Zoppas Industries
Heating Element Technologies

WORLDWIDE LOCAL SUPPLIER

Partnering with RICA:

- Rica is a fully integrated global manufacturer that specializes in heating element and assembly design.
- Rica has a global presence through design and manufacturing facilities across Europe, North America, South America and China.
- All Rica thermal solutions are custom-designed for optimal performance and for the customer's specific requirements.
- Rica has more than 20 years of experience in designing and manufacturing heating solutions for the medical market. With this know-how, Rica can become the design arm of your organization.
- Rica has achieved many quality product certificates such as UL, VDE, ESA and maintains the quality Management System BS EN ISO 9001:2008.
- Rica has in-house design and analytical capabilities such CAD 3D, FEA, QFD and FMEA.

● Headquarters

● Manufacturing facilities

9191.IRCR

FM 11235

The compliance with the mark of each specific product must be properly verified together with our Sales Deparment

cod. 690947550 - 1110

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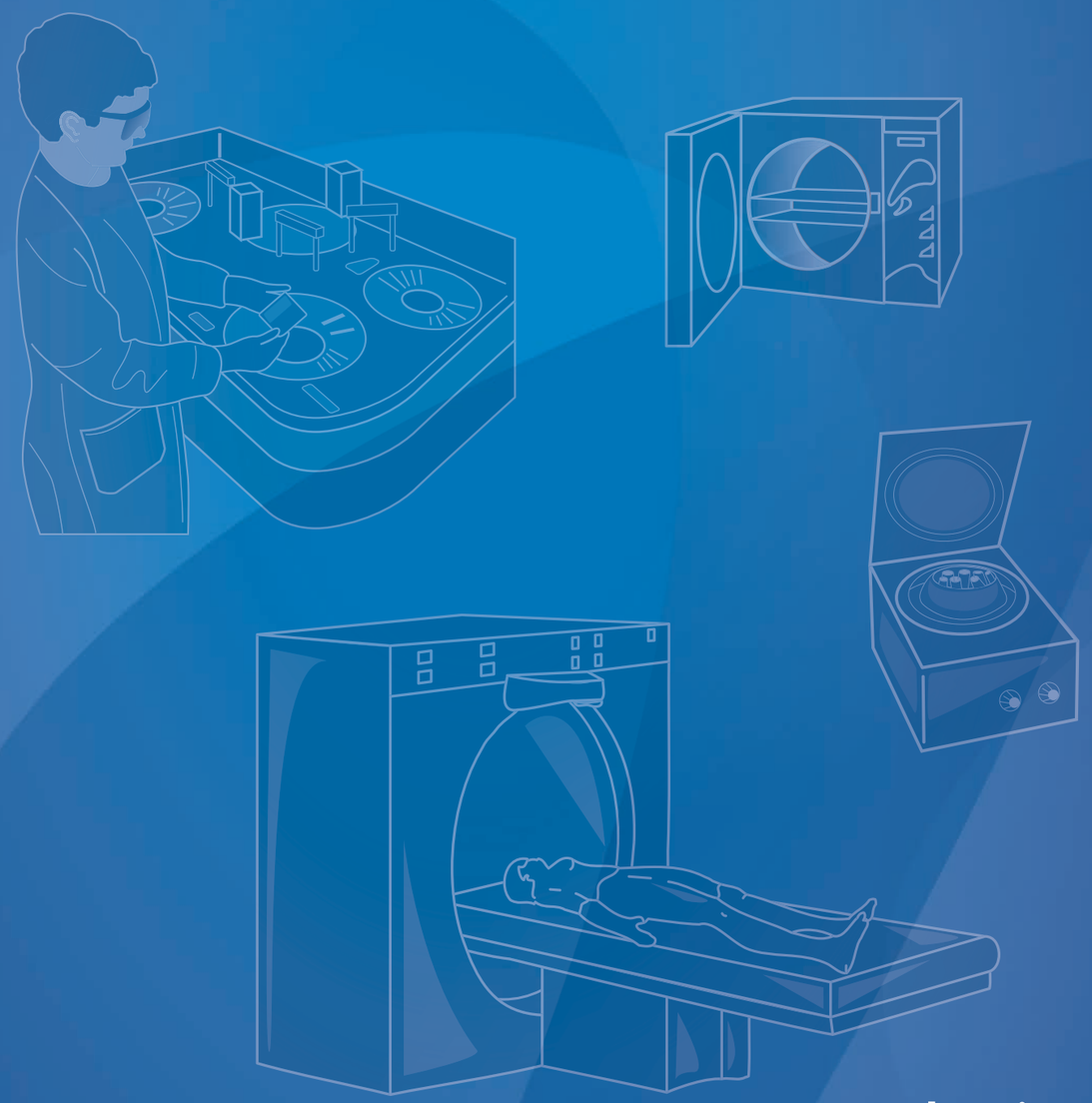
HEATING TECHNOLOGIES FOR MEDICAL APPLICATIONS



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TECHNOLOGY EVERYWHERE QUALITY INSIDE

Rica's heating technology portfolio is second to none which is the reason we are a prime supplier to major manufacturers (OEMs) in the life science, medical diagnostics and imaging markets.

Based on new ideas and past success, Rica applies creativity and innovation to supply heaters and thermal assemblies for medical applications.

Heater Control Integration and Assemblies

With our value added expertise, Rica can become an extension of your product design and assembly processes.
All our heating technologies can be supplied as a complete assembly including:

- Electronic control
- Assembly housing and enclosures including aluminum cast-in
- Mechanical and electromechanical components (fan, pump, filters, etc.)
- Heated material (metal, plastic, rubber, etc.)
- A large choice of connectors and sensors

Quality and Design Capabilities

Rica has achieved many quality product certificates such as UL, VDE, ESA and maintains the quality Management System BS EN ISO 9001:2008

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Innovative Cartridge and Band Heaters

Cartridge heating elements have a resistive internal wire coil surrounded by an MGO or ceramic insulator protected by a metal sheath (stainless steel or other metal). They can have internal temperature sensors and flexible leads. A variety of heating configurations exists such as our ultrawatt cartridge; it reduces space between the internal heating coil and the outer sheath giving faster and more efficient heat transfer, which is the reason why high sheath temperature can be reached (up to 760 °C). Heaters could be used to heat air, metallic mass, or fluid.
Band heaters are round or flat. Typically they are used to heat cylindrical surfaces of a sterilizer for medical and scientific applications.

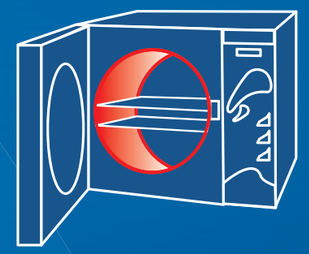
Flexible Etched Foil Heaters

Flexible heaters consist of an etched resistant heating element laminated between layers of pliable insulation primarily polyimide, rubber or polyester. They can have internal temperature sensors, and a multitude of connection configurations. Flexible and thin, they can take almost any form and are placed directly on the surface to be heated. Various heating profiles can be used to apply more or less heat as required by the material and shape to be heated.
Temperature up to 200°C.

Tubular Heater Systems

Tubular heating elements are manufactured using a resistive wire coil immersed in compressed MgO powder and protected by a metallic sheath. This technology is strong and reliable. The heating elements can be shaped according to the customer needs. External sheath materials are chosen to guarantee design life, corrosion resistance and working temperature, with a range that covers stainless steel alloys and titanium. Large possibilities of assembly solutions are available with special attention to materials, welding type, and surface treatments of the external case.

MEDICAL APPLICATIONS



The Haematology Analyzer
uses a flexible heater to heat the fluid circuit that controls the flow, mixing and reactions of whole blood and reagents. The fluids pass through a heated reaction chamber where a flexible foil heater is attached which maintains the fluid at 37 °C (98,6 °F).

Magnetic Resonance Imaging (MRI)
uses Rica heaters to "quench" the magnetic field for the safety of the patient. It also maintains the magnet at the required temperature to control the magnetic field which results in image optimization. In addition, Rica also designs and produces liquid helium level sensors used on imaging systems.

Baby Incubators
and emergency care transport use RICA cartridge, flexible and tubular thermal technologies to maintain a constant and evenly distributed temperature profile for the safety and comfort of the new born baby.

Sterilization
for biotechnology, surgical and dental instruments can use band heaters, cartridge heaters or flexible heaters with differentiated heating zones. Tubular heaters can de supplied in cast aluminum and complete steam generator subassemblies.

Haemodyalysis
machines use Rica cartridge heaters made of stainless steel and an integrated heat sensor to control the dialysis process. The thermal system is used throughout the dialysis process for heating the dialysate, cleaning and disinfecting the dialysis system at elevated temperatures.

Anesthesia Delivery Systems
Anesthesia Delivery Systems use Rica flexible heaters in the gas humidification process reducing the patients respiratory effort and possible complications.

Newer Medical Technologies
such as Lab-on-a-chip thermal systems may require a flexible heater attached to a plate which is incorporated in the base of the chip holder to maintain a constant temperature in the chamber.