



The new Vision-U is ideal for all interior building components such as freestanding furniture, stairs and doors

■ Reichenbacher Hamuel GmbH, Germany

## A Vision Based on Experience

The new CNC wood machining centers from Reichenbacher were consistently improved with the help of Safety Integrated and the latest drive and control technology.

A broad range of universal CNC milling machines capable of machining wooden boards, composite materials, even aluminum, form the heart of the Reichenbacher Hamuel product portfolio. The machines are used primarily in furniture construction, but also for interior building design.

The latest development from Reichenbacher is the Vision-U machining center. The machine is a further development of the legendary Vision Sprint 5-axis machine, which was first introduced in 1997, and which has been successful thanks to its machining versatility and excellent milling quality.

### New design architecture for faster throughput

First and foremost, the new Vision-U is used for 3D machining of wooden materials. The CNC machining

center offers precisely those capabilities, which play a particularly important role, for example, for manufacturing stairs, doors and freestanding furniture in interior building design. It offers a tremendous amount of design freedom and can be adapted to a large variety of different tasks thanks to its modular architecture. Its special feature: the U-shaped gantry with two Y-carriages, which enable operation of four large 5-axes heads. The heads operate completely independent of one another, and can be fitted with a variety of different tools. Simultaneous access to two 24-fold disk magazines, or to a common chain magazine with up to 120 bays, enables tool changes to be conducted in a mere two seconds, while also accelerating the machining process.

The machine sets new standards in terms of high-speed machining: not only thanks to a positioning speed of up to 100 meters per minute on both axes

(X/Y), but also through its capability to perform four operations and access two tool changers simultaneously. In addition, setup time is reduced to a minimum thanks to an automatic setup table, which also helps to increase overall productivity.

To enable cost-efficient and flexible machining, the machine is equipped with a 15 kW spindle both in the vertical unit and in a cardan operating head. It also features a 21-fold drilling head with lock, as well as a rotating groove saw. The open 1,600-millimeter working surface on the Y-axis and dual 2,400-millimeter working surface on the X-axis allow different parts to be machined precisely to customer specifications.

### Control with integrated safety concept

But there are also new developments on the automation side: the Vision-U is equipped with the latest Sinumerik 840D solution line (sl) control generation, as well as a Sinamics S120 drive system. Reichenbacher Hamuel selected the 840D sl, because it optimally suits the design concept of the Vision-U with its open design and modular system architecture. The scalability of the hardware and software enables simple positionings as well as complex multi-axis machining tasks. Also, the CNC functions can be adapted to different machine kinematics at low cost. The machine features quick and intuitive operation thanks to a graphical user interface. Reichenbacher is also very pleased with the services provided by Mechatronic Support, which considerably facilitates the development of efficient machines through simulation and optimization.

In machine manufacturing, demands for more safety play an increasingly important role. With the high machining speeds customary of the wood industry in particular, shutting down machines safely is a critical issue. With its Safety Integrated concept, Sinumerik 840D sl offers an ideal solution, which meets category 3 safety standards according to EC standard EN954-1 and Safety Integrated level SIL 2. Given the fact that all safety functions are integrated directly into the control and drive technology, the intelligent solution offers a high level of protection for both man and machine, along with convenient handling.

### Precision paired with intelligence

Reichenbacher Hamuel boasts another new machine: the Eco 4430-B, equipped with a special nesting function which has been added to the proven Eco machining center. The machine features an extremely high feeding speed and, for example, allows smaller parts with complex contours to be manufactured with a high level of precision. Thanks to the nesting function, specifically configured for the machine, production orders are also performed cost-efficiently. All manufacture-ready parts are optimally arranged on one or more plates to enable stream-

lined machining on the machine with minimum waste.

The two worktables, arranged in parallel, can be fed from three sides, and support a continuous machining process. The tables can also be moved to defined positions. An integrated vacuum field allows boards to be fixed quickly and securely without the need for clamping tools. As with the Vision-U, Reichenbacher Hamuel is also relying on Sinumerik 840D sl and the efficient Sinamics S120 drive system with its new Eco. The drive, designed for high-performance applications, is equipped with a digital Drive-Clq interface, and enables fast drive components changes.



The swivel unit of the Vision machine enables precise machining from all sides

### Proven service

For reasons of investment security, Reichenbacher Hamuel has again chosen an automation concept from a proven partner for the two new machines. As a result, the company has easy access to spare parts for all of the automation components for the next ten years. Thanks to the Repair Service Contract (RSC), it can also take advantage of special worldwide services. ■

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