



MISUMI

Case Study

ABCO Automation Systems

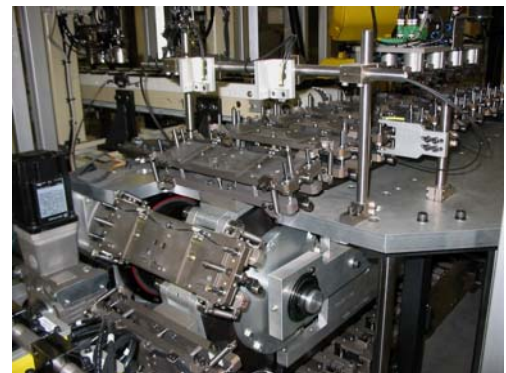
ABCO Automation, Inc. Uses 3,000 MISUMI Automation Components for a High-Speed Packaging Machine

To sustain growth and profitability in an increasingly competitive market a company must be open to new ideas and innovations. In recent years the volatility of the custom machine building market has proven to challenge many such companies. However, one custom machine builder has learned not only how to survive, but to thrive in such an environment. ABCO Automation, Inc. in Greensboro, North Carolina has consistently decreased costs and increased profits by looking for new ways to source custom components used in machine builds.

ABCO Automation, Inc. is not a typical custom machine builder as the company builds machines for a vast amount of industries instead of focusing on a select number of industries. "We have an extremely diversified customer base, which is crucial to our success," explained Brad Kemmerer, President of ABCO Automation. Kemmerer noted that by servicing customers from all types of industries ABCO is less susceptible to the economic fluctuations that can affect a single industry. "If an industry goes into an economic slump this does not affect ABCO because we have a diversified customer portfolio covering many industries," noted Kemmerer. With this type of business model ABCO is positioned to face a vast amount of competition as well. As Kemmerer said "The other side to a diversified customer portfolio is that you face a lot of competition which puts a lot of cost, time and performance pressures on us." This creates a situation where ABCO heavily relies on its innovations and its supplier's innovations to remain cost and time competitive in the extremely aggressive custom machine building market.

To not only compete but grow in such a market requires that ABCO develop a long term and mutually beneficial relationship with its customers. To achieve this objective ABCO developed a mission to provide customers with a single source for innovative solutions, automation services and manufacturing support that are valued contributions to the customer's success. In addition, ABCO prides itself in exceeding expectations for quality, execution and service. Kemmerer simply explained "In this business we see competitors come and go all the time so it's either you dedicate yourself to your customers and put them first or you simply disappear."

ABCO is constantly searching for new ways to source its custom components used and lessen the amount of custom components used in machine builds. In 2004 ABCO specifically was looking for a more cost efficient source for machined linear shafts. The process involved purchasing blank linear shafts from a distributor and then machining the shafts using the in-house machine shop. This process was becoming quite costly for ABCO which prompted a visit with MISUMI Senior Account



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Manager Donald Schmeltzer. "When I explained that MISUMI Linear Shafts can be configured in one-millimeter length increments and offer a vast amount of shaft end configurations as well as a standard manufacturing time of 3 days, ABCO quickly understood the benefit of switching to MISUMI for linear shafts," explained Schmeltzer. In addition, Schmeltzer further noted that no drawings are required because ABCO engineers can use the MISUMI online CAD Configurator to design shafts to their specifications and download the native CAD files directly from the site. This made ABCO quickly realize that it would cost less money and time to use MISUMI linear shafts than to purchase blank linear shafts from a distributor and then machine the shafts using the in-house machine shop.

From this purchase, ABCO began investigating other custom components they could replace with



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MISUMI configurable components. "We found that by reducing the amount of custom components per machine we are able to not only save time and money but are also able to produce machines that are more modular and offer better performance," explained Senior Mechanical Engineer, Dan Pescariu. As ABCO increased its use of configurable components benefits from decreasing its use of custom components was having an impact on various projects. "When we first started doing business with MISUMI I was immediately impressed with the precision that goes into every component and the fact that what you configure is what you get," said Pescariu. ABCO has experienced problems in the past with custom components where no two components are the same. As Pescariu explained when dealing with custom components it's common to get a one of a kind component that can't be copied

exact again, where with configurable components it's easy to configure a component to the exact specifications needed and repeatedly order that component whenever you need it simply by specifying the part number. As a result, machine component repeatability and modularity only increases.

Recently, this was a deciding factor when choosing MISUMI as a supplier for the design and build of several high speed, high performance packaging machines. "As is typical in this business we were under an extremely tight deadline and also knew that we would have to duplicate this machine and build the exact machine several times for this customer," explained Pescariu. ABCO Sales Engineer Paul Mellander further explained that in the custom machine business duplicating machines can be a huge issue to overcome, especially when dealing with custom components. This is why Pescariu immediately began studying the MISUMI catalog so he could better understand how many configurable components ABCO could use on these machines. "Unlike custom components, MISUMI configurable components offer native CAD files that can be downloaded from their web site as well as short lead-times, published prices and part numbers for every configured component, which can easily be added to the bill of material," noted Pescariu. Mellander then added that it's these features that take the guess work out of the design and build, especially since the native CAD files save drawing time for the engineers and with no minimum ordering quantity and no set-up charges along with a 99.95% on-time delivery



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rating on all its products MISUMI offers a complete package for its customers. “The deadline for the design and build of these packaging machines was just a couple months, but once I knew that we were using MISUMI as a supplier I felt more comfortable committing to such a tight deadline with the customer,” explained Mellander.



All total each packaging machine contained approximately 10,000 components. Out of the approximate 10,000 components, around 3,000 were MISUMI components.

proved to be a major benefit as the machine design and build was quickly executed because the machine components fit together so well and the testing stage was shortened as well. Additionally, the machine was easier to duplicate and potential long-term benefits could include lower maintenance and less down-time.

Naturally another benefit from reducing component count comes in the form of cost savings. ABCO President Brad Kemmerer expects his engineers to meet their design and build budgets and encourages them to beat this budget on a consistent basis. “We were able to come in under budget for the design and build of these packaging machines and I can honestly say this is due to using as many MISUMI components as we could on the machine,” stated Pescariu. All total each packaging machine contained approximately 10,000 components. Out of the approximate 10,000 components, around 3,000 were MISUMI components. “Making 1/3 of the machine from MISUMI played a huge role in the success of this project,” stated Pescariu. He then further explained that in the past ABCO would have had to draw and machine many of these components. “For a project of this size if we would have needed to draw and machine all the mechanical components, it could have increased the tooling costs by 5 times,” estimated Pescariu. Sales Engineer Paul Mellander further explained that before MISUMI with a project this large it was easy for ABCO to max-out the capacity of all the local machine shops trying to get the custom components produced. However, now by replacing the custom components with configurable components this is no longer an issue. “Coming in under budget for a project of this size is huge for us and our customer and makes us understand the importance of the configurable component,” noted Mellander.

With the speed and performance that was needed for these packaging machines, the design and build had to be flawless. As Pescariu explained when dealing with multi-axis machines with high speed and high performance requirements you simply can't afford design compromises and you need high precision components. As mentioned earlier, Pescariu is extremely impressed with the quality and precision of MISUMI configurable components, which made him comfortable with using MISUMI for this project. The MISUMI component list for this machine included linear shafts, flanged linear bushings, strut clamps, locating pins, locating bushings, belts, bearings, plates, bolts and rollers. By using configurable components instead of custom Pescariu found that he was able to lessen the total component count of the machine.

According to Pescariu reducing component count



According to ABCO President Brad Kemmerer expects his engineers to meet their design and build budgets and encourages them to beat their budgets on a consistent basis.

Working with the configurable component has really changed the thinking behind designing and building custom machines at ABCO Automation. Pescariu explained that before the thinking was to design the machine then specify as many standard components as possible and then fill in the rest with custom components. However, now the thinking is to specify the standard components and then specify as many configurable components as possible. In turn this decreases the amount of custom components and ABCO reaps the benefits. ABCO feels that using MISUMI as a supplier of configurable and standard components has helped the business as a whole and has benefited ABCO customers as well. "I've never seen a company that announces yearly price reductions on its most popular products, but as MISUMI reaches higher sales volumes on these products the production costs decrease and MISUMI passes these savings on to ABCO," stated Pescariu. Along with lower pricing, MISUMI never requires a minimum order quantity or set up charge on a product portfolio of 280,000 metric and inch components. MISUMI has a 99.97% on-time delivery rating on all its products as well as a web site that allows engineers to download native CAD files as well as place orders for its entire product offering.

About ABCO Automation, Inc.

ABCO Automation, Inc. has been providing comprehensive industrial automation and fabrication services to manufacturers since 1977. ABCO is based in Greensboro, North Carolina. ABCO takes great pride in offering customers equipment and services of the highest quality with short lead times. Our extensive experience, broad capabilities, and strong technical aptitude combine to make ABCO a most capable provider of automation solutions.

About MISUMI USA, Inc.

Located in Schaumburg, Illinois, MISUMI USA, Inc. was established in 1988 as a Subsidiary of MISUMI Corporation, a part of the MISUMI Group (TOKYO: 9962). MISUMI USA, Inc. is a leading supplier of fixed and configurable components such as Bearings, leader pins, single axis actuators, linear shafts, slotted keys, aluminum extrusions, parting locks, locating pins, linear guides, XY Stages and other components for factory automation, plastic mold and press die industries. For a complete list of available components, please visit www.misumiusa.com

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