

Owner's Manual Crimping Machine CM 25-5



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1. Preface

This owner's manual is designed for the user to get to know the Crimping Machine CM 25-5 and to properly operate the unit. The owner's manual contains important instructions to operate the crimping machine safely and efficiently. Follow the instructions carefully to avoid risks and injuries, decrease repair costs, downtime and increase the life of the machine. The pneumatic Crimping Machine CM 25-5 is manufactured by using the latest technology and the general accepted safety regulations. The machine may only be used in proper working condition, as well as with safety and risk awareness. Unauthorized modifications to the machine, including the safety device, will exclude the manufacturer from any liability. The start of the operation of the machine can be triggered by a foot pedal. Optionally, the operation can also be triggered by hand.

Attention

Never process any connected electrical connections; they are subject to dangerous voltage!

2. Technical Data

Type:	CM 25-5
W x H x D:	325 x 500 x 280 mm
Weight:	30 kg
Crimping Force:	25 kN (2,5 to) at 5 - 6 bar
Time to Crimp:	< 1 s
Crimp Area:	bis 50 mm ² (ferrules); opening width ≤6mm
Continuous Sound Pressure Level:	< 70 dB (A)
Pneumatic Pressure needed:	0,75 l/working stroke at 6 bar operating pressure
Operating Pressure:	5 - 6 bar (compressed dry air oiled and filtered)
Crimping Dies:	from system tool PEW 12 (P/N 624 000 3) - Rennsteig Werkzeuge GmbH

2.1. Setup/ Construction

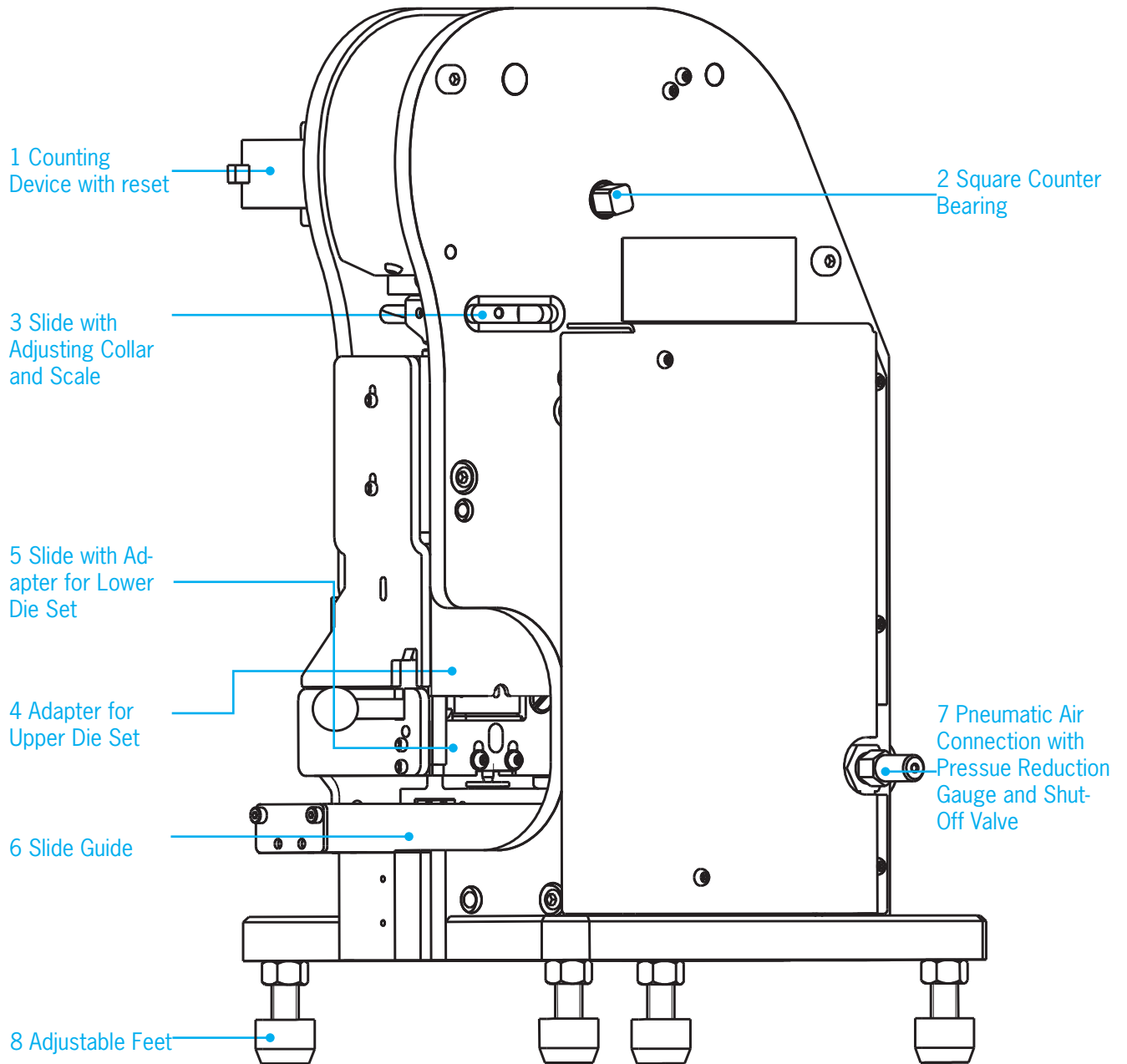


Fig. 1

2.2. Details Crimping Unit

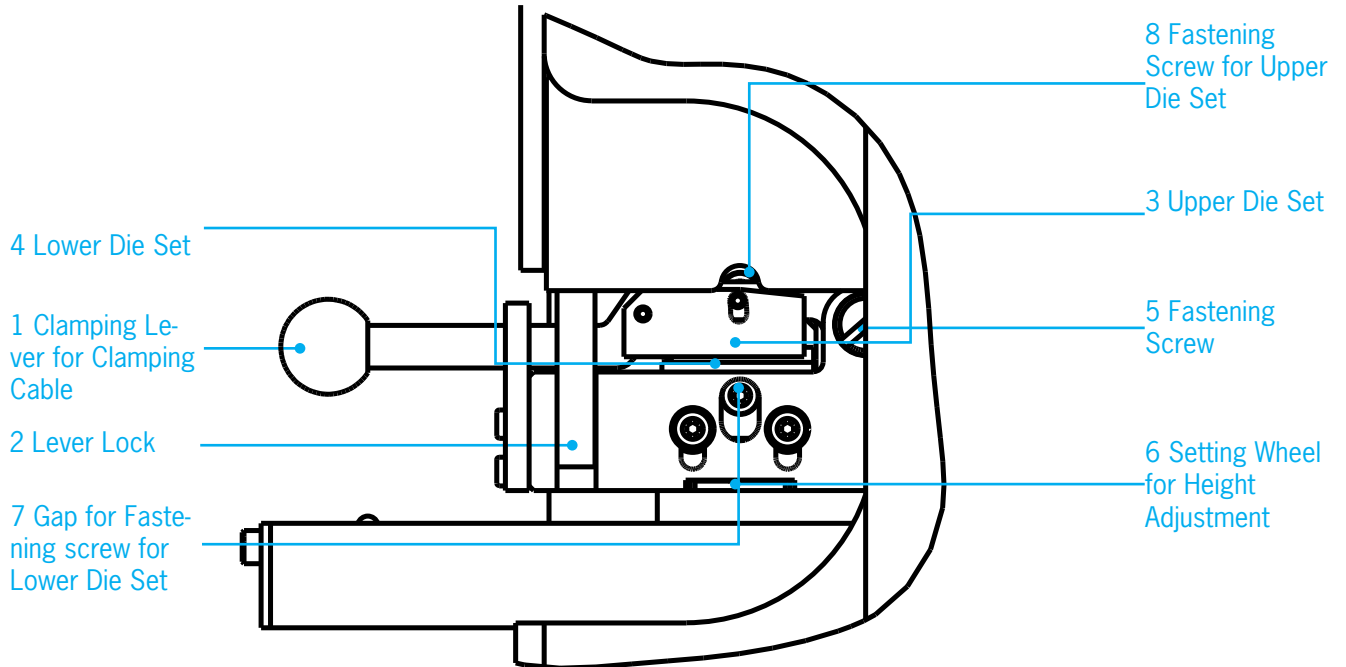


Fig. 2 a Closed Crimping Unit with Die Set

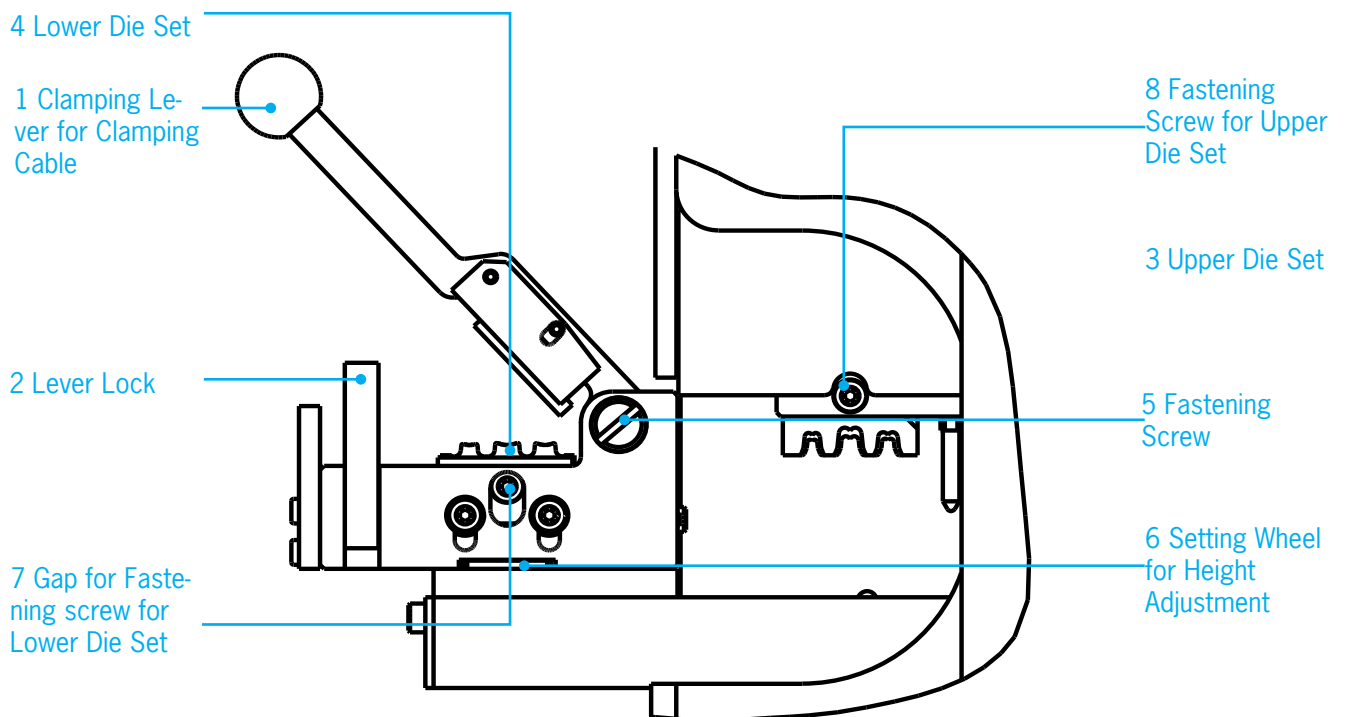


Fig. 2 b Open Crimping Unit without Die Set

3. Transportation of Machine

Always avoid damages when loading and unloading the machine. All damages, which occur during transport are the responsibility of the carrier.

Attention

After carefully removing the packaging the machine should be inspected for possible damages. Any damage must be reported immediately to the manufacturer RENNSTEIG WERKZEUGE GmbH in Viernau. Please note that certain machine settings will have to be carried out later at the job site.

4. Limitations of Liability

The manufacturer will not assume responsibility for the following damages:

- Failure to follow the operating instructions
- Improper use
- Use by non-trained and non-skilled operators
- Unauthorized modification of the machine
- Technical modifications
- Use of spare parts, which are not approved by the manufacturer

5. Requirements for Site Setup

- Minimum Load Capacity of Table: 45 kg
 - Total Space Requirement of the Machine: H x W x D = 500 x 500 x 300 mm
 - The area for proper operator performance should be at least 1,5 sqm
 - Table height should be adjusted to the person operating the machine depending on the height of the user
 - Sufficient lighting needs to be provided
-

6. Setup of the Crimping Machine

1. Place the machine at the final work location. The adjustable feet [Fig. 3/7](#) are used to place the machine firmly onto the work surface and the setting is secured in place by lock nuts [Fig. 3/6](#) . The secure setup of the machine is very important!
2. Connect the supply hose for the compressed air. The built-in pressure gauge [Fig. 3/4](#) is a factory setting and will limit the amount of air ressure to max. 6 bar. Please ensure that the air supply hose is properly connected. In order to operate the machine safely, the air pressure must be between 5 - 6 bar.
3. After the air supply hose is connected, the machine needs to be inspected for leaks and the correct operational air pressure.

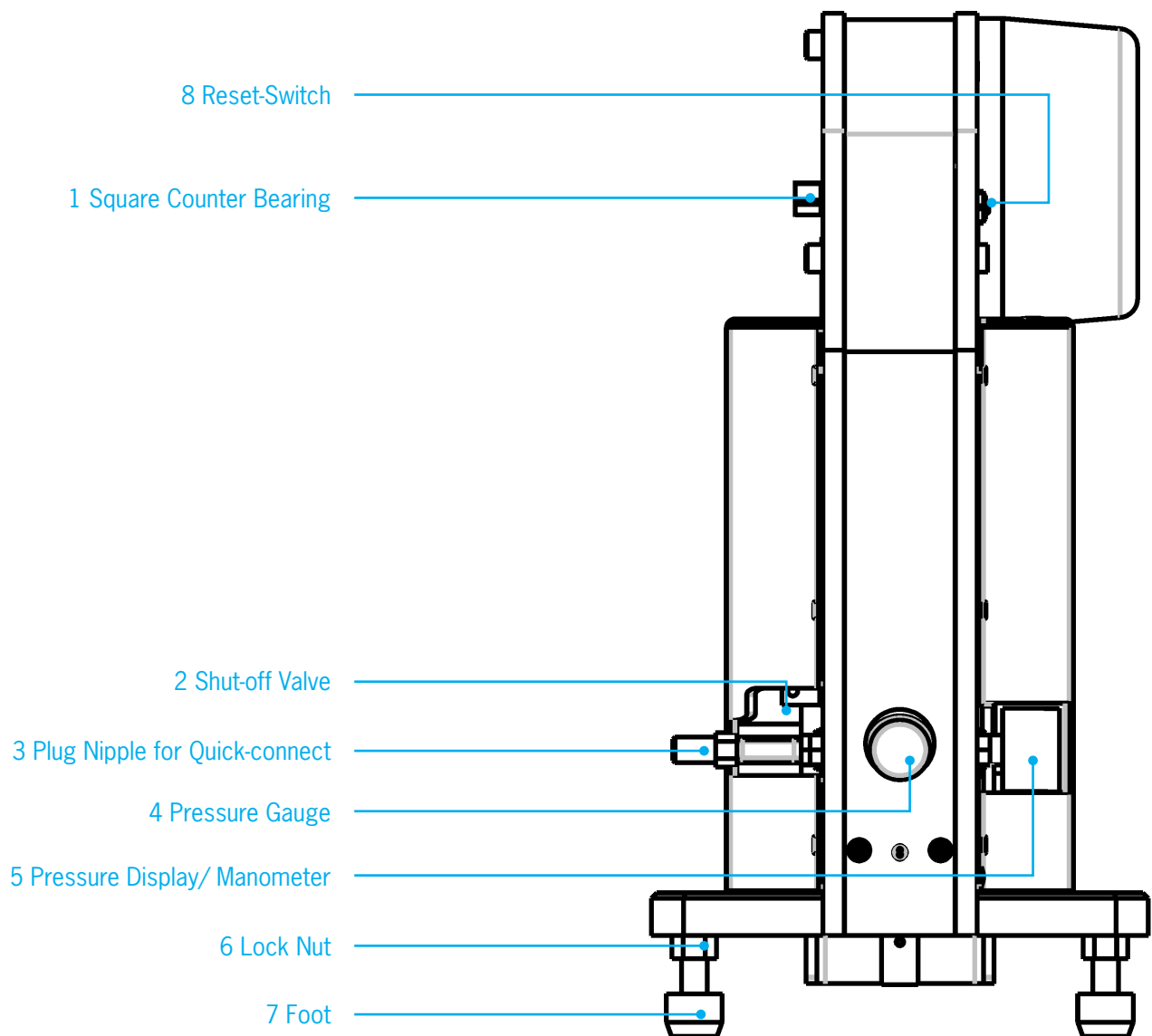


Fig. 3

7. Start-up/Preparation/Operation

7.1. Safe Operation

Before starting to use the crimping machine, some important rules need to be followed. The machine may only be used by trained and skilled personnel to avoid injury to persons and damage to the machine. The operator needs to inspect the safety devices and ensure their proper operation before starting any job. Only after inspection the machine is ready to be used.

- Open the shut-off valve [Fig.3/2](#)
- Pull the slide [Fig. 1/5](#) out of the front of the machine
- Open the lever lock [Fig. 2a/2](#) by moving the clamp lever [Fig. 2a/1](#) upwards
- Place, position and secure the crimp contact in the lower die set [Fig. 2a/4](#), ensure the proper spot of the crimp contact, in some cases with the help of a positioner (Locator)
- Place and position the stripped cable into the contact
- Close the clamp lever [Fig. 2a/1](#). Move slide [Fig. 1/5](#) into the crimping machine up to the limit stop, the working stroke is hereby triggered
- after the crimp process is completed, pull the slide [Fig. 1/5](#) out of the machine and open the clamp lever [Fig. 2a/1](#)
- Remove the crimped contact

Attention

Before the CM 25-5 is connected to the air pressure, remove the key from the square counter bearing.

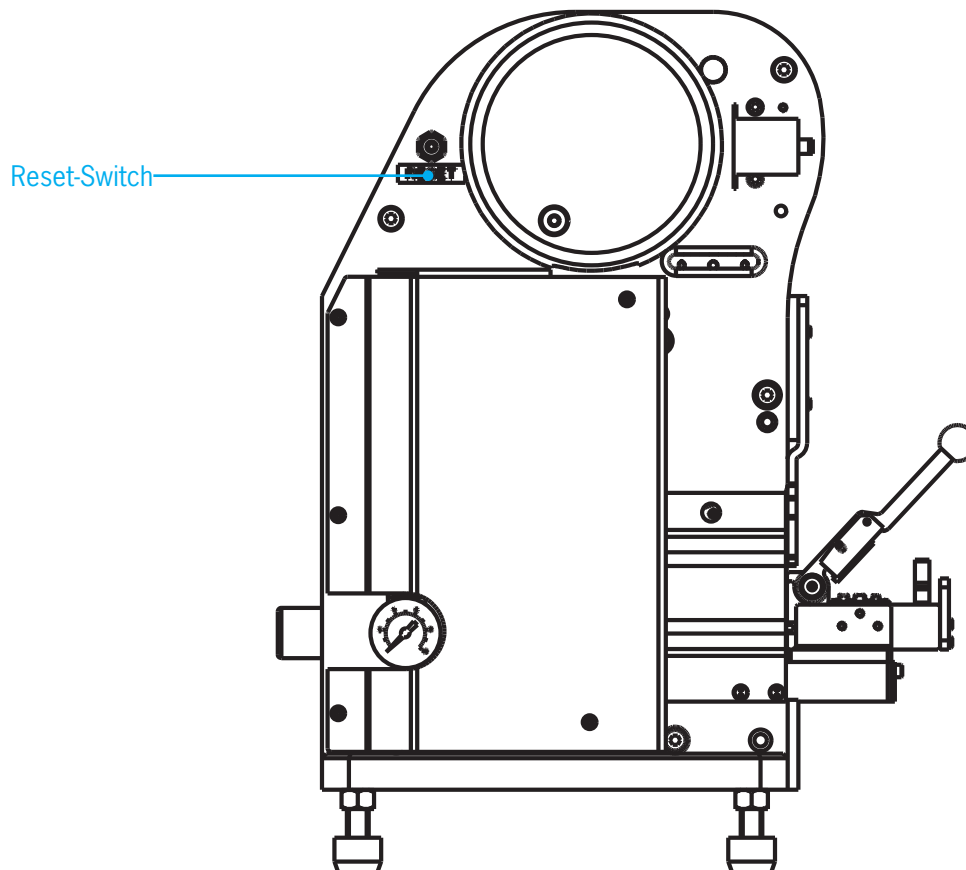


Fig. 4

7.2. Exchanging Crimping Dies

The exchange of crimping dies will be made as follows:

- Interrupt air pressure with shut-off valve [Fig. 3/2](#)
- Release the remaining air by using the RESET switch [Fig. 3/8](#)
- Pull the slide [Fig. 1/5](#) out of the crimping machine
- Use a wrench SW 12 and place it onto the square counter bearing [Fig. 1/2](#) turn till the crimping dies are closed (without air pressure)
- Keep RESET button [Fig. 3/8](#) compressed everytime the wrench is used on the counter bearing
- If installed, remove the contact adapter or locator from the slide
- Loosen the set screws for the lower crimping die [Fig. 2a/7](#) with an Allen wrench SW 2,5 mm through the opening on the slide [Fig. 2a/7](#); open the cimping die by turning the wrench on the square counter bearing
- Pull out the lower die set
- Loosen the set screws [Fig. 2a/8](#) for the upper crimping die [Fig. 2a/3](#) with an Allen wrench SW 2,5 mm; open the cimping die by turning the wrench on the square counter bearing
- Pull out the upper die set
- Place a new lower crimping die into the machine and tighten the screws lightly
- Place the new upper die into the machine and ensure that the fastening screws are tight
- Rotate the counter bearing [Fig. 1/2](#) until the upper die reaches the top
- Move the slide [Fig. 1/5](#) into the machine until the stop
- Turn the wrench on the counter bearing [Fig. 1/2](#) with an SW 12 wrench to move the upper die set down to the lower die set until they set on top of one another tightly (keep the RESET button [Fig. 3/8](#) compressed during this process)
- Securely tighten the lower die while slide is still in the machine
- Turn the wrench on the counter bearing [Fig. 1/2](#) until the die set opens up and the slide [Fig. 1/5](#) can be pulled out of the machine; now remove the wrench
- Place optional locator onto the slide if necessary
- Open the shut-off valve

Attention

Before connecting the CM 25-5 to air pressure, please remove the wrench from the square counter bearing!

7.3. Crimping Dimensions, fine Adjustment

In order to ensure fault-free crimping results, the CM 25-5 has been set at the factory in such a manner that the crimp dies are firmly closed at bottom dead center. Under certain conditions, for example after changing the crimping dies, a readjustment may be necessary to align the plunger stroke. The adjustment can be done as follows:

- Interrupt air pressure with shut-off valve [Fig. 3/2](#)
- Release the remaining air by using the RESET switch [Fig. 3/8](#)
- Move the upper and lower die sets apart by rotating the square end [Fig. 1/2](#) with an SW 12 wrench (the RESET button [Fig. 3/8](#) should remain compressed throughout this process) until the scale and setting information are visible
- Loosen the tensioning screw [Fig. 5/2](#) with an SW 3 mm Allen wrench
- Choose the desired dimensional alignment by using the adjusting ring [Fig. 5/3](#), use the extra holes provided [Fig. 5/5](#) to select the desired setting

Turning the adjusting ring by one pitch line, will change the plunger stroke by 0.05 mm.

- Upon completion of the alignment, secure the adjusting ring [Fig. 5/3](#) by tightening the fastening screw (an additional fastening screw is located at the 180° position). Only one fastening screw needs to be tightened for secure clamping, especially the fastening screw that can be reached by the operator the easiest.); afterwards open the shut-off valve [Fig. 3/2](#)

Now, the machine moves back to the starting position and is ready for operation. The crimping process must now be simulated. The fault-free functioning of a machine cycle is tested in this fashion. If a successful cycle is not achieved, the crimping dimensions have to be reduced as described in this chapter (see also “8.1. Causes of Error and Troubleshooting”). The procedure must be repeated on an actual crimp. The crimping dimension attained must be inspected. For proper inspection a Rennsteig Werkzeuge Crimping Height Slide Gauge is recommended for this.

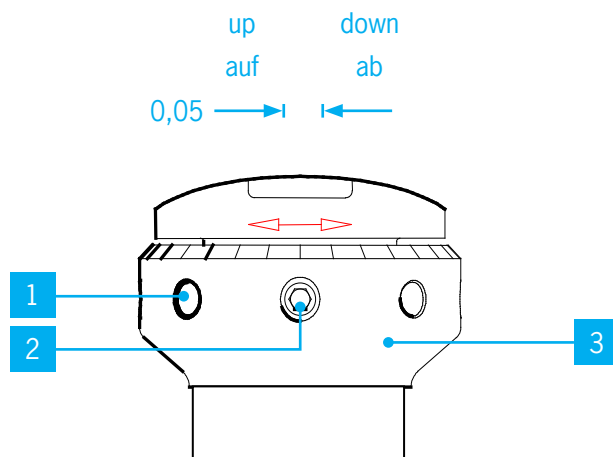


Fig. 5

7.4. Replacing the lever for cable clamping

The CM 25-5 Crimping Machine is standardly equipped with two levers for clamping cable because of the wide range of cable diameters available. All cable diameters can be clamped with the help of these levers. (Lever 1: 0 smaller than and equal to 5 mm/ Lever 2: greater than and equal to 5mm) Lever 1 is installed as a factory setting. A lever change-out is executed as follows:

>> A prerequisite for the instructions is that lever 1 is installed.

- Interrupt air pressure with shut-off valve [Fig. 3/2](#)
- Release the remaining air by using the RESET switch [Fig. 3/8](#)
- Pull the slide [Fig. 1/5](#) out of the machine
- Loosen and remove the attachment bolts [Fig. 6/3](#) (2 screw drivers are needed!)
- Replace the clamp lever and clamp the new lever under the latch, then reinsert and tighten the attachment bolt (The clearance and movement of the lever can be adjusted by loosening or tightening of the attachment bolt [Fig. 6/3](#) (The desired flexibility of the lever is infinitely adjustable!)

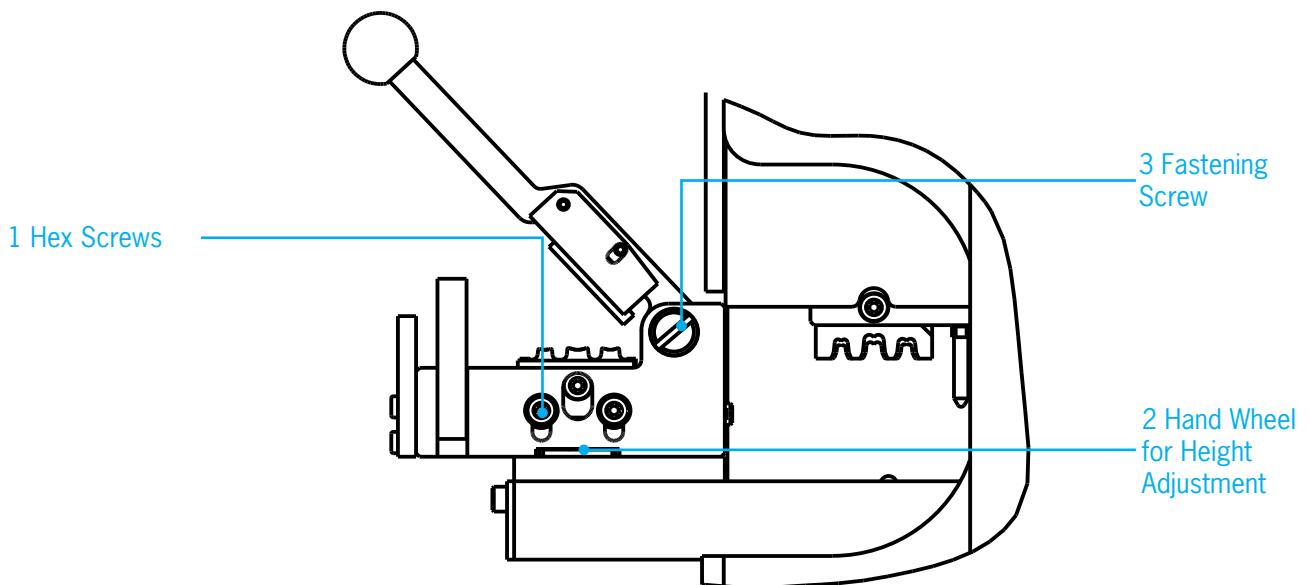


Fig. 6

7.5. Height adjustment of cable clamping unit

It may be necessary to adjust the height of cable clamping unit depending upon on the size of the cable, which is processed.

- Interrupt air pressure with shut-off valve [Fig. 3/2](#)
- Release the remaining air by using the RESET switch [Fig. 3/8](#)
- Pull the slide out of the machine [Fig. 1/5](#)
- Loosen (but do NOT remove!) the two hex screws [Fig. 6/1](#)
- Adjust the height by turning the ribbed wheel underneath the two hex screws for height adjustments [Fig. 6/2](#)
- Tighten the hex screws [Fig. 6/1](#)

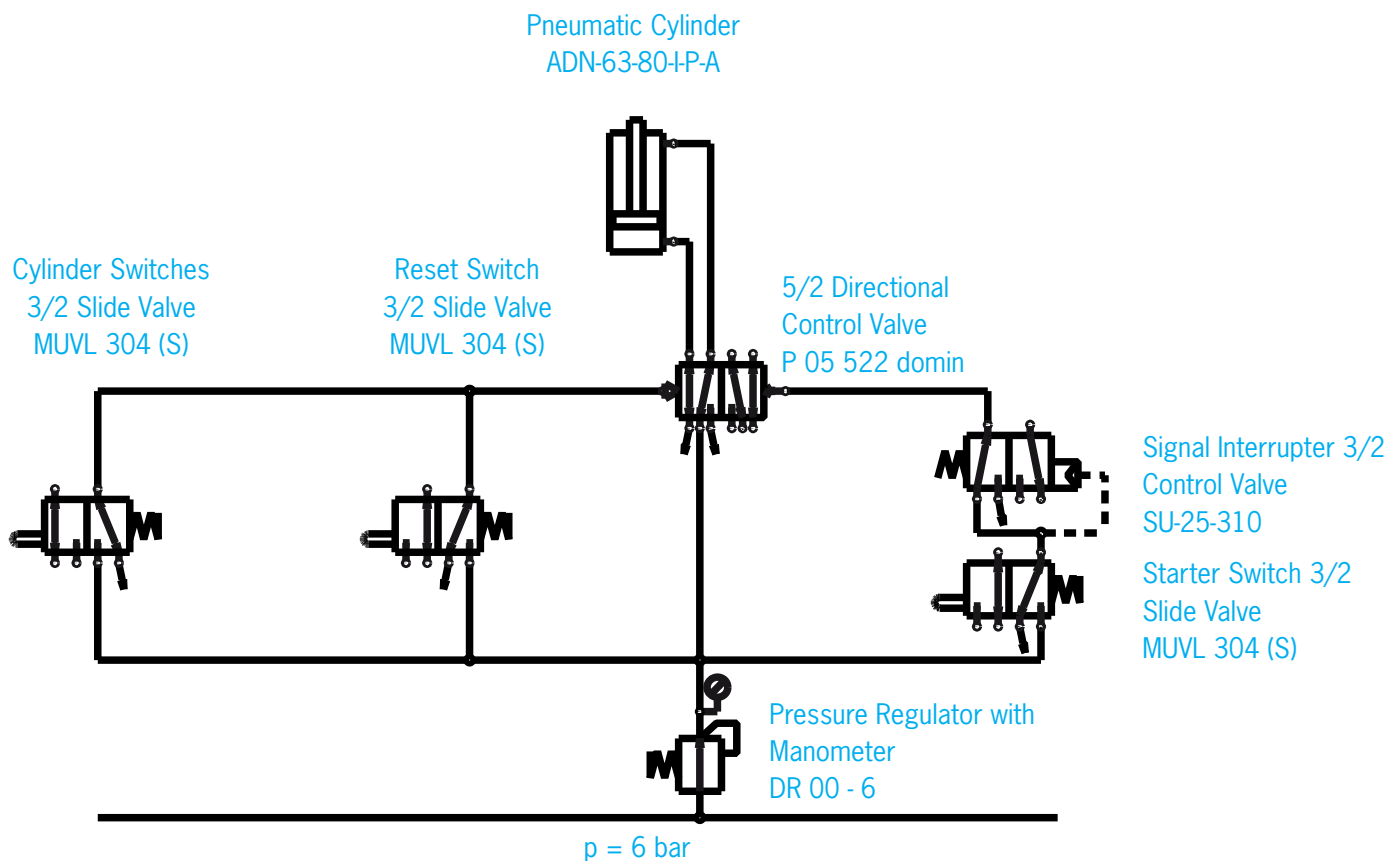
8. Maintenance and Repair

- The crimping machine CM 25-5 is maintenance-free.
- Any necessary repairs may only be performed by qualified personnel or certified technicians at the manufacturer; only original equipment parts may be used.

8.1. Causes of Error and Troubleshooting

Error	Possible Cause	Solution
Crimp process is not completed	Pressure within the pneumatic system is not working correctly	Close the shut-off valve. Press RESET. Open the pressure gauge to the maximum. Inspect pressure in the system (set to 6 bar).
	Foreign object in the crimping dies	Close shut-off valve. Press RESET. Remove foreign object, if necessary, dismount the crimping dies (see 7.2 Exchange of Crimping Dies).
	Crimp die sets do not align	Close shut-off valve. Press RESET. Readjust the crimping die set (see 7.2 Exchange of Crimping Dies).
	Wrong contact was used or wire cross cut is too large	Use right contact, choose the right crimping position or choose the correct crimping dies.
Machine is blocking	Slide adjusted position was set too wide (see also 7.5 Crimp Dimension Adjustment)	Close shut-off valve. Press RESET. Move the upper crimping die set to the dead center by turning the counter bearing. Reduce crimping dimension (see Section 7.5).

9. Technical Documentation



10. EU-Declaration of Conformity according to EU-Guidelines for Machines 2006/42/EG, Appendix II

The construction of the crimp machine

Type: CM 25-5

No.:

Year of Construction:

was developed, constructed and manufactured in compliance with the EU-Guidelines 2006/42/EG with sole responsibility of:

Company: Rennsteig Werkzeuge GmbH
An der Koppel 1
98547 Viernau

Responsible Person in charge of Documentation: Klaus Bamberger

The following EU-Guidelines and harmonized standards were used:

- EU-Guideline Machines 2006/42/EG
- DIN EN 12100 Part 1 and 2
- DIN EN ISO 13857
- DIN EN 349
- DIN EN 983
- DIN EN 1050
- DIN EN 13849

Hereby we declare that this delivery includes the entire above described machine.

Viernau, the



Managing Director Herr Sascha Zmiskol