



# User's Manual: WERI Mini Applicator





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WERI Mini Applicator

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# User's Manual

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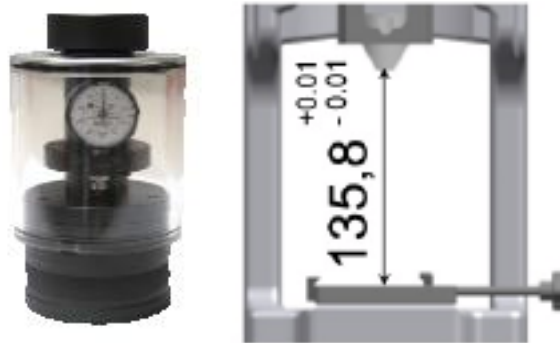
WERI Mini Applicator

## 1 Document revision history

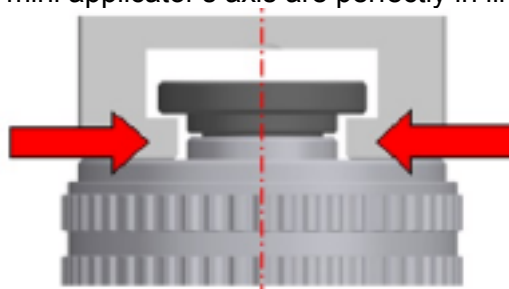
Rev.	Page	Change Description	Issued by	Checked by	Date
1.0	All	Creation	BBu	JC / CH	2016-05-17
1.1	13	Recommended grease	BBu	FAEs	2016-10-26

## 2 Important warnings

Verify the press shut height setting by means of a shut height gauge: 135.8 mm at bottom dead center.



Verify that the press and the mini applicator's axis are perfectly in line.



Set the top ring of the continuous adjusting head in accordance with the data on the identification plate.



After having installed the mini applicator, cycle manually the press by means of a spanner in order to check that:

- the mini applicator runs smoothly without sticking in any way;
- the terminal is correctly placed on the anvil, in line with the same and the other crimping and cutting parts.

**NOTE:** each mini applicator is dedicated only to the terminal(s) written on its identification plate. Each mini applicator come in already configured with respect to that(those) terminal(s). After installation only the crimping heights need to be adjusted to the wire to be crimped. Any other operation / adjustment / setting should only be made and recorded by a qualified and experienced technician.

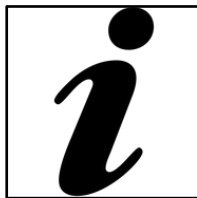
### 3 Symbols



**WARNING:** this symbol identifies any portion of this manual that should be carefully read and understood.



**STOP:** this symbol identifies all the situations where the operator is supposed to stop and proceed to the suggested checks before resuming the operation. Ignoring it would mean causing damages to the equipment.



**INFORMATION:** this symbol identifies any portion of this manual where generic information and suggestions could be found.

## 4 Identification



TER.		
MOD.		
AWG	INDEX	CHR

**TER.:** terminal part number.

**MOD.:** mini applicator part number.

**AWG:** cross-sectional area of wire conductor (American Wire Gauge).

**INDEX:** position of the top adjusting ring in order to obtain the corresponding conductor crimping height (CHR).

**CHR:** conductor crimping height.

The mini applicator serial number is to be found on its core body.



## 5 Technical data

**Shut height:** 135.8 mm

**Stroke:** 40 / 30 cm (depending on cam set up)

**Feeding:** mechanical

**Weight:** 3.9 kg

**Dimensions:** 144 x 145.5 x 105 mm

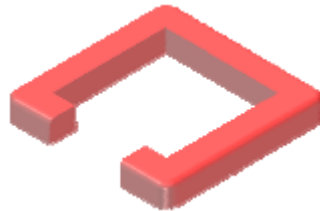
## 6 Installation (trained operator)

### 6.1 Installing the mini applicator inside the press



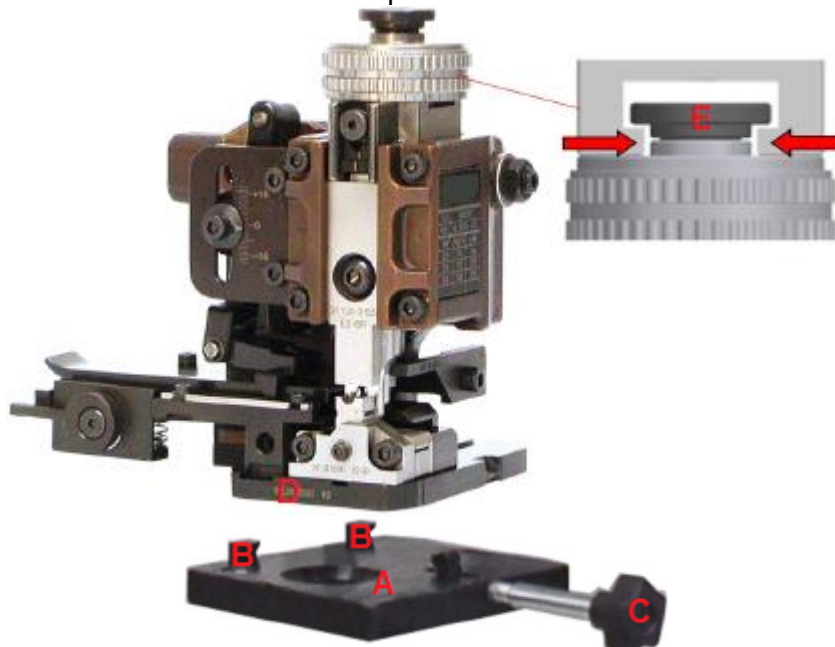
Make sure to turn off the press before performing the following steps.

Mini applicators are delivered with a rubber spacer inserted between the continuous adjusting head and the body for protection during transportation. Remove it when installing the applicator.



Place the mini applicator on the fixing plate A, line up the magnum's D base with the B hooks and tighten the knob C.

Verify that the mini applicator is flat on the fixing plate A and make sure that the mini applicator's E pin is perfectly centered with reference to the press' "T" shank.



## 6.2 Inserting the terminals into the mini applicator

With reference to the identification plate, position the top ring of the continuous adjusting head according to the settings related to the maximum wire cross section allowed.



Free the brake by means of the lever B, place the terminals in the guide A, push it until it will be hooked by the pawl C and then tighten the brake by means of the lever B.



After having installed the mini applicator, manually cycle the press by means of a spanner, in order to check that:

- the mini applicator runs smoothly without sticking in any way;
- the terminal is correctly placed on the anvil, in line with the same and the other crimping and cutting parts. If further adjustments are needed, please refer to the following paragraphs.





If, while manually cycling the press, something obstructs the movement, stop immediately and make sure that:

- the mini applicator is correctly mated to the press;
- the press is correctly set at the standard 135.8 mm shut height;
- the adjusting rings are not set too low (too small crimping height).

If the terminal is not correctly positioned, verify that:

- the feeding finger connects correctly with the terminal (strip holes);
- the brake lever is in the operating position.

Set the top adjusting ring according to the values on the identification plate and, using a wire of the correct section, make some crimping tests. Should the obtained crimping height vary from the data on the identification plate, please check the press set up

## 7 Adjustments



Any adjustment must be performed after having made sure that the press is turned off.

### 7.1 Crimping heights (trained operator)

Both A (top) and B (bottom) adjusting rings must be set with reference to the C mark.



#### 7.1.1 *Conductor crimping height*

The A adjusting ring has a setting range of 2.7 mm with a resolution of 0.01 mm, and an INDEX of 1.40 corresponds to 14 on the ring.

If the INDEX is 1.45, the ring must be set to 14 and then 5 more steps are necessary. Indeed,  $1.40 + 5 \times 0.01 = 1.45$ .

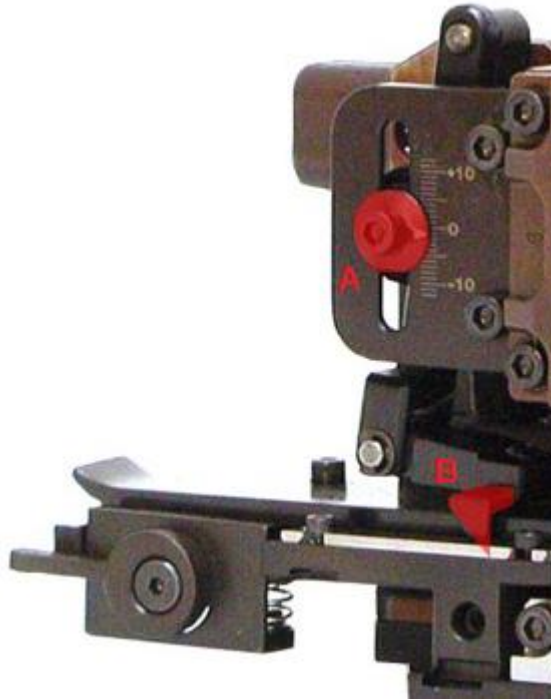
A crimping test can now be done and carefully measured: depending on the result, the adjusting ring has to be turned either clockwise (lower crimping height) or counter-clockwise (higher crimping height).

**NOTE:** this final fine adjustment is needed because the user's press is different from the one that was used to develop the mini applicator.

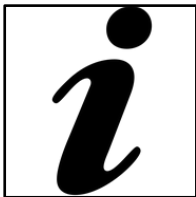
#### 7.1.2 *Insulation crimping height*

Set the B adjusting ring to its minimum and turn it clockwise until the crimping is deemed correct.

## 7.2 Feeding (qualified technician only)



For adapting the pawl B to the pitch of the terminals, in order to have a new terminal correctly placed on the anvil for each cycle of the press: loosen the nut A and move the screw up for a greater pitch or down for a shorter one. Then tighten the nut again.



The -10 to +10 scale is indicative and only serves to store the screw position once properly adjusted.

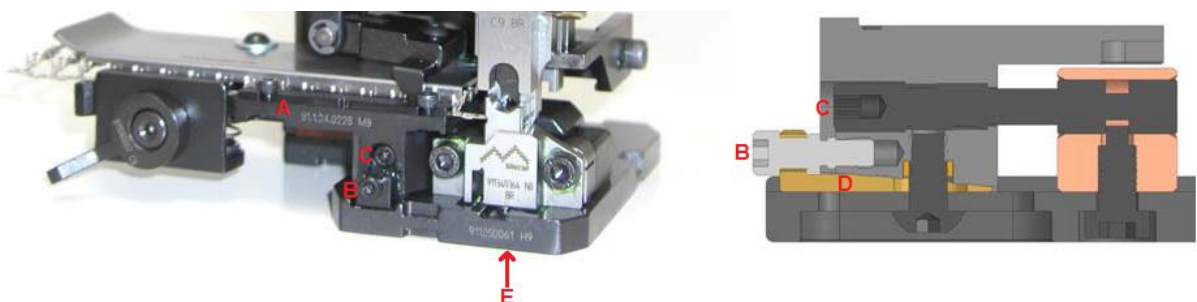
### 7.3 Crimping axis (qualified technician only)

This adjustment serves to perfectly align the terminal on the anvils and punches axis.



Manually cycle the press by means of a spanner until the terminal is positioned on the anvil. Loosen the nut A and turn the screw clockwise or counter-clockwise to determine the correct position. Then tighten the nut again and make a complete cycle of the press. If the result is not satisfying enough, repeat the operation.

### 7.4 Bellmouth and cut-off tab (qualified technician only)



For adjusting the bellmouth, loosen the screw B to release the wedge D and the terminal slide A. Rotate screw C clockwise or counter-clockwise to obtain the desired adjustment. Tighten B again until D blocks A.

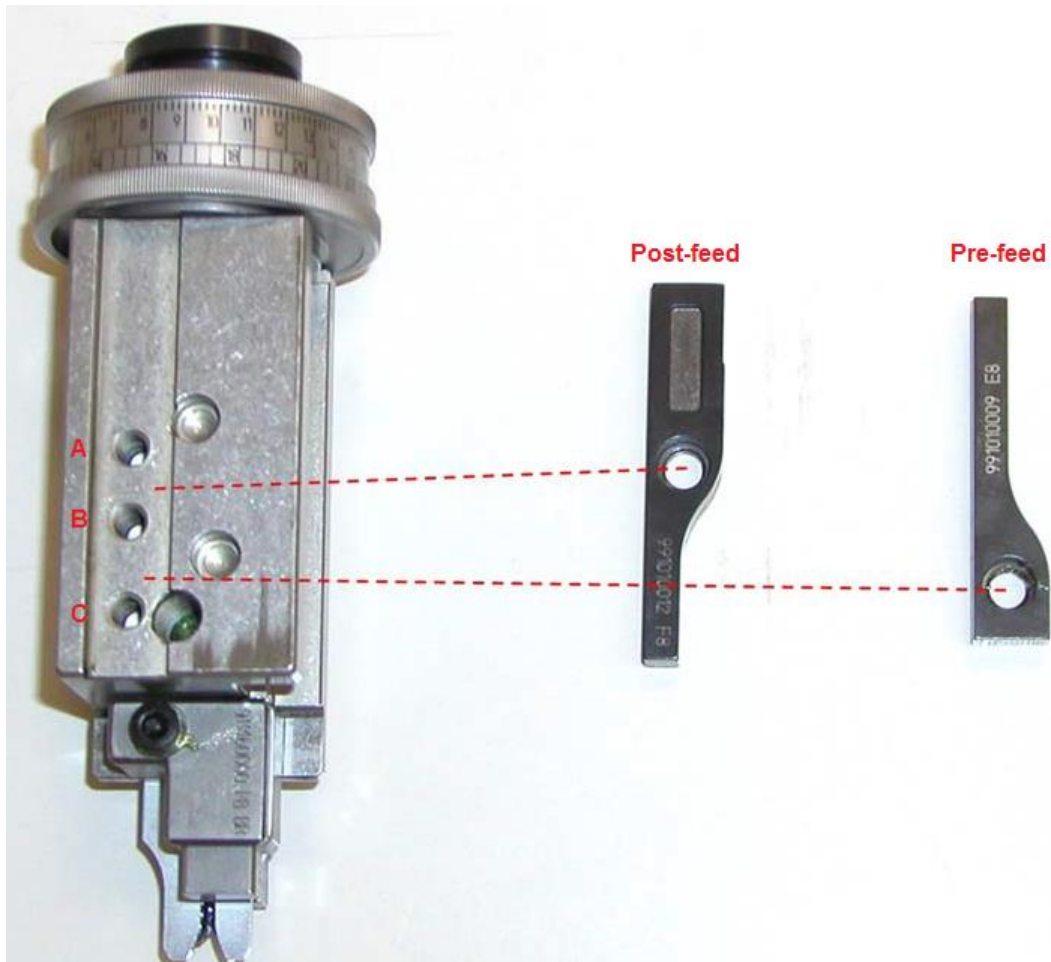
Performing this operation may change the cut-off tab length. In case it needs to be readjusted, remove the mini applicator from the press, loosen the screw E and move the lower group of crimping elements backwards or frontwards. Then tighten E again.

## 8 Stroke setting (qualified technician only)

The mini applicator is mounted by default with a 40 mm stroke, but it can be lowered to 30 mm by changing the cam position.



The cam for feeding the terminal in "pre-feed" or "manual" configuration is attached to the rear edge of the mini applicator. By default, the mounted cam is the "post-feed" or "automatic" one.



Moving the post-feed cam from B to A changes the stroke from 40 to 30 mm.  
Moving the pre-feed cam from C to B changes the stroke from 40 to 30 mm.

## 9 Maintenance (trained operator)

### 9.1 Cleaning and lubrication



The mini applicator must be cleaned and lubricated every time it is removed from the press or every 8 working hours.



Suggested lubricating grease: DIN 51502 KP 2 K-30.

Remove the mini applicator from the press.

Remove the ram from the mini applicator.

Using a clean cloth, remove any grease or contamination from the ram.

Check the anvils, punches and cutters, and replace worn or damaged parts.

Clean the mini applicator body carefully.

Lubricate the ram and mini applicator body, together with all moving part.

Put the ram back into the body, spray the mini applicator with a protective oil and, if the mini applicator is not immediately used, reinstall the protective rubber spacer.



Every month fully clean the mini applicator using degreasing products which do not damage plastic parts or surface finishes. Remove the counter if you wash the mini applicator by immersion or by means of liquid under pressure.

Always lubricate the ram and all the sliding parts before putting the mini applicator back to use.

To correctly maintain the mini applicator, its cycles should be recorded, in order to plan the replacement of the key components.

When replacing worn parts, the operation should be recorded: this will assist in scheduling preventive maintenance and the ordering of spare parts

### 9.2 Storage

When the mini applicator isn't used for a long period, remove it from the press and clean it. Before storing it, spray the applicator with a thin layer of protective oil.

## 10 Troubleshooting

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
The mini applicator is not correctly mated to the press' baseplate	The mating surfaces are not clean and smooth	Clean the mating surfaces
	The mini applicator is not correctly centered under the press	Verify the positioning of the press "T" shank and baseplate
While cycling manually the press with the spanner, something is blocking and does not allow the cycle to be completed	The press has not been set to the correct shut height of 135.8 mm at bottom dead center	Verify the press shut height with a shut height gauge
	The punches are too close to the anvils	Set correctly the adjusting rings of the continuous adjusting head, as per the mini applicator plate
	The rubber spacer has not been removed.	Remove the rubber spacer
The terminal does not fit in the terminal feeding guide	The brake on the feeding guide has not been released	Release the brake to allow the guide to receive the terminals
	The terminal is not the good one	Verify that the terminal part number on the reel does correspond to the terminal part number on the mini applicator plate.
The terminals are not correctly moving towards the anvil	Incorrect hooking of the terminals by the feeding finger	Manually cycle repeatedly the press, making sure that the feeding finger correctly engages the terminals
	The brake on the feeding guide is not operating	Make sure the feeding guide brake is on
The terminal is not correctly aligned along the anvil axis	Incorrect hooking of the terminals by the feeding finger	Manually cycle repeatedly the press, making sure that the feeding finger correctly engages the terminals
	The feeding system components are worn out	Adjust the feeding system
	The reel unwinding is not smooth	Make sure the reel can unwind without obstacles whatsoever and not requiring an abnormal effort to the feeding system

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<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
The crimping is not acceptable	The crimping height is wrong	Make sure the adjusting head is correctly set with reference to the applicator plate and check the crimping height obtained
	The terminal is not correctly positioned with reference to the anvils and punches axis	Verify the correct positioning of the terminal over the anvil and, if needed, adjust
	Anvils and / or punches are damaged and / or worn out	Check the punches, anvils and cutters and, in case of damages or excessive wearing, replace accordingly
	The wire section is wrong	Make sure the wire section corresponds to the crimping height settings
The pull-test outcome is lower than the expected value	The press is not set at a shut height of 135.8 mm while at bottom dead center	By means of a shut height gauge, make sure the press is set at the correct shut height
	The continuous adjusting head is not correctly set	Make sure the setting of the continuous adjusting head corresponds to the values on the mini applicator plate
	The wire section is wrong	Make sure that the setting of the continuous adjusting head corresponds to the wire section being used



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