Contactless cleaning of panels

Based in Liestal near Basel in Switzerland, Heid-Tech GmbH has been supplying machinery and equipment for all areas of the woodworking and furniture industries since 1950. From the very beginning, planning, project management and the development and provision of customised solutions have characterised the company.

Over decades, the company identified an increasingly marked requirement for continuous feed lines where several – or indeed all – processes are performed in a single pass. This currently applies especially in the area of the feed, drilling and assembly lines that are used today in virtually all areas of the furniture industry. These feed lines are mostly designed for batch 1 production with experience indicating a relatively high performance of 1-6 workpieces per minute.

The surface-finished parts are provided with the necessary holes, possibly adding routing, milling grooves and with such hinges that are required pressed in. After these processing steps, the workpieces are in principle easy to install. However, the surfaces of the workpieces are usually electrostatically-charged: either because of mechanical processing of the upper surfaces by rotating tools, but also from contact with the transport conveyor or belts which are given a further electrostatic charge from slippage on the upper surfaces. Because of the charge on the one hand and the generally large amounts of chips on the other hand, effective cleaning of the machine by means of vacuum suction is virtually impossible. Often, however, additional time-consuming and costly manual cleaning of the workpieces by hand is necessary, which is out of proportion to an upstream, modern manufacturing facility.

Dust extraction made easy For this reason, Heid-Tech GmbH began to develop the first discharge and dust extraction units in 2001, together with the well-known engineer and anti-static specialist Hermann Künzig. At the beginning these were still relatively simple units and the workpieces were discharged and dust extracted manually. Later, blowing battens were integrated into the hoods and currently the workpieces are discharged, cleaned in the drill holes with the integrated whirling nozzles, vacuum-cleaned and finally discharged again. In order to keep the air consumption of these whirling nozzles as low as possible, they are controlled by a magnetic valve and a photocell, only turned on when the workpiece arrives and immediately turned off when the workpiece has passed the unit. For effective control, combined photocells with a magnetic valve or PLC controllers are available.

Contactless workpieces With this efficient solution, workpieces can be optimally cleaned without manual adjustments or contacting the surface. The usual automatic adjustment for different workpiece thicknesses is no longer necessary. The units can be single or double sided and depending on customer requirements, working widths from 80 to 3,000 mm can be cleaned. The contactless operating principle of these units is extremely important for sensitive surfaces such as veneered, varnished or film-coated workpieces because only in this way is the damage-free cleaning of such surfaces also possible. The Heid-Tech discharging and dust extraction units can alternatively be designed as a retrofit for existing machines or fitted as original equipment for new machines. In this case, fitting to both horizontal as well as vertical feed lines is possible.

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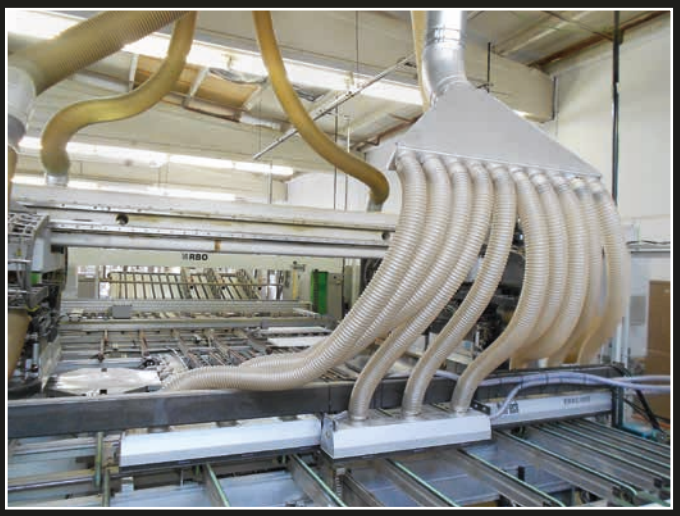
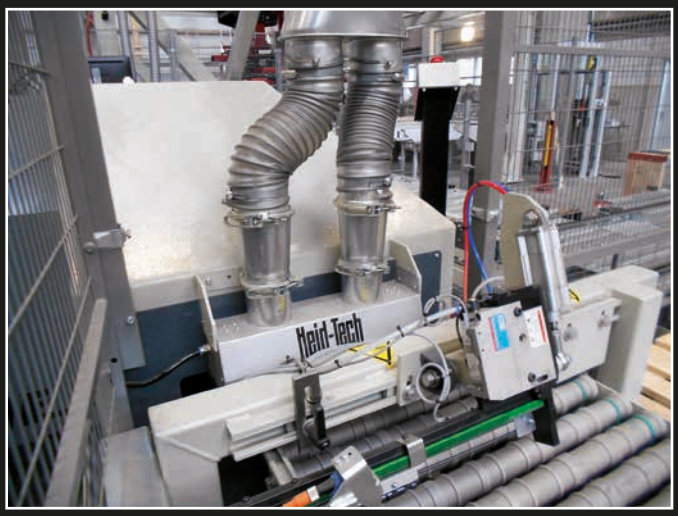
Origins in trading Further cornerstones of the company are the successful representation of noted machine manufacturers. For over 10 years, we have been representing the Rilesa company, a manufacturer of semi-automatic drilling machines with magazines for single-person operation, as well as feed lines, including CNC-controlled systems. Success is promising, especially in the German-speaking area. Much has been achieved in Switzerland in recent years in the field of solid wood processing, thanks to a good cooperation with the System TIM company. The benefit of this global manufacturer is that it does not only produce cross-cut saws, but also all handling and automation units. This results both in maximum efficiency as well as a high degree of flexibility to respond to customer requests and to local conditions. In addition, Heid-Tech GmbH has been producing and supplying the vertical Brema drilling and assembly centres for over 30 years, either as new machinery or reconditioned used machines with a new machine warranty. The quality is impressive and two large plants were currently just delivered in Switzerland and Austria.

▶ **www.heid-tech.net**





▲ (l.) Rear view of a Biesse CNC Pass Drill Model FTT with 3 "EWAE" cleaning units switched individually, depending on the workpiece width

▲ (r.) The exit area of a double-sided Rilesa cutting and zinc machine with a "WA" cleaning unit in front of the inkjet printer for labelling of solid wood panels

◀ Exit area of a vertical Brema a drilling and dowelling line with double-sided "EWAE" cleaning units

▼ (top) Semi-automatic Rilesa Rapid drilling machine with a magazine for rational single-person operation

▼ (bottom) System TM heavy duty roller conveyor and feed unit for solid wood planks