

### Brass Bellows Assembly

**Objective:** To heat a brass bellows and end cap assembly to 450°F for soldering within 20 seconds. Presently, a soldering iron is used to produce the joint between the bellows and cap. The customer requests a quality solder joint with minimal heating of the bellows to prevent annealing and performance losses. Solder preforms, in the form of flat washers, are to be used to complete this application.

**Material:** Brass Bellows measuring 2" in diameter  
Solder Preforms  
Cadmium Free Flux

**Temperature:** 450°F

**Application:** The Ameritherm Nova 1, 1kW output solid state induction power supply along with a unique three (3) turn double wound helical coil was utilized to achieve the following results:

- 450°F was reached and solder flow completed in 6.3 seconds.
- A quality repeatable solder joint was observed.

**Equipment:** Ameritherm Nova 1, 1kW output solid state induction power supply including one (1) remote heat station containing one (1) 1.2  $\mu$ F capacitor, and a unique three (3) turn double wound helical coil with an inside diameter of 0.4".

**Frequency:** 307 kHz

\*Application Illustration Located on Reverse

# Induction Heating Application Notes

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