

Soldering a steel canister (reservoir) for sealing

Objective Induction offers benefits over a current hand-soldering operation of these beverage dispenser reservoirs.

Material Steel canister (reservoir), 6inch x 4 inch oval, end plates

Temperature 500 °F (250 °C)

Frequency 248 kHz

Equipment

- Ambrell 2.4kW/300kHz 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 Current hand-soldering process results in uneven, non-uniform joints and requires long production times. Induction delivers uniform, quality joints by generating heat within the end-plate and reservoir walls.
A single-turn helical coil is used to heat the steel canister. The part is placed in the coil and heated for 2 minutes to reflow a solder ring placed inside the canister to make a leak proof joint.

Results/Benefits Induction heating provides:

- heat generated within the part, saving energy and time
- improved throughput since the entire base is soldered at one time
- precise controllable heat
- uniform, high-quality joints
- repeatable results
- even distribution of heating



Canister is staged within single-turn coil; solder flows in the cavity formed with the steel end-plate.