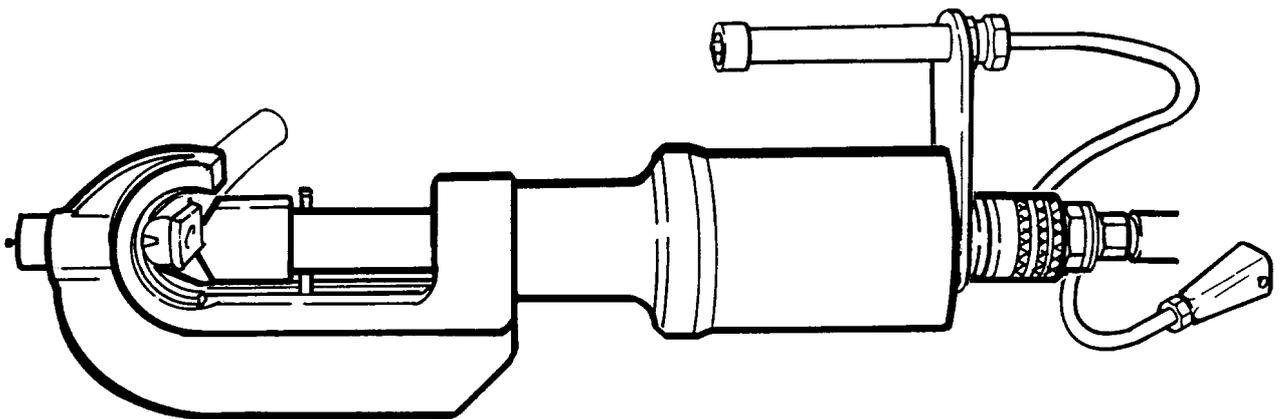


Operating Instructions  
for

**novopress**

**CRIMPING TOOL**

**HP 450**



## TABLE OF CONTENTS

CE Conformity Attestation

Safety Regulations

Operative Range.....	1
Technical Specifications .....	1
Operation .....	2
Use .....	3
Crimping .....	4
Changing Tools.....	6
Maintenance .....	7

## HYDRAULIC CRIMPING TOOL HP - 450

**Operative range:**

### **WARNING!**

THE HP 450 IS A HAND TOOL AND SHOULD NOT BE USED AS A STATIONARY TOOL

Cable plugs and pressing connectors for copper and aluminium conductors can be pressed with the HP 450.

### **Pressing Range :**

Copper conductors	from 120 to 500 mm <sup>2</sup>
Aluminium conductors	from 120 to 400 mm <sup>2</sup>

**The minimum number of crimps per cable end is:**



Cross section mm <sup>2</sup>		120	150	185	240	300	400	500
Min. Qty. of Pressings	Cu	2*	2*	2	2	2	3	3
	Al	3	3	3	3	3	3	—

\* Crimp DIN 46234 cable lugs only once.

The HP450 can be operated with the hydraulic unit HA 1-ES, Order No. 31070, or the foot pump HA 1-FS, Order No. 2900.

### **Technical specifications:**

Diameter:		139 mm (5.5")
Length:		506 mm (20")
Max. work-piece dia.		42.5 mm (1.6")
Weight:		8.9 kg (19.6 lb)
Operating pressure (measured on hydr. unit)	min.	150 bar (2200 psi)
	max.	160 bar (2346 psi)
Power:		150 kN (15 tonf)

**Operation:**

Crimping has three phases.

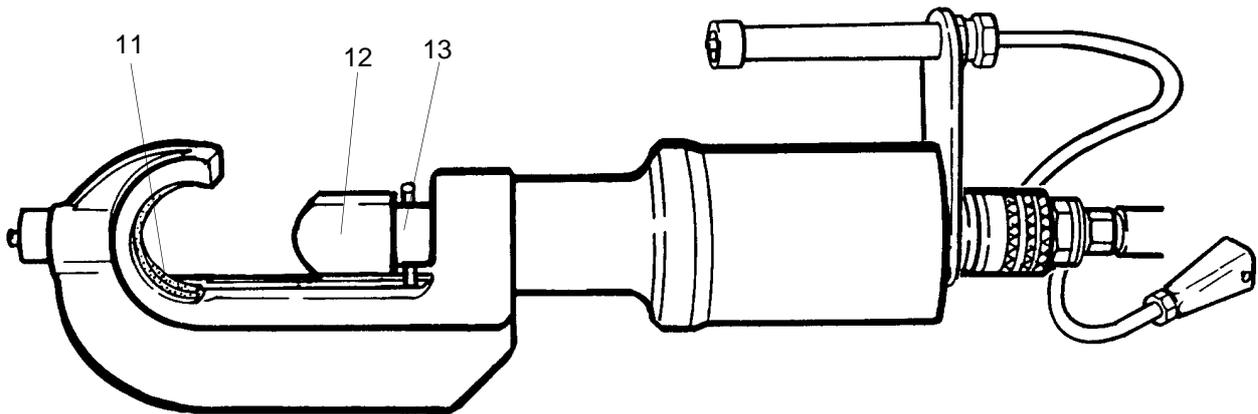
- Phase 1 - quick idle stroke and supercharging
- Phase 2 - slow crimping stroke
- Phase 3 - hydraulic shut off after completion of crimping and the return stroke.

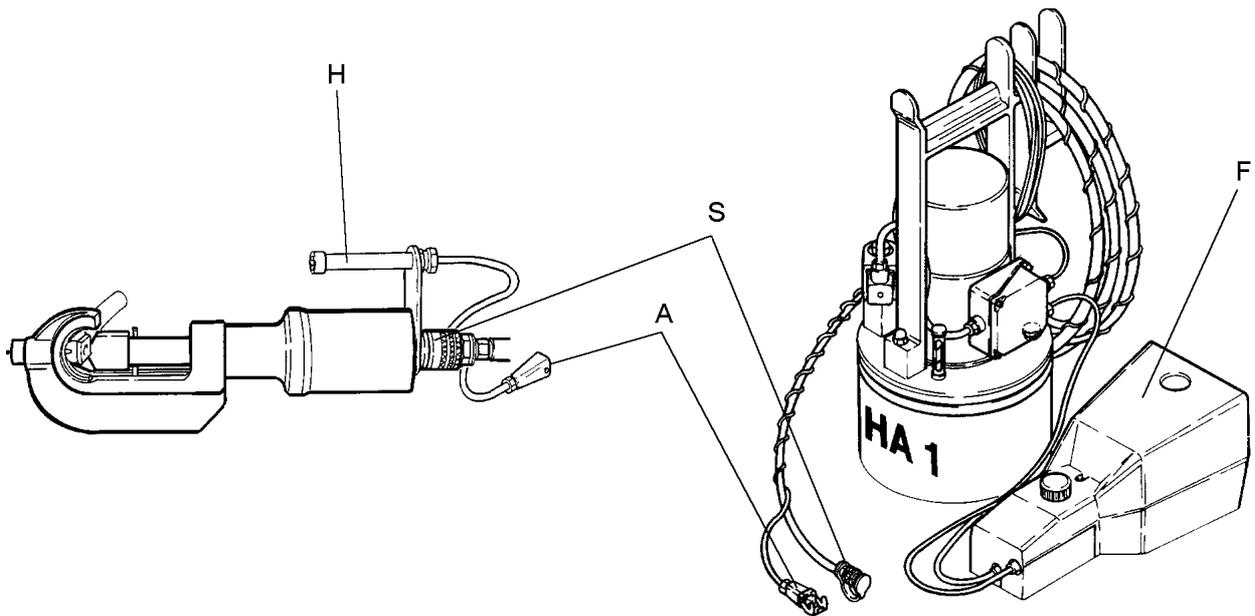
The three phases are carried out automatically.

The piston returns after the hand switch (H) has been released.

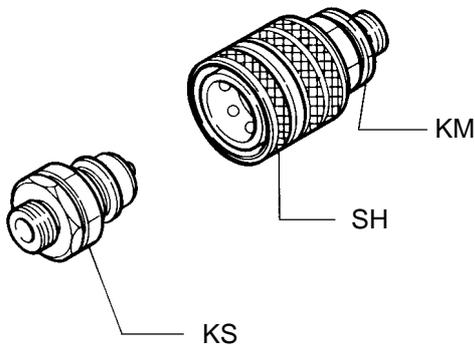
The HP-450 has a spring-loaded sliding sleeve (13) which exerts a little pressure and holds the bottom tooling (12) against the top tooling (11).

This means that the working area is closed so that there is no danger if the crimping tool is accidentally activated.



**Use:**

1. Connect the crimping tool to the HA 1 hydraulic unit by using the rapid-action coupling (S).

**2. Rapid-action coupling****Coupling**

Hold the coupling sleeve (KM) on to the sliding sleeve (SH) and slide it on to the coupling plug (KS).

**De-coupling**

Hold the coupling sleeve (KM) on to the sliding sleeve (SH) and pull away from the coupling plug (KS).

3. Connect the crimping tool to the hydraulic unit HA1 using the connector (A).

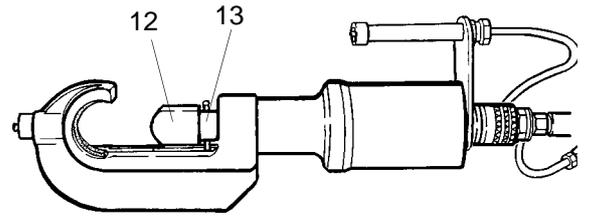
**Note!**

*The HP450 can only be operated with hand switch (H). The foot switch (F) is used only for the EMERGENCY STOP function (see operating instructions HA1/HA2).*

4. Carry out a few idle strokes to remove air from the system.  
The hydraulic unit should be on a higher level than the crimping tool during this operation.
5. The hand switch (H) is a swivelling switch and can be locked into any desired position.  
Proceed as follows.
  - Slacken the set screw in the nut SW 36 (between hand switch (H) and coupling plug).
  - Tighten the nut SW 36.
  - Tighten the set screw.

**Crimping:**

1. Manually push the sliding sleeve (13) with the bottom tooling (12) into the cylinder until the sliding sleeve snaps into position.
2. Place the cable and terminal into the crimping head.
3. Push the sliding sleeve (13) forward, so the spring holds the bottom tooling (12) against the terminal. This closes the crimping area.



Then:

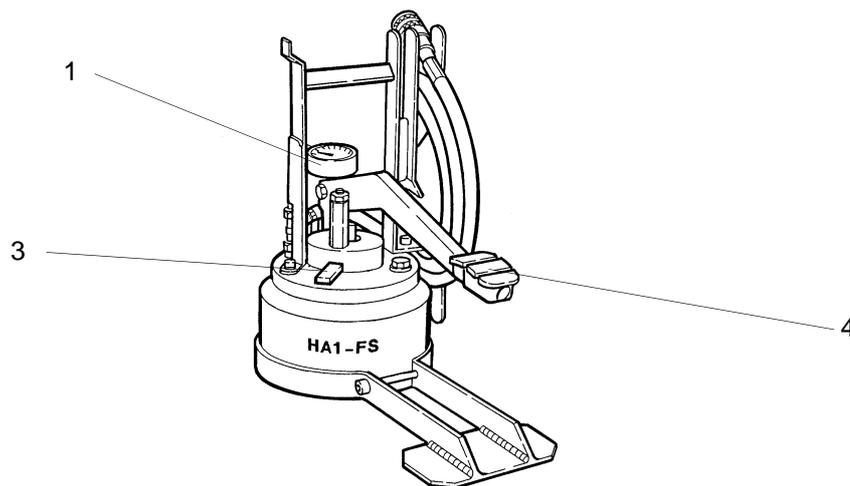
**A: If the HA 1-ES**

is connected, press the hand switch (H) on the unit and keep it pressed until the control valve shuts off. Then release the hand switch (H).

**NOTE:**

*The piston must return fully to the original position before the next pressing operation.*

**OTHERWISE THE NEXT PRESSING WILL BE TOO DEEP!**

**B: If the HA 1-FS**

is used, operate the pressure lever (4) until the piston stroke stops and the gauge (1) constantly shows the maximum pressure.

By pressing the release lever (3) the oil is released from the tool.

**NOTE:**

*Keep the release lever (3) pressed until the gauge (1) shows zero and the piston has returned to its original position.*

**OTHERWISE THE NEXT PRESSING WILL BE TOO DEEP!**

**NOTE:**

*When pressing aluminium conductors, the sleeve may bend. This can be prevented if every other pressing is made out at 180° with displace to the first one.*

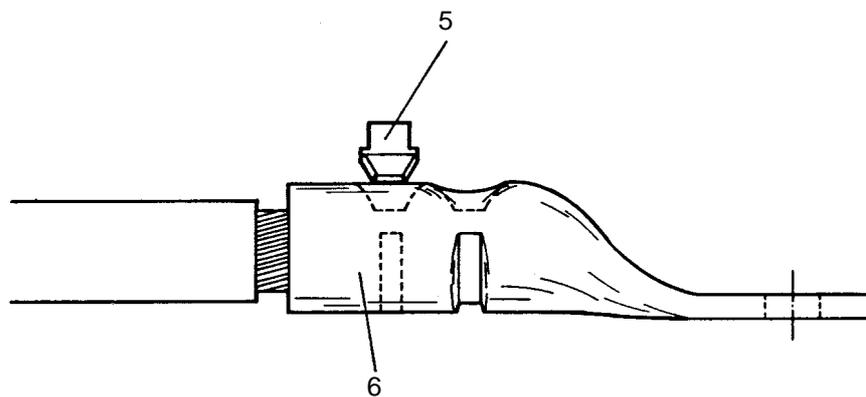
**NOTE:**

- Crimping should not be interrupted before the hydraulic valve has automatically shut off. Otherwise the pressed depth will not be sufficient.
- Two crimps made in the same place will result in too small a cross section.
- We can supply test pieces for checking the depth (Order No. 6469).

Pressing of AL conductor

- Roughen oxidized cable ends with abrasive paper before pressing.
- Use cable lugs/pressing connectors filled with a quartz containing heat-conductive grease or lubricate the cable terminations with a suitable grease.
- Select the distance to the next pressing operations such that the tool is fully contacting a nondeformed area.

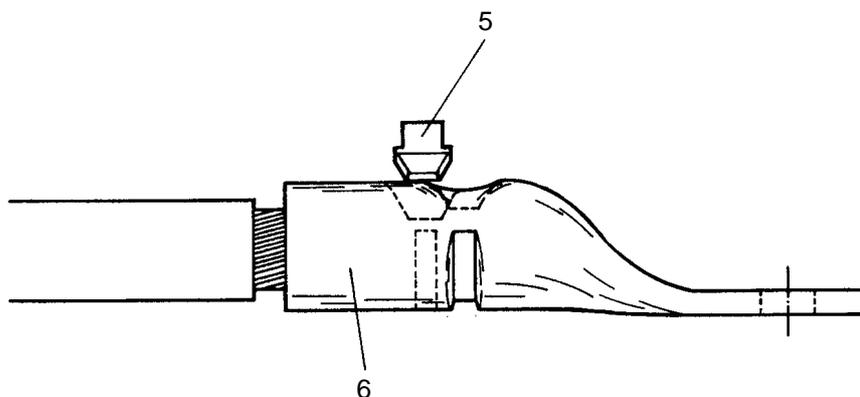
**Selected distance all right: identical pressing depth**

**Key:**

5 = Lower tool

6 = Cable lug

**Too close a distance: pressed too deep**

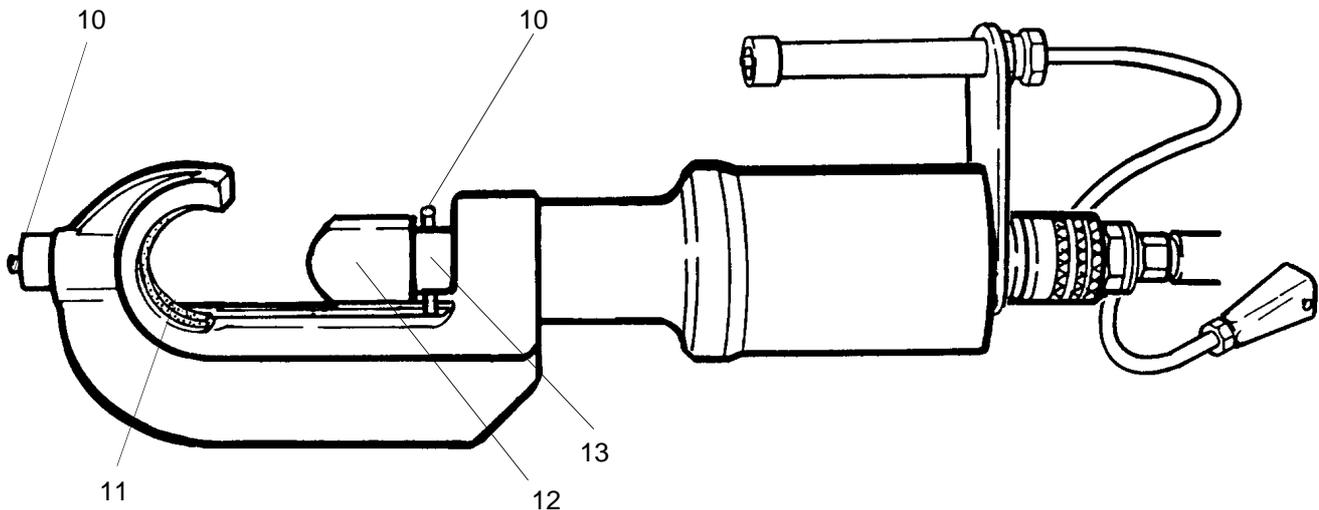


## Changing Tools

**WARNING!**

UNCOUPLE THE HYDRAULIC UNIT OR DISCONNECT IT FROM THE MAINS BEFORE CHANGING TOOLS!

1. Manually push the sliding sleeve (13) with the bottom tooling (12) into the cylinder until the sliding sleeve snaps into position.
2. Pull out the lockpins (10) until the upper tool (11) can be taken out of the pressing head or the lower tool (12) out of the piston rod.
3. Insert the new tools. The dowel pin in the lower tool must be positioned in the guiding groove of the crimping head.
4. Let the lockpins (10) lock in position.
5. Manually push the sliding sleeve out of the locked position.

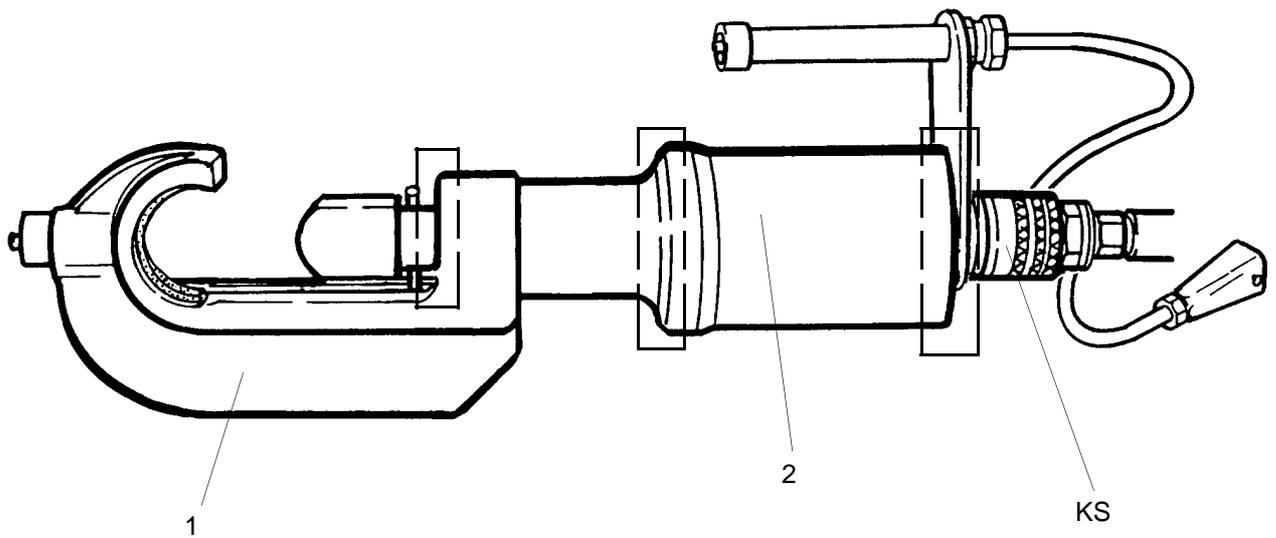


## Maintenance

**WARNING!**

UNCOUPLE HYDRAULIC UNIT OR DISCONNECT IT FROM THE MAINS BEFORE CARRYING OUT MAINTENANCE WORK!

- |                 |   |
|-----------------|---|
| If dirty:       | Clean upper and lower tool.<br>Clean entire crimping cylinder.  |
| Every week:     | Check upper and lower tool for any damage.<br>Replace, if necessary.                                    |
| Every month:    | Check marked areas for possible leakage and send in HP450 for repair, if necessary.                     |
| Every 3 months: | Load crimping head (1) into a vise.<br>Place 30mm wrench on coupling plug (KS) and fasten cylinder (2). |



Service

**novopress**

Scharnhorststraße 1  
D-41460 Neuss

Postfach 101163  
D-41411 Neuss  
Telex 8 518 015  
Tel. 02131 / 288-0  
Telefax 02131 / 28855