

Curing, Conveying and Controls.

BGK



**BGK Finishing
Solutions**



Integrated/Customizable Systems Provide Optimum Performance



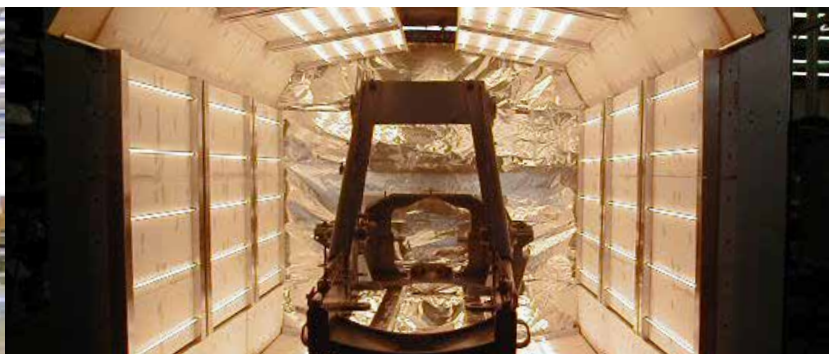
BGK ovens serve three basic purposes:

Drying...applied to products that have a lot of moisture, usually introduced by some previously applied chemical or coating process. In drying, the oven moves a constant stream of heated air over the products to take the moisture out.

Baking...technique is applied to heat objects over a period of time without drying them out and curing the coating to the part.

Curing...a slower process during which an object or compound is heated to give it different properties and alter its molecular structure. IR curing can provide zoned control to meet any finishing requirement or part configuration for optimum performance.

BGK can cure your material with a full range of solutions from IR to gas catalytic to convection, we have it all. Ovens heat in different ways and outcomes are dependent on part complexity, shape,



BGK Conveyors, Controls and Curing Ovens Are All About Automating Products Through The Finishing Process – For Peak, Profitable Results.

Most finishing engineers know about BGK's wide range of curing equipment and technologies. But BGK also makes an equally extensive variety of conveyor and control systems to assure effective synergy when a part moves through the finishing process.

No matter what level of care goes into the coating application, the quality of the outcome is dependent on the bonding of the coating material to the part.

coating material and finishing process and BGK is your single source provider, used to dry or cure a full range of coating materials including liquid, powder, Teflon™ wax, UV and adhesives, just to name a few.

BGK Conveyors come in two parts-specific categories

Parts weight.

Parts size.

Desired production speed.

Coating material to be used.

These are key considerations when specifying and coupling the right combination of BGK conveyor and curing oven equipment. With an array of choices including chain-on-edge or flatline conveyors, BGK is capable of accommodating an extensive range of equipment needs.

Spindle Type...BGK spindle type conveyor systems are all customizable to meet specific requirements. Available engineered options provide infinite capabilities.

Flatline Type...BGK flatline conveyor systems are designed and engineered to meet very specific parts finishing requirements, such as glass and automotive parts.

BGK Control Packages help manage the process profitably

From simple to complex, whatever finishing system is designed, BGK is at the heart of it all, with the right control system. BGK Control Systems have been proven over decades of operational use, innovations and enhancements.

A few of the many parameters BGK controls can provide:

- Automatic temperature regulation and control
- Multiple recipe parameters and storage
- Manual or automatic mode capabilities
- System fault detection and history storage
- Diagnostic troubleshooting menu
- Part or oven temperature trending



BGK Sets The Standards For Oven Performance and Reliability Regardless of Curing Method



Flash Off Ovens

Typically used between coating allowing the coating to bake or dry and release the initial solvents.

- Flash off time helps prevent bubbling or blistering caused by insufficient evaporation time.
- Helps reduce rework by providing proper evaporation before entering a curing oven or a second coating process.

Gas Ovens

The best alternative in areas where electricity costs are high.

- Typically used in standard applications where a part requires a uniform cure.
- Used where regulated cure areas or varied temperature ranges are not issues.

Hot Air Convection Oven

The cost effective solution for startups requiring batch parts processing capabilities.

- Used in applications where NO zone curing, optical pyrometers or varied curing might be required.
- Custom configured to meet exact specifications.

Infrared Smart Oven

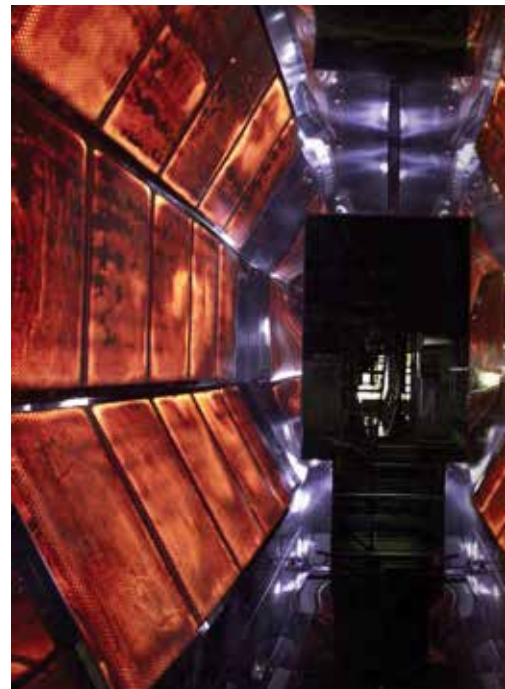
Designed for test coatings and processes on customer sites.

- Provides valuable data to assist process development
- Simulates an accurate and repeatable testing environment



BGK is the world's leader in developing the equipment and technologies required to produce parts that live up to customer expectations.

Booster ovens, flash off ovens, gas, hot air, catalytic ovens, long and short wave IR – all these oven choices have been designed to meet specific curing needs. And for over three decades, BGK has been developing and innovating equipment to exceed expectations for quality, speed and efficiency. BGK is THE single source for a complete selection of curing solutions.





Flat Glass Oven And Drying Systems

Meets a wide variety of requirements for the glass market.

- Focused on the application of high intensity infrared technology.
- Compact design utilizing T3 short-wave infrared emitters
- Provides unmatched drying capabilities and energy efficiency

Glass Preheat Ovens

Available in a full range of efficient wave length control for rapid, uniform heat up and accurate input temperature control.

- In glass applications, bond strength is dramatically improved at the gasket and glass interface.
- Close loop temperature control delivers glass to the injection mold process at the desired temperature.

Infrared Booster Ovens

These versatile ovens are modular in design, have been engineered for use with all coating types and can be configured to meet all parts sizes and shapes.

- Particularly effective where increased line speeds and multiple control zones are required to achieve productivity objectives.
- Features energy efficient, instant on/off emitter control performance.



Gas Catalytic Infrared Oven

For those seeking an alternative to electric infrared, BGK offers a line of natural gas or propane fired catalytic infrared heaters. The emitters heat through a safe technology producing uniform low intensity heat. The heat, in the form of medium to long wavelength energy, is evenly absorbed by a wide range of organic materials, providing a versatile curing solution for low to high density applications.

- BGK Gas Catalytic Infrared provides process times typically four times faster than convection oven technology.
- Custom engineered control packages offer the ability to precisely control every facet of your production.
- Small footprint makes it ideal for lean manufacturing settings.
- Highly controllable and capable of attaining surface temperatures in the range of 700°F to 1,000°F to meet demanding finishing requirements.
- Can handle a large variety of finishing applications, from complex shaped parts to demanding substrates and difficult coatings.



BGK Chain-on-edge Spindle Conveyors Lead The Market In Providing Product Moving Solutions



Spindle Master II

This compact, self-contained table design is ideal for conveying lighter weight, smaller parts.

Available in various layouts, the Spindle Master II is considered quick to set up and can incorporate adjustable spray gun mountings.



Spindle Pro

Standardized modular components provide for easy, fast installation and flexible solutions for either static or power rotators.

Automatic loaders and unloaders provide the ability to vary track height.

Spindle King

Chain-on-edge conveyor provides a robust track design to accommodate heavy, large parts.

Easy to install system features sturdy turn modules and low friction structural track to optimize configuration capabilities.

Spindle Boss

Heavy-duty chain-on-edge industrial conveyor with drive system comprised of welded frame, variable speed drive motor and gearbox, take-up slider table and air cylinder system.

Designed to convey parts through coating booths, ovens and cool downs and features variable track height adjustment.

BGK also manufactures and markets an Oil Filter chain-on-edge conveyor. These are particularly suitable where floor space is minimized:

- Producing tough finishes that meet film build and salt spray resistance tests.
- Typical system components include the conveyor, coating booth, cool down, infrared oven, rotators, air knife and automatic load and unload stations.



BGK Flatline Conveyors Prove Essential In High Output Operations



Brake Pad System Conveyors

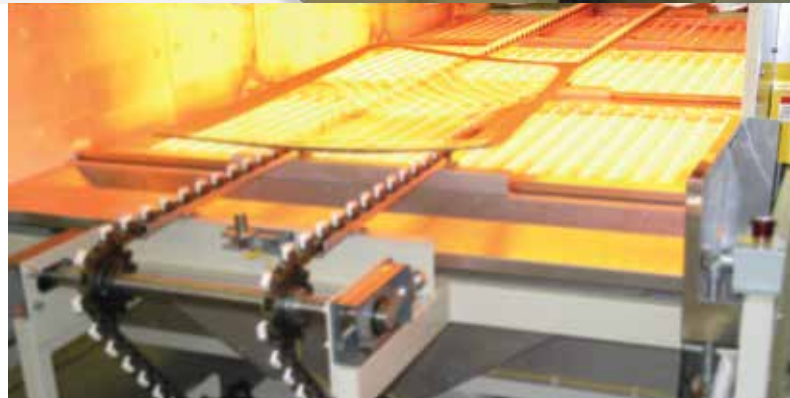
BGK can provide systems of up to 14 lanes wide, handling production rates of 10 to 100 pads a minute. Helps provide a tough finish meeting film build and brake fluid resistance testing.

Pads can be cured in less than two minutes with precise, zoned temperature control.

Media Cure System Conveyors

Ideal match to automated count-cut equipment or cartridge assembly equipment in a single or dual lane configuration.

Eliminates the need to "scorch the knuckles" and provides even distribution around the center tube and a high quality filter cartridge assembly.



Glass System Conveyors

BGK Glass System Flatline Conveyor is the ideal choice for water or oil-based ceramic frit, solvent-based mirror backs and for organic and non-organic UV inhibitors. Systems respond immediately to empty or full load conditions, saving energy while maintaining product temperatures.

BGK stands alone in its capability to provide flexibility in developing fully compatible conveyor systems to move products along, and through, the highest quality finishing operations.



Finishing Brands – combined expertise spans more than 350 years.

The story of advancement in application technology is the story of our Finishing Group of Brands – DeVilbiss, Ransburg, BGK and Binks. Each brand grew into its own and became leaders in their individual product categories. Today – and collectively – those products share a common heritage of performance excellence and dependability. They also share a common name – Finishing Brands.

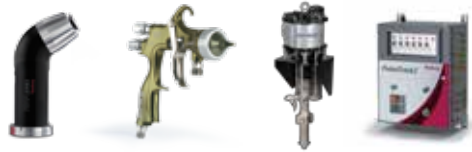
Finishing Brands is a unique, integrated provider of total system solutions. Electrostatic and conventional guns, fluid handling equipment, fluid metering, process controls, curing – everything is designed and manufactured to provide customers with finishing solutions with long term value.



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Infrared curing systems for liquid and powder finishing. BGK also supplies material handling systems to meet the individual need of each customer's application.

BGK curing, conveying and controls, coupled with a full line of Finishing Brands applicators provide a full range of finishing solutions for your complete operation. From the paint room to finished goods, we have it all. Pumping, metering and mixing, manual or automatic, conventional or electrostatic, guns to rotary atomizers, we've got you covered from start to finish, and everything in between.



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