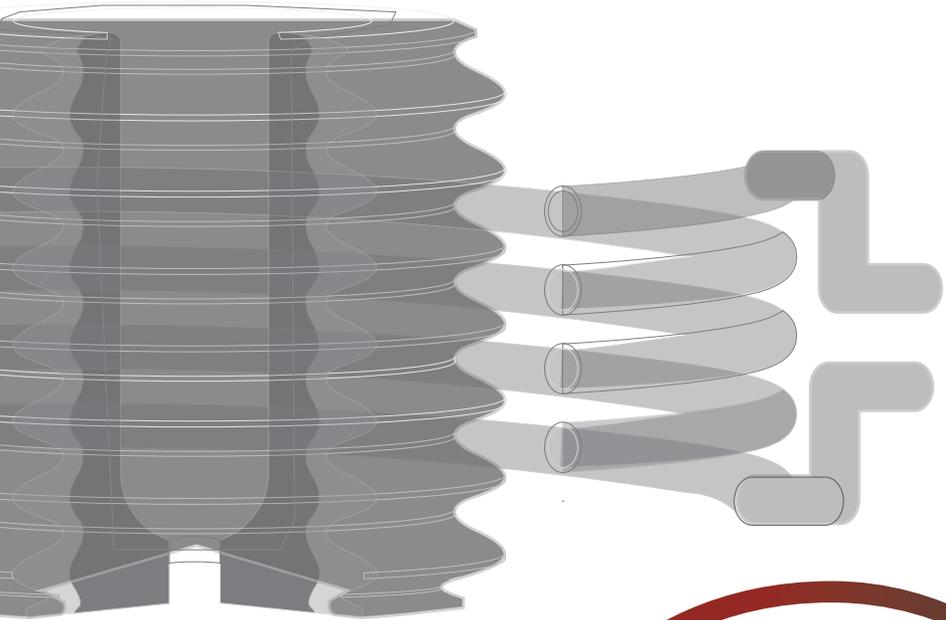


About Us

Radyne Design, Manufacturing, and Services



RADYNE

An Inductotherm Group Company



Since 1946, Radyne has developed unmatched skill and facilities in the field of induction heating.

We are a world leading manufacturer and pioneer in the development of advanced induction and controlled atmosphere heating equipment. Offering from general purpose, to full-turnkey induction systems for almost every industry sector, we provide our customers with industry expertise, process engineering, induction equipment, inductor design and development, and 24/7 service and support in one location.

Radyne maintains a dynamic, integrated, solutions-driven team equipped with the tools essential for rapidly delivering innovative products, services and engineered solutions.

We help our customers compete and win in a challenging global marketplace.

Our Products & Services:

Induction Equipment
Induction Coils
Induction Process Engineering Center
24/7 Support & Services

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Radyne and Inductotherm Group

Located in Milwaukee, Wisconsin, we maintain a philosophy of thinking locally and acting globally. As part of the Inductotherm Group, Radyne customers have unique access to a strong global network of manufacturing and service facilities, along with a full range of engineering, installation and repair services.

Bringing together 40 companies with 38 manufacturing facilities located in 19 countries, Inductotherm Group offers advanced technology for the engineering, manufacturing and service of thermal processing equipment used in the melting, heating, heat treating, forging, galvanizing, coating, cutting and welding of metals.

Independently, we are experts in our respective disciplines—from melting and heat-treating equipment, to vacuum refining and welding systems. Collectively, however, we are able to combine our individual strengths, shared knowledge, products and international footprint to deliver unmatched innovations and unparalleled customer support.

The Inductotherm Group Company Advantage:

- Offers the best solution from a broad range of world-class technologies
- The support of a global network of manufacturing and service facilities
- Access to a full range of engineering, installation and repair services
- Specialization among each of the group members
- Expertise in a wide range of processes
- Financial strength and stability

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Our customers have a competitive edge.

Radyne boasts over 65 years of experience in the design and manufacture of advanced induction equipment for a variety of applications. Whether the requirement is for a standalone manufacturing cell, or a fully integrated process line, our product range provides both standard equipment and specially engineered solutions.

We offer manual, semi, or fully automated systems with standard machines for a wide variety of induction heating applications and custom engineered equipment to move parts seamlessly in your production environment.

Radyne systems are built for performance, flexibility and durability for long-life performance. As business changes over time, our standardized components can be reconfigured to match future production needs.



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Get cutting-edge technology

Our technological advances include standardized, modular (able to perform various heat treating applications) induction heating equipment with advanced communication, control, and programming features in multiple power and frequency ranges. Control options include PC HMI, PLC, and Ethernet interface. Active-X control is also available and allows for rapid Windows-based integration.

Our latest innovation, the VersaPower®-Xtreme™, is a highly versatile tabletop induction power supply equipped with Radyne's intuitive Digital-iQ™ technology. The technology offers virtually unlimited storage capabilities and allows the unit to ramp from 0-100% of rated power in as low as 500 microseconds to deliver extreme accuracy.

The Quality Assurance System 2000 (QAS 2000) is available on all Radyne equipment to ensure production quality and to assist in increasing efficiency of our customers' operation. The QAS 2000 offers real time process monitoring against process limits such as induction heating power generator outputs, scan speed, quench parameters, part temperature and more.



Induction Applications

Radyne's experience covers the ever increasing range of complexity, new materials, and closer tolerances demanded by the worlds' most advanced component manufacturers.

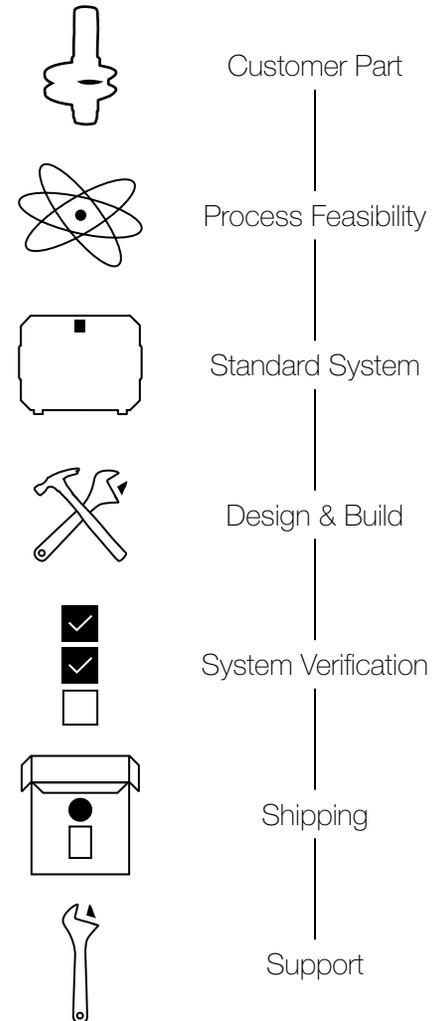
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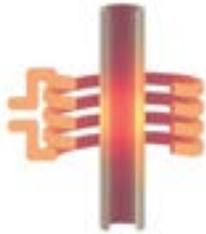
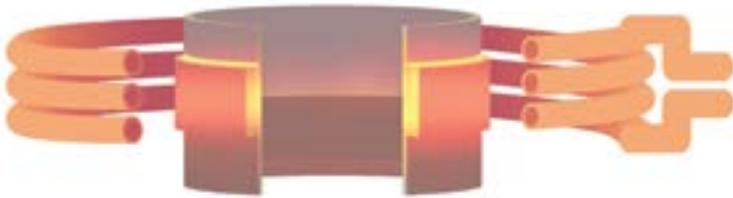
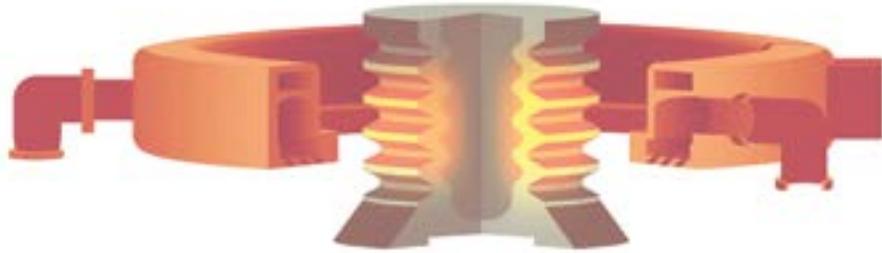
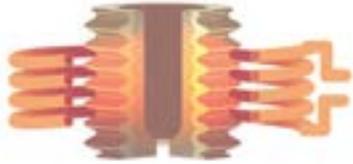
To confirm the induction heating meets our customers' requirements, Radyne maintains a permanently staffed Induction Process Engineering Center (IPEC) with a wide selection of state-of-the-art equipment for use in heating trials on small batches of customer parts. Customers can also bring us their application and through IPEC, our team will perform the necessary process feasibility tests.

Applications Listing:

- | | |
|-------------------------------|---------------------------|
| Annealing | Patenting |
| Billet Heating for Extrusion | Pipe Coating |
| Brazing | Pipe Heating |
| Chemical Vapor Deposition | Sintering |
| Coating | Soldering |
| Crystal Growing | Stress Relieving |
| Curing of Composite Materials | Susceptor Heating |
| Hardening | Temper/Draw |
| Heat Shrinking | Tempering |
| Induction Melting | Tube Processing |
| Manufacture of Fiber Optics | Wire/Rod/Cable Processing |

Radyne Order Process





Hardening

Radyne offers both static and scanning hardening equipment that deliver a higher quality process and increased repeatability that result in improved CPK. Units are available to process parts of any length.

Tempering

Radyne's power supplies can be optionally configured to allow one machine to complete both hardening and tempering processes in one load/unload which directly result in increased savings. Our revolutionary IFP™ Variable Frequency Induction Power Supply can switch frequencies on the fly to implement tempering operations with unprecedented control and precision.

Brazing

Radyne offers controlled atmosphere brazing that often greatly reduces or omits the need for post-processing, and are appropriate for joining a wide range of materials including, aluminum, brass, copper, steels, stainless, glass-metal and ceramic-metal.

Annealing

Radyne offers both non-ferrous and ferrous controlled processing equipment. Depending on the given material, this equipment is capable of full annealing, process annealing, or stress relieving.

Heat Staking

Radyne's heat staking equipment delivers high precision, simultaneous, multi-position staking. Radyne's Induction Process Engineering Center (IPEC) custom designs induction coils and fixtures to suit demanding customer requirements and many other applications.

Inductor Design & Development

Successful induction heating largely depends on the design and quality of the inductor and quench head that will give the desired profile.

Radyne's experience in research and development of inductors across a vast spectrum of applications provides the essential improvements that deliver superior heating of parts. As one of the many proficiencies of the Induction Process Engineering Center (IPEC), our dynamic team also focuses on delivering innovative quality inductors and quenches with increased durability and efficiency for superior heating profiles. Equally important, each inductor is built specifically to meet the needs of our customers.

The IPEC team also provides full support and service for the repair, rebuild, and maintenance of inductors regardless of the coil manufacturer.

Inductor Services:

- Inductor & Susceptor Modeling, Design and Manufacture
- Quench Design Combinations
- Machined Integral Quench Inductors
- Inductor Encapsulating
- Refractory Cast and Ceramic Inductor Liners
- Inductor Quick Disconnects
- Inductor Repair and Maintenance
- Emergency Pick-Up and Drop-Off Service
- Water-Cooled Busswork

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Induction Heating Laboratory

Induction Process Development
Induction Prototype Testing and Demonstration

Induction Tooling Design

Finite Element Analysis Design and Simulation
3D design Integrated CAD/CAM Machining Centers

Advanced Induction Heating Technology Processing Equipment

Resonant and Independent Frequency and Power Inverters
1KHz - 13MHz and 3kW – 600kW Processing Capabilities
Radiometric Thermal Imager
Induction Continuous Wire and Tube Feeding Systems
Controlled Atmosphere and Vacuum Processing
Multiple Scanner Options
Custom Fixturing

Metallurgical Laboratory

Thermal and Magnetic Modeling and Simulation
Scanning Electron Microscopes
Automatic Hardness Testing
Tensile Testing

Process Engineering Center

Radyne's **Induction Process Engineering Center (IPEC)** offers the expertise of engineers, metallurgists and scientists who assure reliable and efficient performance for customized induction heating applications.

With the assistance of IPEC's engineers, metallurgists and scientists, our customers are able to verify the process and induction heating quality of their part prior to the purchase of a Radyne induction system. The IPEC team works with our customers to map their process, recommend changes and conduct practical heating tests on sample components.

Located in Radyne's 30,000 plus sq. ft. engineering and manufacturing facility, IPEC includes advanced super-computer modeling and simulation of induction heating processes and equipment, a metallurgical laboratory, an induction heating laboratory, and an induction tooling design center to deliver the exacting results our customers expect.



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Service and Support

We are committed to the success our customers, and that means minimizing downtime. Our service engineers are available 24/7 for maintenance and support services no matter where the equipment was purchased.

Radyne boasts the industry's most proficient team of field service engineers. From maintenance and support through to equipment training, we offer a wide range of services to maintain our customers' satisfaction.

Services include:

- 24/7 Maintenance and Support
- Technical On-Site Support
- Field Service
- Preventive Maintenance
- Service Parts
- Equipment Recertification
- Equipment Refurbishment
- Equipment Training
- Installation and Startup

Radyne Corporation
211 West Boden Street
Milwaukee, WI 53207-6277

Telephone: 414-481-8360

Fax: 414-481-8303

Email: sales@radyne.com

Web: www.radyne.com



RADYNE: Committed to your SUCCESS!

Our expertise includes:

Brazing (With and Without Atmosphere)

Annealing

Tempering

Hardening

Heat Shrinking

Stress Relieving

Billet Heating for Extrusion

Chemical Vapor Deposition

Coating

Crystal Growing

Curing of Composite Materials

Induction Melting

Manufacture of Fiber Optics

Patenting

Pipe Heating

Pipe Coating

Sintering

Soldering

Susceptor Heating

Temper/Draw

Tube Processing

Wire/Rod/Cable Processing

Equipment

Robotics Material Handling

Coil Design and Build

Material Handling

Power Supplies

Quality Control Monitoring Systems

Scanners – (Horizontal and Vertical)

Services

Metallurgical Lab

Process Development

Engineering Solutions

Consultation



**INDUCTOTHERM
GROUP**

Leading manufacturers of melting, thermal processing and production systems for the metals and materials industry worldwide.