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INDUCTOTHERM GROUP





Over 40 companies around the world serving

the metals and materials industry.

### INDUCTOTHERMGROUP.COM

Visit us online for information about our products, brands and services.







## Who we are.

WE BRING HEAT TO METAL. Inductotherm Group leads the industry in the development and manufacture of advanced technologies, products and systems for the heat-driven transformation of metals and specialty materials. You'll find us wherever our customers need to melt, heat treat, forge, roll, cut and weld.

Inductotherm Group is structured to reach across the globe and organized to provide localized manufacturing, engineering, service and support in every region of the world. We do it through 40 remarkable full-service companies providing 50 individual product lines organized into 10 global brands. Each product is designed for superior and consistent performance and offered around the world by a highly developed technology transfer and manufacturing system.

Since our beginnings, we've worked to build a reputation for innovation, exceptional engineering and unequalled standards of quality, all focused on solving the large and small thermal processing problems that our customers face every day.

It didn't happen overnight. Across six decades, Inductotherm Group has grown. Adapted. Evolved. The result: a broad offering of products and services to meet the needs of customers across every industry.

That's why, today, when faced with both routine and complex thermal processing challenges, the world turns to Inductotherm Group for answers.



# Induction Melting, Holding & Pouring







MELT SHOPS are harsh environments.
That's why Inductotherm Group companies manufacture Inductotherm induction equipment designed to withstand the toughest conditions. With proven, advanced technology for every melt shop need, Inductotherm brand products offer you efficient, reliable and effective systems to give you a competitive edge.

### INDUCTOTHERM

- Induction Melting Furnaces
- Induction Holding Furnaces
- Automated Pouring Systems
- ARMS® (Automated Robotic Melt Shop) Systems



**TEMPERATURE CONTROL AND CONSISTENCY** are crucial no matter what metal you're forging or rolling. Inductotherm Group companies around the world manufacture the most advanced furnaces and computer-control systems for the efficient and precise heating of billets, bars, blooms and slabs, prior to rolling or forging.

Forging/Rolling



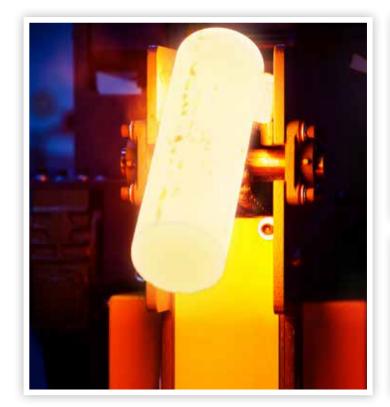
- Modular Bar Heaters
- Modular Forge Heaters

## INDUCTOTHERM

- Slab, Bloom and Transfer Bar Heaters
- Rail and Roll Mill Hardening

## BANYARD

- Vertical Billet Heaters
- Horizontal Billet Heaters (Non ferrous)
- Boost Induction Heaters
- Zero Friction Billet Heaters







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## Heating & Heat Treating

**HEAT TREATERS** need equipment with system operational simplicity, flexibility, reliability and repeatability. That's why Inductotherm Group companies work tirelessly to design and manufacture the most progressive equipment for this industry. With a complete line of scanners, single shots and popups handling small and large parts, Inductotherm Group companies can increase part durability and performance by precisely controlling hardening patterns throughout the part. Our induction systems offer the ability to heat treat in a clean, safe environment with unmatched productivity.

## INDUCTOHEAT

- Induction Heat Treat Systems (All Automotive Components)
- Induction Gear Hardening Systems
- Copper Tube Annealers
- Crankshaft Hardeners
- Camshaft Hardeners
- Shrink Fitting, Stress Relieving and Pre-Heating Equipment
- Induction Bar Heaters

## RADYNE

- General Heat Treat Systems
- Munitions and Ammunition Annealing/Bonding Systems



- Induction Scanners
- Induction Single Shot Heaters









# Brazing & Soldering







**INDUCTOTHERM GROUP** companies manufacture a variety of brazing and vacuum-brazing systems that can handle low to high volume production requirements with part-handling variations, including single-up, multi-up, side-by-side, conveyor or rotary-indexed functionality.



• Induction Brazing and Soldering Systems

## CONSARC

- Vacuum Heat Treatment Systems (VHT) and Brazing Systems
- Vacuum Aluminum Brazing Furnaces (VAB)
- Vacuum De-oiling Furnaces (VD)



# Strip Heating & Coating

WHETHER YOU'RE PRODUCING the coated roof of a commercial building, the crumple-zone safety cage of an automobile or the anti-fingerprint surface of a stainless steel appliance, Inductotherm Group companies can provide your coating line with the world's most leading-edge induction technologies.



- Channel and Coreless Coating and Premelting Pots for Galvanizing, Galvannealing, Galvalume<sup>®</sup>, Galfan<sup>®</sup> and Aluminized metal products
- High Frequency Induction Strip Heating Systems for Preheating, Galvannealing, Tim Reflow, Boost Heaters, Anti-Fingerprint, Paint Coating and Drying, and Weld Annealing



# Pipe & Tube Production

THE APPLICATION OF HEAT is often key to many manufacturing processes, such as welding, cutting, bending, shaping, fitting and sealing. Inductotherm Group companies consistently push the limits of design and implementation—giving the tube and pipe industry access to breakthroughs in high frequency welding and heat treating equipment, as well as power supplies, high-speed cutting machines and the most technologically advanced engineered structural-line equipment available today.





### THERMATOOL

- High Frequency Welders
- Tube Heaters/Seam Annealers
- Quench and Temper Bar and Tube Lines
- Shear/End Welders
- Savage Saws™ Brand Saws
- Welding Lines for I-Beam

### ALPHA

- High Speed Flying Shears
- Flying Saws



- IROSS
- Induction Pipe End Heaters with FluxManager® Coil
- Line Frequency Systems for Shrink Fitting



• Pipe Bending and Forming Heaters



# Pipe Coating

### RENOWNED ACROSS THE GAS AND PIPE PROCESSING INDUSTRIES,

Inductotherm Group companies are globally acknowledged for the ability to provide the highest levels of expertise in pipe coating, heat treatment and preparation solutions. Inductotherm Group's innovative Pipe Coating Coil designs offer the largest pipe clearance, while providing the highest throughput in the industry. Whether over the ditch, in the plant or on the water, Inductotherm Group companies have the equipment you need to satisfy your demanding customers.



- Offline Pipe and Tube Coating Systems
- Merlin<sup>™</sup> Coating Systems

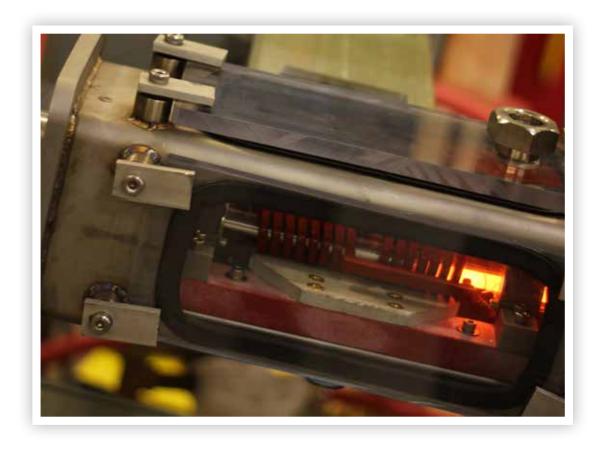
## Wire Production

### INDUCTOTHERM GROUP COMPANIES

provide total process systems for cable and wire manufacture, including payoff, descalers, straighteners, drawing blocks, pinch rolls, heating, oiling, cutting and diverting, take ups, monitoring and controls. Radyne brand equipment is used for hardening and tempering or quench and temper, bright and dull annealing, drying, drawing and coating. Radyne systems are based on the reliable and cost-effective induction heating technology for ferrous and non ferrous products.



- Single and Multi-Wire Induction Heating Systems
  - Spring Wire Lines
  - Multi-Wire Heating
  - Wire Diffusion Lines
  - PC Wire and Strand Production
  - Single Strand Wire Heating Module





# Vacuum & Controlled Atmosphere Melting

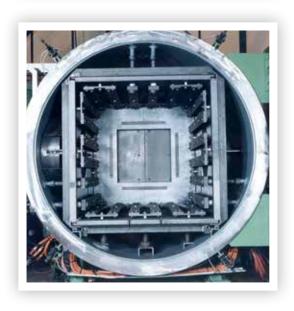
THE CREATION and casting of superalloys, as well as many other advanced and reactive metals, requires sophisticated vacuum or controlled atmosphere melting and remelting systems. Inductotherm Group companies design and manufacture Consarc brand systems for a variety of industries all around the world.

## CONSARC

- Vacuum Arc Remelting Furnaces (VAR)
- Electroslag Remelting Furnaces (ESR)
- Vacuum Precision Investment Casting Furnaces (VPIC)
- Vacuum Induction Melting Furnaces (VIM)
- Vacuum CAP Furnaces (VCAP)
- Induction Skull Melting Furnaces (ISM)
- Electromagnetic Cold Crucible Furnaces (EMCC)

# Vacuum & Controlled Atmosphere Heating





### WITH DECADES OF TECHNICAL EXPERIENCE.

Inductotherm Group companies design and manufacture a wide range of advanced vacuum and controlled atmosphere furnaces for the processing of metals, specialty alloys and engineered materials. Our complete systems—including furnaces, power supplies and coils—provide the exceptional accuracy and temperature control features necessary to manufacture the larger, increasingly intricate parts that are being designed and vacuum brazed by the leading companies in the world.



- Vacuum Aluminum Brazing Furnaces (VAB)
- Vacuum Deoiling Furnaces (VD)
- Vacuum Heat Treatment (VHT) and Brazing Furnaces

## **Engineering Services**

**SERVICE** Inductotherm Group capabilities don't end with the manufacture of our products. All Inductotherm Group companies offer their customers the industry's highest level of technical support and service and have extensive experience in installation, repairs and field service engineering. Many of our companies offer 24 hour a day technical support in addition to on-site service teams with decades of experience. Each service engineer is professionally trained in all repair, rebuild, and preventative maintenance services your equipment requires.

PROCESS DEVELOPMENT In some industries, the heating, melting or welding of metal parts involves more than just the equipment to perform the act. It requires the process knowledge developed over decades of experience. Inductotherm Group companies around the world work directly with customers to refine their processes, increasing production time, output and repeatability.

**METALLURGICAL LABS** A number of Inductotherm Group companies support metallurgical laboratories that can perform comprehensive metallurgical reviews and reporting of induction process results.

MODELING Inductotherm Group companies are experts in 2D and 3D computer modeling of the various induction processes for your parts. Customers rely on these modeling efforts for advanced technical review of hardening effects and coil design work.

Unless otherwise noted, all trademarks, service marks, trade names, trade dress, product names and logos appearing in this publication are the property of one or more of the Inductotherm Group companies.

### **POWER SUPPLIES**

The Inductotherm Group of companies manufacture a wide variety of power supplies serving numerous applications in the metals and materials industry, such as melting, heat treating, vacuum refining and welding systems—just to name a few. By making use of well-proven devices such as SCR's, IGBT's and MOSFET's, coupled with innovative technology, an extensive range of power levels and output frequencies are available from 5 kW to over 50 MW at 1 Hz to 1 MHz—including DC power units. Most Inductotherm Group power supplies feature intelligent microprocessor-based digital controls and are engineered to operate at a constant high power factor regardless of power level, while generating low harmonics and voltage distortion. Harmonic and voltage distortion is further reduced in larger units by designing the equipment to accept 6, 12 or even 24 input phases.

### Our Power Supply models include:

VIP®
StatiPower®
Statitron®
VersaPower®
Flexitune®
TF
TC
IFP
Dual-Trak®
Multi-Trak™





## Aftermarket Services

SPARE PARTS As manufacturers, Inductotherm Group companies recognize that investing in an extensive spare parts inventory is critical to helping our customers achieve maximum productivity. Our inventory ensures that you have control over the parts you need, when you need them, in stock, ready to fit, reducing production downtime and increasing your productivity.

COILS AND REPAIRS Inductotherm Group companies all over the world are experts in the design, manufacture and repair of induction coils. Whether it's a simple fabricated design, a complex induction hardening and quenching coil

or a forging or melting coil, our experienced engineers and manufacturing teams ensure that your refurbished coil has the quality and reliability you need.

**TRAINING** Sometimes additional training is needed to teach your workers the most efficient and effective methods and techniques in the operation of our equipment. Our companies are prepared to lead training exercises at our facility or yours, including classroom and hands-on training, designed around your induction process and specific equipment.

# Additional Products & Services

- Foundry Consumables
- Sand Mixers
- Coil Rebuilding
- Installation Services
- Water Cooling Systems
- Dielectric Heating
- Crystal Growing

- Levitation Melting
- Resistance Heating
- Bright Annealing Systems
- AC Motor Curing Systems
- 1, 2 and 3 Cylinder Component Heat Treat Systems
- Chain Hardening

- Cap Sealing Equipment
- Material Handling Systems
- Stretch Reduce
- Plasma Generation
- Tube Heat Treat Systems
- Tube Mill Rolls and Components
- Powdered Metal Part Machining

## Worldwide Manufacturing & Service Locations

#### **North America**































#### **Central America**



**South America** 





### Europe





Inductotherm Group



















Inductotherm Group Turkey

Inductotherm Heating & Welding

### Asia













Inductotherm Group



Inductotherm Group Taiwan - Changhua



Inductotherm Group



Inductotherm Group Thailand



### India





#### Australia

