



Nordson Container Systems

Precision Technology Solutions

for Coating, Dispensing and Curing Systems



Precision Technologies That Help Customers Succeed

Nordson is the recognized industry leader in developing advanced coating, dispensing and curing systems used in the production of two-piece beer, beverage and food containers. For more than 35 years, container manufacturers worldwide have trusted Nordson to provide the innovative technologies to successfully meet production challenges.

Up and down the container manufacturing line, Nordson systems help improve productivity and achieve cost savings. Our wide range of products includes:

- Dispensing Systems
- Spray Guns
- Pumps
- Nozzles
- Filters
- Control Systems
- End Lining and Curing Systems
- Lubrication Dispensing Systems
- Temperature Control Devices
- Induction Heating Systems
- Ultraviolet Curing and Drying Systems



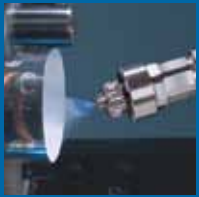
Improve Productivity Up and Down the Line

No matter what your application needs, Nordson systems are proven to increase productivity, reduce material and labor costs, and provide reliable, accurate performance. From basic gun, pump and hose configurations to more complex systems, Nordson provides the processing solution best suited to your application, operation and budget.



Pumps

Nordson pumps deliver superior performance in high-speed container applications. The pumps incorporate a modular design, making routine maintenance or repair fast and easy. In addition, Nordson pumps are designed for use with specially engineered materials and are manufactured under ISO-9000 standards for excellent performance and reliability.



Dispensing Guns

Nordson's high-performance dispensing guns provide fast, accurate material deposition and excellent flow control for a wide variety of container applications. Nordson guns provide precision and accuracy, with operating speed capabilities in excess of 3,000 cycles per minute.



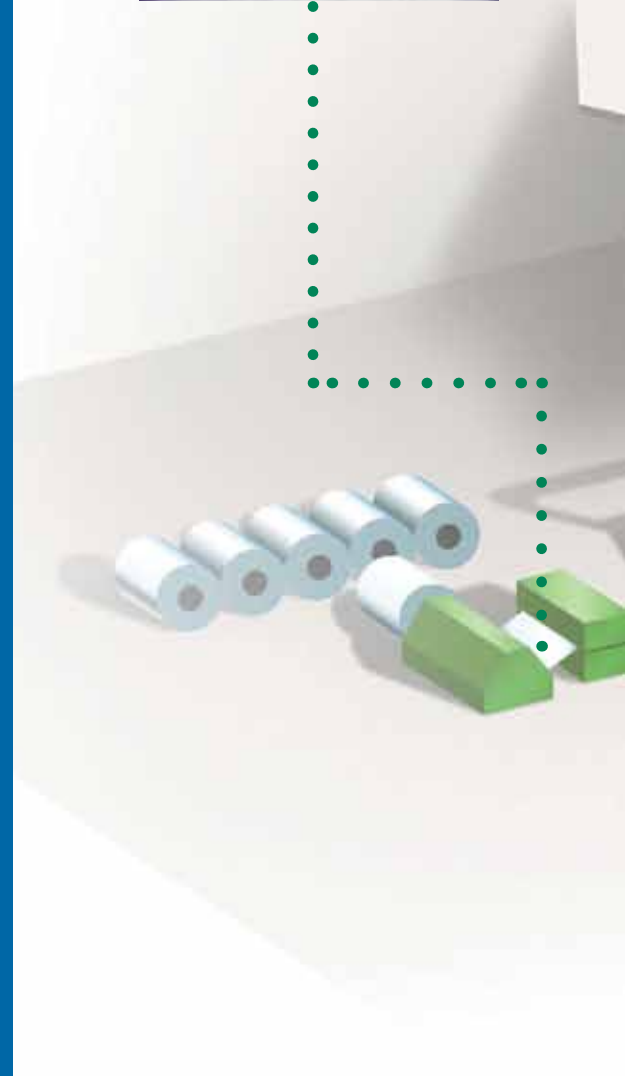
Nozzles

Nordson manufactures two types of flat spray fan pattern nozzles for use in a wide variety of container coating applications: Dome and Cross-Cut® nozzles. All are high quality carbide nozzles that provide excellent abrasion resistance and superior performance. The latest generation of controlled pattern nozzles – cSelect™ nozzles – assure the highest piece-to-piece uniformity and accuracy. Manufactured to tolerance limits as much as 35 percent closer than previous container spray nozzles, cSelect nozzles lower coating weights to help reduce material consumption and cost.



Lubrication Systems

A Nordson dispensing gun, special timer, controller and low-flow rate nozzles comprise the can lubrication system. A patented gun incorporates an advanced design, eliminating dynamic seals to reduce wear. The gun operates at speeds up to 3,000 cycles per minute. Nordson nozzles provide fine atomization for even material distribution and a uniform spray pattern.



Ink-Dot Identification System

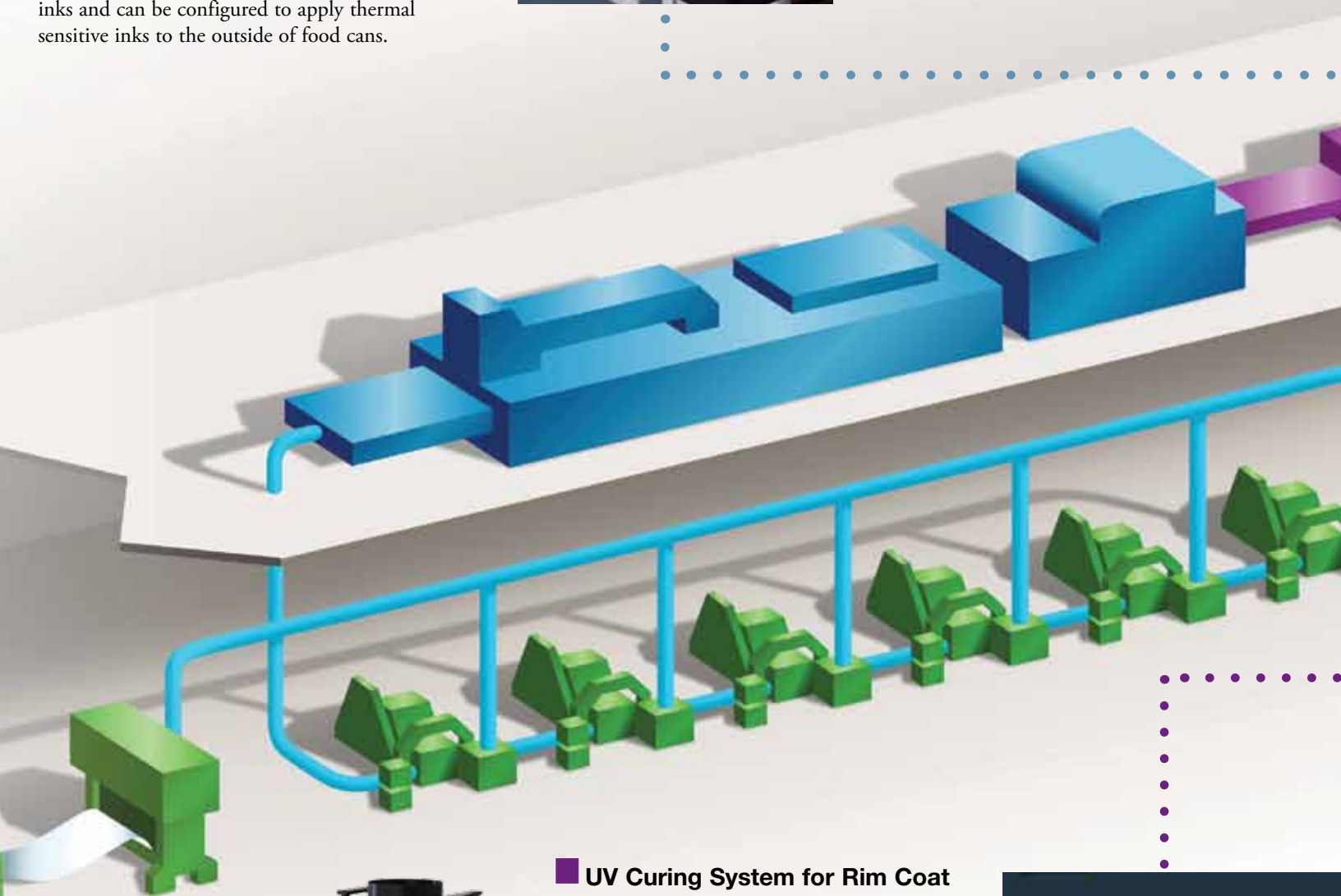
Immediately identifies malfunctioning spray machines for reduced rejects and downtime, and significant labor and/or material savings. Applies a small dot of ink to the bottom of each can as it enters the spray machine. A different ink color is used for each spray machine, so if a problem occurs, the machine at fault can be fixed while all other machines continue running.

The system easily applies colored and ultraviolet inks and can be configured to apply thermal sensitive inks to the outside of food cans.



Inside Spray System

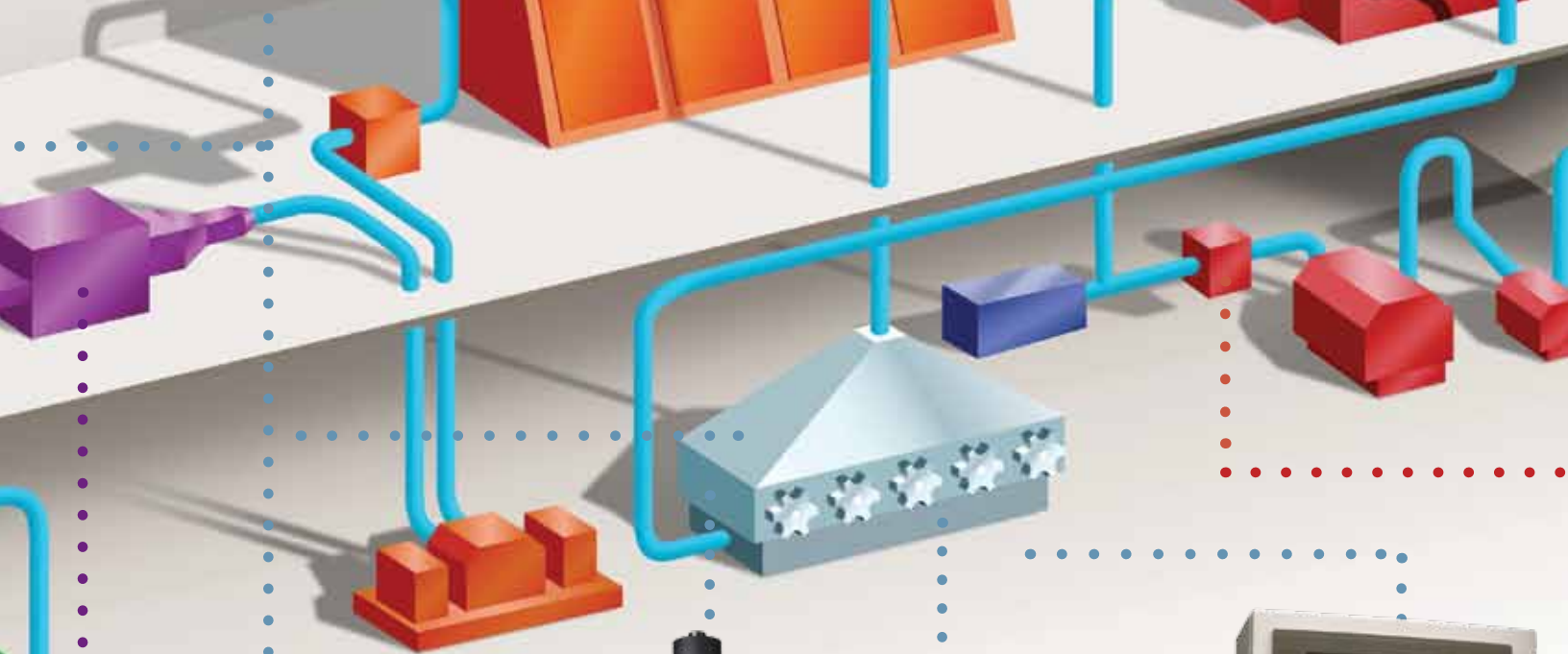
Nordson inside spray systems provide fast, accurate application of waterborne or solvent-based can lacquers. The systems are designed for consistent, repeatable material application at demanding line speeds. All inside spray systems include patented Nordson dispensing guns, pumps, fluid heaters, filters and nozzles, configured to best meet application requirements.



UV Curing System for Rim Coat

An innovative UV lamp design cures can rims simply, quickly and efficiently. Nordson UV systems convert nearly 93 percent of the energy consumed into usable power, making the rim coat curing system 25 percent more efficient than competitive technologies. The system can be retrofit into existing lines for single-file applications or configured for mass conveyor applications.





■ Spray Pressure Control System

Maintains consistent inside spray coating weights for enhanced product quality and operating efficiency. The system provides hydraulic pressure control for every spray gun on the line, eliminating fluctuations caused by the pump and the operation of other guns. Coating weights can be accurately controlled to minimize variation. Lower spray pressures can be used for cleaner, more efficient operation. The increased efficiency results in significant coating material savings, lower VOC emissions and reduced clean-up and maintenance costs.



■ Temperature Control Unit

Effectively monitors and maintains material temperature by heating or cooling during can coating operations. The TCU heats, cools and circulates the closed-loop conditioning water through heat exchangers and ancillary components to ensure proper temperature of the coating material throughout production.



■ CleanSpray® XT System

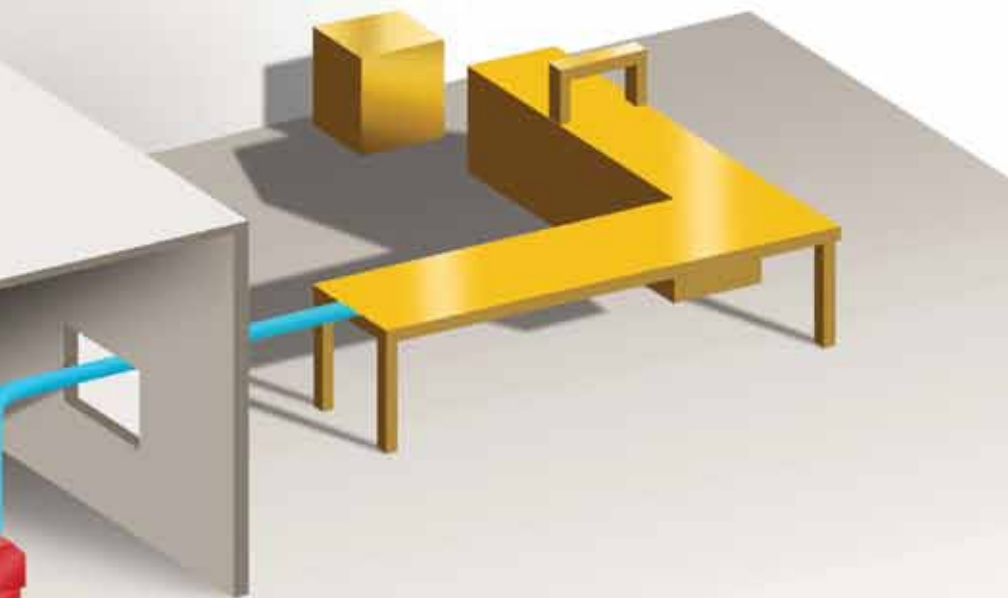
Cleans container-coating nozzles automatically, without stopping production. The system sprays a 300 psi, short-duration stream of water directly on the nozzle, washing away excess coating material between lacquer sprays. Nozzles stay free from coating build-up, so dried coating cannot detach from the nozzle and be deposited into the cans. Manual nozzle cleaning is reduced to once per shift, minimizing labor requirements and keeping the production line running cleaner, longer.



■ iTrax™ Spray Monitor System

Automatically monitors important operating parameters inside the spray gun. These include base pressure, spray pressure, actual timer duration, spray count, spray rate, gun open and close time, and actual gun spray time for each and every can. Products outside predetermined parameters are detected immediately at the spray machine, reducing scrap, improving quality and speeding productivity.





CanNeck™ Lubrication Systems

Apply a defined and controllable bead of wax or mineral oil lubricant to the open end of cans, assuring the precise amount of lubricant is on each can as it enters the necker. The systems provide accurate, adjustable control with varying line speeds up to 3,000 cans per minute, and automatically maintain the size and placement of the bead.



End Drying Systems

Nordson dryers are designed specifically for water-based end compounds using our patented induction-heating technology. These dryers require only a fraction of the floor space of convection dryers and are economical to operate.

More specifically, the iDry™ induction compound dryer is designed for production lines with speeds of 500 to 2,200 ends per minute. Using Nordson induction-drying technology, iDry systems heat only the can end, not the air around them. Convection hot air heating systems heat the air surrounding the compound, so the outside surfaces dry first causing blistering as the trapped water inside the compound escapes. Induction heating allows compounds to dry from the metal out making the drying process faster and more complete, without creating blisters.

What's more, the iDry compound dryer runs on a lower wattage than convection dryers while 85 to 90 percent of the power consumed is used directly to heat the ends, making it the economical choice in all production environments.

Both single- and dual-lane configurations are available. Dryers are available in four sizes to meet line speed requirements, keeping dryer length to a minimum and saving floor space.






More Science, Less Magic – Nordson Leads the Way in Best Practices

Thanks to much advancement in technology and equipment over the past decade, today's inside spray technologies are better at lowering costs and improving quality in two-piece can making processes. Line speeds are much faster, plants are operating more efficiently and product quality is better. As a result, metal cans have become the best choice for packaging foods and beverages.

Nordson has long been on the forefront of technologies that improve the inside spray process. A pioneer in the industry, manufacturers worldwide rely on our expertise to implement best practices that improve their operations up and down the line. Can manufacturers routinely turn to Nordson's expertise and technologies to achieve improvements in many areas of inside spray, including:

- **Spray pressure control:** Controlling spray pressure improves consistency and enables the use of lower spray pressure for less waste.
- **Consistent coating temperature:** Having equipment that has both heating and cooling capability in one unit provides better control of viscosity and flow, reduces problems caused by hot cans, and eases the application of low-VOC or non-epoxy lacquers.
- **Fast and repeatable spray guns:** Spray gun response time, repeatability and synchronization with can rotation speed are now more important than ever.
- **Nozzle accuracy:** Choosing the right type of nozzle for the right application is critical. Nordson offers flat spray, controlled pattern and cSelect™ nozzles manufactured to very exacting tolerances for specific can sizes.
- **Process monitoring:** Monitoring key equipment for fast detection of any process issues allows them to be quickly and easily corrected.



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