



Application note



Large Character Ink Jet

Converting to digital printing technology for more efficient case coding

Today, there is a common thread running through virtually all modern businesses, despite the industry or market they operate in... do more and do it better to drive growth. Whether it is a process or a product, there is potential to make improvements – ones that can increase efficiency and in turn positively impact productivity and profitability.

The challenge:

It's an ongoing challenge for manufacturers and co-packers to meet today's package coding requirements. The trend towards increasing retailer and regulatory requirements, plus increasing SKU complexity, is applying new pressures on manufacturers to increase productivity and profits while minimizing any causes of unscheduled downtime – including coding errors. Coding methods such as stamp printing or roller coding may appear cost effective coding solutions for outer cases, however, this outdated technology can apply hidden costs to your operating facility and become inefficient to manage in the long run.

One simple way to achieve greater printing capabilities while actually increasing productivity and reducing costs is to upgrade to digital case coding technology.

The Videojet advantage:

Videojet can help achieve production goals with flexible, on-demand case coding solutions. Products range from robust valve jets to high resolution printers, allowing us to provide the right printer to match the exact application. With deep understanding of case coding applications and the trends that are affecting them, Videojet is well positioned to offer consultative advice and application support to ensure manufacturers are operating their production with the optimum outer case printing solution.

Additionally, Videojet ensures customers receive the most comprehensive technical and integration support by providing the industry's largest global network of highly trained and experienced field technicians and integration specialists, who are always ready to help, no matter where in the world that support is needed.

What are the benefits of digital versus analog technology?

Digital technology contains a real-time clock computer chip, giving it the ability to print variable information including dates, lot codes and time.



Real-time variable data

Digital technology contains a real-time clock computer chip, giving it the ability to print variable information including dates, lot codes and time. The computer will also allow you to do basic calculations, so that things such as 'Best Before' dates can be calculated automatically from the date of manufacture.

Analog coding technologies use fixed stamps and therefore it is not possible to code real time data. This proves a distinct disadvantage for manufacturers looking to improve product traceability. In the event of a recall, digital technologies allow users to more precisely isolate a product down to a certain time period, which can be as targeted as a range of minutes and seconds. Analog systems would likely change the code every shift, which could mean eight hours of production could be considered "bad" and would therefore need to be isolated. Such a broad time range would result in potentially scrapping or recalling a larger amount of product, even if the entire batch wasn't compromised. Real-time, variable data can help pinpoint when a problem occurs to minimize the scope and impact of a recall situation.

Improved print quality

Modern printing solutions for outer cases use printheads with digital technology to produce the code, so all information is updated automatically and there is no need to stop the production line when new codes are required. They offer consistent, high quality codes compared to outdated technology that relies on pads to apply the code.

Stamp and roller coder pads need to be replaced every time a new job is required in order to change the code data. Worn or broken stamps are a common occurrence and lead to poor print quality and often damage to the packing, leading to high levels of waste and rework. Pads can also be fixed incorrectly resulting in bad codes, such as a digit being upside down or back-to-front.

Digital outer case printers eliminate these concerns and make message changeovers quick and simple.



Increased uptime and maximized productivity

Videojet outer case printers are designed for simple set-up to ensure maximum productive time on the line. High resolution models can begin printing within 60 seconds from powering up for quick daily startups. Entry level case printers, such as Unicorn® and Unicorn® II, are delivered complete in a single shipping container and can be installed on the production line with no special technician required.

In comparison, analog coding technology generally requires a longer time to set-up or change jobs as the stamp or pad replacement requires the operator to get access inside the packaging machine and stop the production line.

The simple fluid container design of Videojet digital printing technology makes inks quick and easy to replace and helps ensure very high ink utilization, minimizing ink waste and mess, while saving money. In addition, a unique, automatic self-cleaning printhead reduces downtime and minimizes the costs of maintenance for high resolution systems.

Minimized coding errors protects your bottom line

Videojet has the knowledge and experience combined with state-of-the-art software and case coding hardware to help manufacturers minimize coding errors from occurring on their line. A simple incorrect digit or missing code can potentially damage the bottom line through waste, rework and damage to the brand.

Digital case coding technology virtually eliminates human error and downtime that occurs when operators incorrectly insert stamps, make spelling mistakes or lose stamps.

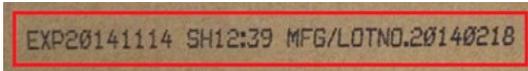
Case study

One of the world's largest producers of Maseca corn flour and tortilla products (including corn tortillas, flour tortillas and tortilla chips) is one of many companies that have experienced the direct benefits of changing to digital printing technology. The manufacturing plant, based in Shanghai, traditionally used pre-printed labels for applying content such as product name, origin, ingredients, MFG date, telephone number, net weight, address and bar codes onto their outer cases.

As food safety standards became more prevalent, the company faced fresh challenges from their customers. New demands included printing cases with large character expiration date, lot number, and manufacture date and time (specific to hours and minutes). As the expiration date changes daily and even varies between products, being able to print variable data on-demand was critical for productivity.

After considering numerous coding methods to replace their labels, the company found that only digital case coders provided a practical and effective solution. Analog technologies such as stamps or roller coders are unable to code manufacturing data in real-time, and would struggle with the length of code and frequency of code changeovers.

After a detailed demonstration and thorough sampling process, the company selected a Videojet entry level digital case printer. The Unicorn® is a high-performance but economical large character ink jet printer. The ownership cost is extremely low and it supports large character single line printing, and prints product names, identification numbers, automatic production counts and accurate-to-the minute time codes.



The compact printer is designed to be out of box and on the job in minutes, making it very quick and easy to integrate. It offers the flexibility to be moved from one product line to another, and can work standalone or with other case printers together.

With stable performance and consistent print quality, as well as approximately 150,000 characters per bottle of ink, the cost per code makes the Unicorn printer a perfect choice for this application.

The Bottom Line

There are many things to consider when choosing a printer for coding outer case packaging. Although a stamp printer or roller coder may have a lower initial cost, digital printing systems are actually much less expensive to operate and can provide a short return on investment. Today's manufacturers and co-packers need to look at variable data printing as a way to stay in line with modern track and trace requirements, which ultimately protect a brand and its consumers. Stamp or roller coder users can realize immediate benefits by upgrading from static printing technology to digital solutions.

Ask your Videojet representative for more information.

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