

800 SERIES ULTRASONIC PLASTICS ASSEMBLY SYSTEMS

MODEL 8200 - 450 WATTS
MODEL 8400 - 900 WATTS
MODEL 8700 - 1500 WATTS

GENERAL DESCRIPTION

The 800 Series Ultrasonic Plastics Assembly Systems combine power supply, controls, indicators, and stand in a compact bench unit to conserve work space, ease setup, and simplify operation.

An electronic programmer activates the power supply and controls the ultrasonic exposure and pneumatic sequences. The entire welding operation is characterized by simplicity, speed, and efficiency. Once the system is programmed for a particular workpiece, no further adjustments are required. All sequences for each operation are performed automatically, insuring accuracy, speed, and consistency.

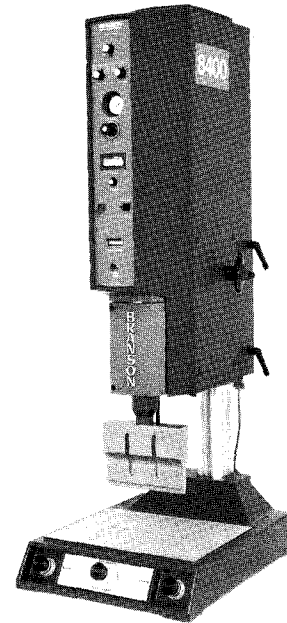
KEY FEATURES

- **Versatility** — The 800 Series Systems are capable of welding, staking, inserting, swaging, spot welding, and degating thermoplastics and can also seal synthetic fabrics, films, and other thin thermoplastic materials. The systems can be used for plunge welding or can be equipped for continuous operation.

A 2-7/8" (73 mm) stroke accommodates parts with deep cavities. The snap-in converter allows easy installation and full rotation of the converter/booster/horn assembly for part alignment.

The welding head can be rotated on the column; height is easily adjusted by turning a handwheel on the side of the unit. The system is compatible with automated systems and most material handling devices.

- **Automatic Frequency Control** eliminates the need for adjustment of the power supply after initial setup.
- **Automatic Amplitude Compensation** provides constant horn amplitude for the different energy requirements encountered during the operating cycle. A front panel loading meter indicates the level of ultrasonic energy absorbed by the workpiece.
- **Dynamic Triggering with Spring Reaction** provides consistent weld quality by insuring that each part receives the same pressure and ultrasonic energy, compensating for variations in part height. Spring



reaction ensures a smooth, efficient transmission of ultrasonic energy into the part by keeping the horn in continual contact with the part.

- **System Protection Monitor** ensures maximum reliability by necessitating correct operating conditions. The monitor terminates ultrasonic power when the system is operated under adverse conditions (i.e., improper tuning, excessive power supply loading, improper, loose, or failed horn or booster), thereby protecting power supply and other system components.

An optional Protection Indicator Module provides two switch-selectable modes for indicating incorrect operating conditions. Rear panel connections can be used to activate external warning devices, reject an improperly welded part, or shut down the system.

- **Modular Construction** allows easy removal of major components for service and full interchangeability with replacements by direct substitution. Single door access to all internal components is provided by a hinged Noryl® side cover. A single casting with integral column clamps and actuator main support provides rigidity and allows precise alignment with parts.
- **Calibrated Controls** on front panel for weld and hold times, carriage down speed, and dynamic triggering. All settings may be recorded so that optimum assembly conditions for any part can be duplicated or repeated on any Branson 800 Series System.
- **Safety** — The 800 Series Systems are in compliance with OSHA requirements and feature a non-tie-down dual palm button control system, an emergency stop button, safety programmer, and a counterbalanced elevation control for the actuator. Design features eliminate pinch points on the carriage assembly.

ELECTRICAL SPECIFICATIONS

Power requirements:

Model 8200 (117V)

Line voltage: 117V, 1 ϕ

Line fuse: 12 Amp

Line current: 4.9 Amp

Model 8200 (100/245V)

Line voltage: 100V, 1 ϕ

Line fuse: 12 Amp

Line current: 6.3 Amp

Model 8400 (117V)

Line voltage: 117V, 1 ϕ

Line fuse: 12 Amp

Line current: 9.7 Amp

Model 8400 (100/245V)

Line voltage: 100V, 1 ϕ

Line fuse: 12 Amp

Line current: 11.8 Amp

Model 8700 (200/245V)

Line voltage: 200V, 1 ϕ

Line fuse: 10 Amp

Line current: 9.8 Amp

Output power:

Model 8200:

450 electrical watts to converter

425 mechanical watts to load

Model 8400:

900 electrical watts to converter

860 mechanical watts to load

Model 8700:

1500 electrical watts to converter

1450 mechanical watts to load

Output frequency: 20 kHz

Weld cycle range: 0.1 – 4.0 seconds

Hold cycle range: 0.05 – 3.0 seconds

Models 8200, 8400, 8700 Ultrasonic Assembly Systems comply with FCC and VDE rules and regulations governing radio frequency interference.

MECHANICAL SPECIFICATIONS

Pneumatic requirement:

Clean (5 micron), dry air @ 100 psig (690 kPa)

Maximum force on part:

440 lbs. @ 100 psig (1.96 kN @ 690 kPa)

Dynamic triggering range:

15 – 165 lbs. (67 – 734 N)

Weight:

Models 8200 and 8400:

117V model: 128 lbs. (58 kg)

100/245V model: 139 lbs. (63 kg)

Model 8700: 145 lbs. (65 kg)

WARRANTY

The Branson 800 Series Ultrasonic Plastics Assembly Systems carry a one-year warranty on all parts and a five-year warranty on the encapsulated Sonomax® control unit. The Sonomax® unit is a matching network in the power supply that provides constant output amplitude and maintains the resonant frequency of the converter.

ORDERING INFORMATION

Model 8200 Ultrasonic Plastics

Assembly System

117V, 50/60 Hz

100/245V, 50/60 Hz (export)

Note: Includes 402 converter.

Branson EDP #

101-162-034

101-162-035

BRANSON SONIC POWER COMPANY

Eagle Rd. • Danbury, CT 06810

(203) 796-0400

Model 8400 Ultrasonic Plastics

Assembly System

117V, 50/60 Hz

100/245V, 50/60 Hz (export)

Note: Includes 402 converter.

101-162-036

101-162-037

Model 8700 Ultrasonic Plastics

Assembly System

200/245V, 50/60 Hz

Note: Includes 803 converter.

101-162-050

ACCESSORIES

Accessory kit – upper limit switch assembly with accessory cable

Branson EDP #

101-063-110

Accessory kit – lower limit, pretrigger switch assembly

101-063-109

Accessory panel kit – for use with J3 or J4 power controls, A410 wattmeter, external solenoid, Protection Indicator Module (when remote contacts and/or remote reset are utilized)

101-063-108

J3 power control* (for Models 8200 and 8400)

101-144-003

J4 power control* for (Model 8700)

101-144-004

Accessory adaptor – for J3 power control when used with Model 8200 or 8400 with upper limit switch installed

100-146-219

Protection Indicator Module*

101-063-115

Cable for remote indicator*

100-146-720

Converter protection kit Models 8200 and 8400

101-063-120

Model 8700

101-063-145

Increased cooling kit (use with constant sonics)

100-146-286

Small cylinder kit

101-063-075

Guard Kit – front panel

101-063-124

*Requires accessory panel kit.

Column length: 36" (914mm). Longer columns available on special order.
Stroke length: 2-7/8" (73mm) max

