DIAGRAPH

PALLET LABELING:
THE FINAL STEP IN YOUR PRODUCTION TRACKING PROCESS

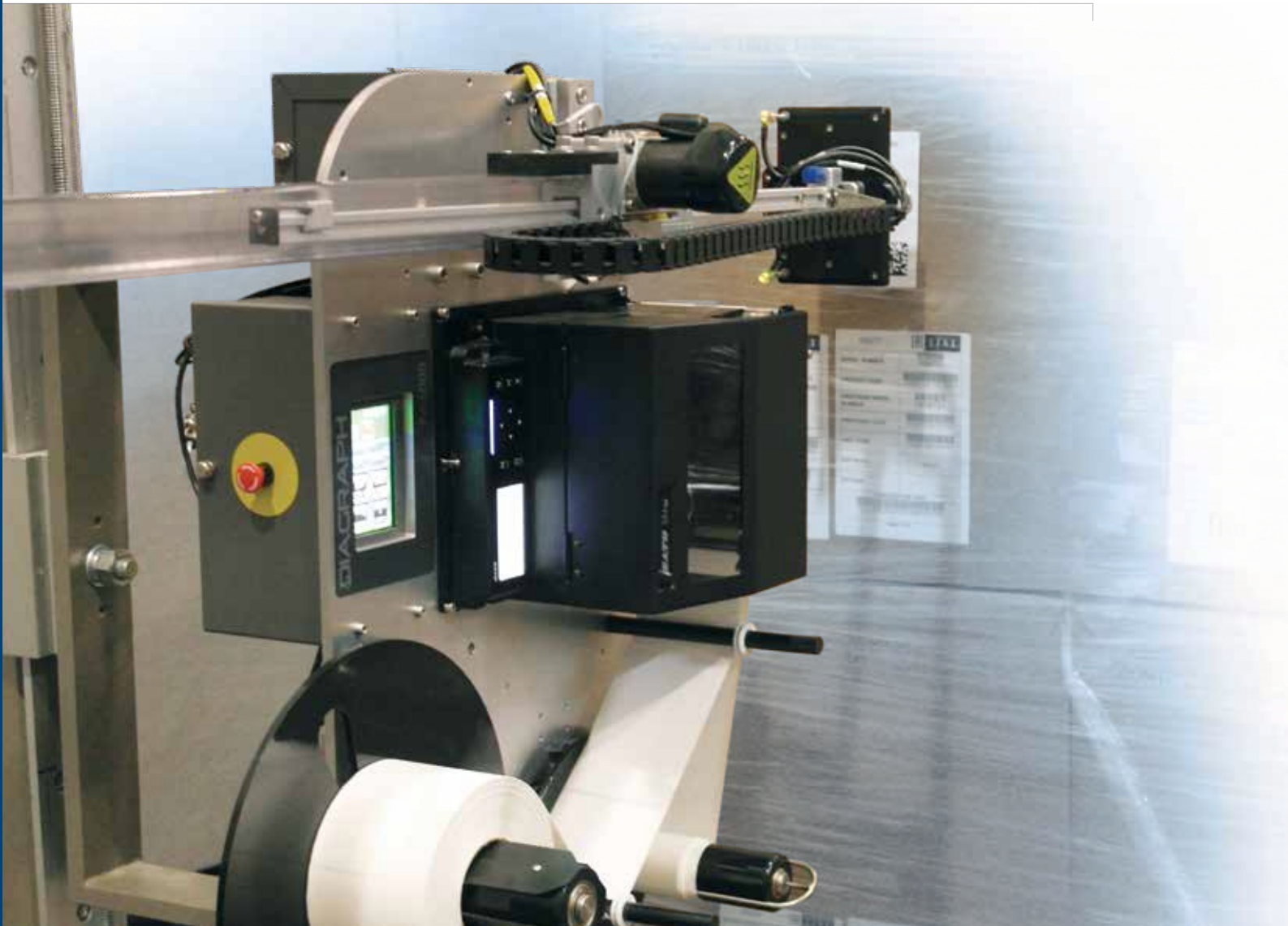# DIAGRAPH

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INTRODUCTION

Track and trace requirements in a modern production environment are extensive. To ensure compliance with customer and regulatory requirements, your products are tracked and labeled at every step of the production process.

Pallet-level labeling is the final step in any comprehensive production, storage or shipping environment, and it ensures that your meticulously manufactured and packaged products will be correctly and efficiently routed to your customers.

In this whitepaper, we outline how to choose a pallet labeling system that minimizes cost, potential user error and various safety concerns associated with hand labeling or other non-automated pallet labeling processes.

THE CASE FOR LABELING PALLETS

Nearly all bulk goods are shipped to distribution and retail centers on a pallet. This level of labeling typically includes both product information as well as destination information on what is referred to as a license plate label. Information supplied through the label includes part numbers, item name, quantity, serial numbers, organization name, date of manufacture, expiration date, lot number and location. This helps group and manage the product by pallet unit while assigning a unique License Plate Number (LPN) and barcode label so that distribution and retail centers can track and manage logistics for the group of items on the pallet using a single scan. License plate labels are applied to pallets either manually by hand or using an automated pressure sensitive labeler.

THE FINAL STEP IN A STREAMLINED PRODUCTION PROCESS

Once your products reach the palletized stage, they have almost certainly been labeled or coded further upstream in the production process. Primary and secondary case-level packaging labels are generally required for warehouse management, customer compliance or adherence to local and federal labeling requirements.

But even after all this careful work, the process can still go wrong if at the pallet level labeling is not applied, or is applied incorrectly. Products can be rejected by the distribution center or retailer, can be misrouted and delayed, or can be lost entirely.

As the last touch before your carefully crafted products leave your facility, automated pallet labeling helps to ensure that your products reach their intended customers in the most efficient manner possible, cutting down on errors and delays created by hand-labeling or other non-automated processes.

A food and beverage manufacturer creates custom-printed plastic containers for their products. After a large job was successfully completed and packaged it was transferred to their warehouse for storage until shipment. At the time they were using a manual pallet-labeling process, and the pallet was somehow mislabeled.

When it was time to ship the order to their end customer, the pallet could not be located. They didn't have time to search their entire warehouse for one lost pallet and had to run the job again, at their own expense, in order to meet their delivery deadline. Costly errors like these are what an automated pallet labeling system helps to eliminate.

FACTORS TO CONSIDER

When evaluating a pallet labeling system, our customers have several common questions:

1. Will this system work with the other hardware and software currently in place at the facility?

2. Can the system safely and accurately label our goods, which have a variety of formats, exterior packaging and labeling requirements?

3. Will the system offer a cost savings in plant operations and management, as well as personnel budget?

4. How quickly can we get the system up and running, and will it be easy to maintain?

Integration into Existing Systems

Each plant environment is unique, with a variety of systems in place for their upstream production and labeling. Having a pallet-labeling system that feeds seamlessly into those existing systems and can extract your labeling data is critical.

Companies considering their pallet labeling options should seek out a partner with experience installing such systems in a wide variety of environments. In most cases an on-site audit of the production and packaging facility will be required. The partner you choose should analyze not just the end-of-line labeling application, but evaluate your entire production line to ensure a smooth integration and the most efficient material handling process for your products.

Providers should also offer an evaluation of current software in use, to ensure system compatibility and prepare for any custom integration that will be required.

Consistent, Accurate Labeling Options for Any Facility

Production and packaging environments have differing requirements for their job runs. One set of pallets may require front-panel labeling, and the next will require front and rear-panel labeling. An ideal provider will be knowledgeable about the nuances of pallet level labeling solutions, which can be significantly different than carton labeling.

A system that can easily be configured to production run settings for each job is essential, and being able to quickly changeover for a different job offers benefits in both efficiency and accuracy. The option for pre-saved production settings offers a simple way to change over labeling jobs when your line handles more than one product type.

A system should enable gentle contact between the tamp pad and the product, guarding against wear and tear, which saves money and time spent adjusting the machines. Sensors that detect varying product distance to system, even through shrink-wrap, are the best way to ensure proper label placement and adherence, as well as the gentle application necessary when working with delicate or fragile substrates. Pallet label applicator modules can easily become tangled in shrink-wrap, causing damage to the labeler as well as a great safety risk for tipping over.

System operators must also be confident that all labels have been successfully and correctly applied. Prompt error notifications should alert operators to any backup or misapplication, so problems can be immediately corrected.

Cost Savings and Efficiency

Efficiency Improvements

Automated pallet labeling offers clear efficiency benefits over hand labeling. In addition to the increased potential for inaccuracy, hand labeling is, by its very nature, limited to the speed of your fastest employee on their best day.

Labeling rates with automated systems vary quite a bit depending on the type of labeling method used and the number of application points, but a standard tamp system should be able to label 120 products per minute.

Pallets are fed down the production line at slow rates, so speed isn't the name of the game. However, an automated labeling process keeps up a consistent pace whereas manual labeling may fluctuate depending on the labor's skill level or fatigue.

Employee Safety

In all production and packaging environments, worker safety is paramount. Automated labeling not only helps keep products safe, but also takes a worker out of the production line area – minimizing the likelihood of ergonomic and repetitive stress injury, or accidents on the work floor caused by workers coming in contact with loaded pallets.

Systems not specifically designed for pallet labeling applications can have difficulty navigating the layer of shrink-wrap, causing the system to become tangled, dragged or tipped over.

A globally recognized manufacturer of alcoholic beverages was struggling with damage to their legacy labeling systems based on minor inconsistencies of their pallet stack. The legacy pneumatic systems would often get hung up on "pockets" of the load causing thousands of dollars' worth of damage to the equipment on nearly a monthly basis. This also negatively impacted production up-time and throughput at a significant cost. They implemented the Diagraph system's "smart technology" which was able to adjust for variations in the load and completely eliminate their issues. The Diagraph solution has been implemented across their network of facilities for various applications.

All-Electric Process

All plant managers know the headache of ensuring proper pressure with pneumatic systems. Pneumatic labelers require a steady supply of clean, dry and costly compressed plant air.

Without this clean supply of dry air, systems can misfire causing labels to be misapplied or skipped entirely. Vacuum holes in labelers can clog and cause labels to fall off, necessitating infinite adjustments of air pressure and resulting in plant downtime.

How many times have you seen a product strike a pneumatic labeler's actuator arm while moving down the packaging line? This happens with pneumatic labelers because the control of the label feed and actuator arm is not reacting to real-time feedback from sensors, it is following pre-programmed timing commands and relying on programmed settings for the pneumatic air supply (regardless of the actual pressure).

Free from the timing control constraints found in pneumatic air powered machines, all-electric labeling systems can interpret feedback from smart sensors in real time to allow for total control of the label throughout transit. Strategically placed sensors and brushless DC servomotors allow electric labeling systems to operate with extreme precision, guaranteeing one-to-one label-to-product matching, time after time.

An all-electric, servo-driven actuator maintains speed consistency, while "smart" sensors confirm that a label is present for application and even provide the ability to control impact on the product being labeled. The system doesn't have to rely on inconsistent air pressure to manage this process.

An all-electric system removes the frustrations inherent in a pneumatic system, and helps to eliminate expensive and time-consuming delays.

Diagraph has created the only all-electric pallet labeling system currently on the market. Our fans and vacuums are quiet, low maintenance and easy to clean. In addition, the energy savings from an all-electric process makes our system a greener option for your labeling needs.

SERVICE AND SUPPORT

We know that any system is only as good as the service and support that keeps it working. An easy-to-use system interface is beneficial in giving your team a strong start on picking up the main functions and commands of the labeler. But typically, you'll also want your provider to conduct a comprehensive training with key support staff on the efficient operation and maintenance of the labeler, which will extend its functional life.

Even with every possible safeguard in place, accidents can happen in a busy warehouse environment. With a heavy volume of pallets going out the door, it's possible for forklifts or stray pallets to impact and damage product labelers. In the event of such accidents, you need to be sure that your equipment comes with a backup support plan. On all-electric platforms, all of the settings can be transferred from one labeler to another. So if one goes down, the settings can be transferred to a new system, and other than positioning the labeler on the line, no other adjustments are required. In the event something happens that cannot be resolved in-house, a good partner can schedule and dispatch a technician to your site to correct the problem with as little down time as possible.

Have a software glitch? Make sure your provider has a robust after-install support network with a call center – a phone call may be all it takes to get your system back up and running at peak efficiency.

A national food manufacturer had considerable turnover at a specific high volume facility. The maintenance staff was busy working in another part of the facility and asked the brand new operator to contact Diagraph Technical Support for help. Our technical group was able to guide the untrained operator through some simple steps and utilizing the on-board diagnostics identified, and walked the operator through a simple adjustment. The system was back up and running within minutes, and our technical group followed up the next day to ensure the issue had been completely resolved.

ARE YOU READY TO MAKE YOUR MARK?

At Diagraph, we know that we can help you achieve a more efficient, cost effective and safer pallet-labeling process. Diagraph is ready to help design a custom pallet labeling system for your facility, no matter your industry or specific requirements.

Our greener-tech, all-electric system offers both financial benefits and improved safety standards, and can be designed to work with your existing production environment's hardware and software.

Our service and support center is staffed with technicians who can help you order supplies when necessary, and solve most technical problems quickly on the phone.

Diagraph has worked with hundreds of labeling customers across the country, working with products from cleaning wipes containers and f-style bottles to corrugate cartons and shrink-wrapped tray packs and integrated our pallet labeling system with dozens of existing software frameworks.

Speak with a Diagraph specialist today to create a custom plan for pallet labeling that is ideal for your production environment.

Call 1.800.722.1125 or visit Diagraph.com

ABOUT DIAGRAPH

For over 125 years, Diagraph Marking & Coding has been providing product identification solutions that make it easy for manufacturers to make the perfect mark – print after print after print – from technology pairing to comprehensive service support and beyond. With the 1893 invention of the revolutionary stencil cutting machine all the way to today's high-speed inkjet coders and all-electric automated labelers, Diagraph focuses on partnering with customers in every aspect of their coding and labeling operations – providing a holistic approach that maximizes efficiencies for customers and drives tangible value throughout a long-term partnership.

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