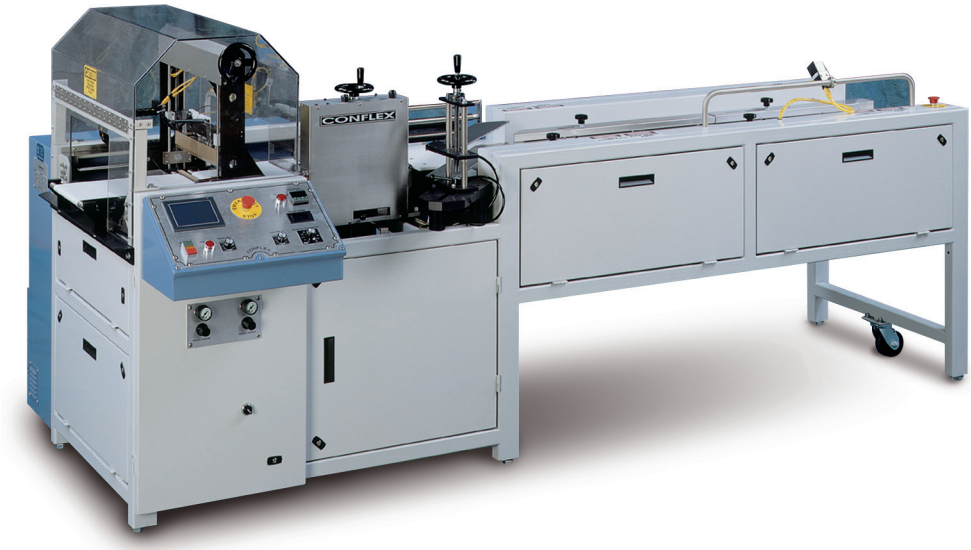

Conflex, Inc.

Designed for Success

Results

- 20% cost savings with integrated motion and control solution
- 20% reduction in panel space
- Sophisticated machine control in a user-friendly package
- Fast, easy programming
- Outstanding service and support

"GE Fanuc not only met our requirements, it exceeded them . . . and, we were on our way to developing a solid product in much less time."
Mark Lorenz
Electrical Applications Engineer
Conflex, Inc.

Integrated GE Fanuc Machine and Motion Control Solution Reduces Costs, Enhances Packaging Machine Performance

Established in 1988, Conflex, Inc. (Germantown, WI) quickly became one of the largest suppliers of automatic L-Bar Sealers in the United States. To meet the growing demand for high-speed shrink-wrapping equipment, Conflex began building horizontal form/fill/seal machines that can wrap everything from frozen pizzas to CDs. These machines featured simple relay logic that soon became outdated as users required even faster speeds, less manual adjustments and networking capabilities among their machines and to other production systems.

Taking a leap forward in automation functionality, Conflex engineers decided to implement a powerful, yet easy-to-use, solution that combines machine and motion control in one package. In addition to providing the required speed and networking capabilities, this compact solution from GE Fanuc Automation, a unit of GE Infrastructure, saves valuable panel space and reduces overall costs by more than 20 percent both for Conflex and its customers.

imagination at work

It's a Wrap

"When we decided to build a servo-driven horizontal form/fill/seal machine, we wanted to keep it very simple, intelligent and user-friendly," says Mark Lorenz, Electrical Applications Engineer at Conflex. "We also wanted to minimize the mechanical adjustments that would be needed." He cites component costs, readily available technical support and a company with an outstanding industry reputation as key factors in determining which vendor's automation products to use and making the final choice for GE.

After specifying GE Fanuc's S2K servos for motion control, Lorenz was pleased to discover early in the development process that the S2K could also perform all of the machine's logic, including the flexibility of multiple "recipes" for wrapping various products. This alleviated the need for a PLC – saving panel space, reducing the overall cost of the machine by thousands of dollars and simplifying implementation, which helped speed the new machine to market and giving Conflex a competitive advantage.

The three-axis motion machine features three S2K controllers that communicate via a DeviceNet peer-to-peer network. Three GE Fanuc S-series servo motors follow an in-feed conveyor motor through the electronic gearing feature. Additionally, one of the S2K controllers is networked via Modbus RTU to a 6-inch GE Fanuc QuickPanel Jr., a highly compact but fully graphical, easy-to-use touch screen operator interface.

All of the machine's control logic is programmed directly into the S2K using GE Fanuc's Proficy™ Motion Developer-Machine Edition software. "Initially, we found this challenging, as the language is different than the usual PLC or ladder logic," explains Lorenz. "However, once a GE Fanuc support technician showed us how easy it was to write the machine logic, we were on our way to developing a solid product in much less time." Because of the in-depth support provided by engineers from GE Fanuc and distributor Power/mation, Conflex was able to program the first prototype machine and ship it to a customer site within a two-day deadline. Lorenz notes that GE Fanuc's response time is always within a day, enabling Conflex to quickly address and resolve any machine control issues for its customers.

Based on the company's success using GE Fanuc's S2K servos to reduce panel space and material costs while enhancing the performance of the horizontal form/fill/seal machines, Conflex is currently developing a new single-axis S2K-based system for controlling print registration. And, whether the machines are packaging products or clearly labeling their contents, Conflex and its customers will continue to wrap up some airtight benefits from the new servo system.

S2K Series of Motion Modules: Small profile brushless servos and steppers offer drive and control capabilities in standalone, integrated package

GE Fanuc's S2K Series of brushless servo and stepper modules feature standard DeviceNet communications, all-digital drive technology, and control capabilities in a standalone integrated package. The S2K Series is available in servo amplifier, servo controller/amplifier, and stepper controller/amplifier versions – offering the flexibility to solve most motion system requirements with a single product family, which can help save time, reduce panel space, and speed machines to market – just like at Conflex.

All S2K Series controllers are available with PROFIBUS or DeviceNet communications. DeviceNet models include ODVA-compliant master/slave messaging services and peer-to-peer support for multi-axis stand-alone systems. A two-character LED on the front panel displays real-time diagnostic updates in convenient, mnemonic format and reports the DeviceNet node address of controller units. Additional S2K Series controller features include:

- Powerful and flexible multi-tasking operating system
- Electronic gearing and camming
- High speed registration
- Secondary (load mounted) position feedback
- Torque limit control
- Variable jerk-limited acceleration and deceleration
- Digital and analog I/O

Using low inertia S-Series or MTR-Series motors, the S2K Series provides high acceleration rates for improved machine cycle times. An S2K controller with a 122µs servo loop update and powerful multi-tasking real time operating system provides superior performance for demanding applications such as assembly, electronics, material handling, semiconductor processing, textiles, and packaging.

In addition, S2K servo amplifiers support either an analog torque or velocity command interface or pulse/direction command interface (for convenient stepper replacement). The SK2 offers a scaleable solution with cost versus performance options with minimal engineering to switch between the options. Velocity and torque modes employ the industry standard 10-volt analog command interface used with GE Fanuc's DSM controllers. An analog input is available to dynamically control the torque limit on-the-fly and to handle a wide variety of complex applications, including tightening bottle caps and bolts and positioning to a hard stop. Separate encoder feedback input is available for electronic gearing, camming and eliminating position errors due to drivetrain backlash.

GE Fanuc Automation Information Centers

USA and the Americas:
1- 800-GE FANUC
or (434) 978-5100

Europe, Middle East and Africa:
(352) 727979-1

Asia Pacific:
86-21-3222-4555

Additional Resources

For more information, please visit the GE Fanuc web site at:
www.gefanuc.com