

# more Power Features

## new FEATURES

- Digital Time and/or Constant Energy Weld Modes Available
- Single-piece Rigid Cast Aluminum Machine Base and Column Hub
- Digital Amplitude Control
- Ultrasonic Horn/Stack Frequency Display
- Front Panel Pneumatic and Microprocessor Controls

## new MODELS

### WELD BY:

digital time

- **Model XPT 1200** (1200 watts)
- **Model XPT 2200** (2200 watts)

digital time and/or constant energy

- **Model XPE 1200** (1200 watts)
- **Model XPE 2200** (2200 watts)

### STANDARD FEATURES INCLUDE:

- Automatic Frequency Tuning
- Weld, Hold, Delay and Afterburst Timers
- Back-Lit LCD Display
- Ultrasonics Load Meter Scale
- Upper and Lower Weld Limit Settings
- Soft-start Overload Protection Circuitry
- Load Regulation Circuitry
- Digital Wattage Display



**SONICS**<sup>®</sup>  
SONICS & MATERIALS, INC.



## Models XPT and XPE Integrated Welder For Ultrasonic Plastics Assembly



# X-Press

Leaders in the field of ultrasonic plastics welding equipment and technology since 1969, Sonics & Materials introduces its new 20 kHz X-Press integrated welder, an all-in-one super-rigid ultrasonic press that combines power, versatility and microprocessor control in one convenient unit.

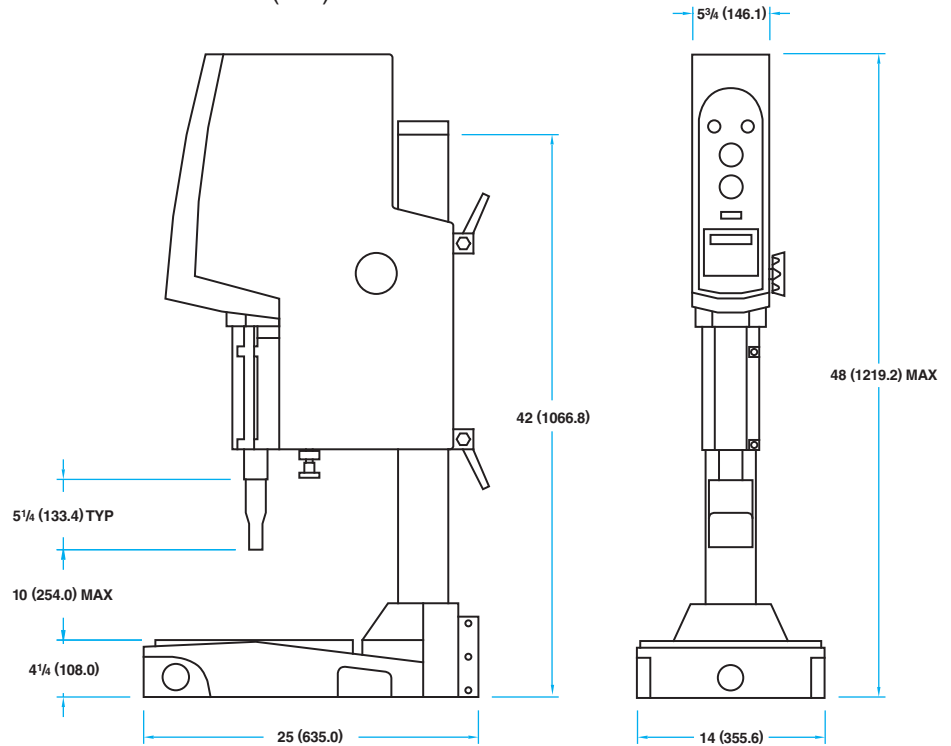
The X-Press easily handles significantly larger part size and force requirements and delivers consistent reliability for every application. The built-in microprocessor with easy-access front-panel keypad provides streamlined smart-logic navigation through user-friendly welding mode controls and displays.

## dimensional data:

All Dimensions: Inches (mm)

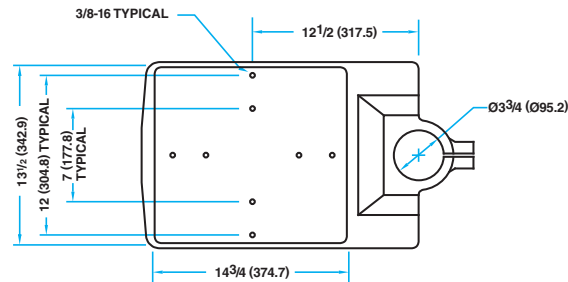
## X-Press features

- Single Piece Rigid Cast Aluminum Machine Base and Column Hub
- Super-rigid 3.75" Steel Column Diameter with 0.5" Wall Thickness
- Single Rail Linear Slide
- Direct In-Line Air Cylinder
- Front Panel Pneumatic Speed and Pressure Controls
- Microprocessor with Front Panel Keypad

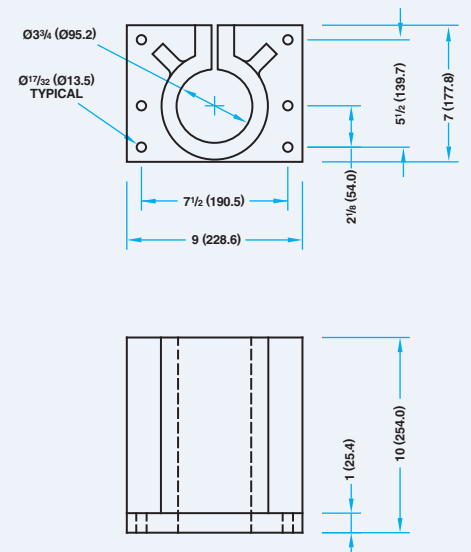


## specifications, additional features, and options

Dual Cycle Start Buttons	Standard
Non-Contact Cycle Start Buttons	Optional
Front Emergency Stop	Standard
Head Adjust Counterbalance Spring	Standard
Adjustable Positive Stop	Standard
Automation Limit Switches	Optional
360° Snap-In Stack Assembly	Standard
Rigid Mount Booster	Optional
Stand Alone Column Hub	Optional
Extended Length Column	Optional
4" (101.6) Stroke Air Cylinder	Standard
Air Cylinder Bore Diameter	2.5" (63.5)
Clamping Force at 90 PSIG	441 lbs. (1961n)
Input Voltage	220 VAC
optional for 1200 watts	120 VAC
Weight	180.5 lbs. / 81.9 kg



## OPTIONAL STAND-ALONE HUB





**SONICS**<sup>®</sup>  
SONICS & MATERIALS, INC.

**POWER**

500 Watts

**FEATURES**

- Digital Amplitude Control
- Autotune Circuitry
- Programmable Time and/or Energy Welding Modes
- Converter Frequency Display

**new MODELS**

- 20 kHz *Time* - H520T/CV55
- 20 kHz *Time & Energy* - H520E/CV55
- 30 kHz *Time* - H530T/CV53
- 30 kHz *Time & Energy* - H530E/CV53
- 40 kHz *Time* - H540T/CVG54
- 40 kHz *Time & Energy* - H540E/CVG54

**STANDARD FEATURES INCLUDE:**

- Microprocessor Controlled
- Automatic Frequency Tuning
- Digital Amplitude Control
- Back Lit LCD Display
- Ultrasonics Load Meter Scale
- DB9 PLC I/O Connector
- Overload Protection Circuitry
- Overload Reset
- 10 ft. removable cable (other lengths available upon request)

**Models H520/CV55 • H530/CV53 • H540/CVG54**  
**Hand Held Ultrasonic**  
**Plastics Welding Systems**

*with Time and/or Energy Welding Modes*



**20 kHz**  
*Model H520E/CV55*

**30 kHz**  
*Model H530E/CV53*

**40 kHz**  
*Model H540E/CVG54*

Leaders in the field of ultrasonic plastics welding equipment and technology since 1969, Sonics & Materials, Inc. offers three compact and portable 500 watt hand held welders for 20 kHz, 30 kHz and 40 kHz frequencies.

These lightweight, yet rugged and reliable units are easy to operate and are designed specifically for welding, staking, inserting and spot welding applications. The hand held welders consist of an ultrasonic power supply and an ultrasonic hand held converter.

The 20 and 30 kHz hand held converters are supplied with a standard 1/2" (12.7 mm) diameter flat-faced welding tip that attaches to an integral titanium front driver. This front driver has a 1/4-28 threaded end to accept other standard or custom tips.

The 40 kHz hand held converter is supplied with an 8 mm threaded titanium front driver for horn attachment. Horns are sold separately and are custom designed to customer requirements.

A variety of optional accessories, as well as standard threaded tips, are available as described on the reverse.

## Optional Accessories Available for Hand Held Welders

### Manual Press

A manual press is available for assembling parts where production volume does not justify automated equipment. The press provides more controlled motion of the converter than is possible when holding the converter by hand, resulting in more consistent assemblies. This unit includes adjustable cam switch actuation. An optional plug-in foot pedal is also available for foot switch activation (see below).

**Order No. – SD-M501 for all models**



### Stapler

A lightweight stapler attachment is available for the CV55 20 kHz hand held converter and is ideally suited for sealing

low production rate clamshell packages. The stapler is designed with a special pivoting mechanism that is attached to the converter. This mechanism contains a steel anvil that applies pressure to a small area on the flanged outer edge of the clamshell package. The anvil is supplied with two sealing patterns: a medium diamond knurl and a coarse diamond knurl. To switch from one sealing pattern to the other, the anvil is rotated 180°. **Order No. – CV00553 for 20 kHz (Converter with Stapler Attachment)**

### Pistol Grip

A Pistol Grip is available for the model CV55, CV53 and CVG54 hand held converters and is designed to provide more ergonomic handling of the unit for certain application demands. The Grip is a lightweight device that simply attaches to the converter and allows the operator to activate the ultrasonics by pulling on the “trigger.”

**Order No. – 681-0026**



### Foot Pedal

A plug-in foot pedal is available for “ultrasonics on” triggering as opposed to triggering the ultrasonics by hand with the paddle on the side of the converter.

**Order No. – 830-00004**

## Ultrasonic Hand Held Welder Specifications

### Power Supplies (all models)

**Input Voltage:**

- **Standard** 120 volts (specify H520-110, H530-110 or H540-110), 50/60 Hz, regulated between 95-135 volts
- **Optional** 220 volts (specify H520-220, H530-220 or H540-220), 50/60 Hz, regulated between 190-265 volts

**Dimensions:** 8.5 in. H x 13.5 in. W x 7.5 in. D  
(216 mm H x 340 mm W x 190 mm D)

**Weight:** 13 Lbs. (5.9 kg)

### Hand Held Converters (Models CV55, CV53 & CVG54 as noted)

	MODELS CV55 & CV53	MODEL CVG54
<b>Dimensions:</b>	1.9 in. (48.3 mm) D x 7.1 in. (180 mm) L (CV55) or 6.3 in. (160 mm) L (CV53), with standard tip	1.9 in. (48.3 mm) D x 6.3 in. (160 mm) L without horn
<b>Weight:</b>	1.5 lbs. (0.68 kg)	1.5 lbs. (0.68 kg)
<b>Horn:</b>	Titanium, integral with threaded end to accept replaceable tips	Titanium or aluminum, quoted separately
<b>Tip:</b>	Standard 1/2" (12.7 mm) diameter flat faced titanium tip (see chart for other tip configurations)	N/A

## Staking/Spot Welding Tips Specifications

Standard threaded tips available for staking, spot welding, and inserting are listed below. Special carbide coated wear resistant, flat, knurled, and custom faced tips are also available upon request.

### Tip Assortment Kit (20 & 30 kHz only)

This kit contains 6 spot welding tips, 6 staking tips, 6 knurled tips, 5 inserting tips and 2 flat tips. Tips have 1/4-28 threaded stud and can be used on 1/2" diameter front drivers.

**Order No. - #631-0100**

### SPOT WELDING TIPS

Material Thickness		TIP CODE LETTER
Inches	MM	
1/32	0.793	SA
3/64	1.190	SB
1/16	1.587	SC
5/64	1.984	SD
3/32	2.381	SE
7/64	2.778	SF

### INSERTING

SAE			METRIC		
Insert Size	Inside Diameter of Insert	Pilot Diameter of Tip	Insert Size	Inside Diameter of Insert	Pilot Diameter of Tip
4-40	0.088	0.078	2.5 x 0.45	0.079	0.069
6-32	0.106	0.096	3 x 0.5	0.097	0.087
8-32	0.133	0.123	3.5 x 0.6	0.114	0.104
10-24	0.147	0.137	4 x 0.7	0.129	0.119
10-32	0.160	0.150	5 x 0.8	0.165	0.155
1/4-20	0.200	0.190	6 x 1	0.195	0.185
1/4-28	0.211	0.201	8 x 1.25	0.265	0.255
5/16-18	0.262	0.252			

For more information on ultrasonic staking, spot welding, and insertion, request the following data sheets:

“Ultrasonic Staking and Spot Welding of Thermoplastic Assemblies”, and/or “Ultrasonic Installation of Inserts in Thermoplastic Components”.

### Ordering Information

Specify tip required using code letter.

Example:

### Staking tip “A” indicates

a tip used for staking a 1/32 in. solid boss with a high profile flared head.

### Spot welding tip “SA”

indicates a tip used for spot welding 1/32 in. thick material.

### STAKING TIPS

Plastic Boss Diameter	TIP CODE LETTER					
	Solid Boss Flare Head				Conical Boss Spherical Head	
	High Profile		Low Profile		High Profile	Low Profile
Inches	MM	Tip Size	Stud Height	Tip Size	Stud Height	Hollow Boss
1/32	0.793	A	.050	G	.019	AA GG -
1/16	1.587	B	.100	H	.0375	BB HH -
3/32	2.381	C	.150	I	.056	CC II -
1/8	3.175	D	.200	J	.075	DD JJ R
5/32	3.969	E	.250	K	.094	EE KK S
3/16	4.762	F	.300	L	.112	FF LL T