Soldering brass and copper (anesthetic medical equipment)

**Objective**
To heat brass and copper for soldering application on medical equipment

**Material**
Brass ring, brass and copper pieces 5.11" (130mm) long, 4.3" (110mm) OD & 0.3" (7mm) at thickest point and solder rings

**Temperature**
392 °F (200 °C)

**Frequency**
306 kHz

**Equipment**
- Ambrell 6 kW induction heating system, equipped with a remote workhead containing two 0.33 µF capacitors for a total of 0.66 µF
- An induction heating coil designed and developed specifically for this application.

**Process**
This process is completed in two steps that use a 3 turn helical coil. The first process is to solder the brass ring to the copper piece which takes 85 seconds. The second step is to solder a large brass piece to the first assembly. This process takes 50 seconds for a total process time of two minutes 15 seconds.

**Results/Benefits**
Induction heating provides:
- Hands-free heating that involves no operator skill for manufacturing
- Even distribution of heating
- Faster process time, current process takes 5 minutes
- Consistency by using solder rings
3 Components for soldering application

Brass ring and copper piece that will be soldered together for the 1st step

3 turn helical coil for soldering brass ring to copper piece

Finished Product