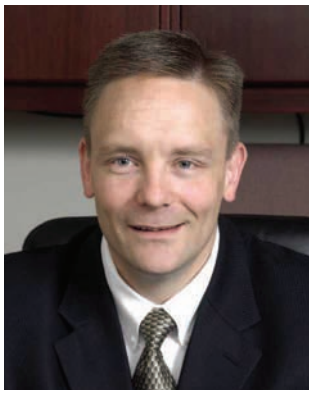

Joe Gudenburr

Advances in Textile Feeding Technology

Q&A with G.A. Braun

David Proudman

Employees feed sheets on modern labor-saving equipment.

By Jack Morgan

What equipment innovations are happening with feeding technology?

We have spent a great deal of time and energy on enhancing our complete portfolio of feeding solutions over the past 24 months. All of our Alpha product line now utilizes an auto feed clamp and transfer system which leverages optical sensors to enhance ergonomics, cycle speeds and feed quality.

Additionally, we have developed and implemented an automatic leading edge and part width sensing system. This now allows for a seamless transition for those plants that process mixed items in single lane. It also relieves the stress/tension that is created by spreading the products at high speeds. This stress-relief capability assures a smooth transition from the spread mechanism to the feed table. It also assures a quality leading edge is achieved. What is nice about this approach as opposed to other designs is that it does not use a host of air knives or jets to try and clean up the leading-edge post spreading. Air is one of the most uncontrolled variables in the finishing area, and as such it is always beneficial to minimize its use when possible.

Braun has implemented air manifolds to our feeder line, which are centrally located in the machine control cabinets. Each valve within the manifold provides an LED indicator, which identifies if the valve is cycling properly. This not only simplifies maintenance of the machine, but it provides operators and support personnel with an exceptional trouble-shooting tool.

Needs vary, depending on the kind of business the customer is in. How do you determine the right equipment to use, or adjustments that may be needed when processing healthcare textiles as opposed to hospitality or F&B linens?

First, a complete plant needs assessment and solution-development process should take place. This all starts with developing a clear understanding of the current process/es, mix of products, and a defined-needs the plant has. Then we determine what the client's strategic business plan is to afford us the opportunity to properly

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align technologies and capacity planning with the solution alternatives that we will present to the client. We typically are able to develop more than one approach to solve a client's problems/address their needs. Many times the most optimal situation relies on our dynamic offering of capabilities which give the client an end-state solution that provides a great deal of flexibility, a clear plan to support growth and an exceptional return on their investment/value.

What have manufacturers done to help textile service operators get a great finish with high-thread count textiles that can be more difficult to process?

The quality issue with higher-end textiles is not confined to the finishing line. Rather it all starts with the wash and extraction process. This sets the stage for optimal finishing, and hence utilization of finishing assets. Once the front end is optimized, then the back end needs to be assessed to confirm it is sized properly, and that the solutions offered are dynamic enough to support the wide array of products that a mixed plant presents. Many solutions offered today on the market are one-dimensional and are focused on processing only a portion of the total products that go down the ironing line. Our focus is and has been on providing capable and durable solutions that can handle the array of thread counts, material types and mix of products to be processed. By providing clients with dynamic solutions, we can aid them in cutting the FTE (full-time employee) needs, reduce their carbon footprint as it pertains to the number of machines needed in the finishing area and reduce their energy requirements.

Are there maintenance issues that operators need to be aware of to maximize ROI on the latest feeding technology?

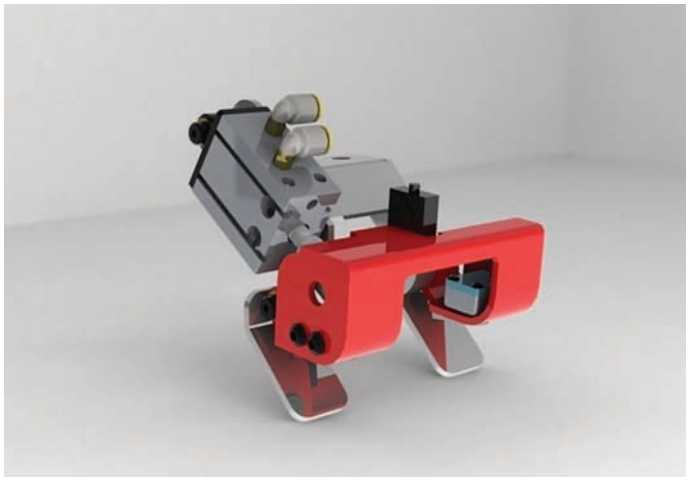
Many of the new systems on the market have better diagnostic capabilities, which will aid the client. It is key, however; that the client clearly understands the infrastructure and support systems' (such as air compressors) needs for supporting the addition of new equipment. New equipment will add no value, if it is underpowered and lacks sufficient compressed air, or steam support. The advent of PLCs, low-voltage controls solutions and data-management systems to name a few, give the client real-time access to data which can greatly reduce the time spent on addressing problem areas.

What advances are there in computerized tracking of goods moving through feeding systems, such as spreader/feeders?

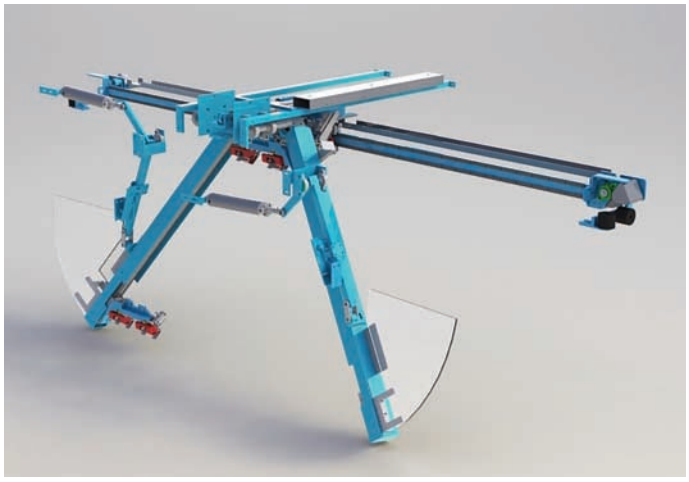
With the use of Ethernet for communications, much more information can be gathered in real time. It also allows for real-time monitoring of the equipment by the manufacturer to help solve maintenance problems.

With the advancement of networks, databases, reporting software and the Internet, more detailed reports can be generated; not only from an office pc, but from anywhere there is an Internet connection. The use of Web services allows for the sharing of data to any machine manufacturer using XML files.

Advancements in control technology and sensors allow for more intuitive gathering of information to maximize the efficiency of the machine and diagnose potential maintenance problems. Some of these advancements allow for:



The feed clamp from a spreader feeder is important to providing operators with dynamic processing solutions.

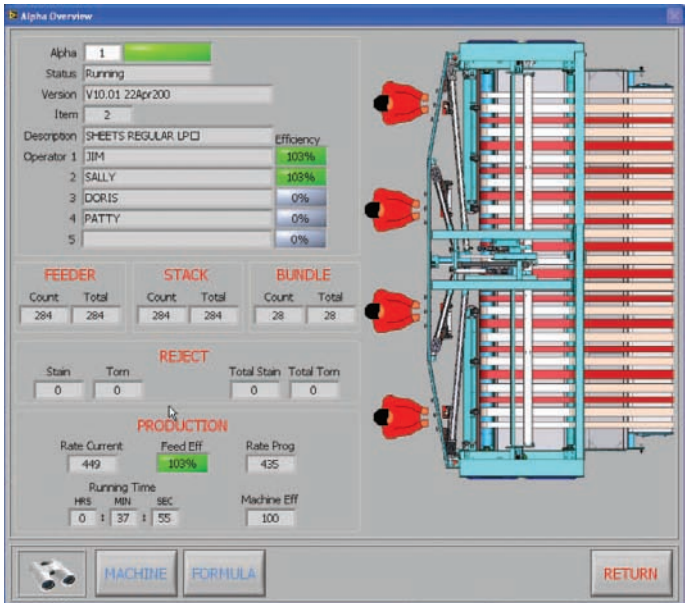


The spreading mechanism from a sheet feeder is another key point of operations.

- Monitoring an operator's efficiency in real time.
- Monitoring a piece that was fed on the feeder and tracking that material through the entire finishing line until it is stacked. (If several rejects were prevalent on a particular sling, basket or COG account it could be traced back to the wash formula.)
- Tracking how many pieces were dropped in a finishing line because they were mis-fed or dropped, which can help monitor the efficiency of the equipment and possible mechanical problems.
- The ability to adjust the speed on the entire finishing line (on the fly) to get the maximum efficiency for processing a particular class of material.
- The capability of pulling historical reports to be able to compare changes to a process to determine if any efficiencies were improved by the change.

Will the system signal if there's a problem, or help maintenance people with troubleshooting? Can you track individual employee productivity?

Braun's WASHNET™ provides status indicators which are configurable and track individual operator efficiency in real time. The machine status lights also identify when productivity goals are not being met. PLC LED indicators aid us in determining if the machine



The screen shows above tracks critical data, including productivity by individual operators and reject rates.

is operating properly, and finally if they have WASHNET installed we will have remote access to see their system, data and PLC functions real-time to provide technical assistance from a remote location.

Is this data easy to manipulate? Can the data be exchanged with other systems in the plant? Can you access this data off site?

The data can be exported to other systems or computers for analysis and reporting. The system (WASHNET) can pass data to other systems that are using compatible XML protocol.

Are there any new safety features to reduce the risk of employees getting fingers or hands caught in machinery?

Safety is constantly being reviewed and takes a top priority with each and every piece of equipment we build and system we install. Additionally, during customer training we conduct a thorough safety review of equipment operation. At this time there are not any new groundbreaking safety solutions on the finishing end. The greatest advances in safety systems in the industry in the last 24 months have been in the washroom.

What if yours is a mixed plant and you're processing both hospitality and healthcare textiles? Can the new machinery easily accommodate both? Are adjustments needed for different kinds of linens?

Yes. Individual programs can be set up in the PLC to allow the machine to move back and forth between product types (meaning pillow slips to table linen to sheets, etc.) by simply changing a program. If the change is strictly a size change, Braun's new systems adapt to this change on the fly.

We request that all clients send actual product samples to our plant for utilization during the machine QC qualification testing process. This affords our team the opportunity to optimize each processing formula before the machine ever leaves the factory. This reduces the time it takes to commission a machine in the field, and ensures that optimal quality is attained.

What energy/labor savings do the new feeding systems offer?

Feeders don't drive much in the way of energy savings other than making certain the air delivery system is working properly. Feeders are not energy hogs; however, all Braun feeders have been converted to 24V to reduce the energy needs of the machine (s). The labor savings come via the dynamic processing capability that our systems provide. Labor savings truly come from having processing solutions that are not one-dimensional.

What's the anticipated payback for new feeding equipment in terms of improved productivity and/or labor/energy savings?

There are many variables that are unique to every plant that can alter this projection. However, most finishing solutions will afford an attractive ROI. When a complete ironing line is taken into consideration, it really depends on the specific plant, and the situation surrounding its existing equipment, staffing and processing protocols that are in use.

Why is now a good time to invest in modernizing your feeding equipment?

It is always wise to invest in the future of your business whether it is in equipment, personnel or process. A slower op-tempo affords clients a great opportunity to execute projects in a controlled fashion, which typically equates to reduced commissioning costs and more rapid ascent toward realizing the benefits said investments provide. Making a wise and educated buying decision today can ensure that operators are prepared to take on growth and new opportunities as the market recovers. If folks wait, they run the risk of not being prepared to support strategic business plans that may be established.

Q&A participants were Joe Gudenburr, COO of G.A. Braun Inc., Syracuse, NY (Contact him at ***jgudenburr@gabraun.com*** *or 315/475-3123), and David Proudman, lead controls engineer for finishing equipment at G.A. Braun. Contact him at the number above or* ***dproudman@gabraun.com***. **TR**

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