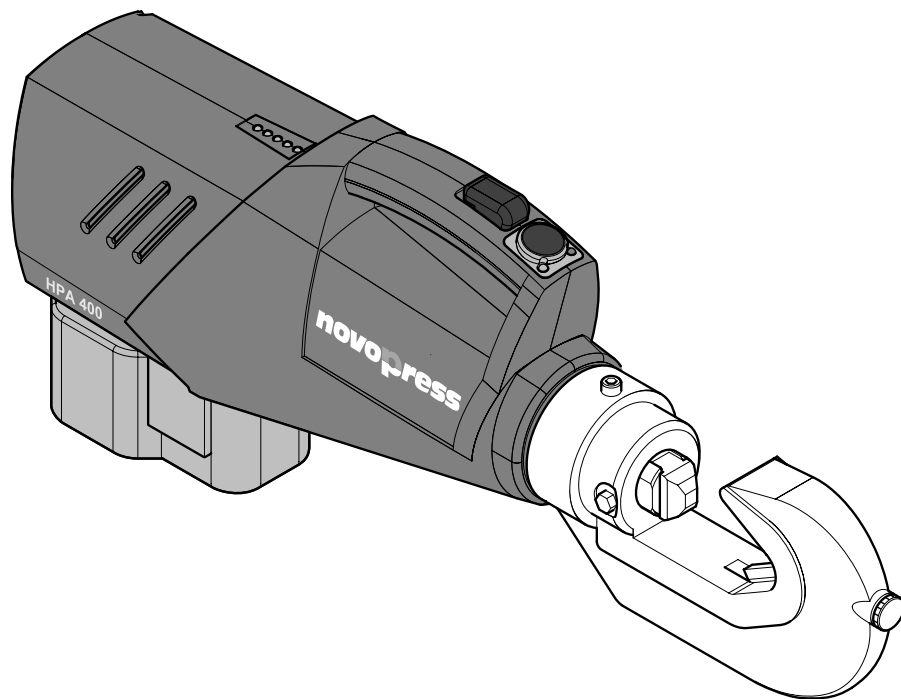


Instruction manual

novopress

battery-driven crimping tool HPA 400



Contents

	BASIC SAFETY INFORMATION	III
	APPROPRIATE USE	III
	GENERAL SAFETY REGULATIONS	IV
	SAFETY TIPS FOR ELECTRIC TOOLS.....	V
1	Preface	1
2	Description of the tool	1
2.1	Technical specifications	2
2.2	Control elements and displays.....	3
2.3	Crimping procedure	3
3	Working with the HPA 400	4
3.1	Crimping tool and rechargeable battery.....	4
3.2	Preparing the tool for crimping.....	5
3.3	Crimping.....	6
3.4	Retracting the plunger	6
3.5	Tips for crimping.....	7
3.6	Changing tools	8
4	Maintenance and repair	9
5	Brief description of the LED displays on the grip.....	10
6	Appendix	11

CE - KONFORMITÄTSERKLÄRUNG

entsprechend EG-Maschinenrichtlinie 98/37/EG, Anhang II A

Novopress GmbH & Co KG
Scharnhorststr. 1
D-41460 Neuss

Akku-Kabelschuhpresse
HPA 400

Ser-nr:

1. EN 292, EN 294, EN 349, EN 55014-2, EN ISO 9001, 89/336/EWG
2. UVV VBG1, UVV VBG4, UVV VBG5, VDE 0100, VDE0106

Hiermit erklären wir, daß die nachfolgend bezeichnete Maschine aufgrund Ihrer Konzipierung und Bauart sowie der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen entspricht. Bei einer nicht bestimmungsgemäßen Anwendung der Maschine oder bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Die Konformitätserklärung ist nur gültig, wenn die Maschine mit dem Hydraulikaggregat HA1ES oder HA1FS betrieben wird.

Angewandte harmonisierte Normen, insbesondere:

siehe Punkt 1

Angewandte nationale Normen, insbesondere:

siehe Punkt 2

We hereby declare that with respect to its design and construction the machine stated below and the model thereof which we have brought into circulation conform with the applicable basic requirements on health and safety.

Any use of the machine other than that for which it is intended and any modification made thereto without our consent shall render this declaration null and void.

This declaration of conformity shall only be valid if the machine is operated with hydraulic unit HA1ES or HA1FS.

Applied harmonized standards, in particular:

see Item 1 above

Applied national standards, in particular:

see Item 2 above

Nous déclarons par la présente que par sa conception et son type ainsi que par l'exécution que nous avons mise sur le marché, la machine désignée ci-après répond aux exigences de sécurité et de prévention de la santé applicables.

La présente déclaration perd sa validité si la machine n'est pas utilisée conformément aux instructions ou dans le cas d'une modification de la machine à laquelle nous n'avons pas donné notre accord.

La déclaration de conformité n'est valable que si la machine est utilisée avec le groupe hydraulique HA1ES ou HA1FS.

Normes harmonisées utilisées, en particulier :

voir point 1

Normes nationales utilisées, en particulier :

voir point 2

Hiermede verklaren wij, dat de hierna genoemde machine op grond van haar constructie en type alsmede de door ons in de handel gebrachte uitvoering aan de desbetreffende fundamentele eisen ten aanzien van de veiligheid en de gezondheid voldoet.

Wordt de machine niet overeenkomstig haar bestemming gebruikt of worden hieraan niet met ons overeengekomen wijzigingen aangebracht, dan verliest deze verklaring haar geldigheid.

De conformiteitsverklaring is slechts geldig, indien de machine met het hydraulische aggregaat HA1ES of HA1FS wordt aangedreven.

Toegepaste geharmoniseerde normen, in het bijzonder:

zie punt 1

Toegepaste nationale normen, in het bijzonder:

zie punt 2

Datum / Herstellerunterschrift: 01.04.04

Angaben zum Unterzeichner:



Geschäftsführer

Con la presente declaramos que la máquina denominada a continuación, por su concepto y por su construcción, cumple con los requisitos fundamentales de seguridad y sanidad en vigor. Lo dicho aplica exclusivamente a la máquina en su versión original, tal y cual ha sido fabricada por nosotros.

El empleo inapropiado de la misma, así como cualquier modificación ejecutada sin nuestra intervención hace que esta declaración pierda su validez.

Para que esta declaración de conformidad tenga validez, la máquina se habrá de operar categóricamente con un grupo hidráulico tipo HA1ES o tipo HA1FS.

Normas armonizadas aplicadas, en particular:

véase bajo el punto 1

Normas nacionales aplicadas, en particular:

véase bajo el punto 2.

Si dichiara che la macchina appresso descritta soddisfa, per concetto, tipo e modello messo in commercio, le esigenze di base di sicurezza e sanità relative a tali apparecchiature.

In caso di uso non appropriato della macchina o in caso di una sua modifica eseguita senza il nostro accordo, questa dichiarazione non ha più effetto.

La dichiarazione di conformità è valida solo se la macchina è messa in funzione con il gruppo idraulico HA1ES o HA1FS.

Norme armonizzate applicate, in particolare

vedi punto 1

Norme nazionali applicate, in particolare

vedi punto 2

Härmed försäkrar vi att nedan nämnd maskin motsvarar de tillämpliga och principiella säkerhets- och hälsoföreskrifterna både gällande koncipieringen och konstruktionen samt gällande den av oss sålda modellen.

Används denna maskin inte enligt anvisningarna eller förändras maskinen på ett sätt som vi inte har godkänt, gäller denna försäkran ej.

Konformitetsförsäkran gäller endast om maskinen drivs med hydraulikaggregat HA1ES eller HA1FS.

Tillämpade harmoniserade normer, i synnerhet:

se punkt 1

Tillämpade nationella normer, i synnerhet:

se punkt 2

Täten vakuutamme, että seuraavassa nimetty kone vastaa suunnittelunsa, rakenteensa sekä meidän taholtamme liikenteeseen päästetyn mallinsa puolesta asiaankuuluvia perustavaa laatua olevia turvallisuus- ja terveystämääryksiä.

Jos konetta ei käytetä määräysten mukaisesti tai jos koneeseen tehdään muutos ilman meidän suostumustamme ei tämä selvitys enää päde.

Standardinmukaisuusselvitys on vain silloin voimassa, kun konetta käytetään hydraulisen yksikön HA1ES tai HA1FS kanssa.

Käytetyt harmonisoidut standardit, varsinkin:

katso Kohta 1

Käytetyt kansalliset standardit, varsinkin:

katso Kohta 2

Herved erklærer vi at den i det følgende betegnede maskinen på grunn av dens konsipering og konstruksjon samt utførelsen som vi har brakt på markedet tilsvarende de respektive grunnleggende krav til sikkerhet og helse.

Ved en bruk av maskinen som ikke er formålstjenlig eller ved en endring av maskinen som ikke er avstemt med oss mister denne erklæringen sin gyldighet.

Konformitetserklæringen er bare gyldig hvis maskinen drives med hydraulikkaggregatet HA1ES eller HA1FS.

Benyttede harmoniserte standarder, særlig:

se punkt 1

Benyttede nasjonale standarder, særlig:

se punkt 2

Declaramos pelo presente, que a máquina a seguir designada, na sua planificação e construção, assim como no modelo por nós comercializado, obedece às respectivas exigências fundamentais de segurança e de saúde.

A presente declaração perde a validade em caso de uso impróprio da máquina ou em caso de modificações na máquina, que não tenham sido acordadas antecipadamente conosco.

A declaração de conformidade é válida somente quando a máquina é accionada com o agregado hidráulico HA1ES ou HA1FS.

Normas harmonizadas aplicadas, especialmente:

vide parágrafo 1

Normas nacionais aplicadas, especialmente:

vide parágrafo 2

BASIC SAFETY INFORMATION

Pictograms are used to highlight sections of text as shown below.
Follow this advice and take extra care in these situations.
Pass on all work safety information to other users/ technical staff! !



Note!

Follow these instructions!

In doing so you will ensure that the correct sequence is adhered to, thus preventing the machine and/ or other system components from becoming damaged or being destroyed.



Danger!

This indicates impending danger.

Prevent this situation from arising otherwise death or serious injury will result.



Information!

This information is directly relevant to the description of a function or an operating sequence.

APPROPRIATE USE

The battery-driven crimping tool HPA 400 is designed for crimping cable lugs or compression joints. Appropriate use also involves observing these operating instructions and the safety instructions as well as adhering to the maintenance and cleaning activities.

The crimping tool is only to be used after the user has received instruction.

Using the tool in a different way or in a way which goes beyond the scope of these instructions is not classed as appropriate. Novopress is not liable for damage resulting from inappropriate use. In this case the risk lies with the user alone.

GENERAL SAFETY REGULATIONS

Read all safety regulations and instructions!

1. Keep the place of work clean.
Disorderly work-places and work-benches invite accidents.
Ensure that lighting is good.
2. Keep children away.
Do not allow unauthorised persons to touch the device or the cable.
Keep unauthorised persons away from your place of work.
3. Wear suitable working clothing.
Do not wear any wide clothes nor jewellery - they may get caught up in moving parts.
When working in the open it is recommended that you wear rubber gloves and non-slip footwear.
Wear a hair- net if you have long hair.
4. Always be alert.
Only use a device after having been instructed in its operation.
Concentrate on your work. Proceed sensibly. Do not use the device when you are distracted.
5. Do not lean too far forward.
Avoid abnormal stance.
Make sure that you have a secure standing position, and maintain balance at all times.
6. Leave safety devices where they belong.
7. Hand tools may not be installed as fixtures.
8. Repair and maintenance.
Have repairs and maintenance work carried out in an authorised NOVOPRESS specialist workshop.
Only use original and identical NOVOPRESS spare parts.
We reject all responsibility and liability for work carried out by third- party personnel.

SAFETY TIPS FOR ELECTRIC TOOLS



Attention!

In order to avoid electric shock, danger of injury and burning the following basic safety measures are always to be taken when using electric tools. Read and observe the notes before using the device. Keep the safety tips in a safe place.

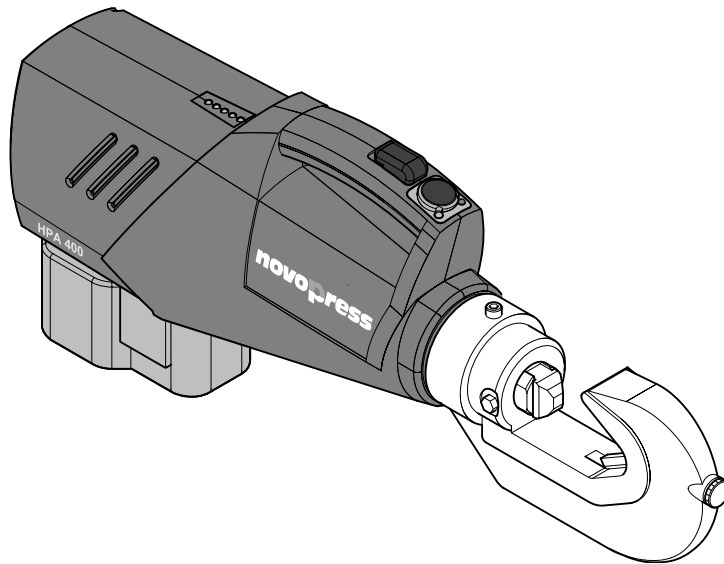
1. Take influences of the surroundings into account.
Do not expose electric devices to rain.
Do not use electric devices in damp or wet surroundings.
Do not use electric devices in the vicinity of flammable liquids or gases.
2. Protect yourself from electric shock.
Do not fix additional rating plates or symbols with rivets or screws.
Use adhesive signs.
When working with electric devices avoid body contact with earthed objects such as pipes, heating appliances, refrigerators etc.
3. Use the correct tools.
Only use the tools and accessories outlined in the operating instructions.
Do not use the electric device to do work for which it is not intended.
4. Secure the work piece.
Use gripping devices or vice grips to hold the work piece steady.
It is more securely held than by hand and you can operate the device with two hands.
5. Do not overload your electric device.
You can work better and more securely in the indicated power range.
6. Do not use the cable for purposes for which it is not intended.
Do not carry the electric device by the cable.
Do not use the cable in order to pull the plug out of the socket. Protect the cable from heat, oil, acids and sharp edges.
For working in wet rooms or in the open only use the authorised extension cables with the corresponding marking.
7. .Avoid unintentional starting.
Ensure that the electric device is switched off before connecting the mains plug.
Do not carry the electric device in such a way as that your finger is on the switch.
Do not use the electric device if the ON/OFF switch does not work perfectly.
8. Disconnect the mains plug:
 - if the device is not in use
 - before maintenance of the electric device
 - when changing tools

9. Carefully maintain the electric device. The best and most secure work is guaranteed if you:
 - keep the electric device clean
 - observe the instructions for greasing, changing the tools and ancillary equipment
 - regularly check the connection cable and the extension cable
 - have damaged cables repaired by a specialist
 - keep hand grips dry, clean and free from oil and fat
 - have the electric device examined and cleaned by a specialist after 900 operating hours.
10. Keep electric devices in a safe place.
Store electric tools and accessories out of the reach of children, in dry, high-lying places or in locked rooms.
11. Electric devices are often used by more than one person. Therefore before beginning to work you should check:
 - the socket to ensure it is securely fixed and is not damaged in such a way as can be seen from the outside
 - the connection cable for outward damage to the insulation and for sharp kinks
 - that the cable is securely fixed to the device and whether the insulating plastic tube is damaged
 - that the switch is secure and shows no outward signs of damage
 - whether protective appliances or damaged parts function properly
 - whether movable parts jam or are damaged
 - do not use the device in the event of finding defects
 - Explosion-proof tools are only to be connected to earthed sockets.
 - The electric plug on explosion-proof tools must have an earthed contact.
 - The earth conductor strip for explosion-proof tools must have an earthed contact.
 - only allow the device to be repaired by a specialist or in an authorised NOVOPRESS specialist work-shop
 - only use original and identical NOVOPRESS spare parts.
12. Never short out the battery. Fire risk
13. Do not put the battery onto a fire or heat it to more than 60°C.
14. Dispose of used batteries at an appropriate site.
15. The battery block is not to be disassembled into individual components.

1 Preface

Please read the operating instructions carefully.
The safety instructions must be observed!

2 Description of the tool



With the battery-driven crimping tool HPA 400, cable lugs and compression joints can be crimped for copper and aluminium conductors. The tool works with an electro-hydraulic rechargeable battery.

A special feature of the HPA 400 is the flat, compact construction which ensures easy, fast operation. The crimping head which can be rotated by 90° makes working easy, even if space is limited.



Note!

For information on the function and operation of the battery charger please consult the operating instructions for the battery charger provided.

2.1 Technical specifications

Crimping device:

Plunger force:	110 kN
Operating pressure:	550 bar
Stroke:	60 mm
Cross-section range:	
V crimping	Cu 16 bis 400 mm ² AL 50 bis 400 mm ²
Hexagonal crimping	Cu 16 bis 240 mm ² Al 25 bis 185 mm ²
Max. insertion diameter:	42 mm
Dimensions (LxWxH):	490x90x200 mm
Weight incl. rechargeable battery:	8,0 kg

Rechargeable battery:

Voltage:	14,4 V
Capacity:	2,4 Ah
Charging time:	60 min
Dimensions (LxWxH):	120x70x70 mm
Weight	0,8 kg

Battery charger:

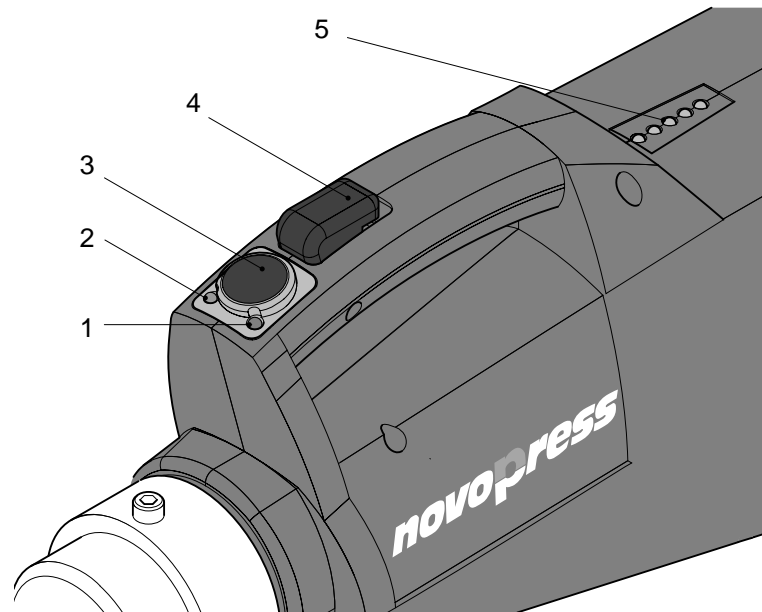
Input:	220 V - 50 Hz
Output:	7,2 - 18 V
Charging current - rapid charge:	1,5 A
Charging time for 2 Ah rechargeable battery:	60 min
Weight:	0,5 kg



Note!

For information on the minimum number of V crimpings and hexagonal crimpings to be carried out see the table in the appendix (see Section 6, Appendix)

2.2 Control elements and displays



- | | |
|-------------------------------------|---|
| 1 Red LED display | = crimping is currently being carried out |
| 2 Green LED display | = tool is operative |
| 3 Start button | = to instigate crimping |
| 4 Retract button | = retracting the plunger |
| 5 Battery level display with 5 LEDs | = battery charge level |

2.3 Crimping procedure

The tool is operated manually by pressing the start button and the retract button.

When the start button is pressed the hydraulic pump starts and the plunger extends. The automatic crimping sequence controls the crimping procedure. The start button must be held down until the green LED display lights up again.

The hydraulic pump stops automatically after crimping has been carried out successfully. The green LED display lights up.

The plunger is retracted when the retract button is pressed. The plunger only retracts for as long as the retract button is pressed. The plunger only needs to be retracted as far as required for the next crimping.

3 Working with the HPA 400



Note!

The plunger is retracted when the retract button is pressed. The plunger only retracts for as long as the retract button is pressed. The plunger only needs to be retracted as far as required for the next crimping.

3.1 Crimping tool and rechargeable battery



Note!

The batteries are not charged when delivered. Charge the batteries before using them for the first time.

The rechargeable batteries will first achieve full capacity after they have been recharged 2- 3 times.

Battery charge level

After the battery has been inserted the green LED display lights up and signals that the tool is operative.

The battery level display with the 5 LEDs lights up for approx. 2 seconds and displays the charge level of the battery.

The battery charge level display is continually lit up while the start button is pressed down. The battery is fully charged if all 5 LED displays are lit up.



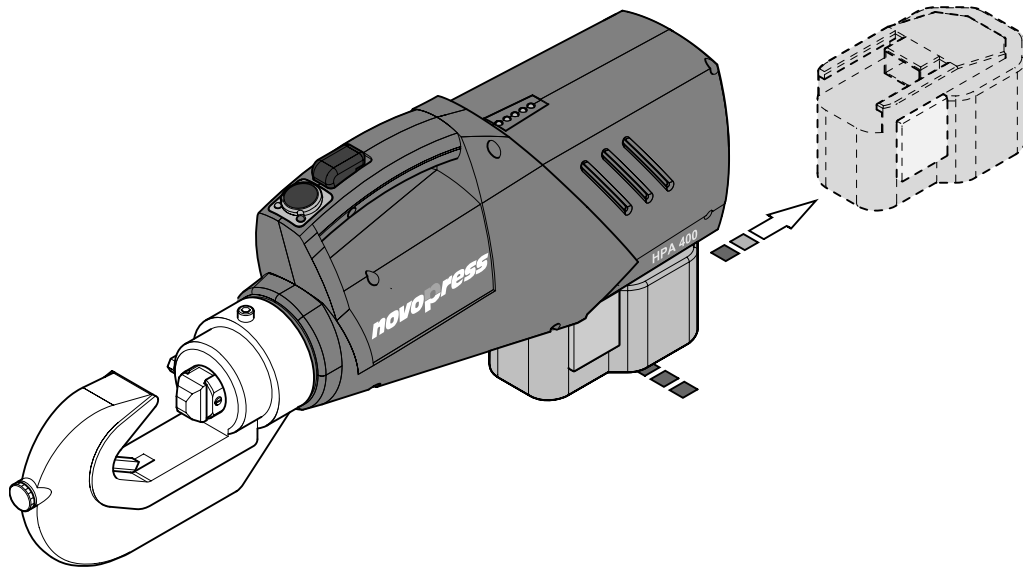
Note!

The most accurate result can be seen on the display during crimping under load.

Battery level display	Battery charge level
First green LED not lit up	60 % capacity
Second green LED not lit up	20 % capacity
Third green LED not lit up	change battery

Changing the battery

If no green LEDs are lit up the battery has to be recharged.



1. Press the two buttons on the side inwards.
2. Push the battery out towards the rear of the tool.
3. Line up the recharged battery on the lower casing section of the tool.
4. Push the battery forwards until you hear it click in.

Working with several batteries

The battery can be changed during crimping. The current crimping procedure will be continued after the battery has been changed.



Note!

On no account press the retract button when changing the battery during a crimping procedure. Change the battery and continue crimping (press the start button).

3.2 Preparing the tool for crimping

Please ensure that the upper and lower tool sections required are installed. Failing this install a different, suitable tool (see Section 3.6. Changing tools).

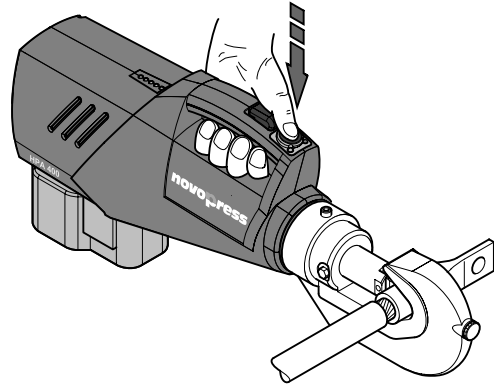
Position the battery if it is not already in place.

The crimping tool is operational when the green LED display on the grip is lit up.

3.3 Crimping

Prerequisite - the tool is operational, the green LED is lit up.

- Insert the end of the cable, with cable lug or compression joint in position, into the crimping head.
- Press the start button and hold it down.
- The green LED goes out and the red LED lights up. The plunger extends.



Crimping (automatic crimping sequence) is completed when the red LED goes out and the green LED lights up again. Only then can the start button be released.

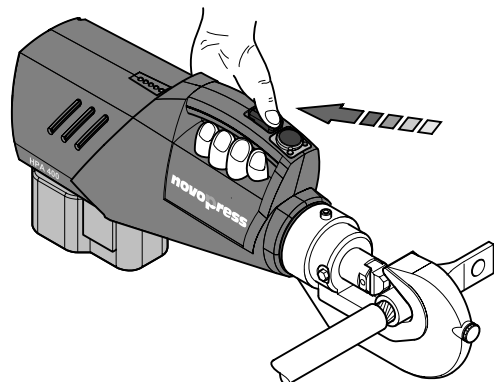


Important!

The crimping has not been completed correctly before the crimping procedure ends automatically (green LED lights up again). The crimping depth is then insufficient.

3.4 Retracting the plunger

- Retract the plunger as far as is necessary for the next crimping procedure by pressing the retract button.



3.5 Tips for crimping

On request, Novopress can supply test rods with testing instructions (order number 4104) for checking the crimping depth.

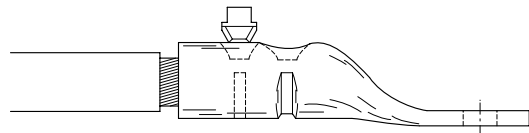
Tips on V crimping:

- When crimping aluminium conductors it is possible that the sleeves could distort. This can be prevented if every second crimping is offset by 180°.
- Crimping again in the same position results in the crimping being too deep, which leads to a reduction in the cross-section.

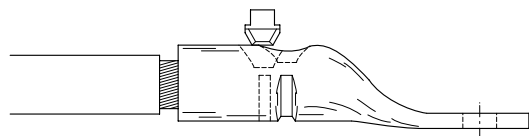
Tips for crimping aluminium conductors:

- Roughen oxidised cable ends with emery paper before crimping.
- Use cable lugs/ compression joints filled with quartz-containing thermal conducting grease, or grease cable ends with suitable grease.
- Select the distance from the next crimping to ensure that the entire tool lies on a section which is not distorted.

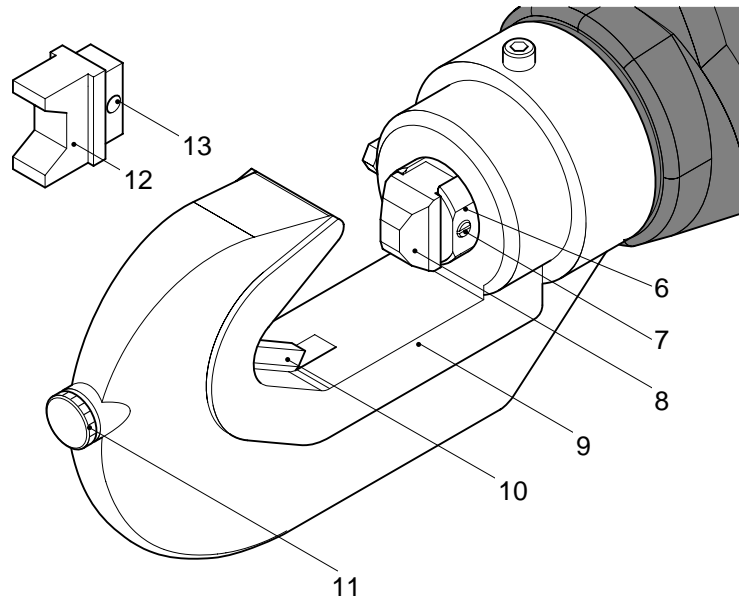
Correct distance selected.
The depth of both crimpings is the same.



Distance is too small.
The second crimping is too deep.



3.6 Changing tools



- 6 Plunger
- 7 Grub screw
- 8 Lower tool section
- 9 Crimping head
- 10 Upper tool section
- 11 Knurled screw
- 12 Lower tool section for hexagonal crimpings
- 13 Center hole on the Lower tool section

Proceed as follows to change the tool:

1. Withdraw the plunger rod (6) out of the tool until the grub screw (7) can be accessed..



Note!

Remove the battery from the tool before carrying out the following steps.

2. Unscrew the grub screw (7) until the lower tool section (8) can be removed from the plunger rod (6).
3. Unscrew the knurled screw (11) until the upper tool section (10) can be removed from the crimping head (9).
4. Insert the new tools and tighten the screws..



Note!

When inserting the lower tool section for hexagonal crimpings (12) ensure that the side with the center hole (13) always points to the grub screw.

Incorrect crimpings will result if this is not followed!

4 Maintenance and repair



Note!

Observe the safety instructions and remove the battery from the tool before carrying out maintenance work.

Regularly:

Inspect the battery for external damage and replace if necessary.

When dirty:

Clean upper and lower tool sections. Clean the entire press cylinder.

Every week:

Inspect the upper and lower tool sections for damage and replace if required.

Every month:

Inspect the upper and lower tool sections for damage and replace if required.

Every year:

Inspection of the crimping tool in an authorised NOVOPRESS workshop (see also guarantee provisions for new tools).



Note!

Only use ORIGINAL NOVOPRESS SPARE PARTS.

5 Brief description of the LED displays on the grip.

Error signals before the crimping tool was able to start up			
Green LED-display	Red LED-display	Cause	Remedy
not lit up	not lit up	voltage drop (battery has run down)	Read battery charge level (see Sec. 3.1, Crimping tool and rechargeable battery) and recharge the battery
not lit up	not lit up	battery defect	Read battery charge level (see Sec. 3.1, Crimping tool and rechargeable battery) and change the battery

Error signals after the crimping tool has started			
Green LED-display	Red LED-display	Cause	Remedy
not lit up	is lit up	Release the start button before the automatic crimping sequence is reached	Press the start button again until the green LED lights up



Note!

THESE CRIMPINGS ARE CORRECT

6 Appendix

The minimum number of crimpings to be carried out per cable end.

Crimping tool HPA 400							
The minimum number of crimpings to be carried out per cable end							
Cross section mm ²	V crimpings			Hexagonal crimpings in accordance with DIN 48083, section 4			
	Cu	Al		Tool- indicator:		Cu	Al
		< 80 N/mm ²	> 80 N/mm ²	Cu	Al		
16	1	-	-	8	10	1	-
25	1	-	-	10	12	1	2
35	1	-	-	12	14	1	3
50	1	2	2	14	16	2	3
70	1	3	2	16	18	2	3
95	1	3	2	18	22	2	4
120	2	4	3	20	22	2	4
150	2*	4	3	22	25	2	5
185	2*	4	3	25	28	3	5
240	2	4	3	28	32	3	-
300	2	4	3	-	-	-	-
400	2	4	3	-	-	-	-
* Cable lugs in accordance with DIN 46234 only 1 x crimping.							

Repair / Service

novopress

Scharnhorststraße 1

D-41460 Neuss

Postfach 101163

D-41411 Neuss

Tel.: 02131/288-0

Fax: 02131/288-55
