Agilent Electronic Crimping Tools

5062-0207
5062-0208
5062-0209
5062-0210

Operation Guide

Agilent Technologies
Notices

**Warranty**

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**Safety Notices**

**CAUTION**

A CAUTION notice denotes 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 denotes 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.

**Recycling**

For recycling contact your local Agilent Sales Office.

**Sound Emission Certification for the Federal Republic of Germany**

Sound Pressure

Sound pressure Lp < 70 dB(A) according to DIN-EN 27779

Schalldruckpegel

Schalldruckpegel Lp < 70 dB(A) nach DIN-EN 27779
This operation manual applies to the following instruments:

- Agilent 11 mm Electronic Crimper, part number 5062-0207
- Agilent 20 mm Electronic Crimper, part number 5062-0208
- Agilent 11 mm Electronic Decapper, part number 5062-0209
- Agilent 20 mm Electronic Decapper, part number 5062-0210
- Agilent Replacement Battery, part number 5188-6565
Crimping Tool Setup

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

Remove the instrument, power supply, and cable from the shipping container.

Remember to wear safety glasses when crimping.
The crimper or decapper jaws can pinch severely.
Never insert fingers into the crimper or decapper.
Use only the 7.5v DC Power Supply supplied with the crimper for battery charging.
Electronic crimpers and decappers are intended for use in a laboratory environment.

Limits
Temperature 15°C to 35°C
Humidity not more than 75%
Pressure 0.75 to 1 bar

Inspect the crimper or decapper. If there is any visible damage contact your supplier immediately.
Charging the Battery for the First Time

The crimper has been shipped with the battery already installed, but the battery must be charged overnight before the crimper or decapper can be used. The crimping tool will not operate while charging.

1. Connect the 7.5 volt DC supply to the power main using the cord provided.

2. Plug the power jack from the DC supply into the crimping tool. After a short pause the LED on the front of the tool will begin blinking amber, showing that the charging has started.

3. After some time the LED will begin blinking green, indicating that the rapid charge cycle is complete. However, leave the power supply connected for at least 12 hours, which continues to charge the battery with a trickle current.

4. Disconnect the crimper from the charging supply.

Selecting Compatible Vials, Caps and Seals

Agilent electronic crimping tools may not be used with all-steel caps. Aluminum caps and seals of standard thickness are appropriate. Very soft seals, such as DANI seals, are not compatible with the 20 mm crimper or decapper.
11 mm and 20 mm crimpers must be adjusted for the vials, caps and seals that will be used. The adjustment buttons on the front of the crimping tool serve to program a stop position for the motor that drives the tool.

The adjustment of the crimping tool is effectively a height adjustment. The setting determines the amount of compression of the cap and is very accurate.
1. Select 5 or more vials, caps, and seals for the purpose of setting the crimp.

2. Place the seal and cap on the vial and rest the crimper on top of the cap.

3. Squeeze the trigger switch lightly to engage the motor. This switch must be held down until the crimp is complete. If the switch is released early the crimper will retract.

4. If the LED blinks amber after the cycle is complete, a fault was detected.

   Two yellow blinks means that the trigger button was released early. Three yellow blinks means that the crimper stalled – it was not able to deliver enough power to reach the position requested in the setting.

   Please see the section, “Fault Conditions” for further information.

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

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

7. If the crimp is too severe, or the cap is too tight with deformed sides, try a lighter setting by pressing the less crimp (–) button two or three times.

8. There are special considerations for 20 mm Headspace vials. It is common practice to check headspace vials for satisfactory crimps by twisting the cap. In fact, many sealing systems hold pressure perfectly so long as the seal is well compressed, even if the cap can be twisted with some effort.
The adjustment is not very important when decapping. As shipped from the factory, the decapper should remove a cap satisfactorily.

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

   To adjust the 11 mm decapper, make sure that the stroke is long enough to remove the cap.

2. The 20 mm decapper 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 decapper does the rest of the work.

   To adjust the 20 mm decapper, make sure that the stroke is long enough to remove the cap.
Operation

**Electronic Crimpers**

After receiving a full battery charge the electronic crimper will normally crimp several hundred vials, depending on the age of the battery and the requirements of the seal and cap chosen.

If multiple samples are to be crimped at one time, the vials may be placed in a rack with the caps in place. The caps can then be crimped in quick succession with good results.

**Electronic Decappers**

After receiving a full battery charge, the electronic decapper will normally remove over 100 caps, although the toughness of the 20 mm cap can limit total battery life.

A series of samples in most standard vial racks can be decapped in quick succession with good results.
Recharging the Battery

The 4.8v battery pack for the electronic crimper uses nickel metal hydride cells.

In the case that the crimper is used for a small number of vials each day it is not necessary to recharge the battery every night. However, the battery will lose its charge slowly when not in use.

The crimper will not operate while charging.

1. To recharge the battery, plug the 7.5v DC supply into the mains. Use only the power supply provided. Plug the DC power jack into the crimping tool.

   After a short period, the LED on the crimping tool will begin blinking amber. When the charging is complete the LED will begin blinking green. The time required for charging depends on the condition of the battery.

2. Disconnect the crimping tool from the DC supply when the charge is complete.
The reset button serves several functions. To press the reset button use the end of a small tool to access the recessed button.

1. **Single Reset**: Pressing the reset button one time causes the position sensor to be set to zero and resets the processor.

2. **Double Reset**: Pressing the reset button a second time in succession causes the crimping tool to start the motor in reverse to bring the tool to its top starting position. This is useful if the crimper did not complete a crimp cycle properly and the jaws have not opened completely.

3. **Factory Reset**: This requires pressing the reset button while both the more crimp (+) and less crimp (−) buttons are held down. The green LED will blink one time and the crimping tool is returned to the factory setting. This is useful to find a consistent starting point for adjusting the crimping tool if it is far out of adjustment.

After reset, the switch is not active until it has been pressed and released one time.
# Crimper Fault Conditions

Major and minor faults are identified by LED signals, normally after a crimp cycle. See Table 1 below.

<table>
<thead>
<tr>
<th>Fault Code</th>
<th>Possible Cause</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Amber Blinks after crimp</td>
<td>Stall Condition – Crimp Setting is too high.</td>
<td>Adjust crimper to a lower crimp setting.</td>
</tr>
<tr>
<td></td>
<td>Stall Condition – Battery does not have sufficient charge.</td>
<td>Recharge battery.</td>
</tr>
<tr>
<td>2 Amber Blinks after tool cycles</td>
<td>Early trigger release – the tool retracted before completing cycle.</td>
<td></td>
</tr>
<tr>
<td>3 Amber Blinks – but tool does not cycle</td>
<td>Motor drive failure</td>
<td>See <em>Maintenance/Repair</em> section for contact information for warranty and repair service information.</td>
</tr>
</tbody>
</table>

Table 1. Fault Codes
Maintenance and Repair

General Maintenance

The electronic crimper tools do not contain user serviceable parts except for the battery pack.

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 cloth. Care should be taken not to get the electronics, the battery, or the battery connections 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.

Battery Replacement

Use only the specified 4.8v replacement battery pack, part number 5188-6565. Use of other batteries may cause fire during charging or use.

To change the battery pack remove the round cover at the back of the tool. A large coin can be used to rotate the cover 1/4 turn counter-clockwise.

Slide out the battery pack. Replace with a new pack. Be careful to insert the new pack with the alignment pin in the down position.
# Crimper Troubleshooting

<table>
<thead>
<tr>
<th>Condition</th>
<th>Possible Cause</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side of cap is indented. Seal is deformed in hole.</td>
<td>Crimp setting is too high. The crimp is too tight.</td>
<td>Adjust crimper to a lower crimp setting.</td>
</tr>
<tr>
<td>Cap spins easily.</td>
<td>Crimp setting is too low. The crimp is too loose.</td>
<td>Adjust crimper to a higher setting by pressing the plus button.</td>
</tr>
<tr>
<td>Cannot find a good crimp setting.</td>
<td>The crimp is far out of adjustment.</td>
<td>Return crimper to factory setting. See <em>Reset</em> above.</td>
</tr>
<tr>
<td>Crimping is inconsistent. Some vials are good and some are not.</td>
<td>Vials, caps or seals are inconsistent.</td>
<td>Check crimper by using some standard, approved, vials, caps, and seals.</td>
</tr>
<tr>
<td>11 mm decapper leaves caps hanging on vials.</td>
<td>Decapper adjustment is too low.</td>
<td>Adjust the decapper to a higher setting by pressing the plus button.</td>
</tr>
<tr>
<td>Motor does not come on or moves in one direction only.</td>
<td>Drive circuit failure.</td>
<td>Visit <a href="http://www.agilent.com/chem/techsupport">www.agilent.com/chem/techsupport</a> for support information.</td>
</tr>
<tr>
<td>Battery Charging is too short; battery does not get a full charge.</td>
<td>Memory effect.</td>
<td>After using the crimper until the battery power is low, leave on charger overnight. Allow trickle current to bring battery to full charge.</td>
</tr>
<tr>
<td></td>
<td>If the battery has had hundreds of charging cycles it may be worn out.</td>
<td>Replace battery.</td>
</tr>
</tbody>
</table>

Table 2. Troubleshooting
Support and Repair

If the crimping tool is still in the warranty period, contact your local Agilent Representative or Agilent Authorized Distributor. If the warranty period has expired, please visit www.agilent.com/chem/techsupport for information about the crimper repair service.