FOCUS ON FILAMATIC®
Solutions FOR THE LIQUID PACKAGING INDUSTRY

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National Instrument Company's Golden Anniversary Celebration

For more than fifty years, National Instrument Company (NIC) has been a leader in designing and producing filling systems for the pharmaceutical, personal care, cosmetic, food, and chemical specialty industries.

To celebrate our Golden Anniversary, we are presenting a series of articles that trace the company's history from its origins in the basement of the founder's home to its position today as one of the most reliable and innovative filling systems manufacturing organizations in America.

As we look back on the last five decades, we want to thank all our customers, friends and the hundreds of talented engineers, fabricators, salespeople, managers and administrators who have made this half-century of success possible. All of you have helped make NIC, not simply a great company, but a great family as well.

Part 3 -- New Strategies For A New Millennium

Throughout the nineties, National Instrument Company grew by delivering more integrated applications to its strong customer base in the pharmaceutical industry. At the same time, NIC cultivated dynamic new relationships within the growing biotech sector.

With the new millennium, a combination of computer technology, dynamic strategic partnerships, and a superior research and development team created a whole new world of possibilities for the company. Successful execution of these opportunities can be summed up in three words -- Integrated Solution Design.

As previously described, the FILAMATIC® team made a commitment early on to addressing market needs by proactively incorporating trends in the packaging business. Initially, the company began developing strategic partnerships with packaging experts from around the United States. It increased its engineering staff and attracted individuals with experiences in a broad range of industries and technologies. Furthermore, NIC created innovative new equipment designs and support services to accommodate its customers' need for greater productivity both from their packaging systems and from the people who operate them.

A Big Focus on FILAMATIC® at INTERPHEX 2004

In spite of snow and ice, and the St. Patrick's Day Parade, this year's Interphex Show at New York's Javits Convention Center was well-attended. Many of the visitors found their way to *FILAMATIC's* Booth #357.

This high level of interest was the result of new pharmaceutical and biopharma product introductions and very good pre-show and on-site publicity. We found ourselves on the front page of "Interphex Show Daily" the first day with features about our Benchtop and Monobloc systems. Additionally, the industry press requested numerous interviews to get more information on our new Monobloc systems for handling microtubes.

Individuals associated with some of the most innovative companies in the pharmaceutical, diagnostic, and biotech industries stopped by to watch the interactive DVD presentation of our Monobloc capabilities. There was a lot of interest in the demonstrations of new ways of using our bench-tops for applications such as filling IV bags.

Our booth presentation was further enhanced thanks to help from partners such as Emerson Micro Motion® -- manufacturers of

"We are strong proponents of continuous improvement and believe in 'Lean Thinking' principles," says Josh Rosen, Manager of Strategic Planning and the third generation of his family to work with the company. "Our goal is to constantly evaluate current designs and make them more user-friendly, more compatible with existing systems, and more cost-effective. Technology continues to offer us so many ways to improve what we can do for our customers and how we can cooperate with our vendors."

As the marketplace looks more towards OEMs that provide single source system supply, NIC has prepared itself through the development of new designs and strategic relationships with manufacturers of complementary machinery. Additionally, in applying Integrated Solution Design during an application evaluation process, NIC design engineers will work one-on-one with customer buying teams. This will allow NIC to confidently suggest a FILAMATIC® solution best tailored to its customers' specific needs. A key element in this strategy is the standardization of modular machinery that may be integrated across a wide range of packaging machinery.

The FILAMATIC® team has electrical and mechanical engineers on staff with the ability to take on larger-scale projects. These experts offer customers a single-source supplier with the capacity to deliver, integrate, and validate as many components of a production system as requested. Once the integrated systems are completed, NIC's network of internal and external technical support staff ensures that the systems run at peak efficiency.

Thus, in addition to filling and capping, National Instrument can integrate a full spectrum of production components such as conveyers, container unscramblers, heat sealers, labelers, inspection systems, decasers, and case palletizers. With this expanded product offering, customers will find that National Instrument offers an even more comprehensive service-oriented environment that includes every element required to create a more effective packaging system from its design, installation and validation to technical support, training, and maintenance.

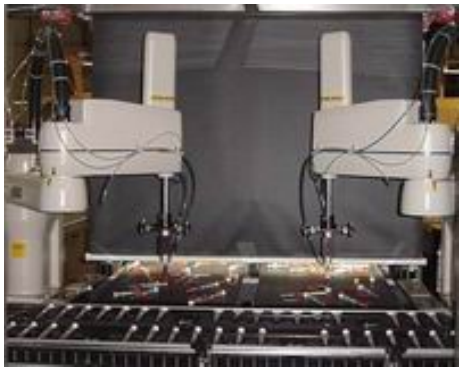
Coriolis Flowmeters. Our staff designed a very effective Filling Unit and Nozzle presentation that demonstrated the wide range of liquid handling capabilities we offer using the proprietary FILAMATIC® piston technology.

Outside the booth, there were excellent opportunities to learn from the other exhibitors and conference speakers and, as always, it was wonderful to have time to spend evenings with our customers and other friends over dinner at some of New York's restaurants.

We were honored to gain yet another chance to reacquaint ourselves with long-standing customers, strategic partners, and other industry leaders and to introduce the newest members of our FILAMATIC® team.

Plans are already in the works for our next show -- PMMI's PACK EXPO International 2004 -- scheduled for early November in Chicago.

Robotic Systems and the Packaging Industry



After Nearly Two Decades of Development, Productivity is Almost Automatic

During the first nine months of 2003, according to the Robotic Industries Association, robotics companies based in North America received orders totaling nearly $700 million. Many of the robotic systems produced by those companies can, or will be found loading trays, packing boxes, sorting products, or performing any of a variety of other packaging functions on someone's factory floor. Beginning in the late 1980s, robotic systems have revolutionized the packaging industry. The packaging industry embraced the potential of robotics technology early on and, since then, only a few other industries have done as much to make robots smarter, faster, and more reliable.

A Match Made for the Factory Floor

Some of the reasons why the packaging industry has adopted the technology are obvious. A robotic system is an ideal substitute for a human when hazardous work environments or mundane, repetitive tasks are involved. A properly configured and programmed robotic system consistently delivers high-quality results, doesn't take breaks, and never gets hurt. They can be designed for operation on a 24/7 basis and still maintain operating position accuracies of 0.04" and achieve component (e. g. an articulated arm) mean failure times of 50,000 hours -- a level of performance unheard of with conventional packaging systems.

Simple or Complex, Robotic Systems Pack a Lot of Efficiency and Provide a Better Look at Quality

Robotic systems range from the relative simplicity of a two servo-axis pick-and-place device, providing operation along three axes of motion, to fully integrated, multi-functional production lines/cells incorporating multiple robots. A few of the packaging processes suitable for robotic system automation include product placement and collation (prior to a wrapping mechanism, for example), multi-component product assembly, tray loading, or case loading and/or unloading, and case palletizing. Robotic case loading/unloading systems can even place or remove a slip sheet between each layer of product.

www.filamatic.com Website Update

Don't forget to check out our multimedia, interactive, www.filamatic.com website. Navigation tools, including pull-down menus and key word searching, allow visitors to readily access company and product line information organized by equipment/machinery type and customer industry. The website is continually updated with new information regarding NIC's diversified line of FILAMATIC® packaging machinery.

The most recent additions to our website's content include:

- A webpage of frequently asked questions (FAQs)
- Specifications for our automatic vial traying systems
- Specifications for our pre-capped, pre-sterilized microtube monobloc system including a link to a brief video clip of its operation
- A news release and specifications for our validation packages
- Updated information regarding FILAMATIC® demo systems available for sale

Coming attractions include:

- Information regarding FILAMATIC® integrated systems
- Video of our semi-automatic/ benchtop filling solutions

Among recent breakthroughs in robotics technology, the biggest has probably been the inclusion of more reliable vision systems for tracking and inspecting products. These systems, incorporating cameras and overhead lighting, can determine the position and orientation of a product traveling on a conveyor and assure product conformance with quality control standards. On the production line, robotic systems have even learned to ignore non-conforming products as their articulated arm picks up conforming products within a designated operational window.

Robotics Suppliers and the People Who Put Their Robots to Work

The leading industrial robot manufacturers include Adept Technology of San Jose, CA and FANUC Robotics North America of Rochester Hills, MI. While these manufacturers occasionally work directly with end users, most companies in the packaging industry find that robotic applications/ installations using a third-party integrator represents a more advantageous allocation of resources and risk.

An integrator is an organization that takes a "bare bones" industrial robot and merges it with additional packaging functions, such as component sorting and feeding devices, before adding overall control programming to create a robot-based packaging or product assembly system. Robotic systems integrators include Farason Corporation of Coatesville, PA and Flexicell of Ashland, VA.

The Only Thing A Robot Understands Is Planning

Despite all the advances in robotics technology, achieving the optimum combination of physical configuration and control programming can be tricky. Today's more complex robotic systems can involve a steep learning curve. Add that to the months of planning, development, implementation, and adjustment required for even the simplest system and you can find yourself with a serious management task ahead of you. However, when

- Video of our molten products filling systems

The "Press Releases" and "Newsletters" webpages, accessed via the "About Us" menu found on our homepage, are noteworthy. The former provides a listing of and access to all press releases, typically new product information, issued by NIC after October 2002. The latter allows a website visitor to access all previous editions of NIC's "FOCUS on FILAMATIC®" eNewsletter.

In Search of the Oldest FILAMATIC® Filler Still in Everyday Use

NIC is offering the chance to win one of two $100.00 gift certificates when you assist us in identifying the oldest FILAMATIC® filler still in everyday use (the unit pictured above was manufactured in 1959 and is on display in our factory). When you provide us with basic information (machine serial number and model designation) for your FILAMATIC® filling system(s), you will, as a "thank you" for your assistance, be given the chance to win one of two $100.00 Amazon.com gift certificates.

the improvements in operational efficiency, productivity, speed, and accuracy that are possible with the newest generation of robotic systems are taken into account, the decision for most packaging operations these days is -- automatic.

The robotic systems images provided courtesy of Farason Corporation.

The Dilemma of Standard Equipment Specifications

These days more and more companies looking to purchase packaging machinery rely on some form of standard equipment specification. While using a standard, or "boilerplate", specification can save a packaging engineer some time and effort on the front end of a project schedule, many are unaware that it can drive up the project's overall cost in needless and unexpected ways if certain precautions are not taken.

A standard/boilerplate specification has an uncanny way of increasing in scope, content, and complexity over time. Entire new sections or sub-sections often materialize in reaction to what may have been a one-time issue that came up in an earlier equipment acquisition project. Unfortunately, this series of events typically results in a specification that may be inappropriate for most, if not all, future projects.

When the "new and improved" specification is submitted as part of a RFQ package, the price eventually paid for the equipment may be unnecessarily high. Depending on the relationship between the purchasing company and the equipment supplier, the supplier's applications engineering personnel may, or may not, recognize and question suspect requirements. Typically, if the buyer-supplier relationship is just forming, the equipment supplier will, in creating a response to the RFQ, adhere strictly to the requirements outlined in the specification believing that "if the purchaser didn't want it, it wouldn't be in the specification."

In coming to grips with the dilemma of the single, all-inclusive, standard/boilerplate specification, companies with multiple production lines or cells requiring varying degrees of automation should develop and maintain a series of equipment specification templates. Each one in the series should target a different level of automation, such as "manual", "semi-automatic", or "fully automated." While some elements of each template can be similar (table of contents headings, for example), system configuration and performance issues that apply to a certain level of automation should be included only in the specification template dealing with that level. After that, as each equipment acquisition project comes along, a packaging engineer can choose the appropriate specification template to serve as a starting point. The specification can then be tailored to the project-at-hand easily and accurately. Inapplicable sections or sub-sections can be removed and any system requirements that are new or not otherwise found in the basic template can be inserted. This strategy will help minimize, or even eliminate, situations in which an RFQ package unwittingly specifies expensive and unnecessary features.

One gift certificate will be awarded to the individual in possession of the oldest FILAMATIC® filler still in use. The second $100.00 gift certificate will be awarded via a random drawing among all individuals supplying filling system information. Your name will be entered in the random drawing once for each set of filling system information that you provide.

We will accept the submission of FILAMATIC® filler information until 5:00 PM EST on June 25, 2004. The random drawing for a $100.00 Amazon.com gift certificate will be held on July 2, 2004. The names of the two winners will be mentioned in the July edition of FOCUS on FILAMATIC®. Click here to access an e-mail form to submit the requested information.

From National Instrument's perspective as an equipment supplier, we hope to receive sufficient -- but not excessive -- project-specific information with each RFQ package. That way, customers get the full benefit of our ability to provide innovative packaging system solutions, and we will be able to supply a proposal that reflects appropriate features and functionality, more accurate timelines for implementation and, best of all, more appropriate pricing.

If you enjoy reading this eNewsletter, and have a friend or colleague that you believe might also benefit from it, click here to refer them to us so that we may forward future issues of "FOCUS on FILAMATIC" to them. Please type their email address(es) in the body of the provided email form. Anyone may sign up for a free, privacy-protected subscription by clicking here. Please provide Name, Title, Company, Email Address and any other information you feel is relevant in the body of the provided email form.

Do you have any comments or suggestions regarding this eNewsletter or a specific feature of FOCUS on FILAMATIC? Please forward any comments or suggestions to Mark Bennett, or call 1-800-526-1301 extension 219.

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