

Electronic Crimping Tools

REF 735700

*Electronic high power crimping tool with
power supply and separately available
crimping/decapping heads*

(also suitable for magnetic/bimetal crimp caps)

Operation Guide

Notices

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Declaration of Conformity

These instruments conform to the following directives:

2006/95/EC – Low-Voltage Directive

2004/108/EC - EMV Directive

2006/42/EC - Machinery Directive

Recycling



Disposal in accordance with EU Directive 2002/96/CE. In compliance with local and national legal regulations (EU Directive 2002/96/CE), the MACHEREY-NAGEL company disposes old instruments free of charge

Note: With effect from August 2005, disposal using public waste disposal facilities is no longer permitted. In the case of disposal, please contact your MACHEREY-NAGEL representative.

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 dB(A)

Electronic Crimping Tool 735700

Operations Guide

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This operation manual applies to the following products:

	REF
Electronic High Power Crimping Tool	735700
Related Items	REF
Stand for electronic crimping tools	735501
11 mm Crimping Head	735711
20 mm Crimping Head	735720
11 mm Decapping Head	735811
20 mm Decapping Head	735820

WARNING

Warnings

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

The Electronic High Power Crimping Tool is 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 High Power Crimping Tool 735700 can be used to crimp and decap standard crimp caps on laboratory sample vials. In contrast to the battery operated electronic crimping tools this one can also crimp/decap magnetic/bimetal crimp caps without any problems. 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, cable and CD from the shipping container. Inspect all components of the tool carefully. 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 plug it into the connector on top of the crimping tool.

After power up the right jaw set type 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 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.



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 crimp caps or steel (magnetic) caps or two-part caps with aluminum sides and magnetic tops (bimetal caps) 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 need to be crimped. 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 cap form as an indicator for correct crimping as well as for 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.

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 $\oplus$ and $\ominus$ buttons down together for two seconds, until the current program number is displayed. Then use the $\oplus$ and $\ominus$ 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 $\ominus$ 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

CAUTION

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

Fault Conditions

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

Fault Code	Possible Cause	Recommendation
Er0	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.
Er1	Stall condition – Crimp setting is too high.	Adjust tool to a lower setting.
Er9	Motor drive failure	See “Maintenance / Repair” section for contact information and for warranty and repair service information.

Other Display Codes

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

Maintenance and Repair

General Maintenance

WARNING



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.

Troubleshooting

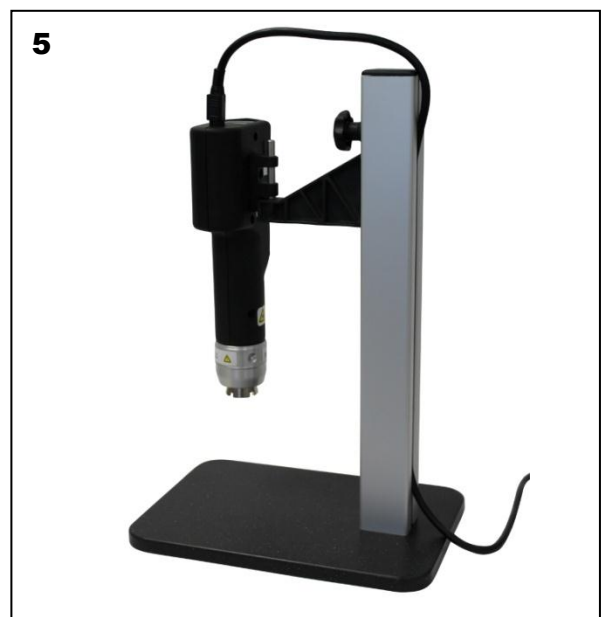
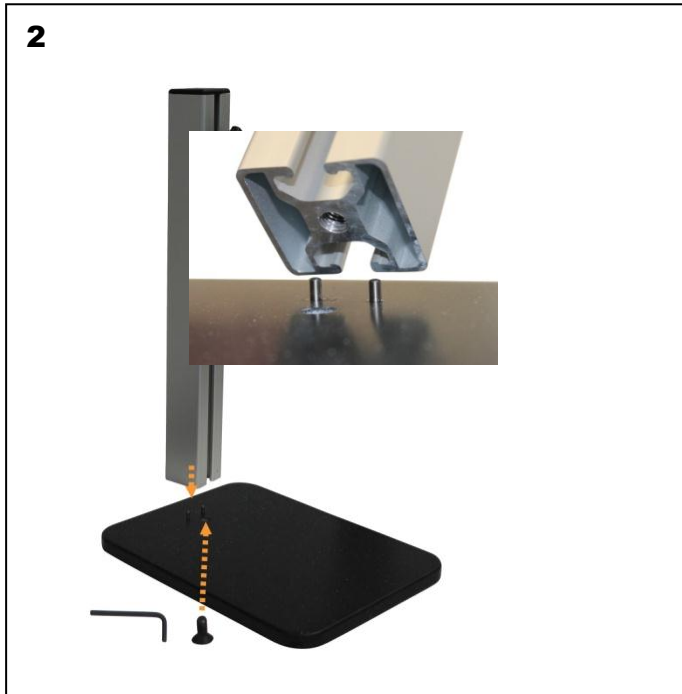
Condition	Possible Cause	Recommendation
Side of cap is indented. Seal is deformed in hole.	Crimp setting is too high. The crimp is too tight.	Adjust tool to a lower setting by pressing the  button.
Cap spins easily.	Crimp setting is too low. The crimp is too loose.	Adjust tool to a higher setting by 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.mn-net.com 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  button.
	Jaws are worn or broken.	The decapper will have to be replaced or repaired. Visit www.mn-net.com for support information.
Motor does not come on or moves in one direction only.	Drive circuit failure.	Visit www.mn-net.com for support information.
No activity when power supply is connected.	Power supply failure	Visit www.mn-net.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.mn-net.com for information about the crimper repair service.

Appendix A

Accessory: Stand for Electronic Crimping Tools (735501)



Further Information

For further information on autosampler vials and caps, please visit our website on www.mn-net.com/vials or check our specialized brochure.



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