



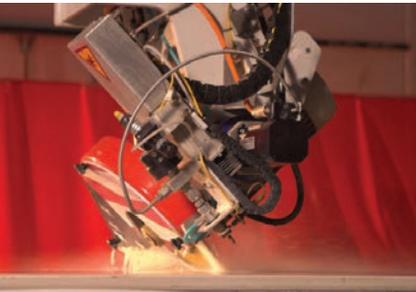
5 Axis CNC Machines for Advanced Stone Fabrication

Customer Success

Background

Park Industries, a leader in stone fabrication since 1953, specializes in countertop fabrication and finishing machines.

Park and Hartfiel Automation co-developed a series of 5-Axis CNC machines used to cut custom countertops. These CNC machines utilize a 15 in. wet saw with variants that are equipped with a water jet. The machines take in a CAD drawing and produce a cut-out countertop ready for edge finishing.



Challenge

Park Industries was looking for a partner to provide a solution for advanced CNC control at a competitive price. The controller would have to be capable of processing custom G-Code, support a custom C# .NET front end, use SafeMOTION servo axes to ensure safe waterjet operation, while remaining at a low cost.

Solution

A B&R system was provided by Hartfiel Automation as the solution to the requirements of the machine control. A PPC3100 with an Intel i5 processor with a Hypervisor system was used to allow both Windows 10 and B&R's Automation Runtime to run on separate cores. With this system, the motion controller, PLC and PC were all combined into one piece of hardware for cost savings and part reduction.



Let the engineering experts at Hartfiel help you create the hi-tech equipment you need in today's manufacturing marketplace.

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“The work that Hartfiel did with Park Industries for this product line helped to improve functionality and efficiency of both lines. This work combined with the value proposition of the hardware helped to ensure a significant stake in the stone industry for our product lines.

Customer service is a large part of the Park Industries business model and the support that Park has received from the Hartfiel team over the years has lived up to that expectation.”

B&R A member of the ABB Group



ACOPOS P3
SafeMOTION 3-axis model



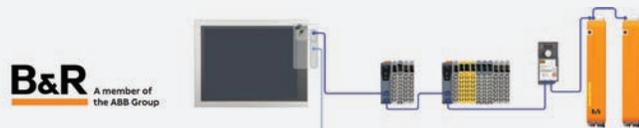
Automation Studio



Panel PC 3100

The SafeMOTION ACOPOS P3 servo drives were selected to provide world-class motion control alongside redundant safety monitoring to ensure the waterjet would stay in the defined workspace. The ACOPOS inverter P86 was utilized for the 27 HP arbor motor. The SLX safety controller was used for all the safety sensors as well as the SafeMOTION Master. The IO was handled by the X20 series and was distributed throughout the machine to reduce wiring by use of the Powerlink communication system.

For the software, the Mapp framework was used to greatly simplify the implementation of the recipe handling, alarms system, axis control, CNC control and other integral functions of the machine. B&R's Automation Studio was used to bring together both the hardware and software in the many machine configurations. Automation Studio is the all-in-one software suite used for the development, commissioning and troubleshooting of all aspects of the controls system.



The Hartfiel ATLAS team co-developed each machine variant with the Park Industries engineers. Hartfiel's ATLAS team has fully committed to ensure Park Industries' success in this joint venture— from initial design specifications, to programming and testing, to ongoing product support and service.

Outcome

The engineering services that Hartfiel Automation's ATLAS team provided, along with design of the solution of these machines, resulted in the machines becoming the sought-after product lines in Park Industries targeted markets (North America).

The Future

Park Industries continues to view Hartfiel Automation as a valued partner. Hartfiel actively engages with Park Industries on new product development and continues to evaluate for potential supported hardware upgrades.

About Hartfiel Automation's Engineering Services

Hartfiel Automation's ATLAS Controls Engineering Team focuses on partnering with customers to achieve success in their equipment design and manufacturing.

Starting with consultation in the selection and specification of components, through on-site training and start-up assistance—our team is committed to providing the engineering support required to create the hi-tech equipment of today's manufacturing marketplace.

Hartfiel's ATLAS project approach provides a well-defined road map that gives clarity and provides structure and confidence to the process of migrating to a new, full featured and future-proof platform.

Whether you're looking for some short-term assistance with training or prototyping or outsourcing the programming and start-up of a complete system, we can help.