



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 μ F capacitors for a total of 0.66 μ F
- 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:

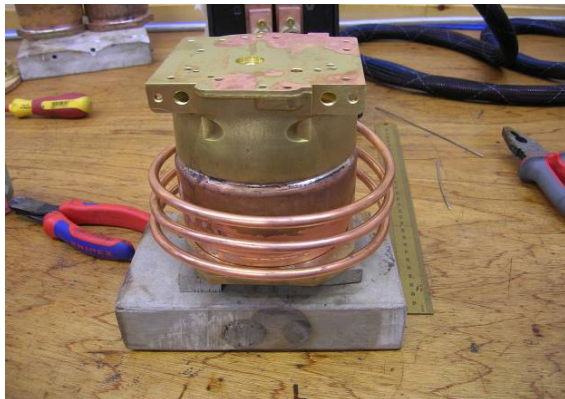
- Hands-free heating that involves no operator skill for manufacturing
- Even distribution of heating
- Faster process time, current process takes 5 minutes
- Consistency by using solder rings



**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