



Electronic Crimping Tool HPS

Model 5AHPS0

Crimping tools with interchangeable jaws and dedicated power supply

Operation Guide

Notices

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Recycling



For recycling contact CRS or your local CRS distributor.

Safety Notices

CAUTION

A **CAUTION** notice warns of a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

WARNING

A **WARNING** notice warns of a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.

Sound Pressure

Sound pressure $L_{pA} = 79 \text{ dB(A)}$

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Operations Guide

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This operation manual applies to the following products:

	Model Number
Electronic Crimping Tool HPS	5AHPS0
Electronic Crimping Tool HPS 11 mm Kit with Crimper and Decapper Jaw Sets	5AHP11K0
Electronic Crimping Tool HPS 20 mm Kit with Crimper and Decapper Jaw Sets	5AHP20K0
Related Items	Item Number
Accessory Base for Electronic Crimpers	5ABAS0
11 mm Crimper Jaw Set	311955
20 mm Crimper Jaw Set	320955
20 mm Flip-Off Crimper Jaw Set	320956
8 mm Crimper Jaw Set	308955
13 mm Crimper Jaw Set	313955
13 mm Flip-Off Crimper Jaw Set	313956
11 mm Decapper Jaw Set	311965
20 mm Decapper Jaw Set	320965
13 mm Decapper Jaw Set	313965

Warnings

WARNING

Remember to wear safety glasses when crimping or decapping.

The crimper or decapper jaws can pinch severely.



Only change jaws after the power supply has been disconnected or the tool has been locked.

Never insert fingers into the crimping tool jaws.



Use only the 12 volt DC Power Supply supplied with the crimping tool.



Intended Use

Electronic Crimping Tools are intended for use in a laboratory environment.

Prohibited Use

All other uses are prohibited.

Limits

Temperature 15°C to 35°C

Humidity not more than 75%

Pressure 0.75 to 1 bar

Description

The Electronic Crimping Tool HPS can be used to crimp and decap standard crimp caps on laboratory sample vials. A variety of jaw sets can be used to accommodate the most popular sizes.

Crimping Tool Setup

Please read through this entire manual to familiarize yourself with the operation of the tool before proceeding. Use the same degree of care as you would with any precision instrument.

Remove the tool, power supply and cable, and CD from the shipping container. Inspect the crimping tool and any jaw sets. If there is any visible damage contact your supplier immediately.

Operation

Connecting the Power Supply

Connect the 12 volt DC supply to the mains with the power cord provided and also to the connector on top of the crimping tool.

After power up the jaw set may be selected with the \oplus and \ominus buttons while the display is blinking.





Locking the Crimping Tool

If the power is connected the crimping tool must be locked before changing jaw sets.

To lock out the tool hold the \oplus or \ominus button for 2 seconds. The display will show *Off* and then flash with the last jaw set code in use. The go-button will not start the tool when it is locked out.



Selecting or Changing a Jaw Set while Power is Connected



WARNING

First lock the tool by holding the \oplus or \ominus button for 2 seconds.

Insert the jaw set into the bushing at the bottom of the tool. Push up against the spring load and then twist until the set locks into position. To remove a jaw set, push the button on the outside of the supporting cup and rotate.



While the jaw set code is flashing use the \ominus button to choose the size and the \oplus button to select *c* for crimper or *d* for decapper.

When the selection is complete, press and hold the go-button 2 seconds to confirm the selection. The display will show *On* momentarily and then enter operating mode.

The last setting for a given jaw set is reloaded when it is selected for use.



Selecting the wrong jaw set can cause the crimping tool to attempt to travel too far, creating an *Er1* (Stall) condition. See page 9.

Selecting Compatible Vials, Caps and Seals

Standard aluminum or steel caps or two-part caps with aluminum sides and magnetic tops together with seals of standard size and thickness are appropriate. 20 mm caps with very thin seals cannot be removed with the 20 mm decapper jaw set.

WARNING



Adjusting the Tool for Crimping Jaws

The electronic crimping tools must be adjusted for the vials, caps and seals that will be used. The \oplus and \ominus adjustment buttons on the top of the crimping tool set a stop position for the motor that drives the tool. Pressing either button one time displays the current setting. Pressing again will change the setting.



The numerical setting of the crimping tool sets a stop position that determines the amount of compression of the cap and is very accurate. There may be some drifting in the setting over time due to stretching or wearing-in of components of the new tool, but generally the reproducibility of the crimp is as good as the consistency of the vials and seals. Some adjustment for different lots of caps and seals is to be expected.

Select 5 or so vials, caps, and seals for the purpose of setting the crimp. Place the seal and cap on the vial and rest the tool on top of the cap.

Squeeze the go-button lightly to engage the motor. This button must be held down until the crimp is complete. If the button is released early the tool will retract and display the error code, *Er0*. An error code, *Er1*, means that the tool stalled – it was not able to deliver enough power to reach the position requested in the setting.

Check the crimped vial for satisfactory form and tightness. If the cap spins easily, press the \oplus button two or three times. Try the new setting with a new vial and cap.

Crimping the same vial two times will not give the same results and sometimes will result in vial breakage. See the section on “Troubleshooting” for more information.

Special considerations for 20 mm Headspace vials. It is common practice to use the “twist test” to check headspace vials for satisfactory crimps. In fact many sealing systems hold pressure perfectly well so long as the seal is well compressed.

CAUTION



Good Crimp



Too Tight



Too Loose

WARNING

Adjusting the Tool for Decapping Jaws



The adjustment is not very important when decapping. The factory settings for the decapper jaw sets are probably satisfactory.

The 11 mm and 13 mm decapper jaws work by closing the jaws around the neck of the vial and stripping the cap off. For the 11 mm and 13 mm decapper jaw sets to work the glass vial must be strong enough to resist the force applied by the tool. In the case of inferior or soft glass, or if a vial is reused, the lip of the vial may break during cap removal.



To adjust the tool for the 11 mm and 13 mm decapper jaw set make sure that the stroke is long enough to remove the cap. Each step for the decapper jaw set is 5 units.

The 20 mm decapper jaw set works by pinching the sides of the cap with the decapper jaws and pushing out the glass. The pinching action starts to pull the cap off, and the force of the tool does the rest of the work.

To adjust the tool for the 20 mm decapper jaw set, just make sure that the stroke is long enough to remove the cap.

Saving Multiple Programs for a Jaw Set

If you use more than one type of cap and seal of the same size you may decide to store multiple settings. To do this, hold the **+** and **-** buttons down together for two seconds, until the current program number is displayed. Then use the **+** and **-** buttons to scroll through the programs (*Pr1* – *Pr9*). Programs displaying “---” are not in use. After choosing a program, press the go-button to select it. The program setting can be adjusted at that point. To remove a program use the **-** button until “---” is displayed. (Hold a button to scroll rapidly).



Unless multiple programs are in use they will not appear on the display.

Reset

Pressing the reset button is the same as disconnecting and reconnecting power. After selecting the jaw set and pressing the go-button the crimping tool retracts to the top zero position.



Storage

Remove power from the tool to prevent accidental cycling before storing.

CAUTION

Fault Conditions

Major and minor faults are identified on the LED display, normally after a crimp cycle.

Fault Code	Possible Cause	Recommendation
<i>Er0</i>	Early go-button release – the tool retracted before completing cycle.	Try again, making sure to hold the button down until the tool is returning to the home position.
<i>Er1</i>	Stall Condition – Crimp Setting is too high.	Adjust tool to a lower setting.
<i>Er9</i>	Motor drive failure	See Maintenance / Repair section for contact information for warranty and repair service information.

Other Display Codes

Display	Description	Comment
<i>xx d</i> (e.g. <i>11d</i>)	xx decapper jaw set selected	See page 6.
<i>xx c</i> (e.g. <i>20c</i>)	xx crimper jaw set selected	See page 6.
<i>Xx</i> (e.g. <i>38</i>)	The tool setting is 38	
<i>Prx</i> (e.g. <i>Pr0</i>)	Program x for the given jaw set.	
<i>Off</i>	Tool has been locked out	Press the Go- button for 2 seconds to resume operation.
<i>On</i>	Tool is returning to operation	

Maintenance and Repair

General Maintenance

The electronic crimping tools do not contain user serviceable parts.

Cleaning

Disconnect Power before cleaning!



The crimping tool may not be immersed in water or solvent. The outside of the case may be cleaned with an ordinary detergent and wiped off with a damp rag. Care should be taken not to get the electronics wet.

Avoid permitting metal parts of the crimping tool to come into contact with corrosive material during use. If they do, try to wipe them clean with a suitable mild neutralizing solution.

WARNING



Troubleshooting

Condition	Possible Cause	Recommendation
Side of cap is indented. Seal is deformed in hole.	Crimp setting is too high. The crimp is too tight.	Adjust tool to a lower setting by pressing the  button.
Cap spins easily.	Crimp setting is too low. The crimp is too loose	Adjust tool to a higher setting by pressing the  button.
Crimping is inconsistent. Some vials are good and some are not.	Vials, caps or seals are inconsistent.	Check crimper by using some standard, approved, vials caps and seals.
	Electronic failure in crimper.	Visit www.ChromRes.com for support information.
11mm or 13mm decapper leaves caps hanging on vials	Decapper adjustment is too low.	Adjust the decapper to a higher setting by pressing the plus button.
	Jaws are worn or broken	The decapper will have to be replaced or repaired. Visit www.ChromRes.com for support information.
Motor does not come on or moves in one direction only.	Drive circuit failure.	Visit www.ChromRes.com for support information.
No activity when power supply is connected.	Power supply failure.	Visit www.ChromRes.com for support information. (Power supply must be replaced).

Support and Repair

If the crimping tool is still in the warranty period, contact your dealer for support. If the warranty period has expired, please visit www.ChromRes.com for information about the crimper repair service.

Appendix A

Accessory Base for Electronic Crimpers

