

MACHEREY-NAGEL

Electronic Crimping Tools

REF 735700 (Model 1802 / 6AHP)

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



Operation Guide

- Also suitable for magnetic/bimetal crimp caps
- High reproducibility of crimp results
- No user serviceable parts

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Ordering Information

Description	REF
Electronic High Power Crimping Tool	735700
Accessories	
Stand for electronic crimping tools	735501
Rack for 2 electronic crimping tools	735509
8 mm crimping head for 735700	735708
11 mm crimping head for 735700	735711
13 mm crimping head for 735700	735713
13 mm Flip Top/Flip Off crimping head for 735700	735733
20 mm crimping head for 735700	735720
20 mm Flip Top / Flip Off crimping head for 735700	735732
11 mm decapping head for 735700	735811
13 mm decapping head for 735700	735813
20 mm decapping head for 735700	735820

Markings



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Warnings

- Follow all instructions or injury may result.
- Wear safety glasses when crimping or decapping!
- The jaws of the crimping and decapping heads can pinch severely.
- Only change jaws after the power supply has been disconnected or the tool is in Settings Mode.
- Never insert fingers into the crimping or decapping heads.
- Use only the 12 volt DC Power Supply supplied with the tool.



Intended Use

The High Power Crimping Tool 735700 is intended for use in a laboratory environment only.

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

Sound Pressure

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

Recycling

For any questions on disposal/recycling please contact MACHEREY-NAGEL or your local MN distributor.



Operation guide electronic High Power Crimping Tool 735700

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-powered electronic crimping tools this one can also crimp/decap magnetic/bimetal crimp caps without any problems due to a more powerful motor. A variety of jaw sets can be used to accommodate the most popular sizes.

Setup of the High Power Crimping Tool 735700

Remove the instrument, power supply and cable from the shipping container and inspect the individual parts. If there is any visible damage, please contact your supplier immediately.

Operation

Connecting the power supply

Connect the 12 volt DC power supply to the mains with the power cord provided and also plug it into the connector on top of the crimping tool. Please consider to insert the plug with pulled back coupling deep enough into the connector on top of the crimping tool, as otherwise power supply will not work properly (loose contact).



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Compatible Vials, Caps and Seals

Standard aluminium or steel caps (magnetic) as well as two-part caps with aluminium sides and magnetic tops (bimetal crimp 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.



Using the High Power Crimping Tool 735700 for Crimping

The cycle button must be held down until the crimp is complete. If the switch is released early, the crimper will retract and show an error.



Adjust the crimper setting for satisfactory form and tightness.



MACHEREY-NAGEL | Optimal crimping

For an optimal crimp result the crimping tool needs to be adjusted to:

- type and height of the vial's crimp neck
- thickness and hardness of the septa
- properties of the cap (type, material)

For doing so, please refer to the instruction manual of the individual tool.

① Permanent control of the crimp result and thus of the crimping tool settings is necessary

Incorrect crimping can be recognized by the following features:



Possible causes for incorrect crimping:

- Incorrect handling (please mind a straight angle when placing the tool on the vial)
- Usage of a suboptimal crimping tool for your individual needs
- please visit our website and find an adequate crimping tool
- Incorrect adjustment of the crimping tool

→ In case of overcrimping crimping pressure needs to be reduced.
In case of undercrimped vials the crimping pressure must be increased

① Crimpers of type "Standard" have to be adjusted independently in crimping pressure and in crimping height.



In case you need more information on the evaluation of crimp results, please either order our poster KATDE/EN200153 or just open the PDF download on our website in the "Downloads" tile of the appropriate product detail page under the title: "Download Poster Optimal crimping (EN)" or just follow the link:

<https://www.mn-net.com/media/pdf/3e/34/84/Poster-Optimal-Crimping-EN.pdf>



- Tips:
- If crimping was not completely successful, the vial should not be "re-crimped". In this case a new crimping process needs to be started with a new vial and a new cap.
 - In case of a beveled top crimp neck or in case of magnetic crimp caps you generally have to work with a higher pressure than in case of a flat crimp neck or of aluminium crimp caps
 - Please mind a proper storage of the crimping tool
 - Do not carry out repairs by yourself
 - Recharge battery-powered crimping tools only when needed and battery status in the display indicates accordingly. This will help to extend its time of the battery.
 - Observe safety instructions

Notes

Crimping the same vial two times will not generally give the same results and sometimes will result in vial breakage.

Special considerations for 20 mm Headspace vials. It is common practice to use the “twist test” to check headspace vials for satisfactory crimps. This test is only conditionally meaningful.

On one hand the slippery PTFE lamination of the septa results already by a relatively low expenditure of energy in a torque that enables the turn of the cap, even if the cap was crimped correctly. As the test is often done with the complete hand (instead of using single fingers) and with a high expenditure of energy, the false statement is even strengthened.

On the other hand overcrimped closures that cannot be turned, which have, however, either deformed cap sides or sucked in septa, may not be as tight as you would expect from such an “unturnable, firm” crimp. This is due to the fact that septa material is sucked into the vial opening by the far too high crimping pressure and is then, however, missing at the cap sides for sealing. The same is also valid for septa that - due to a wrong adjustment of the crimping height and a too strong crimping pressure - emerge through the cap’s center hole.

Therefore please consider that many sealing systems hold pressure perfectly well as long as the seal is well compressed and the cap/septa surface is flat.

Using the High Power Crimping Tool 735700 for decapping

The adjustment is not very important when decapping. The High Power Crimping Tool in combination with a decapping head should remove a cap satisfactorily as shipped. To adjust decapping heads make sure that the stroke is long enough to remove the cap.

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Settings

To Enter Settings Mode



Press the Settings Button with a pen or a small tool (alternatively hold the Cycle Button for 3 seconds after a cycle).

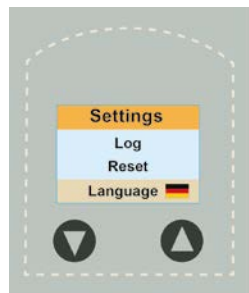


Settings

Press ▼ and ▲ to scroll through the menu. Press the Cycle Button to make a selection.



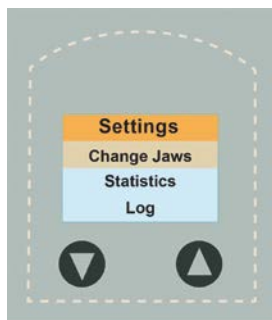
Language selection



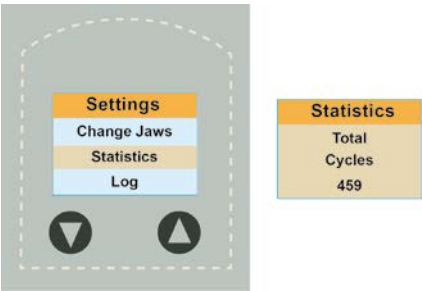
Jaw set selection:

Only change heads when the tool is in Settings Mode. 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.

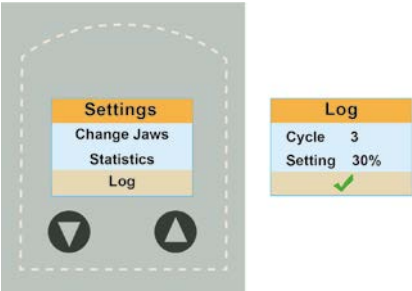
Select in the Settings under „Jaw Set“ the appropriate size (C = crimping head; D = decapping head; FO = crimping head Flip Top/Flip Off caps) and confirm selection by pressing the Cycle Button.



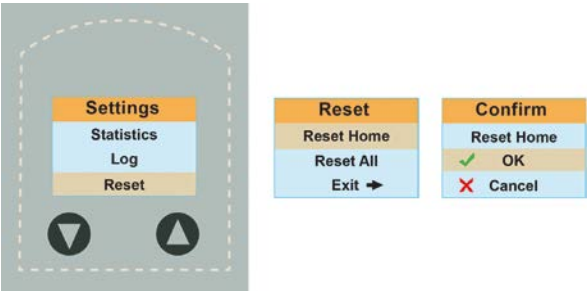
Statistics



Log of recent crimping results



Reset



Operation guide electronic High Power Crimping Tool 735700

Storage and Shipping

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

Error Conditions

Errors are identified by Error Messages, normally after a cycle.

Error	Possible cause	Recommendation
 Stall	Stall condition – crimp setting is too high.	Adjust crimper to a lower crimp setting by pressing the ▼ button.
 Early Release	Early trigger release – the tool retracted before completing the cycle.	Try again, making sure to hold the button down until the tool is returning to the home position.
 Stall, but the tool does not cycle.	Motor drive failure	See Maintenance / Repair section for contact information for warranty and repair service information

Maintenance / Repair

General Maintenance

The electronic High Power Crimping Tool 735700 does not contain user serviceable parts.

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 the cap is indented. Seal is deformed in the hole.	Crimp setting is too high. The crimp is too tight.	Adjust the crimping head to a lower setting by pressing the ▼ button.
Cap spins easily.	Crimp setting is too low. The crimp is too loose.	Adjust the crimping head to a higher setting by pressing the ▲ button.
Cannot find a good crimp setting.	The crimping head is far out of adjustment.	Return crimping tool to factory setting (see "Reset" under Settings).
Crimping is inconsistent. Some vials are good and some are not.	Vials, caps or seals are inconsistent.	Check crimping head by using some standard, approved vials, caps and seals.
	Electronic failure in crimping tool.	Please see instructions for "Support and Repair" below.
11 mm or 13 mm decapping head leaves caps hanging on vials.	Decapper adjustment is too low.	Adjust the decapping head to a higher setting by pressing the ▲ button.
	Jaws are worn or broken.	Please see instructions for "Support and Repair" below.
Motor does not come on or moves in one direction only.	Drive circuit failure.	Please see instructions for "Support and Repair" below.

Tips:

- If crimping was not completely successful, the vial should not be „re-crimped“. In this case a new crimping process needs to be started with a new vial and a new cap.
- In case of beveled top crimp neck vials you generally have to work with a higher pressure than in case of flat crimp necks.
- Please mind proper storage of the crimping tool.
- Do not carry out repairs by yourself.
- Observe safety instructions!

Support and Repair

If the crimping tool is still in the warranty period, contact your dealer for support. It is essential that you provide us / your dealer with a filled out and signed repair form which you find under:

<https://www.mn-net.com/media/pdf/26/d7/f2/Form-Repair-Service-and-Return-DE-EN.pdf>



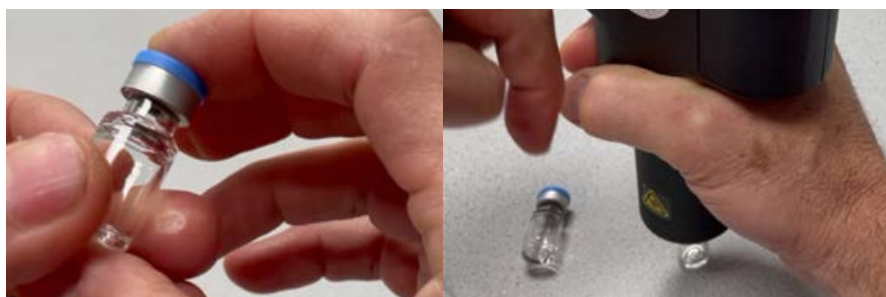
No return of a defect crimping tool / head will be accepted prior to receipt of a completely filled out form.

Crimping of Flip Top / Flip Off caps



It all starts with the operator...

The operator of the crimping tool is critical to a successful seal. It is important for the operator to keep the crimper aligned as well as possible with the vial. The operator must also apply downward pressure onto the top of the seal during crimping to compress the stopper and allow the aluminium skirt to pass below the bottom of the crimp neck as the jaws close and the plunger actuates.



Apply downward pressure by pushing crimping tool firmly against the cap giving stopper and cap head pressure!

Cap design

The length of the aluminium skirt on the cap and irregular trim both contribute to inconsistencies in seal wrap on the underside of the crimp neck. A higher crimp setting does improve the wrap, however care must be taken to avoid damaging the side wall if over crimped.

The normal variation in the thickness of the vial's crimp neck also can contribute to seal damage, especially if the cap skirt is short or the stopper is not adequately compressed during crimping.



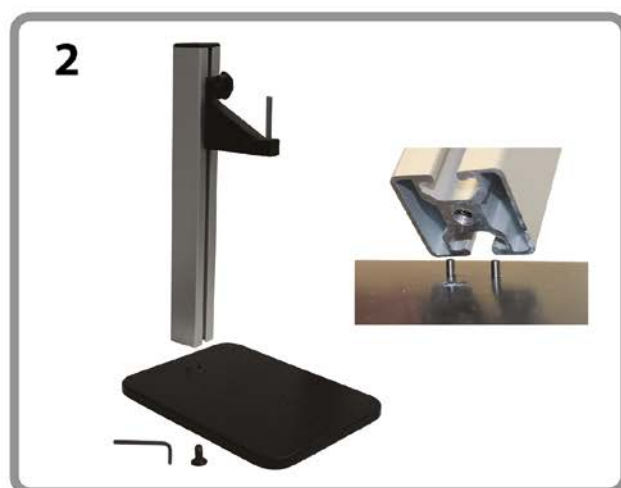
The key for a good crimp...

In conclusion, the key to good seals is to always apply downward pressure while crimping the cap on the vial, and caps with slightly longer skirt lengths will provide more consistent crimps without overcrimping.



Appendix A

Accessory: Stand for electronic High Power Crimping Tool 735700



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Other related products

Description	REF
Electronic crimping tools, battery-powered (mobile) Not suitable for magnetic and bi-metal crimp caps	
Electronic crimping tools, battery-powered	
11 mm electronic crimping tool	735511
13 mm electronic crimping tool	735513
13 mm electronic Flip Top / Flip Off crimping tool	735533
20 mm electronic crimping tool	735520
20 mm electronic Flip Top / Flip Off crimping tool	735532
Electronic decapping tools, battery-powered	
11 mm electronic decapping tool	735611
13 mm electronic decapping tool	735613
20 mm electronic decapping tool	735620
Accessories for electronic crimping tools	
Stand for electronic crimping tools	735501
Rack for 2 electronic crimping tools	735509

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 "Vials and caps (EN)" in the Download section under Chromatography Services:

<https://www.mn-net.com/media/pdf/fe/9f/36/Brochure-Vials-and-caps-EN.pdf>



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