



## *Thermal Processor Model TPX 201*

**GENERAL DESCRIPTION:** Branson Thermal Processing Systems are designed for heat staking, thermal insertion, swaging, degating, and date stamping.

**THERMAL STAKING:** In thermal staking, also referred to as "heading or riveting," the controlled flow of molten plastic is used to capture or retain another component, joining plastic to plastic, metal, or any other type of material (e.g., printed circuit boards).

### **BENEFITS OF THERMAL STAKING/ SWAGING:**

- Excellent cosmetics.
- Does not cause damage to fragile electronic or other sensitive components.
- Minimal tool wear.
- No flash or particulate are created.
- Extremely tight stakes created.
- Most thermoplastic materials easily staked/swaged.
- Stake one or multiple stakes on multiple planes simultaneously.

- No cracking, splitting, breaking, or stresses applied to bosses.

**THERMAL INSERTION:** In thermal insertion a metal insert is placed in a boss or hole which is slightly smaller than the insert. This hole provides a certain degree of interference and also serves to guide the insert into place. The heat from the thermal tip travels through the insert to the interface of the metal and plastic. Heat generated by the thermal tip causes the plastic to melt, and as the thermal tip advances, the insert is imbedded into the plastic component. The molten plastic flows into the serrations, flutes, or undercuts of the insert, and when the heat source retracts, the plastic resolidifies and the insert is securely encapsulated in place.

### **BENEFITS OF THERMAL INSERTION:**

- Multiple inserts at different levels can be seated or driven simultaneously. Practically no limit on quantity, size, or plane of the inserts.
- Different sized inserts can be driven simultaneously.

# Thermal Processing

- No material limitations. Inserting into filled materials can be accomplished with less damage to the inserts.
- Process does not produce metal flakes or chips.
- Minimal tool wear.
- Quiet operation.
- 18-½" maximum working height without upper and lower tooling.
- Macro and micro adjustment for platen height.
- New easy access adjustable hydraulic rate control for end of travel, adjustable from 0 to 0.875".
- Pressure regulator, gauge and filter with lock out/tag-out.
- Full positional feedback for software control of beginning and end of stroke signals.
- New remote mountable control module. (Requires optional cable)

## Branson Model TPX (201-1) Standard Benchtop, Single Zone

### STANDARD FEATURES:

- New improved Unitronics operator interface/controller w/ 3 digit Display & Increased I/O.
- Discrete, full-function temperature controllers and self-teach mode.
- Temperature control monitoring and alarm.
- Post cooling.
- Dual palm buttons with two hand anti-tie-down.
- Two 2" bore cylinders, 4" stroke with two Frelon bushings with hardened steel shafts, including fine adjustment features for platen height.

### OPTIONS:

- Table with leveling feet or casters.
- Two, three, or four temperature zones.
- Manual/Automatic part shuttles.
- Extended column height.
- Rotary table.
- Light curtain.
- Remote mount cable.
- Remote start.

### FIXTURING AND TOOLING:

Fixturing and tooling are quoted on a per part basis. Send parts and customer information to the Branson Systems Group in Honeoye Falls, NY, for evaluation.

### ELECTRICAL SPECIFICATIONS:

#### Power requirement:

120V AC, 15 amps, 1Ø, 60 Hz

### MECHANICAL SPECIFICATIONS:

**Weight:** Approx. 175 lbs (79.4 kg)

**Height adjustment:** 14" (457.2 mm)

**Throat depth:** 6" (152.4 mm)

### Dimensions:

#### Overall machine:

21" wide x 28" deep x 43.5" high  
(533.4 x 711.2 x 1076.3 mm)

**Tooling platen:** 6.5 wide x 6.5" deep  
(165.1 x 165.1 mm)

**Tooling stroke:** 4" (101.6 mm)

### Pneumatic requirement:

Clean (5 micron), dry air,  
80 psi @ 20 CFM Max

**Note:** All specifications subject to change without notice.

For further information, please contact Customer Service at Branson, Honeoye Falls, NY, 585-624-8000, ext. 324.

## BRANSON

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Note: All sales shall be subject to the Supplier's terms and conditions of sale as described in Branson's quotations and sales contracts.

Warranty: Branson's Thermal Processor is warranted to be free from defects in materials and workmanship for one year. Heaters are warranted for 90 days.

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