



Polymer Processing Systems

BKG[®] Technology Centers & Lab Services

Unlock the potential of your polymer processing with Nordson BKG's global network of technology centers and comprehensive lab services, designed to optimize your production and drive innovation. From material analysis to process simulation, we offer the expertise and resources you need to achieve peak performance and a competitive edge.

Unlocking Your Polymer Potential

Innovation and Expertise at BKG® Technology Centers

The efficient production of high-quality polymer pellets, compounds, and recycled materials hinges on a precise understanding of process parameters and optimal equipment selection. Nordson BKG® Technology Centers and Lab Services offer a unique environment designed to help you push the boundaries of polymer processing. Whether you are facing a specific challenge, exploring new materials, or seeking to optimize your existing processes, our centers provide access to state-of-the-art equipment, expert technical support, and a collaborative atmosphere for data-driven decision-making and performance enhancement.

Globally, Nordson operates two advanced BKG® technology and testing centers; one in Muenster, Germany, and one in Hickory, NC, USA. Our laboratories offer you an economical alternative to using your commercial scale equipment for product and process testing, thereby reducing the amount of raw material cost and lost output from machine downtime.

Optimizing polymer processing, particularly recycling, polymerization, extrusion, and compounding demands a deep understanding of material behavior under specific operating conditions. Variations in viscosity, moisture content, and melt density significantly influence product quality, throughput, and overall process efficiency. To address these challenges, our polymer laboratories offer comprehensive analytical and testing services, centered around in-house rheological characterization and advanced process analysis for polymer processing applications.

More than just a lab - a partnership for success.



At Nordson's BKG® Technology Centers, we understand that every polymer processing application is unique. That is why we offer a comprehensive suite of services tailored to your specific needs:

- **Material Testing and Analysis:** Gain a deeper understanding of your materials' properties with our advanced testing capabilities. We can characterize melt flow index (MFI), viscosity, thermal stability, and more, providing critical data for optimizing your processes.
- **Flexible Application Trials:** Experiment with various processing parameters and equipment configurations to identify the ideal setup for your specific application. Our centers are equipped with different extruders, along with a wide range of downstream equipment like melt pumps, screen changers, pelletizers, pellet dryers, die plates, and filtration accessories.
- **Screen Changer and Pump Expertise:** Improve melt filtration efficiency and consistency using our screen changer and pump expertise. We can help you select the right screen changer for your application and optimize pump parameters to ensure a uniform melt flow and filtration results.
- **Underwater Pelletizing Optimization:** Achieve consistent and high-quality pellets with our BKG® underwater pelletizing systems. We can help you optimize cutting parameters, die face design, and overall system performance to minimize fines and maximize throughput.
- **Training and Education:** Enhance your team's knowledge and skills with comprehensive training. Our experts can provide hands-on training on equipment operation, process optimization, and troubleshooting techniques.

The Benefits of Partnering with Nordson BKG:

- **Reduced Risk:** Minimize the risk of costly trial-and-error on your production line by conducting thorough testing and optimization in our controlled environment.
- **Faster Time to Market:** Accelerate your product development cycle by leveraging our expertise and resources to identify and implement optimal processing solutions.
- **Expertise:** Both BKG® laboratories are operated by a full-time staff that provides engineering and process know-how acquired through decades of experience in the marketplace. During trial runs, you interact with Nordson engineers, application specialists, and service technicians. Benefit from the expertise of our experienced engineers and technicians, who are dedicated to helping you achieve your goals.
- **System Approach:** We take a holistic approach to polymer processing, offering specialized equipment for various applications ensuring seamless integration and optimal performance across your entire process.
- **Confidentiality:** You can test new technologies in the strictest confidence, ensuring that any new developments remain yours. We will sign nondisclosure agreements when required.
- **Follow-Up:** Our technical service teams are based throughout the world and can provide support both remotely and at your plant.



BKG® Technology Center

Muenster, Germany

BKG® pelletizers are globally recognized for their reliability and precision in resin production, compounding, and recycling applications. Complementing these pelletizers, BKG® gear pumps and screen changers ensure consistent melt flow and filtration throughout the extrusion process. The Muenster facility is uniquely equipped to facilitate comprehensive evaluations of these components, allowing you to fine-tune your processes for maximum throughput and product quality.

A Comprehensive Suite of Equipment for Rigorous Testing

The BKG® technology center in Muenster boasts an extensive array of equipment designed to simulate real-world production scenarios. This allows for a thorough investigation of various process parameters and the validation of equipment performance under specific operating conditions. The available equipment includes:

- Gravimetric Dosing Units
- Single and Twin-Screw Extruders
- Melt Pumps
- Continuous and Discontinuous Screen Changers
- Backflush Screen Changers and Recycling filters
- Start-up & Diverter Valves
- Underwater Pelletizing Systems incl. Pellet Dryers
- Process Water Filtration System
- Electrically and Oil-heated Die Plates (including pressure-reduced models)
- Pyrolysis Cleaning Ovens
- Rheology Services & Data Analysis Software



Process Parameters

Material melting point:	50 – 420°C (122 – 788°F)
Throughput rates:	1,200 kg/hr (2,645 lb/hr)
Pellet diameter:	0.5 – 12.0 mm (0.02 – 0.47")

Advanced Pelletizing Solutions: Leveraging the BKG® CrystallCut® Process

Beyond conventional pelletizing technologies, the BKG® technology center offers the opportunity to trial Nordson's proprietary and patented CrystallCut® process. This innovative approach significantly reduces energy consumption in PET pelletizing by leveraging the thermal energy in the pellet for subsequent crystallization. By eliminating the need for separate crystallization stages, CrystallCut® offers substantial cost savings and reduced environmental impact. Detailed performance evaluations and energy consumption measurements can be conducted to quantify the benefits of this technology for specific applications.

BKG® Technology Center

Hickory, North Carolina, USA

Beyond rheological characterization, our laboratory in the US is equipped with a range of advanced extrusion processing equipment, enabling comprehensive analysis of the entire extrusion process. This includes:

- 42mm Twin-Screw Extruder
- Continuous Backflush Screen Changers & Recycling filters
- Melt Pumps
- Start-up and Diverter Valves
- Underwater Pelletizing Systems
- Tempered Water Systems
- Water-Ring Pelletizers
- Die Plates
- Pyrolysis Cleaning Oven
- Ancillary Equipment
- Rheology Services

Process Parameters

Material melting point: 50 – 343°C (122 – 650°F)
Throughput rates: 340 kg/hr (750 lb/hr)
Pellet diameter: 2.0 – 6.4 mm (0.08 – 0.25")

Data-Driven Optimization Through Comprehensive Measurement and Analysis

The BKG® technology centers emphasize a data-driven approach to process optimization. A comprehensive suite of measurement capabilities is in place to accurately assess equipment performance and product quality. The resulting data provides valuable insights into the effects of various process parameters, enabling informed decision-making and continuous improvement. A complete list of measurable parameters is available upon request and can be tailored to the specific goals of each trial.

By providing access to cutting-edge equipment, expert technical support, and comprehensive analytical capabilities, BKG® technology centers empower technical experts to optimize their polymer processing operations, improve product quality, and reduce production costs.

Our integrated approach, combining in-house rheological characterization with advanced extrusion process analysis, empowers you to optimize their polymer processing operations. By providing data-driven insights into material behavior and process performance, we deliver solutions that enhance product quality, improve efficiency, and reduce waste.

We invite you to leverage these resources to unlock the full potential of your polymer processing endeavors.



Ready to take your polymer processing to the next level?

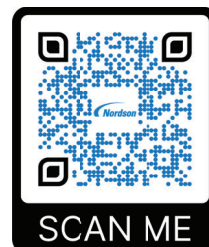
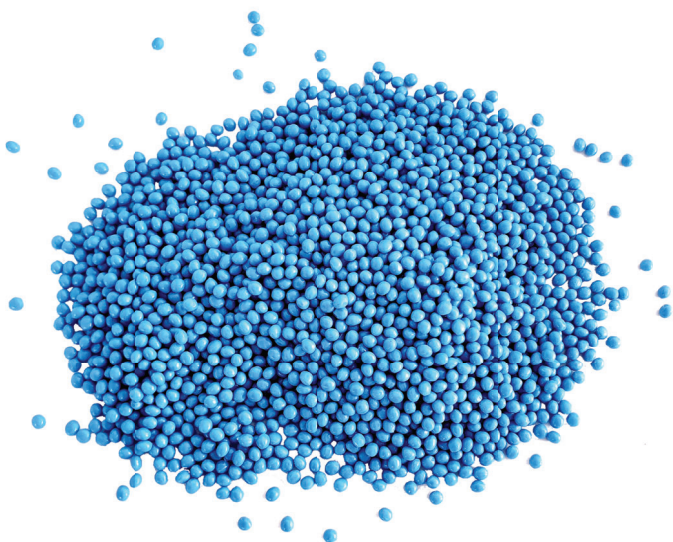
Contact us today to learn more about Nordson's BKG® Technology Centers and Lab Services and discover how we can help you unlock your polymer potential.

Germany: Phone: +49.251.26501.0

USA: Phone + 1 828 326 9888

info@nordsonpolymerprocessing.com

www.nordsonpolymerprocessing.com



Interested in learning more? Scan our QR code with your mobile phone to request more information.

A Global Mission

At our core, we aim to transform the polymer processing sector through our inventive and top-performing offerings that cater to the ever-changing demands of our clients all around the world.

Our unwavering dedication lies in delivering exceptional quality, unmatched customer service, and state-of-the-art technology that propels our clients towards success.

With our continuous pursuit of research and development, we strive to push the boundaries of what is possible, empowering our clients to attain new levels of effectiveness, productivity, and environmental sustainability.

Our ultimate goal is to become the top choice for polymer processing systems globally, setting the bar for excellence and instigating positive transformation in the markets we operate in.

BKG® Melt Pumps, Melt Filters, Valves, Jet Cleaners & Pelletizing Systems

USA

1291 19th St Ln NW
Hickory, NC 28601
Phone + 1 828 326 9888

Europe, Middle East, & Africa

Hessenweg 3-5
48157 Muenster
Germany
Phone +49 251 265010

China

11 Building, 212 East Jiangtian Road
Songjiang
Shanghai 201613
Phone +86 21 57850918

Japan

Toshin Building 8F
1-5-21, Katsushima,
Shinagawa-ku
Tokyo 140-0012
Phone + 81 3 5762 2770