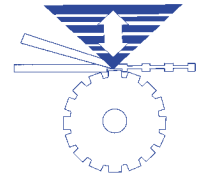


BRANSON

DATA SHEET
PW-45



Ultrasonic Fabric Sealing System Models F-90 and FS-90

General Description

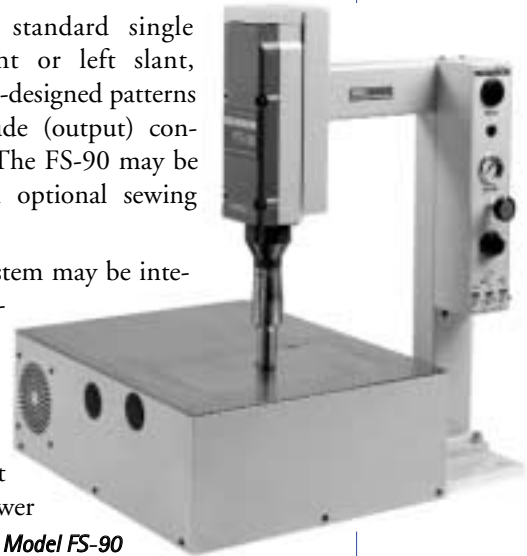
The Branson Models F-90 and FS-90 Ultrasonic Fabric Sealing Systems "sew" and/or slit knitted, woven, and nonwoven man-made thermoplastic materials without needle or thread. Material can be processed at rates up to 50 surface feet (15 m) per minute. (Higher speeds, up to 160 surface feet/49 m, can be achieved with modification to the equipment.)

The *F-90* is a sealing unit that can be mounted in a fabric handling system, and includes a variable speed drive mechanism; pneumatically-activated sealing wheel arm; drive motor; control box; and foot switch or start circuitry to raise and rotate the sealing wheel and start ultrasonics.

The *FS-90* is a stand-alone system used with the Model 2000bdc 1100-watt ultrasonic power supply (includes a converter and booster). An ultrasonic horn is required for use (not included), along with the appropriate sealing wheel, with configuration dependent upon the specific application. Various sealing patterns are avail-

able, including standard single stitch, dot, right or left slant, zigzag, or custom-designed patterns. External amplitude (output) control is available. The FS-90 may be inserted into an optional sewing table.

The FS-90 system may be integrated into automated production lines by eliminating the foot switch and providing a start signal to the power supply.



Model FS-90

Applications and Process Advantages

Materials suitable for processing with the F-90 and FS-90 include 100% synthetics such as nylon, polyester, polypropylene, polyethylene, modified acrylics, some vinyls, urethane, and synthetic blends with up to 40% non-synthetic fiber content (dependent upon the application). Some blends with up to 50% non-synthetic fiber content have been processed. In addition, films and coated papers may be processed.

Machine configuration and the location of the horn and anvils enable flexibility and tight turns in sealing and/or cutting. This also provides an un-obstructed view of the fabric in the processing area.

Typical applications for the systems include protective garments, disposable hospital gowns, shoe covers, face masks, infants' nursery garments, filters, bags, curtains, sails, and web splicing. Sealed edges and seams with no stitch holes prevent penetration of chemicals, liquids, blood-borne pathogens, or particulates, thus providing a benefit over conventional stitching methods. With ultrasonic slitting, the edges are sealed as they are cut, providing smooth, clean, even edges with no bead or bulk.



Model FS-90 in Optional Sewing Table

Branson Worldwide Headquarters

41 Eagle Road
Danbury, CT
06813-1961
(203) 796-0349
FAX (203) 796-9838
Email: info@bransonultrasonics.com

Textile and Film Technical Center

1665 Lakes Parkway
Suite 107
Corporate Lakes
Lawrenceville GA 30043
(770) 962-2111
FAX (770) 962-3720
Email: BUCGA@bransonultrasonics.com

Key Features

- **Safety-guarded two-position foot switch** — First portion of depression raises and engages the rotary wheel applying force to the material being processed; second portion activates ultrasonics and wheel rotation. The speed of rotation increases as the foot switch is further depressed to the maximum set speed.
- **Operator safety** during use — no needles or other moving parts above the work surface.
- **Variable speed drive motor** provides continuous operation at speed ranges of 0 to 50 ft./min. (0 to 15 m) and 7 to 160 ft./min. (2 to 50 m).
- **Operator selectable maximum operating speed** enables operator to set the maximum feed speed at the fully-depressed foot switch position setting.
- **Operator controls** conveniently located on control panel, including pneumatic pressure regulator and gauge; on/off switch; motor auto/off for tacking; pedal or manual control switch; and power on indicator.
- **Stainless steel table surface.**
- **Dual sealing arm** adds capability of supporting up to three-inch wide sealing or lace making wheel, or enables dual sealing and slitting.
- **Optional front and rear sealing arms.**
- **Optional slitting wheel mechanism** with manual blade advancing; separate from sealing mechanism for individual control and longer anvil life.
- **Optional sewing table** with adjustable height.

Warranty

The Branson Models F-90 and FS-90 Ultrasonic Fabric Sealing Systems carry a one-year warranty on all parts and workmanship. The Model 2000bdc power supply carries a three-year warranty on all parts and workmanship. This warranty applies to equipment purchased in the United States. For warranty information on units purchased outside the U.S., contact your local representative.

Mechanical Specifications

Pneumatic

requirement:	80 psi clean, dry air
Sealing wheel force against face of horn:	Variable 1 to 50 lbs.

Dimensions:

Model F-90:

Height:	6-7/8" (175 mm)
Width:	16" (406 mm)
Depth:	20" (508 mm)

Model FS-90:

Height:	26-3/4" (680 mm)
Width:	21-3/4" (552 mm)
Depth:	20" (508 mm)

Model 2000bdc Power Supply:

Height:	6-1/4" (159 mm)
Width:	16-5/8" (422 mm)
Depth:	19-3/8" (492 mm)
	(Depth: plus 3" [76 mm] cable clearance)

Sewing Table (option):

Height:	Adjustable
Width:	48" (1,220 mm)
Depth:	26" (660 mm)

Electrical Specifications

Power requirements:

Models F-90/FS-90:	117V AC, 1 phase, 5 amp, 50/60 Hz
Model 2000bdc:	100-120 V AC, 1 phase, 13 amps, 50/60 Hz

Power supply

electrical connection:	NEMA 5-15P plug provided, requires NEMA 5-15R receptacle.
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Note: For complete power supply information, refer to Branson data sheet 2000bdc.

Ordering Information

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

To order, contact Branson, Danbury, Customer Service Department.

Model FS-90-T, Dual Sealing Arm with Sewing Table — Includes: FS-90 sealer; dual arm/pneumatics; 2000bdc power supply (1100 W); J931 RF cable (8'), CJ20 converter; green, gold, or silver booster; and sewing table. Requires horn and sealing or cutting wheels.

Model FS-90-TB, Dual Sealing Arm, Table and Back Puller — Includes: FS-90 sealer; dual arm/pneumatics; 2000bdc power supply (1100 W); J931 RF cable (8'), CJ20 converter; green, gold, or silver booster; sewing table; and back puller. Requires horn and sealing or cutting wheels.

Model FS-90, Dual Sealing Arm — Includes: FS-90 sealer; dual arm/pneumatics; 2000bdc power supply (1100 W); J931 RF cable (8'), CJ20 converter; and green, gold, or silver booster. Requires horn and sealing or cutting wheels.

Individual Components

	Branson EDP No.
Model F-90 Drive (no ultrasonics)	201-143-076
Model FS-90 Sealer (no ultrasonics)	201-143-090
Dual arm/pneumatics (2nd arm)	201-143-084
Slitter adjuster kit	201-143-083
Model 2000bdc Power Supply, 1100W	101-132-661
J931 RF Cable, 8'	101-240-017
CJ20 Converter	101-135-059
Boosters	
Aluminum, 1:1 (green)	101-149-051
Aluminum, 1:1.5 (gold)	101-149-052
Aluminum, 1:2 (silver)	101-149-053

Note: Boosters are drilled and tapped for 1/2-20 studs.

"489" Boosters	
Aluminum, 1:1 (green)	101-149-093
Aluminum, 1:1.5 (gold)	101-149-092
Aluminum, 1:2 (silver)	101-149-094

Note: "489" boosters are drilled and tapped for 1/2-20 input and 3/8-24 output studs.

Sewing table	100-100-019
J913 Control Cable, 25'	101-240-072

Options

Branson EDP No.
201-143-114

Back Puller

Optional cutting wheels:

Center Cut



0.005" Radius (0.127 mm) 109-015-251

0.015" Radius (0.381 mm) 109-015-252

0.025" Radius (0.635 mm) 109-015-253

Edge Cut



0.005" Radius (0.127 mm) 109-015-248

0.015" Radius (0.381 mm) 109-015-249

0.025" Radius (0.635 mm) 109-015-250

Edge Cut



0.015" Radius (0.381 mm) 109-015-121

Sealing Horns

Titanium horn with 3/8" x 1/8" surface, fluted to facilitate cooling 611-001-109

Titanium horn with 3/8" x 1/4" surface, fluted to facilitate cooling 611-001-104

Titanium horn with 3/8" x 1/4" surface, carbide-faced for wear, fluted to facilitate cooling 611-001-147

Standard slitting horn, 1" diameter titanium, carbide-faced 101-147-034






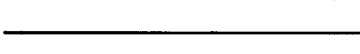




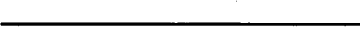




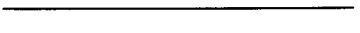





Note: Other standard and special horns are available.

Note: Two additional models are available: The FS-90 In-Line System (includes pneumatically-controlled sealing arm, back puller, guide fence, photo eye, start sensor, and table), and the FS-180 Inverted Sealing System, which has the sealer located under the table surface. Contact Branson for more information.

Sealing Wheels

Sealing wheels provide the “stitch” pattern for ultrasonic fabric and film sealing applications. Standard pattern wheels are shown below. Custom design wheels can be made to order. The wheels are approximately 2.490 inches (63.25 mm) in diameter and are interchangeable. Installation is simple.

WARRANTY - Sealing wheels carry a one-year warranty against defects in material and workmanship. The warranty does not apply to wear.

	DESCRIPTION	BRANSON EDP. NO.
	SINGLE STITCH PATTERN	101-160-911
	STAGGERED TRIPLE STITCH PATTERN	109-015-416
	SOLID BAR DOUBLE STITCH PATTERN	109-015-422
	DOT STITCH PATTERN	101-160-936
	ZIGZAG PATTERN 1/4" wide	101-160-921
	ZIGZAG PATTERN 1/8" wide	101-160-920
	ZIGZAG, SPLIT PATTERN 1/4" wide	101-160-926
	ZIGZAG SPLIT PATTERN 1/8" wide	101-160-925
	ROPE PATTERN	101-160-941
	SERPENTINE PATTERN 1/4" wide	101-160-931
	SERPENTINE PATTERN 1/8" wide	109-015-200
	MEDIUM MALE KNURLED PATTERN 1/4" wide	101-160-968
	MEDIUM MALE KNURLED PATTERN 1/8" wide	109-015-138
	MEDIUM FEMALE KNURLED PATTERN 1/4" wide	101-160-973
	MEDIUM FEMALE KNURLED PATTERN 1/8" wide	109-015-139
	BLANK 1/8" wide	101-160-901
	BLANK 1/4" wide	101-160-902
	Blanks are ready for engraving but not hardened or chrome finished.	
	FLAT SEAM 1/16" wide	101-160-998
	FLOWER PATTERN	101-160-939
	LEAF PATTERN	101-160-940
	Stitching wheels may be combined to produce different patterns. For example, the combination of the right slant (#101-160-950) and left slant (#101-160-951) can produce either the chevron or offset patterns shown left.	

**Branson
Worldwide
Headquarters**

41 Eagle Road
Danbury, CT
06813-1961
info@BransonUltrasonics.com

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