

# Cross-Cut<sup>®</sup> Airless Spray Gun Nozzles



*Nozzles provide superior atomization and control when spraying high-solids, viscous and other hard-to-atomize materials.*

Finishers are continually challenged with maintaining excellent product quality and coating performance throughout each stage of their operations. In the past, spraying high-solids, viscous and other hard-to-atomize coatings and materials has been possible either by adding solvents, heating the material or increasing fluid pressure.

The use of solvents adds cost and time to build the desired film thickness. Plus, increasingly stringent environmental regulations for reduced VOC emissions make this alternative more prohibitive.

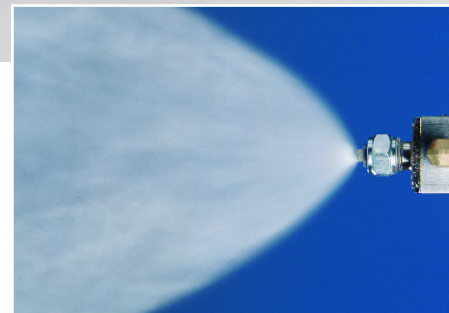
And increasing fluid pressure – in excess of 1000 psi – to improve atomization creates overspray and bounceback. This results in wasted coating material, increased equipment wear and shop environment problems for other personnel.

## **Nozzle Design**

Nordson Cross-Cut nozzles are designed to provide improved atomization with a wide range of materials, including highly viscous and difficult-to-atomize coatings. Cross-Cut nozzles produce greater atomizing energy at a given fluid pressure, compared to conventional airless spray nozzles. Excellent atomization is achieved at reduced fluid pressure, resulting in a softer, low-velocity spray which helps minimize dripping, material waste and equipment wear for maximum coating efficiency and material utilization.



*Nordson Cross-Cut nozzles produce greater atomizing energy at a given fluid pressure. This provides better control and less waste for maximum material efficiency and utilization.*



## **Meets Varying Requirements**

Whether your coating operation is electrostatic or nonelectrostatic, manual or automatic, over 1,200 Nordson Cross-Cut nozzles in a wide range of nozzle types, spray pattern widths and flow rates are available, or can be custom-designed, to meet your specific application requirements.

# Advantages of the Nordson Cross-Cut Nozzle Design

## Wider Fan Patterns

Nordson Cross-Cut nozzles produce significantly wider fan patterns than conventional airless nozzles. Patterns up to 28 inches wide can be achieved with Cross-Cut nozzles. On automatic systems this can reduce the number of guns or permit the use of less costly fixed gun systems in place of reciprocators and gun movers. Wider fan patterns combined with lower flow rates provide optimum film deposition even at low line speeds. Now you can take advantage of the benefits of airless spray at speeds as low as 4 fpm.

## Less Plugging, Reduce Downtime

Conventional airless nozzles have a tendency to plug. Cross-Cut nozzle design is inherently less prone to plugging. In most applications, this allows users to reduce nozzle orifice size one or two sizes and still eliminate plugging. Costly and unwieldy self-cleaning nozzle adapters are unnecessary. Using smaller nozzles can reduce paint waste and quality problems.

## Reduce Material Waste

Nordson Cross-Cut nozzles atomize materials at lower pressures which produces a softer, more controllable spray with minimal overspray and bounceback. Material waste is dramatically reduced. Runs and sags are minimized.

## Improved Film Deposition

As standard nozzles wear, fluid flow rate increases and the spray pattern gets narrower. This can result in runs, sags, and uneven film deposition. When Cross-Cut nozzles begin to wear, both flow rate and fan pattern width increase together and film thickness remains nearly constant.

## Improved Finish

External fluid impingement generates more atomizing energy at the same fluid pressure. Finer atomization provides a higher quality airless finish than is possible with standard nozzles.

## Improved Electrostatic Wrap

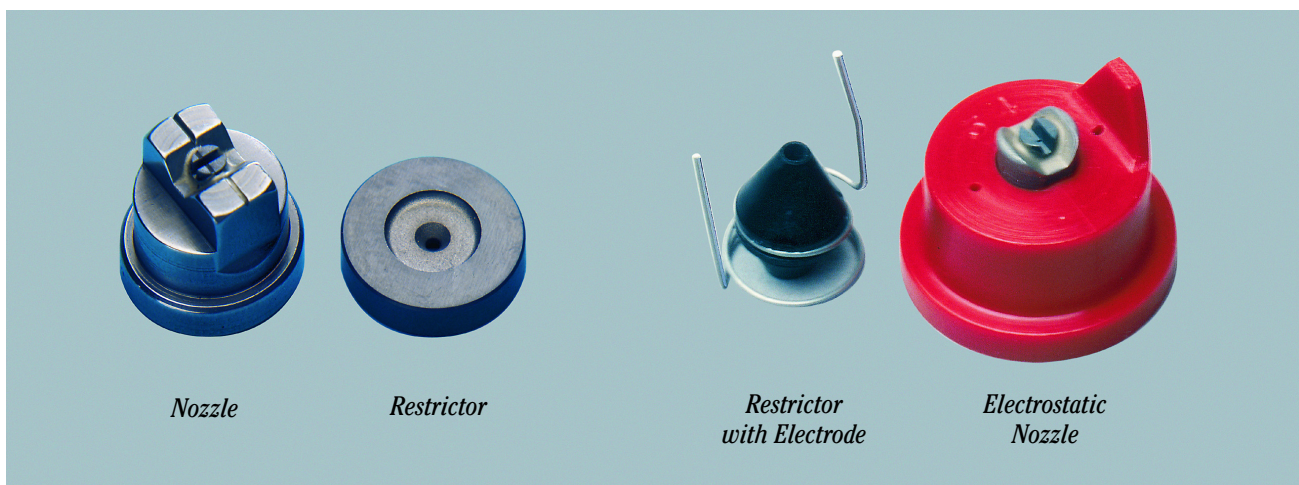
Low pressure airless atomization and low particle velocity provide a softer spray pattern that substantially improves airless electrostatic efficiency and wrap.

## Completely Airless Operation

With many hard-to-atomize materials, standard airless nozzles require air-assist for proper atomization. Cross-Cut nozzles require no additional regulators to adjust.

## More Operating Flexibility

A wide range of nozzle types, spray pattern widths and flow rates are available, or can be custom-designed, to meet virtually any application requirements. Whether your coating operation is manual or automatic, electrostatic or nonelectrostatic, a Nordson Cross-Cut nozzle delivers superior atomization and control.



*The design of Nordson Cross-Cut nozzles generates more atomizing energy at a given fluid pressure. Restrictors can also be used to help control fluid flow rate and nozzle fan pattern.*



*Airless atomization begins with a fluid film that becomes unstable as it meets air resistance. Stop action (above) shows progressive disintegration into ligaments (connecting strands) and then into droplets.*

### **Fine Atomization at Lower Pressures**

With standard airless nozzles, internal turbulence and frictional losses reduce available energy for atomization. Nordson Cross-Cut nozzles generate more atomizing energy at a given fluid pressure.

The Cross-Cut nozzle atomizes coatings and materials at lower pressures. About 400 to 500 psi is possible with many coatings. Low pressure airless spraying reduces material waste and equipment maintenance costs.

Cross-Cut nozzles also enhance the proven advantages of airless electrostatic spray efficiency which depends on fine atomization and a low-velocity, soft spray pattern.

Bubbling that frequently occurs when certain waterborne coatings are sprayed with airless equipment can often be eliminated by using Cross-Cut nozzles.

In most cases, Cross-Cut nozzles provide superior atomization, uniform spray pattern, and eliminate tails when spraying hard-to-atomize materials. Using Cross-Cut nozzles on existing airless guns may eliminate the need to use air-assisted airless.

## **Nordson Airless Systems**

Nordson airless systems are engineered to deliver improved operating efficiency and finish quality, and increased productivity in a variety of manual and automatic, nonelectrostatic and electrostatic, spray applications.

### **System Components**

- Manual and automatic guns
- Pumps
- Fluid heaters
- Electrostatic power units
- Electrostatic manual and automatic guns
- Filters
- Circulation valves

### **Coating Applications**

- Enamels
- Waterbornes
- Polyurethanes
- Epoxies
- Marine coatings
- Maintenance coatings
- Corrosion-resistant coatings
- Mastics and sealers
- Pipe coatings

### **Non-Paint Applications**

- Adhesives
- Lubricants
- Waxes
- Mold releases
- Waterproofing
- Anti-stat compounds



Nordson reserves the right to make design changes to products to improve their function. These changes may occur between printings.

*For more information, talk with your Nordson representative or contact your Nordson regional headquarters office.*

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