# Schleuniger



# UniCrimp 208 Crimping machine Operating Manual

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## **Original Instructions**

The German edition of this document is the original Instructions.

#### **Translation of the original Instructions**

All non German language editions of this document are translations of the original Instructions.

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## **GENERAL**

Thank you for your trust in the Schleuniger Technique. You have acquired a high performance Schleuniger product, designed and manufactured in our factory to your needs.

Read through this manual with due care and attention. It contains important tips and safety instructions, which allow precise and reliable production.

## 1.1 MANUFACTURER

In this Manual, Schleuniger AG Thun, Switzerland is referred to as manufacturer and abbreviated with "Schleuniger".

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## 1.2 PRODUCT TYPE

This manual is valid for the following products/models:

Crimping machine UniCrimp 208

The applicable product type and the manufacture year can be found on the rating plate or the EG declaration of conformity. See "EU-Declaration of Conformity (Register 2)" of the ring binder.

## 1.3 INFORMATION ABOUT THE OPERATING INSTRUCTIONS

We have taken every possible measures to ensure the accuracy and completeness of this documentation. Since errors can be avoided despite the diligence never fully, we are always grateful for any advice and suggestions.

- This manual is stated as "Operating Instructions" according to the machinery directive 2006/42/EU" and is part of the product. It contains all the relevant information necessary to operate the product efficiently and safely as intended.
- The following phases of the product life cycle are described:
  - Transport
  - Commissioning
  - Operating units
  - Maintenance
  - Disposal
- Observe the safety regulations and instructions. The local accident preventions and safety regulations must be observed.
- If the product changes hands, the Operating Instruction must be handed over to the new owner.
- Published modifications and corrections from the manufacturer must be complemented. Inform at your local Schleuniger distributor.

## 1.3.1 Contents

#### General

Each person using the product must be properly trained and have read and understood the operating instructions. This is also imperative, even when the respective person has operated such a product or similar previously and where they have been trained by the manufacturer.



The operating instructions are no longer valid, if any of its contents (except a Quick Start Card, where available) are removed or is changed on the data storage medium.

The following is considered to be the operating instructions:

- The complete content of the ring binder according to the register directory in printed form.
- The files of the documents according to "Construction (Page 7)" on a data storage medium.

#### Construction

The Operating Instructions consist of the following parts:

#### Reference Manual UniCrimp 208

The Reference Manual contains all information to the product. It serves as a learning- and general reference work for the personnel.

Contents	<ul> <li>Safety</li> <li>Description of the product</li> <li>Transport</li> <li>Commissioning</li> <li>Operating units</li> <li>Troubleshooting</li> <li>Maintenance</li> <li>Disposal</li> </ul>
Target audiences	<ul><li>Operator</li><li>Qualified personnel</li><li>Technical specialist</li></ul>

## Parts catalog

The parts catalog contains the following.

Contents	<ul> <li>Options</li> <li>Parts subject to wear and tear</li> <li>Spare parts</li> <li>Exploded view drawings and parts lists of modules</li> </ul>
Target audiences	<ul><li>Technical specialists</li></ul>

## 1.3.2 Safekeeping

- Keep the Operating Instructions nearby of the product and safe against immissions.
- The instructions must be available for the operating personnel at all times.
- The contents must remain clearly legible beyond the expected lifespan of the product.

## 1.4 SYMBOLS

The symbols are placed in the marginal notes column and refer to the adjacent text. They have the following meaning:

Symbol	Meaning	Description
Ö	Info	Information which helps to operate the product efficiently and error-free.
AC.	Maintenance	Maintenance tasks
	Recycle	Recycle parts. Do not dispose off to regular waste.
	Tip	Recommendations and tips which improve the intended utilization of the product.
	Dispose.off	Environmental contaminating substances to return to supplier.

## 1.5 LEGEND

In the text, mark-up is used in the following manner.

Markup	Meaning	Description
[KEY]	Key / button	Key commands and buttons on screen representations are in the text shown in squared brackets, capital letters and orange colored.
"Configuration"	Screen title / menu	Screen titles and menus are represented in the text in "quotation marks".
"1.5 Legend (Page 8)"	Cross referencing	Cross referencing are represented in blue and italic.
1.⊳	Activity direction	Activity directions are a summary of activity steps with an arrow.
-	Consequence of an activity direction	Results or released actions in activity directions are represented with a leading arrow.

The following abbreviations are used.

Abbreviation	Meaning	Description
Fig.	Figure	Figures are captioned as "Fig." in the picture title.
Tab.	Table	Tables are captioned as "Tab."
mm	Millimeter	All Measures in the manuals are given in millimeters.
CW	Clockwise	Direction of rotation for a component or an operating element viewed from rotation axis.
CCW	Counter clockwise	Direction of rotation for a component or an operating element viewed from rotation axis.

## 1.6 DECLARATION OF CONFORMITY

See document "EG-Declaration of Conformity (Register 2)" of the ring binder.



## 1.7 LIMITATION OF LIABILITY

The content of these Operating Instructions was put together taking into consideration the current standards and guidelines according to the state of the technology and our many years of experience.

The manufacturer disclaims any liability for damages and accidents as a result of:

- Disregard of the instructions
- Disregard of safety regulations
- Non-intended usage

## 1.8 WARRANTY STATEMENTS AND POLICIES

See Schleuniger document "General Conditions of Sale and Delivery".

## 1.9 COPYRIGHT PROTECTION

Keep this operating instructions confidentially. It is intended for the exclusive use of persons operating the product. Without written agreement, this instructions shall not be made available to third parties.

The content of the operating instructions in the form of text, illustrations, drawings, circuit diagrams or other presentation, is protected by copyright law of the manufacturer.

## 1.9.1 Trademarks

The WinCrimp quality assurance software is a trademark of Schleuniger Messtechnik.

Windows® is a registered trademark of Microsoft corporation in the USA and other countries.

The rights to brands and product names mention in this manual rest with their owners and are hereby acknowledged. Mentioning of products not from Schleuniger is done for informational purposes only. It does not constitute any advertising. Schleuniger does not assume any guaranty regarding the selection, performance or usability of these products. Protected trademarks are not expressly indicated in the manual. However, this does not mean that they can be used freely.

## 1.10 SPARE PARTS

Always order original spare parts from your local Schleuniger representative.

Any modifications in design or function of the spare parts, in terms of ongoing product improvement, are subject to change without prior notification.

#### **CAUTION**



Use of unverified spare parts!

Unverified or defective spare parts can lead to personnel injury or property damage. To avoid any damage, exclusive use of original Schleuniger spare parts is imperative.

## **SAFETY**

## 2.1 TARGET AUDIENCES

This operating instruction is intended for individual target audience. Certain chapters therefore are withhold for a particular target audience and mentioned accordingly in the introductional section. Only this group is authorized to carry out the appropriate tasks. The other contents generally is intended for all audience and is not stated specially.



The product is intended to be operated by persons older than 14 years. Younger persons are not allowed to operate the product.

The Target audiences must have the following skill. Thus have the competence to carry out certain activities

## Operating company

Qualification	<ul><li>Higher level juristic person</li><li>Authority to give directives</li><li>Define competences</li></ul>
Authority / activity	<ul><li>Teaching</li><li>Deploy authorized personnel</li><li>Use product according to the intended usage</li></ul>

## **Technical specialists**

Technical specialist / service technician	<ul> <li>Mechanical and electrical basic education</li> <li>Product-specific training</li> <li>Know-how in wire processing technics</li> </ul>
Authority / activity	<ul> <li>Unpacking</li> <li>Installation</li> <li>Commissioning, start-up</li> <li>Operating</li> <li>Programming</li> <li>Maintenance and repair</li> <li>Disposal</li> </ul>

## Qualified personnel

Qualification	<ul> <li>Technical skill</li> <li>Product-specific training</li> <li>Know-how in wire processing technics</li> </ul>
Authority / activity	<ul><li>Operating</li><li>Programming</li><li>Instructor</li><li>Maintenance</li></ul>



## Operating personnel

Qualification	<ul><li>Product-specific training</li><li>Accident prevention</li><li>First aid assistance</li></ul>
Authority / activity	<ul><li>Operating</li><li>Clean</li></ul>

## Third party

Externally called in personnel of the operating company, service technicians and staff from Schleuniger.

Qualification	<ul><li>Mechanical and electrical education</li><li>Specialist in wire processing technology</li></ul>
Authority / activity	<ul> <li>Commissioning, start-up</li> <li>Maintenance and repair</li> <li>Repair</li> <li>Modifications</li> </ul>

## 2.2 WARNING NOTICES

The warning notices in the entire operating instructions are marked with the warning banner and the appropriate danger symbol. The following three endangering levels are primarily distinct by the signal word.

Compulsory comply the warning notices to avoid accidents and personnel injury.



## **DANGER**

Warning notice "Danger"

This panel indicates a hazardous situation, which if not avoided, will result in death or serious injury.



## WARNING

Warning notice "Warning"

This panel indicates a hazardous situation, which if not avoided, could result in death or serious injury.



## **CAUTION**

Warning notice "Caution"

This panel indicates a potential hazardous situation, which if not avoided, may result in minor or moderate injury.

## 2.3 CAUTION PROPERTY DAMAGE



## **NOTICE**

"Property damage"

This panel indicates a hazardous situation, which if not avoided, can result in damage to property.

## 2.4 GENERAL SAFETY NOTES

- The machine has been designed in accordance with the European standard EN ISO 12100:2010 for persons over 14 years of age and without physical restrictions. It is strictly forbidden to grant access to the machine by younger persons.
- The product must only be operated when in good working order and condition. It must be checked for intactness prior to the start of operation.
- Never operate the product in environments where there is a risk of fire or explosion.
- Operate the product only in dry, dust-free rooms.
- Processing of carbon fibers or similar conductor material releases minute electrically conductive particles. They can cause short circuits in the electronics. Electronic components may be seriously damaged as a result. Use suitable extraction facilities.
- Before carrying out any maintenance or repair work, disconnect the machine from the mains and/or from the compressed air supply.
- After any maintenance work, to which the machine housing has to be opened, always carry out the safety check.
- Operate the product always with the ground connector connected in the power cord.
- Only use original Schleuniger equipment, especially interface connection cables (electromagnetic compatibility).
- Use lubricants lubricants solely according to the specifications in the manual.
- Preventive maintenance and modification tasks must be carried out by appropriately qualified staff.



2.5

The safety data sheets can be accessed under: www.schleuniger.com/de/safety-data-sheets/.

## RESIDUAL RISKS

There are dangers associated with the use of technical products. Hazards that could neither be eliminated by constructive measures nor by protective devices are residual risks. The safety instructions in this manual refer to the known residual risks. Should additional dangers arise during operation, the operator is obliged to inform Schleuniger company immediately.

The following residual risks may occur under certain circumstances:

- Danger of tripping, falling and slipping caused by connecting cables, wire waste, air hoses and objects lying on the floor.
  - Install wires and hoses orderly arranged
  - Catch wire waste
  - Keep work area clear from objects scattered about
- Risk due to increased noise level while working in an environment with multiple machines.
  - Take up noise control measures!
- Certain wires contain talcum. It is released during wire processing and pollutes the working environment.
  - Use extraction facility
  - Wear dust mask
- Injuries of the user and malfunctions on the product may occur due to inadequate maintenance of the product.
- Danger of insufficient illumination on the working location.
  - Illuminate the working location accordingly
  - Equip the machines with the optional illumination.



## 2.6 SAFETY SYMBOLS IN MANUAL

In this manual, the warning hints are supplemented with the following symbols. They refer to potential danger.

Symbol	Meaning	Description
4	Electric power!	There is a danger of electric shock by contact with the mains socket and parts inside the product. Therefore before opening the product always switch off the main switch and unplug it from the mains. Touching electric components can cause injury to the operator personnel.
<u> </u>	General danger!	Notes and instructions with this safety symbol should be followed strictly. Disregarding may lead to injury and damage to the machine.
	Danger area pro- cessing compart- ment!	There is a general risk of injury from rotating parts in the processing area.  When reaching into the feeding area during production, the user can infringe on the fingers.
	Electrostatic sensitive components!	Electronic components react sensitive to static charge. Specially marked components and packaging must only be handled by trained personnel after a potential equalization and with special equipment.

## 2.7 SAFFTY SYMBOLS ON PRODUCT

There are warning symbols on the product. They advise the user about potential danger. An overview of the stickers can be found in chapter "5 Product description (Page 21)".

## 2.8 SAFETY INSTALLATIONS

The built in safety interlocks on the product (safety, protection, monitoring) must not be removed, bypassed or changed. Check the safety appliances in certain intervals. Defective safety equipment's must be fixed immediately.

- Never operate the product with open covers.
- Never operate the product if the safety cover is open.

## 2.9 RETROFITTING

Without written permission of Schleuniger, do not make changes or any retrofit work on the machine. The performance and the safety of the product is affected thereby.

Standard options and accessories supplied by Schleuniger are excluded therefrom.

## 2.10 PERSONAL PROTECTIVE EQUIPMENT

While working on the product, the personnel must be protected from injury or disease.

- Observe the local regulations and instructions of the operating company
- The following protective equipment is recommended

Symbol	Meaning	Description
	Eye protection	Wear safety classes. This protects the eyes from small particles produced during the cutting procedure.
	Wear protective headgear	Wear hair net or safety hood. Long hair may get caught by moving machine parts.



## **TRANSPORTATION**

## Personnel qualification



The instructions in this chapter must be carried out by **technical specialists**!

## 3.1 PACKAGING

The packaging provides enough protection during transport with common means of transportation. It consists of:

Wooden box

Store the packaging for later use on a weatherproof location. Recycle the unneeded packaging.

#### **NOTICE**



Inadvertently transportation of the product can lead to property damage.

- Handle the packaging with care
- Observe the packaging signs
- Wherever applicable remove the packaging not before placing on site of operation

## 3.2 PACKAGING SIGNS (STICKERS)

The following packaging symbols are affixed to the packaging.

Symbol	Meaning	Description
	Fragile	Handle the container with caution. Avoid strong vibrations and pressure.
	This way up	The arrows point to the top side of the containers. Store and transport the container upright. Do not tip.
	Keep dry	Store and transport the container against moisture.

## 3.3 TRANSPORT INSPECTION

Check the goods immediately after receiving for completeness and loss during shipment. On recognizable loss during shipment proceed as follows:

- Do not accept the delivery or only with retentions
- Declare loss of shipment
- Immediately report damages on the product to the shipping company or the vendor



## PRODUCT SPECIFICATIONS

## 4.1 APPLICATION PURPOSE

## 4.1.1 Intended usage of product

The product UniCrimp 208 is exclusively determined for processing of following materials:

- Wire
- Solid

The materials must be treated in the following way:

Crimping

See also chapter "5.1.2 Applications, examples (Page 21)".

As limits the areas in the technical data apply. Any other use of this product is regarded as non-intended use. For damages arising therefrom, Schleuniger is not liable.

## 4.1.2 Reasonably foreseeable misuse

The product is not intended for the processing of materials with the following characteristic:

- Explosive
- Flammable
- Toxic

## 4.2 DIMENSIONS AND WEIGHT

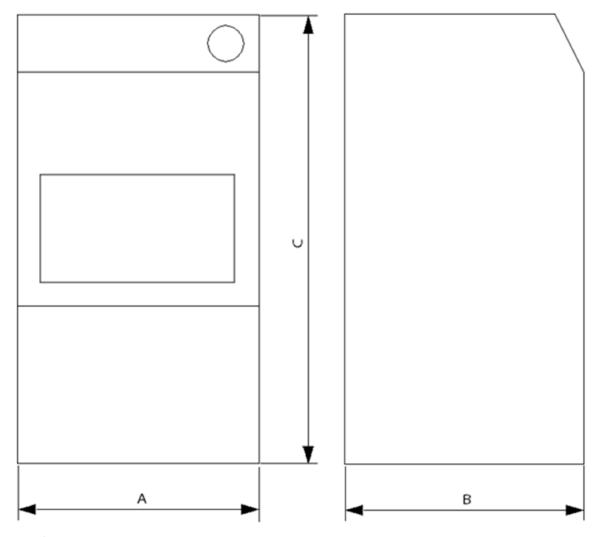


Fig. 1: Dimensions

Specification		Value	Unit
Weight	Net (base unit)	85	kg
Measures	Depth (B)	320	mm
	Width (A)	401	mm
	Height (C)	708	mm
Center of gravity	Upper area (approx. 10 cm from the top) in the center of the machine.  When packaged, note marking on packaging.		

Tab. 1: Dimensions/weight



## 4.3 PLANNING DATA

## 4.3.1 Positioning / mounting

After unpacking, put the machine onto a flat working space (table, work bench, etc.). Secure the machine from slipping off during operation.



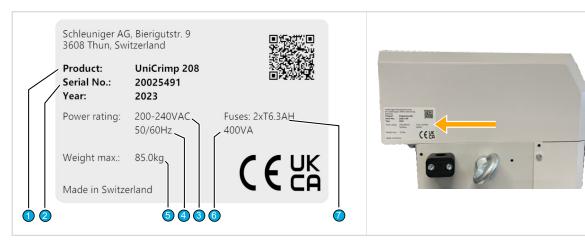
Over temperature condition may occur if the fan exhaust is blocked in any way. Do not block or cover the ventilator exhaust. A distance of at least 30 cm to the next object should be maintained, to let the cooling air flow freely.

## 4.4 RATING PLATE

To ensure our efficient support, we request the customer to always submit the exact content of the rating plate when contacting us with requests.

The rating plate with the serial number and the electrical data is on the left side.

It contains the following details:



- 1 Product type
- 2 Serial number/year
- 3 Permissible operating voltage
- 4 Line frequency

- 5 Machine weight
- 6 Power consumption
- 7 Internal fuse protection

## 4.5 TECHNICAL DATA

The technical data correspond to the theoretical values and are achievable under normal conditions. Any modifications in design or function, in terms of ongoing product improvement, are subject to change without prior notification.

## 4.5.1 Technical data

Specification	Value
Press force	33 kN
Output	0.75 kW
Cross section range	Up to 10 mm2 (8 AWG), material thickness 1 mm / length of crimping zone 8 mm
Stroke	40 mm (optional 30 mm)
Crimp height	135,788 mm
Height adjustment range (crimp height)	Continuously variable $\pm$ 0.25 mm, in increments of 0.025 mm
Cycle time	0.35 ms to 1 s (adjustable)
Press activation	Pedal
Compressed air	4 to 5 bar
Noise level	< 70 dB (A)
Mains connection	230/240 VAC (optionally 100/115 VAC)
Power frequency	50/60Hz
Power consumption	255 VA
Ambient temperature	+5 °C to +40 °C
Storage and transport temperature	-25 °C to +55 °C
Relative humidity	90% at 20 °C / 50% at 40 °C



## PRODUCT DESCRIPTION

This chapter gives a description of product specifications, information on the limits of the product and points on the scope of delivery. The individual parts are shown and described by photographs. Further provides the product description information about the functioning and the operation modes.

## 5.1 CONCEPT

The *UniCrimp 208* and a corresponding crimp applicator are used to connect all side banded and rear banded terminals with one conductor All industry standard rear banded and side banded tools (including large AMP pneumatic tools and Panduit tools) and associated contact material can be accommodated. All processing parameters and functions can be programmed and stored via the operating unit.

## 5.1.1 Crimp connection

The term "Crimping" is an English term meaning as much as pressing, pressing-in, folding or also shaping by folding.

In electrical installation, crimping refers to the mechanical compression of a sleeve around a conductor to create a firm mechanical connection between the conductor and the terminal.



Fig. 2: Crimp connection

## 5.1.2 Applications, examples

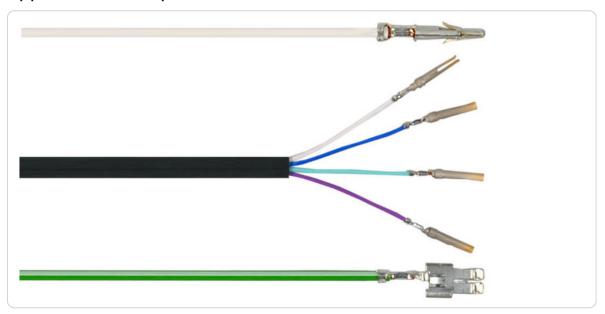


Fig. 3: Applications

## 5.1.3 Processing procedure

- 1. The wire is fed from the front through the opening of the safety cover.
- 2. The stripped conductor is held on the wire stop of the crimp applicator or in the terminal.
- 3. The processing action is triggered by pressing the pedal.
- 4. The crimping press moves the tool to the lower dead center and than back again to the upper dead center.
- 5. The tool separates the terminal from the terminal carrier strip, crimps the plug connector on the conductor and pushes a new terminal into position.
- 6. The terminal carrier strip is cut by the tool.
- 7. The wire with the crimped contact can be removed.

## 5.1.4 Properties

- Fast change system for tool
- Roller bracket and contact guide plate for rear banded and side banded tools are identical
- Counter function (total counter, piece counter, batch counter)
- Steplessly adjustable machine speed
- The split cycle function allows programming the stop point and the speed.
- Electrical creeping speed
- Fine-adjustable crimp height setting
- Internal lighting

## 5.1.5 Options

- 30 mm stroke
- Pneumatic feed ("tool feed") for the selection of pneumatic tools
- Schleuniger Messtechnik Crimp force monitoring
- Strip oiler
- Paper winder



## 5.2 OVERVIEW OF ASSEMBLIES

## 5.2.1 Switching the machine ON/OFF

The main switch of the *UniCrimp 208* is located at the rear of the mains supply socket. The power supply is interrupted in position "0".



Fig. 4: Switching the machine ON/OFF

## 5.2.2 Front view

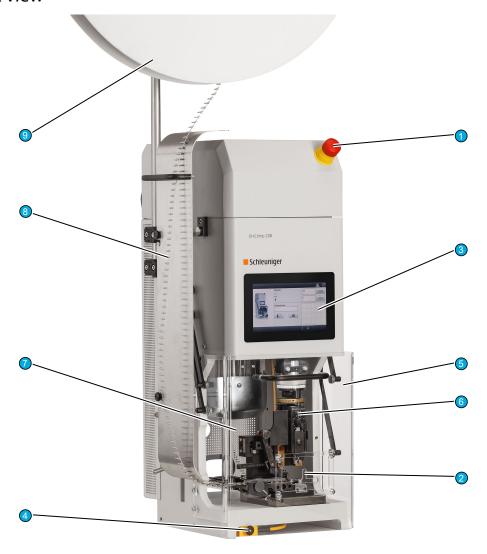


Fig. 5: Front view of the *UniCrimp 208* 

- 1 Emergency stop button
- 2 Feed opening
- 3 Operating unit
- 4 Cover safety switch
- 5 Safety cover

- 6 Crimp applicator
- 7 Processing area
- 8 Terminals on carrier strip
- 9 Terminal roller

## **Emergency stop button**

The emergency stop button interrupts any function of the UniCrimp 208. Turn the switch clockwise to unlock.

## Feed opening

Here, the raw material (wire) is inserted for crimping and is advanced against the stop. The crimping process is triggered by the pedal.



## Operating unit

The operating unit consists of a touchscreen display through which all inputs and outputs are made. Please refer to the operating manual of the *UniCrimp 208 – Graphical User Interface* for details.



Fig. 6: Operating unit

## Safety Cover Switch

The safety switch is connected with the safety cover. the machine cannot be started when the safety cover is open. If the safety cover is opened during the processing procedure, the main supply to the drives is immediately interrupted. *UniCrimp 208* stops production immediately. The safety switch ensures safe, hazard-free operation of the machine.

## Safety Cover

The safety cover prevents the user from reaching into the work area during production. As soon as the safety cover is opened, the machine is switched off via the cover safety switch.

#### Crimping tool

The terminal is crimped with the crimp applicator. Different tools are used depending on the terminal type. The crimp applicator can be exchanged with a few steps.

#### Processing area

The crimping process takes place here. The processing area is protected by the safety cover.

## Terminals on carrier strip

The terminals on the carrier strip are fed into the processing area from the left or the rear and clamped in the crimp applicator.

#### Terminal roll

The terminal roll contains the terminals on the carrier strip. The terminal position on the carrier strip may be left-handed or side banded. Depending on the type, the holder for the roll on the *UniCrimp 208* is mounted at the rear or the left side. To mount the holders, refer to section "7.4 Setup"

#### 5.2.3 Rear



Fig. 7: Rear of the UniCrimp 208

- 1 Pedal connection
- 2 RJ45 jack
- 3 USB port
- 4 Main switch
- 5 Rating plate

- 6 Fuse holder
- 7 Mains connection
- 8 External grounding connection
- 9 Guiding plate stud fastening

## Pedal connection

To connect the pedal. The crimping process can be started with the pedal.

## Rating plate

See Chapter "4.4 Rating plate (Page 19)"..

#### Fuse holder

The fuse holder accommodates the two mains fuses. In the case of serious faults, the fuses trip and thus protect the machine and the user from further damage or injury. The cause of tripping of the fuses is interference from the mains or malfunction of machine components.

Always replace both mains fuses. For the fuse rating, See Chapter "4.4 Rating plate (Page 19)".

#### Power connection

Caution, material damage!

# 0

## **NOTICE**

Connecting the incorrect mains voltage may destroy the machine.

Connect the machine to the mains according to the rating plate, see "4.4 Rating plate (Page 19)"

## External grounding connection

It is mandatory to connect the supplied earth ground wire to the *UniCrimp 208* and to the building ground, See Chapter "6.3 Connections (Page 30)".



## 5.3 **SAFETY ELEMENTS**

The product is equipped with the following safety elements. Operating the machine is only allowed if the safety elements are mounted and operate correctly. The functionality must be checked regularly in the "Software diagnostics", if so equipped.



Fig. 8: Safety elements

- 1 Emergency stop button
- 2 Cover safety switch

3 Safety cover

## 5.4 DANGER ZONES

The hazardous areas on the product are marked in the figures below. In addition, the user must learn about residual hazards in section "2 Safety (Page 10)".

## Disconnect the machine from mains!







At the mains connection and inside the machine there is a risk of electric shock. The operator may injure themselves if they come in contact with live components.

Therefore always before opening the machine:

Disconnect the machine from power, lock the emergency stop button.

## Risk of injury - front!

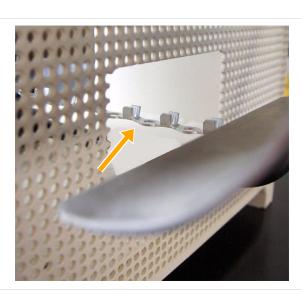




There is a danger to body parts at the marked location.

## Risk of injury - rear!





There is a danger to body parts at the marked location.



## INSTALLATION / FIRST COMMISSIONING

This chapter describes the working steps for the mounting and commissioning of the machine.

## 6.1 SAFETY INSTRUCTIONS

The installation and commissioning instructions for the product, have to be followed. The following instructions must be followed step by step to avoid property damage on the product and to reduce the risk of injury to the personnel to an absolute minimum.

## Personnel qualification



The instructions in this chapter must be carried out by qualified personnel!

# $\wedge$

## **CAUTION**

Sequence of instructions!

Improper usage may lead to injury or property damage.

The following instructions must be carried out in the listed sequence and warning signs must be observed.

## Safety appliances / danger areas

- For localizing the safety elements, see Chapter "5.3 Safety elements (Page 27)".
- For localizing the danger areas around and in the machine, see Chapter "5.4 Danger zones (Page 28)".

## Safety relevant points

The following security relevant points have to be mentioned specially:

- This is a free-standing product.
- The machine must only be operated in a dust free and dry area.
- The electric connection must be carried out by a technical specialist and according to the local installation regulations, see also Chapter "4.5 Technical data (Page 20)".

## 6.2 UNPACKING / POSITIONING THE MACHINE

The UniCrimp 208 is delivered in a wooden crate.



- 1.▶ Remove the machine from its packaging. The machine is heavy!
- 2. ▶ Remove any transportation locks.
- 3. Position the machine on a workbench with level surface.
- 4. Insert the mains fuses according to the mains voltage, see rating plate. "4.4 Rating plate (Page 19)"

## 6.3 CONNECTIONS

## **CAUTION**



#### Electric current!

There is a risk of an electric shock in the area of the power connector and the fuses which can lead to injury when touching electric components.

Do not touch electric connections.

#### 6.3.1 Power connection

## WARNING



## Increased earth leakage current!

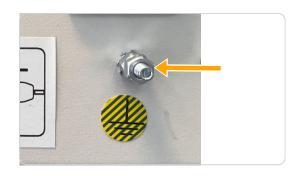
Since the earth leakage current of the frequency converter used in the *Uni-Crimp 208* is greater than 10 mA, the following protective measure must be taken in accordance with the applicable standard EN 60204-1:

- The UniCrimp 208 has an additional earth connection on the housing. It is mandatory to connect the supplied earth ground wire to this grounding connection and to connect it properly to the grounding of the building installation by a qualified installer.
- Operating the *UniCrimp 208* without this additional earth connection is not permitted for safety reasons!
- The mounting sequence must be absolutely followed when attaching the cable lug.



1. Connect the earth ground wire to the *UniCrimp 208* and the building's grounding connection.

**Cable lug mounting sequence:** Serrated washer -> cable lug -> washer -> nut.



2. Connect the machine to the power supply system.

Connection values, see "4.4 Rating plate (Page 19)".



## WARNING



Caution, risk of injury!

**Residual current protective device (RCD):** The *UniCrimp 208* may cause a residual DC current in the protective earthing conductor. On the mains side, a residual current protective device an RCD type B (time-delayed) may only be used on the supply side of the *UniCrimp 208*.

The protective grounding of the *UniCrimp 208* and the use of residual current devices must always be in accordance with national and local regulations.

- 3. Connect the pedal.
- 4. Unlock the emergency stop button if it is activated.

## **GENERAL HANDLING / OPERATION**

Operation of the UniCrimp 208 is explained in detail in this section.

## 7.1 GENERAL TOPICS FOR THE OPERATION

## 7.1.1 Safety instructions

## Personnel qualification



The instructions in this chapter must be carried out by operator personnel!

Before daily commissioning, carry out a visual inspection of the machine:

- Guides must be clear from wire residues or other objects.
- Guides must be cleaned using a brush and/or a vacuum cleaner. See also section "10.3 Daily maintenance (Page 47)".

See also Chapter "2.8 Safety installations (Page 13)". See also Chapter "5.4 Danger zones (Page 28)".

## 7.1.2 Switching on the machine

Refer to product description section – "5.2.1 Switching the machine ON/OFF (Page 23)".

## 7.1.3 Switching off the machine

- 1. ▶ Latch the emergency stop button.
- 2. Turn the main switch to the "0" position.

## 7.1.4 Tasks after use

#### General maintenance

- After 1 day (possibly more frequently): Clean the processing space.
- After 1 week: Clean housing and blades.

#### Additional maintenance tasks

For more information, see Chapter "10 Maintenance / maintenance schedule (Page 46)".



## 7.2 PREPARATION

- 1. Switch on the *UniCrimp 208*. the machine software is initialized automatically.
- 2. Mount the terminal material, see section "7.4.1.2 Terminal guide (Page 36)".
- 3. Mount the tool, see section "7.4.1.4 Installing the tool (Page 39)".
- 4. ▶ Setting the parameters, see *UniCrimp 208 Graphic user interface*.

## 7.3 STARTING THE PRODUCTION

- 1. Insert the wire from the front through the opening of the safety cover against the wire stop of the tool or use the terminal as reference.
- 2. Start the processing action with the pedal.
  - → The crimping press moves the tool to the lower dead center and than back again to the upper dead center. The tool separates the terminal from the terminal carrier strip, crimps the contact on the conductor and pushes a new contact into position. The terminal carrier strip is cut by the tool.
- 3. Remove the wire with the crimped terminal.

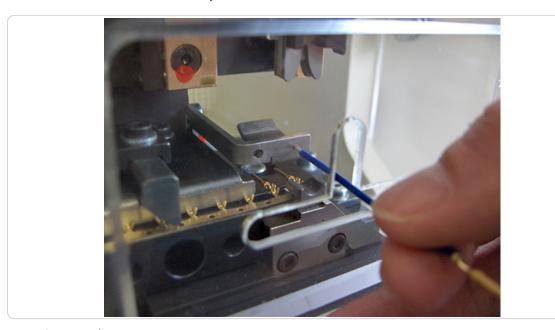


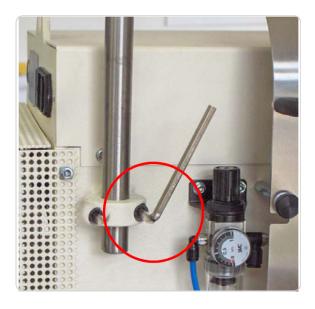
Fig. 9: Start production

## 7.4 SETUP

## 7.4.1 Tool replacement

## Roller bracket

1. ► Loosen the Allen screws of the pipe clamp at the left of the machine.

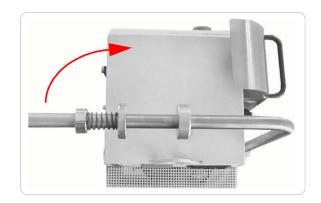


2. ► Side banded contacts: Turn the roller bracket 90° to the right.

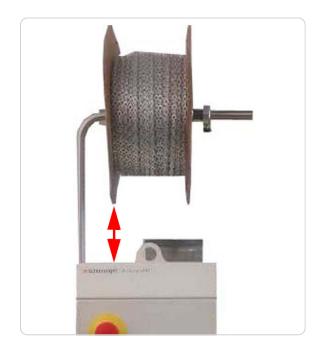




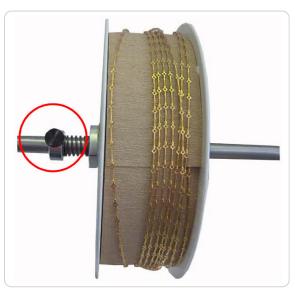
3. Rear banded contact: Turn the roller bracket 90° to the left.



- 4. Adjust the height according to the contact reel.
- 5. Tighten the Allen screws (2 x) or the pipe clamp.



- 6. ► Tighten the rear stop.
- 7. ▶ Mount the contact reel.
- 8. Adjust the brake force with the contact reel and front stop.



## Terminal guide

- 1. ► Loosen the knurled screws and lift the plate.
- 2. Pull the plate to the right and remove it.

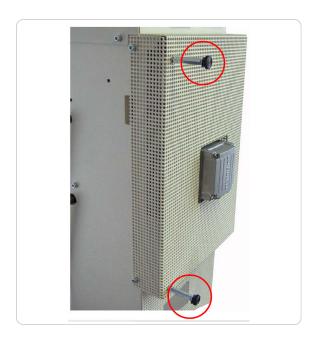


3. ► Side banded contacts: Mount the plate to the spacer bolt at the left.





- 4. Rear banded contacts: Mount the plate to the spacer bolt at the rear.
- 5. Fasten the plates with the two knurled screws



- 6. Pull the terminal material through the black guide shackle.
- 7. Insert the material into the tool.



# Disassembly of the tool

1. Open the safety cover and remove the terminal material.



2. Move the clamping lever down, the clamping claw opens.

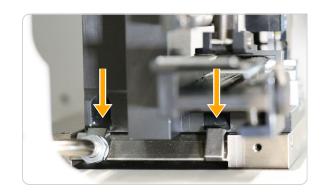


3. ▶ Remove the tool from the nut.





4. Remove the tool from the clamping claws of the tool base plate.



## Installing the tool

### **NOTICE**

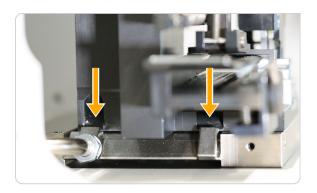


## Caution, material damage!

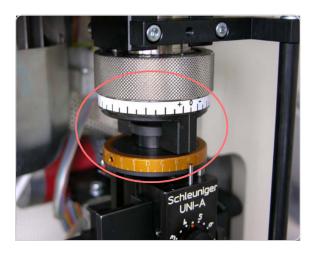
Crimp applicator and/or wire stop may be damaged.

The wire stop must be removed when installing the tool.

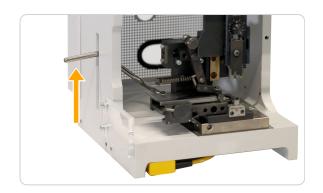
1. Guide the tool into the clamping claws of the tool base plate.



2. ► Guide the tool into the nut.



- 3. Move the clamping lever up, the clamping claws close.
- 4. ► Check the tool for firm seating.
- 5. Set up the tool according to the operating instructions of the tool manufacturer.



6. Insert the terminal material and close the safety cover.





### Removing the lateral acrylic glass

For very large tools, a section can be removed from the lateral acrylic glass guard to allow large third-party tools to be operated on the *UniCrimp 208*.

### **CAUTION**



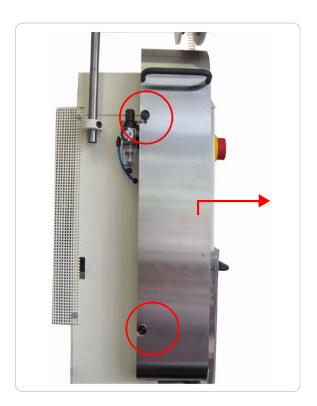
### Risk of injury!

Since parts of the tool protrude from the acrylic glass guard at the side of the machine, contact with mechanically moving parts may occur.

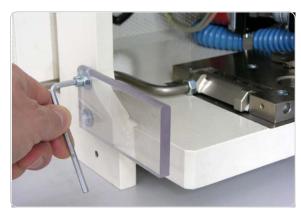
The machine no longer complies with the CE directives when the acrylic glass guard on the side is removed. Operating the machine with the acrylic glass piece on the side removed is done at the user's own risk.

After using the special tool, the removed acrylic glass piece must be mounted immediately.

- 1. ▶ Open the safety cover
- 2. ▶ Remove the terminal material.
- 3. Loosen the knurled screws and lift the plate.
- 4. Pull the plate to the right and remove it.



- 5. Loosen the Allen screws.
- 6. ▶ Remove the acrylic glass section.
- 7. Install tool and terminal guide.



## 7.4.2 Settings

### Crimp height adjustment

The crimp height is adjusted via the tool crimp height setting for tools with continuously adjustable head, for all other tools this adjustment is made via the *UniCrimp 208*.

### **NOTICE**

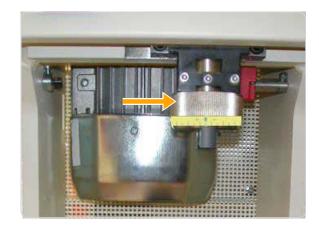


### Caution, material damage!

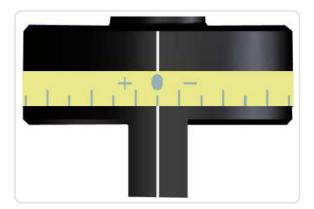
Disregard may lead to damage of the tool.

Set the height setting of the machine to the reference dimension "0" (zero) after each tool change (before the first crimp).

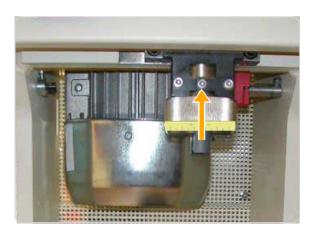
- 1. ► Turn the ring by the knurled surface.
- Minus direction, to the left; the crimp height increases (e.g. 1.27 => 1.30).
- Plus direction, to the right; the crimp height decreases (e.g. 1.27 => 1.24).



- Adjustment is limited to ± 0.25 mm.
- The scale division is 0.025 mm per mark.
- The reference position (135.788 mm) is marked by the number "0" (zero).



If the height adjustment is not used, it can be blocked by tightening the Allen screw.





# **CONTROL SOFTWARE**

Information on the control software is provided in the operating manual *UniCrimp 208 – Graphical User Interface*.

# **DIAGNOSTICS / TROUBLESHOOTING**

Errors and others can occur if excessive pollution affects the guidance and blade functions.

Regular inspection and maintenance reduces the risk of unexpected faults and increases the reliability and life cycle of the machine. Maintenance work must be accomplished according to the instructions and the time intervals listed. See Chapter "10.2 Maintenance schedule (Page 46)".

### 9.1 GENERAL FAULT LOCALIZATION

## 9.1.1 Safety instructions

#### General

Safety appliances must not be deactivated or removed inadvertently.

If a fault condition occurs always check first if the line power is switched on and then perform a diagnostic check.

### Personnel qualification



The instructions in this chapter must be carried out by qualified personnel!

### 9.1.2 Behavior in case of an error

In case of an unresolvable error, please contact your local Schleuniger distributor, see "page 2".

Always indicate the software version number. Additionally provide information on the raw material type used and the type of stripping.

An overview of the fault indications is provided in the operating manual *UniCrimp 208 – Graphical User Interface*.

### 9.2 OTHER MACHINE FAULTS

Error	Diagnostics	Action
Nothing displayed on the operating unit	<ul><li>Power plug not plugged in.</li><li>Fuse defective.</li><li>Emergency stop button pressed.</li></ul>	<ul> <li>Disengage the emergency stop button.</li> <li>Plug in the power plug.</li> <li>Replace fuses near the power plug.</li> </ul>
Machine does not switch on.	<ul><li>Power plug not plugged in.</li><li>Fuse defective.</li><li>Emergency stop button pressed.</li></ul>	<ul> <li>Disengage the emergency stop button.</li> <li>Plug in the power plug.</li> <li>Replace fuses near the power plug.</li> </ul>
Wrong crimp height	Crimp height not set.	Adjust crimp height in the machine settings.



Error	Diagnostics	Action	
Terminal material not correctly advanced	<ul> <li>Roller bracket set up incorrectly.</li> <li>Reel brake incorrectly adjusted.</li> <li>Guiding plate mounted incorrectly.</li> </ul>	<ul> <li>Adjust position of reel on the roller bracket.</li> <li>Set the reel brake.</li> <li>Mount the guiding plate correctly and guide the terminal material between the guide shackle.</li> </ul>	

Tab. 2: Other machine faults

### 9.3 SOFTWARE DIAGNOSTICS

In the "Diagnostics" menu different switching functions and drives on the UniCrimp 208 can be verified and/or switched on. Information is provided in the operating manual *UniCrimp 208 – Graphical User Interface*.

### 9.4 ACTIONS AFTER SOLVING ERRORS

To check the correct functioning of the machine before the series production, a functional check has to be performed.

### 9.5 DRAWINGS / CIRCUIT DIAGRAMS / FLOW CHARTS

Drawings, circuit diagrams and flow charts may be helpful during trouble shooting. See Chapter "13 Appendix (Page 56)".

## MAINTENANCE / MAINTENANCE SCHEDULE

The machine must regularly be inspected and maintained. This way unexpected faults can mostly be avoided.

The following chapters support the personnel in maintaining again the machine within a reasonable time.

- Maintenance
- Settings
- Repair work



Only the maintenance work stated in this operator manual must be carried out. The personnel must have the required skill. For all other work contact your local Schleuniger distributor.

The stated intervals refer to one-shift-operation (8h). For work in multiple shift operation, the interval times are shortened accordingly.

#### **CAUTION**



Use of unverified spare parts!

Unverified or defective spare parts can lead to personnel injury or property damage. To avoid any damage, exclusive use of original Schleuniger spare parts is imperative.

### 10.1 CUSTOMER SERVICE

In the event of serious malfunctions or damages, the assistance of the specialists is necessary. The Schleuniger representative or the technical staff are available in such cases. They will need a precise description of the problem.

- Exact product designation
- Product serial number
- Software version (incl. Language packages)
- Exact description of the fault (message and number on the screen if available)
- The conditions under which the malfunction occurred
- Raw material that was being processed directly before the fault occurred

Some of this information is available from the diagnostics of the control software.

For technical support see "www.schleuniger.com".

### 10.2 MAINTENANCE SCHEDULE

The maintenance schedule summarizes the work.

Maintenance task	Page	Duration	Interval	Personnel qualification
Cleaning housing and processing space	(47)	5 Min.	Weekly	Operator
Lubricating the machine	(48)	20 min.	Semi-annually	Specialist
Replacing mains fuses	(49)	10 Min.	As required	Technical specialist
Replacing the main PCB unit	(51)	20 min.	As required	Technical specialist



### 10.3 DAILY MAINTENANCE

The maintenance involves regular cleaning work and the replacement of wearing parts.

### 10.3.1 Cleaning

### **DANGER**



### Dangerous voltage!

Dangerous voltage is present inside the machine, on the power socket and the fuses. Touching any live components can lead to serious injury or death. Before carrying out any maintenance work, always switch off the machine and disconnect the power plug.

## NOTICE



### Cleaning!

- For cleaning do not use aggressive solvents.
   Painting and plastic parts may be damaged.
- Do not use compressed air for cleaning.
   Dust and conduction parts may lead to malfunction of the machine.

Clean the housing and the plastic parts with a soft cloth and a usual commercial cleaning agent.

# JC

## Cleaning housing and processing space

Goal	The interior is free from wire and terminal residues. Processing quality is ensured.		
Duration	5 Min.		
Interval	Weekly		
Personnel qualification	Operator		
Support tools	<ul><li>Cleaning cloth</li><li>Commercial multipurpose cleaner</li><li>Vacuum cleaner, if applicable</li></ul>		
Prerequisite	<ul><li>Safety cover removed</li><li>Machine disconnected from the power supply system</li></ul>		



- Disconnect the machine from the power supply.
- 2. Clean the safety cover and frame with a soft cloth and a multipurpose cleaner.
- 3. ► Clean the crimping area with a brush and/or vacuum cleaner.



- 4. Disassemble the tool.
- 5. Remove terminal strip residues, strands, wires and lubricant residues with a brush and a vacuum cleaner inside the machine and below the waste hole.



- 6. Install the tool.
- 7. ▶ Mount the safety cover.
- 8. Connect the machine to the mains.

### 10.4 MAINTENANCE / REPAIR WORK



Before disassembly a component we recommend to make a drawing or to take a picture of the part. This is helpful, especially if the repair work takes longer to complete.



## Lubricating the machine

Task	Lubricate axes of the mechanical components		
Goal	The axes can be moved unhindered. No ambient noises during crimping process.		
Duration	20 min.		
Interval	Semi-annually		
Personnel qualification	Specialist		
Support tools	<ul><li>Cleaning cloth</li><li>Microlube GBUY 131 lubricating grease</li></ul>		
Prerequisite	<ul><li>Safety cover removed</li><li>Machine disconnected from the power supply system</li></ul>		

### Preparation

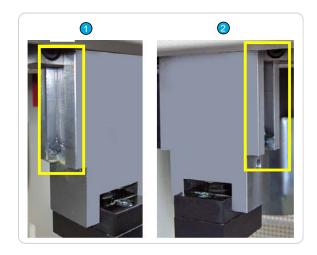


- 1. ▶ Disconnect the machine from the power supply.
- 2. Open the safety cover, remove terminal material.
- 3. ▶ Disassemble the tool.
- 4. Close the safety cover.
- 5. Move *UniCrimp 208* with [==>] or [<==] to the lower dead center.
- 6. ▶ Open the safety cover.
- 7. Activate the emergency stop button.
- 8. Disconnect the machine from the power supply.
- 9. Disconnect the machine from the compressed air supply.



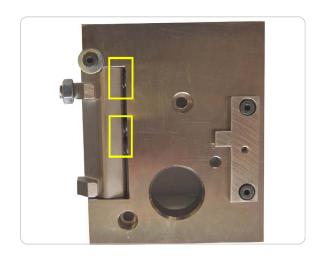
## Carriage

- 1. ▶ Open the safety cover.
- 2. Clean the guides 1 and 2 of the carriage with a lint-free cloth.
- 3. Lubricate all three surfaces of the guides at the left and right.



### Tool base plate

- Clean the clamping claw of the tool base plate with a lint-free cloth and the brush supplied.
- 2. Lightly grease the clamping claw in the area of the three bolts.
- 3. ► Move the clamping claw open and shut a few times.



### Final work

- 1. ► Close the safety cover.
- 2. ► Connect the machine to the mains.
- 3. ▶ Perform a functional check.



## Replacing mains fuses

Task	Replace defective mains fuses of the power supply module at the back of the machine.
Goal	Correct function of the machine.
Duration	10 Min.
Interval	As required
Personnel qualification	Technical specialist
Parts	Spare fuses
Prerequisite	Machine disconnected from the power supply system



- 1. Disconnect the machine from the power supply.
- 2. Push the fuse holder out of the power supply module 1 with a screwdriver.
- 3. Insert new fuses 2 in the fuse holder.
- 0
- 4. When replacing fuses, always replace both mains fuses.
  - **Type:** See "4.4 Rating plate (Page 19)".
- 5. Insert the fuse holder again into the power supply module.



- 6. Connect the machine to the mains.
- 7. ▶ Perform a functional check.





# Replacing the main PCB unit

Task	Replace main PCB unit in the electronics compartment
Goal	Avoiding malfunctions during the crimping process
Duration	20 min.
Interval	As required
Personnel qualification	Technical specialist
Parts	Spare main PCB unit
Prerequisite	Machine disconnected from the power supply system

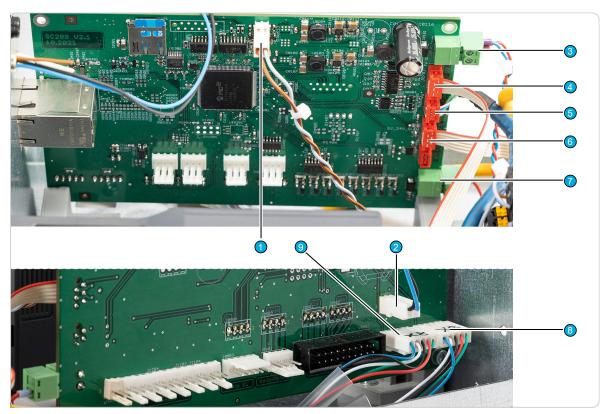


Fig. 10: Overview Wiring main PCB unit

- 1 Safety signals
- 2 Foot Pedal
- 3 Power Supply Main PCB
- 4 FU-IO
- 5 FU-Com

- 6 LCD
- 7 Power Supply Valves
- 8 Enc\_Z
- 9 Enc\_A



- 1. Disconnect the machine from the power supply.
- 2. ▶ Remove cove.



3. Pull out emergency stop plug in the cover.



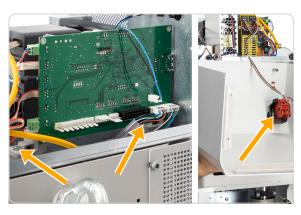


- 4. ► Carefully pull out wiring harnesses.
- 5. Loosen both fixing screws and remove the main PCB unit.





- 6. Mount a new main PCB StepperCard unit.
- 7. ► Carefully plug in the wiring harnesses.
- 8. ▶ Plug in emergency stop plug in the cover.
- 9. Mount the cover.
- 10. Connect the machine to the mains.
- 11. Perform a functional check.





# SPARE PARTS / EXPLODED VIEW DRAWINGS

For original spare parts of the Schleuniger, refer to the "Parts Catalog" document.

# **DECOMMISSIONING / DISPOSAL**

### 12.1 DECOMMISSIONING



## Decommissioning

Goal	Preparing the product for transport or disposal
Duration	5 Min.
Interval	-
Personnel qualification	"2.1 Technical specialists (Page 10)"
Prerequisite	Machine operational

- 1. ► Activate the emergency stop button.
- 2. ▶ Pull out the power cord and dispose of it.

### Storage

If the product is not in use for a longer period, the following actions have to be taken:

- do not store outdoor
- repack or guard with an enclosure



## Disposal

Goal	Separate parts. Dispose off the product according to regulations.
Duration	-
Interval	-
Personnel qualification	Technical specialists
Support tools	Others
Prerequisite	Product out of operation



### **NOTICE**

### Recycle the materials!

Bring the materials to the recycle station. Thereby observe the local regulations.

### **Product**

Schleuniger products mainly consist of the following materials:

Parts	Disposal
Aluminum	Scrap metal
Steel	Scrap metal
Other metal	Scrap metal
Electric parts	Electronic waste
Plastics	Recycling





## **NOTICE**

## Built in backup battery!

The battery contained in this product is made of heavy metals which are harmful to the environment.

- The battery is hazardous waste.
- Recycle the battery.
- 1. ► Take the product out of operation.
- 2. ▶ Disassemble the product properly.
- 3. ▶ Bring the materials to the recycle department.

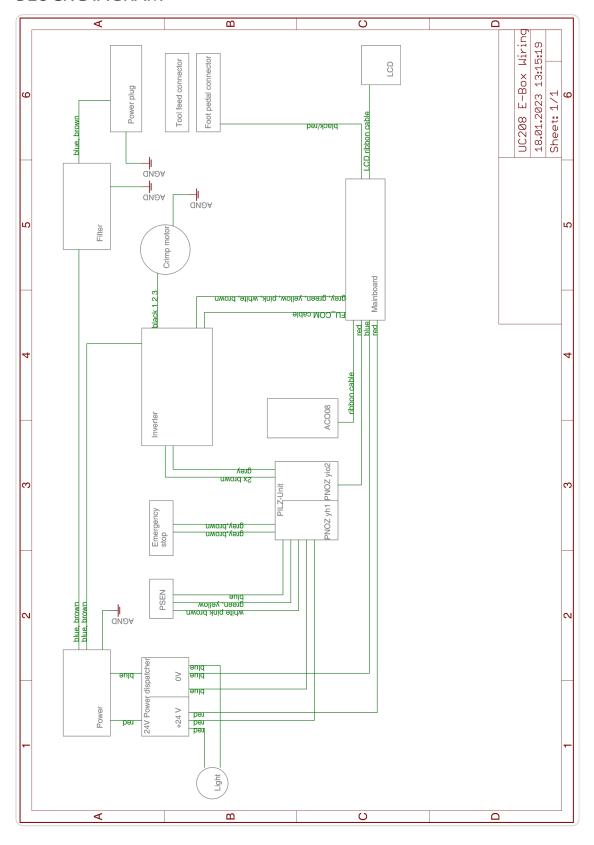
### **Packaging**

The packaging mainly consist of the following materials:

Parts	Disposal
Carton	Recycling
Wood	Recycling
Foam	Recycling

# **APPENDIX**

# 13.1 BLOCK DIAGRAM





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