



## LIFE SCIENCE SOLUTIONS

SAFETY · RELIABILITY · TEMPERATURE CONTROL

# BACKER HEATING TECHNOLOGIES INC.

EVERYDAY · EVERYWHERE

Our heating products together with our measurement and control devices offer our customers complete solutions. Our engineers will not only suggest solutions, they can also take part in and contribute to your product development by using our advanced technical tools and lab facilities. Our extensive experience and competence as well as our reliable quality and service guarantee your success. Our ambition is to not only be a supplier, but your preferred partner.

*Together we can make it happen!*

## MEMBER OF BACKER-GROUP

Backer develops, produces and sells customized solutions and components for electric heating, measurement and control. The original technology was stainless steel tubular elements. However, the constant growth of the Group, both organically and through acquisitions, has enabled the integration of several new technologies. Today the Group offers a far wider product range, with a vast number of technologies for several industry sectors and a large variety of applications.

## PRODUCTION LOCATIONS

- Backer HTI main office located in the US
- Engineering and sales support in Sweden
- Production facilities in Sweden, China, Poland, and Vietnam.



Customized solutions

## INDUSTRY SECTORS



AUTOMOTIVE



LIFE SCIENCE



RAILWAY



BATTERY



COMFORT



COMMERCIAL  
EQUIPMENT



# LIFE SCIENCE HEATING SOLUTIONS

## SAFETY · RELIABILITY · TEMPERATURE CONTROL

Backer supports many segments of the Life Science industry, offering a variety of heating options and processes. We believe new tools and equipment are an integral part of advancing the industry in making new scientific discoveries. Backer recognizes the importance of technological advancements and is currently developing and designing heating solutions that will work in the medical field. Our knowledge and expertise on heating products will allow us to produce a heater that can meet your heating specifications. Along with your specifications, we can also fit thermostats, temperature fuses and sensors of the thermo-element type, thermistors and resistance sensors directly onto the elements you are requesting. Which can also contribute to the assurance of reliable control.

### Typical applications

Magnetic stirrer

Autoclaves

Surgery beds

Fluid heaters (Infusion)

Dehumidifiers

DNA Analysis

Laboratory research equipment

Respirators

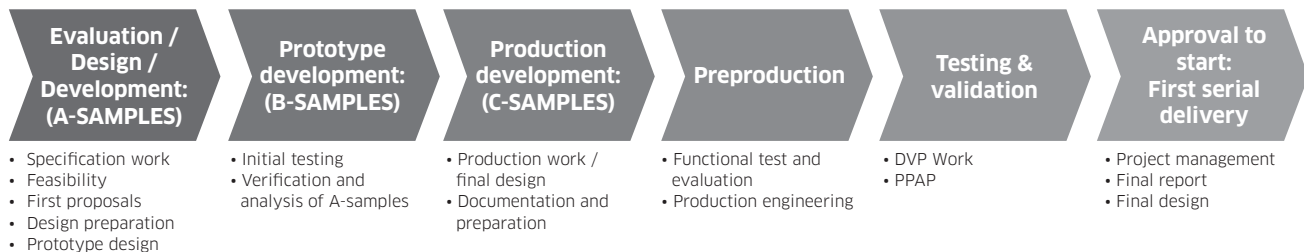
Sterilization equipment

Washing machines

Intelligent controls

## PRODUCT DEVELOPMENT

We work together in a gate model to make sure we reach target in cost and production SOP



## DVP PERFORMANCE TESTING

- To validate the design, we perform the test needed to fulfill specification
- Temperature profile (sensor and image)
- Resistance to climate and environment
- Electrical durability and resistance
- Specific customer requirements

## QUALITY

We strive to deliver the highest quality products combined with a flexible way of working. This permeates the whole process including sales, product development, manufacturing, customer service and logistics. Backer HTI delivers products that meet all relevant standards and tests, certifying products according to customer specifications. We are also able to carry out tests in modern labs, constantly improving our product performance and energy efficiency.

## CERTIFICATIONS

Backer is certified  
according to ISO 9001 · ISO 14001



Our facilities in China, Poland & Vietnam  
are certified according to ISO 14001,  
ISO 9001 and IATF 16949

Third-party approvals:

VDE / ETL / S / UL



### Innovations for the future

A partnership with Backer HTI gives you a dedicated team of designers, project engineers and technical experts in the fields of electric heating, measurement and control, ready to provide you with the optimal solutions for your needs.



# HEATING COMPONENTS

## FLEXIBLE FOIL ELEMENTS

### Flexible, lightweight and space-saving

Flexible elements, or foil elements, offer many advantages, beside the fact that the material is flexible. Examples include the ability to have multiple circuits or multiple voltages in the same element, or the ease of locating a sensor. Foil elements provide excellent thermal transfer where you need it most. They are used in thermal control design to protect components under cold-case environmental conditions or to make up for heat that is not dissipated. Foil elements are a space-saving, efficient alternative to applications where precise heat and maintaining exact temperature are important. They are supplied in various materials such as Polyimide, Polyester, Silicon, PTC and Mica.

### Benefits

- Thin, flexible & lightweight
- Customized shape
- Multiple temperature zones
- Efficient heat transmission
- Simple assembly
- Wide material selection

### Technical specifications

We offer standard products as well as fully customized solutions

Voltage: Up to 1000V

Power density: From 0 to 5W/cm<sup>2</sup>

Max temperature: 600°C



### Infusion bag heaters

The heater is integrated into the bag and together with our temperature controller, the infusion liquid maintains the required temperature.



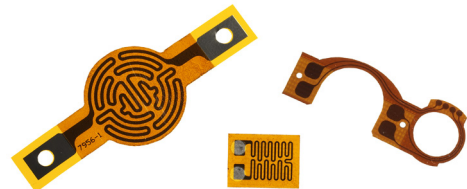
### Anesthesia heaters

We customize the heat so it is exactly in the right spot, for both temperature and range. Vaporizing moisture and keeping the right climate are important. By using a flex foil with an integrated controller, we can optimize and ensure proper functioning.



### Defibrillator heaters

Our heater automatically starts to heat the cabinet when the temperature drops below 10° C to ensure that it functions even in cold environments. The heater is also supplied with LED lights and an integrated temperature control.



### Heaters for Alcolocks & Inhalators

Our heaters allow exact humidity control. With flexible foil, we can customize heaters in different shapes and very small sizes to fit your application perfectly.



### **Surgery beds/Incubator heaters**

The operating table heater keeps the patient warm during an operation and the incubator heater warms newborns or premature babies and maintains a temperature of 37°C with the integrated temperature control.



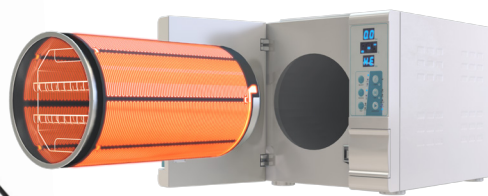
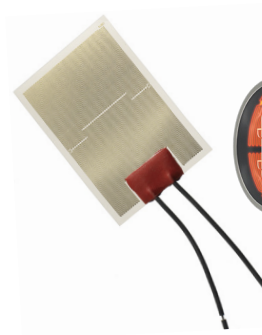
### **Packaging machine heaters**

Process control is important in a modern production line. We can supply reliable heating solutions for plastic and packaging machines and for other equipment.



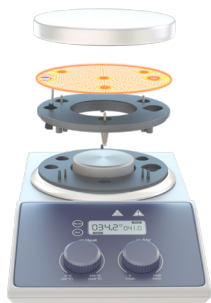
### **Test-tube heaters**

Heaters for applications that require small, exact and direct heat. Our heaters are good for applications that need the heater to route around tubes and have different power zones.



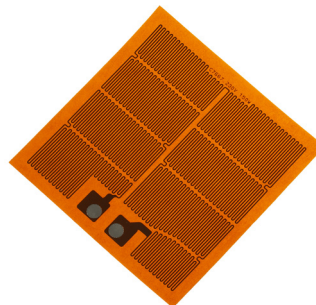
### **Autoclave heater**

Our flexible foil heaters can be used as booster heaters and for applications such as autoclaves and vaporizers. Our heaters prevent dripping from the top of the vessel and speed up the cycling time.



### **Magnetic stirrer heaters**

Our heaters are placed between the metal plates and maintain an even temperature. The heater is customized to provide a reliable, quick heating time for the stir plate.



### **In vitro fertilization heaters**

Maintaining an exact temperature is critical. This can be achieved with a combination of foil heating and accurate temperature control.

# TEMPERATURE CONTROL

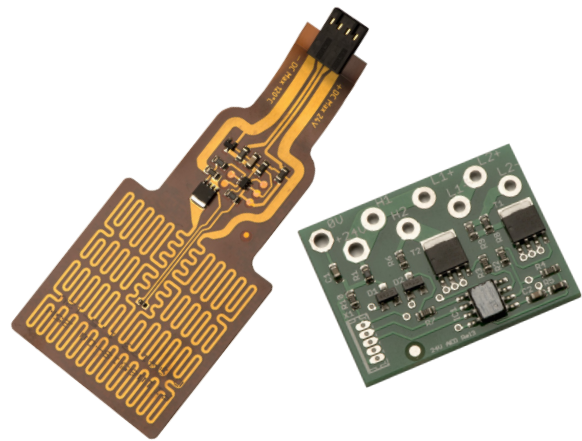
## ELECTRONIC CONTROL SYSTEMS

### Control and energy balance

Flexible foil heaters provide excellent thermal transfer where you need it most. Heaters are used in thermal control design to protect components under cold-case environmental conditions or to make up for heat that is not dissipated. It is usually necessary to arrange some form of control to ensure that the desired temperature is maintained; accurate temperature control is therefore needed. This can be achieved with electromechanical thermostats of bimetallic type when temperatures and surface ratings are low, while electronic thermostats are preferred when temperatures and surface loads are high. We can fit thermostats, temperature fuses and sensors of thermo element type, thermistors and resistance sensors directly to elements in accordance with customer specifications. This helps to ensure reliable control.

### Integrated control/smart heater

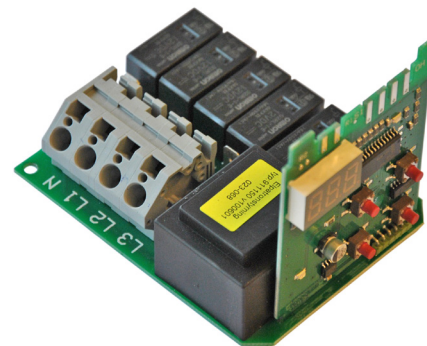
The demand for smart simple solutions creates new applications and we can offer solutions with integrated thermal controllers and sensors communicating through RS232, WiFi or Zigbee.



### Motorcontroller

- Soft Starter
- Soft Starter with brake
- Compressor Soft Starter

The P-Line range of Soft Starters covers a wide spectrum from 0.1 – 110 KW motors, making them ideal for a variety of Soft start/stop applications. The units incorporate an optional High Torque Kick start feature, the initial torque is adjustable by the user and the units offer fully adjustable start and stop ramp times.



### Inverters

We supply electronic control systems to meet the high demands of control and safety of the automotive heating devices. Our control systems are designed according to customer requirements and to ensure that safety and valid regulations are met.



# CUSTOMIZED SOLUTIONS

Customers often come to us with an idea about a new project/solution, a need for our expertise or because they want to enter a partnership with us. We are more than happy to share our facilities, vast experience and expertise at this initial stage. The earlier we are involved in a project, the more we can control the optimization of core issues, such as the choice of materials, components and technology, temperature control, energy consumption and sustainability, cost efficiency and compliance with all applicable norms, regulations and standards.







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