.

A contactless cleaning procedure utilising air technology follows at the outlet. Here, nozzles rotating at high velocity emit compressed air at several times the speed of sound, blasting particles and dust from the surface in a powerful performance. The arms of the nozzles of the electrically driven Tornado Nozzles interlock precisely like cogs in a finely-tuned machine. The circular cleaning areas therefore overlap and the entire width of the board is cleaned seamlessly.

Contaminating particles on the surface

Left: Cleaning of chipboard prior to camera-based inspection

Right: View of rotating nozzles in the Tornado Channel



Scan the QR code to see a 3D animation of the cleaning procedure

of boards can negatively impact downstream processes and trigger false positives during camera inspection. Optimal surface cleaning prevents this happening. In many cases automated image-based quality control is arguably only possible thanks to the effective cleaning process.

Following the integration of the cleaning installation into the short cycle press line at a leading manufacturer of wood-based panel products, it was deemed a complete success. Commenting shortly after commissioning, the production manager said: 'This is the best cleaning procedure that I have ever experienced.' In the meantime, the same model of Combi Sword Brush is now being deployed on a number of other short cycle press lines at the facility.

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