

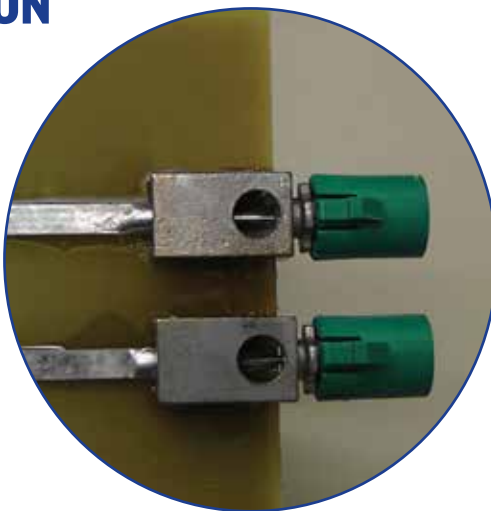
## GENERAL INFORMATION

### What is Induction Soldering?

Induction soldering is a process in which two or more metal items are joined together by melting and flowing a filler metal (solder) into the joint interface.

The filler material (solder) has a lower melting point than the work pieces being assembled. Induction soldering heats the work pieces in an RF (Radio Frequency) field without making physical contact to the parts.

The process differs from Welding as it does melt the joining parts and differs from Brazing where the filler material melts at higher temperatures. Induction soldering usually involves smaller parts which requires higher frequency induction systems.



*Solder end connectors to a Printed Circuit Board*

### Materials

Copper  
Brass  
Aluminum

### Benefits

Power on demand – rapid heat cycles

Provide for uniform heat distribution on the mating components at the solder joint eliminating “cold” joints and incomplete solder alloy flow

Repeatable process, not operator dependent when parts are set in a nest or fixture

Allows for the use of pre-measured alloy rings or paste, which reduces costs associated with wasted material.

### Typical Applications

Circuit board connectors  
RF connectors  
Cable end connectors

## APPLICATION EXAMPLES

Soldering a coaxial cable to connector ring and pin with induction



Soldering brass tubes to brass assembly with induction

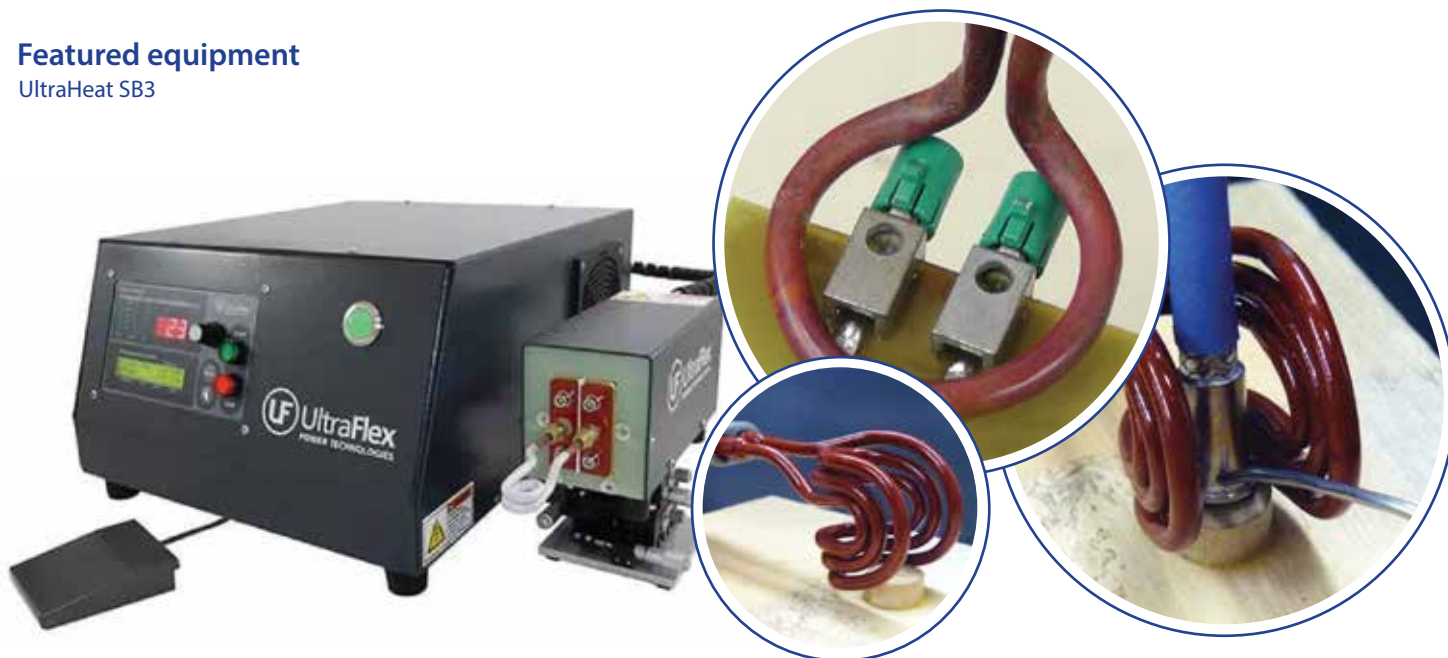


Ultraflex offers complimentary application evaluation. If you would like to send samples for further review and testing, contact [sales@ultraflexpower.com](mailto:sales@ultraflexpower.com).

## SOLDER END CONNECTORS TO A PRINTED CIRCUIT BOARD

### Featured equipment

UltraHeat SB3



The UltraHeat SB Series, provides a budget friendly answer to the need for precise soldering and brazing of small components and parts. The UltraHeat SB series delivers consistent, reliable and efficient soldering or brazing. It gives the users the benefits of induction heating for a range of small components and parts such as circuit board connectors, RF connectors, and cable end connectors.

Many companies are currently utilizing Induction Heating to automate the soldering process. As the parts to solder become smaller, customers require improved process control. High frequency induction generators are an ideal solution to address that need. The new UltraHeat SB3 series is 3 kW version operating between 700 kHz and 1 MHz.

The development of the UltraHeat SB Series was driven by customer feedback and is part of Ultraflex Power Technologies' commitment to deliver the latest induction technology to manufacturers utilizing small component brazing and soldering processes.

### UltraHeat SB Series Specifications

Power Supply Model	SB-3/1000
Output Power, kW	3 kW
Frequency, kHz	700 kHz – 1 MHz
AC Line, Volts (50/60Hz)	230±10%
Line Phases	1
Weight, Lb (kg)	33 (15)
Dimensions, Inch (cm) LxWxH	14.2" x 17.8" x 8.8" (35.9 x 45.2 x 22.2)
Cooling requirements water system quoted upon request	Water (external)
Compatible Heat Station	HSB-3