Vials and caps

MACHEREY-NAGEL

Crimping tools

For tight and safe sealing

- Manual crimping tools
- Electronic crimping tools
- Related products
- Troubleshooting

MACHEREY-NAGEL
www.mn-net.com

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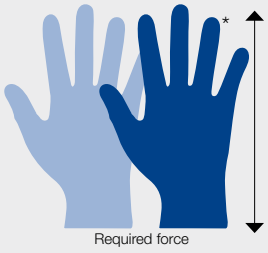
Optimal crimping tool – overview

Please choose the most suitable crimping tool for your individual requirement profile

Manual crimping tool - **Standard**

Cap sizes (N 8, N 11, N 13, N 20) $

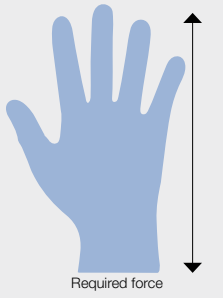


- Number of crimp processes
- Reproducibility
- Durability
- Mobility
- Comfort adjust.
- Convenience

Aluminium | Bi-metal | Magnetic*

Manual crimping tool - **Ergonomic**

Cap sizes (N 8, N 11, N 20) $

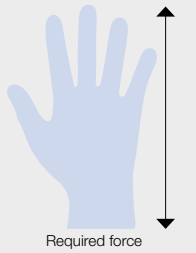


- Number of crimp processes
- Reproducibility
- Durability
- Mobility
- Comfort adjustments
- Convenience

Aluminium | Bi-metal

Battery-powered - **electr. crimping tool**

Cap sizes (N 11, N 13, N 20) $$

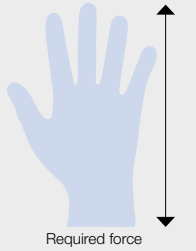


- Number of crimp processes
- Reproducibility
- Durability
- Mobility
- Comfort adjustments
- Convenience

Aluminium

Electronic **high power crimping tool**

Cap sizes (N 8, N 11, N 13, N 20) $$$



- Number of crimp processes
- Reproducibility
- Durability
- Mobility*
- Comfort adjustments
- Convenience

Aluminium | Bi-metal | Magnetic

* normally stationary usage with a stand

Optimal crimping tool – overview

Manual crimping tools

	Manual, ergonomic crimping tools	Manual crimping tools, standard version
Suitability / availability	For all cap materials For N 11 and N 20; for N 8 crimper only	For all cap materials For N 8, N 11, N 13 and N 20 For 13 mm and 20 mm Flip Top / Flip Off caps
Sample quantities	Small series	Small series
Criterion	One crimper and decapper each per cap size	One crimper and decapper each per cap size
Adjustment of the crimper	Adjustment by a knob on the crimping head (easily accessible and well visible)	Crimping height adjustable in the crimping head by a hexagon key Crimping pressure adjustable by a screw on the bottom handle
For further information see	Page 4	Page 5
Additional information	*www.mn-net.com / manualcrimper*	*www.mn-net.com / manualcrimper*

Electronic crimping tools

	Electronic crimping tools (battery-powered)	Electronic high power crimping tool (with fixed power supply)
Suitability / availability	Only for aluminum crimp caps N 11, N 13 and N 20 (not suitable for magnetic / bi-metal crimp caps) For 13 mm and 20 mm Flip Top / Flip Off caps	For all cap materials For N 11, N 13 and N 20; for N 8 crimping head only For 13 mm and 20 mm Flip Top / Flip Off caps
Sample quantities	Small and medium size series	Medium and large size series
Criterion	One crimping and decapping tool each per cap size	Exchangeable crimping / decapping heads
Adjustment of the crimper	Simple adjustment by pushing the up and down arrows on top of the tool (underneath the OLED display) Settings mode with language selection, statistics, log data and different reset options	Simple adjustment by pushing the up and down arrows on top of the tool (underneath the OLED display) Settings mode with language selection, change of jaw set, statistics, log data and different reset options
For further information see	Page 6	Page 7
Additional information	*www.mn-net.com / electroniccrimper*	*www.mn-net.com / electroniccrimper*

For technical questions about our crimping tools and / or vials and caps you are always welcome to contact us under vials@mn-net.com.

Manual crimping tools

Ergonomic version

Features

- More lightweighted than complete steel crimpers
- Ergonomically designed handles
- Adjustment of the crimping pressure by a knob on the crimping head that is easily accessible and well visible. Crimp setting doesn't need any further fixation.
- Activated by bottom handle motion only which allows a steadier and safer hold of the tool during crimping
- Due to design and alignment of the crimping head better vertical clearance over the vial
- Brand and product identification on the front label of the tool

Adjustment and handling

The adjustment knob, which sets the stroke of the tool and thus the tightness of the crimp, is conveniently positioned on top of the crimping head. The easily-viewed knob clearly displays + and – symbols along with directional arrows, in order to simplify adjusting the level of crimp desired. During the crimping process, in which the bottom handle is pulled up, the adjustment knob moves towards the crimper body. Once the knob touches the head, the crimp setting has been reached and the crimping process stops.

Additional information on adjustment and handling of the tool

Instruction leaflet as pdf download on the respective product detail section under the "Downloads" tab.

Ordering information

Description	Pack of	REF
Manual crimpers (ergonomic)		
Ergonomic crimper for 8 mm crimp caps	1	735208
Ergonomic crimper for 11 mm crimp caps	1	735211
Ergonomic crimper for 20 mm crimp caps	1	735220
Manual decappers (ergonomic)		
Ergonomic decapper for 11 mm crimp caps	1	735311
Ergonomic decapper for 20 mm crimp caps	1	735320
Accessories for manual crimpers (ergonomic)		
Rack for 2 ergonomic crimping tools	1	735509

Our crimp neck vials and closures N 11, N 13 respectively N 20 you'll find ...

...on our website under *www.mn-net.com* / vials

MACHEREY-NAGEL

Discover our new website.

www.mn-net.com

A selection of the most common products you will find on page 8.

Manual crimping tools

Standard version

Features

- Adjustable crimping height by a hexagon key, which allows to move the inner part of the crimping head up and down (not possible for manual crimpers N 8)
- Crimping pressure adjustable by a screw in the handle; fixation of the crimp setting by a nut
- Manual crimpers for N 13 and N 20 Flip Top / Flip Off caps also available
- Robust metal crimper with a long life time
- Blocky handles allow grabbing and pressing of the tool handles at any position

Correction of inaccurate crimp features

Crimp too loose (undercrimped)	→ Adjust crimping height (in the crimping head, see ②) and / or crimping pressure (by screw in the handle, see ①)
Septa emerges through the center hole (overcrimped)	→ Adjust crimping height (in the crimping head, see ②) and / or crimping pressure (by screw in the handle, see ①)
Deformation of the cap sides (overcrimped)	→ Adjust crimping height (in the crimping head, see ②)
Septa is sucked into the vial (overcrimped)	→ Adjust crimping pressure (by screw in the handle, see ①)

Adjustment of crimping pressure

1. Further unscrew the screw ① in the handle → handles cannot be pressed so close together → lower crimping pressure
2. Further screw the screw ① in the handle → handles can be pressed closer together → higher crimping pressure

Adjustment of crimping height

1. Fixate the handles of the crimper with the striker ③.
2. Hold crimping head ② firmly in one hand and insert the supplied hexagon key in the screw inside the head.
3. a) Make a half up to a complete turn to the left (counter clockwise rotation), in case the crimp is too loose.
   b) Turn the hexagon key to the right (clockwise rotation), in case the crimp is too tight.

Additional information on adjustment and handling of the tool

Instruction leaflet as pdf download on the respective product detail section under the “Downloads” tab.

Ordering information

Description	Pack of	REF
Manual crimpers (standard)		
Crimper for 8 mm crimp caps	1	735126
Crimper, height adjustable, for 11 mm crimp caps	1	735111
Crimper, height adjustable, for 13 mm crimp caps	1	735113
Crimper, height adjustable, for 13 mm Flip Top / Flip Off caps	1	735133
Crimper, height adjustable, for 20 mm crimp caps	1	735120
Crimper, height adjustable, for 20 mm Flip Top / Flip Off caps	1	735132
Manual decappers (standard)		
Decapper for 8 mm crimp caps	1	735408
Decapper for 11 mm crimp caps	1	735911
Decapper for 13 mm crimp caps	1	735913
Decapper for 20 mm crimp caps	1	735920

Electronic crimping tools

Electronic crimping tools (battery-powered)

Features

- Battery-powered, electronic crimping tools for 11 mm, 13 mm and 20 mm aluminum crimp caps (not suitable for 20 mm magnetic / bi-metal crimp caps; for these please see electronic high power crimping tool REF 735700 with exchangeable crimping heads)
- Mobile tools for consistent and reproducible crimp results
- OLED Display for convenient handling
- Settings mode with language selection, statistics, log data and different reset options
- Crimping pressure adjustable by pushing the up and down arrows on top of the tool
- Brushless motor for a long lifetime
- Long lasting lithium ion cell batteries (full battery charge for several hundred vials)
- Life time of battery > 1500 charges, charging time: approx. 1–2 hours; tool can be used during charging
- No serviceable parts; replacement battery separately available
- Various plug clips for charging in almost all countries come along with the tool
- CE certificate of conformity along with one year warranty
- One tool each necessary for crimping and for decapping

Adjustment and handling

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

Additional information on adjustment and handling of the tool

Instruction leaflet as pdf download on the respective product detail section under the “Downloads” tab.

Ordering information

Description	Pack of	REF
Electronic crimpers (battery-powered)		
Electronic crimper for 11 mm aluminum crimp caps	1	735511
Electronic crimper for 13 mm aluminum crimp caps	1	735513
Electronic crimper for 13 mm Flip Top / Flip Off caps	1	735533
Electronic crimper for 20 mm aluminum crimp caps (not suitable for magnetic / bi-metal crimp caps)	1	735520
Electronic crimper for 20 mm Flip Top / Flip Off caps	1	735532
Electronic decappers (battery-powered)		
Electronic decapper for 11 mm aluminum crimp caps	1	735611
Electronic decapper for 13 mm aluminum crimp caps	1	735613
Electronic decapper for 20 mm aluminum crimp caps (not suitable for magnetic / bi-metal crimp caps)	1	735620
Accessories for battery-powered, electronic crimping and decapping tools		
Replacement battery 6.6 Volt, 8.6 Wh	1	735500
Stand for electronic crimping tools	1	735501
Rack for two electronic crimping tools (battery-powered)	1	735509

Electronic crimping tools

Electronic high power crimping tool with exchangeable crimping / decapping heads for all 11 mm, 13 mm and 20 mm crimp caps (aluminum, magnetic, bimetal)

Features

- Due to a more powerful motor suitable for crimp caps made of different materials
- With fixed power supply
- Exchangeable 11 mm, 13 mm and 20 mm crimping and decapping heads with quick-release jaw sets (need to be ordered separately)
- OLED display with language selection, change of jaw set, statistics, log data and different reset options
- Brushless motor for a long lifetime
- No serviceable parts
- CE certificate of conformity and one year warranty
- For more convenient handling a stand is optionally available

Change of heads, adjustment and handling

Instruction leaflet as pdf download on the respective product detail section under the “Downloads” tab.

Ordering information

Description	Pack of	REF
Electronic high power crimping tool		
Electronic high power crimping tool with fixed power supply	1	735700
Accessories for electronic high power crimping tool 735700		
Crimping head for 11 mm crimp caps	1	735711
Crimping head for 13 mm crimp caps	1	735713
Crimping head for 13 mm Flip Top / Flip Off caps	1	735733
Crimping head for 20 mm crimp caps	1	735720
Crimping head for 20 mm Flip Top / Flip Off caps	1	735732
Decapping head for 11 mm crimp caps	1	735811
Decapping head for 13 mm crimp caps	1	735813
Decapping head for 20 mm crimp caps	1	735820
Stand for electronic crimping tools	1	735501

In case you are interested to see how to handle our electronic crimping tools (battery-powerded), you can watch a demo video under *www.mn-net.com/electroniccrimper*.

Crimp neck vials and closures · Selection ■ N 11 and ■ N 20

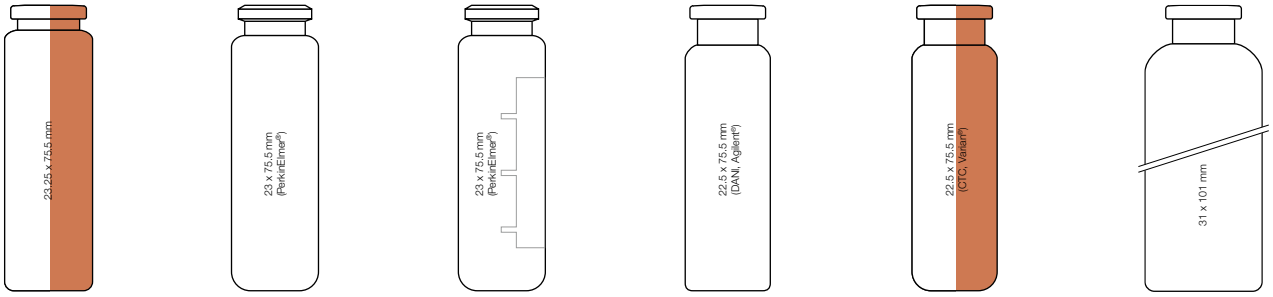
Crimp neck vials N 11, wide opening (image scale 1:2)

70201HP 70201HP.2	702885 / 702075[1] 702892 / 702076[1]	702888	702141	702015 702016	702134	702891 702014
1.5 mL	1.5 mL	1.1 mL	1.1 mL	1.1 mL	0.2 mL	0.2 mL
	label + scale [1] silanized	15 µL funnel in solid glass bottom	conical	conical, round pedestal glass plate	transp., with integrated 0.2 mL glass insert	with integrated 0.2 mL insert

Ready assembled crimp closures N 11, aluminum, silver, center hole (image scale 1:2)

70284	702730	70256	70231	702001	70288	702823	702995
PTFE virginal, white, 0.25 mm	Red Rubber / FEP colorless, 1.0 mm	Natural Rubber / Butyl red-orange / TEF colorless; 1.0 mm	Natural Rubber / Butyl red-orange / TEF colorless; 1.3 mm	Natural Rubber red-orange / TEF colorless, 1.0 mm	Silicone white / PTFE red, 1.3 mm	Silicone white / PTFE blue, cross-slit, 1.5 mm	PTFE red / Silicone white / PTFE red, 1.0 mm

Crimp neck vials N 20 (image scale 1:2)



70206.36 / 70217.36	70254	702540	702261	702263 / 702263.2	70208.36
20 mL	20 mL	20 mL	20 mL	20 mL	50 mL
flat bottom	rounded bottom	rounded bottom	flat bottom	rounded bottom	flat bottom
flat DIN crimp neck	beveled HS crimp neck	beveled HS crimp neck	flat DIN crimp neck	flat DIN crimp neck	flat DIN crimp neck

Ready assembled crimp closures, plain crimp caps and single septa N 20 (image scale 1:2)

	Butyl red / PTFE gray	Butyl light gray / PTFE dark gray	Molded septa Butyl / PTFE gray	Butyl dark gray / PTFE gray	Silicone blue transparent / PTFE colorless	Silicone white / PTFE beige
	70277	702057	702101	702D20TB	702780	70278
	Assembled in N 20 aluminum crimp caps, center hole (REF 702804 without liner)					
	702773	702775	70234.9	70234.10 / 70234	702093	702094
	Assembled in N 20 aluminum pressure release caps, center hole (REF 702799 without liner)					
	702836	702829	70234.8	702071	702927	702835
	Assembled in N 20 bi-metal crimp caps, center hole (REF 702833 without liner)					
	–	702838	–	–	702834	702837
	Assembled in N 20 magnetic crimp caps, center hole (REF 702808 without liner)					
	702774	702928	–	702928.9	702929	–

Troubleshooting

All about crimping and decapping of crimp neck vials

Beveled Headspace crimp neck

Flat DIN crimp neck

Crimpers from MACHEREY-NAGEL are supplied with a basic adjustment for the individual cap size and the septa thickness that is typically used for these caps. Crimp necks and septa thicknesses, however, can differ from manufacturer to manufacturer. Furthermore special consideration with regard to 20 mm crimp caps needs to be paid to the fact that these are used in combination with vials having a flat DIN crimp neck as well as with those having a beveled top Headspace crimp neck (with a very low bearing surface for the septa). The different crimp neck designs require different crimp settings of the tool.

Due to the above further adjustments of the tools might be necessary, in order to achieve an optimal crimp result.

An optimal crimp result is characterized by the following features:

1. The cap surface is flat and the cap sides fit tightly and firmly around the glass edges without any deformation of the aluminum surface.
2. The septa neither emerges out of the center hole of the cap nor is being sucked into the vial.
3. The cap cannot be turned by usage of single fingers without enormous expenditure of energy.

Good crimping result

Crimp too tight

Crimp too loose

Often the so-called „twist test“ of the crimp cap is being used, in order to verify the crimp result. This test is only of limited relevance. 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 often is 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 an optimal 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.

How appropriate adjustments of the crimping tools can be carried out, depends on the type of crimping tool and can be taken from the corresponding instruction leaflet.

General instructions:

- For beveled top Headspace crimp necks the crimper needs to be adjusted tighter than for flat DIN crimp necks
- Decappers don't need any adjustment

For more information on optimal crimping please ask for our poster with MN REF KATDE/EN200153.

KATEN200100 / Broch. Crimping tools en3 / 05.2020