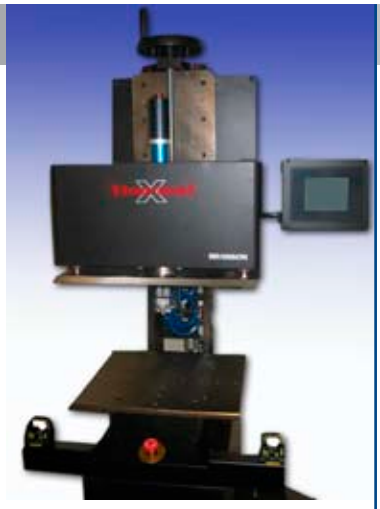
BRANSON

Thermal Processing



Thermal Processor Model 401

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 the 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 cored or drilled 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 accomplished simultaneously. Practically no limit on quantity, size, or plane of the inserts.
- Different sized inserts can be driven simultaneously.

EMERSON™
Industrial Automation

Thermal Processing

- Few material limitations. Inserting into filled material can be accomplished with less damage to the inserts.
- Process does not produce metal flakes or chips.
- Minimal tool wear.
- Quiet operation.

Branson Model (401-4) Standard Benchtop, 4 Zone

STANDARD FEATURES:

- Automation Direct 205 PLC.
- Automation Direct 6" operator interface touch screen.
- Operator interface temperature control, on/off zone selection.
- Temperature control monitoring and alarm.
- On/off ramp and soak, post cooling and shuttle control.
- Contactless opti-touch with two hand anti-tie-down.
- 5" bore, 4" stroke (1 ton) press cylinder with 4 precision twin die set ball bushings, 4 hardened steel shafts, including fine adjustment features for platen height.
- 23-½" maximum working height without upper and lower tooling.
- Macro and micro adjustment for platen height.
- Resettable shift/parts counter and life cycle counter.
- Dual speed downward traverse, rapid traverse down flow control, slow traverse down flow control and traverse up flow control.
- Pressure regulator, gauge and filter, air dump valve with lock out/tag-out.
- Full positional feedback for software control of beginning and end of stroke, plus slow speed position.

OPTIONS:

- 8, 12, or 16 temperature zones.
- 6" bore, 4" stroke (1-½ tons) press cylinder.
- 8" bore, 4" stroke (2-½ tons) press cylinder.
- 5" bore, 6" stroke (1 ton) press cylinder.
- 6" bore, 6" stroke (1-½ tons) press cylinder.
- 8" bore, 6" stroke (2-½ tons) press cylinder.
- Table with leveling feet or casters.
- Part shuttle with 12" stroke.
- Rotary table.
- Additional tooling stroke.
- Extended column height.
- Custom throat depth.
- Light curtain.
- Remote Control Box.
- Tooling "x-y' Alignment Kit.

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:
230V AC, 20 amps,1Ø, 60 Hz

MECHANICAL SPECIFICATIONS:

Weight: Approx. 650 lbs (295 kg)

Height adjustment: 14.25" (362 mm)

Throat depth: 8.75" (222 mm)

Dimensions:

Overall machine:
36" wide x 36" deep x 51" high
(914 x 914 x 1295 mm)

Tooling platen: 21.5 wide x 9.5" deep
(546 x 241 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

Branson Ultrasonics Corporation
41 Eagle Road, Danbury, CT 06813-1961
(203) 796-0400 • Fax: (203) 796-9838
www.bransonultrasonics.com
e-mail: info@bransonultrasonics.com

475 Quaker Meeting House Rd.,
Honeoye Falls, NY 14472
(585) 624-8000 • Fax: (585) 624-1262