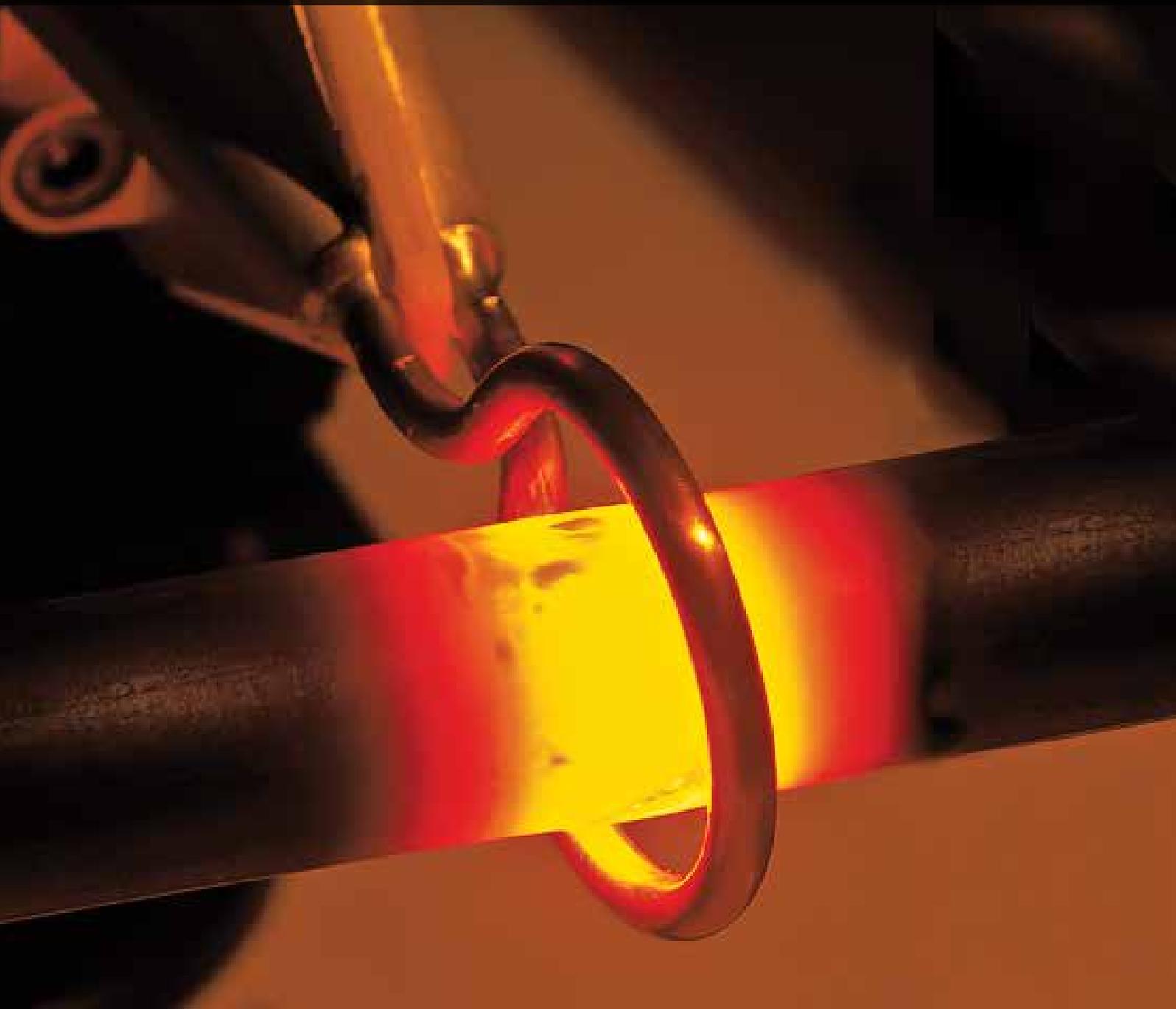




CEIA USA

CEIA USA has created a solid foundation of reliable solid-state generators featuring the highest quality standards and performances.

By Tim Byrd



What is the common thread between metal detection and induction heating? CEIA has explored this question for over 20 years and, in the process, created a solid foundation of reliable solid state generators featuring high quality standards and high performances. The answer is that both use electromagnetic field technology.



What is the common thread between metal detection and induction heating? Both use electromagnetic field technology. CEIA has explored this question for over 20 years and, in the process, created a solid foundation of reliable solid state generators featuring high quality standards and high performances. “CEIA was founded through the interest in electromagnetic field technology, which has carried down throughout all aspects of CEIA,” explains Cody Kothera, industrial sales manager for CEIA USA.

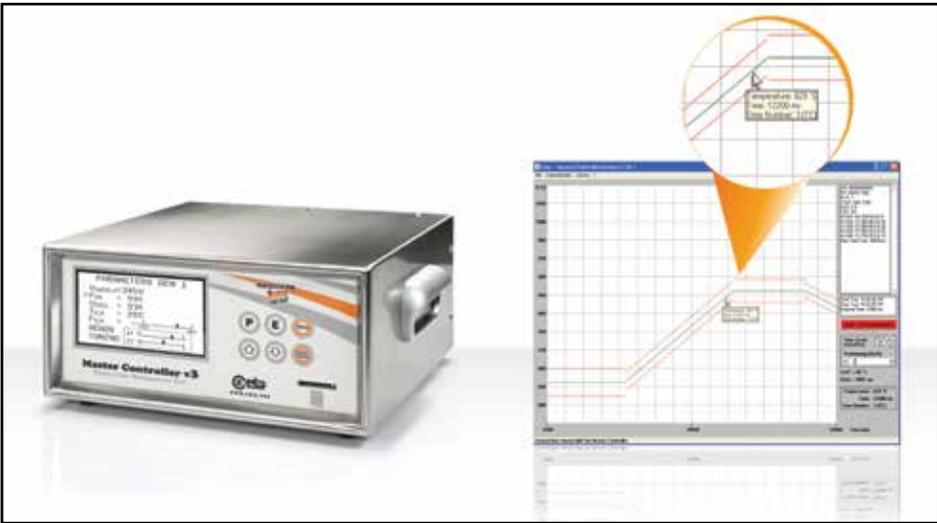
CEIA started its induction heating work, oddly enough, for the eyeglass frame industry, making high-frequency induction units for soldering eyeglass frames. “There was a need for high-frequency work,” says Kothera. “Not a lot of people did it. We played a major role in developing that, and expanded it from a 2.8 kW generator that works at 1800kHz, up to a 100kW generator with lower frequencies.

“In induction heating, a high-intensity electromagnetic field is created that induces a current into the metal, which creates heat. It’s the same technological concept we use in the metal detection field of the business; if you walk through a metal



detector, there is an electromagnetic field being created through the two sides of the detector. If you introduce metal into that field, the field will change, and the detector will notice this change and alert the operator.”

Today, operating from a 42,000 sq. ft. facility in Twinsburg, Ohio, CEIA USA offers the Power Cube Family, a complete



modular line of equipment. It features reduced dimensions, perfect for the manufacturing operation of heat treatment, brazing, and soldering on all types of metal parts. Next to a wide range of generators (Power Cube), the family includes control units (Master and Power Controllers) for the semi-automatic and automatic management of the heating cycles, a full range of optical sensors (SH Series) equipped with low-intensity LED aiming, wire solder dispensers (WF Series) for low and high temperature applications, and a complete line of accessories.

CEIA S.p.A., located in Arezzo, Italy, has an in-house EMC testing laboratory that is governmentally accredited as a “competent body in the matter of electromagnetic compatibility.” Marilyn Thaxton, NA marketing manager, identifies an added benefit to this service: “It helps to test, prove, and research CEIA equipment. Plus, it gives us the benefit of being an authorized testing location. That’s why we spend so much of

our resources on R&D—20% of CEIA’s staff. We’re staying ahead of the curve.”

Kothera describes CEIA’s R&D department as “cutting edge. One of the things we just introduced is a dual-color pyrometer. A lot of infrared pyrometers use single wavelengths of the infrared spectrum, which means you have to set the emissivity. The dual color pyrometer measures two wavelengths, so you don’t have to set the emissivity; this allows more functionality and less room for operator error. It makes the operator’s life easier. Recently, we also introduced our first 100kW generator, which is now the largest power that we go to. Our generators perfectly adapt to hardening applications, surface hardening, annealing, etc. The area and the heating depth depend, in fact, on the coil geometry and on the exposure time to the electromagnetic field.”

For quality control, CEIA also uses a data logger that allows the user to track the historic temperature data and store it for quality

control purposes, or to pass it along to the customer. With their control units, customers have the ability to set temperature tolerances. Kothera explains, “If you have a temperature range you need to be in, it will alert you if you are out of that tolerance. It also gives you traceability with the data logger to historically record that info; if there is a problem with your part down the road, you can see if the heating was an issue or not.”

CEIA takes a non-traditional approach to induction heating. Aside from just providing the generators, they also provide the control units and optical pyrometers for temperature monitoring. The control units allow the user to program either a time-and-power or a time-power-temperature graph. In other words, if you need to heat a gear to 500 degrees and hold it there for 10 seconds, you can do it with a closed-loop system that gives plug-and-play capabilities throughout the product line. The controllers can be added on to the generators, and the pyrometers can be added on to the controllers, giving it an extra level of functionality. ISO 9001 certified, CEIA prides itself on providing high-quality equipment, good solutions with continued support, and a one-year warranty on all induction equipment. 

FOR MORE INFORMATION: For more information, visit www.ceia-usa.com or call 888-532-2342.