



Branson Model ST-30/40

## Branson Model ST-30/40

The demand for minimum inventory levels requires 'Just in time' (J.I.T.) manufacturing techniques. Tube filling and sealing lines must be capable of quick changeover from laminates to high and low density plastic tubes and back again with perfect quality and reliability. Ultrasonic tube sealing offers this capability with added benefits not available with other systems.

### Benefits of Ultrasonic Welding:

Branson sealing systems are designed to be mounted as a station on virtually all types of filling machines, whether in-line or rotary. They require no

warm-up time, since no heat is actually applied to the tube being sealed. Every tube goes through the prescribed weld cycle, so that stops and starts during the process will not produce over heated

or under heated tubes; this significantly reduces scrap.

Since no other heaters or hot air streams are applied, the ultrasonic system is ideally suited for safely sealing tubes filled with low flash point materials such as products with a high alcohol content.

The intense scrubbing action of the ultrasonic process disperses product to overflow such as stringers or splashes, which may occur during filling. No other process has been so successful in eliminating this problem.

The Branson Model ST-30/40 eliminates the need to stop and change tooling when changing from high to low density plastic tubes or laminates. A simple one-minute adjustment to the actuator permits sealing a variety of tube sizes and materials.

Far less operating energy needed for ultrasonic tube sealing than for other sealing methods.

When the unit is operating at full power, 1500 and 800 watts are generated during the weld cycle for the 30kHz and 40kHz models respectively. The cycle typically is under one half second in duration. While the machine is "idling" (not actually welding a tube), the power draw is only about 10 watts.

**How Ultrasonic Sealing Works:** The Branson Model ST-30/40 ultrasonic tube sealers are designed to be mounted onto virtually all styles of filling machines.

As the tube is advanced to the ultrasonic tube sealing station, a switch closes to



# Metal Welding

initiate the weld cycle. Air is directed into cylinders to advance the weld anvil and ultrasonic horn towards the center line of the tube. The tube is closed to a preset gap and held for the application of sonic energy.

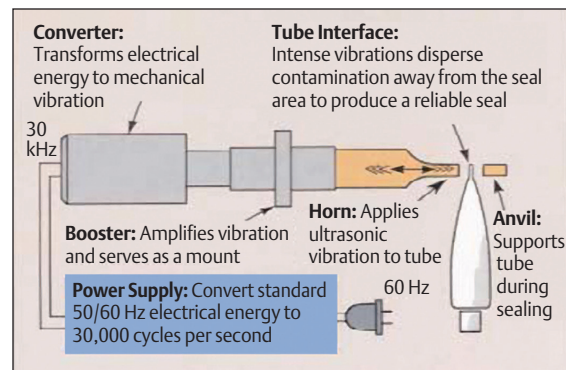
An ultrasonic power supply takes the 50/60 Hz electrical energy and converts it to 30/40kHz through a power oscillator. This high frequency electrical energy is applied to the converter that transforms the electrical current to high frequency mechanical vibrations. The ultrasonic energy causes the horn to vibrate against the tube end at 30/40kHz. The intense vibration disperses any contamination from the seal area and generates heat to bond the materials. The energy is then stopped and the tube is held closed for a brief time (typically 0.05 to 0.150 seconds), allowing the tube to be advanced to the next station on the filling line. Typically cycle times range from 45 to 80 units per minute, depending on tube diameter and material.

## Advantages of Ultrasonic Sealing:

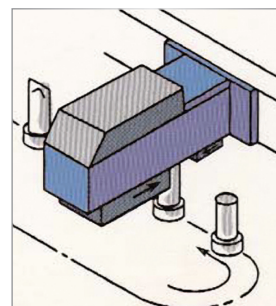
- **Universal:** Adapts to virtually all filling machine styles. Seals both plastic and laminates tubes
- **Fast:** Seals up to 80 tubes per minute
- **Reliable:** Maintains high seal strength even when sealing through product overflow and contaminant's.
- **Economical:** No time lost waiting for machine warm-up. Requires minimal electrical power.
- **Compact:** Actuator and power supply require minimal space.

## Power Requirements:

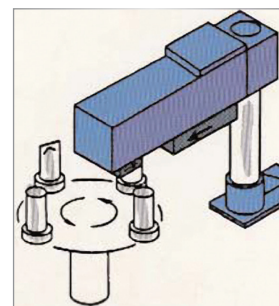
- **Electrical:** 200-245 volts, 5 amp, 50/60 cycles, single phase, or 100-120 volts, 10 am, 50/60 cycles, single phase
- **Air:** Clean, dry compressed air at 60 psig



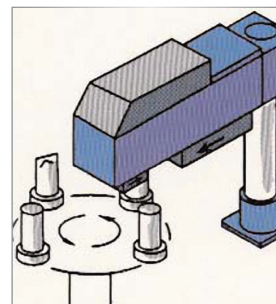
## Mounting Options:



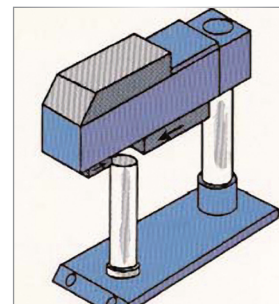
**Model ST-30/40** - Tube sealer mounts directly to tooling beam of in-line filling machines



**Model ST-30/40** - Rotary Pedestal mounted sealer for use with turntable style filling machines



**Model ST-30/40 CDC** - Companion tube trim and date code station with quick change die holder



**Model ST-30/40M** - A manual benchtop system for laboratory or custom operation

# BRANSON

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