Stainless Steel Wire Annealing
With Induction Heating
Induction: the technology of choice for compact heating & rapid response

Market demand for a quality finish has made induction heating equipment a necessity.

Offering continuous in-line wire heating that is fast, clean and energy efficient, induction heating with Radyne equipment is the ideal stainless steel wire annealing method for achieving a quality finished product.

Economical for dedicated in-line production or for high mix, small specialty runs, Radyne's turnkey systems start-up and shut-down virtually instantly, have the precision control to match your mill speed, require minimal maintenance, and provide uniform metallurgical quality along the entire length.

<table>
<thead>
<tr>
<th>Wire Systems</th>
<th>Tube Systems</th>
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<tbody>
<tr>
<td>Size</td>
<td>Size</td>
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<tr>
<td>2mm to 16mm wire</td>
<td>2mm to 63mm tube</td>
</tr>
<tr>
<td>Speed</td>
<td>Speed</td>
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<tr>
<td>20m/min (65ft)</td>
<td>46.5m/min (150ft)</td>
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<tr>
<td>93m/min (300ft)</td>
<td>186m/min (600ft)</td>
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Atmosphere Chamber

An important requirement of a continuous line application is the accuracy of the output power regulation. Radyne’s VersaPower®-Xtreme™ power supplies are equipped with the new and innovative Digital-iQ™ technology.

Radyne’s high speed Digital-iQ™ technology is 100% digital and ramps from 0-100% of rated power in as low as 500 microseconds for extreme accuracy and ease of use. The technology also offers advanced communication, control, and programing features that make recipe storage and management quick and easy. 2GB’s of memory is included with each unit.

With advanced communication, control, and programming features in multiple frequency ranges, operation can be by direct manual controls on the unit, programmed via an internal digital controller, or remote controlled via Ethernet by a connected PC, or PLC. Active-X control is also available and allows for rapid Windows-based integration.

Stainless Steel Annealing Line Components

- **Induction Heater**
  - Radyne coils are designed for high efficiency and a reduced number of change-overs.
  - Energy usage on demand
  - No hazardous waste
  - Produces repeatable material structure properties
  - Exit temperature <140°F (122°C)
  - 50-150 ft³/hr (1.4-4.25 m³/hr)
  - Water-cooled chambers
  - Recirculated atmosphere or liquid quench systems

- **Cooling**
  - Establishes process tension and takeup tension zone separation
  - Catapuller or pinch roll
  - Quick change studs for pinch rolls if contoured rolls are required

- **Outfeed Pull Unit**
  - Nitrogen, Nitrogen with 3% Hydrogen, Argon, Helium, CO₂, Steam, Anhydrous Ammonia
  - Typical system operates at 1-2 ppm O₂

- **Infeed Pull Unit & Straightener**
  - Catpuller or pinch rolls
  - Control of process tension in conjunction with outfeed pull unit
  - Straightener- wire & tube 2 plane 7 roll units
  - Straightener- strip 1 plane multiple roll
  - Straightener-numerical readouts

- **Payoff**
  - Flipper
  - Flyer for rotating and releasing wire
  - Reels
  - Spinner for better tension control

- **Takeup**
  - Options include windmill, pan, reel, down caster
  - CW or CWW layered packages
You work hard to perfect your production process. It’s only fitting that you should maintain your standard of quality when choosing your business partners.

Working with you to reach your goals, Radyne’s expert engineers, scientists and metallurgists provide your business with great standard products and optional custom tailored solutions for your production needs.

In our state of the art facilities, our services include inductor and susceptor designs, vacuum and controlled atmosphere induction processes, precise induction heating and hardening profiles, revolutionary thermal and magnetic modeling, simulation and the best induction equipment in the business.
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Radyne: Committed to your success!

We believe in building strong relationships.

Founded in 1946, Radyne has developed unequaled skill and facilities in the field of Induction Heating.

Our products and processes offer a winning combination of innovative technology and custom automation. We employ years of experience to deliver the exacting results you demand, and stand behind all of our high-quality equipment with outstanding customer service and support.

As a proud member of the Inductotherm Group of 40 companies located worldwide, Radyne has established a strong global network of manufacturing and service facilities, along with access to a full range of engineering, installation and repair services that are always available wherever your business is located.