

# BRANSON

## 2000 SERIES

### GENERAL DESCRIPTION

The 2000ae/aod mini ultrasonic actuators operate with Branson 40 kHz 2000d power supplies. These systems offer multiple welding modes including distance (collapse and absolute, aod model only), time, energy, energy compensation, and peak power welding modes. In addition, the systems feature Branson's patented Amplitude Stepping. The 40 kHz power supply is available in 400 and 800 Watts. (Complete power supply information is included on data sheet 2000d/ae.)

The mini actuators are designed for use in semi-automated, or fully automated environments. The actuator may be mounted directly on a machine frame or with a fixed support on a column and hub.

### KEY ACTUATOR FEATURES

- **Short height** – measuring 16.32"(414.52 mm) – allows the 2000ae/aod mini actuators to fit in very small spaces.
- **Linear optical encoder** (aod model only) measures weld distance enabling welding by specific part collapse (meltdown), or welding to a finished part height (absolute). Resolution on the encoder is 0.0001 inch.
- **A force transducer** (aod model only) provides digital setting of the Dynamic Trigger and allows the user to print out force data and graphs for performance evaluation and troubleshooting.
- **Dynamic Triggering** (ae model ) provides consistent weld quality by initiating (triggering) ultrasonic vibrations after a preset force, ranging from 10-160 lbs. (44-712 N) is applied to the part. As melting of the plastic occurs, dynamic follow-through ensures the smooth, efficient transmission of ultrasonic energy into the part by maintaining horn/part contact and force. The range of dynamic follow-through is from 10-160 lbs. (44-712 N).
- **Pressure transducer** accurately monitors and displays air pressure and allows accurate and repeatable setting of weld force.
- **The 1.5 inch bore air cylinder** provides better control of clamp force on low force applications.



2000ae Mini Actuator

- **Calibratable pressure gauge**
- **“Horn down” function** enables ease of horn/fixture alignment.

### AVAILABLE OPTIONS

- ▲ **Solid mount boosters**
- ▲ **High-output 40 kHz converter** – produces 25% higher output amplitude for faster weld cycles.
- ▲ **Printer with cable** - printing of setup and cycle information for comparison and troubleshooting.
- ▲ **Terminal** - for screen-driven setup
- ▲ **Ground detect cable**

### WARRANTY

The Branson 2000 Series ae/aod mini ultrasonic actuators and 2000d power supplies carry a three-year (single-shift) warranty on materials and workmanship. Note: This warranty applies to equipment purchased and operated in North America. For warranty information on units purchased and/or operated outside the U.S. contact your local representative.

## Ultrasonic Assembly Systems

### 2000ae/ 2000aod 40 kHz mini actuators

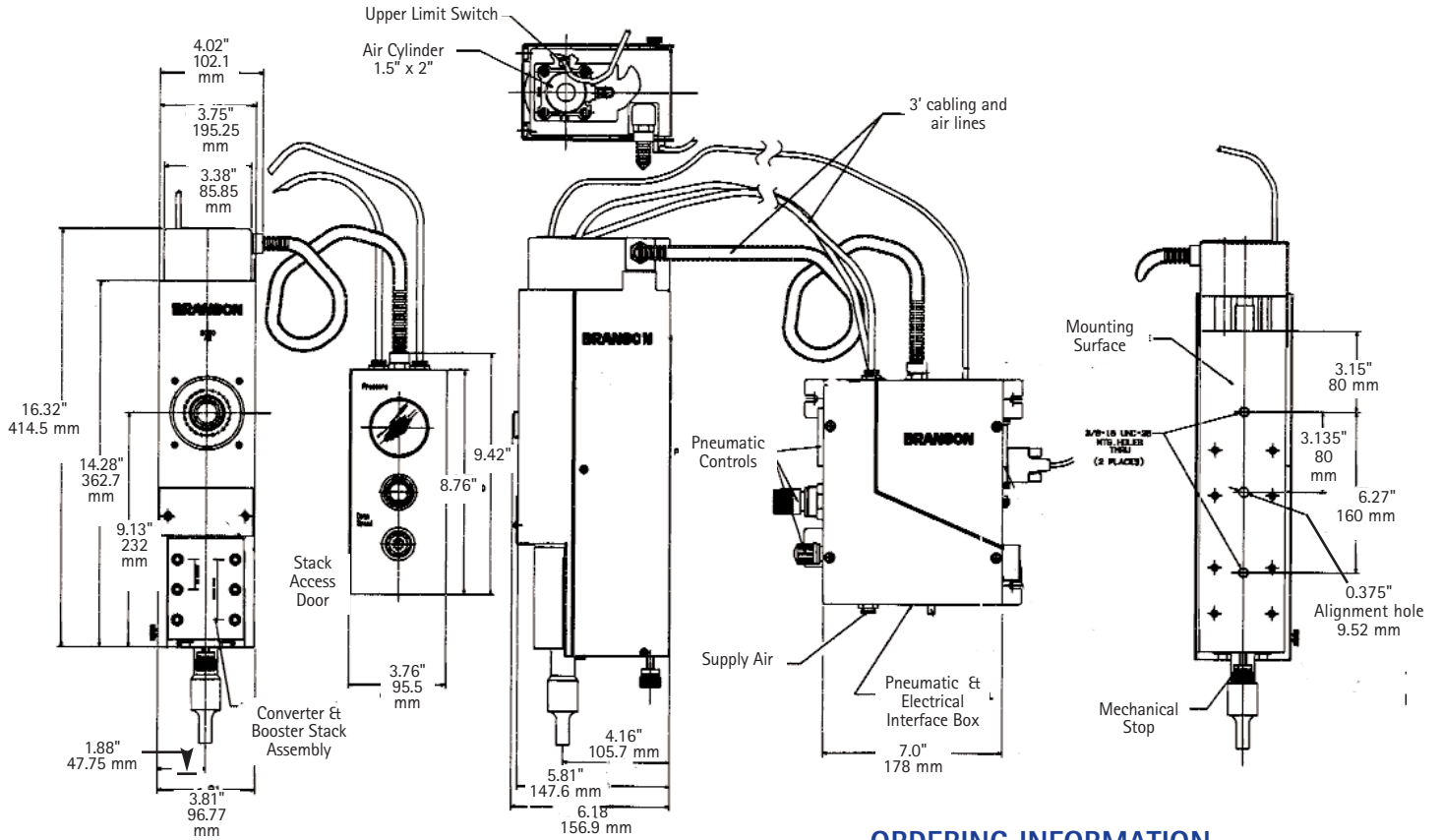
- ✓ **Small Footprint**
- ✓ **Enhanced Performance**
- ✓ **Weld by Distance**
- ✓ **Amplitude Stepping**
- ✓ **Force Measurement**
- ✓ **Calibration**

### Applied Technologies Group

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Danbury, CT  
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fax (203) 796-9838  
e-mail: info@bransonultrasonics.com

**CE** Most units are CE compliant, and comply with FCC rules and regulations governing radio frequency interference. Contact Branson, Danbury, for information.

## SPECIFICATIONS



<b>2000d Power Supply</b>	<b>40:0.4</b>	<b>40:0.8</b>
Output power:	400 Watts	800 Watts
Line voltage:	117 V AC * 50/60 Hz, 1ph	117 V AC * 50/60 Hz, 1ph
Max. current:	6 amps max.	12 amps max.
Receptacle required:	NEMA 5-15R	NEMA 5-15R
Frequency:	40 kHz	40 kHz
Max. cycle rate:	120 cpm **	
Ambient temp. range:	41-122° F (5-50°C)	
External inputs/outputs:	9-pin start connector; 44-pin user I/O connector	
<b>Actuator Model</b>	<b>2000ae/aod mini 1.5</b>	
Max. clamp force on part (at 100 psig/ 690 kPa)	160 lbs. 712 N	
Dynamic Triggering range:	5-140 lbf. 22-623 N	
Stroke length:	2" (50.8 mm) max.	
Pneumatic requirement:	Clean (5 micron, filtered), dry, non-lubricated air at 100 psi (690 kPa)	
* 200-240 V AC optional.		
** Application dependent.		

## ORDERING INFORMATION

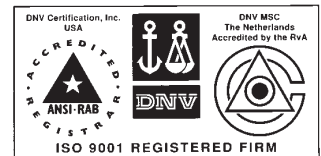
*Note: All sales shall be subject to the Supplier's terms and conditions of sale as described in Branson's quotations and sales contracts.*

**Branson EDP No.**

2000ae mini actuator with pneumatic control and interconnect cables 159-134-197

2000aod mini actuator with pneumatic control and interconnect cables (includes load cell & linear encoder) 159-134-191

*Note: Does not include cables for interconnection with power supply.*



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