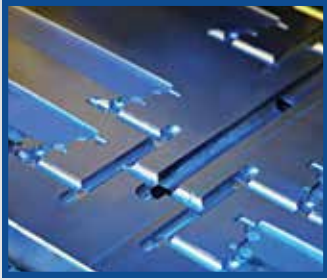


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**When heat is vital to your application, the right heater configured to your process is the most cost-effective improvement you can initiate.**



## Maximize Your Plastics Manufacturing Process Performance.

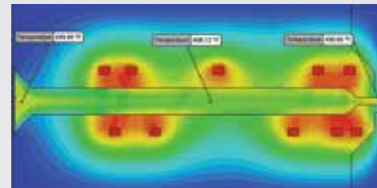
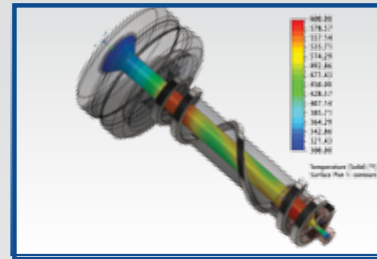


As a plastics manufacturer, you know that keeping your equipment running efficiently is critical to your bottom line. But sometimes the material is less forgiving, the profile of the nozzle is not quite right—and you need to improve the process to deliver the quality you stand

for with the efficiency needed to be competitive and profitable.

Nexthermal Engineering services can **thermally analyze** key process areas to identify where the problems exist, and help you turn a problem processes into a profitable program. Many times the resolution is relatively easy by simply identifying and selecting the right heater configuration for your application. Sometimes it needs thermal analysis to pinpoint the problem. Either way, the most expensive option is to live with it. If it is a thermal issue, Nexthermal will help you resolve the problem.

- Decrease cycle time and increase throughput
- Improve consistency and product quality
- Reduce maintenance costs and downtime
- Maximize process efficiency with Nexthermal's thermal analysis.
- Lower scrap rates
- Decrease down time
- Optimize an existing system to process a wider range of plastics



**This heater profile is representative of an optimized Nexthermal injection molding heater that successfully improved productivity.**

**Imagine what we can do when we combine our experiences and innovate together.**

When heat is essential to your application, you need a high performance system that is specifically engineered to support your core process needs. Nexthermal's engineering team can tap into their more than 50 years of combined heat management experience to design process-specific heaters

and assemblies designed to achieve your production goals. Nexthermal can:

- Increase OEM output with plug-n-play assemblies
- Improve end user efficiency and streamline production
- Optimize thermal transfer
- Thermally and mechanically model performance and function prior to prototyping
- Extend capabilities of existing equipment
- Incorporate design standards including GD&T, hygienic design, OSHA, and stress analysis
- Offer rapid in-house prototyping





### Flat Coil Heater

*Standard, Wind From Stock.*

Nexthermal coil heaters are the preferred choice of OEMs and are found as standard equipment in many Hot Runner Injection Molding machines manufactured in the USA, China, India and other countries.

- Bendable cold section.
- Wind-from-stock available to ship same day in heated lengths ranging from 10.5 inches up to 86.6 inches.
- Comes standard with 40-inch Teflon® leads. Other lead protection options available are fiberglass, braided metal, iron, copper, nickel or flexible armor cable sleeving.



### Mini Coil Heater

*Reduced Space Claim. Precise heat.*

Nexthermal's mini coil heaters are engineered for plastic applications, featuring a precisely-wound resistance wire that maximizes watt density capabilities.

- Extremely flexible cold section.
- Pressed on sheath is 20% more efficient than other mini coil heaters in most injection molding applications. Designed for temperatures exceeding 600° F.
- Moisture resistant transition head is ideal for high humidity applications and protecting against oil and contaminants.
- Option to integrate external J or K thermocouple.

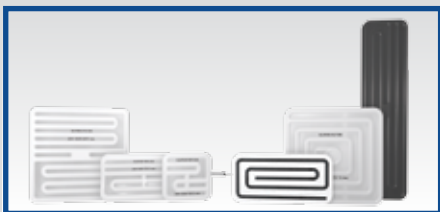


### Nextflex® Flexible Tubular Heater

*User Formable. Same Day Shipping.*

Nextflex is engineered with a flexible solid casing that stays in the groove, yet is easy to install and is conveniently marked at the center and cold sections. Shipped in straight lengths, Nextflex is an ideal heater choice for injection molding companies with lean manufacturing initiatives.

- For operating temperatures up to 700° F
- In stock and ready to ship in 6.5mm, 8.0mm and 8.5mm heater sizes
- Comes standard with screw terminal tip, but also available with Plug-n-Heat connection, spade terminal or lead wire with fiberglass sleeve tip



### Elstein Ceramic Infrared Radiators –

*For thermoforming and vacuum forming.*

Elstein electric Infrared Radiant heaters feature an embedded heating coil, offering a long life of dependable service. Due to an integrated thermocouple, these heaters can be controlled with an accuracy of +/-

1°C. Easily configurable to many application requirements, they are available in a wide selection of sizes, wattages and operating voltages. Their simple fastening system allows for easy mounting or replacement.

- Moisture and splash resistant.
- For clean rooms requiring class 100 or better.
- Emits non-visible infrared radiation between 2 - 10  $\mu$ m.



### Constrictor Thermal Retainer –

*For optimal coil heater thermal transfer.*

Keep your coil heaters pressed firmly about injection molding nozzles for ideal heat transfer and accurate thermocouple reading. Tip temperatures measure over 100° F hotter compared to open coil. 0.5" - 5.5" in stock. Custom sizes available.



### Axial Clamp Mini Coil Heater

*Easy to Install.  
Optimized Performance.*

#### Axial Clamp

Mini Coil heaters are designed to positively clamp the heater against a hot runner nozzle.

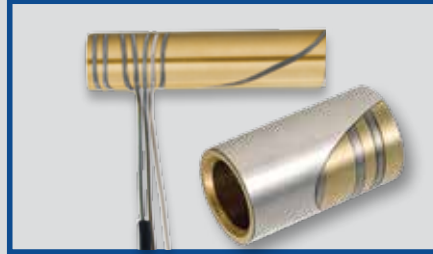
- Positive clamping force on hot runner nozzles
- Axial design suited for front load heater assembly
- Uniform heating in flow channel through precise winding pattern
- Unique five-piece clamping design engineered for best clamping mechanism
- Easy installation and removal with an Allen wrench
- $\pm 2\%$  wattage tolerance allows one thermocouple to control multiple heaters



### Hotlock — No Tools Required.

Installation is fast and easy with Hotlock. Its unique locking mechanism

and innovative design maximizes high cavitation injection molding performance, positively locking the positioning ring and machined components. With a simple twist of the end cap ring, the heater is secured into position on the nozzle. Nickel coated inside diameter makes removal quick and simple. Fine pitched threads deliver more heat toward the tip and smaller net outer diameter allows for closer drops. The increased tip temperature allows you to use higher wear resistive materials than Beryllium copper tips.



### Coil Heater Pressed in Brass

*Durable Design. Reliable Performance.*

Traditionally made as "cast in brass," Nexthermal's pressed in brass heater has an 8% faster response and extended thermocouple life. The machined path enables exact repeatability of the

heat profile and a more precise thermocouple placement. Ideal for engineering grade applications.



### Thermocouples

*Dependable Internal & External Sensors.*

Our thermocouples are specifically engineered with precise tip placement for faster, more accurate temperature sensing and can be

custom built to your specific size and length requirements. The high thermal conductive filling provides proper thermal conductivity with the sheath for quicker response time to temperature changes. Designed for moisture-resistance applications.



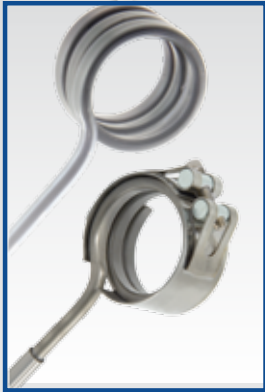
### Swaged Cartridge Heaters

*Improved Performance & Heater Life.*

All Nexthermal cartridge heaters are machine wound and swaged (highly compacted), ensuring precise, durable heat. The compaction created during swaging provides a dense thermal mass for

the resistance wire, which greatly improves performance and extends heater life over loose-fill cartridge heaters. Available with optional Type J or K internal thermocouple.





## Maxi Coil Heater

*Engineered for maximum service life.*

Nexthermal's Maxi Coil heater is designed to handle high temperature applications and challenging environments. Engineered to carry a higher watt density, Maxi Coil heaters are an alternative to MI band. Maxi Coil heaters are optimized for your application to improve cycle time, response rate, precision and durability.

- 4.6 x 8.6 profile
- Available with optional thermocouple
- Maxi Coil can be incorporated into sealed inside ID/OD assemblies
- Tightens too a nozzle with a clamping strap
- Available with optional 480V

## Nexthermal's Proven Plastic Applications Expertise

### Injection Molding Hot Runner Systems

Nexthermal has extensive thermal profiling experience in the injection molding industry. Our coil heaters offer the best-in-class performance when specifically engineered for your injection molding nozzle. And our Nextflex flexible tubular heaters provide optimal heat transfer with fast, easy installation in manifolds.

### Packaging

Nexthermal cartridge heaters and coil heaters are used extensively in the OEM and end-user packaging machine environment, and we have partnered with many packaging OEMs to optimize heat profiles on packaging jaws for optimum seal and speed. Nexthermal heaters are an ideal solution for environments high movement and high moisture environments.

### Plastic Extrusion

Removal of a heater from aluminum or brass bores – which are commonly used in extrusion, screen changers, lip dies, sheet extrusion, and profiled extrusion – has often proved a difficult process to extract from bores. Our proven anti-seize cartridge heaters are engineered to be much easier to remove, making them an excellent choice for use in challenging plastic extrusion applications.

### Thermoforming

Nexthermal offers a variety of heaters designed to optimize the thermoforming process, featuring our coil heaters, cartridge heaters Elstein Infrared Radiators, and Nextflex flexible tubular heaters. When we combine our thermal expertise with your application experience, we can design the right heater to optimize your process and achieve your productivity improvement goals.

### Additive Manufacturing

When temperature ranges vary greatly from filament to filament, 3D printers require heaters that can handle these variations with tight thermal profiling. Nexthermal has the right coil and cartridge heaters for the job, featuring nozzle assemblies designed specifically for the growing challenges of 3D Printers and Additive Manufacturers.



# Nexthermal World Headquarters

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Improved effectiveness and life of electric vehicle batteries.

Participated in the 2010 Olympics testing for controlled substances and creating snow.

Enabled mass spectrometry systems to detect parts per billion.

Extended the capabilities of existing hot runner injection molding designs and assist new product development.

Designed assemblies to improve food production cycle time, hygienic design and capacity.

Helped make disease detection of Malaria, Bird flu, and more than 2,000 other diseases faster, more affordable and portable.

Created energy savings opportunities for food production companies.

**nexthermal**

*Imagine what we can do when we  
combine our experiences and innovate together.*

