



**Agilent Electronic
Crimping and
Decapping Tools**

5190-3188

5190-3189

5190-3190

5190-3191

Operating Guide



Agilent Technologies

Notices

© Agilent Technologies, Inc. 2011

No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Agilent Technologies, Inc. as governed by United States and international copyright laws.

Edition

First edition, July 2011

Printed in USA

Agilent Technologies, Inc.
5301 Stevens Creek Boulevard
Santa Clara, CA 95051 USA

Warranty

The material contained in this document is provided "as is," and is subject to being changed, without notice, in future editions. Further, to the maximum extent permitted by applicable law, Agilent disclaims all warranties, either express or implied, with regard to this manual and any information contained herein, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Agilent shall not be liable for errors or for incidental or consequential damages in connection with the furnishing, use, or performance of this document or of any information contained herein. Should Agilent and the user have a separate written agreement with warranty terms covering the material in this document that conflict with these terms, the warranty terms in the separate agreement shall control.

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.



Agilent Electronic Crimping and Decapping Tools Operating Guide

Safety and Regulatory Certifications	4
Warnings, Intended Use, Limits	6
Description and Setup	8
Operation	10
Maintenance, Troubleshooting, and Repair	16

This operation manual applies to the following products:

Table 1 Electronic crimper and decapper models

	Model number
11 mm electronic crimper	5190-3188
20 mm electronic crimper	5190-3189
11 mm electronic decapper	5190-3190
20 mm electronic decapper	5190-3191

Table 2 Related parts

	Item number
6.4 volt lithium ion battery	5190-3192

Safety and Regulatory Certifications



The Agilent Electronic Crimping Tools are designed and manufactured under a quality system registered to ISO 9001.

Symbols

Warnings in the manual or on the instrument must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions violates safety standards of design and the intended use of the instrument. Agilent Technologies assumes no liability for the customer's failure to comply with these requirements.

See accompanying instructions for more information.



Remember to wear safety glasses when crimping.



The crimper of decapper jaws can pinch severely.



You must not discard this electrical/electronic product in domestic household waste.



Sound emission declaration

Sound pressure

Sound pressure $L_p < 70$ dB according to EN 27779:1991.

Schalldruckpegel

Schalldruckpegel $LP < 70$ dB am nach EN 27779:1991.

Cleaning/Recycling the product

To clean the unit, disconnect the power and wipe down with a damp, lint-free cloth. For recycling, contact your local Agilent sales office.

Warnings, Intended Use, Limits

Warnings

- WARNING** Wear safety glasses when crimping or decapping.
The crimper or decapper jaws can pinch severely.
Never insert fingers into the crimper or decapper.
-

Special battery warnings

- WARNING** Risk of burns; battery may explode or catch fire if mishandled.
-

- CAUTION** Do not disassemble or dispose of in fire.
Use only the manufacturer-supplied 7.5 volt DC power supply and charge the battery only in the crimping tool.
Do not heat above 60 °C.
Do not crush or modify.
Use only the specified 6.4 volt replacement battery pack, p/n 5190-3192.
Use of other batteries may cause fire during charging or use.
-

Disposal of battery

- Do not throw the battery away. Recycle it in accordance with local regulations.

Intended use

Electronic crimpers and decappers 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 and Setup

Description

The electronic crimping and decapping tools can be used to crimp and decap standard crimp caps on laboratory sample vials. A variety of jaw sets are offered to accommodate the most popular sizes.



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 you would with any precision instrument.

Remove the instrument, power supply, and cable from the shipping container. Inspect the crimper or decapper. If there is any visible damage contact your supplier immediately.

Operation

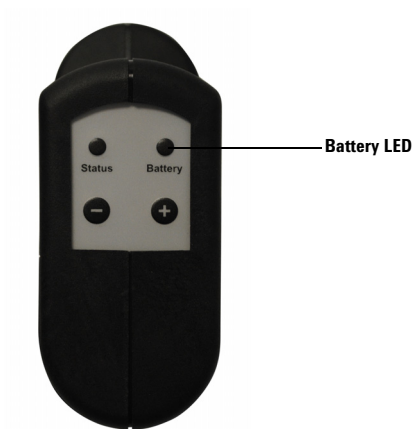
Charging the battery

The battery must be charged before the crimper or decapper can be used.

- 1 Plug the power jack from the DC supply into the crimping tool. After a pause the battery LED on the front of the tool will begin blinking green, showing that the charging has started.



After 1 to 2 hours, the battery LED will display a steady green light, indicating that the charge is complete.



- 2 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 or two-part caps with aluminum sides, and seals of standard size and thickness are appropriate.

Adjusting electronic crimpers for use

The electronic crimpers must be adjusted for the vials, caps and seals that will be used. The + and - adjustment buttons on the top of the crimping tool set a stop position for the tool.

The adjustment of the crimping tool is a height adjustment. The setting determines the amount of compression of the cap, and is very accurate. There may be some drifting over time due to stretching or wearing-in of components of the new crimper, but generally the reproducibility of the crimp is as good as the consistency of the vials and seals.

- 1 Select five or six vials, caps, and seals for the purpose of setting the crimp. Place the seal and cap on the vial, and rest the crimper on top of the cap.
- 2 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.

If the Status 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.

- 3 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.

Crimping the same vial two times will not generally give the same results and sometimes will result in vial breakage. See the section on "[Maintenance, Troubleshooting, and Repair](#)" on page 16 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 as long as the seal is well compressed.

Adjusting electronic decappers for use

The adjustment is not very important when decapping. As shipped from the factory, the decapper should remove a cap satisfactorily.

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, ensure the stroke is long enough to remove the cap.

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, ensure that the stroke is long enough to remove the cap.

When to recharge the battery

The 6.4 volt battery pack for the electronic crimper uses lithium ion cells. After receiving a full battery charge, the electronic crimper or decapper will normally crimp several hundred vials, depending on the age of the battery and the requirements of the seal and cap chosen.

Unless the crimper is used for a large number of vials each day, it is not necessary to recharge the battery every night. The lithium ion pack will retain its charge for many weeks without losing its charge.

The Battery LED will blink amber during the crimp stroke if the battery needs charging.



The lithium ion battery pack is expected to last at least 1500 charges. The pack should not be removed from the crimping tool unless it is due for replacement.

See ["Charging the battery"](#) on page 10 for further instructions.

Reset

Use the end of a small tool to access and press the recessed button.

- **Single Reset:** Pressing the reset button one time causes the position sensor to be set to zero and resets the processor.
- **Factory Reset:** This requires pressing the reset button while both the + and – buttons are also 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.



Storage and shipping

Place the protective cap over the jaws to prevent accidental cycling when storing or shipping the tool.

Fault conditions

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

Table 3 LED fault codes

LED	Fault code	Possible cause	Recommendation
Status	Three amber blinks after crimp.	Stall condition – crimp setting is too high.	Adjust crimper to a lower crimp setting.
		Stall condition – battery does not have sufficient charge.	Recharge battery.
Status	Two amber blinks after tool cycles.	Early trigger 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.
Status	Three amber blinks – but tool does not cycle.	Motor drive failure.	See “ Maintenance, Troubleshooting, and Repair ” on page 16 for contact information for warranty and repair service information.
Battery	Continuous amber blink when charger is plugged in.	Charge circuit failure.	See “ Maintenance, Troubleshooting, and Repair ” on page 16 for contact information for warranty and repair service information.
Battery	Amber blink during crimp cycle.	Battery needs to be charged.	Charge battery.
Battery	One blink after Go button is pressed (no cycle occurs).	Battery is too low for crimper cycle.	Charge battery.

Maintenance, Troubleshooting, and Repair

General maintenance

The electronic crimper tools do not contain user serviceable parts except for the battery pack. *When cleaning or replacing the battery make sure to keep fingers away from the jaws!*

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, the battery, or the battery connections wet. Avoid permitting metal parts of the crimping tool 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 6.4 volt lithium ion replacement battery, p/n 5190-3192. Use of other batteries may cause fire during charging or use.

- 1 Remove the screw holding the battery cover in place.



- 2 Remove the battery cover.



- 3 Push down on the connector latch and pull the battery loose from the board.



- 4 Pull the battery out of the case, leaving the wire connected.



- 5** Connect a new battery to the board, ensure the latch is secure. Push the battery into the case, bending the wires if necessary.



- 6** Slide the cover back into the case and replace the retaining screw.

Troubleshooting

Table 4 Frequent troubleshooting solutions

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 crimper to a lower crimp setting.
Cap spins easily.	Crimp setting is too low. The crimp is too loose.	Adjust crimper to a higher setting by pressing the plus button.
Cannot find a good crimp setting.	The crimper is far out of adjustment.	Return crimper to factory setting. See "Reset" on page 14.
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.agilent.com/chem/techsupport for support information.
11 mm or 13 mm 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.agilent.com/chem/techsupport for support information.
Motor does not come on or moves in one direction only.	Drive circuit failure.	Visit www.agilent.com/chem/techsupport for support information.
Battery charging is too short; battery does not get a full charge.	Early termination by charging circuit.	Leave crimping tool on charger overnight. Allow trickle current to bring battery to full charge.
	Battery is worn out.	Replace battery. Battery is rated to deliver 60% of capacity after 1500 charges.

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.

www.agilent.com

© Agilent Technologies, Inc. 2011

Printed in USA
First edition, July 2011