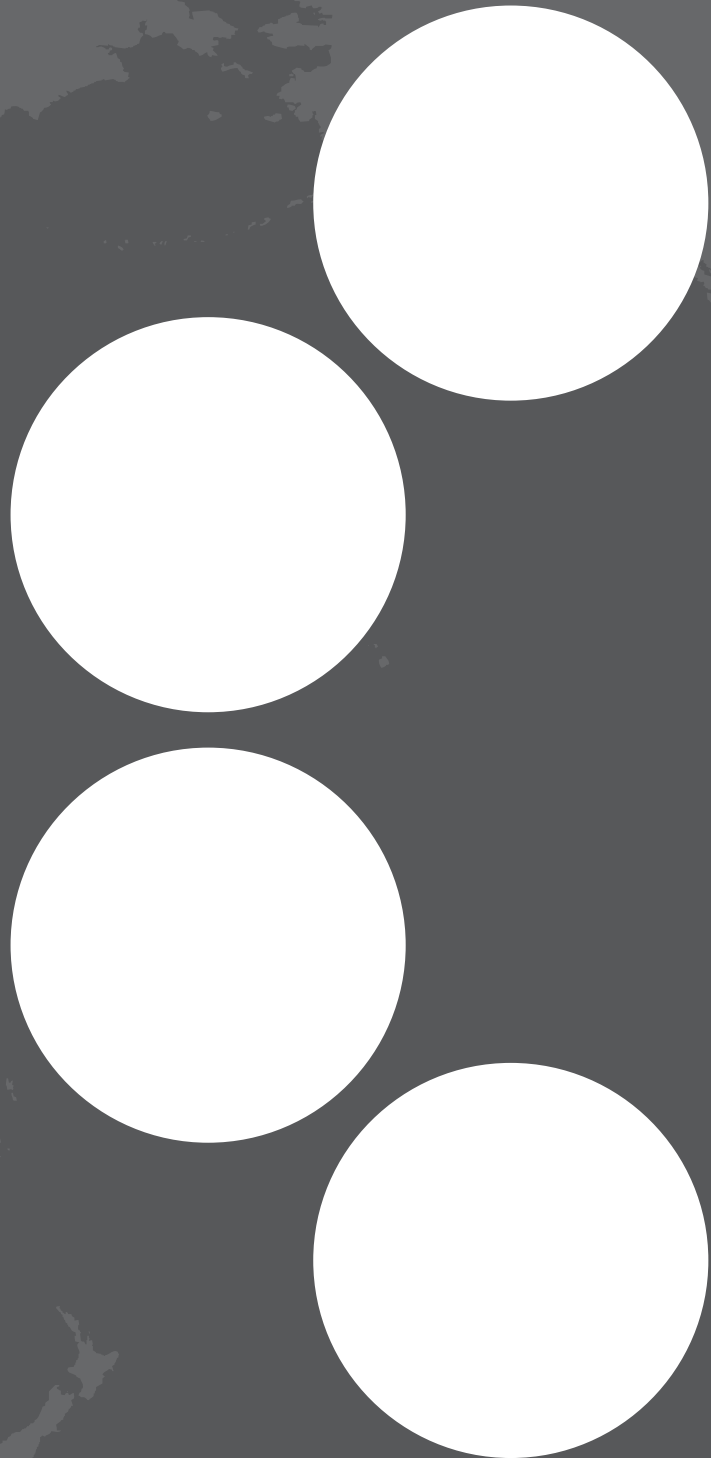


**YOUR  
GLOBAL  
PARTNER  
FOR  
HEATING  
SOLUTIONS**



**Backer North America**





## Stronger & Better Together

With over 100 years of experience, Backer North America elevates your success by ensuring that you can deliver the most efficient, reliable, and safe system to your customer with our heating component technologies and thermal solutions.

We understand that there are many choices when considering your electric heating needs. That is why great pride and care are taken with each product developed to ensure that everything is considered including cost, safety, performance, and durability.



*Murfreesboro, Tennessee, USA*



*Del Rio, Texas, USA*



*Nuevo Laredo, Mexico*



*Nuevo Laredo, Mexico*



*Monterrey, Mexico*

# BACKER NORTH AMERICA

**Our expertise spans over 100 years in heating technologies.**



Backer-Springfield specializes in serving all major OEMs and Aftermarket Groups in Consumer Appliances, HVAC, Automotive, Refrigeration, and Commercial Foodservice Equipment industries. The company has been proven to have the most reliable Tubular, Open Coil, and Flexible heater technologies on the market today.

Backer North America is comprised of three business divisions. Our 2,200 North American employees are focused on producing the highest quality solutions and exceeding our customer expectations. The headquarters and engineering center is located in Murfreesboro, Tennessee with additional service and engineering facilities in Texas and Mexico.

With over 100 years of experience in heating component technologies, our in-house engineers strive to form a partnership with our customers to solve all heating challenges and new product needs through our engineering, design, testing, and value-added capabilities.

Our expertise has earned us the industry-leading position for customized heating solutions worldwide.

- All facilities are ISO 9001 certified
- In-house testing labs certify products for ETL, CSA, and UL products in Murfreesboro, TN, USA
- North American Safety Agency Certifications: UL, CSA, RoHS
- Global Safety Agency Certifications: IEC, VDE, CE, REACH, PQAN(ATEX), SEMCO, CQC, BEAB



Backer Marathon is a trusted manufacturer serving OEMs and Aftermarket Groups in Plastics, Scientific, Medical, and other Manufacturing and Processing industries. The company specializes in Cartridge, Strip, and Band heater technologies, producing the highest quality product for any customer needs.



Backer Alpe has a unique focus on providing die-cast aluminum and plastic injection parts, Teflon-coating griddles, and Tubular and Cartridge heater technologies in the areas of Consumer Appliance, Manufacturing and Processing, and Aftermarket replacements.

# INDUSTRIES & APPLICATIONS



## HOME APPLIANCE

*Clothes Dryers  
Dishwashers  
Incinerating Toilets  
Ovens  
Ranges  
Water Heaters  
Oven Lighting  
Washing Machines  
Towel Heaters  
Water Heaters  
Space Heaters  
Small Appliances*



## HVAC & COMFORT

*Air Handlers  
Air Conditioner Condensers  
Anti-Condensation  
Boilers  
Coil Defrost  
Heat Pumps  
Spas & Hot Tubs  
Steam Generators  
Swimming Pools  
Radiators & Wall Furnaces  
Fireplaces  
Floor Heating*



## FOODSERVICE EQUIPMENT

*Cook Tops  
Combi Ovens  
Convection Ovens  
Coffee Machines  
Dishwashers  
Fryers  
Rapid Cook Ovens  
Ranges  
Toasters  
Warmers  
Water Heaters  
Proofer Ovens  
Griddles*



## REFRIGERATION

*Evaporators  
Household Refrigerators  
Ice Makers  
Refrigerated Display Cases  
Walk-in Freezers  
Walk-in Coolers  
Industrial Refrigeration  
Refrigerated Transport*



## SCIENTIFIC & MEDICAL

*Chromatographs  
Furnaces  
Sterilizers  
Incubators  
Hydrotherapy Baths  
Ovens  
Kidney Dialysis  
Respirators  
Water Distillers  
Fluid Analyzers  
Hot Plates*



## TRANSPORTATION

*Battery Heaters  
Engine Heaters  
Fuel & Fluid Warming  
RV & Off-Road Vehicles  
Seat Heaters  
Side Mirror Heaters  
Wiper Heaters  
Railway Rolling Stock  
Railway Defrosting Systems*



## MANUFACTURING & PROCESSING

*Packaging Equipment  
Furnaces & Ovens  
Die Castings  
Oil & Gas Processing  
Plastic Extruders  
Plastics Injection Molding  
Plastics Thermoforming  
Plastics Blow Molders  
Metal Processing  
Assembly Equipment  
Petrochemical Processing*



## ENERGY & ADVANCED TECH

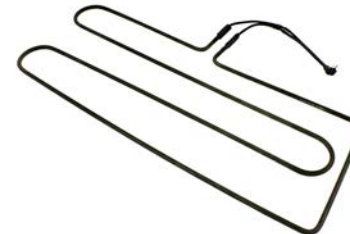
*Solar Panel Systems  
Wind Turbines  
Satellites  
Aircrafts  
Space Vehicles  
Semiconductor Mfg. Equipment  
Electric Power Generation*

# HOME APPLIANCE



Home appliances consist of essential items that often go unnoticed in everyday life; however, without reliable electric heating elements, many basic household tasks would be impossible. Backer North America understands the importance of providing your customers with a highly reliability product at a competitive price.

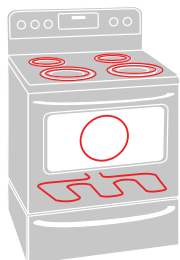
All of our products undergo rigorous testing and quality inspections in order to meet and exceed all customer expectations. Our high customer satisfaction ratings reflect our ability to exceed expectations in our collaborative engineering and design service, on-time deliveries, and ppm/reliability performance.



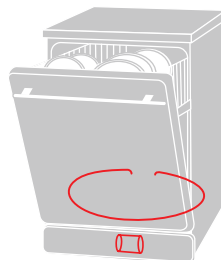
As the company to introduce the world's first metal-sheathed heating element in 1915 and the largest provider for all the major OEMs and Aftermarket Groups around the world, we focus on producing the safest and most reliable heating elements at the best value on the market today.

*Backer is the global leader in tubular elements for White Goods. Our surface elements provide the highest performing and safest solution on the market.*

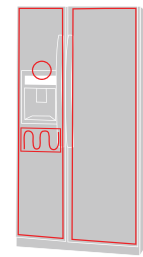
## ELECTRIC RANGE/OVEN



## DISHWASHER



## REFRIGERATOR



## WATER HEATER



Backer North America has a thorough understanding of the Home Appliance market and prides itself on remaining the largest provider of the most reliable heating elements at the best value available.

## APPLICATIONS

### NORTH AMERICA

*Clothes Dryers*  
*Dishwashers*  
*Incinerating Toilets*  
*Ovens*  
*Ranges*  
*Water Heaters*  
*Oven Lighting*  
*Washing Machines*

### GLOBAL

*Towel Heaters*  
*Water Heaters*  
*Space Heaters*  
*Small Appliances*

## PRODUCT CATEGORIES

*Tubular*  
*Flanged Immersion*  
*Screwplug Immersion*  
*Aluminum Foil*  
*Heater Wire*  
*Open Coil*  
*Oven Lights*

*Silicone Pad Heaters*  
*Flow-Thru*  
*Finned Tubular*  
*PTC Heaters*

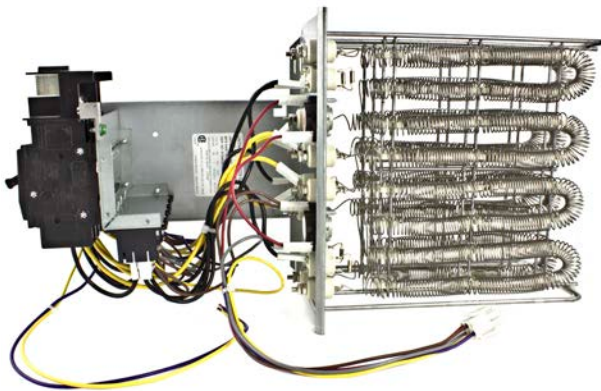


# HVAC & COMFORT



In the sweltering heat of summer, the frigid temperatures of winter, and everything between, HVAC systems are an important comfort factor for any home or business. Backer North America is the industry leader serving all major HVAC OEMs. We have the most efficient, patented Open Coil and Crankcase heater technologies.

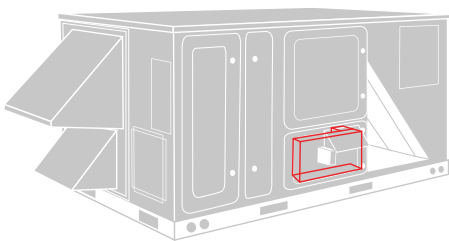
Our in-house engineering and Safety Agency-recognized testing capabilities allow us to develop the highest quality heating components and assemblies to be integrated into all major brands of heat pumps, compressors, space heating products, and HVAC systems.



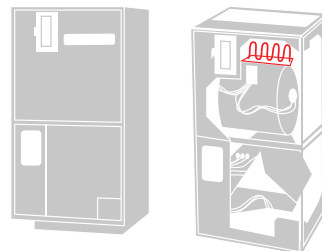
Through our advanced comprehensive testing and computerized design capabilities, we are able to enhance your system performance and surpass all HVAC industry standards.

*The most important HVAC companies in the world rely on Backer open coil heaters for their air handlers.*

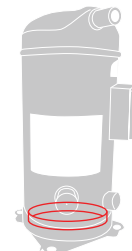
## COMMERCIAL HVAC



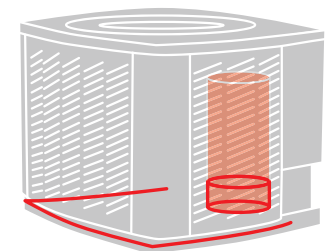
## AIR HANDLER



## COMPRESSOR



## RESIDENTIAL CONDENSING UNIT



**Backer North America's in-house engineering and UL recognized testing capabilities allow us to develop the most effective, patented Open Coil and Crankcase heater technologies for HVAC systems.**

## **APPLICATIONS**

### **NORTH AMERICA**

*Air Handlers  
Air Conditioner  
Condensers  
Anti-Condensation  
Boilers  
Coil Defrost  
Heat Pumps  
Spas & Hot Tubs  
Steam Generators  
Swimming Pools*

### **GLOBAL**

*Radiators & Wall  
Furnaces  
Fireplaces  
Floor Heating*

## **PRODUCT CATEGORIES**

*Open Coil  
Crankcase Heaters  
Tubular  
Finned Tubular  
Flanged Immersion  
Screwplug Immersion*

*Heater Wire  
Cartridge Heaters*



# FOODSERVICE EQUIPMENT



Whether you are developing appliances for a five-star restaurant or your local elementary school, your customers demand the most technically advanced and reliable product available. Backer North America is the heating expert to the Foodservice industry with the most comprehensive engineering, design, and testing capabilities.

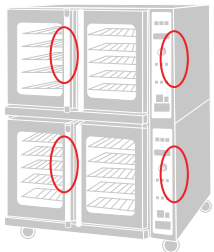
Great pride is taken to produce the most reliable Flexible Silicone, Strip, Immersion, Tubular, and Flat Tubular heaters, as well as oven lights to surpass all food equipment standards.



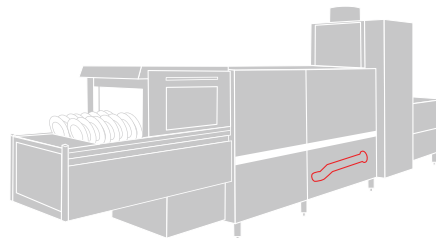
From prototype development to testing and production, we work closely with all major foodservice equipment OEMs to customize solutions throughout every step to ensure that our UL certified electric heaters deliver the most consistent, dependable, and effective heat for the highest quality foodservice equipment possible.

*Backer engineers can thermally model our customer's oven cavity to design the optimum heater for performance and longevity.*

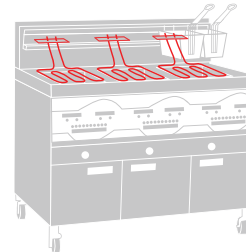
## COMMERCIAL OVEN



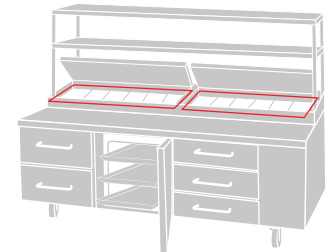
## COMMERCIAL DISHWASHER



## COMMERCIAL FRYER



## HOT PREPARATION TABLE



**Backer North America provides customized solutions with our UL certified heaters to help our customers provide the highest quality and most efficient foodservice equipment possible.**

## **APPLICATIONS**

### **NORTH AMERICA**

*Cook Tops*

*Combi Ovens*

*Convection Ovens*

*Coffee Machines*

*Dishwashers*

*Fryers*

*Rapid Cook Ovens*

*Ranges*

*Toasters*

*Warmers*

*Water Heaters*

*Proofer Ovens*

*Griddles*

## **PRODUCT CATEGORIES**

*Oven Lights*

*Tubular*

*Silicone Flexible Heaters*

*Aluminum Foil*

*Open Coil*

*Flanged Immersion*

*Screwplug Immersion*

*Cartridge Heaters*

*Strip Heaters*

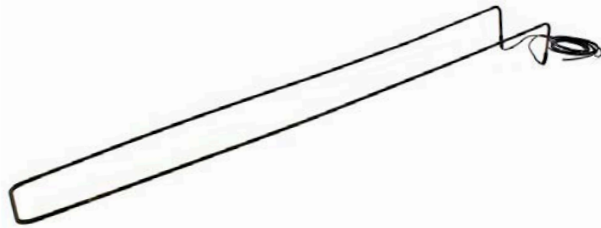




# REFRIGERATION & DEFROST

Refrigeration and defrost applications are essential in all climates. We dedicate our engineering expertise and technical knowledge to produce the safest and most reliable Crankcase heaters, moisture-resistant sealed Tubular heaters, Flexible heaters, and Heating Cable assemblies to be used in drain pans and entry-way door applications for all the most trusted OEMs.

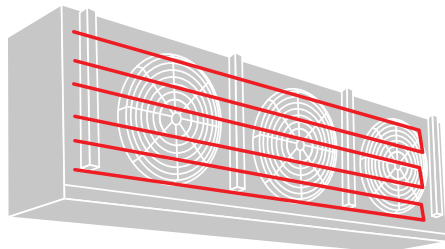
Our team of engineers possess incomparable knowledge of the refrigeration industry and apply it throughout all stages of production—from design to delivery. With the aid of the most advanced technology available, we have maintained a leadership position in the industry for over 50 years.



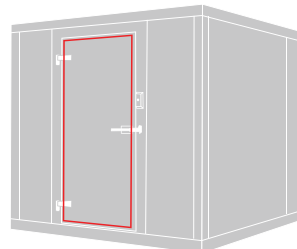
All of our defrosting and refrigeration technology is specially designed to meet all customers' specifications and industry efficiency standards now and in the future.

*Backer's proprietary end-seal technology ensures exceptionally long life to our defrost heaters.*

## COOLER UNIT



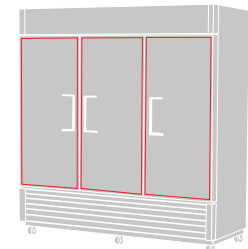
## COMMERCIAL WALK-IN COOLER



## REFRIGERATED DISPLAY CASE



## COMMERCIAL REFRIGERATOR



Backer North America is the global leader in heating elements for the Refrigeration industry. Our products are specially designed to meet our customers' performance requirements and to exceed industry efficiency standards.

## APPLICATIONS

### NORTH AMERICA

*Evaporators*

*Household Refrigerators*

*Ice Makers*

*Refrigerated Display*

*Cases*

*Walk-in Freezers*

*Walk-in Coolers*

### GLOBAL

*Industrial Refrigeration*

*Refrigerated Transport*

## PRODUCT CATEGORIES

*PTC Heaters*

*PVC Heater Wire*

*Silicone Heater Wire*

*Aluminum Braided*

*Heater Wire*

*Aluminum Foil*

*Tubular*

*Cartridge Heaters*

*Finned Tubular*

*Flanged Immersion*

*Crankcase Heaters*

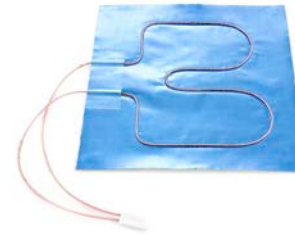
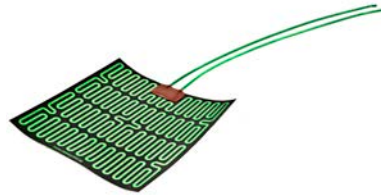


# SCIENTIFIC & MEDICAL



Science and medicine revolve around being able to achieve consistent and repeatable results—accuracy is paramount.

Within the medical field where human lives are involved, safe, precise, and reliable heating equipment is imperative to patient care. In a laboratory setting, experimental testing depends heavily on consistent heating solutions in order to provide reproducible and accurate results.

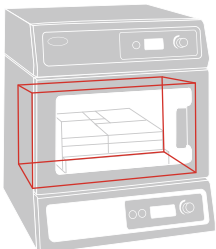


Backer North America understands the industry challenges and is eager to engineer a heating solution for any conventional or special heating application that meets the strict, technical requirements for your scientific and medical needs.

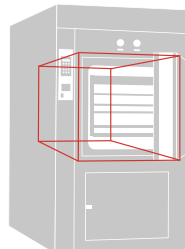
*Plastic molders all over the world rely on Backer's hi-watt density cartridge heaters because they perform better and last longer.*

We are responsive partners that strive to employ our experienced engineering capabilities and extensive manufacturing technologies to deliver state-of-the-art thermal solutions.

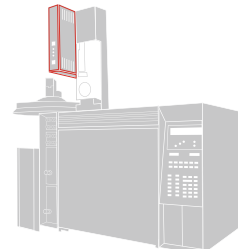
## INCUBATOR



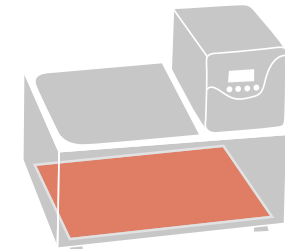
## STERILIZER



## CHROMATOGRAPH



## CIRCULATING BATH



Backer North America is a responsive partner employing our experienced engineering capabilities and manufacturing technologies to deliver state-of-the-art thermal solutions for the scientific and medical markets.

## APPLICATIONS

### NORTH AMERICA

*Chromatographs*

*Furnaces*

*Sterilizers*

*Incubators*

*Hydrotherapy Baths*

*Ovens*

### GLOBAL

*Kidney Dialysis*

*Respirators*

*Water Distillers*

*Fluid Analyzers*

*Hot Plates*

## PRODUCT CATEGORIES

*Silicone Flexible Heaters*

*Thick Film*

*Tubular*

*Aluminum Foil*

*Open Coil*

*Heater Wire*



# TRANSPORTATION



With technical capabilities that have been serving the transportation industry for over 60 years, we combine our local engineering support with our strong focus on sustainable energy solutions to produce our innovative thermal components and systems.

Globally, we are one of the largest suppliers of heating technologies for locomotive crew and cab compartments, railway tracks, and switch points.

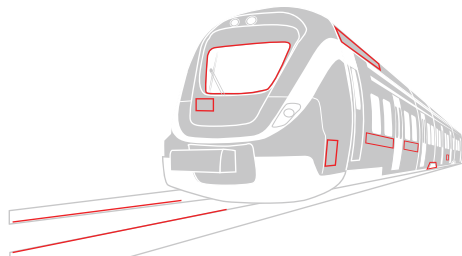
We also specialize in a complete line of heating products for the passenger car, heavy truck, commercial and diesel vehicles, as well as mass transportation markets.



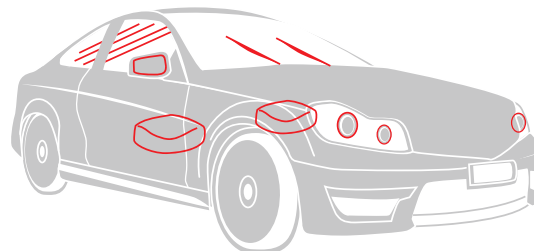
You can trust that Backer North America technologies allow passengers to move safely and comfortably from one place to another.

*A major automotive OEM chose Backer's unique high temperature foil product to provide instant heat to a urea dispensing system.*

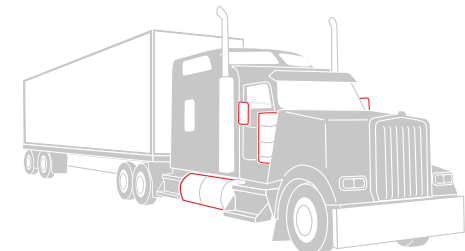
## RAILWAY SYSTEM



## PASSENGER VEHICLE



## SEMI TRUCK



Backer North America combines our local engineering support and sustainable energy solutions to produce innovative thermal components and systems that will move passengers comfortably and safely.

## APPLICATIONS

### NORTH AMERICA

*Battery Heaters*

*Engine Heaters*

*Fuel & Fluid Warming*

*RV & Off-Road Vehicles*

*Seat Heaters*

*Side Mirror Heaters*

### GLOBAL

*Wiper Heaters*

*Railway Rolling Stock*

*Railway Defrosting*

*Systems*

## PRODUCT CATEGORIES

*Silicone Flexible Heaters*

*Flat Heaters*

*Tubular*

*Flanged Immersion*

*Screwplug Immersion*

*Cartridge Heaters*

*Polyester*

*Band Heaters*

*Sensors*

*Controls*



# MANUFACTURING & PROCESSING



Process manufacturers and other heavy industrial companies around the world rely on heating solutions from Backer to achieve productivity and efficiency targets. In order to produce the most durable and dependable industrial equipment, we focus on applying our unique knowledge, technologies, and collaborative project management to achieve unparalleled thermal solutions that meet your specific application needs.

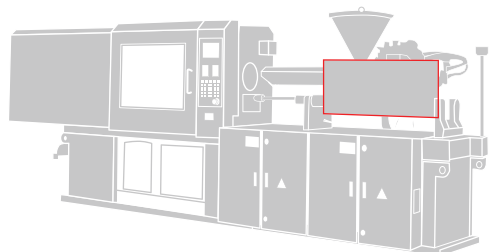
Demonstratively, in the plastic industry we offer the most comprehensive line of stock and customized Cartridge and Band heaters for blow molders, extruders, hot runners, injection molding machines, and plastic thermoforming to OEM machine builders and plastic processors.



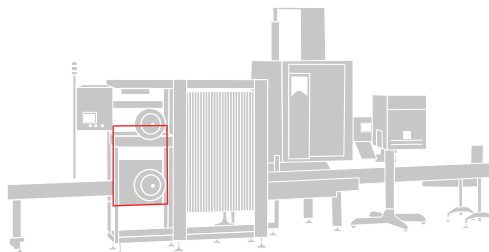
*Backer Marathon's rugged Starflex products are the longest lasting band heaters on the market.*

Our world-class manufacturing facilities boast modern production equipment and a fully-integrated process to produce the highest quality heating component technologies in the shortest possible turnaround time.

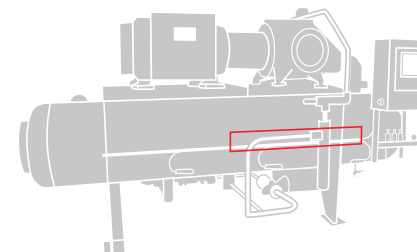
## PLASTIC INJECTION MOLDING



## PACKAGING EQUIPMENT



## INDUSTRIAL REFRIGERATION



**Backer North America focuses on applying our unique knowledge and collaborative project management to deliver the highest quality heating component technologies in the shortest possible turnaround time.**

## **APPLICATIONS**

### **NORTH AMERICA**

*Packaging Equipment*

*Furnaces & Ovens*

*Die Castings*

*Oil & Gas Processing*

*Plastics Extruders*

*Plastics Injection*

*Molding*

*Plastics Thermoforming*

### **GLOBAL**

*Plastics Blow Molders*

*Metal Processing*

*Assembly Equipment*

*Petrochemical*

*Processing*

## **PRODUCT CATEGORIES**

*Ceramic Band*

*Mica Band*

*Nozzle*

*Strip Heaters*

*Tubular*

*Flanged Immersion*

*Screwplug Immersion*

*Cartridge Heaters*

*Circulation*



# ENERGY & ADVANCED TECH



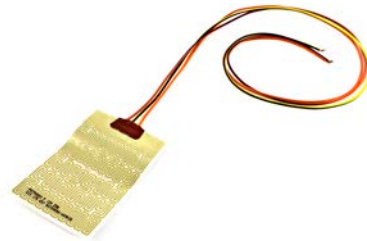
We understand the challenges faced by many energy and advanced technology companies in finding a reliable solution across a broad range of applications.

Backer's Engineering Team will utilize many different technologies, including Flexible, Thick-Film, Immersion, Duct and Cartridge, as well as Sensors and Controls to deliver the highest quality solution that will increase your process efficiency.

It is important to us that we implement a fully-integrated and responsive engineering design process to produce the most efficient and sustainable solutions.

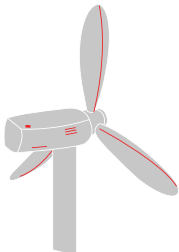


*Backer's stainless steel finned heaters are used to reliably heat control panels in the most extreme environments.*

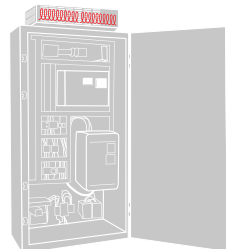


Our front-end engineering and design service can improve your system performance with our innovative thermal technology solutions. We focus on optimizing sustainable innovations for conventional and renewable power generation to meet the increased demand of government and environmental regulations and contribute to providing a healthier future for you and your family.

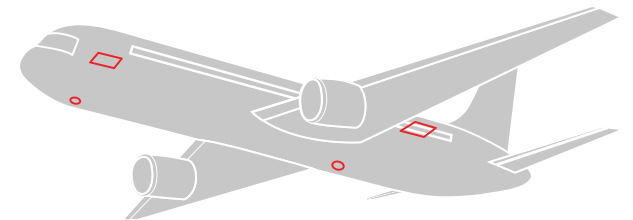
## WIND TURBINES



## BRAKING RESISTORS



## AEROSPACE



**Backer North America's front-end engineering and design service produces innovative thermal technology solutions guaranteed to increase your process efficiency.**

## **APPLICATIONS**

### **GLOBAL**

*Solar Panel Systems*

*Wind Turbines*

*Satellites*

*Aircrafts*

*Space Vehicles*

*Semiconductor Manufacturing Equipment*

*Electric Power Generation*

## **PRODUCT CATEGORIES**

*Silicone Flexible Heaters*

*Resisters*

*Thick Film*

*Cartridge Heaters*

*Polymide*

*Mylar*

*Polyester*

*Carbon Fiber*

*Teflon*



# ENGINEERING DESIGN & TESTING



**Our expertise guarantees the highest quality heating technologies.**

Our U.S. based engineering team provides tailored solutions through comprehensive design and testing to meet and surpass all of your heating demands.

Through the utilization of our in-house engineering and software tools, we help you to prototype new products and systems to produce innovative and practical designs within the shortest possible timeframe.

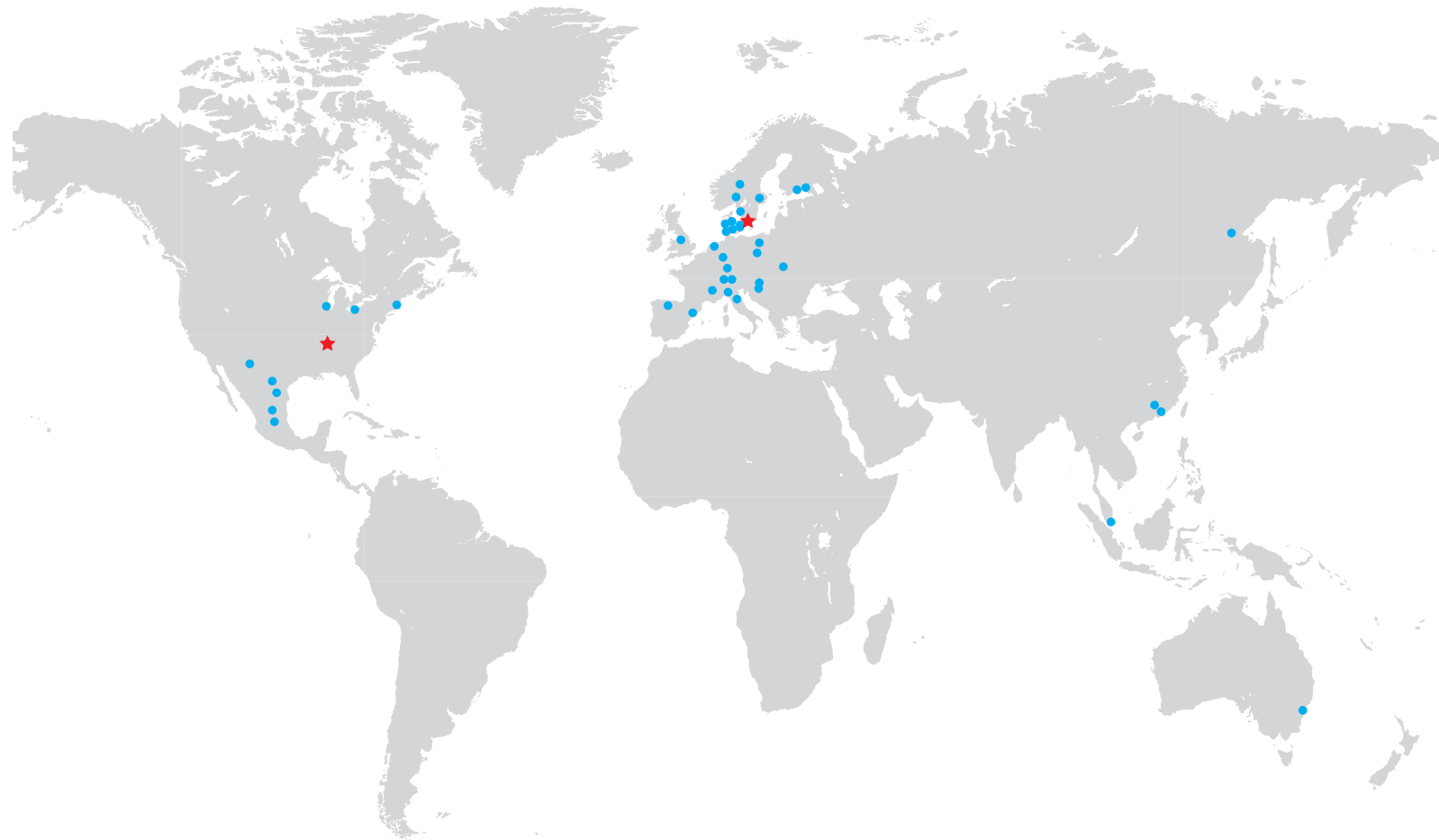
- Application expertise
- Heating technology selection
- Materials selection
- Heat transfer design using the latest software
- Feasibility and detailed design of process loads and systems
- Mechanical and electrical design
- Project engineering management
- Humidity, electrical, stress, life cycle, and corrosion tests
- Die casting, stamping, precision tubing, and plastic injection capabilities
- Design for skids, assemblies, or packages

# BACKER GROUP & NIBE AB

**Backer Group is a division of the public Swedish company NIBE AB.**

Backer Group is division of the public Swedish company NIBE AB and is one of the largest electric heating solution providers in the world. With approximately USD \$1.5 billion in sales, 9,000 employees and 70 companies across four continents, NIBE has been growing and expanding steadily to become the global leader in heating technology since 1952.

Backer Group has manufacturing facilities and technical centers worldwide to provide immediate customer and engineering support to the local markets in each country.





# Backer North America

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## NUEVO LAREDO, MEXICO

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