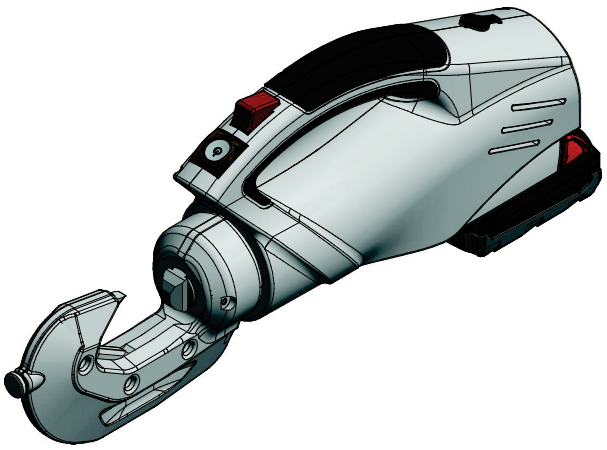
Operating Manual
for

novopress

HPA400



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HPA400

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EN English

Translation of the original Operating Manual

Contents

1 Proper use

Battery-driven crimping tools HPA400 are exclusively intended for crimping cable lugs and press fittings for copper and aluminium conductors.

Any use beyond or different to that described shall be regarded as improper use.

All work with this tool that does not correspond to proper use may lead to damage to the press cylinder, the accessories and the cable lugs or the press fittings.

Novopress is not liable for damage resulting from

- the use of unsuitable press tools or press tools from other manufacturers, or
- applications that do not conform to proper use.

Proper use also includes compliance with the Operating Manual, adherence to the inspection and maintenance conditions as well as compliance with the latest versions of all relevant safety regulations.

2 Basic safety information

The following pictograms are used to highlight sections of text. Please follow these instructions and act with particular caution in these cases. Pass all health and safety instructions on to other users and technicians.

	**WARNING** This information indicates a potentially dangerous situation that could result in serious injury or death.
	**CAUTION** This information indicates a potentially dangerous situation that could result in minor injuries and/or material damage.
	**Information** This information is directly linked to the description of a function or an operating sequence.

Please read this Operating Manual carefully.

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The safety instructions it contains must be observed.

Compliance with local safety regulations is essential.

WARNING

Read all safety information and instructions!

Failure to comply with the safety information and instructions may result in electric shock, fire and/or serious injuries.

Therefore:

– Keep all safety information and instructions for future use.

WARNING

Risk of injury from ejected fragments

Incorrect or improper use or the use of worn or damaged inserts and press cylinders carries a risk of injury from ejected fragments.

Therefore:

– Press cylinders may only be used by trained personnel.
– Compliance with the specified service work and service intervals is mandatory.
– Check the press cylinders and inserts for cracks and other signs of wear before each use.
– Discard all press cylinders and inserts with material cracks or other signs of wear immediately and do not use them any longer.
– Only use press cylinders and inserts that are in perfect technical condition.
– After incorrect use, do not use the press cylinders and inserts any longer and have them inspected by an authorised workshop.

CAUTION

Unskilled use may lead to a damaged or malfunctioning press cylinder and insert.

Therefore:

– Replace worn inserts immediately and do not use them any longer.
– Use carrying cases for transport and storage and keep press tools and the press cylinders and inserts in a dry room.
– Have damage checked immediately by an authorised workshop.
– Comply with the safety instructions regarding the cleaning and anti-corrosion agents used.

Information

Consult the documents provided by the system supplier for handling and assembly instructions for cable lugs and press fittings.

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3 Definition of terms

V	volt
A	ampere
Hz	hertz
W	watt
kW	kilowatt
g	gram
kg	kilogram
Bj	year of manufacture

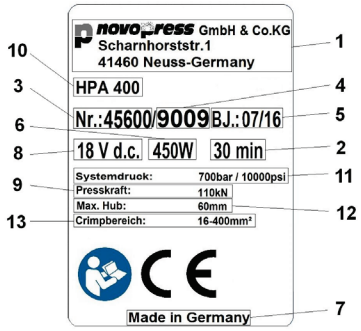
Ah	ampere hour
db(A)	decibel (sound pressure)
bar	bar
°C	degree Celsius
kN	kilonewton
a.c.	Alternating current voltage
d.c.	Direct current voltage
F	force

Ø	diameter
h	hour
min	minute
s	second
m/s²	metre divided by square second (acceleration)
Nr	number

4 Symbols on the device and information on the rating plate

Symbol	Meaning
	Service sticker; indicates when the next service is due.

Information on the rating plate



1	Manufacturer logo incl. address
2	Permissible uninterrupted operating time
3	Part No.
4	Serial No.
5	Year of manufacture mm.yy
6	Power consumption
7	Country of manufacture

8	Permissible voltage range in volt
9	Force
10	Type designation of device
11	Pressure
12	Stroke
13	Crimping range

Explanation of possible pictograms on the rating plate

	Read Operating Manual
	CE conformity marking product safety in Europe

	Verification marking Canada and USA

5 Scope of supply

The scope of supply for the standard equipment includes:

HPA400 incl. operating manual
Battery charger incl. operating manual
Battery 18 V DC
Safety information
Test piece (order no. 6468)
Carrying case

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6 Technical data

Device:	**HPA400**
Rated voltage/battery:	18 V DC (lithium-ion) 1.5 Ah/3.0 Ah
Power consumption	450 W
Nominal force:	110 kN
Height:	176 mm
Length:	453 mm without battery
Width:	88 mm
Net weight:	5.7 kg (without battery)
Pressing range:	V crimping: Cu 16 to 400 mm² Al 50 to 400 mm² Hexagonal crimpings: Cu 16 to 240 mm² Al 25 to 185 mm²
Max. insertion diameter	42 mm
Max. noise level:	89.0 db(A) 1)
Noise pressure level at user's ear:	78.0 db(A) 1)
Vibration value:	<2,5 m/s² 2)
Type of protection:	IP20
Temperature range during operation:	-10°C to +50°C

1) Measurement uncertainty 3 db(A) 2) Measurement uncertainty 1,5 m/s²

Information!
Wear hearing protection.

The stated vibration emission value was measured using a standard test procedure and can be employed for the purpose of comparison with another device.
The stated vibration emission value can also be used to obtain an initial estimate of interruptions during intermittent operation.

Caution The vibration emission value may differ from the stated value while the device is actually in use, depending upon the manner in which the device is used. It may be necessary to establish safety measures to protect operating personnel, depending on the actual conditions of use (intermittent operation.

Battery charger

For information on the function and operation of the battery charger and the rechargeable batteries, please consult the battery charger operating instructions.

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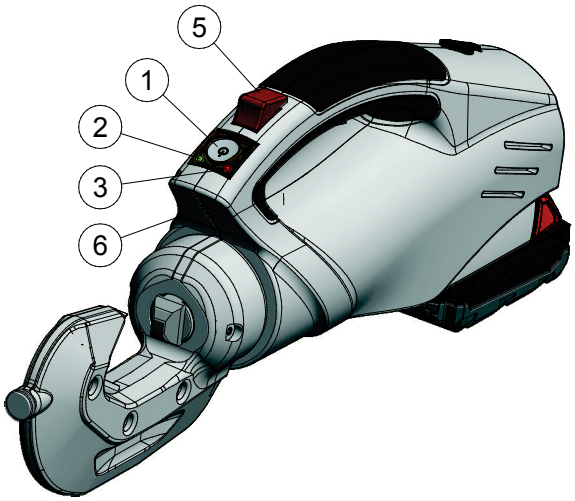
7 Brief description



7.1 Pressing operation

Initial situation: The green LED (2) lights up.

Pressing the start button (1):

- starts the hydraulic pump
- the plunger extends
- the green LED (2) goes out and stays out.

Press the start button (1) until the green LED display (2) lights up again.

The hydraulic pump stops automatically after crimping has been carried out successfully. The green LED display(2) lights up. The plunger is retracted when the return stroke button (5) is pressed.

7.2 Return stroke button (5)

The plunger is retracted when the return stroke button (5) is pressed.

The plunger stops when the return stroke button (5) is released.

Retract the plunger only as far as required for the next crimping.

7.3 Pressing point lighting (6)

The pressing point is lit by 2 LEDs (6).

The LED lights up as soon as the HPA400 is operational.

7.4 Battery

	Information! The batteries are not charged at the factory. Therefore: – Charge the batteries before using for the first time.

	Information! Limited temperature range for charging and storing the batteries. Therefore: – It is imperative that the operating instructions for the battery charger are complied with.

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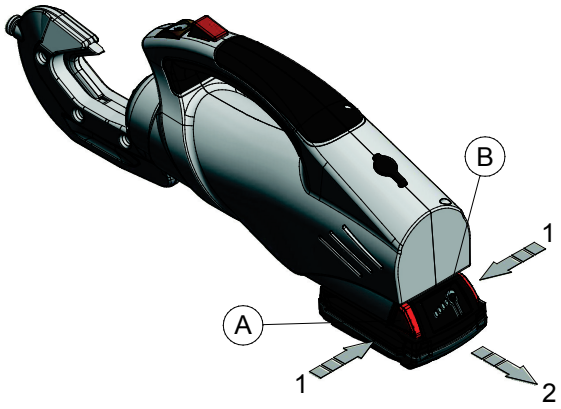

Fig. 2

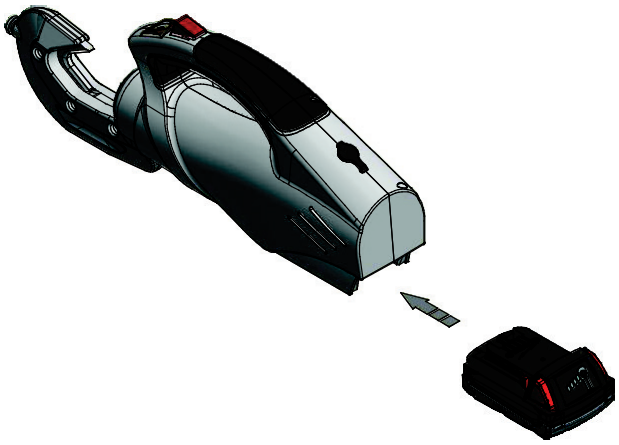

Fig. 3

Removing the battery (Fig. 2)

Push in (1) the two release buttons (A) and then remove the battery (2).

Inserting the battery (Fig. 3)

Slide the battery into the device as illustrated until it clicks into place.

Battery charge indicator (Fig. 2)

The battery charge is displayed when button (B) is pressed. The number of LEDs lit up denotes the battery charge. One flashing LED indicates a maximum power reserve of 10%. The battery must be charged soon.

If the battery is inserted in the press device while the battery charge is being checked, the last pressing operation must have been completed at least 1 minute prior to this. Otherwise the display will be inaccurate.

7.5 HPA400 and battery

	Information **The HPA400 must only be operated with 18 V lithium-ion rechargeable batteries. The 18 V battery must only be used in the appropriate devices.**

Behaviour of the HPA400 after extended periods out of use or when changing the battery:

If the HPA400 is out of use for approx. 30 seconds or the battery is reinserted, it switches off. No LED is lit up any longer. Press the start button (1) briefly to turn on the HPA400.

Behaviour of the HPA400 when the battery is empty:

When a pressing operation begins, a check is made to determine whether the battery charge is sufficient to complete the pressing operation. If this is not the case the device does not start. The green LED (2) flashes.

If the green LED (2) flashes following a pressing operation, the pressing operation was still carried out correctly. The battery must be recharged prior to the next pressing operation.

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8 Commissioning and operation

8.1 Preparing the HPA400

Information!

The HPA400 is not suitable for continuous operation. Following 30 minutes of continuous operation, a short break of at least 15 minutes must be taken to allow the device to cool down.

- If required: Mount upper and lower tool. (see Changing tools section).
- Insert the battery.

8.2 Meaning of the LED display

LED display	Status/cause	Measure
Green LED (2) off.	Device is switched off.	Briefly press the start button (1) (see section 7.5).
Green LED (2) lights up.	On standby.	
Green LED (2) off (pressing operation in progress).	Pressing operation has started; device ends the pressing operation automatically.	
Green LED (2) flashes.	Insufficient battery charge.	Charge or replace battery.
Red LED (3) flashes.	Device not within the temperature range.	The device only works within a temperature range from -10 to +50°C. If the red LED is flashing, the device must be moved into a warmer or colder area. The device can be warmed to operating temperature by means of dry runs.
Red LED (3) lights up.	The pressing operation may not have been completed; please check and repeat if required.	Press the start button (1) again and hold it down until the pressing operation has been completed.

8.3 Performing the pressing operation

CAUTION

Danger of crushing!

There is a risk that fingers and hands will be crushed.

Therefore:

– Keep body parts and foreign objects away from the crimping area during the pressing operation.

Information

For V crimping only:

When crimping aluminium conductors it is possible that the sleeves could distort. This can be prevented if every second crimping is offset by 180°.

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Information!

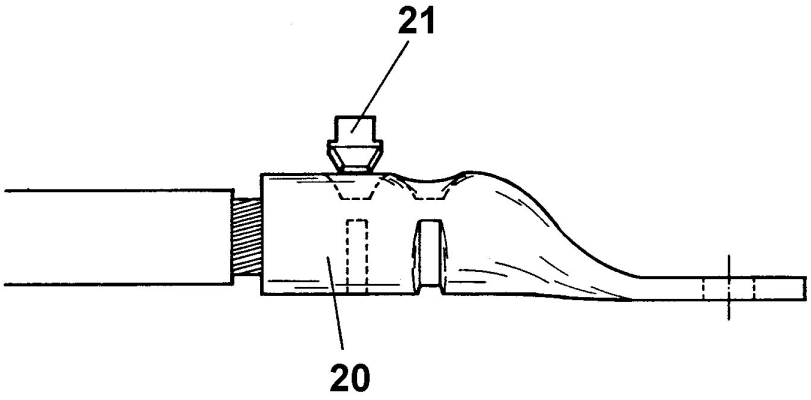
– For V crimping only:
crimping again in the same position results in the crimping being too deep, which leads to a reduction in the cross-section.
– On request, Novopress can supply test rods with testing instructions (order number 6468) for checking the crimping depth.

Information!

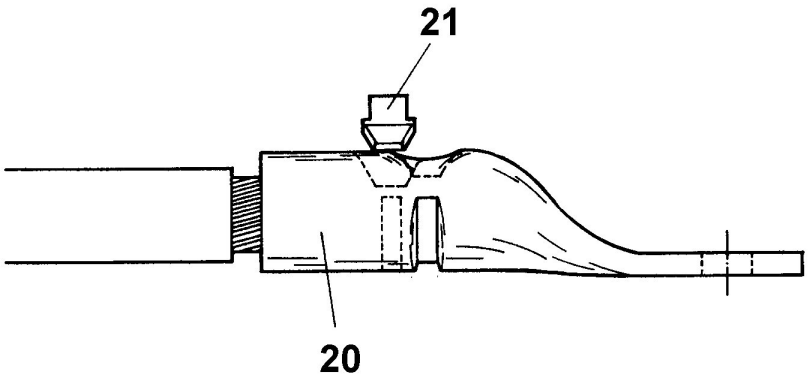
Crimping aluminium conductors

– Roughen oxidised cable ends with emery paper before crimping.
– Use cable lugs/press fittings filled with quartz-containing thermal conducting grease, or grease cable ends with suitable grease.
– Select the distance to the next crimping thus to ensure that the tool lies flat on a non-distorted section.

Correct distance selected: **same crimping depth**



Distance too small: **crimping too deep**



Key:
20 = cable lug
21 = lower tool

1. Check whether the nominal width of the cable corresponds to the nominal width of the cable lug.
2. Insert the end of the cable, with cable lug or press fitting in position, into the crimping head.

CAUTION

Insufficient crimping depth due to early release of the start button.

Therefore:

– Hold the start button (1) down until the pressing operation is ended automatically.

3. Press and hold the start button (1).
    - Green LED (2) goes out.
    - Red LED (3) lights up.
    - Plunger extends.
4. The crimping sequence is completed when:
    - Red LED (3) goes out.
    - Green LED (2) lights up.
5. Release the start button (1).
6. Pull the return stroke button (5) until the plunger is in the desired position.

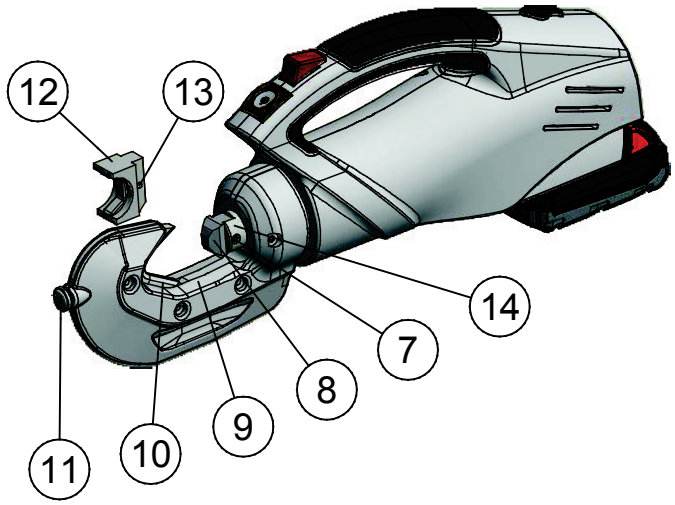
9 Changing tools

CAUTION

Risk of injury from inadvertent starting the device

Therefore:

– Remove the battery before changing the tools.



1. Withdraw the plunger thus far from the tool until the grub screw (7) can be accessed.
2. Remove the locking screw (11) from the upper tool (10).
3. Remove the upper tool section (10).
4. Remove the locking screw (7) from the lower tool (8).
5. Remove the lower tool section (8).

Information!

Faulty press fittings due to incorrectly inserted lower tools for hexagonal crimpings (12)

Therefore:

– The side with the centre hole (13) must **always** face the locking screws (7).

6. Insert the new tools and tighten the screws.

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10 Cleaning, maintenance and repair

CAUTION!

Risk of injury during cleaning or repair work from inadvertently pressing the On switch.

Therefore:

– Comply with the safety instructions and always remove the battery before performing cleaning, servicing or repair work.

Service addresses

Novopress GmbH & Co. KG
Scharnhorststr. 1
41460 Neuss
Germany

You can find the addresses of authorised specialist workshops by contacting Novopress or at www.novopress.de.

Service intervals

Service and repair work may only be carried out by Novopress or the authorised NOVOPRESS specialist workshops.

Information!

The next service deadline is indicated on the HPA400.

This service must be performed at least every 2 years.

When dirty:	Clean upper and lower tool sections. Clean the entire press cylinder.
Every week:	Inspect the upper and lower tool sections for damage. Replace if necessary.
Every month:	Inspect the tool for leakages and send off for repair if required.

11 Disposal

CAUTION!

Groundwater hazard

The device contains hydraulic fluid.

Hydraulic fluids pose a hazard to groundwater. Uncontrolled drainage or improper disposal is punishable by law.

Therefore:

– Dispose of the device in an environmentally responsible manner.

The instructions in the operating instructions provided with the battery charger must be complied with when disposing of rechargeable batteries and the charger.

The product must not be disposed of as normal household waste.

Novopress recommends that disposal be carried out by authorised specialist companies.

Alternatively, waste devices can be returned directly to Novopress (or a specialist workshop) for proper disposal.

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

Press cylinder HPH400S The minimum number of crimpings to be carried out per cable end							
Cross section mm²	V crimpings			Hexagonal crimpings in accordance with DIN 48083, Part 4			
	Cu	Al		Tool ID		Cu	Al
		<80 N/mm²	>80 N/mm²	Cu	Al	Cable lug DIN 46235 connector DIN 46267 Part 1	Cable lug DIN 46239 connector DIN 46267 Part 2
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		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 according to DIN 46234 must only be crimped once.

13 Warranty and guarantee

Novopress provides the full statutory warranty of 24 months for its HPA400 and tools. The warranty period always commences on the date of delivery, which must be proven by means of the sales documentation in case of doubt.

Within the warranty period, the warranty covers the repair of any damage or malfunction of these tools that is attributable to material or production faults.

The following are not covered by the warranty:

- Damage caused by improper use or inadequate servicing.
- Damage caused by the use of products not approved by Novopress for use with its HPA400.
- Damage caused by pressing unsuitable cable lugs and press fittings.

For wearing parts, the Novopress warranty lasts only for the intended service life.

Service work and parts provided in response to warranty claims do not have to be paid for. However, all shipping costs shall be borne by the user.

Claims can only be accepted if the device is delivered to Novopress or a Novopress workshop in an assembled state.

Repair or replacement of the device under warranty does not result in an extension of the warranty period. Repair or replacement can only be performed using as-new components, the function of which corresponds to that of the old components. All parts that are faulty and consequently replaced are the property of the manufacturer.

Repairs / Service

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