



## Nordson Debuts New Look, New Products at INDEX '99

The new Nordson nonwovens product line makes its debut at INDEX '99 in Geneva, Switzerland, in April.

The new line includes a full range of melters, hoses and applicators, and the flexibility to interchange any of the industry-standard Nordson adhesive bead, slot and spray application technologies.

To meet the needs of various levels of sophistication of disposable-products production machines, the new product line will include three different levels of hot melt adhesive systems.

The first level is called the Nordson Value Line, which includes systems with the features commonly required on diaper and sanitary napkin production machines. These systems hold up to 60 kilograms of adhesive, have one or two single- or dual-stream pumps, and communicate with the parent machine through function and alarm interlocks.

The mid-level product line includes larger capacity melters with up to four-pump capability. Pumps can be added even after field installation. These melters include digital communication capability.

The upper-level product line is fully configurable and expandable. These systems can hold and melt two different adhesives and supply up to six single- or dual-stream pumps. Pumps can be added in the field, and the melt section can be reconfigured. This product line includes industry-standard PLC controls and offers stand-alone operator panels or interface through the parent machine.

The three-level offering also applies to applicators, which are available in manifold, Universal Slice and metered versions.

### Active Demonstrations

As we all know, production-machine speeds are increasing. Visit any machine builder at INDEX and you will hear about new, faster, more productive lines. To keep up with those new machines, Nordson has developed high-performance technologies including Control Coat® applicators and the EP12 line of slot-coating nozzles.

**To meet the needs of various production machines, Nordson now offers three levels of hot melt adhesive systems.**

The Control Coat process applies adhesive through a continuous slot. Air from both the front and back of the die fiberizes the adhesive and carries it to the substrate.

Intermittent control of both the adhesive and the air results in clean cut-on and cut-off, even at high machine speeds. Nozzle positioning minimizes overspray.

The EP12 uses valve technology with a needle that closes on the upstroke, drawing adhesive back away from the nozzle. This provides a clean cut-off, even at sanitary napkin

production speeds of more than 1,000 products per minute.

A double-piston design makes it possible to apply very short patterns or leave very short gaps. The applicator includes a new die design that makes it easy to reliably place the nozzle on the substrate without special micro-adjust bracketry or other expensive positioning devices.

**Sanitary-napkin applications.** On one active demonstration at INDEX, you can see two typical sanitary-napkin applications. The two Control Coat heads will apply high-speed intermittent patterns for the wing-positioning tape application. The EP12 will apply the main-positioning adhesive with a short skip of three milliseconds between napkins. This demonstration will show the capability of the

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## Nordson Increases its Capabilities with APS Aquisition

In January, Nordson Corporation purchased Advanced Plasma Systems Inc. (APS), a privately held manufacturer and marketer of systems that use gas-plasma technology to modify surfaces and clean components during manufacturing. The technology results in increased bonding strength and product durability.

APS' primary markets are the medical, electronics and printed circuit-board industries. Within these industries, gas plasma has an increasingly broad array of applications such as improving lubricity, increasing bond strength, etching materials and creating blind-via holes.

The acquisition greatly increases Nordson's capabilities in the treatment of substrates before and during the material application process. This is particularly critical as new manufacturing techniques demand that smaller surfaces need to be prepared prior to bonding or finishing.

Non-hazardous gas-plasma technology is clean and environmentally friendly, often eliminating the need for vapor de-greasing, solvent wiping, ultrasonic cleaning or grit blasting.

The addition of APS fits well with Nordson's strategy of acquiring technology-based companies with records of above-average growth.

Founded in 1981, APS has annual sales of \$13 million and employs 35 people. It is headquartered in St. Petersburg, Florida.

# New Products Debut at INDEX!

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Control Coat process to precisely place uniform adhesive patterns with clean cut-on and cut-off. Also, the EP12 can place two patterns a minimal distance apart, illustrating its high-speed cycle capability.

Adhesive is supplied to these applications by the new, expanded-capability MX 4400 Series melter. The melter and associated hoses and applicators are controlled by any of several interchangeable control-panel options. These include the Meltex® CS20 controller, and PLC control options from Allen-Bradley and Siemens.

The MX 4400 melter, available in several holding capacities, can include up to four single-stream or three dual-stream pumps. At INDEX, the melter will have two single-stream pumps, one supplying adhesive to the EP12, the other feeding a metering-pump station mounted on the machine.

The metering-pump station permits the addition of new applications without adding melters or long hoses.

Independently metered streams feed the two Control Coat heads from the pump station. The short distance from the pump station to the applicators means more efficient line-speed-following capability and ensures accurate adhesive deposition on your product.

Drive control comes from the melter panel and is matched to machine speed.

**Baby-diaper applications.** On a second active demonstration, we will simulate several high-speed baby diaper production applications using various spray and slot technologies.

In a constantly changing market, it's important that you be able to quickly change your production process to bring new features and new products to market. The Nordson line of application technologies gives you that flexibility, with the industry-standard meltblown, spiral-spray and slot-nozzle processes, and the new DuraWeave™ application technology.

In one application, we will deposit a spiral pattern using our new high-frequency Controlled

Fiberization® (CF) nozzle. The high-frequency nozzle design creates patterns of up to 1,800 spirals per second, ensuring the coverage you need at today's diaper-machine speeds. These high-frequency nozzles can be used on any existing Nordson spiral-spray applicators.

We will also attach two strands of elastic using the new DuraWeave applicator. The DuraWeave process moves a continuous adhesive fiber back and forth across the elastic strand, coating each strand uniformly. This uniform coating means better creep resistance, especially in the center strands, and it may decrease adhesive usage.



**MB200 Applicator.** The new Nordson MB200 sprays small-fiber hot-melt-adhesive patterns useful in a variety of diaper and sanitary-napkin applications.

Simulating a pad-construction application, the Universal Slice applicator will apply meltblown adhesive to the center of our product.

The Universal Slice design gives you complete flexibility to choose pressure-fed or metered applications using any of the Nordson spray or bead technologies. These technologies are interchangeable, and applicators can be converted from pressure-fed to metered and back even after installation.

The slice applicator is built up from a common set of components, allowing short lead times and field reconfiguration.

For this demonstration, we will apply a fine-fiber meltblown pattern using the new MB200 modules and solid state die tips. These die tips are held in place by a single fastener, allowing for quick change and replacement.

All these spray technologies use the Nordson 200 Series valve, which sets the industry standard for module life. Also, they are all interchangeable, ensuring that you can easily and quickly modify your

application to meet new product requirements.

We will also simulate an elastic waistband application using the EP11 high-speed intermittent slot-coating nozzle.

The EP11 uses valve technology with a needle that closes on the upstroke, drawing adhesive back away from the nozzle. This provides clean cut-off even at production speeds of more than 1,000 products per minute. The applicator includes a new die design that makes it easy to reliably place the nozzle on the substrate without special micro-adjust bracketry or other expensive positioning devices. Another EP11 will apply a skin-care lotion.

**AT and DX melters.** Both the AT and DX melter product lines will be demonstrated at INDEX. These include the features and controls required to provide flexibility and expandability, as well as a seamless interface to the rest of your production process. These melters are available in a variety of holding capacities, and they can be configured for one or two separate adhesive-melt sections.

Either single- or dual-stream pumps of various capacities can supply applications. The DX melter pump packs can be easily converted between the two types of pumps, and they include a flow monitor option. The same pump packs from the melter can also be used as remote metering stations, permitting the addition of new applications without adding melters or long hoses.

The DX melter is designed for systems using remote pump stations and central-control panels. The AT melter is primarily used for those systems including hose and applicator control in the melter.

Either melter is available with any of several control options, including Allen-Bradley PLC-5, SLC-500 and ControlNet processors, and the Siemens PLC control. Operator interface can be through a touch screen on the melter, or through a remote-control panel using a Supervisory Control and Data Acquisition (SCADA) software package.

Want to Save Money? Keep Reading...

## Application Update: In-Line Frontal Tape

Diaper manufacturers continue to refine their production processes, investing resources in reducing material cost and improving line productivity.

This has become even more critical in recent years. Diaper thickness has decreased as cores are increasingly engineered using newly available products.

Market leaders regularly introduce additional features. Recent innovations include breathable films, skin conditioners and mechanical fasteners.

Many of these features result in *increased* rather than decreased costs. However, companies must add these features to remain competitive, meaning they must then find *other* ways to reduce costs and protect profit margins.

Nordson has worked with diaper and napkin manufacturers for many years, developing processes and equipment to help improve products and reduce costs. With our extensive worldwide globalnet of trained sales engineers and technical support personnel, our people are in a unique position to evaluate how we might offer improvements to diaper and napkin producers.

Communication is the key to innovative development, and we continuously evaluate new ideas that might improve profits for our customers.

In addition, the various companies that comprise Nordson Corporation continually provide new ideas and insight into opportunities that translate into benefits for our disposable-products producing customers.

### Innovate, Improve, Grow

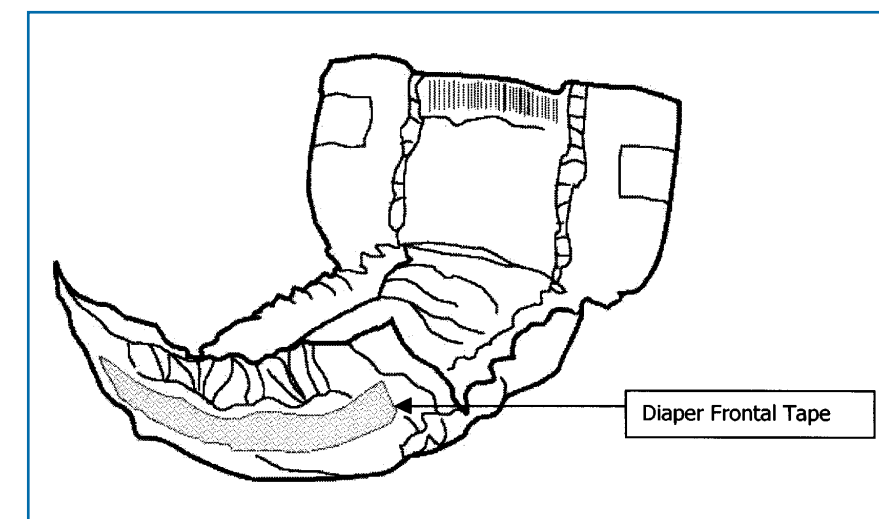
Innovation fuels the imagination with ideas to reduce costs and help customers produce more uniform, higher-quality products. Improvements in existing processes and cost savings build strong alliances with customers.

Growth is the result of customer allegiance.

One such alliance provided us with an opportunity to review diaper costs and make recommendations for improvements. This was with a large diaper manufacturer in Latin America.

The acquisition of Meltex Corporation brought to Nordson an established business for the manufacture of equipment to make tapes and label-stock materials. A review of various prod-

ucts highlighted potential savings for diaper producers with the elimination of the pre-glued tape utilized as a backsheet reinforcement patch (frontal tape landing zone) on the front of diapers.



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### Reviewing Diaper Costs

Upon looking into the costs of pre-glued frontal tape, we discovered that in-line coating on the production line would yield astounding savings to a diaper producer. Thus, we generated a proposal for frontal-tape production directly on the diaper line.

Presenting the customer with a summary of projected savings yielded our first system order for this cost-saving application.

### Application Verification

New application testing is an integral part of the business-development process.

In this particular instance, simulating production conditions in our laboratory was not possible, thereby requiring an on-line customer test.

After presenting this alternative to the customer and reviewing the potential calculated annual savings of nearly US\$250,000 per production line, the customer agreed to an on-line test.

Frontal tape landing zones can be produced from BOPP, PE or PP materials. The customer sourced BOPP film locally, in the appropriate width, and preprinted it with attractive graphics. An

on-line test was run for 30 minutes of production. All products produced were warehoused as test products and stored for one month to verify the aging performance of the selected hot melt.

The results were excellent, and the first Nordson in-line frontal tape system was installed on the customer's production line a few days later.

### Significant Material Savings

Savings through the use of the Nordson in-line frontal tape process provided the projected US\$250,000 annual savings

when compared to the price of pre-glued frontal tape. This concept also permits local sourcing of the film and a wide selection of graphics.

In addition, importation of the pre-glued product was eliminated, resulting in a reduction of administrative and shipment costs.

As a result, all production lines were converted to the Nordson in-line frontal tape process and new diaper lines were specified to include the new Nordson process.

We have duplicated this success with various companies throughout the world. Still, many companies continue to purchase a pre-glued frontal tape, spending thousands of dollars per year unnecessarily. Sticking with the pre-glued frontal tape results in reduced profits from ongoing high raw-material costs.

Below is an analysis of a typical customer's annual cost reduction with a production rate of 250 diapers per minute.

The typical return on investment is less than four months! Once acquired, the process will continue to generate savings every day of your operation!

*(Note: Savings is based on the analysis of actual results, however, your results may vary.)*

### Can you afford to overlook this cost-reduction opportunity?

Contact the Nordson Nonwovens System Group or your local Nordson representative for a free Production Plant Review of Potential Savings today!

Item	Pre-Glued Frontal Tape	In-Line Frontal Tape
BOPP Film		\$84.00
Hot Melt Adhesive		\$37.00
Finished Tape Cost/Roll	\$230.00	\$121.00
Savings/Roll	\$0.00	\$109.00
Savings/Shift		\$381.00
Savings/Day		\$1,143.00
Savings/Year		\$357,700.00

*Note: The above example is for illustration only. Actual results may vary.*

## Exhibition Details

The INDEX '99 exhibition is April 27 - 30 at the Palexpo in Geneva, Switzerland.

Nordson adhesive systems will be demonstrated in Stand #2161.

JMLaboratories' fiber technologies will be displayed in Stand #2630. See you there!

## Visit our Nonwovens Web Site!

Looking for specifications or dimensional drawings? Need a part number? Want to schedule a lab test?

Visit us on the internet: [www.nordson.com/nonwovens](http://www.nordson.com/nonwovens).

# Increasing Your Productivity: Third-Party Valves? Rebuilt Valves? What's the Real Cost?

**B**eware! Some will try to sell you so-called 'low-cost' or 'rebuilt' parts. At Nordson, we know that the key to your success is productivity. Individual replacement-parts costs are much less significant than the downtime costs required to change those parts.

The difference in Nordson parts, when compared to parts from these third-party sellers and rebuilders, is measured in terms of products out-the-door and productivity on your machines. The results can

be measured by counting the number of intermittent hot melt valves on your machine and referring to the following tables.

Nordson has a 35-year commitment to excellence in hot melt application systems -- a commitment to continuous improvement and industry-leading component life that pays off for you day-after-day and product-after-product.

Diaper Machine Example		
Production Assumptions	Valve Replacement Assumptions	Intermittent Valve Assumptions
Diapers per minute: 500	Nordson valves: twice per year	Waistband elastic attachment: 6 valves
Hours of production per day: 20	Competitive valves: once per month	Leg elastic attachment: 2 valves
Days of production per year: 312	Time to replace each valve (including stopping the machine, relieving hydraulic pressure, replacing the valve, allowing the valve to reach operating temperature and restarting the machine): 15 minutes	Cuff elastic attachment: 2 valves
Total diapers produced per year per machine:	Production cost per valve replacement:	Cuff tack down: 2 valves
<b>187,200,000 diapers</b>	<b>7,500 diapers</b>	Total intermittent valves: 12
		Total productivity benefit resulting from the use of long-life Nordson valves:
		<b>37,500 additional bags of medium diapers per year!</b>

*Note: The above example is for illustration only. Actual results may vary.*

## Beware of the Single-Solution Seller!

**W**hen considering hot melt adhesive spray for your disposable-product applications, how do you choose from the many technologies available? Should you use spirals or other types of adhesive fibers? Or neither? What type of hot melt adhesive spray technology provides the best performance? Are smaller adhesive fibers and more points of contact always better for disposable-product applications?

Once you've considered all the questions, where do you go for the answers?

Here's how it can get tricky.

For example, if you are interested in purchasing a computer and you go to a store that sells only laptop computers, it is safe to assume that the salesperson will recommend a laptop solution, regardless of what is really best for your needs.

Obviously, the same thing will happen in the hot melt equipment industry.

If you take your application questions to a company that sells a single solution, they

will recommend that solution to you, regardless of your actual requirements.

The key to successfully choosing a hot melt spray application technology is to understand all of the issues and all of your options so that you can make the most informed decision possible. This involves a basic knowledge of the performance characteristics of each type of hot melt adhesive spray process and how these characteristics affect end-product quality and performance.

Let's look at the issues.

Your goal is to make the desired product at the lowest possible cost, right? To help achieve this goal, you want to apply the lowest quantity of adhesive that will satisfactorily bond your substrates and provide the product performance and quality demanded by your customers, correct? In that case, optimizing add-on weight and performance means choosing from among all of the available technologies, depending on your application parameters.

To help you decide which hot melt adhesive spray technology is best for your application, Nordson has developed a series of charts that define the basic operating parameters of each of the available technologies. This operating information is available from your local Nordson specialist, or by request through our web site at: [www.nordson.com/nonwovens](http://www.nordson.com/nonwovens).

Know the alternatives, know their capabilities, and rely on a full-service partner to work with you to define the technology and operating conditions that best improve your productivity and your profits.

Beware of single-solution sellers who can't offer you a full range of production-proven technologies.

Nurture relationships with suppliers like Nordson, who invest in basic technology research and development and who use this knowledge to keep you at the leading edge of your industry.



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