

Vials and caps from MACHERY-NAGEL

Crimping tools

Manual crimping tools

Ergonomic

Standard

Electronic crimping tools



Battery-powered

High power crimping tool







Manual crimping tools

	Manual, ergonomic crimping tools	Manual crimping tools, standard version
		
Suitability / availability	<ul style="list-style-type: none"> • For <u>all</u> cap materials • For N 11 and N 20 	<ul style="list-style-type: none"> • For <u>all</u> 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	<ul style="list-style-type: none"> • Small series 	<ul style="list-style-type: none"> • Small series
Criterion	<ul style="list-style-type: none"> • One crimper and decapper each per cap size 	<ul style="list-style-type: none"> • One crimper and decapper each per cap size
Adjustment of the crimper	<ul style="list-style-type: none"> • Adjustment by a knob on the crimping head (easily accessible and well visible) 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Page 4 	<ul style="list-style-type: none"> • Page 5
Additional information (incl. instruction leaflets)	www.mn-net.com/manualcrimper	www.mn-net.com/manualcrimper

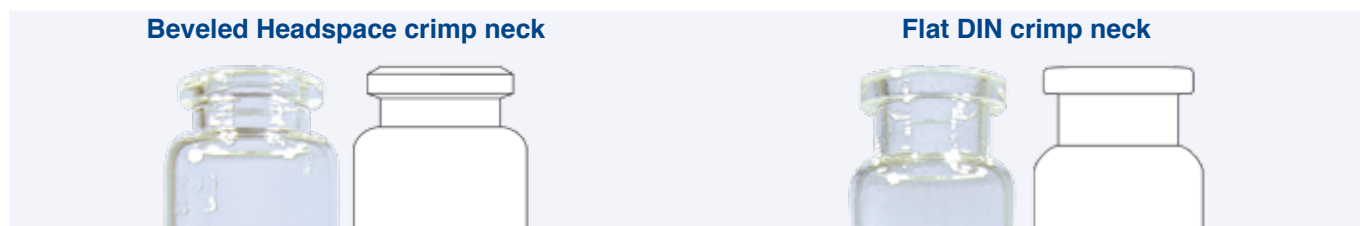
Electronic crimping tools

	Electronic crimping tools (battery-powered)	Electronic high power crimping tool (with fixed power supply)
		
Suitability / availability	<ul style="list-style-type: none"> • Only for aluminium crimp caps N 11 and N 20 (not suitable for magnetic / bi-metal crimp caps) 	<ul style="list-style-type: none"> • For <u>all</u> cap materials • For N 11 and N 20
Sample quantities	<ul style="list-style-type: none"> • Small and medium size series 	<ul style="list-style-type: none"> • Medium and large size series
Criterion	<ul style="list-style-type: none"> • One crimping and decapping tool each per cap size 	<ul style="list-style-type: none"> • Exchangeable crimping / decapping heads
Adjustment of the crimper	<ul style="list-style-type: none"> • Simple adjustment by pushing the +/- buttons of the control unit on top of the tool 	<ul style="list-style-type: none"> • Precise crimp settings with digital LED display • Different jaw settings can be stored in separate programs
For further information see	<ul style="list-style-type: none"> • Page 6 	<ul style="list-style-type: none"> • Page 7
Additional information (incl. instruction leaflets)	www.mn-net.com/electroniccrimper	www.mn-net.com/electroniccrimper



All about crimping and decapping of crimp neck vials

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 aluminium 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.



Often the so-called „turning test“ of the crimp cap is being used, in order to verify the crimp result. This test isn't 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 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 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 lightweight 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 at www.mn-net.com/manualcrimper

Ordering information

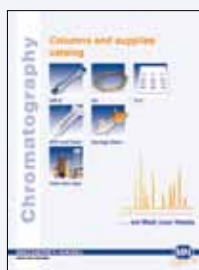
Description	Pack of	REF
Manual crimpers (ergonomic)		
Ergonomic crimper for 11 mm aluminium crimp caps	1	735211
Ergonomic crimper for 20 mm aluminium crimp caps	1	735220
Manual decappers (ergonomic)		
Ergonomic decapper for 11 mm aluminium crimp caps	1	735311
Ergonomic decapper for 20 mm aluminium crimp caps	1	735320

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

...in our brochure **Vials and Caps** incl. **Supplement 2012**



...in our catalog **Chromatography, Edition VIII**



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



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

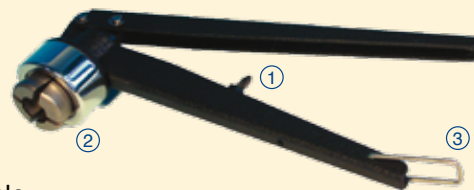


Manual crimping tools

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 at www.mn-net.com/manualcrimper

Ordering information

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



Electronic crimping tools

Electronic crimping tools (battery-powered)

Features

- Battery-powered, electronic crimping tools for 11 mm and 20 mm aluminium 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 crimping results
- Crimping pressure adjustable by pushing the + / – buttons of the control unit on top of the tool
- 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 **+** button 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 at www.mn-net.com/electroniccrimper



Ordering information

Description	Pack of	REF
Electronic crimpers (battery-powered)		
Electronic crimper for 11 mm aluminium crimp caps	1	735511
Electronic crimper for 20 mm aluminium crimp caps (not suitable for magnetic / bi-metal crimp caps)	1	735520
Electronic decappers (battery-powered)		
Electronic decapper for 11 mm aluminium crimp caps	1	735611
Electronic decapper for 20 mm aluminium crimp caps (not suitable for magnetic / bi-metal crimp caps)	1	735620
Accessories for battery-powered, electronic crimping and decapping tools		
Replacement battery 6.4 Volt, 6.8 Wh	1	735500



Electronic crimping tools

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

Features

- Due to a more powerful motor also suitable for magnetic and bi-metal crimp caps
- With fixed power supply
- Exchangeable 11 mm and 20 mm crimping and decapping heads with quick-release jaw sets (need to be ordered separately)
- Digital LED display of crimp settings
- Different jaw settings can be stored in separate programs
- 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

Please see pages 6–8 of the instruction leaflet „Electronic high power crimping tool“ on www.mn-net.com/electroniccrimper.



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 20 mm crimp caps (aluminium, magnetic, bi-metal)	1	735720
Decapping head for 11 mm crimp caps	1	735811
Decapping head for 20 mm crimp caps (aluminium, magnetic, bi-metal)	1	735820
Stand for electronic crimping tools	1	735501



Crimp neck vials and closures • Selection N 11 and N 20

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

70201HP	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	0.15 mL	0.2 mL
	label + scale ¹ silanized	15 µL funnel in solid glass bottom	conical	conical, round pedestal glass plate	transp., with integrated 0.15 mL glass insert	with integrated 0.2 mL insert

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

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

Crimp neck vials N 20, 20 and 50 mL (image scale 1:2)

70206.36 / 70217.36	70254 / 702541	702540	702261	702263	70208.36 / 702100
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)

70277	702057	702101	702D20TB	702780	70278
Butyl red / PTFE gray	Butyl light gray / PTFE dark gray	Molded septa Butyl / PTFE gray	Butyl dark gray / PTFE gray	Silicone blue transpar- ent / PTFE colorless	Silicone white / PTFE beige
Assembled in N 20 aluminium crimp caps, center hole (REF 702804 without liner)					
702773	702775	70234.9	70234	702093	702094
Assembled in N 20 aluminium 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		

www.mn-net.com

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