

New trends in automated stoneworking

# Controller relaunch for CNC processing centers

The French machine manufacturer Thibaut manufactures machines for processing stone and hard mineral building materials. In order to keep pace with changing market requirements, the company has decided on a new control concept for its machines on the basis of PC-based control from Beckhoff.

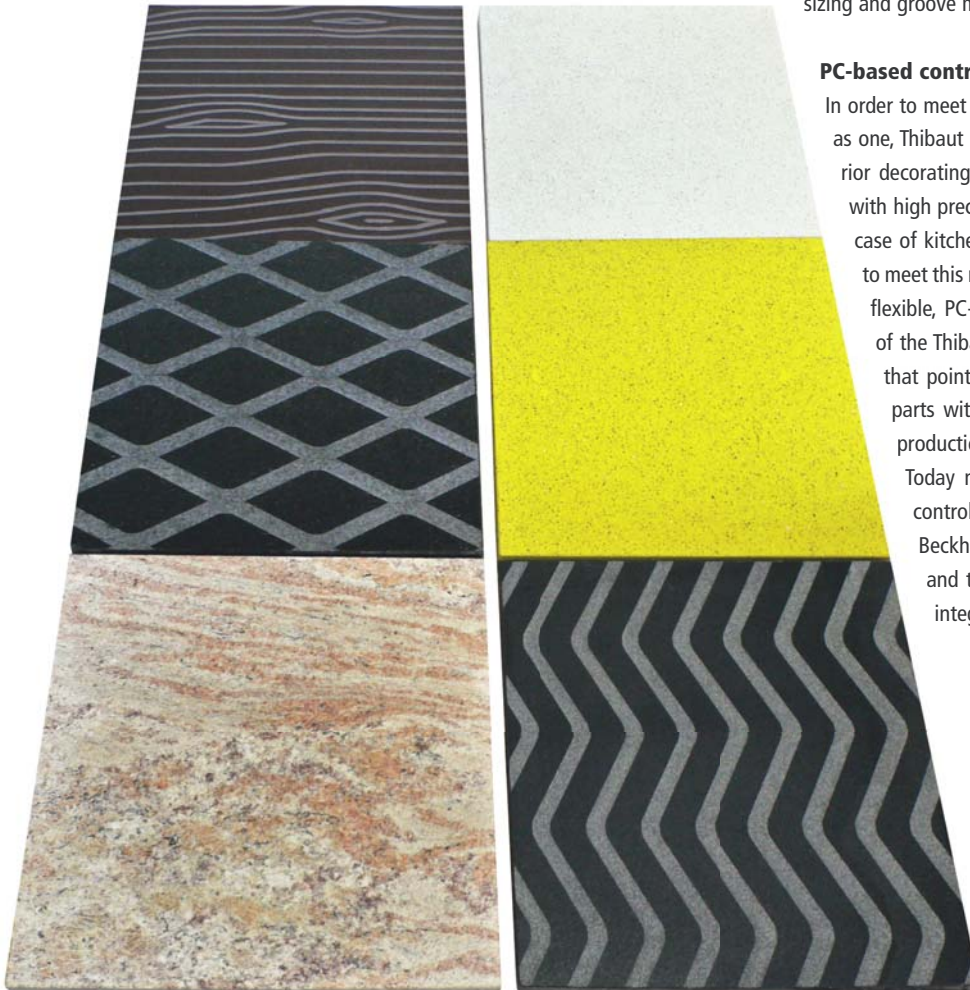
Thibaut, founded in 1952 in Vire, Normandy, is specialized in stone working machines. The machines are particularly suitable for processing hard stone, such as marble and granite, as well as for slate, concrete, glass and chamotte. The company's core competencies include grinding and polishing technology as well as shaping by means of milling. Thibaut produces approx. 200 machines per year. "The industry has changed a great deal over the years," explains Vincent Ernoul, buyer at Thibaut.

Whereas the main sales market used to be gravestone production, the trend is now toward decorative elements for homes: This includes worktops for kitchens, wall and floor coverings for bathrooms, stairs and spa areas as well as statues and stone façade elements. Thibaut recognized this trend quickly and, in the T818 and T812 machine series, developed versatile CNC processing centers for the manufacturing of inner and outer contours, for the profiling and chamfer milling of curved or straight edges, and for surface grinding, drilling, thinning, sizing and groove milling.

## PC-based control provides more flexibility in manufacturing

In order to meet the demand for made-to-order products in lot sizes as small as one, Thibaut needed a flexible control system for its machines. "The interior decorating market demands the development of made-to-order parts with high precision, often in limited series or even unique pieces, as in the case of kitchen worktops," explains Vincent Ernoul. "We were only able to meet this requirement on the basis of a new machine concept or a more flexible, PC-based control solution," says Guillaume Pasquier, manager of the Thibaut automation design office. "The controller we used up to that point could not satisfy the new manufacturing requirements for parts with a complex geometry, particularly in the case of frequent production changes."

Today nearly all Thibaut machines are delivered with a PC-based controller from Beckhoff. The decision was made in favor of Beckhoff mainly due to the impressive price-performance ratio and the openness of the control platform, which also allows the integration of components from third-party manufacturers.



There are no limits to the decorative surface design of the stone.



The T508 texture processing center from Thibaut handles polishing, matt grinding, antique brushing, gloss finishing and bush hammering of granite and other stone surfaces for interior decoration.



T812 CNC processing center for the manufacture of inner and outer contours, for the profiling and chamfer milling of curved or straight edges, for the surface grinding of marble and granite workpieces, and for drilling, thinning, sizing and groove milling.



As a human-machine interface (HMI), the Beckhoff CP6202 'Economy' built-in Panel PC with 15-inch display permits more convenient operation of the processing center.

"The decisive thing for us is that we have a long-term solution in the Beckhoff platform. In the past the design of a new machine was frequently a reason to reconsider the automation concept and to look for an optimal solution. This often resulted in a change of the controller supplier. Our considerations are now running in a different direction. The Beckhoff solution offers us the possibility to adapt to the respective requirements: whether the machine has one or five axes, whether it encompasses one or two PCs and whether it has 20 or 200 inputs/outputs is irrelevant and has no effect whatsoever on the software," argues Guillaume Pasquier.

The Beckhoff control platform employed is based on a CP6202 'Economy' built-in Panel PC with a 15-inch display and touchscreen, EtherCAT I/Os and – depending on the type of machine – between three and four AX5000 Servo Drives. Since the Thibaut processing centers have relatively small dimensions (length of less than 10 m), the I/Os, which are connected via EtherCAT, are accommodated in a central control cabinet.

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The T818 CNC processing center is available in different versions, for installation as a stand-alone machine or integrated into a production line. The machine optionally has a 3- or 4-axis controller and is designed for the manufacture of kitchen worktops with draining surfaces, washbasin covers, etc. from granite or marble. The machine includes a linear tool change magazine with two rows for 45 tools.