RENNSTEIG

Owner‘s Manual
Crimping Machine CM 25-6

Before starting any work please read operationg instructions

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Rennsteig Werkzeuge

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1. Preface

This owner‘s manual is designed for the user to get to know the Crimping Machine CM 25-6 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 25-6 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 25-6
W x H x D:	325 x 500 x 280 mm
Weight:	30 kg
Crimping Force:	25 kN (2,5 to) bei 5 - 6 bar
Time to Crimp:	< 1 s
Crimp Area:	bis 50 mm² (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 air dry, oiled and filtered)
Crimp Dies:	from system tool PEW 12 (P/N 624 000 3) - Rennsteig Werkzeuge GmbH

2.1. Setup/ Construction

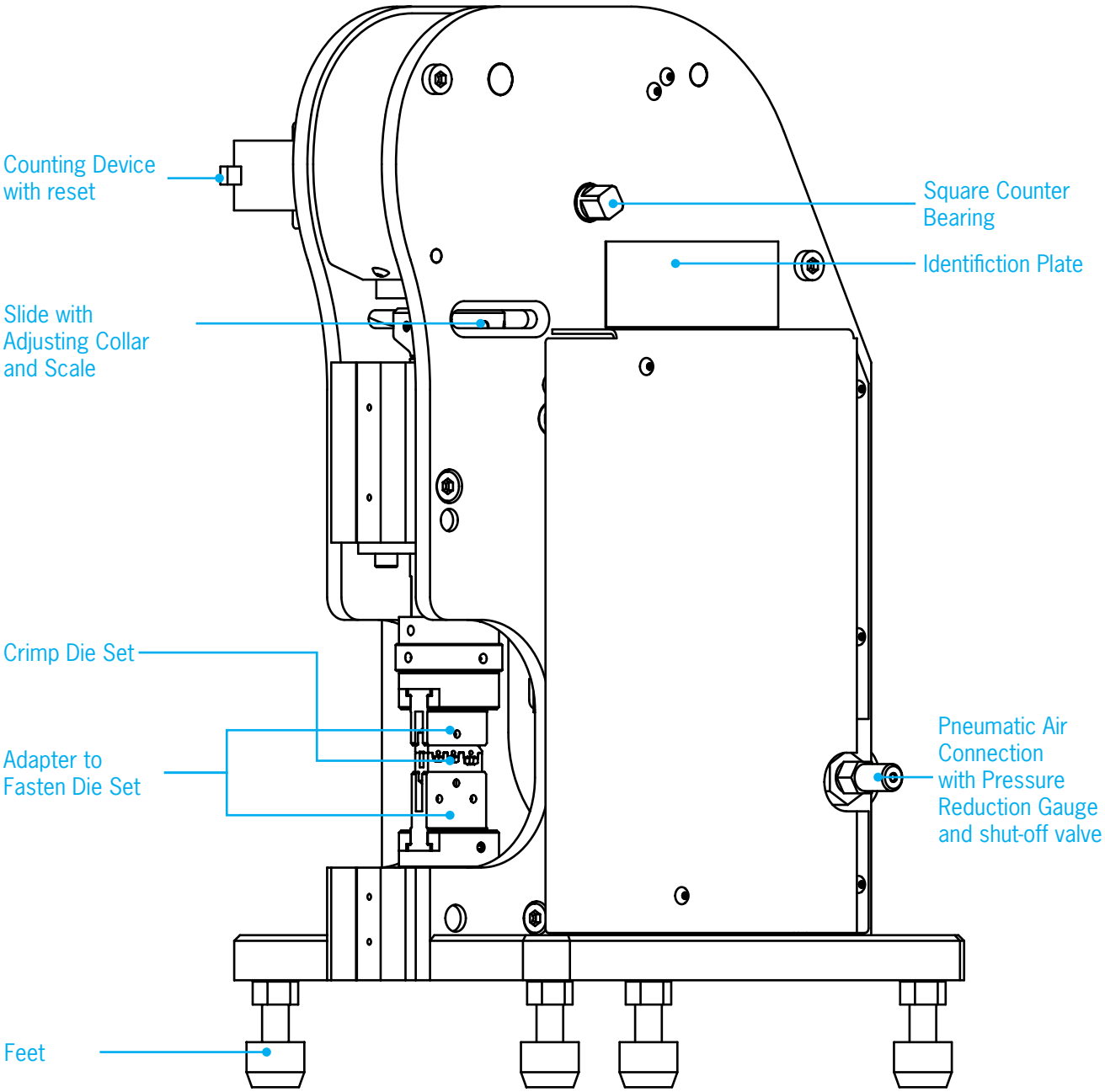


Fig. 1

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 responisbility for the following damages:

- Failure to follow the operating instructions
- Improper use
- Use by non-trained and non-skilled operators
- Unauthorized modifiction 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.2/7 are used to place the machine firmly onto the work surface and the setting is secured in place by lock nuts Fig. 2/6 . The secure setup of the machine is very important!
2. Connect the supply hose for the compressed air. The build-in pressure gauge Fig. 2/4 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.

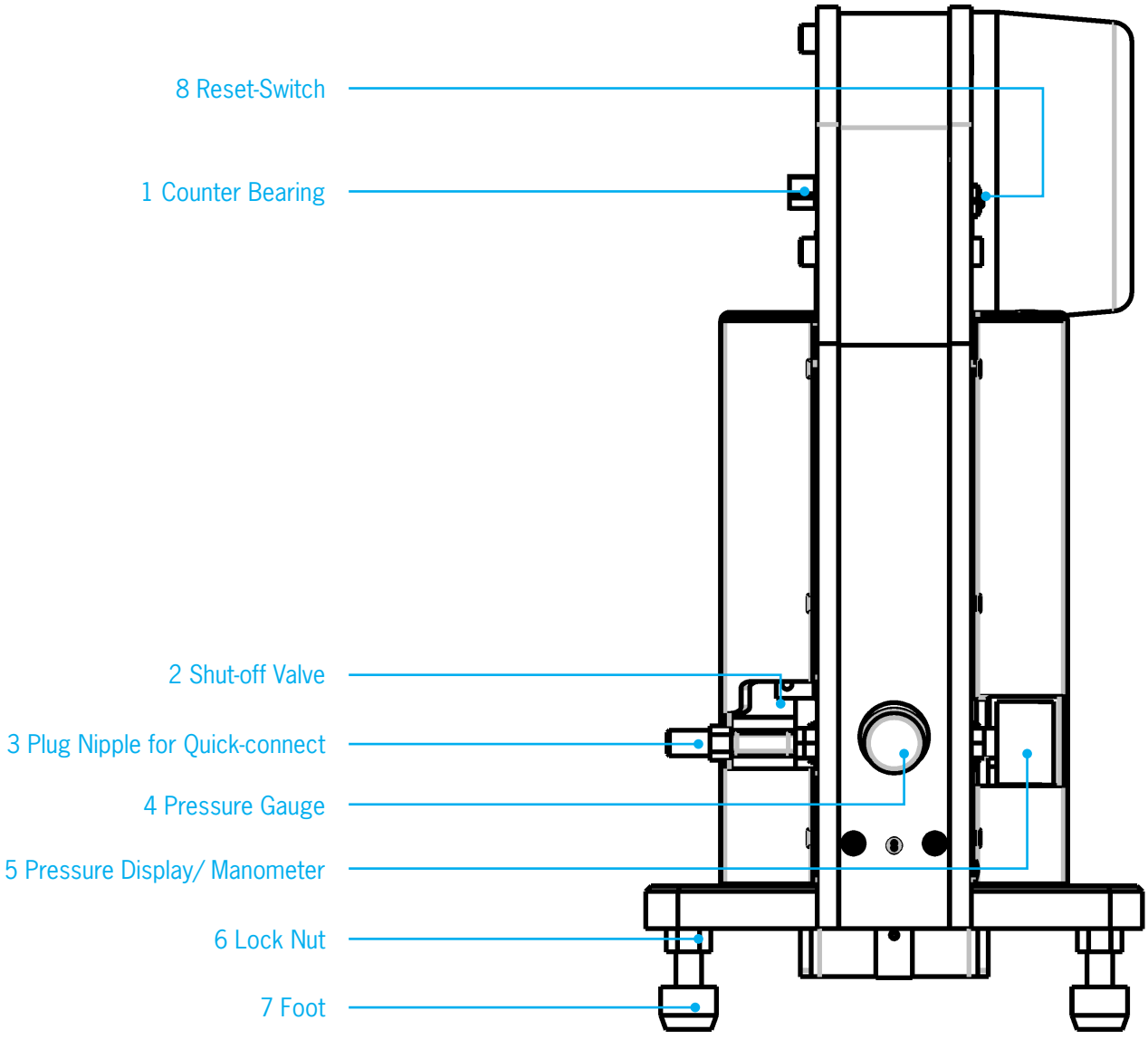


Fig. 2

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. 2/2 , the machine moves to the starting position
- Place, position and ensure the proper spot of the crimp contact in the bottom part, in some cases with the help of a positioner (Locator)
- Place and position the cable into the contact
- Use the foot pedal to start the working stroke
- after the crimp process is finished, take the foot off the pedal to have the machine go back to the starting position
- Remove the crimped contact

Attention

Before the CM 25-6 is connected to the air pressure, the key from the square counter bearing needs to be removed.

7.2. Exchanging Crimping Dies

The exchange of crimping dies will be made as follows:

- Interupt air pressure with shut-off valve Fig. 2/2
- Release the remaining air by using the RESET switch Fig. 2/8
- Use a wrench SW 12 and place it onto the square counter bearing Fig. 2/1 turn counterclockwise till the crimping dies are closed (without air pressure)
- Loosen the set screws for the upper and lower crimping die with an Allen wrench SW 2,5 mm Fig. 3/1; open the cimping dies by using the square counter bearing slightly
- Pull the crimping die set out of the adapter Fig. 3/3 in the direction of the arrows (red arrows) Abb. 3/2
- Place a new crimping die set into the adapter and tighten the screws lightly
- Inspect the correct fit of the crimping dies by lining up the top to the bottom and by closing the die set; turn the square counter bearing Fig. 2/1 with a wrench SW 12
- Remove wrench SW 12 from the sqare counter bearing
- Tighten the screws of the adapter in the upper and lower part of the adapter
- Open the shut-off valve Fig. 2/2

The machine moves back to the starting position and can now be used.

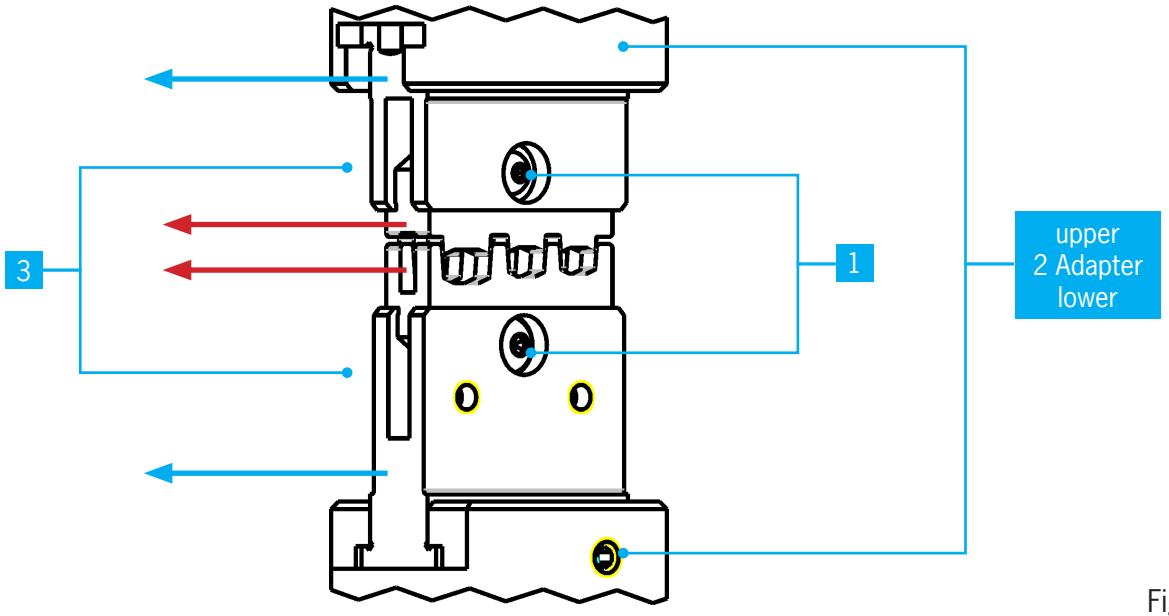


Fig. 3

Attention

Before connecting the CM 25-6 to air pressure, please remove the wrench from the square counter bearing!.

7.3. Change of Crimp Positions

The crimping die intake can be rotated 360° in increments of 22,5°.
The change of crimp position can be done as follows:

- Interupt air pressure with shut-off valve Fig. 2/2
- Release the remaining air by using the RESET switch Fig. 2/8
- Loosen the adapter for the upper and lower intake with one complete turn by using an Allen wrench Fig. 4/1
- Set crimping dies to the desired position in 22,5° increments
- Inspect the correct fit of the crimping dies by lining up the top to the bottom and by closing the die set; turn the square counter bearing Fig. 2/1 with a wrench SW 12 until upper and lower die set touch each other
- Remove wrench SW 12 from the square counter bearing
- Tighten the screws of the adapter in the upper and lower part of the adapter Fig. 4/1
- Open the shut-off valve Abb. 2/2

The machine moves back to the starting position and can now be used.

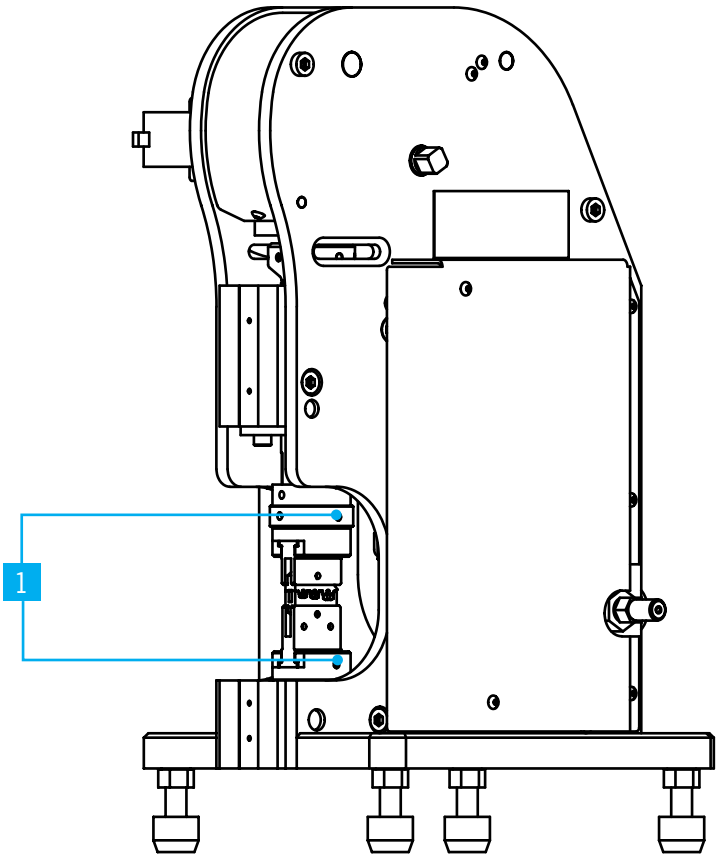


Abb. 4

Attention

Before connecting the CM 25-6 to air pressure, please remove the wrench from the square counter bearing!

7.4. Replacing the Adapter (for larger system dimensions)

The change of the adapter is done as follows:

- Interupt air pressure with shut-off valve Fig. 2/2
- Release the remaining air by using the RESET switch Fig. 2/8
- Loosen the adapter for the upper and lower intake by using an Allen wrench Fig. 4/1
- Pull the adapter intake out to the front (blue arrows). Fig. 3
- Slide optional adapter into the adapter intake up to the positioning pin and secure with an Allen wrench, hereby is important:
  –> short adapter into the upper intake, larger adapter into the lower intake
- if necessary, Change of a Crimping Die Set (see section 7.2 „Exchanging Crimping Dies“)
- Open the shut-off valve Abb. 2/2

The machine moves back to the starting position and can now be used.

7.5. Crimping Dimension Adjustment

In order to ensure perfect crimping results, the CM 25-6 is set at the factory to provide a safe closure of the crimping dies at dead center. An adjustment of the ram stroke may become necessary in some circumstances, for example, after exchanging the crimp dies. This can be done by using the following steps:

- Interupt air pressure with shut-off valve Fig. 2/2
- Release the remaining air by using the RESET switch Fig. 2/8
- Move the upper and lower part together by turning the counter bearing Fig. 2/1 with a wrench SW12 (keep RESET Fig. 2/8 compressed the entire time) till the scale and adjustment information become visible Fig. 5
- Loosen the pressure screw Fig. 5/2 with an Allen wrench SW 2,5 mm
- Use the slide ring with adjusting collar Fig. 5/3 to set the desired dimension adjustment. Use the auxiliary holes Fig. 5/1 provided to turn.
- One turn to the next scale line will move the adjustment of the slide by 0,05 mm.
- After the correction has taken place, the adjusting collar Fig. 5/3 needs to be secured with the pressure screw Fig. 5/2 (An additional pressure screw can be found after a 180° turn. In order to tighten everything securely only one pressure screw, which is easiest to reach by the operator, must be tightened.); afterwards open the shut-off valve Fig. 2/2

After this procedure the crimping machine goes back to the original position and is ready to operate. Now the operator needs to perform a simulated crimping procedure to test the proper crimping cycle of the machine. Should a testing of the procedure become impossible, the crimp dimensions have to be reduced as mentioned in this section (see also 8.1 Causes of Error and Troubleshooting) The procedure needs to be repeated by crimping an actual contact. The results of the crimp dimensions need to be inspected. The manufacturer recommends a RENNSTEIG WERKZEUGE GmbH Digital Crimp Caliper.

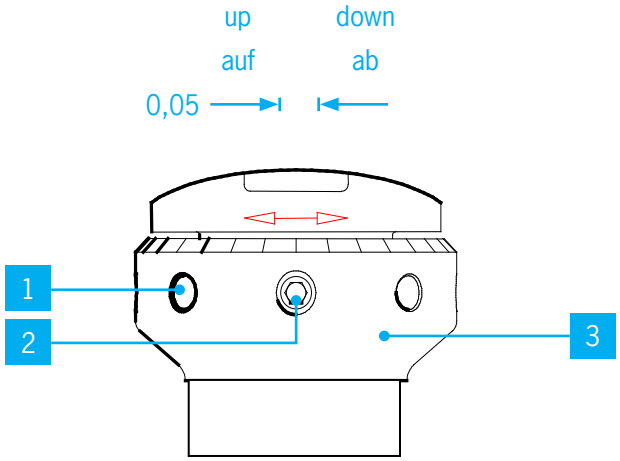


Fig. 5

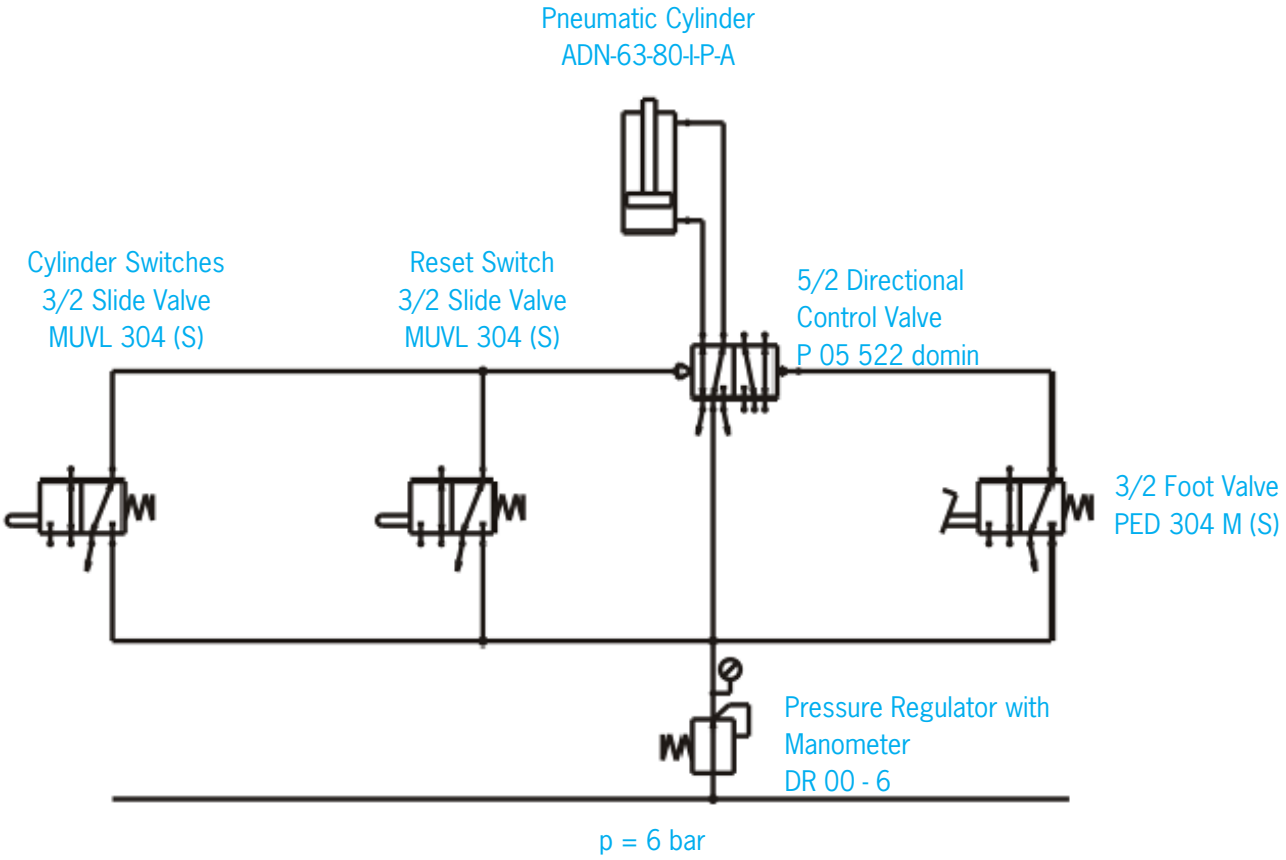
8. Maintenance and Repair

- The crimping machine CM 25-6 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 25-6

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