

## **Configurable Components Deliver Value in Automated Motion Control Systems**

By

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In challenging economic times, manufacturing companies serving the consumer and industrial electronics market are striving to remain competitive by reducing costs while increasing efficiency and productivity. These are tough goals to achieve when the costs of materials and supplies, energy and plant operations, transportation and logistics have been steadily rising.

One way progressive producers of automated motion control equipment have found to reduce development and manufacturing costs is by standardizing machine components wherever feasible and by using configurable machine components that can be quickly and easily integrated into their products without incurring additional machining or finishing time and costs.

### **A Practical Alternative**

Purchasing configurable components from a reliable outside source can not only reduce production costs, but can also save significant time and effort at the front end, in the design and procurement processes. The fact is that, in making and assembling their products, automation machine builders and integrators typically deploy a wide range of motion control components, such as linear shafts, actuators, bushings, linear guides, locating pins, ball screws and machined steel plates and associated hardware.

If manufacturers could order all of these components from a single source, configured to their specific and precise requirements regarding dimensions, materials and finishes – and do so at reasonable prices and fast turnaround times – the benefits would be significant. Increased efficiency, higher productivity and faster time-to-market are just a few advantages.

Here's a brief look at how a prominent Canadian machine builder has adopted the configurable component alternative and reaped significant measurable returns.

### **ATS Automation Tooling Systems**

ATS Automation Tooling Systems, Inc. of Cambridge, ON, provides innovative, custom designed and built manufacturing solutions to many of the world's most successful companies. Founded in 1978, ATS serves the sophisticated automation systems' needs of multinational customers in industries such as healthcare, computer/electronics, automotive and consumer products. ATS employs approximately 2,700 people at 17 manufacturing facilities in Canada, the United States, Europe, Southeast Asia and China.

ATS discovered the value and convenience of specifying Misumi's configurable components as the company was planning the launch of its modular FlexsysPAK System. The FlexsysPAK System is an automated packaging, assembly and dispensing platform based on the company's Supertrak pallet conveyor line. Such a complex, configurable system would typically require substantial lead time because of the vast number of components involved in its design and production.

According to the ATS CAD support specialist for the company's mechanical design group, using Misumi's easy-to-access online Configurator and ordering system was instrumental in saving time and labor for engineers responsible for designing and specifying components for the FlexsysPAK machinery. Previously, in modeling a new part, design engineers would need to find a catalog, either online or hard copy, then model the part from the dimensions provided, which increased the possibility of modeling errors and the need for rework.

Using Misumi's CAD configurator and online ordering system during the development process, ATS engineers could use either two-dimensional drawings or CAD files available on the Misumi website. Designers could input a part number, reconfigure the part and then download the native 3-D file. In most cases, this took considerably less time than it took before to create detailed drawings of the components.

To further facilitate the process, Misumi provides standard automation components that can be parametrically configured to the precise specifications required for the unique assembly being designed. When the part design is completed, the designer can download the native CAD file directly into the assembly model. The component can then be added to the bill of material as a purchased item.

Various component materials and surface finishes can also be specified through the Misumi catalog or e-catalog part number, while dimensional specifications can be selected in 1-millimeter increments. Additional configuration options available include wrench flats, location of wrench flats, set screw flats, key grooves and V-grooves.

ATS is just one example of the value proposition of configurable components and convenient online configuration and ordering. Other leading machine builders have reported similar positive results, including:

- Time savings of up to 60 percent due to ordering of precision configured machined parts
- Cost savings of up to 50 percent over the expense of in-house custom production and machining
- Greater modularity and flexibility of systems and interoperability of parts
- Higher productivity, reduced build time, and faster time-to-market

An additional plus unique to Misumi's business model is the company's "no minimum order" policy and guaranteed delivery of many of its 1,000,000 configurable components within days rather than the weeks (or months) typically required. This allows manufacturers to design and make prototype machinery and systems, or even one-off specialty devices, economically and quickly.

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***About the Author***

Patrick Esposito, Marketing Manager for MISUMI USA, has 25 years of professional experience in the industrial manufacturing sector. He has held executive positions in Product Management and Sales and Marketing Management, and has authored numerous articles and white papers for a wide range of industrial trade publications.

***About the Company***

MISUMI USA is a leading global supplier of fixed and configurable mechanical components used in the design and manufacture of factory automation machinery and systems. For more information, visit <http://us.misumi-ec.com>.