Solutions for Flexible Packaging
from Nordson Polymer Processing Systems

The flexible packaging industry has emerged as one of the leading segments of the packaging sector, providing manufacturers with new and unique options for protecting their product and improving it visually with added marketing appeal.

Nordson offers a wide range of products for flexible packaging production, from screws and barrels to filtration and gear pump technology to extrusion and fluid coating die systems. These components are designed to maximize productivity with innovative features that enable packaging to meet end user requirements for extended shelf-life, resealability, barrier protection, and more.

With over 200 combined years of experience in the plastics industry, Nordson’s Polymer Processing Systems line of business is well-suited to help processors and converters find the best solution for their needs. Whether it be through a blown or cast film, extrusion coating or lamination, or fluid coating application, Nordson provides a comprehensive portfolio of products designed to minimize consumption of raw materials. In turn, this leads to increased profitability and success for our customers.
BLOWN FILM

Xaloy® Barrels & Screws

Efficient™ Barrier Screw
- Typically delivers 20% more output than conventional screw designs, while offering better melt temperature control and homogeneity

Fusion™ Barrier Screw (U.S. Patent 6,672,753)
- Designed to combine proven barrier screw technology and a low shear metering section that provides chaotic mixing, reducing melt temperatures and improved throughputs

Nano™ Mixer (U.S. Patent 6,497,508)
- Combines very intensive dispersionary mixing of colorants, fillers, and additives with excellent temperature control

Spiral UCC Mixer
- Dispersion mixer, offering good control of melt homogeneity, better purging and clean-up with lower melt temperatures

Stratablend® II Mixer (U.S. Patent 6,488,399)
- Provides intensive chaotic and distributive mixing with low shear and little to no temperature rise

Extrusion Barrels
- Bimetallic barrels designed to meet the application needs for wear and corrosion resistance in a variety of compositions:
  - X-800®: Tungsten carbide particles uniformly dispersed in a corrosion-resistant nickle alloy matrix
  - X-102®: Nickel-rich iron-boron alloy
  - X-220™: Higher-chromium iron-boron alloy
  - X-306: Nickel/cobalt base for the most corrosive atmospheres

BKG® Screen Changers

NorCon™ EM Manual Screen Changers
- Minimize costly downtime for screen replacement by simply swinging the handle lever during a routine shutdown, bringing clean screens on-line quickly

CAST FILM

BKG® Gear Pumps

BlueFlow™ Gear Pumps
- Designed to provide constant output and dimensional accuracy by shifting the job of building pressure for the entire melt stream from the extruder to the gear pump
- EP model recommended for standard polymers and low viscosity plastics
- MP model recommended for processes with frequent product changes

BKG® Screen Changers

NorCon™ Discontinuous Screen Changers
- Used to filtrate and homogenize the polymer in film applications
- D-SWE, HS-Y, EH models recommended

NorCon™ Continuous Screen Changers
- Used to eliminate contaminants from the melt stream in film applications
- K-SWE, K-SWE-4K, K-SWE-4K-75 models recommended

EDI® Extrusion Dies & Feedblocks

Contour® Cast Film Die
- Designed with a sculpted configuration, which minimizes the differences in die body deflection across the width of the die, thus reducing gauge variation in the end product for a wide range of requirements

Ultraflow™ V-T Adjustable Geometry Feedblock
- Design includes profiling actuators with interchangeable profile bars, allowing for the thickness uniformity of individual layers to be finely tuned during operation

Xaloy® Barrels & Screws

Efficient™ Barrier Screw
Fusion™ Barrier Screw (U.S. Patent 6,672,753)
Nano™ Mixer (U.S. Patent 6,497,508)
Spiral UCC Mixer
Stratablend® II Mixer (U.S. Patent 6,488,399)
Extrusion Barrels
EXTRUSION COATING & LAMINATING

BKG® Gear Pumps

BlueFlow™ Gear Pumps
- RP model recommended for extrusion coating & laminating applications with low viscosity polymers
- EP model recommended for standard polymers and low viscosity plastics

BKG® Screen Changers

NorCon™ Continuous Screen Changers
- K-SWE model provides protection and quality filtration

EDI® Extrusion Dies & Feedblocks

EPC™ (Edge Profile Control) Die
- Adjustable internal deckle blade system allows operators to save material cost by minimizing the product width and reducing the size of the edge beads

Ultraflow™ I Fixed Geometry Feedblock
- Controllable linear valves allow for highly precise layer ratio changes and entrance locations may be customized with an optional selector spool

Xaloy® Barrels & Screws

Efficient™ Barrier Screw
Fusion™ Barrier Screw (U.S. Patent 6,672,753)
Nano™ Mixer (U.S. Patent 6,497,508)
Spiral UCC Mixer
Stratablend® II Mixer (U.S. Patent 6,488,399)
Extrusion Barrels

Premier™ Slot Coating Die Systems

Premier™ Fixed Lip Slot Dies
- A pre-metered slot coating system offers improved coating fluid yields by applying all of the coating to the substrate via a positive displacement pump and slot die

Premier™ Die Positioners
- Designed for on-roll or off-roll (tension) coating and may be used with Premier™ single layer fixed lip slot dies, multi-layer fixed lip slot dies, or double-sided coating applications

Premier™ Fluid Delivery Systems
- Customized fluid delivery system models are available with a variety of optional features and range in size from laboratory/small production to a medium production to a large production

FLUID COATING

Premier™ Single Layer Slot Die
& Die Positioner

Premier™ Multi-layer Slot Die
## GLOBAL LAB CAPABILITIES

Nordson offers its polymer processing and fluid coating customers extensive laboratory, technology, and training capabilities throughout the globe.

### BKG® Technology & Training Center
**Muenster, Germany**

Focused on underwater pelletizing applications, the test center provides customers with an opportunity to simulate production conditions with throughputs of up to 1,200 kg/h.

**Technical Equipment**
- Gravimetric Dosing Units
- Twin Screw Extruder
- Gear Pumps
- Continuous/Discontinuous Screen Changers
- Water-ring & Underwater Pelletizing System
- Process Water Filtration
- Cutter Hubs & Die Plates

### EDI® Technology & Training Center
**Chippewa Falls, Wisconsin, USA**

Extrusion processors and web converters can carry out product development and process testing without the high raw material costs and lost output of trial runs on their own commercial-scale equipment.

**Technical Equipment**
- Lab-Scale Cast Film Line
- Six-Extruder Sheet Line
- Premier™ Coating Center
- Film Analysis Equipment
- Rheology Lab

### Xaloy® Technology & Training Centers
**Austintown, Ohio, USA; Hickory, North Carolina, USA; & Chonburi, Thailand**

The polymer laboratories include comprehensive process analysis for injection molding, extrusion, and pelletizing applications.

**Technical Equipment**
- Manual, Discontinuous, & Continuous Screen Changers
- Gear Pumps & Static Mixers
- Water-ring, Strand, & Underwater Pelletizing Systems
- Injection Press
- TwinShot® Technology Demonstration
- Jet Cleaners

### PPS Technology & Training Center
**Shanghai, P.R. China**

Providing localized lab trial and training capabilities to Chinese customers, the PPS Technology Center in Shanghai offers a variety of tooling options for testing pelletizing and slot die coating processes.

**Technical Equipment**
- Underwater Pelletizing System
- Twin Screw Extruder
- Continuous Screen Changer
- Gear Pump
- Jet Cleaner
- Fluid Coating Trial Capabilities

## GLOBAL NORDSON PPS CONTACTS

### Barrels & Screws

<table>
<thead>
<tr>
<th>Location</th>
<th>Contact Information</th>
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<tbody>
<tr>
<td>USA</td>
<td>375 Victoria Road, Austintown, OH 44515</td>
</tr>
<tr>
<td>USA</td>
<td>911 Kurth Rd, Chippewa Falls, WI 54729</td>
</tr>
<tr>
<td>USA</td>
<td>1291 19th St Ln NW, Hickory, NC 28601</td>
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### Extrusion & Fluid Coating Dies

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<tr>
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### Gear Pumps, Screen Changers & Valves

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### Europe, Middle East & Africa

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<tr>
<td>Europe</td>
<td>Richard-Wagner-Str. 21, 74172 Neckarsulm</td>
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### China

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<tr>
<td>Thailand</td>
<td>Tohshin Building 8F, 1-5-21, Katsushima, Shinagawa-ku</td>
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<tr>
<td>Thailand</td>
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**Solutions for Flexible Packaging**

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