# iDry® Induction Compound Dryer

## Compact, energy-efficient, induction-heating systems for drying water-based end compounds for a wide range of can ends.

### Features and Benefits

- High efficiency, rugged, reliable power supply
- Low operating wattage
- Circuit boards include trouble-shooting LED indicators
- Over-and-under temperature alarms and shut-down switches
- System over-temperature protection
- Transient electrical noise protection
- Integral exhaust blower purges moist air from inside induction heating tube
- Non-contact laster motion sensor
- Safety interlock switches
- Hinge-open top for easy access to tooling and capacitors – fast and easy tooling changeover
- Mounting holes for easier integration of rod-cage trackwork
- All electronics in common, integral enclosure to reduce installation time and costs
- Small footprint dimensions, requiring less floorspace than typical hot-air dryer
- Convenient, touchscreen controls with start-up diagnostics and multi-language capability

The Nordson iDry™ Induction Compound Dryer* is specifically designed for production lines with speeds of 500 to 2200 ends per minute. 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.

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


### Nordson Advanced Induction

Nordson induction-drying technology heats 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.

Nordson dryers are ideal for both aluminum and steel ends. All Nordson induction dryers use reliable, solid-state components to provide even, controllable heating without water-cooling. A simple blower cools all electrical components.

Nordson


## Economical, Compact Size, Straight-Through Design

iDry compound dryers range in size from 54” (137 cm) to 114” (290 cm) in length. The compact size allows for easy retrofit to existing end lines without major modifications.

The straight-through tube virtually eliminates the problem of line stoppages due to ends jamming in the dryer. Ends are heated in-stick, which protects the compound from damage during drying. With many convection dryers, the ends follow a snake-shaped path inside the dryer, which can lead to line jams and damaged curls.

Warm air is blown through the iDry system’s heating tube while can ends are heated inductively. The heated air, although not needed to heat the ends, aids in the removal of water vapor as it evaporates from the compound. Even without visible separation, water evaporates and escapes from the slight gap between ends. The flow of warm air in the tube continuously removes water vapor and condensation, allowing the drying process to continue rapidly.

## Safe, Consistent Operation

The patented induction-heating method operates at frequencies well below 20 KHz. The lower frequency of the iDry induction dryer provides safe, controllable heating deep within the ends, providing fast, thorough drying. Lower frequency also results in less electrical noise that could interfere with other electronic and communications devices.

## Energy Efficiency and Savings

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. The system can cure up to 2200 can ends per minute (per lane).

Instant-on/instant-off heating not only gives consistent drying for a quality product, but also contributes to energy savings by substantially reducing energy waste by shutting off during line stoppages. The iDry compound dryer starts instantly when the line restarts and requires no preheating time, so energy is used only when ends are in the unit.

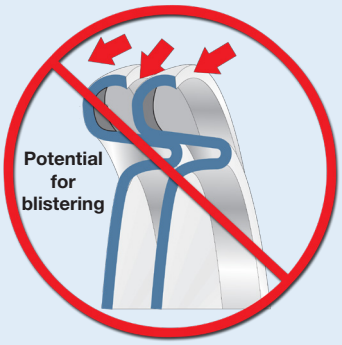
Since the ends are not heating when the line stops, they do not lose buckle strength, which is common with convection ovens. Buckle strength drops when aluminum ends are held at high temperatures for an extended period of time. The lighter weight metals in use today are particularly sensitive to overheating.

## Magnetic Separator for Steel Ends

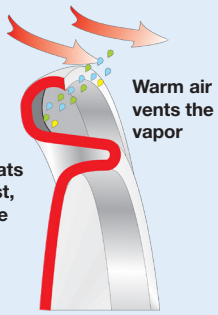
An optional magnetic separator located at the dryer exit accelerates the drying of steel ends. Carefully calibrated, permanent magnetic arrays separate the ends while warm air is blown between them. Ends are heated safely in-stick then separated. The warm air dries compounds quickly at the point where the moisture is most easily removed. The magnetic separator has no moving parts for simple, reliable operation.

## Induction Heating vs. Forced Air

**Conventional forced air heats the compund first then the metal**




**vs.**



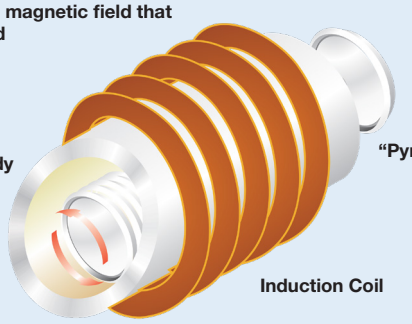

**Induction heats the metal first, driving off the liquid from underneath**

Forced Air heating

Induction Heating

## Basic Principles of Induction

**When an alternating current is applied, the coil generates an alternating magnetic field that cuts through the can end**




**This results in large eddy currents circulating in the can end**

## Additional Options

- Dual-lane motion sensing control
- Vertical mounting option for aluminum ends
- Leg extensions for line height > 38" (96cm)
- Custom colors available
  (RAL Paint Code Number Required)
- Input multi-tap transformer for 200 or 240VAC, 3PH Plant Supply


## Simple, Automatic Operation

The iDry induction compound dryer utilizes a micro processor with PID closed-loop temperature control that automatically controls heating of the ends with minimal operator intervention. This provides consistent drying without the seasonal variations typical of convection ovens. An operator interface terminal


provides easy access to set up parameters and temperature control. During start-up, the PLC performs an extensive self-diagnostic check for proper operation of the unit.

The unit monitors the heating and safety components on a continuous basis for safe, reliable operation. In the event of an electronic malfunction, a message display identifies the source of the malfunction for fast troubleshooting with minimal downtime.

## Container Systems' Best Practices Pledge

At Nordson, our technology, equipment and expertise work together to offer the best solutions to our customers for their applications. This may result in better quality, improved manufacturing efficiency, less downtime, reduced coating material consumption, faster line speeds, or combinations of these and other factors that enable manufacturers to produce a better product at a lower cost. We work with our customers to improve their spray and manufacturing processes overall. It is with this continuous focus on Best Practices, that we partner with customers to find successful solutions for improved quality and productivity.

## Nordson Package of Values®

Our exclusive Package of Values backs every Nordson product and system in every region and locale. The Nordson Package of Values includes: production testing, system engineering, installation assistance, customer service and operator training.

The combination of these features provides added value that is unmatched in the container manufacturing industry.

## Specifications

Dryers are available as single- or dual-lane units and accommodate a variety of lane configurations.

| Model Number (All Models) | Single/ Dual Lane | Length | Width |
|---|---|---|---|
| **iDry-4S** | Single | 54.1" (137cm.) | 30" (76cm.) |
| **iDry-4D** | Dual | 54.1" (137cm.) | 30" (76cm.) |
| **iDry-6S** | Single | 82.3" (209cm.) | 30" (76cm.) |
| **iDry-6D** | Dual | 82.3" (209cm.) | 30" (76cm.) |
| **iDry-8S** | Single | 98.3" (250cm.) | 30" (76cm.) |
| **iDry-8D** | Dual | 98.3" (250cm.) | 30" (76cm.) |
| **iDry-9S** | Single | 114.3" (290cm.) | 30" (76cm.) |
| **iDry-9D** | Dual | 114.3" (290cm.) | 30" (76cm.) |

| | |
|---|---|
| **Voltages** | 360 - 415 VAC, 50 hz, or<br>440 - 480 VAC, 60 hz |
| **Wattage** | Up to 30Kw Load |
| **Optional Magnetic Separator (for steel ends only)** | **iDry-XX-S1** ADD 22" (56cm.)<br>**iDry-XX-S3** ADD 38" (96cm.) |



## Why choose Nordson

In highly competitive manufacturing markets, productivity is vital and performance is essential. That's why we apply both to everything we do, whether it's our products, expertise or outstanding customer service. We'll always be there to help maintain the new standards you've set, with expert service and support delivered through our teams working across the globe.

This unique Nordson approach helps you reach new levels of production, while working more accurately, efficiently and competitively than ever. Precisely why manufacturers who demand quality, can rely on Nordson.

**Nordson Industrial Coating Systems**

100 Nordson Drive
Amherst, OH 44001
USA

**Phone:** +1.440.985.4000
**www.nordson.com/ics**

/Nordson_Coating /NordsonICS
/company/nordson-industrial-coating-systems

Find your local Nordson office:
**www.nordson.com/icslocations**

*Performance by design*

CE

Nordson