Operating manual

CE

Dismantling machine Powerstripper AM 12

Fabrication number **Sample**

Weidmüller

JANUARY 2016, VERSION 3.0

Contact address

Weidmüller Interface GmbH & Co. KG
Postfach 3030
32720 Detmold

Klingenbergstraße 16
32758 Detmold

Telefon +49 (0) 5231 14-0

Telefax +49 (0) 5231 14-292083

E-Mail info@weidmueller.com

Internet www.weidmueller.com

© 2016 Weidmüller GmbH

Table of contents

1 General

1.1 Introduction

This instruction manual contains important notes, how to use the machine safely, appropriately and economically. The operating manual helps you to avoid dangers as well as reduce repair costs and down times.
If you consider the operating manual you increase the product reliability and life time of the machine.

The operating manual must be accesilble at the machine site.
Persons, who work with the machine, have to read and follow the operating manual.

Instructions include:

- Putting the machine into operation
- Operation of the machine
- Troubleshooting in operation
- Maintenance (maintenance / service)
- Transportation

The safety of operation is only ensured when the machine is used as intended.

1.2 Target group

This operating manual is designed for the qualified worker.

1.3 Reservation of the right of modification and copy right

The copy right, as well as all rights in the event of grants or utility model registration in this operating manual, is retained by the manufacturer.
The listed rules, guidelines, engineering standards in this operating manual are specific to the information provided in the instructions.

Regulations and drawings of technical parts may not be duplicated published, or used for unauthorized purposes (e.g. competition).

If the operator uses the regulations and drawings of technical parts in the way outlined above, this requires the express written approval of the management of the manufacturer.

The manufacturer has the right to change or improve the data, details, notes and illustrations in these operating manual at any time.
A claim to change and improve of already delivered tools is impossible.

This operating manual was created with reasonable care.

1.4 Training and instruction

- Only trained and qualified personnel are allowed to handle the machine.
- The responsiblities of the personnel for operating, changing tools and maintaining must be well defined.
- Only the manufacturer or authorized service workshops are entiled to repair these products.

1.5 Unauthorized modification and spare parts

- Modifications, mounting and reconstruction of the control can lead to unpredictable dangers.
- All technical modifications and extensions of the machine, control or control programs are strictly forbidden, without the express written approval of the manufacturer.
- Any kind of modification and manipulation of the tool is forbidden. If the operator makes any modifications or manipulations safe operation of the machine is no longer guaranteed.
  The manufacturer takes no responsibility for defects and consequential damages which can occur, because of abovementioned measures.
- Failures to comply disrupt the normal operation of the machine.
  Nevertheless severe or fatal injuries, impairments of the unit and the environment can happen due to inappropriate application.
- Use only original spare parts and authorized accessories from the manufacturer.
  The use of other parts excludes liability for damages every description (consequential damages, too).

1.6 Transportation

For the transportation use always the complete original packing.

For service and repair work the tool must be sent with all accessories.

The barrier must be installed again either.

The machine will be delivered with the installed barrier for the waste funnel.

1.7 Accessories

Included in delivery are a 3er allen wrench to change the stripping blades and a 5er allen wrench to adjust the partial stripping (slide).

2 Safety

2.1 Intended use

The machine is a electro pneumatically driven cable stripping machine.
This machine was designed to strip wire with various insulations.
For this reason the machine is designed only for this exact purpose.

The intended use includes compliance with:

- All notes of the operating manual
- Documentation of the supplier products.
- Notes to the maintenance

Any use that is not outlined in these instructions is not deemed to be an intended use of the product.

The description in **paragraph 3.1 "Technical data"**, is to kept and followed in addition to the original documentation supplied with the product.

Any unauthorized / undocumented use of the machine will not be recognized by the manufacturer.

For defects, due to unauthorized any use not intended by the manufacturer is not the responsibility of the manufacturer.

2.2 Disallowed use

Do not:

- Remove information or warning signs from the machine.
- Open the machine during the operation.
- Use the machine with obvious visible defects or damages.
- Insert any object except wire into the feeding funnel.
- Cut wire with the machine.

2.3 Danger of the machine

At the strip machine Powerstripper AM 12, perform a hazard analysis with a closing safety test and be careful with every machine a certain risk remains, which cannot be eliminated by design.
The purpose of the hazard analysis is to ensure, that the machine is conforming to guidelines and can be considered safe.
Be aware that all machines pose risks that cannot be eliminated entirely by design.
See *2.8 Remaining risks*.

2.4 Using risks

The user should not clear errors that require the removal of the cover while the unit is on.
Before you change the tools or spare parts you have to unplug and disconnect the machine from the pneumatic- and power supply system.

2.5 Sources of danger

Before maintenance and cleaning work at the machine. The machine must disconnect from the power supply system and the pneumatic supply system.

Never remove the safety features or damage controls by making changes to the machine.

2.6 Safety installations

The safety features are installed to protect the worker.
The operator should perform a yearly a check of the safety installations.

Inductive ring sensor	The inductive ring sensor is installed at the front panel. The ring sensor detects, if you insert a metallic part or an other part in the machine. It determines whether the dirve is activated.
Security switch	The security switch is activated by opening the front panel of the machine, when the panel is open,the machine loses pressure.
Cover	If the removal of the cover is necessary, be sure that the earth wire is connected after re-closing the machine. The remove of the cover should only be allowed by skilled workers or trained personnel.
Switching power supply (SELV)	The switching power supply protects from dangerous voltages, because does not allow more than 60 V-AC or 110 V-DC on the machine.

2.7 Signs and Symbols

The operating manual uses follow important signs and descriptions for safety instructions.

2.7.1 Warning signs

	**Signal word!** **This warning sign describes a possible danger.** **Ignoring the signs can result in injuries or property damages.** **This sign is often use in combination with other mandatory signs.**
	**WARNING! Danger by electrical voltage!**
	**CAUTION!** **This warning sign advises of the danger of bruising.**
	**CAUTION!** **Warning for cutting injuries of the hand.**

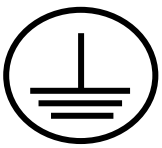
2.7.2 Mandatory signs

	***Use the operating manual!*** ***Before putting the machine into operation read the instruction manual carefully.***
	**This signs marks important operation and application instructions. The non-observance of the notes can produce damages of the tool and personal property.**
	**Plug main switch**
	**Use the machine only dry conditions.**

2.7.3 Information signs on or inside the machine

Earth conductor

This label is placed at the earthing screw.



The protective earthing is a methode, which is safeguard in a fault against dangerous voltage and electric shock.

The methode protective earthing is doing by a earth conductor.

The connection is created by a rubber connector with earth conductor contact.

The earth conductor “PE“(green/yellow insulation only in Germany) is used for this safety installation.

2.8 Remaining risks

If you remove the barrier on the underside of the machine and don't install the waste funnel you can reach into the machine from the underside.

If you ignore the maintenance cycle for the main valve, errors can occur.
A bigger danger is present when the electronic control simultaneously main functions, because the machine will start erratically.

If the control is defective and the machine starts abruptly there is a higer risk of injury, if a finger is incorrectly inserted in feeding funnel. well as the concorrently insert of the finger in the feeding funnel injury can be possible.

Even with the observance all safety notes and warning information, risks remain when operating of the tool.

The machine is built by the state of the art methods and outlines safety-related instructions. However, the operation of the tool can pose dangers for users.

By disallowing the insertion of fingers in the feeding funnel, light cutting- and impact damages can be prevented.

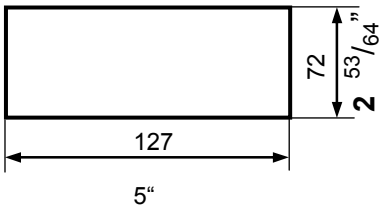
Errors which could influence the safety of the machine, should be eleminated immediately. If necessary, contact the manufacturer with the fabrication number.

WARNING!
Electric shock by work at conducting parts.
⇒ *Work on electric parts should only be performed by skilled personnel.*

2.9 Security measures at the installation location

Internal instructions and controls should ensure that the work place and the environment are clean and clear.

The machine must be installed securely on a table and have a hole of **127 mm x 72 mm / 5''inch, 2 $^{53}/_{64}$** " inch for the waste funnel.
A fallen machine represents a great risk of injury.



2.10 Notes for the operator

⇒ **The duty of the operator is to write instructions.**

⇒ **The operator should perform a yearly check of the safety features.**

⇒ **Use only original fuses with declared amperage.**

The operator should:

- Be familiar with local and on-site regulations relating to safety and accident prevention.
- Keep notes instructions in readable conditions and replace them when necessary.
- Inform the manufacturer immediately if the machine and the application becomes unsafe.
- Change machine parts immediately if they are not in good order and condition.
- Use the machine only for the intended use.
- Before you put the machine into operation ensure the machine is safe and in good condition.

2.11 Notes for special dangers

CAUTION!
If you insert the finger in the feeding funnel, the dangers of cutting damages arise.
Do not insert your finger in the feeding funnel.

2.12 Hazard generated by noise

The equivalent continuous weighted sound pressure level of the dismantling machine Powerstripper AM 12 is ≤70 dB(A).
Therefore, no ear protection is necessary while operating the machine.

3 Product description

3.1 Technical data

Designation	Unit
Feeding length	approx. 80 mm
Stripping area (Wire – external diameter)	3.5 – 11.9 mm / 7 AWG – $^{4}/_{0}$ inch
Stripping length [mm/ inch]	14 – 120 mm / $^{63}/_{104}$"- 4 $^{23}/_{32}$" inch
Pull off length [mm/ inch]	20 – 120 mm / $^{25}/_{32}$"- 4 $^{23}/_{32}$" inch
Drive	Electropneumatic
Power supply	110 - 230 V
Frequency	50 Hz
Power consumption	16 VA
Fuse (filter-module)	2x T1AH250V
Operating pressure	5,5 bar
Air consumption	0.5 NL / cycle
Cycle time	approx. 3 s
Continous sound level	≤70 dB(A)
Dimensions (w x d x h) [mm/ inch]	254 x 230 x 520 mm 10 x 9 $^{1}/_{16}$" x 20 $^{15}/_{32}$" inch
Colour	RAL 7021
Weight	17 kg / 38 lbs
Software version	1.03
IP-Code	IP 20

Operating environment	Unit
Transport temperature	-25°C to +55°C / -13°F to 131°F
Enviromental temperature	-5°C to 40°C/ 23°F to 104°F
Operating temperature	+10°C to 45°C / 50°F to 113°F
Max. operating height	2000m absolute altitude
Relative humidity	50% to 40°C (no condensation)
	90% to 20°C (no condensation)
Contamination level	2

3.2 General view of the machine

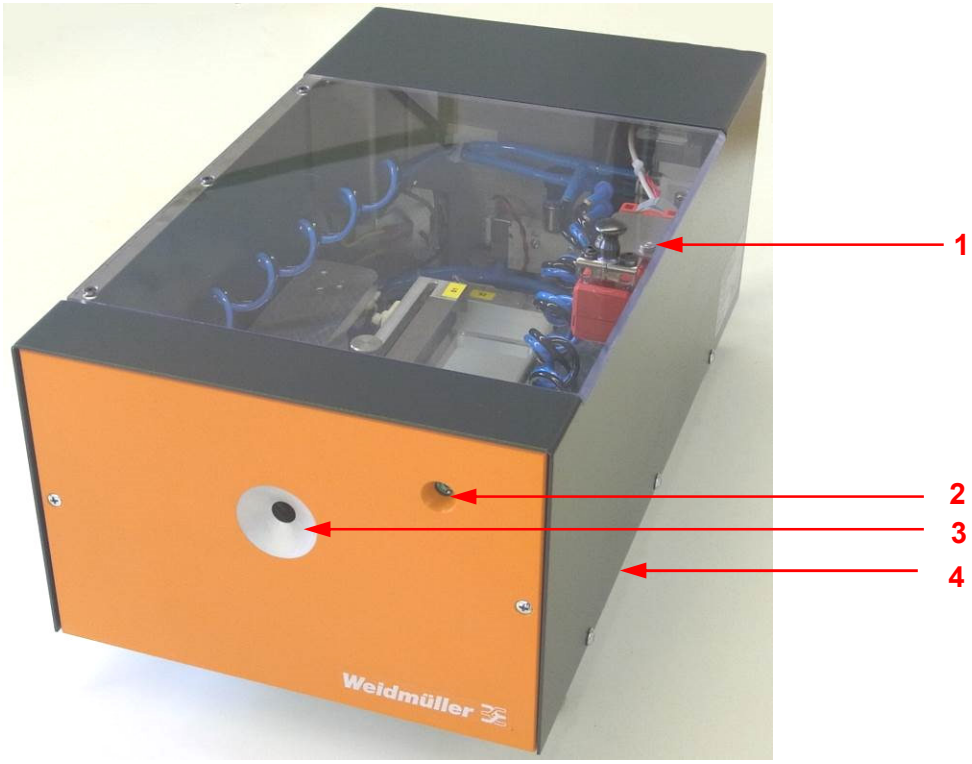


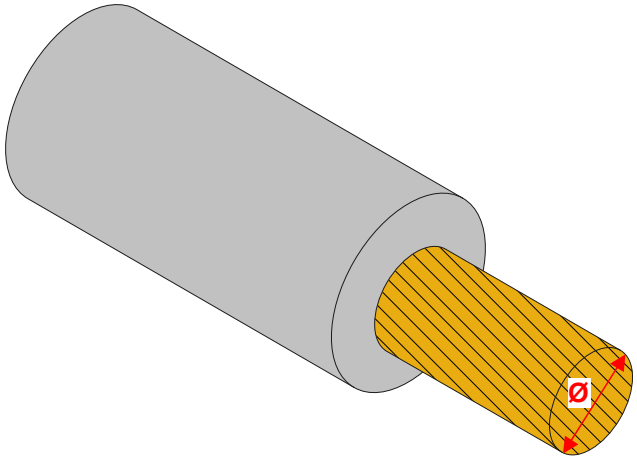
Figure 1: Front view

1 Cap
2 LED status indication
3 Feeding funnel
4 Waste funnel

3.3 Tool chart

Leiter Insulated wire	
Kabelquerschnitt [mm²] Wire cross-section [mm²]	
Abisoliermesser, V-Radius Stripping blades, V-Radius	6.20
Einstellung Exzenter (Richtwert) Adjustment eccentric (guideline)	approx. II

3.3.1 Find the right blade set fit with the wire



Ø 2.3 mm ~
V-Radius blades 2.09 or 2.53

Figure 2: Choose the right blades fit with the wire

3.3.2 Accessories blade sets

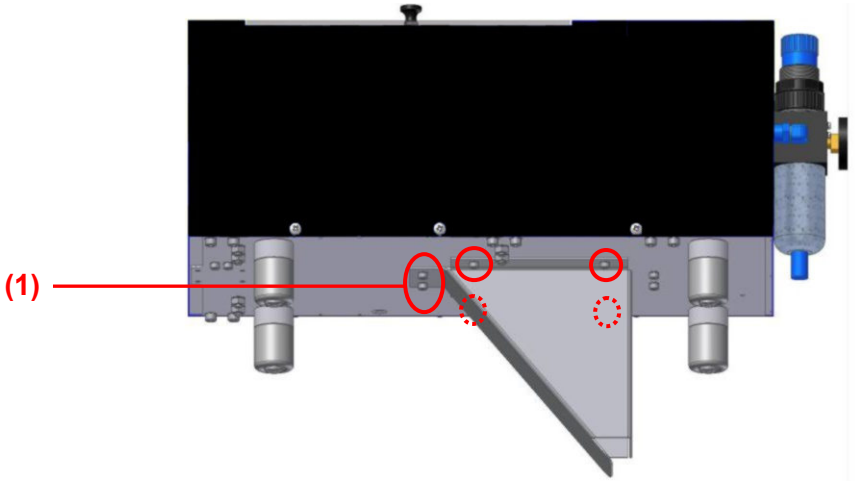
V-radius blades adapters
V- radius blades 0.55 mm – 23 AWG
V- radius blades 0.78 mm – 20 AWG
V- radius blades 1.13 mm – 18 AWG
V- radius blades 1.65 mm – 14 AWG
V- radius blades 2.09 mm – 12 AWG
V- radius blades 2.53 mm – 10 AWG
V- radius blades 3.01mm – 9 AWG
V- radius blades 3.49 mm– 8 AWG
V- radius blades 4.37 mm – 4 AWG
V- radius blades 6.20 mm – 3 AWG
Others on request

3 Product description

4 Instruction manual

4.1 Putting into operation

Before putting the machine into operation place the barrier on the baseplate against the waste funnel. Mount the waste funnel with the 6 screws **(1)**.



Graphic 1: Waste funnel

CAUTION!
The electrical data on the type plate must conform with the electrical power supply.

- The machine is provided with a pneumatic maintenance unit (filter and controller) and can be connected directly with the compressed air supply.

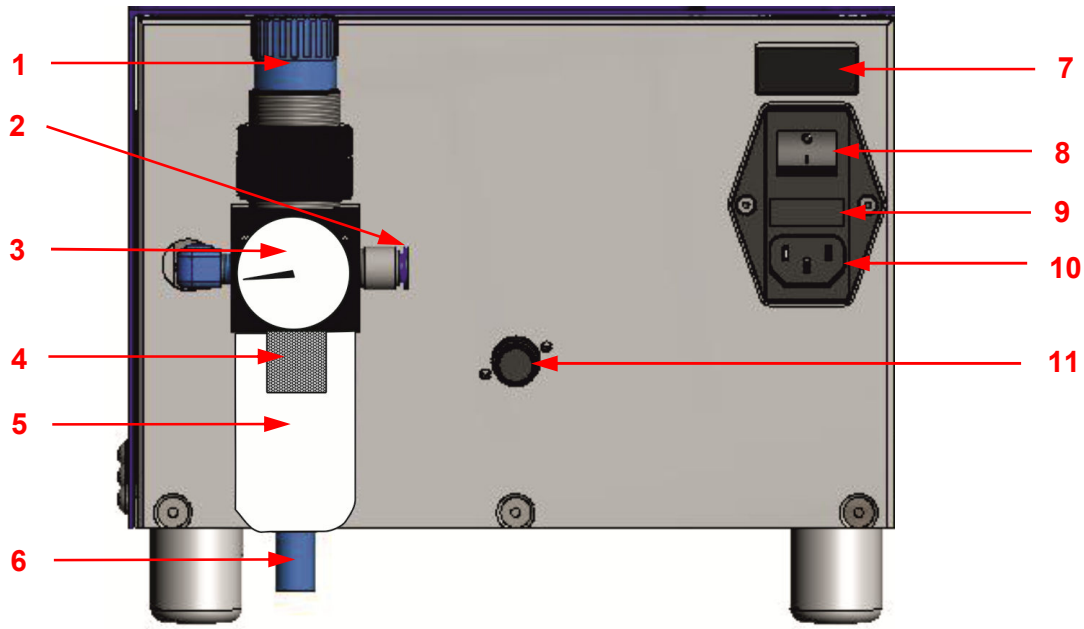
- Connect the main cable between the machine and the electrical power supply.

4.2 Starting the machine

- Adjust the pressure at the maintenance unit.
- Pull the adjusting knob upwards.
- Adjust the pressure by turning the wheel (6 bar) and then lock it again.
- The green LED ● at the front panel flashes permanently.
- The machine is in starting position.

4.3 Switch off the machine

- Switch off the main switch on the filter module.
- Disconnect the machine from the pneumatic supply system.



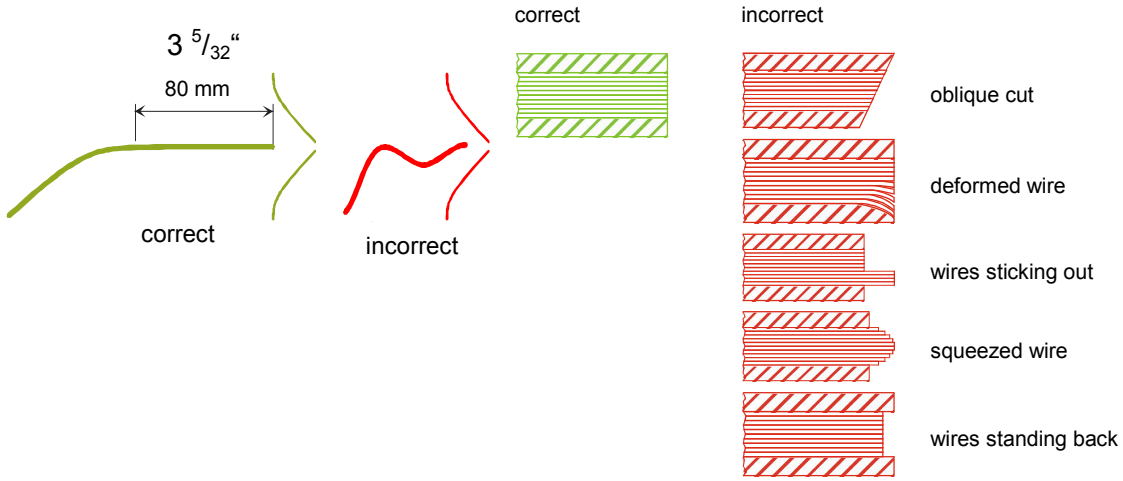
Graphic 2: Connection plate

1	Adjusting knob
2	Pneumatic supply
3	Pressure gauge
4	Filter
5	Tank
6	manual drain
7	Step counter
8	Mains switch
9	Fuse
10	Mains plug
11	Holding tong pressure regulator

4.4 Wire feeding

The working cycle begins when a wire is inserted in the feeding funnel

The wire has to be cut off straight and may not have any bends or bows.

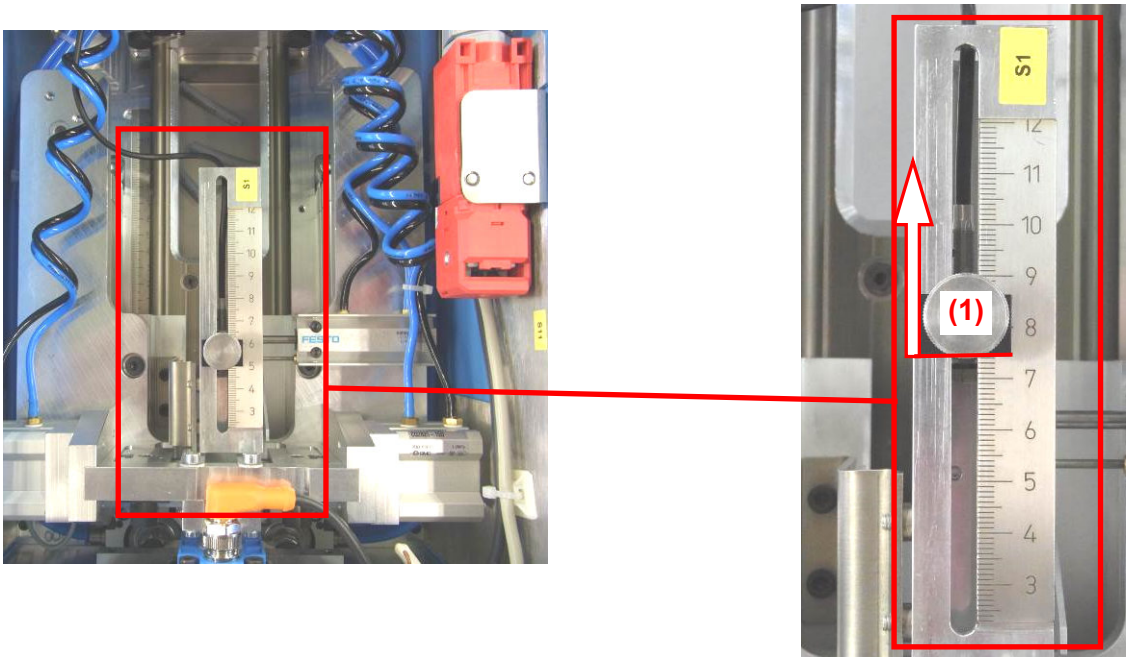


Graphic 3: Wire feeding

4.5 Adjustment of the stripping length

NOTE!
Before you change the tools, the machine must be disconnected from the power supply and compressed air supply.
⇒ *Otherwise injury can occur!*

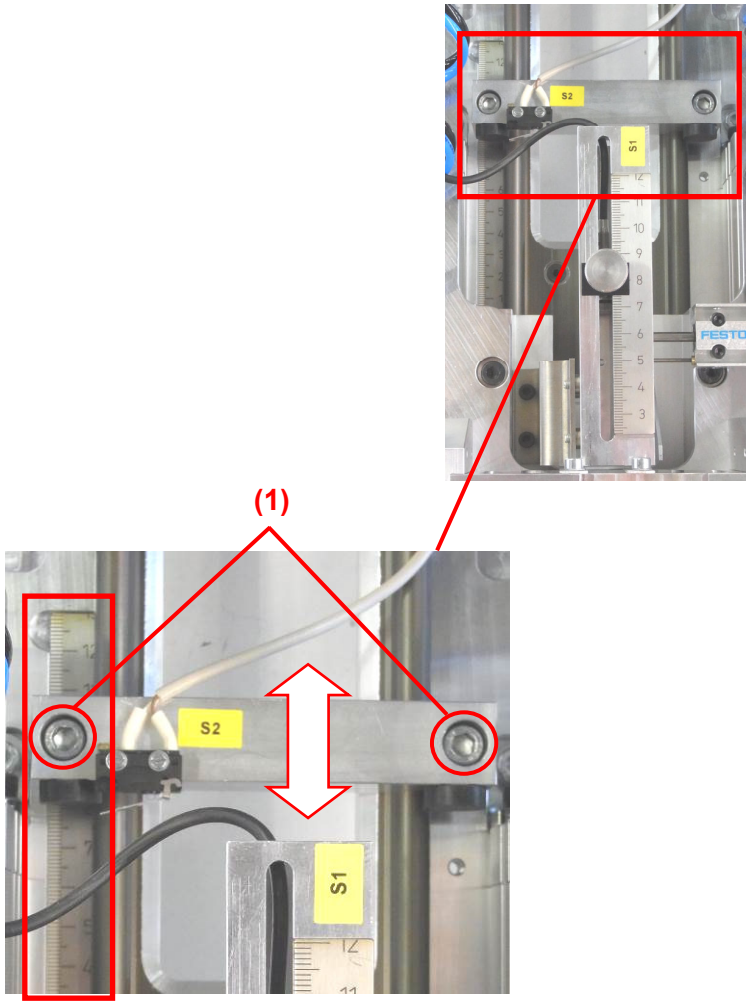
1. Open the cap → Machine loses pressure.
2. Release the set screw **(1)** at the tool unit.
3. Select the stripping length on the scale.
4. Fixing the set screw at the chosen position. Gauge is the lower edge.
5. Close the cap.



4.6 Adjustment of the partial strip

NOTE!
Before you change the tools, the machine must be disconnected from the power supply and compressed air supply.
⇒ *Otherwise injury can occur!*

1. Open the cap → Machine loses pressure.
2. Release the two fixing screws **(1)** behind the partial stripping stop
3. Move the partial strip stop in the desired position.
4. For the orientation use to the scale on the left side, for measuring use the left rubber buffer.
5. The partial stripping depends on the cable.
6. Tighten the partial strip stop Fixing with the 5er Allen wrench.
7. Close the cap.



4 Instruction manual

5 Tools

CAUTION!
Before you change the tools, the machine must be disconnected from the power supply and compressed air supply.

⇒ *Otherwise injury can occur!*

After the cap is closed the machine drives into the starting position.

5.1 Eccentric adjustment

1. Open the cap → the machine loses pressure.
2. Push the tool slide to the back.
3. Remove the screw **(1)** inside the eccentric with the 3er Allen wrench.
4. Adjust the eccentric **(2)** to the desired size. (Guideline, see chapter ***3.3 Tool chart***).
5. Tighten the screw light.
6. Close the cap.
7. Tool unit drives into starting position.
8. The green ● LED at the front panel flashes.

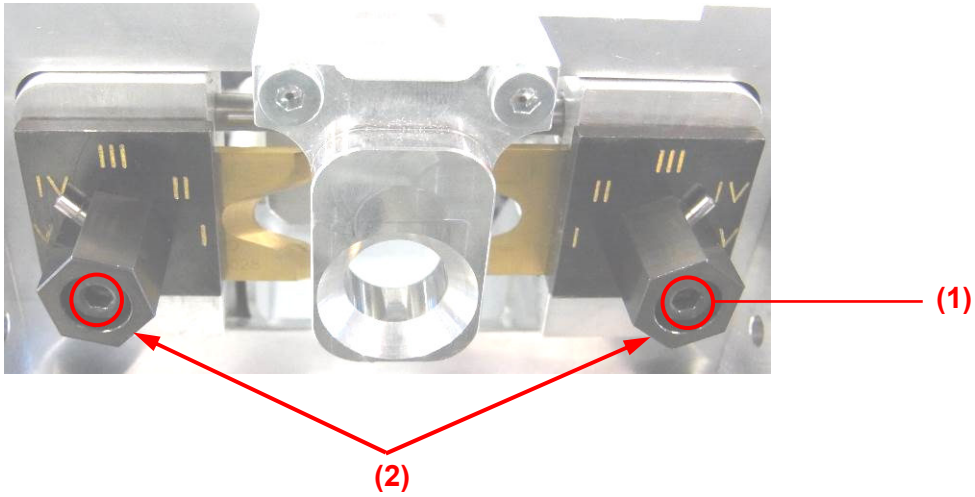


Figure 3: Eccentric adjustment

5.2 Change the stripping blades

CAUTION! Blades are sharp.
Beware of cutting damages to the hand.
⇒ *Do not touch the blade.*

1. Open the cap→ the machine loses pressure.
2. Push the tool slide to the back.
3. As needed, unscrew the feeding funnel **(1)**
4. Remove the screw **(2)** inside the eccentric with the 3er Allen wrench.
5. Remove the eccentrics **(3)**
6. Remove the stripping blades **(4)**
7. Insert the new blade.
8. Insert the eccentrics and adjust them.
9. Tighten the hexagon socket screw lightly.

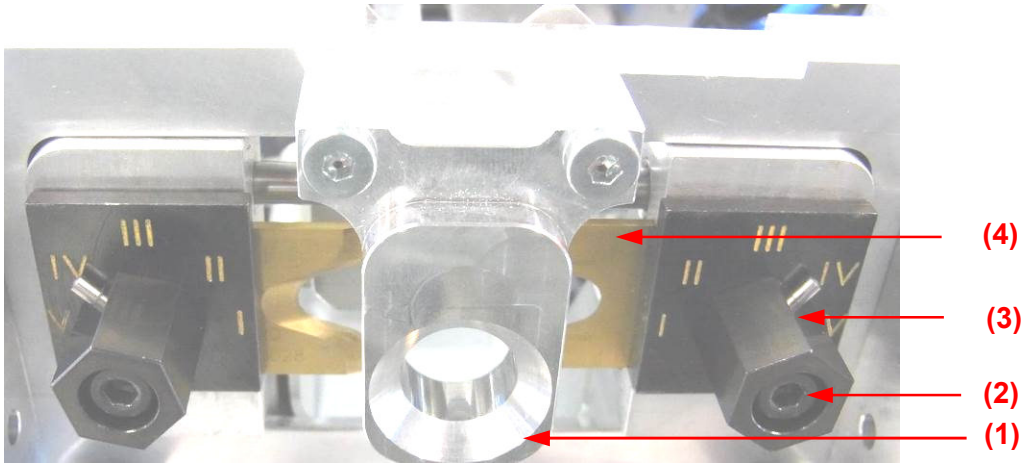


Figure 4: Stripping blades

5.3 Stripping blades fine adjustment (optional)

The fine adjustment is for an exact positioning of the cable. This can be used, if single conductors were damaged by the pull off process.

Therefor the blade spacers must be adjusted until the distance between the knife edge and disk conform to the isolation of the cable.

Cable is held in the center to prohibit the cutting or damaging the internal conductor

This is only necessary in special cases

1. See *„Change stripping blades“* until **topic 7.**
2. Remove the blade spacers. **(1)**
3. Choose a new notch (distance is 0.5 mm) and install a new position on the bolt, if necessary turn the plate.
4. Mounting the stripping blades and eccentrics.
5. Check with the relevant cable, if the wires will be cutting.
6. If it is true, adjust the blade spacers.

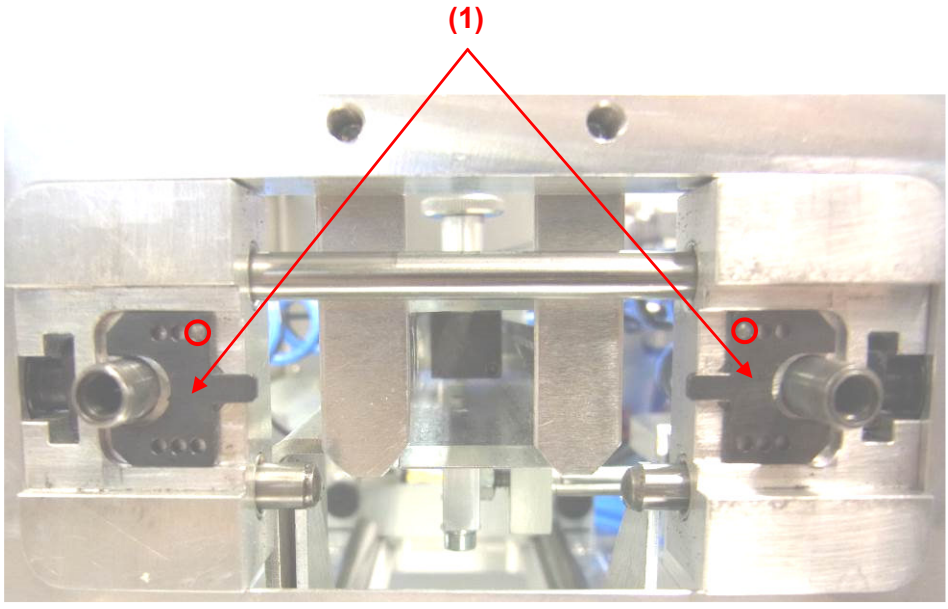


Figure 5: Blade spacers

5 Tools

6 Maintenance

CAUTION!
Before maintenance the machine must be disconnected from the the power supply and compressed air supply.
⇒ *Otherwise injury can occur!*

6.1 Maintenance authorized

Only trained and qualified personnel are allowed to perform maintenance on the machine.

6.2 Maintenance instructions

- Do not clean the interior of the machine with compressed air.
- Do not use spray oil or spray grease.
- If possible use silicone or PTFE-oil (Teflon oil) e.g. Divinol GWA ISO 46.
- Use grease, which is applicable for bearings and sliding surfaces.

6.3 Daily maintenance

Clean the interior of the machine daily from cable residues.

If necessary remove the talc powder rests inside the machine.

6.4 Weekly maintenance

6.4.1 Check the stripping blades

CAUTION! Blades are sharp.
Beware of cutting damages to the hand.
⇒ *Do not touch the blade.*

1. Push the tool slide to the back.
2. Check the blades optical on abrasion or damage.

6.4.2 Holding tong

CAUTION!
Open the cap and switch off the machine from the main switch.
(All pneumatic valves are depressurized)

♦ Grease the centering system at the holding tong (*see figure down*)

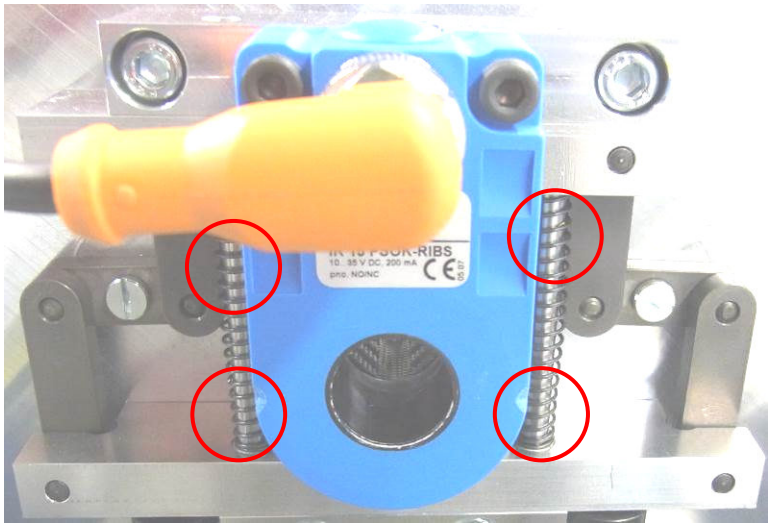


Figure 6: Holding tong

6.5 Quarterly maintenance

6.5.1 Check the main valve

- Open the cap.

- You should be able to hear the air blowing from the valves.

6.5.2 Clean the holding tong

- Clean the holding tong by using a dry paint brush.

- For a better accessibility the front panel can be removed.

6.6 As needed

6.6.1 Stripping blades

Change the stripping blades depending on if abrasion occurs.
If abrasion on the insulation is present, the jacket is no longer cut precisely when it is pulled off.

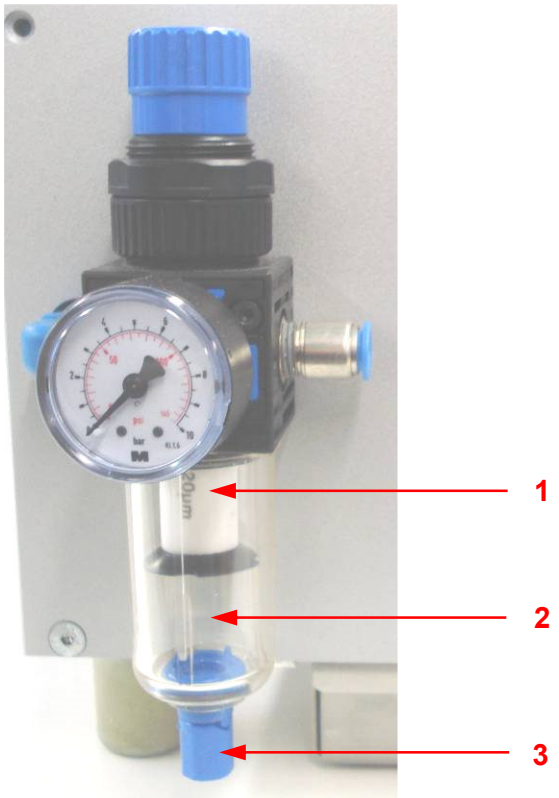
6.6.2 Pneumatic maintenance unit

Drain any condensed as needed by pushing drain screw to the top.

If the tank is dirty, it can be cleaned with water.

1. To remove the tank, disconnect the air-supply.
2. The filter element can be unscrewed for cleaning.
3. Put the filter into purifying agent (e.g. benzine or petroleum) wash it out and dry it.

Clean tank only with water.



1 Filter
2 Tank
3 Drain screw

Figure 7: Pneumatic maintenance unit

7 Troubleshooting

7.1 The machine does not start

The green LED flashes.

→ The conductor was not removed within 3 sec. out of the feeding funnel.

→ Open the cap and close again.

7.2 Increasing refuse

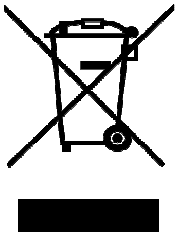
CAUTION!
Before maintenance the machine must be disconnected from the the power supply and compressed air supply.
⇒ *Otherwise injury can occur!*

- The stripping blades are damaged or put in wrong.
- Change or correct the stripping blades.

CAUTION! Blades are sharp.
Beware cutting damages to the hand.
⇒ *Do not touch the blade.*

7 Troubleshooting

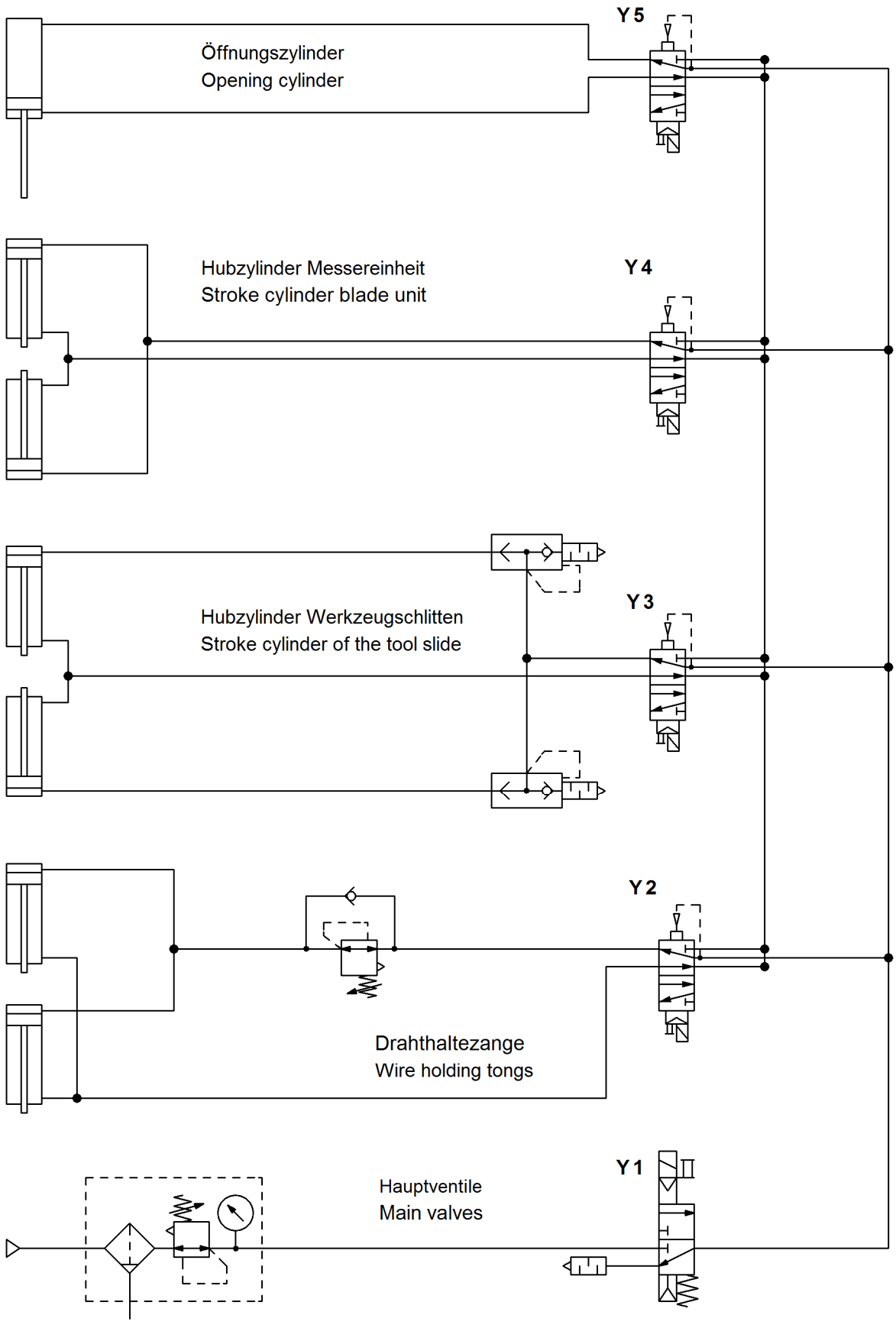
8 Disposal



Do not place residue or off-cut insulation in the domestic waste bin. The disposal of the machine waste should be professional and environmentally compatible.

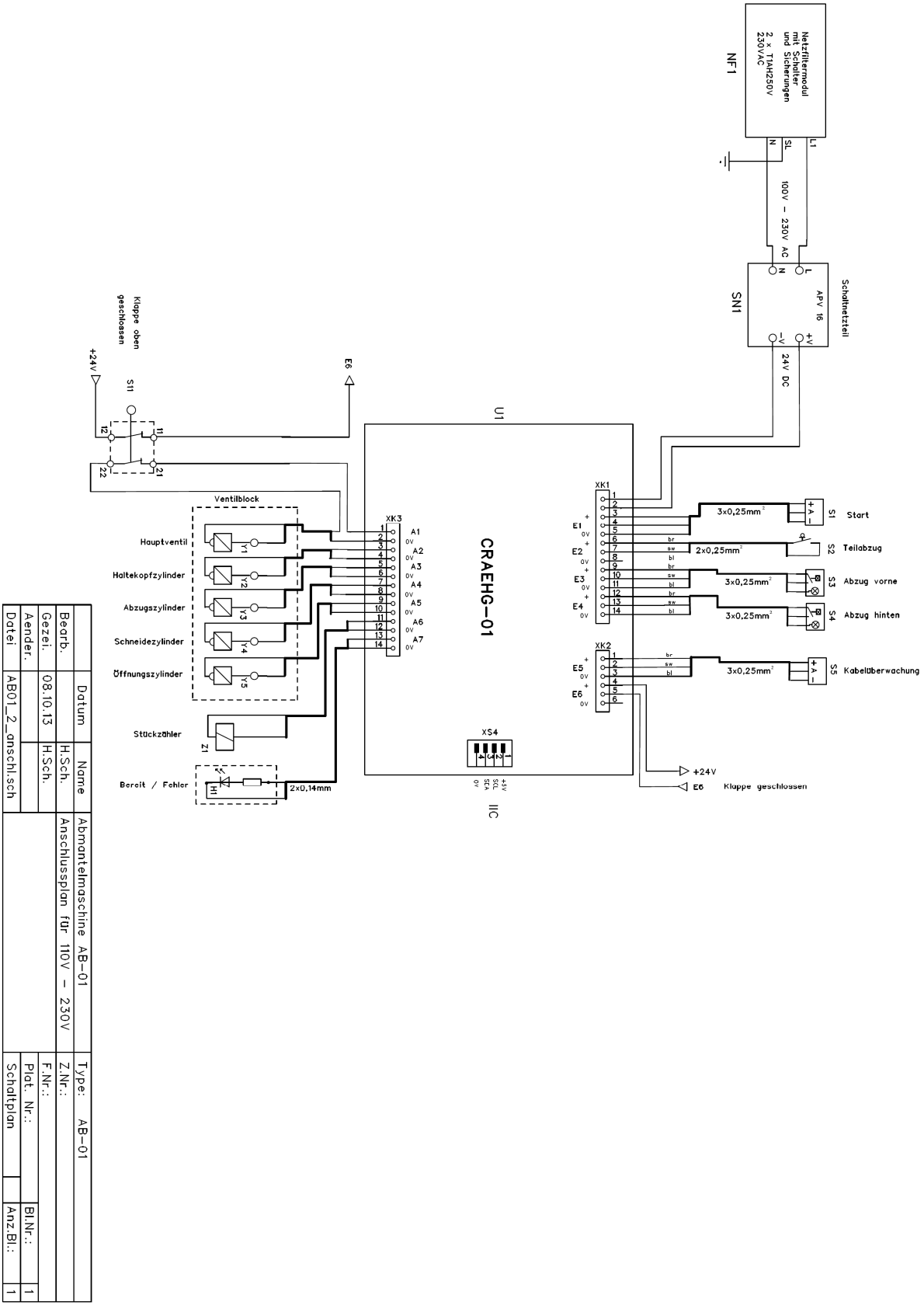
8 Disposal

9 Pneumatic diagram



9 Pneumatic diagram

10 Electric diagram



10 Electric diagram

11 Spare parts list

	Designation	Art-No.	Number
	Eccentrics	E10AB000097	2
	Blade adapter left	E10AB000039	1
	Blade adapter right	E10AB000040	1
	Cylinder screw (Eccentrics) M4x16 DIN 912	K70ZI000011	2
	Inductive ring sensor	K90EK000189	1
	Angular connection S5	E90AB000006	1
	Switch mode power supply 16W /24V / 0,67A	K90EK000185	1
	Security switch (cap)	K90SC000080	1
	Proximity switch S2	E90AB000002	1
	Initiator S1	E90AB000001	1
	Cylinder initiator S3	E90AB000003	1
	Cylinder initiator S4	E90AB000004	1
	Board CRAEHG-01	E90CM000025	1
	LED green	E90AB000005	1
	Mains cable EU 230V	K90LE000018	1
	Mains cable CH 230V	K90LE000019	
	Mains cable DK 230V	K90LE000071	
	Release button cpl.	K90LE000018	1
	Filter-air-pressure reducing valve manometer	K10AG000135	1
	Filter module	K90SV000249	1
	Fuse T1AH250V	K90FS000053	2
	Silencer AN 15-C08	K10AG000235	1
	Choke valve	K10CA000203	
	Magnetic valve	K10AG000237	
	Adjustment screen	E10AB000026	1
	Knurled screw DIN 653 4x20	K70RS000003	1
	Spacer	E10AB000028	1
	Allen wrench with hand hold 5mm	K10CA000099	1
	Allen wrench 3mm	K10CA000097	1

11 Spare parts list

12 EC-declaration of conformity

Manufacturer

Weidmüller Interface GmbH & Co.
Klingenbergstraße 16
D-32758 Detmold

The manufacturer declares sole responsibility for the product

Power Stripper AM 12 S

Fabrication number:	**Sample**
Year of construction:	**2016**

fabricated in Wangen im Allgäu to which this declaration refers, agrees with the following standards and guidelines:

Guidelines:

Machinery Directive	2006/42/EC
RoHS	2011/95/EC
EMC-Directive	2004/108/EC
Low Voltage Directive	2006/95/EC

Harmonized engineer standards:

Safety of the machine	DIN EN ISO 12100:2011

Other engineer standards:

Emission:	DIN EN 61000-6-4:2011
Immunity	DIN EN 61000-6-2:2011
EMC: Flicker	DIN EN 61000-3-3:2009
EMC: Harmonic	DIN EN 61000-3 2:2011

Authorised representative for the compilation of the technical documentation
See adress of the manufacturer

Detmold, den 2016-01-26

Dr. Christoph Fröhlich
General manager

13 Table of figures