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

with Time and/or Energy Welding Modes

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 ½” (12.7 mm) diameter flat-faced welding tip that attaches to an integral titanium front driver. This front driver has a ¼-28 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)

<table>
<thead>
<tr>
<th>MODELS CV55 &amp; CV53</th>
<th>MODEL CVG54</th>
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<tbody>
<tr>
<td>Dimensions: 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</td>
<td>Dimensions: 1.9 in. (48.3 mm) D x 6.3 in. (160 mm) L without horn</td>
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<tr>
<td>Weight: 1.5 lbs. (0.68 kg)</td>
<td>Weight: 1.5 lbs. (0.68 kg)</td>
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<tr>
<td>Horn: Titanium, integral with threaded end to accept replaceable tips</td>
<td>Titanium or aluminum, quoted separately</td>
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<tr>
<td>Tip: Standard ¼” (12.7 mm) diameter flat faced titanium tip (see chart for other tip configurations)</td>
<td>N/A</td>
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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 ½” diameter front drivers.
Order No. - #631-0100

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.