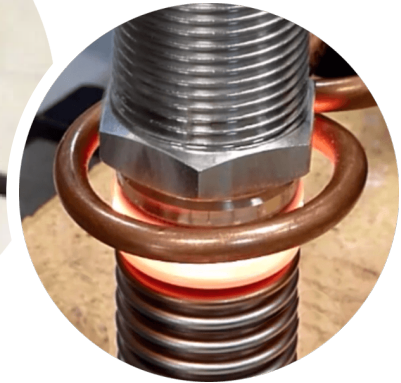
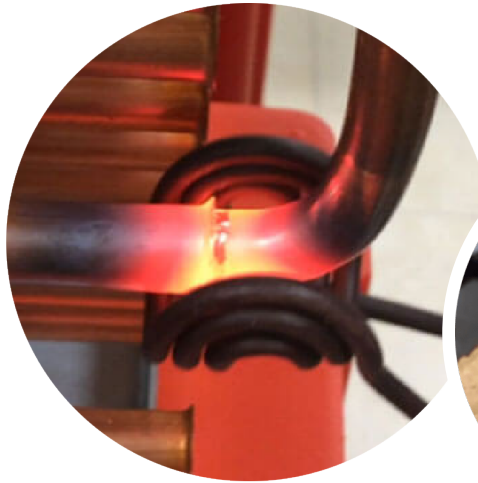


GENERAL INFORMATION

What is Induction Brazing?

Induction brazing is a flameless process for joining together metals using a filler alloy. The filler metal is heated slightly above its melting point so it flows, but the temperature remains lower than the melting points of the base metals it is joining. Flux or an inert atmosphere is used to protect the two metal surfaces being joined and the brazing material from oxidation during the heating process. The filler material flows over the base metals, and the entire assembly is then cooled to join the pieces together. Typical braze filler materials are copper, silver, zinc, nickel and aluminum.

While brazing is a similar process to soldering, the temperatures needed to melt the filler metal are higher for brazing, with temperatures typically 900°F–2200°F (470°C–1190°C). Brazing differs from welding in that brazing does not melt the base metals, therefore brazing temperatures are lower than the melting points of the base metals. For this reason, brazing is the best choice in joining metals, as it results in less part distortion and joint stress, while resulting in a strong joint.



A properly-made brazed joint will in many cases be as strong or stronger than the based metals.

Materials

Typical joining materials: steel-to-copper, steel-to-brass, brass-to-copper, and copper-to-copper.

Typical braze filler materials are copper, silver, zinc, nickel and aluminum.

Typical Applications

Carbide tip to tool
Tube to tube
Tubes to housing
Equipment and tool manufacturers
Any manufacturing process that joins two pieces

BENEFITS OF INDUCTION BRAZING

Consistent Results

Induction heating eliminates the issues associated with quality. Once you set up your system, repeatability is guaranteed. The precise temperature control allows you to work with precision and to accurately determine the time and power needed for your application.

Maximized Productivity

Induction heating is a very fast method which ultimately increases your production rates. The induction heating process can be completed anywhere including in vacuum or inert atmosphere. High temperatures can be reached quickly while heat loss is significantly reduced.

Product Quality

Induction heating delivers fast localized heating which allows you to heat small areas of your part without heating the surrounding parts. This extends the life of the mechanical set-up.

Environmentally –Friendly and Safe

There is no thermal or air pollution as the target is heated directly and no fuel substances are used. Induction heating systems do not burn traditional fossil fuels. Induction heating is a clean and safe process which eliminates open flame and smoke, loud noise and emissions.

Reduced Energy Consumption

Heating by induction has minimal wasted heat, with direct transfer of energy to the part being heated. This high efficiency results in significant power savings. For batch heating processes, the efficiency can be even greater. There is no wasted energy with Induction Heating versus keeping furnaces and ovens running or delays with pre-heating ovens.

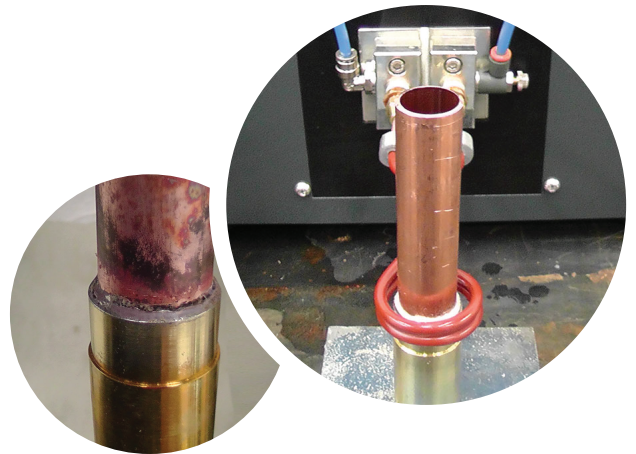
UltraFlex offers complimentary testing! If you would like to send samples for further review and testing, contact sales@ultraflexpower.com

General-Purpose Brazing Systems

UltraFlex offers general-purpose brazing systems that can be customized for your specific process requirements. Available power supplies from 2 to 200 kW.

Easy tuning to a wide range of loads and coils. Durable design, loaded with safety and diagnostics features.

Perfect for various heating applications and brazing of all types of metals.

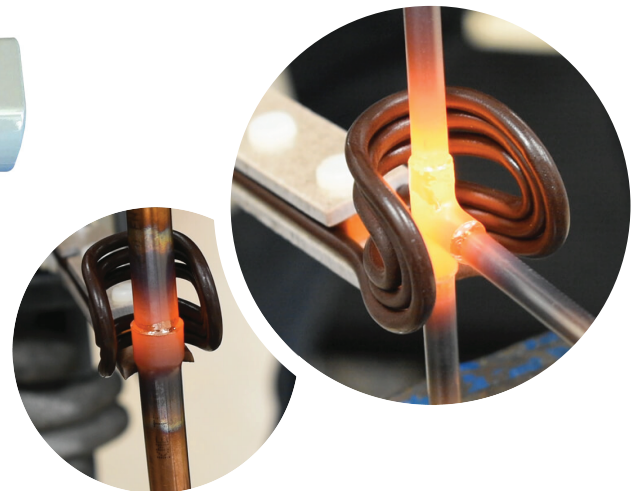
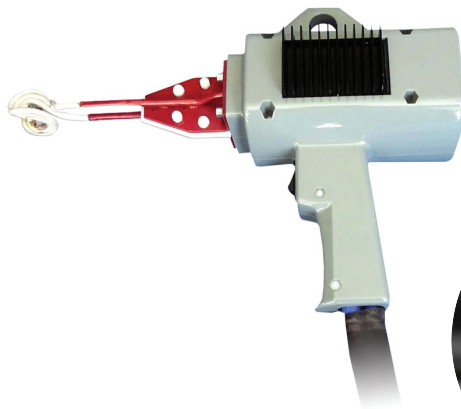


Mobile & Hand-Held Brazing Systems

Durable assembly has easy-hold grip, and a handle at the top of the unit to maximize stability.

UBraze can also be coupled with a switching system to allow multiple handheld systems with different coils.

Our Hand-held brazing units can operate with induction power supplies ranging from 5 kW - 200 kW and offer the flexibility to braise assemblies of different sizes and materials.



Automated Brazing System

UltraFlex designs and manufactures custom and tailor-made automated brazing systems. Our team of engineers can help you integrate induction brazing into your production process with semi- or fully- automated brazing equipment.

We can offer robotic arms, process automation, temperature control, automated wire feeding system for brazing alloy.

Our systems combine flexibility with advanced technology!

