



HEATERS FOR MEDICAL DEVICES

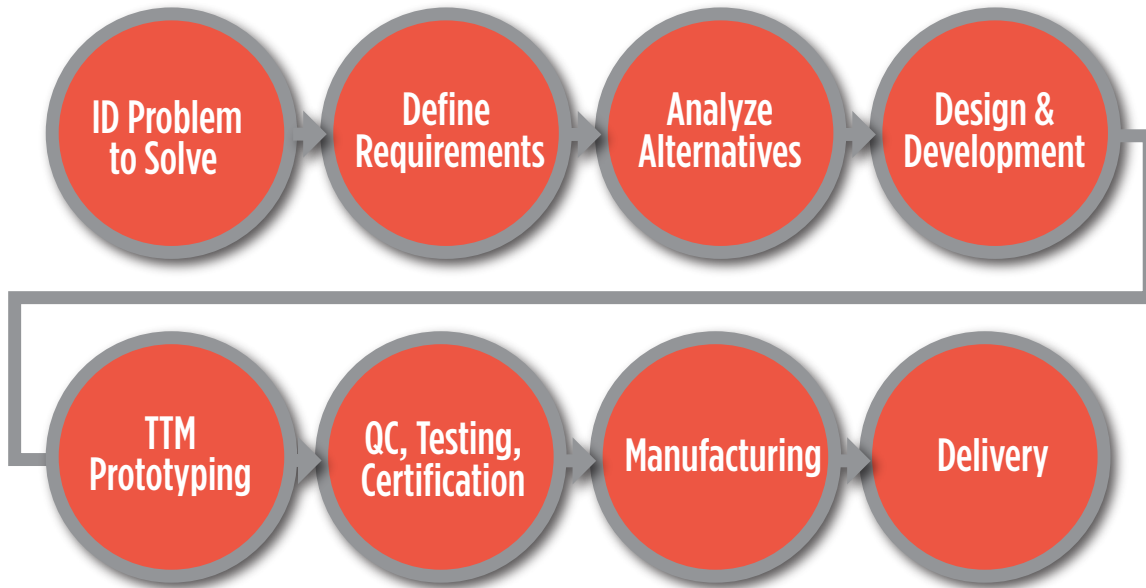
HEATERS FOR MEDICAL DEVICES

It's not an overstatement to say that lives depend on the work we do manufacturing heaters for OEMs in the medical device sector. Your standards are impeccable because positive patient outcomes rely on medical equipment performing optimally, which includes the precise measurement and regulation of temperature in items and processes that range from blood and fluid warming, insufflation and ablation devices, sterilization, patient comfort, and cell incubation for laboratories. Backer Hotwatt understands what's at stake and lives up to the standards required to be a partner in the medical device supply chain.

For almost 70 years, Backer Hotwatt has been working with engineers from the most important medical equipment manufacturers from all over the world. Precision heating, tight tolerances, and extreme reliability are all characteristics that need to be designed into solutions for these critical applications. You can be assured that Backer Hotwatt engineers will work in close collaboration with your team to meet all performance, physical, and regulatory requirements to ensure a successful product launch and commercialization.

WORKING TOGETHER WITH YOU

Product Development Process



We don't just make heaters, we solve problems. Customers come to us when they have a problem that needs solving. In the larger scheme of an application, we recognize that heaters can, literally, be a very small element of it. We also understand that reliable heat is the critical factor in any application working ... or failing. As such, our product development process (PDP) considers the entire ecosystem of each unique application and its usage. Solutions must encompass specifications, alternatives to status quo, quality and certification requirements, and design variables—all done in a timely manner to satisfy time-to-market (TTM) prototyping, production, and delivery.

Our capabilities are vast, and through our comprehensive PDP, we can handle any challenge. In fact, we often solve problems that others can't—or won't. You can be confident in our manufacturing skill and collaborative support: we are the biggest and the best supplier with the most comprehensive selection of heaters in the industry. We're here to help you design and manufacture the best heater for your crucial heat control requirements.

We can help you solve those tough engineering challenges presented by heating ever smaller spaces. Our patented high-temperature heaters give you the longer life, reliability, and uniform temperatures you need.

COMMITTED TO QUALITY AND VERSATILITY

Our team is committed and proud to manufacture quality products for the needs of our medical biotechnical industries. Backer Hotwatt is a major supplier for several processes used within medical devices and the medical supply industry. Our heating elements are used in blood, urine, and tissue analysis, ovens, incubators, water baths, hot plates, test tube heating, and cryogenics in labs, schools, and scientific equipment across the nation. We also have dry heat, disinfecting, and cleansing components that are used in the sanitization and sterilization of equipment and tools. As examples, cartridge heaters are used in ventilators and X-ray processing equipment. Plastic extruders and molders use cartridge, tubular, and flexible heaters to make medical-grade tubing, packaging, and many other components for the medical device and equipment industries.

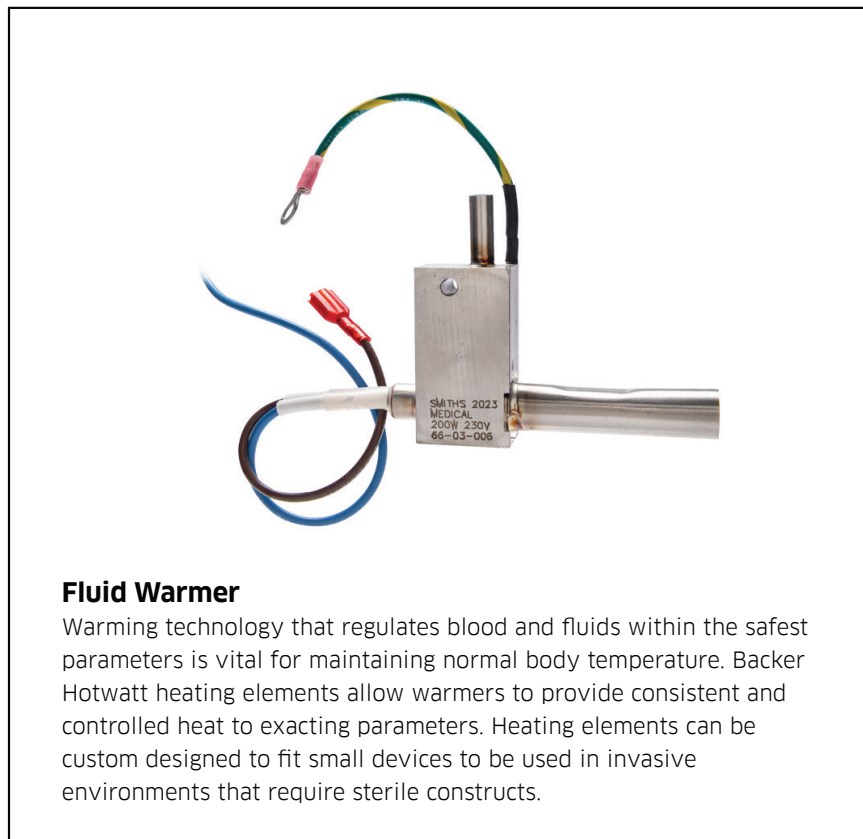


We'll take a closer look at some of the medical device heating applications we provide heating elements for. We build both standard and custom heaters—though note that the images shown here are unique designs and builds for custom heaters. There is a link in each section that will take you to the corresponding standard heaters generally used for the applications highlighted on this page. If you are looking for a custom solution, [contact us](#) to begin the discussion with an engineer.

Blood & Fluid Warming

Patients undergoing surgical or invasive procedures already face challenges, so keeping their blood and fluids within the safest parameters is vital for maintaining normal body temperature. Normothermic blood and fluid delivery performance helps prevent perioperative iatrogenic hypothermia, which is a preventable complication of surgical procedures. Even mild drops in patient body temperature can result in undesirable patient outcomes that can include surgical site infections, myocardial ischemia, lingering drug effects, bleeding diatheses, and an increase in morbidity, mortality, and expense.

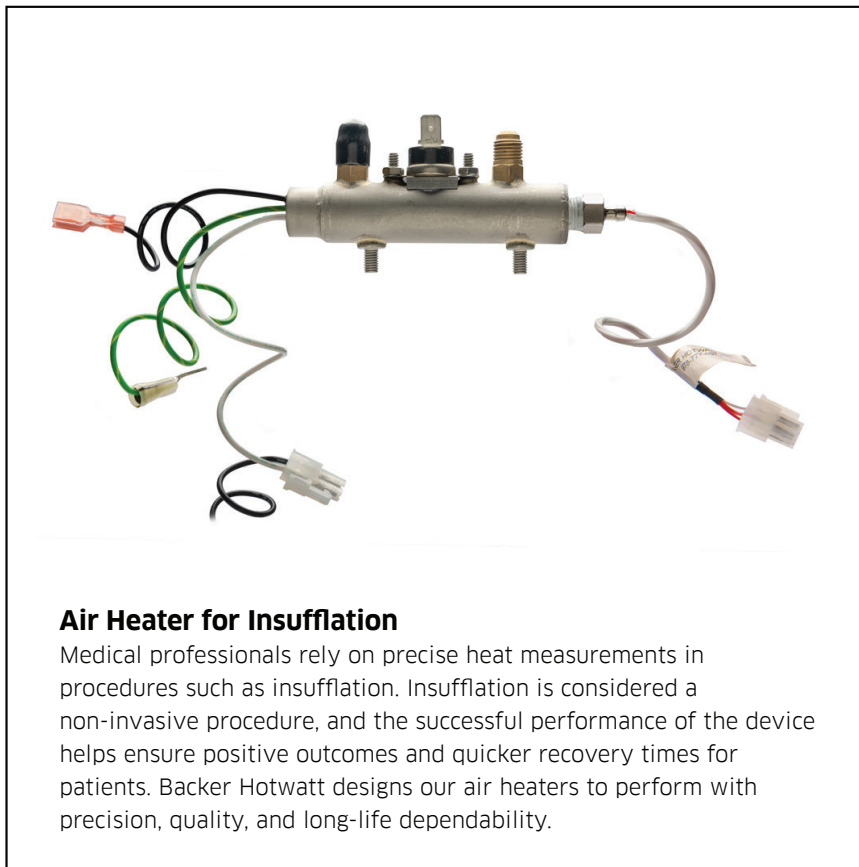
The application of warming technology is common in many major surgical sectors: cardiac, abdominal, orthopedic, and OBGYN. Backer Hotwatt heating elements allow warmers to provide consistent and controlled heat to exacting parameters. Heating elements can be custom designed to fit small devices to be used in invasive environments that require sterile constructs. Pumps are common in devices and designs, and while they differ, they all require that unwanted temperature fluctuations be eliminated. Customers who need to ensure safe, controlled blood and fluid heating rely on Backer Hotwatt's proven heating elements to provide dependable, regulated heating for their blood and fluid warming devices.



Our line of micro-circulation heaters can be found in [our catalog here](#). If you would like an engineer to contact you about a custom solution, tell us a little bit about your application [here](#). We guarantee a timely response.

Insufflation

Warming a gaseous substance, CO₂ for example, for minimally invasive insufflation procedures helps surgeons and clinicians provide optimal conditions during patient procedures, and results in faster procedures. Studies indicate it can reduce post-procedural pain and increase general patient comfort during the recuperation period. A Backer Hotwatt customer has reported that this can create a host of benefits for surgeons and patients, including improved cecal intubation results, greater small bowel intubation depths, and a marked decrease in nursing attention. Direct benefits to patients include more positive outcomes, such as less discomfort and bloating, quicker recovery times, and decreased gas distention.

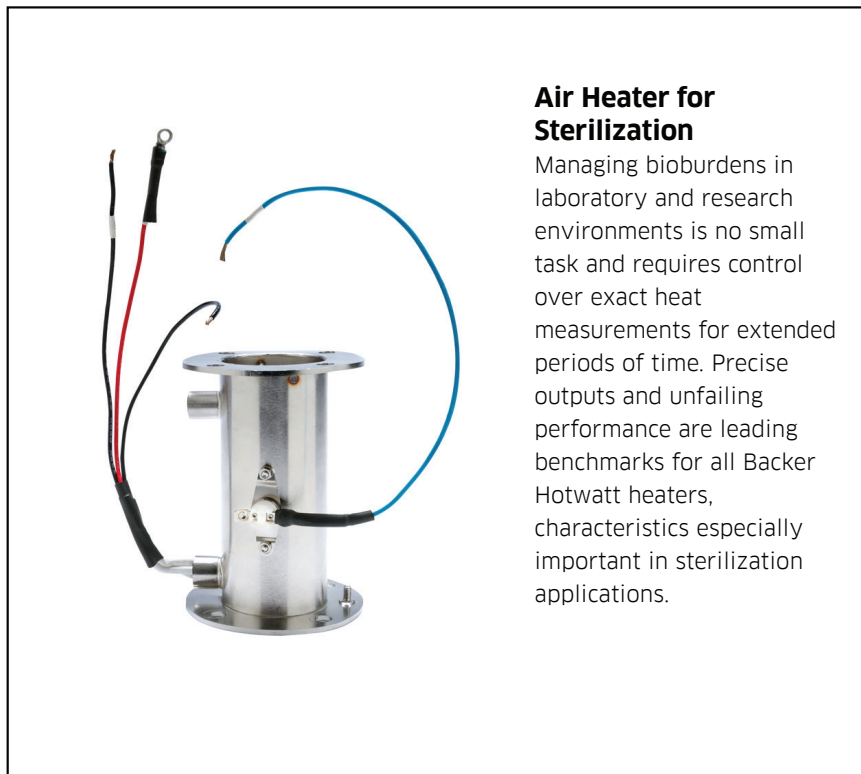


To explore our air heater product line, check out our [Air Process Heater catalog](#). If you would like to [contact an engineer](#) for a custom solution, tell us a little about your requirements here—we guarantee a timely response.

Sterilization

Sterilization and contamination control are at the heart of managing bioburden in laboratory and research environments, whether it is for animal research, bio safety labs, or general laboratory facilities. Bioburdens must be controlled to maintain the integrity of the scientific process. Proper sterilization protocols also vitally protect humans and animals from contamination from critical agents, hazardous pathogens, and cytotoxic materials. Biodecontamination systems need to be reliable, repeatable, and easily controlled for the necessary results.

Backer Hotwatt has extensive experience in helping customers outfit sterilization units with heating elements that perform at the desired outputs so they can continue to provide unfailing performance with their sterilization devices. These systems use patented, proven efficacy in sterilization methods and technology to completely decontaminate the surfaces in a room and hard-to-reach areas—including enclosed spaces, such as fume hoods, bio safety cabinets, or isolators.



Air Heater for Sterilization

Managing bioburdens in laboratory and research environments is no small task and requires control over exact heat measurements for extended periods of time. Precise outputs and unfailing performance are leading benchmarks for all Backer Hotwatt heaters, characteristics especially important in sterilization applications.

To explore our air heater product line, check out our [Air Heater catalog](#). If you would like to contact an engineer for a custom solution, tell us a little about your requirements [here](#)—we guarantee a timely response.

Endometrial Ablation

Because it requires no incisions, endometrial ablation is a common minimally invasion treatment for women with dysfunctional uterine bleeding. This procedure reduces risk of infection and allows for quicker recovery times. One ablation method involves the injection of warm saline solution with a slender tool into the uterus—the target temperature being 90 degrees Celsius, with fluctuations of several degrees during the treatment cycle. It is vital that medical professionals have the ability to control the temperature parameters during these treatments, and that the heating elements remain calibrated and functioning optimally. We know how important it is to manufacture heaters that perform exactly to specifications—because patients, ultimately, rely on the results.



Browse our fluid heater product line in our Immersion Heater catalog, found [here](#). If you would like to learn more about a custom solution, [click here](#) to contact an engineer and tell us a little more about your application. We guarantee a timely response.

Patient Comfort

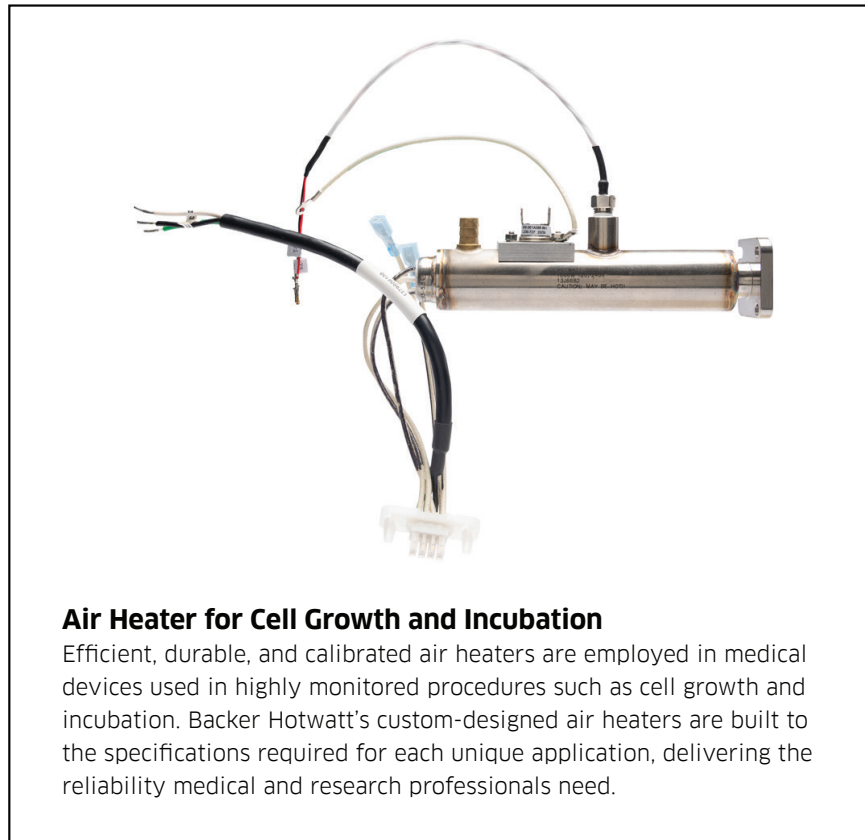
There are many medical device systems that help keep patients comfortable and prevent or treat hypothermia. More systems on the market today are also made in a modular fashion—for ease of use, compact design, adjustability, and portability. Most systems also work in conjunction with cooling processes, which makes having a reliable heater—and custom sizing in their design and function—that much more vital. Backer Hotwatt specializes in custom heaters for vast medical device applications, and we have designed and constructed multiple heaters for specific applications in warming devices for patient comfort.



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Cell Incubation

Creating an environment that optimizes conditions for growing cell cultures in laboratories is more important than ever. Labs also want ease of cleaning, superior quality, and flexibility in the lab area—think size and portability. Creating the perfect growth conditions requires exacting temperatures and the ability to regulate them. Repeatable high-temperature disinfection that holds heat parameters for extended hours of use is also vital to provide contamination protection. Heaters that we have manufactured for cell incubation systems do just this—helping to provide optimal growth conditions and maintain sterilized conditions, ensuring that subsequent cell incubation is untainted and remains within scientific protocols for reliable readings.



To explore our air heater product line, check out our [Air Heater catalog](#). If you would like to contact an engineer for a custom solution, tell us a little about your requirements [here](#)—we guarantee a timely response.

Crucial Heat Control

When it comes to controlling the environment of your application, heat and temperature are crucial to consider. Selecting the right heating element allows you to ensure the level of safety, allows you to attain optimal performance, and improves the overall efficiency of the heater's end use.

Whatever your design or engineering challenge is, Backer Hotwatt has the expertise and broad technology base to develop a customized and dependable product for your unique needs. Whether you are heating air, fluids, gases, or other surfaces, our engineers can develop a solution that helps your application function most efficiently.

Established in 1952, Backer Hotwatt, Inc. has been a trusted source of superior quality heating elements for OEMs in the medical, industrial, semiconductor, commercial, packaging, instrumentation, aviation, transportation, refrigeration/air conditioning, and military fields for almost 70 years. We're here to help you design and manufacture the best heater for your demanding and precise needs. How can we help you with your next heating project? [Contact us now.](#)



www.hotwatt.com

16A Electronics Ave
Danvers, Massachusetts 01923-1011

Tel: # (978) 777-0070
Fax: # (978) 774-2409