

# Reichenbacher



Hamuel Reichenbacher has earned the reputation for always accepting a challenge from customers to deliver future-oriented, technically innovative, production solutions for any given application. This year at Ligna, visitors will be able to witness for themselves the realisation of such a challenge in the shape of a unique door machining solution.

Leading Swiss door manufacturer, Entla AG, commissioned Hamuel Reichenbacher to develop a complete door production cell capable of machining around 300 door blanks per day. Reichenbacher designers and engineers worked extremely closely with Entla, throughout the development process, to come up with a commercially efficient door production system that would fully meet the criteria laid down by Entla. The result is a unique, cost-effective system that fits into a relatively small space and far exceeds the expectations of the client.

The nucleus of the production cell is a Vision-UT Sprint CNC machining centre with two 5-axis machining heads capable of working up to 8 degrees below the horizontal plane to accommodate specialist Anuba hinges. Each working head is fitted with a



*Vision-UT Sprint door production cell with twin automatic loading portals and through-flow table will be demonstrated on the Reichenbacher Hamuel stand at Ligna 2009.*

positions in the magazine. The operating feed speed of the machine is 60m/min in the X-axis, 90m/min in the Y-axis, and 20m/min in the Z-axis. Workpieces are machined on a through-flow machining table. The process operation is facilitated by a twin channel control system which ensures that whilst working head 1 is machining, working head 2 is simultaneously selecting the next tool, which then continues the machining process whilst working head 1 selects the next tool from the magazine. The table will handle door blanks from 800 to 3,000mm long and from

been identified, the correct NC component machining program is loaded, and loads automatically. The process commences with the in-feed of the door blank, the configuration of the table and the preparation of the transport rollers for removal of the finished product. The workpiece can be held by up to 30 individual sinkable vacuum pins per beam deployed in the Y-axis. To cut out a window panel the roller bed will sink, and commence to rotate, allowing the waste to drop and be removed from the machine. When the machining process has been completed, the finished product is engraved with the product identification code. The finished door is then moved to the right where it is cleaned by a brush and vacuum unit. The second portal loader, on the out-feed side of the machine then lifts the finished door, and deposits it onto a pallet truck for removal. A machine integrated conveyor belt ensures all waste material is removed in a trouble-free manner.

The control function for the production cell is by way of a Siemens Sinumerik 840D powerline system, for multi channel operation, with a Windows XP operating system. The machining software package employed is NC Hops 5.0 Professional, which offers optimum flexibility for complete door manufacture.

The development of such an innovative machining cell underscores Reichenbacher's commitment to providing cutting-edge solutions, whatever the challenge.



*Two independent 5-axis heads machine on a through-flow pin table with individual sinkable vacuum pins.*

15kW routing spindle capable of 24,000rpm for milling, drilling, sawing and finishing. An automatic 60 place chain type tool changer magazine feeds the machining heads. Located within the tool changer magazine is a measuring unit to monitor the tooling length and quality and, if necessary, tools can be replaced with reserve cutters in secondary



*Both five-axis heads are capable of working at up to 8 degrees below horizontal.*

650 to 1,600mm wide, with thicknesses from 38 to 100mm.

At the in-feed lifting portal, a vacuum lifter positions door blanks in the correct X and Y co-ordinates on the roller conveyor, which then allows the barcode (which is positioned on the facing edge of the blank) to be read by a barcode scanner. When the barcode has

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