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# Operating Manual

TH8E-100



ENGINEERING YOUR SUCCESS.

# Imprint

**Manufacturer:**

UNIFLEX-Hydraulik GmbH  
Robert-Bosch-Strasse 50-52  
D-61184 Karben  
Germany

Phone: +49 (0) 60 39 / 91 71 - 0  
Fax: +49 (0) 60 39 / 91 71 - 181

**This Operating Manual of the machine is a translation; the original is in German.**

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## EC Declaration of Conformity

In accordance with EC Machinery Directive 2006/42/EC.

The following machine

TH8E-100

was developed, designed and manufactured in compliance with EC Directive 2006/42/EC, in the sole responsibility of

**UNIFLEX-Hydraulik GmbH**

Robert-Bosch-Strasse 50 - 52

D-61184 Karben

The following standards, codes and specifications have been applied:

- EC Directive 2006/42/EC
- EN ISO 12100: 2010

This declaration are invalid when the machine is modified or if unauthorized and unapproved third-party components are used without our prior approval.

Entity authorised for documentation: Uniflex-Hydraulik GmbH, Technical Documentation Dept.

Karben, 26.09.2023



Managing Director Harald von Waitz

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# 1 About this document

In this Operation Manual, the “forming machine TH8E-100” is consistently referred to as machine.

This Operation Manual includes important notes on how you operate your machine/unit safely, properly and economically.

Use not in compliance with the intended purpose may result in hazard to the operator's health and life and/or in the risk of damage to/the machine/unit. Consequently, please only use the machine/unit

- in good order and condition,
- in accordance with its intended purpose,
- in a safety-conscious manner, with awareness of risks and hazards,
- in compliance with all notes included in this Operation Manual.

The machine/unit may only be operated by staff who

- has read the Operation Manual,
- has understood it,
- has been instructed in the operation of the machine/unit, and
- has signed in the Annex.



Figures may include accessories/options. Customer-specific equipment may vary.  
The product images shown are for reference only and may differ from the product delivered.

## 1.1 Target groups

The target groups of this Operation Manual are:

### Owner

An owner is a natural person or entity using the device himself/herself/itself, or on whose behalf the device is used. An owner may appoint a representative to exercise the owner's rights and obligations.

The owner has to make sure that

- national provisions, occupational safety regulations and applicable environmental protection regulations are fully complied with;

- persons working on the machine/unit are adequately qualified;
- persons working on the machine/unit are suitable for operating the machine/unit;
- the Operation Manual has been read and understood. One hardcopy of the Operation Manual must always be kept at a designated place where the machine/unit is used.
- persons working on the machine/unit are aware of potential risks;
- the operating staff is familiar with the location as well as with operating the fire alarm and fighting means. Free access to this equipment must be ensured.
- personal protection equipment is worn (safety footwear, protection gloves and safety glasses).

### **Machine/unit fitters**

Machine/unit fitters must be at least 18 years old and have completed training for the task, i.e. they must have attended a specialist vocational training.

A fitter

- must observe the instructions in the Operation Manual;
- must inform the owner on failures and damage.

### **Operator**

An operator is a person charged with and instructed in the proper operation of the machine/unit by the owner or the otherwise contractually obliged person.

The operator

- must observe the instructions in the Operation Manual;
- must inform the owner on failures and damage.
- must not perform and maintenance or repair work on the machine/unit.

## **1.2 Storage**

The Operation Manual is part of the machine/unit and must be kept near the machine/unit at all times. Upon disposal of the machine/unit, the Operation Manual must also be handed over.



## 1.3 Name plate

The name plate is fixed on the machine back.

## 1.4 Abbreviations

PBK	Calibration crimping dies
QDC	Quick crimping die change system

## 2 Safety instructions

### 2.1 Presentation of warnings

Warning notes in the Operation Manual warn against risks involved with the handling of the machine/unit. Risk levels are identified as follows:

**HAZARD!**

The signal word HAZARD identifies an imminent hazard resulting in serious injuries or death. This warning is supplemented by a triangular hazard symbol.

**WARNING!**

The signal word WARNING identifies a potentially hazardous situation, which might result in serious injuries or death. This warning is supplemented by a triangular hazard symbol.

**CAUTION!**

The signal word CAUTION identifies a potentially hazardous situation, which might result in light injuries. This warning is supplemented by a triangular hazard symbol.

**ATTENTION!**

The signal word ATTENTION identifies a potentially hazardous situation, in which the product or property in the environment may be damaged. This warning is supplemented by a hazard symbol or an exclamation mark.

### 2.2 Intended use

This machine is a forming machine for industrial use, only suitable for the manufacture of hose connections of the Parker company with a permissible diameter depending on the fitting and the hose thickness, see “Technical Data” in Section 3.

Intended use includes:

- single workplace for one person only,
- single stroke with manual feed and withdrawal,
- for maximum hydraulic operating pressure, see “Technical Data” in Section 3.
- operating temperature between 10°C and 35°C,
- operation in a closed room,
- use of eight identical original UNIFLEX dies with the same label or seven dies and one matching marking crimping die.
- The machine must not be operated by persons not capable of operating the machine without any risk. These may include:

persons with physical or mental disabilities;  
children and persons under age;  
persons with impaired ability to operate machinery (e.g. due to medication, alcohol or narcotics).

Use of the device in compliance with the intended purpose also includes compliance with the instructions in these directions for use.

### **Use for other than the intended purpose**

Any other use is considered as being not in compliance with the intended purpose, in particular:

- design modification of the machine;
- use in explosive environments;
- forming of non-metal work pieces without specific safeguards approved by UNIFLEX;
- Misuse of consumables and waste materials.

In particular non-metal work pieces may be overstressed by the forming process so that this may result in a sudden failure. Chips or seriously accelerated work piece parts impose a high risk potential for operators, individuals and objects, even outside the working area.

### **WARNING!**



#### **Danger to life and limb!**

Use not in compliance with the intended purpose imposes danger to life and limb. Consequences resulting from use for other than the intended purpose shall be under the sole responsibility of the owner.

- Always use the machine in compliance with its intended purpose.

## **2.3 Product-specific risks**

The machine/unit is designed in accordance with the latest state of technology. Nevertheless, the machine/unit may impose risks:

### 2.3.1 Risks imposed by mechanical equipment

#### Risk of squeezing

When the die system closes, there is a risk of getting squeezed between the die and the workpiece.

- Keep the feed opening for the workpiece as small as possible.
- Keep sufficient distance to the die system.

#### Tilting hazard

The risk of tilting mainly exists while the machine is being transported.

- Observe the machine's centre of gravity during transport.

### 2.3.2 Risks imposed by hydraulic equipment

Risks are imposed by all hydraulic lines and connections. Hydraulic systems are subject to special safety provisions. Work on hydraulic equipment may only be performed by persons with expert knowledge of and experience with hydraulic equipment.

- After the machine is deactivated, the given and potentially hazardous residual energy has to be considered.
- Relieve the residual pressure in the system before performing repair or maintenance work on hydraulic systems.
- Regularly check lines and bolted connections for leaks and visible damage. Immediately remedy any damage detected.

Repair work on the hydraulic system of the machine or on its components may only be performed by the manufacturer's specialist staff.

### 2.3.3 Risks imposed by substances

Oils, greases and emulsions may penetrate the skin. When handling hazardous substances, oils and greases, the manufacturers' safety instructions have to be observed. Apply skin protection appropriate for the hazardous substances used.

### 2.3.4 Risks imposed by noise

The noise level meter acc. to IEC 804, Class 2, was calibrated before measuring.

The operation of the machine/unit causes noise emissions of < 70 dB(A) at the workplace. Noise protection is not required.

Higher noise emissions may occur when other machine/unit is simultaneously used at the workplace. The machine/unit owner must provide for appropriate protection, e.g.

- instruct staff to wear ear protection,
- provide information/instructions on risks,
- identify hazardous areas,
- provide health monitoring.

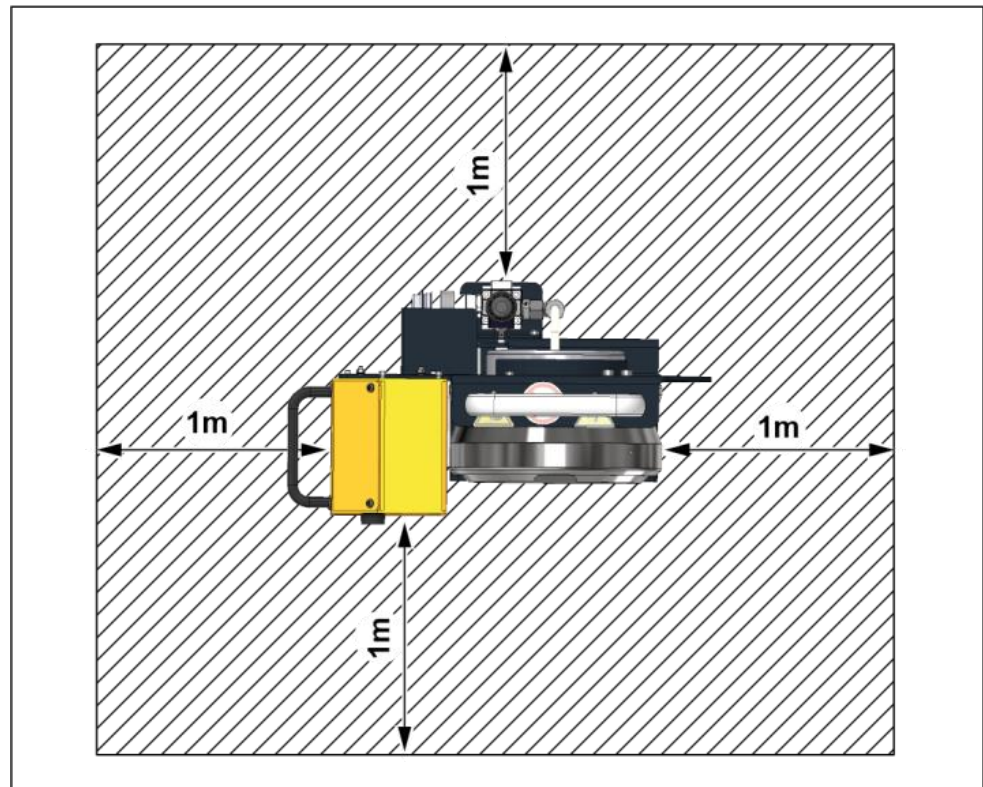
### **2.3.5 Risks in case of fire**

The operating staff has to be familiar with the location as well as with operating the fire alarm and fighting means. Free access to this equipment must be ensured.

Never use water to extinguish a fire. For appropriate fire extinguishing action, please read the safety data sheet of the hydraulic oil supplier.

## 2.4 Safety

### 2.4.1 Working area



The working area is defined as the area 1 metre all around the machine (shaded).

- Keep the working area free from trip hazards
- Use ducts for lines and cables
- Provide good illumination
- Keep access to hydraulic supply free

### 2.4.2 Protection equipment

Due to the variety of customer-specific workpieces, no additional standard protection equipment can be supplied with the machine that can prevent potential residual risks imposed by the machine.

The necessity of additional, workpiece-specific protection equipment may for instance arise for angled workpiece geometries needing a large opening for being inserted into the forming machine.

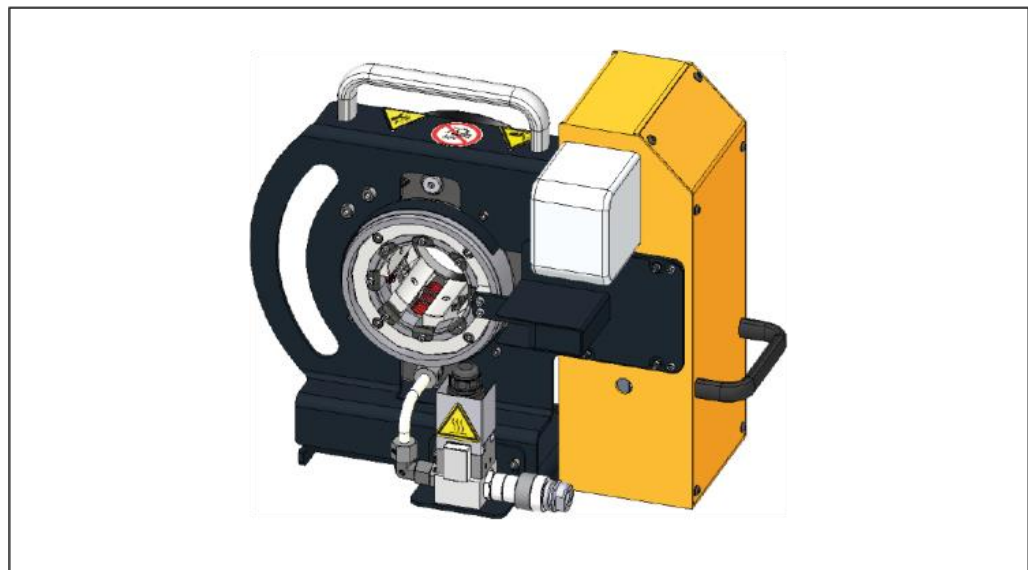
The owner has to consider the need for adapted protection equipment before commissioning. If such need exists, the relevant




protection equipment has to be mounted before commissioning of the machine.

Customized solutions for protection equipment can be delivered upon request. Please do not hesitate to address your personal contact for consultation.

Mounted safety equipment must not be removed, bypassed or avoided.

### 2.4.3 Warning signs on the machine



	<b>Hand injury</b> on the die system
	<b>Risk of squeezing</b> on the die system
	<b>Hot surface</b> on the valve



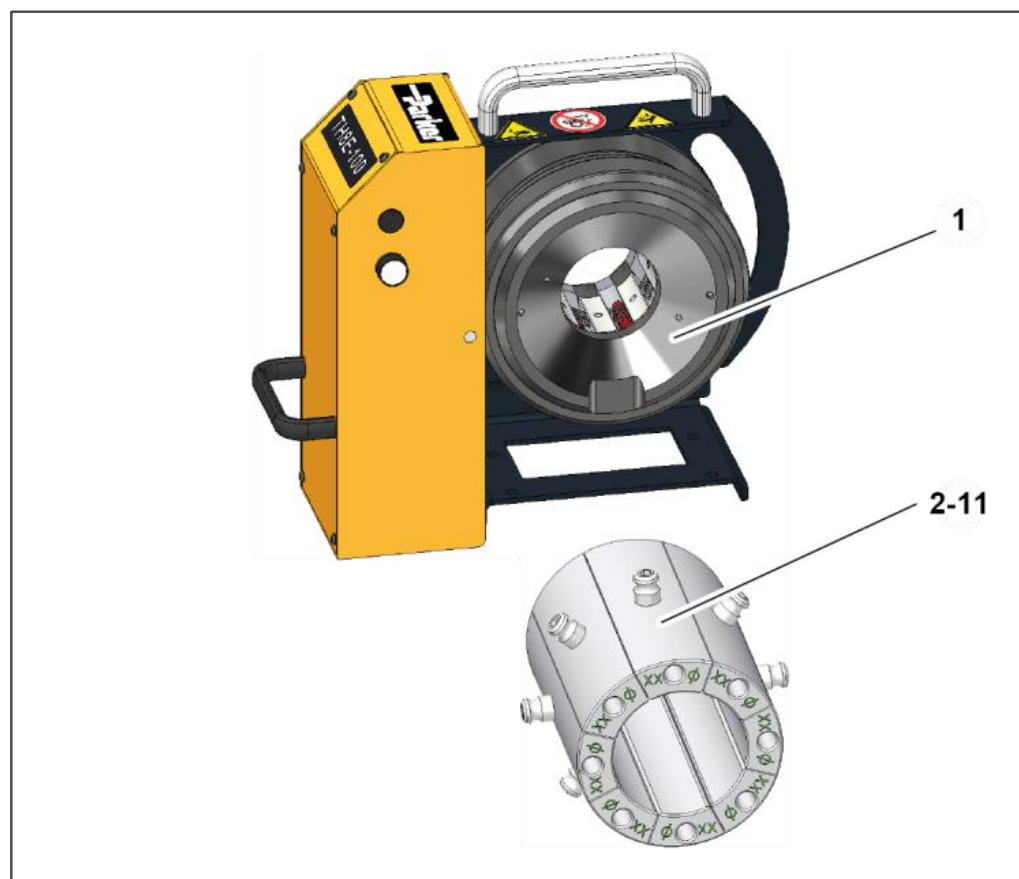
**Oiling / greasing prohibited**  
on the die system

Illegible or missing warning signs must immediately be replaced by the operator.



## 3 Machine description

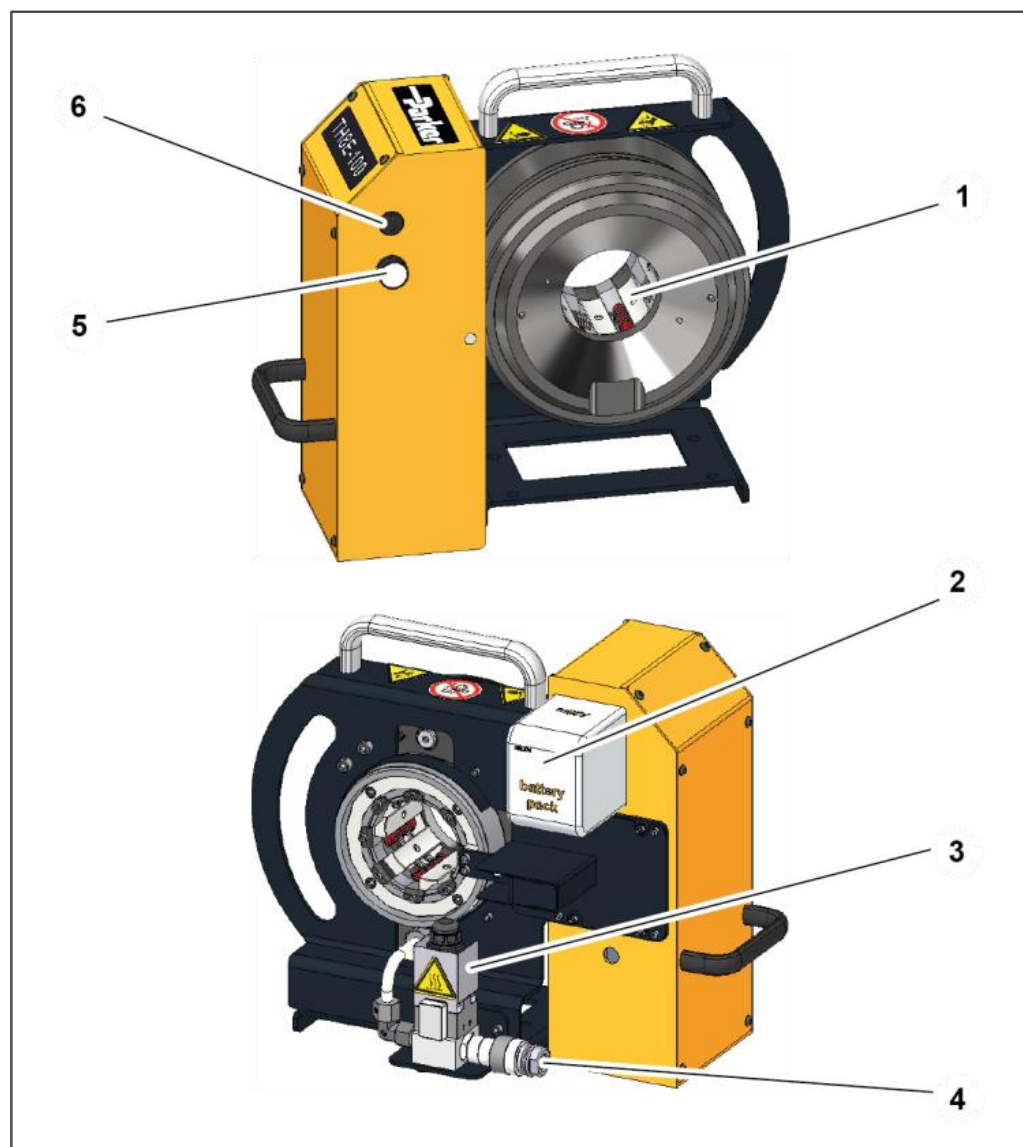
### 3.1 Scope of supplies




Item	Quantity	Part code	Designation
1	1	TH 8E-100	Parker TH8E-100 APP
2	1 set	PB 263.2-75-Ø12	Set of crimping dies
3	1 set	PB 263.2-75-Ø14	Set of crimping dies
4	1 set	PB 263.2-75-Ø17	Set of crimping dies
5	1 set	PB 263.2-75-Ø20	Set of crimping dies
6	1 set	PB 263.2-75-Ø24	Set of crimping dies
7	1 set	PB 263.2-75-Ø27	Set of crimping dies
8	1 set	PB 263.2-75-Ø30	Set of crimping dies
9	1 set	PB 263.2-75-Ø32	Set of crimping dies
10	1 set	PB 263.2-75-Ø36	Set of crimping dies
11	1 set	PB 263.2-75-Ø38	Set of crimping dies

## 3.2 Design and function

### Base machine



- (1) Crimping tool
- (2) Battery (not included)
- (3) Valve
- (4) Quick-action coupling (connection to unit)
- (5) Illuminated  Open tool button
- (6) Main switch

The crimping tool (1) is closed hydraulically, whereby the work piece is formed. The pressure needed for this purpose is generated

by the external hydraulic pump and transferred to the hollow piston. The position encoder system records the current position of the die system and transfers the value to the control system.

Once the crimping diameter transferred from the app is reached, the tool stops automatically and the illuminated button (5) on the control cabinet lights up.

The tool is then no longer driven by the hydraulic pump and the relief valve on the hydraulic pump is opened manually.

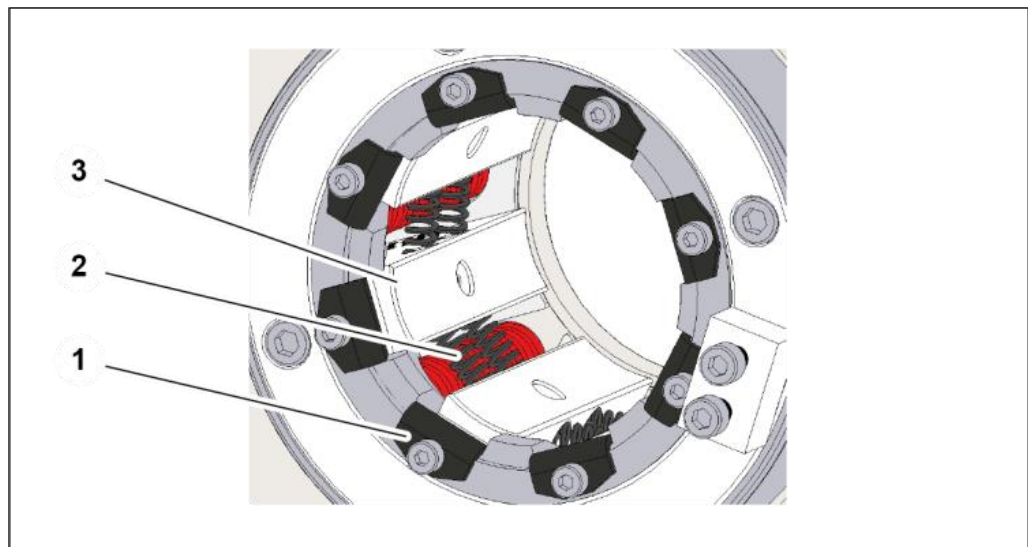
The valve (3) is relieved by pressing the illuminated button (5). The tool opens. The pressure in the hollow piston is reduced.

The power supply for the valve and the control unit is provided by the battery (2).



The hydraulic pump is not included in the scope of supply.

### Crimping tool



The die system comprises base dies and crimping dies.

All base dies are mounted on sliding plates (1). The crimping dies are plugged onto the base dies (3).

After the crimping process, the base dies are pressed apart by the pressure springs (2) when the tool opens. The bearing segments on the front guide the base dies axially in the tool.

### Accessories

The machine can be fitted with accessories. A list of the available accessories is included in the Annex, Section "Accessories".

## 3.3 Forming process

There is one type of forming:

- Forming to a defined diameter

### Forming to a defined diameter

This is the standard process for forming to produce hydraulic hoses. The crimping tool closes until it reaches a pre-set diameter, regardless of the required forming force. The required forming force may be up to the machine's maximum capacity.

#### WARNING!



#### Risk of injuries!

In particular non-metal workpieces may be overstressed by the forming process so that this may result in a sudden failure. Chips or seriously accelerated workpiece parts impose a high risk potential for operators, individuals and objects, even outside the working area!

- Relevant workpieces should only be formed using specific safeguards.

#### ATTENTION!

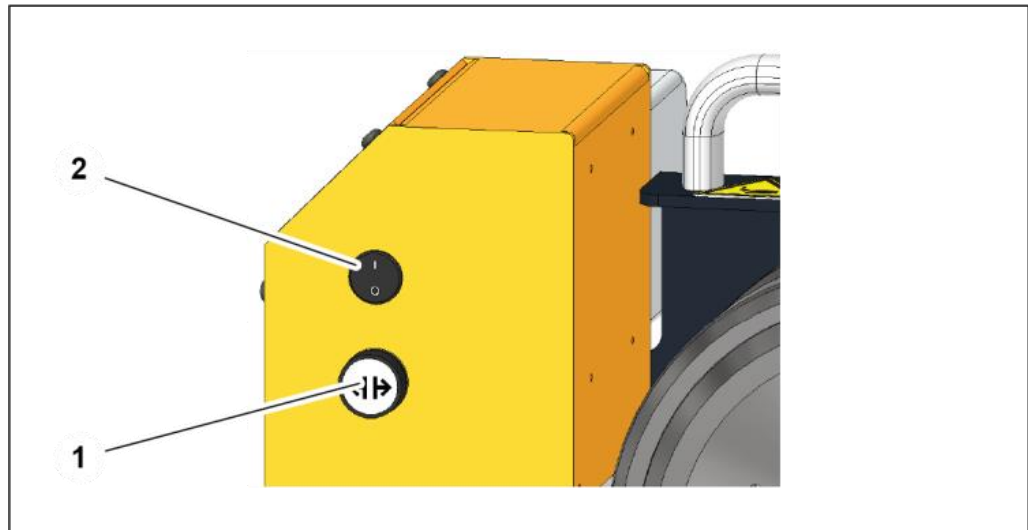


#### Risk of damage to machinery!

The machine lifetime is reduced with a high permanent load, while wear increases disproportionately. Forming machines for servicing are not intended for permanent operation and are not suitable for series production.

- Do not perform more than 200 **crimping actions** per day.

### 3.4 Operation and display elements



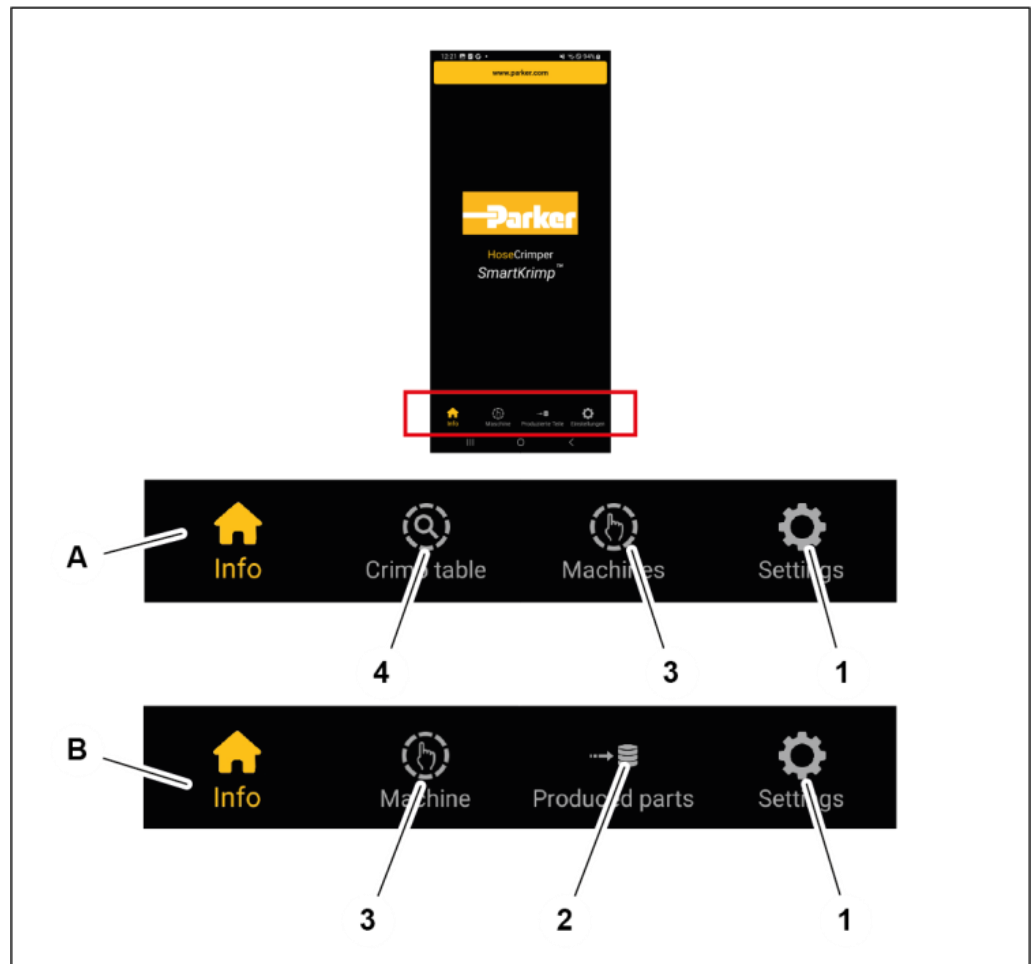
- (1) Illuminated [↵] Open tool button
- (2) Main switch [I/O]

## 3.5 Software application Smart Krimp

### 3.5.1 User interface

Picture A shows the application without a connection to the machine. Work pieces can be selected and the crimping data displayed.

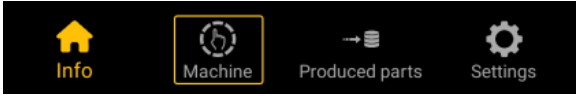
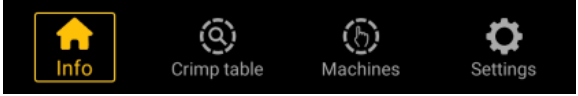
In picture B, the application is connected with the machine.



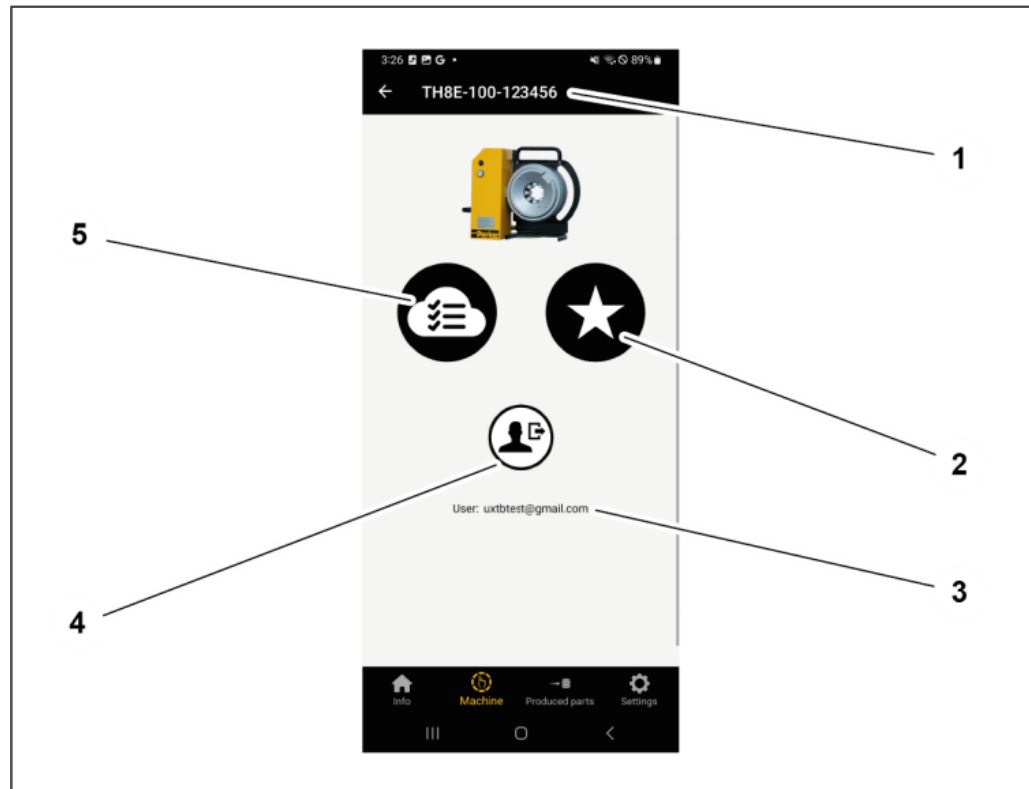
The footer allows to access other menu screens:

- (1) Settings button
- (2) Produced parts button
- (3) Machine button
- (4) Crimp table button

### 3.5.2 Colour display

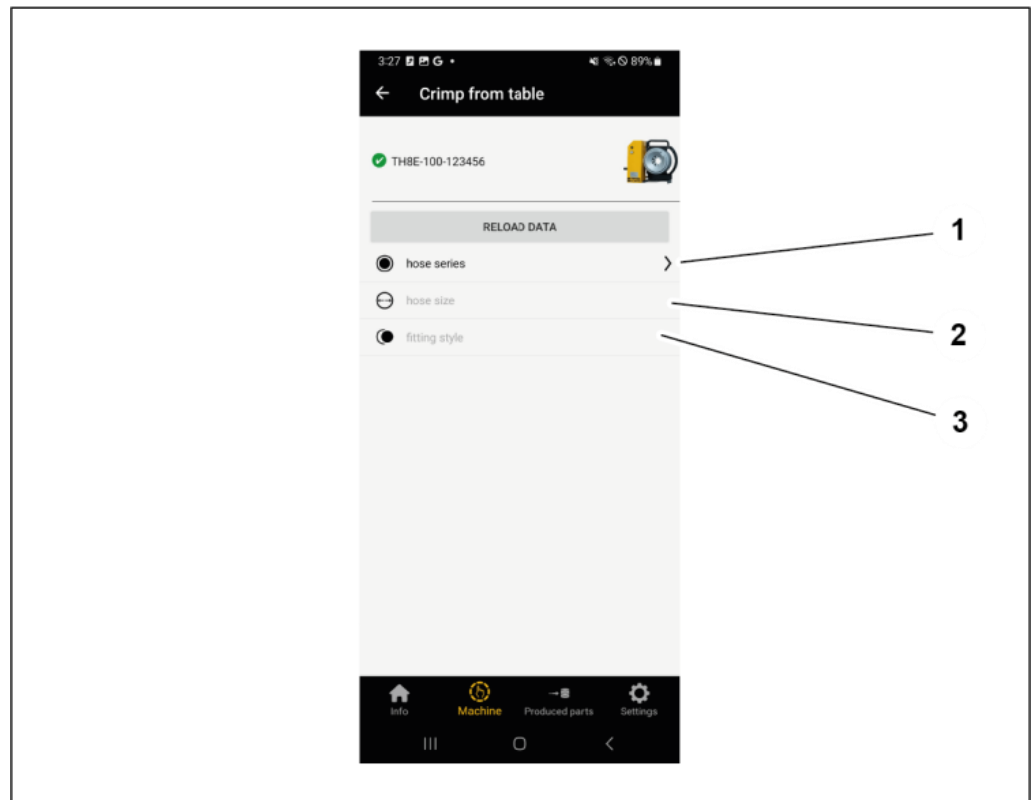
	If the display colour is grey, the function is inactive.
	If the display colour is yellow, the function is active.

### 3.5.3 Start screen



- (1) Shows the machine
- (2) Favourites button
- (3) Shows the user currently logged in
- (4) Log out button
- (5) Crimp from table button

### 3.5.4 Crimp from table



- (1) Hose series
- (2) Hose size
- (3) Fitting style

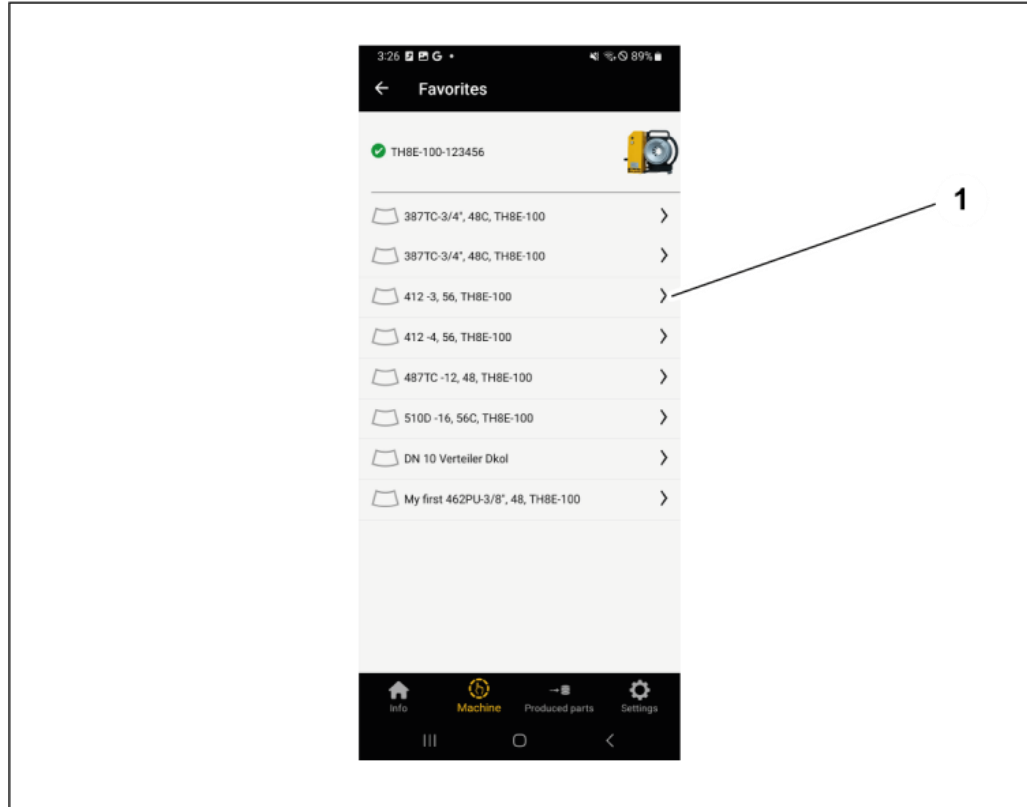


By pressing RELOAD DATA, the crimping values can be reloaded from the Cloud and updated.



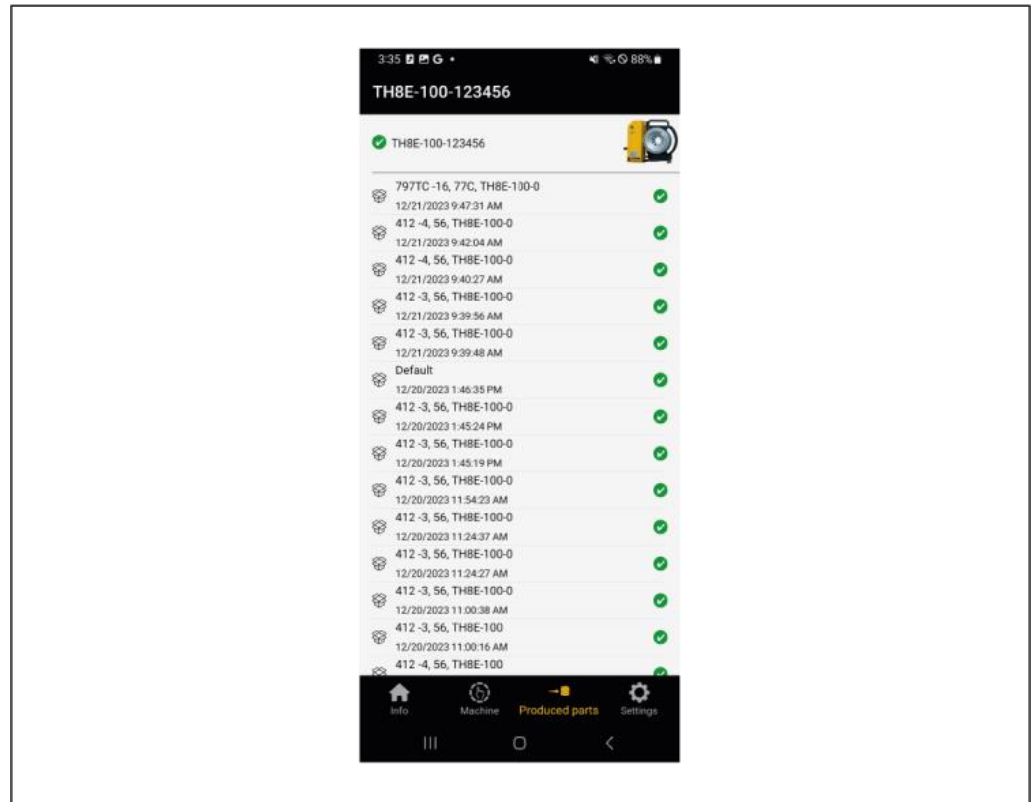
### 3.5.5 Crimp from table, favourites

Select the required work piece (1) from the list.

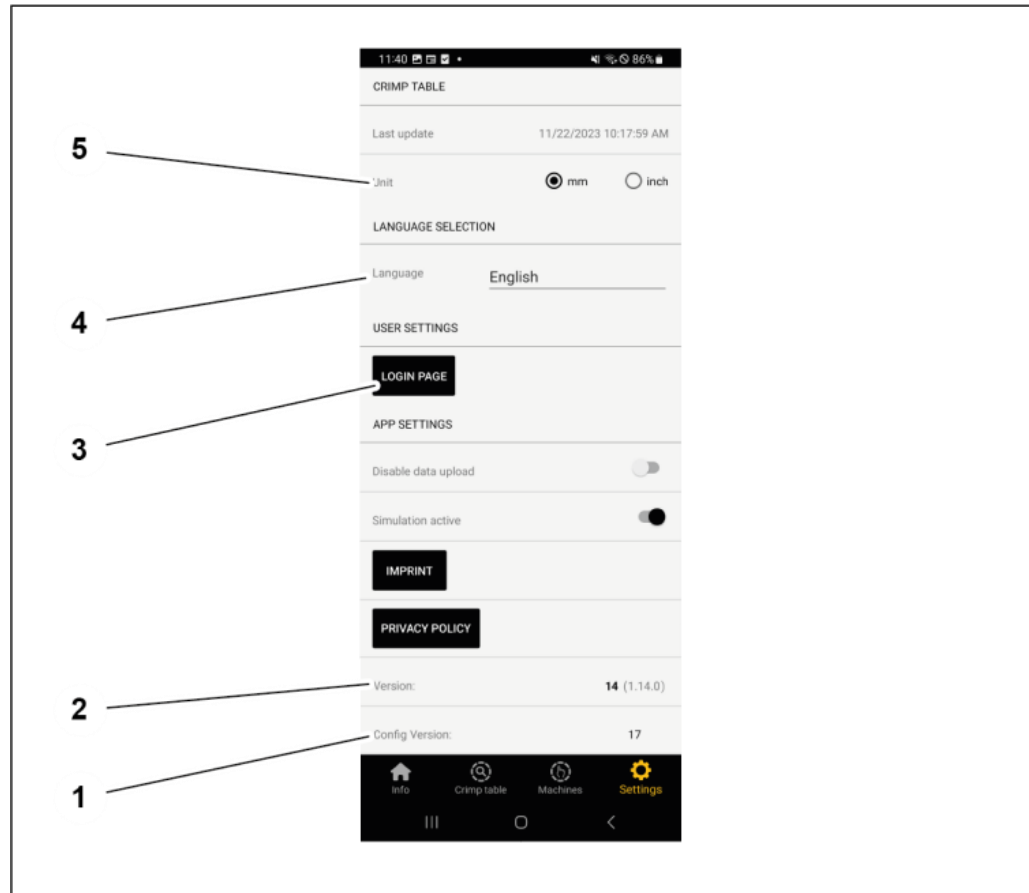


### 3.5.6 Produced parts

The most recently produced parts can be viewed in this table. The list cannot be edited and the entries are not deleted.



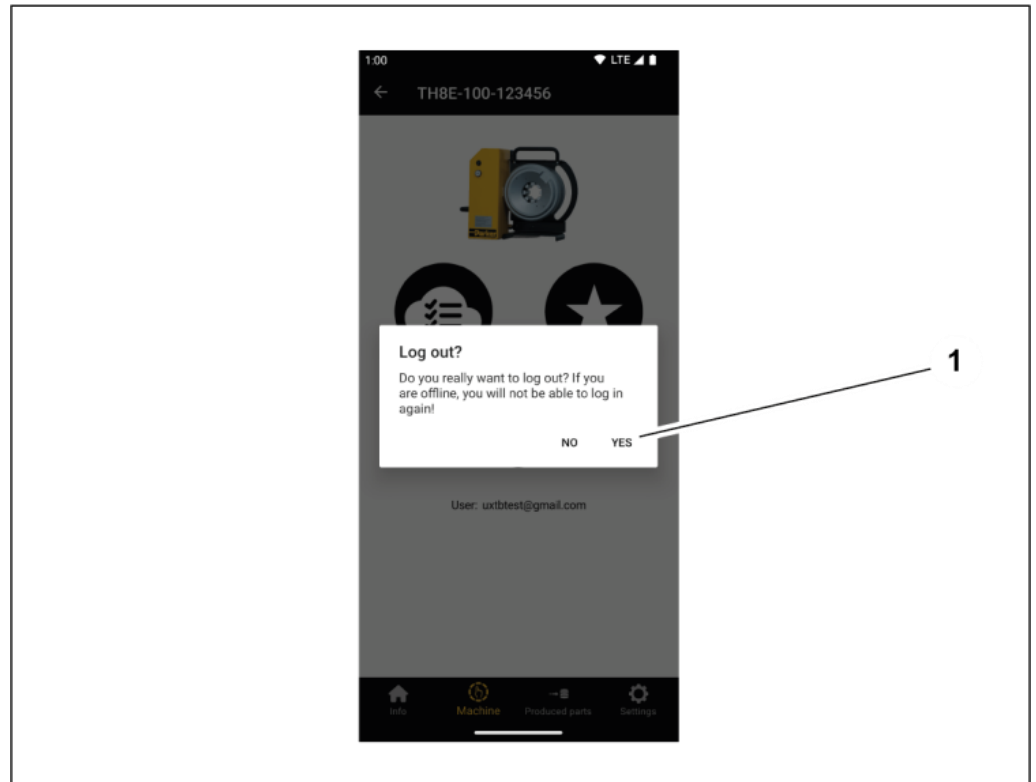
### 3.5.7 Settings



- (1) Config Version
  - Important when contacting the service department
- (2) Version
  - Important when contacting the service department
- (3) LOGIN PAGE
  - Log in using e-mail address and password.
  - Registration
  - Forgotten password
- (4) Language
  - Select either *German* or *English*
- (5) Unit
  - Select either *mm* or *inch*

### 3.5.8 Logging out

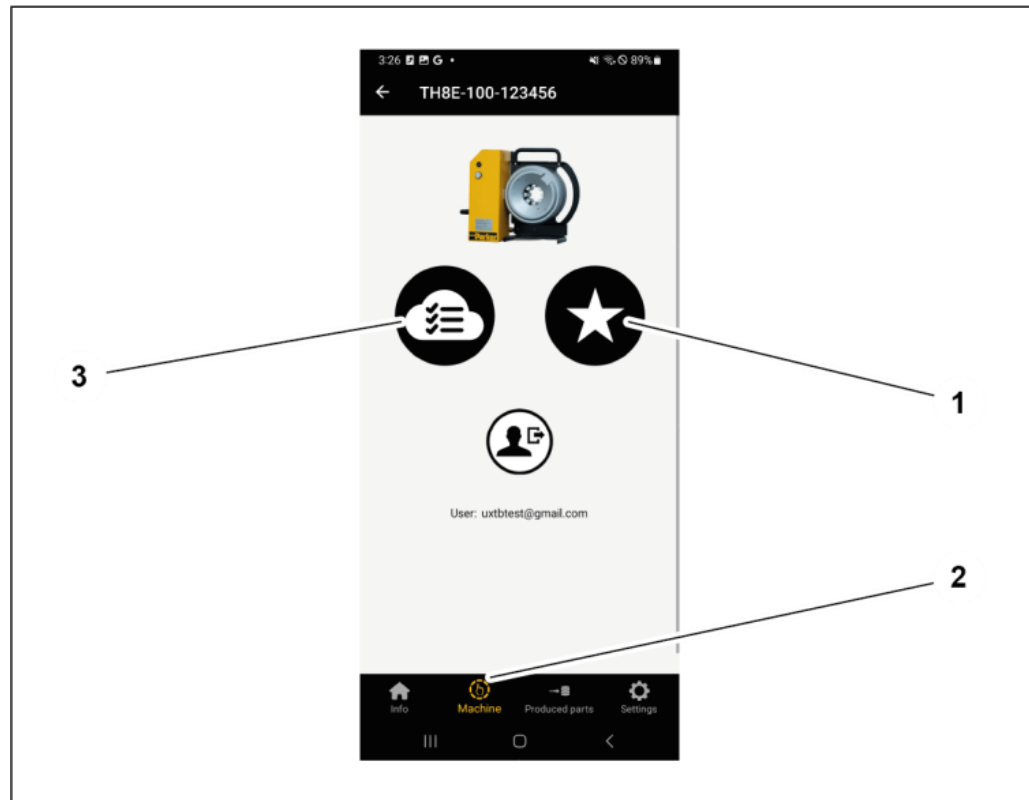
Crimping is no longer possible when in offline mode after logging out.



## 3.6 Operation modes

The machine has an operation mode for operating the crimping tool:

- Crimping after transmission of crimping data from app.



If the crimping machine mode (2) is activated in the app:

- Select the hose series / hose size and fitting style from the table (3) or from the favourites (1).
- Follow the instructions for changing the crimping dies.
- Transmit the data to the control unit.  
SEND TO CRIMPER  
The illuminated button flashes.
- Activate the hydraulic pump.

As soon as the pre-defined crimping diameter is reached, the tool will stop automatically and the illuminated button lights up.

## 3.7 Technical data

### Machine

Dimensions L x W x H 490 x 285 x 402 mm

Machine weight approx. 43 kg

### Function

Forming force 1000 kN / 100 t

Base dies Ø 55 mm

Maximum Ø crimping dies 47 mm

Opening size without dies 90 mm

Opening distance +35 mm

Hydraulic connection Parker threaded coupling  
3050-3P

### Battery (optional)

Battery type LiHD /  
CAS Cordless Alliance System  
(manufacturer-independent battery  
system)

Battery voltage 18 V

Battery capacity 8 – 10 Ah

### Work piece capacity

1 and 2-layer NoSkive hoses	up to size -16 (DN 25)
Parker Compact Spiral NoSkive hoses	up to size -16 (DN 25)
1-part fittings range	43, 46, 48, 56, 77 steel and stainless steel fittings
Die type	PB 263

### Hydraulic system

System pressure	max. 700 bar / 70 MPa
-----------------	-----------------------

### Approved hydraulic pumps

Portable pump for cordless screwdriver	85CE-PDP 70 MPa
Hand pump	85CE-0HP / 82C-2HP 70 MPa
Turbo air pump	85C-0AP / 85CE-XAM 70 MPa
Electric pump	82CE-0EP 70 MPa

### Workbench

Stable, level workbench with a carrying capacity of	approx. 500 kg
--	----------------

### We recommend industrial flooring which meets the following structural requirements

Permanent floor loading	Approx. 0.07 kg/mm <sup>2</sup>
Floor carrying capacity	Min. 2500 kg/m <sup>2</sup>
Floor quality	B25
Evenness	Max. unevenness 5 mm/m
Inclination	max. 5 mm/m

### **Ambient conditions**

Ambient temperature                    10 °C – 35 °C

Air humidity                                45% – 65%

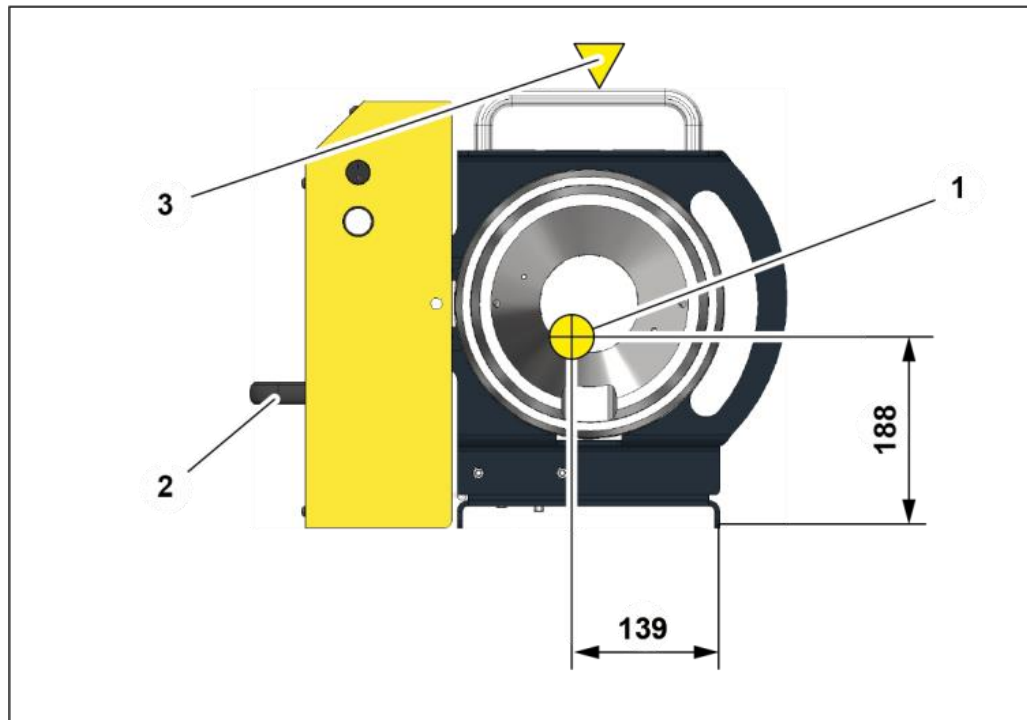
The \* data are theoretical/computed values, or values measured on a prototype. Actual values may vary slightly, depending on the machine.



## 4 Transport and commissioning

### 4.1 Transport

The goods should be transported in the original packaging. During transport, the goods must be secured safely within the packaging. All applicable laws and regulations relating to securing loads shall be observed during transport.



The machine can be unloaded and transported manually by the handles or with a crane. Lifting gear with a sufficient length, width and lifting capacity must be used. For machine weight, please refer to "Technical data" in Section 3.

#### WARNING!



#### Danger from falling loads!

Risk of injury from falling loads.

- Do not stand under suspended loads.

### WARNING!



#### **Danger from tilting machine!**

The machine may tilt if it is transported improperly. There is a risk of being injured.

- Consider the machine's centre of gravity (1).
- Only lift the machine at the designated points (3).

1. Use the crane to lift the machine with the lifting gear and transport it to the location of installation.

### WARNING!



#### **Danger from increased load weights!**

The machine has a weight of over 25 kg.

- Transport the machine with two persons.
- Use transport aids.

1. Lift the machine manually using the handles (2 and 3) and transfer it to the relevant location.

## 4.2 Intermediate storage of machine/unit

If the machine/unit cannot be mounted immediately upon delivery, it must be protected against:

- Contamination,
- Weather influences,
- Mechanical damage.

The machine/unit components may only be stored in closed rooms and under the following conditions:

- temperature between 10°C and 35°C,
- maximum air humidity 80% (non-condensating).

## 4.3 Commissioning

The machine is commissioned by the customer's fitter.

1. Place the machine and hydraulic pump on a stable and level workbench.



The workbench must be sufficiently solid and stable.



Place the machine in a way so that it is easily accessible for maintenance work from all sides.

2. Check the hydraulic piping for damage.
3. Connect the hydraulic pump (see “Connecting the hydraulic pump” in Section 4).
4. Train the operating staff and record training sessions in “Declaration of trained staff”, Section 9.

### WARNING!

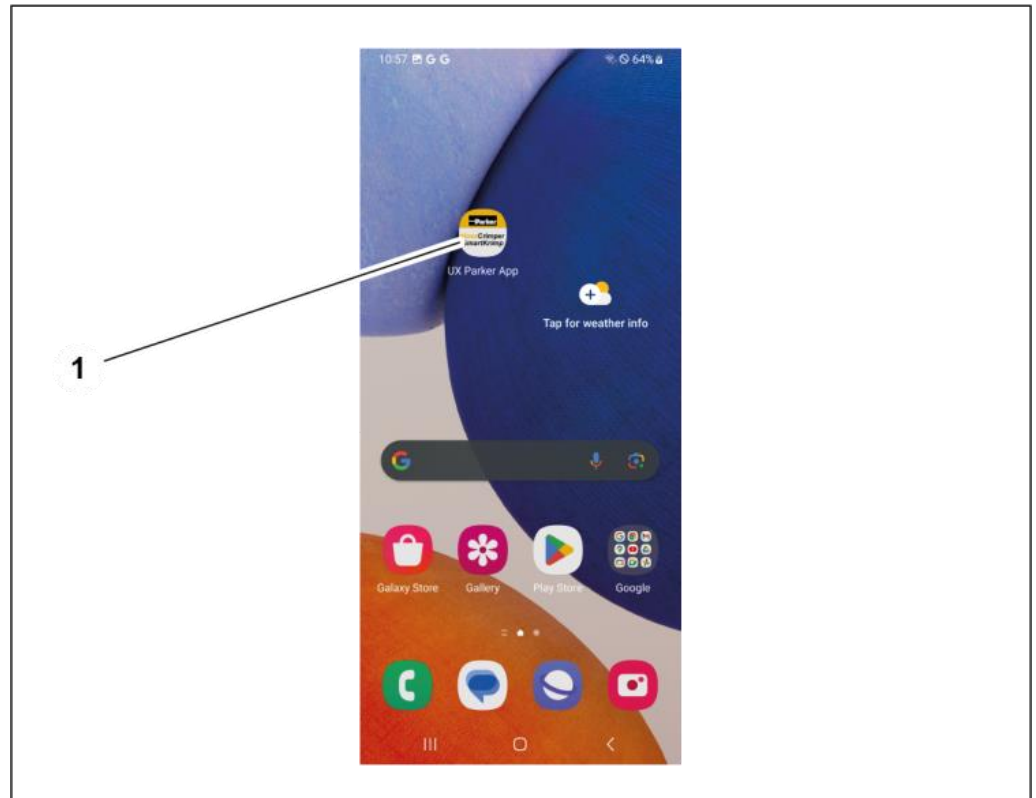


#### **Risk of injuries!**

Machine components might come loose during transport. Such components might be flung out during to the forming process. There is a risk of being injured.

- Open and close the machine several times without any work piece.
- Check the machine for atypical noise.

## 4.4 Installing the app



The Android mobile operating system with version 9 or higher is a prerequisite for installing the "Parker Hannifin SmartKrimp UX" app (1).

1. Open the Google Play Store.

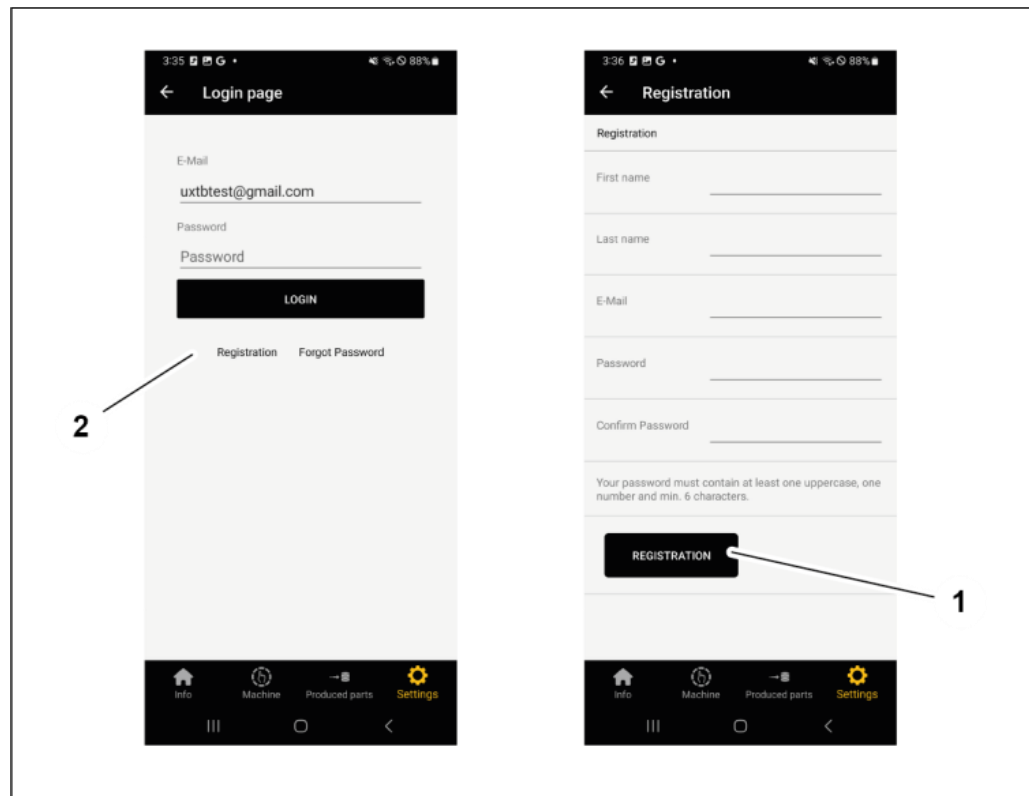


2. Search for the "Parker Hannifin SmartKrimp UX" app and install it.
3. Open the app.



The installed app version is shown in the settings.

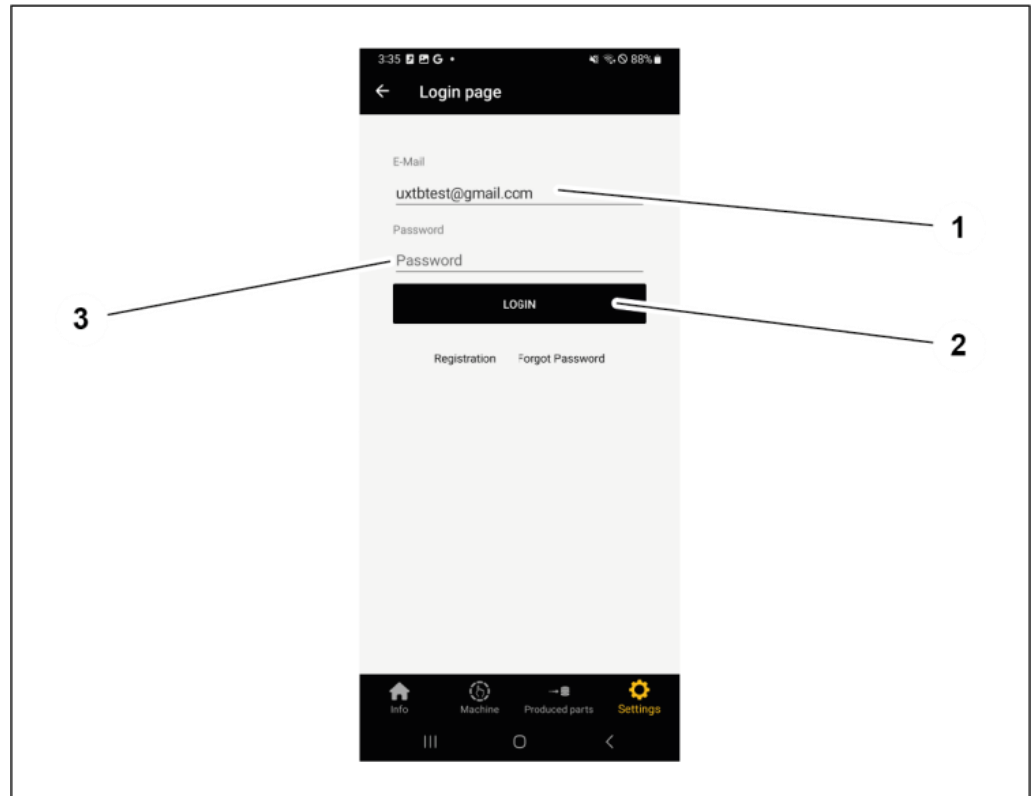
## 4.5 User registration



1. Select Registration (2) on the login page.
2. On the registration page, enter the user data and confirm with the Registration button (1).
3. User authorisations are checked and approved by Parker, with approval taking up to three working days.
4. You will receive confirmation of the registration by e-mail.

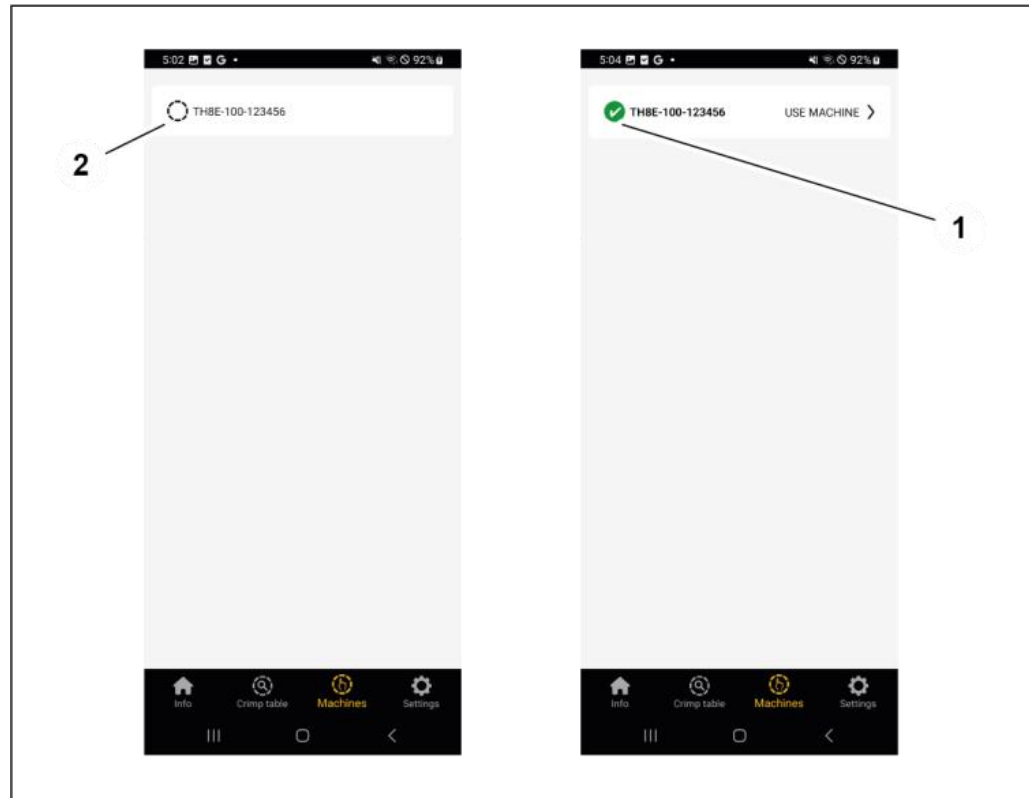
## 4.6 User login

After successful registration.



1. Enter the user name (1) and password (3).
2. Confirm by pressing LOGIN (2).

## 4.7 Connecting the app with the machine



1. Connect the machine (2).
2. Machine successfully connected with the app (1).

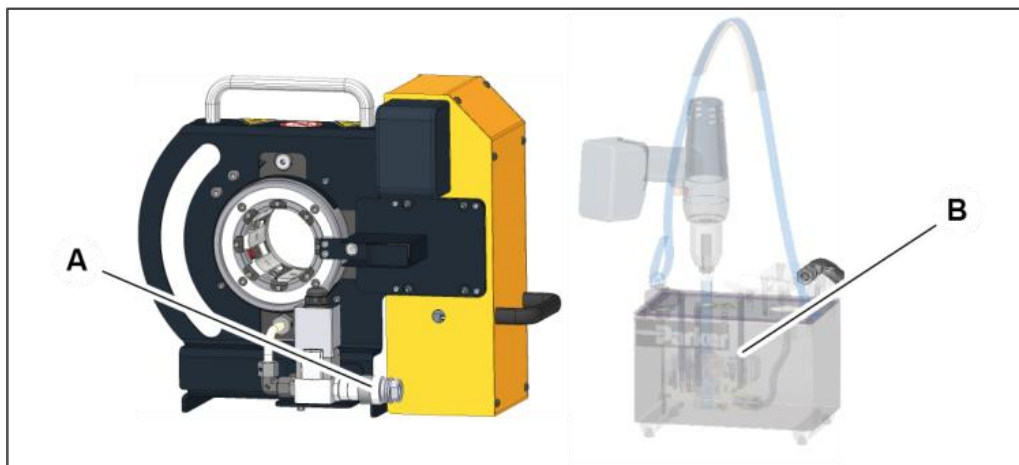


The screen lock must be set to at least 5 minutes in the cell phone display settings to avoid interruption to the machine during the crimping process.

## 4.8 Connecting the hydraulic pump



The hydraulic pump is not included in the scope of supply. Only hydraulic pumps from Parker may be used (see "Technical data" hydraulic pumps in Section 3).



1. Remove the protective caps on the connection of the hydraulic pump.
2. Remove the protective caps on the machine.
3. Connect the connections A and B to a hydraulic hose line in compliance with DIN EN ISO 4413 (not included). The hydraulic hose line must be installed in a manner so that it is flexible and not under tension. Do not subject the hydraulic hose line to tensile loads or torsion.
4. Secure the hydraulic hose line against whipping.
5. Use a protection hose to secure the hydraulic hose line against oil jet damage, direct UV radiation and contact to harming substances (e.g. acids, lyes or solvents).

### WARNING!



#### Risk of injuries!

Incorrect installation will cause the risk of leakage on the hose.

- Follow the operating instructions for the hydraulic pump.
- The hose is to be installed by a qualified hydraulic engineer.



## 5 Operation

### 5.1 What you have to observe

The operator has received the Operation Manual from the owner, has read and understood it and will observe it.

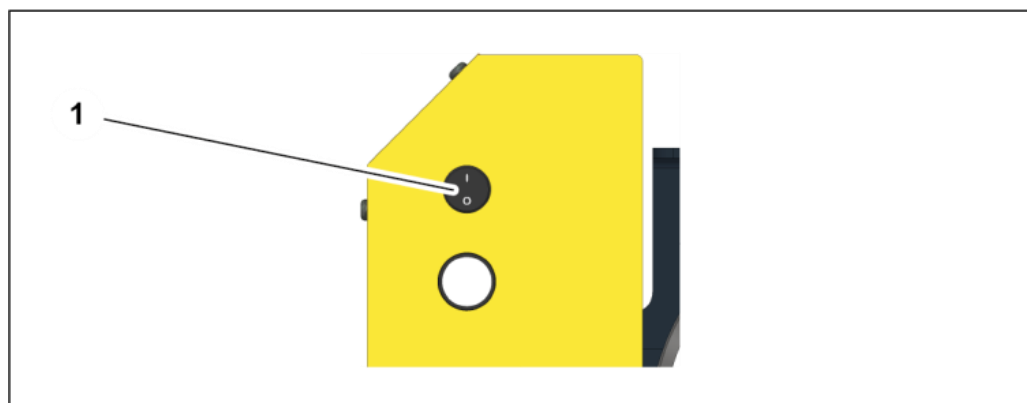
#### **Before starting and/or re-starting**

- Ensure sufficient illumination of the working area of the machine.

#### **During operation**

- Observe the safety instructions on the machine.
- Make sure that no other persons stay in the working area.
- Use appropriate aids to handle heavy workpiece.
- Each movement of the hand must be observed.
- Eating, drinking and smoking at the workplace is prohibited.
- Wear close-fitting clothes.
- Do not wear watches or jewellery.

### 5.2 Switching on



1. Check that there is no emergency-stop situation.
2. Switch on the main switch [I ON] (1).

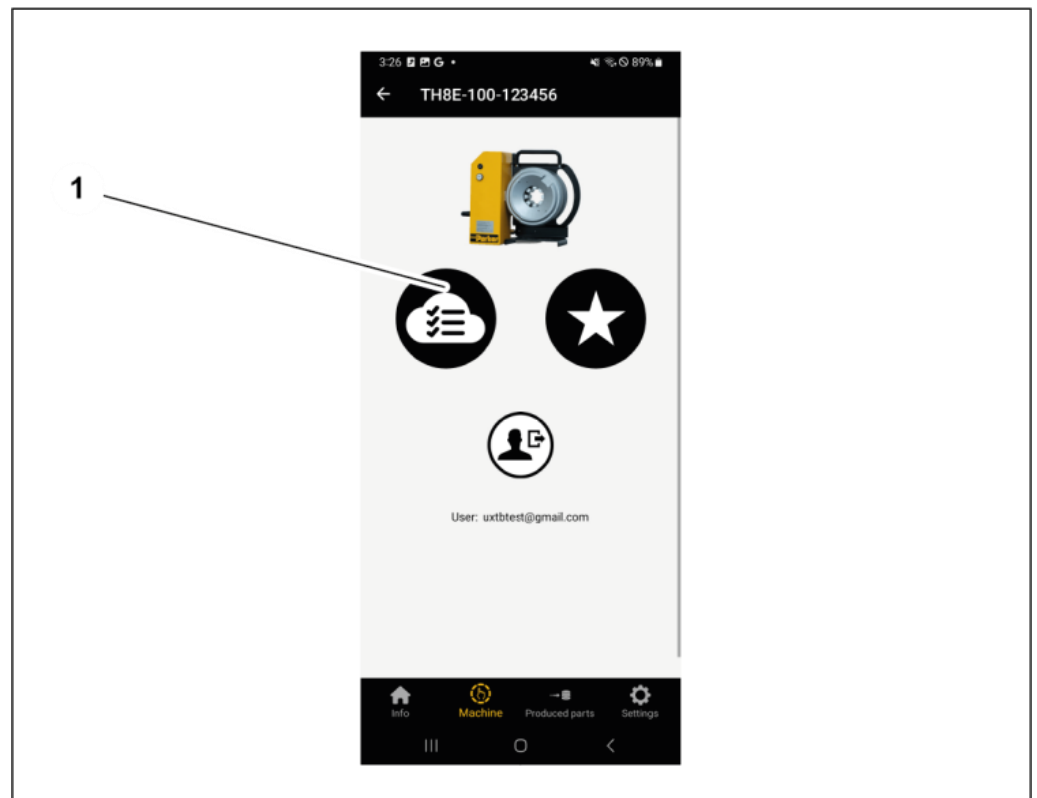
## 5.3 Forming the work piece

### 5.3.1 Prerequisites

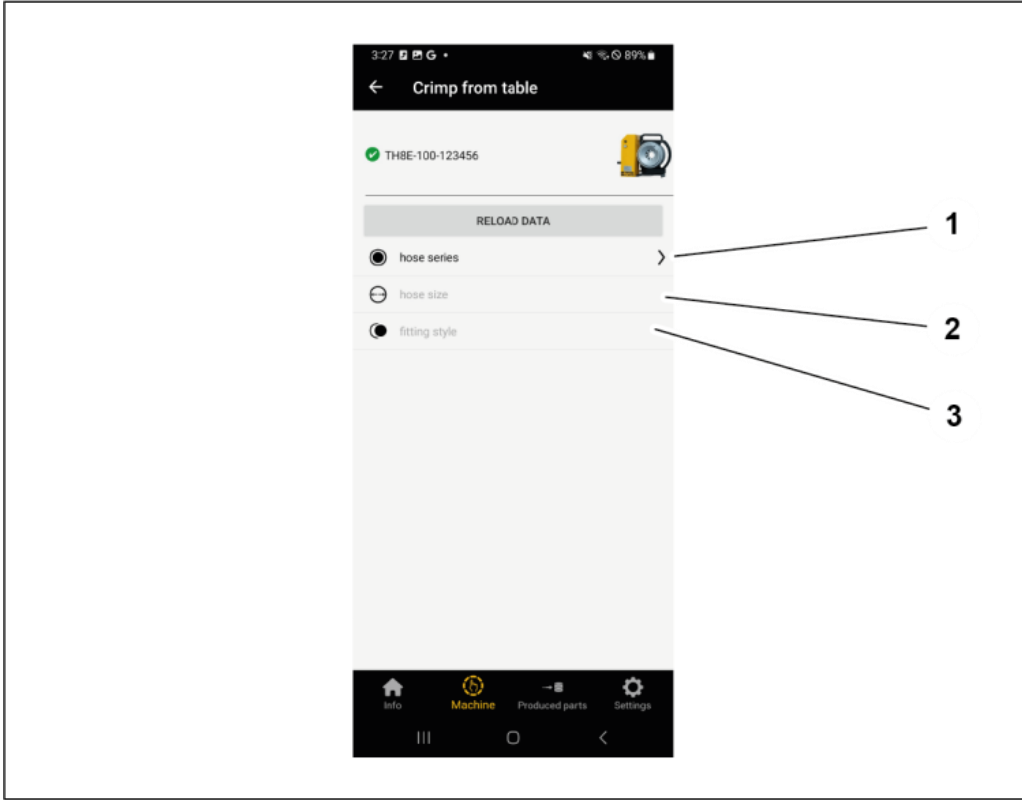
Prerequisites for a correct forming process:

- The app is installed on the mobile phone/tablet PC.
- The user has been successfully authenticated and has logged in.
- The mobile phone/tablet PC is connected with the machine via Bluetooth. The machine is selected in the app.
- The correct product is selected in the app.
- The proper die system is correctly mounted in the tool.
- Preferably form the work piece in the centre of the crimping die length. Eccentric forming will result in a conical forming result and increased lopsided wear on the die system and the bearing plates.

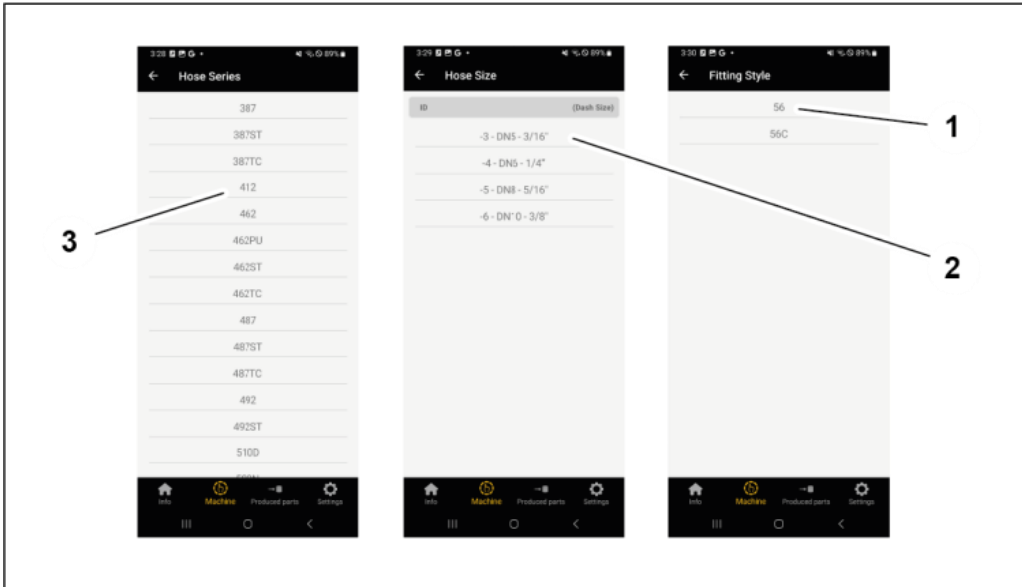
### 5.3.2 Crimp from table



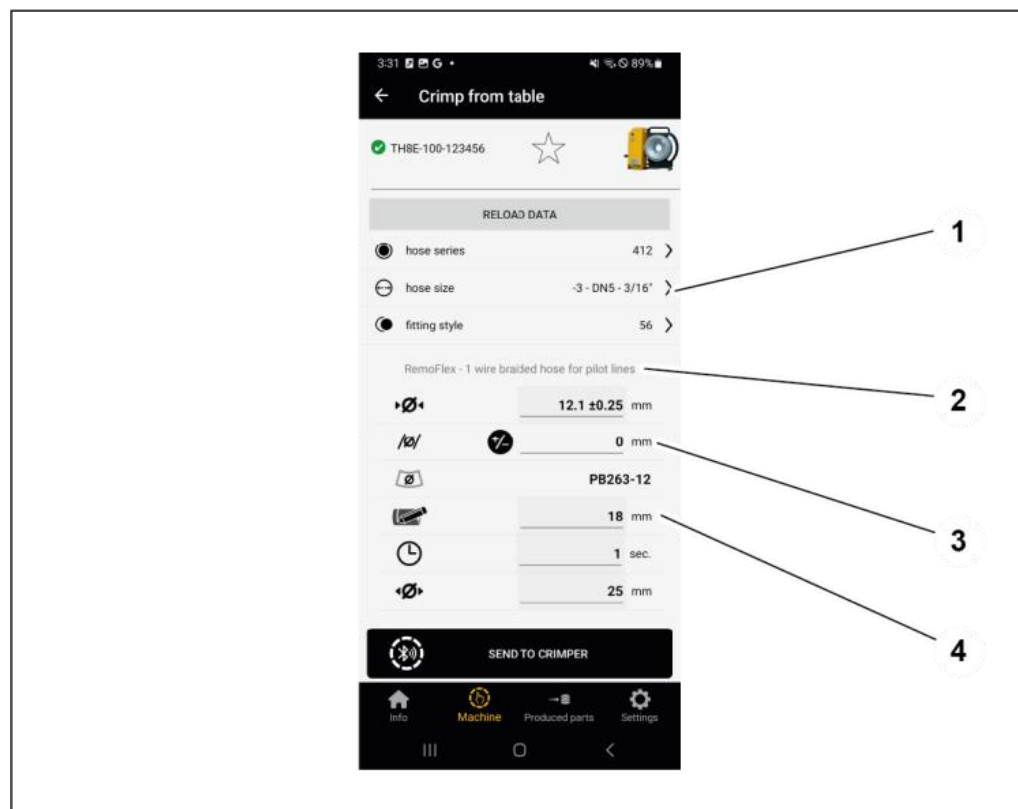
1. Open the table (1).



2. Select the hose series (1), hose size (2) and fitting style (3).




3. The production data for the selected product are displayed (these cannot be changed).  
Select the data e.g. Hose Series 412, Hose Size -3-DN5-3/16” and Fitting Style 56.

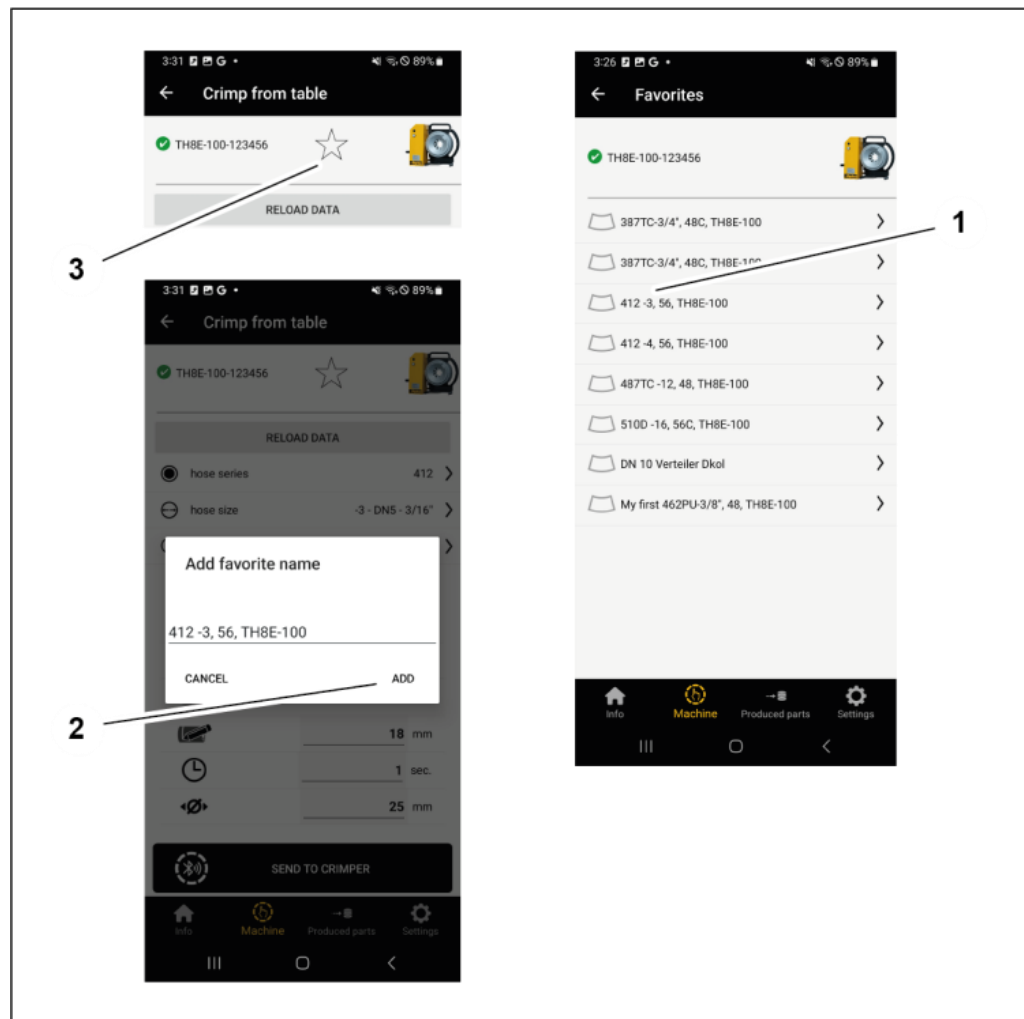


4. The selected work piece is displayed (2) and the selected values (1) can be checked.  
The correction value (3) of the crimping  $\emptyset$  can be entered manually between -0.3 and +0.3 mm.

	Crimping dimension. The crimping dimension is the diameter to which the tool is adjusted.
	Correction value of crimping dimension. Direct entry via input field.
	Change the sign for the correction value.
	Die set.
	Mark the depth.
	Holding time (not used at present).

	Opening diameter (not used at present).
---	---

5. Mark the work piece at the insertion depth shown (4), e.g. 18 mm, with an oil pen.
6. If necessary, coat the end of the fitting with a drop of oil and/or use an insertion device.
7. Push the fitting onto the end of the hose up to the mark.



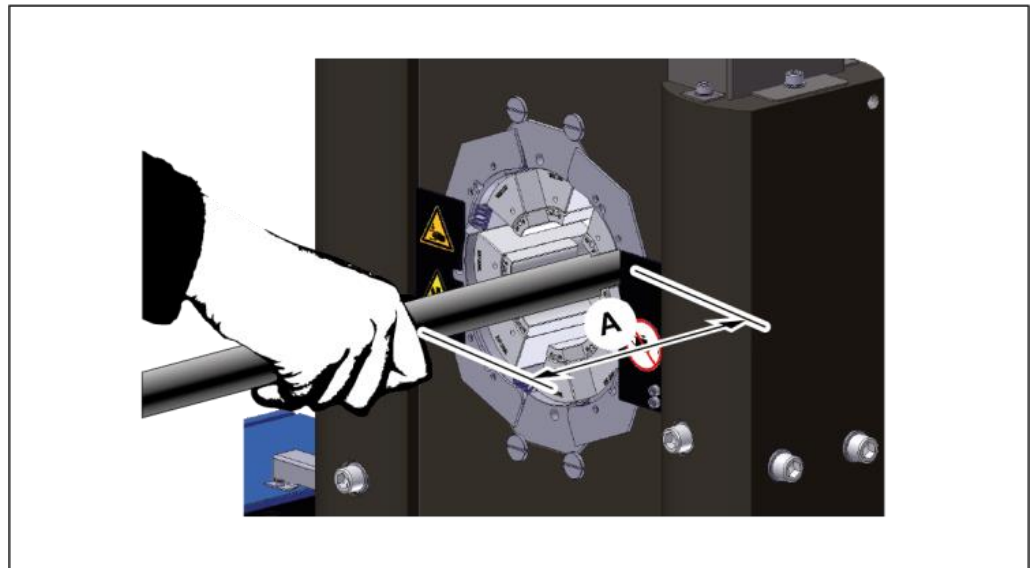
The image contains three screenshots of a mobile application interface. The top-left screenshot shows the 'Crimp from table' screen with a star icon next to the item 'TH8E-100-123456'. A line labeled '3' points to this star icon. The bottom-left screenshot shows the same 'Crimp from table' screen with a dialog box titled 'Add favorite name' overlaid. The dialog box contains the text '412 -3, 56, TH8E-100' and 'ADD' and 'CANCEL' buttons. A line labeled '2' points to the 'ADD' button. The right screenshot shows the 'Favorites' screen with a list of items. A line labeled '1' points to the first item in the list, '387TC-3/4', 48C, TH8E-100'.

8. Work pieces can be marked as favourites using the star button (3) and added to the list (1) by pressing ADD (2).



In the app settings, the language or unit can be selected.

### 5.3.3 App operation mode



#### WARNING!



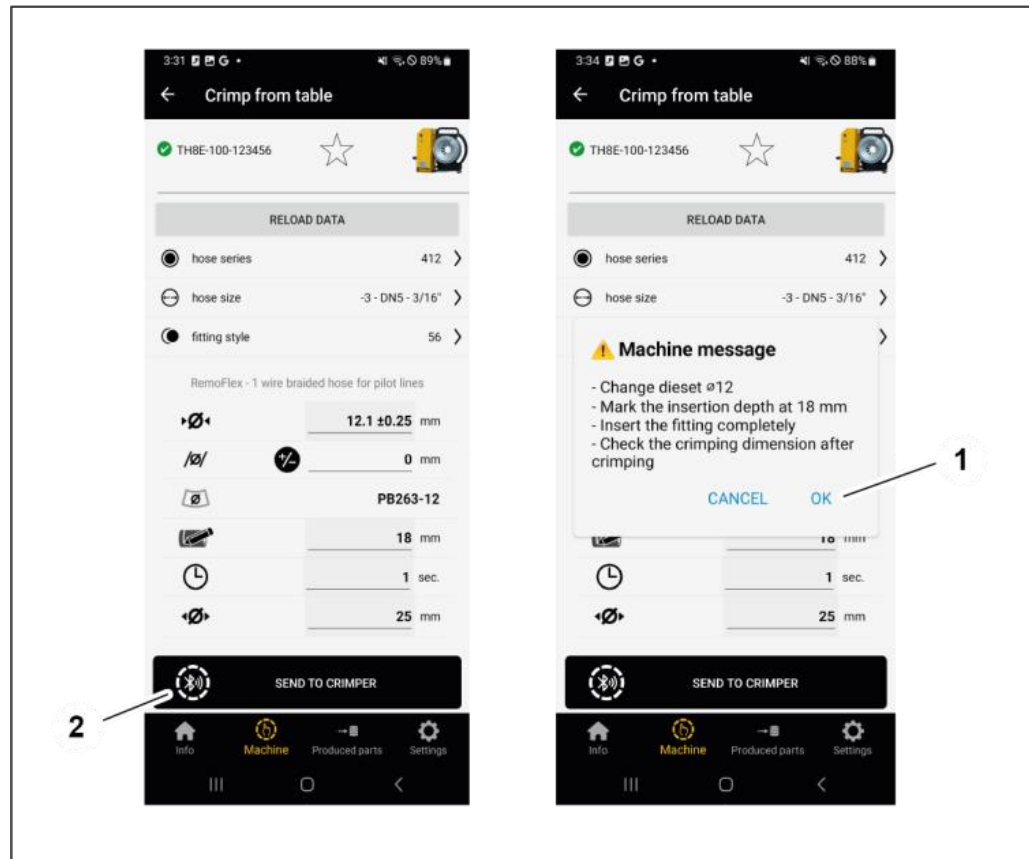
#### Risk of squeezing!

When the die system closes, there is a risk of getting squeezed between the die and the work piece.

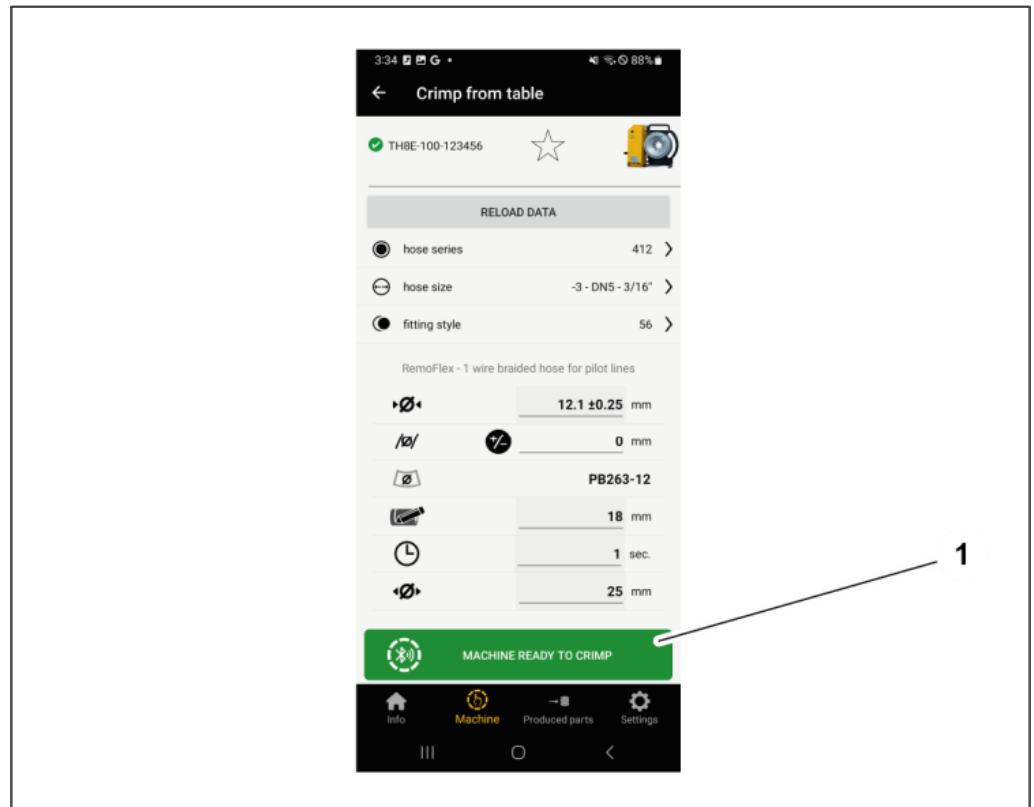
- Keep a minimum distance of 120 mm (A) to the die system.



1. Switch on the machine using the main switch (2).  
The battery must be charged.



2. Select the crimping data in the table and send them to the machine (2), see "Crimp from table" in Section 5.
3. The app informs the user about the crimping dieset to be installed e.g. dieset Ø12.
4. Install the dieset and confirm installation in the app by pressing OK (1).



5. Send the selected crimping data to the machine (1)  
MACHINE READY TO CRIMP.



The opening diameter of the tool can be adapted to the work piece using the valve on the hydraulic pump.


6. Mark the fitting's plug-in depth on the end of the hose. Push the fitting onto the No-Skive hose up to the mark.
7. Manually position the pre-mounted work piece in the tool.
8. Hold the work piece with one hand during the forming process.
9. Switch on the (external) hydraulic pump.
10. Drive the hydraulic pump until the desired diameter has been reached and the illuminated [↔] Open tool button (1) lights up.



Closing of the crimping tool is determined by the hydraulic pump. The speed of travel and the crimping cycle are controlled by the hydraulic pump.

11. Stop the driving of the hydraulic pump.



12. Open the relief valve on the hydraulic pump in order to reduce the pressure.
13. Press the illuminated  Open tool button (1) in order to open the valve. The tool opens. The opening of the tool can be stopped by closing the valve on the hydraulic pump.



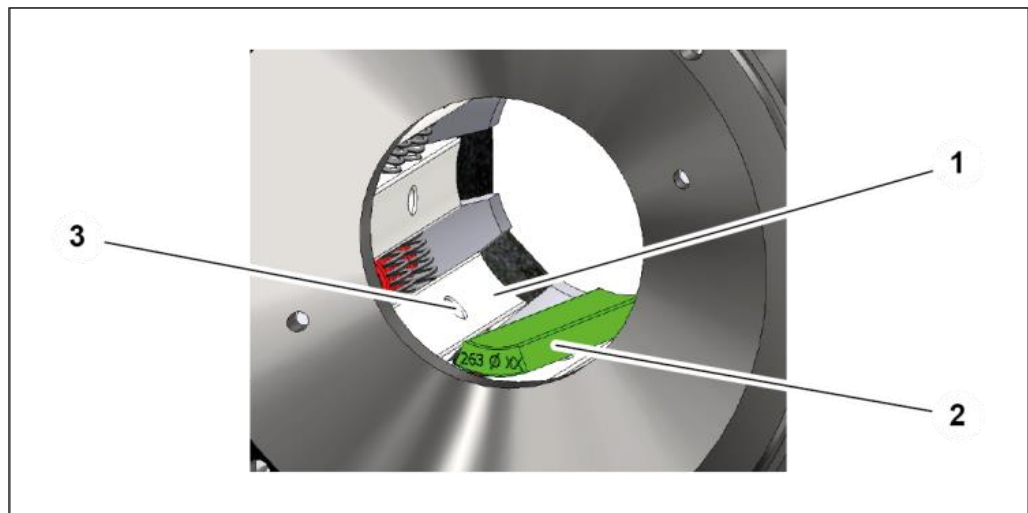
Conserve the battery capacity with short holding times.

14. Remove the work piece from the tool.
15. Check the forming dimension after the first forming process.




In the event of breaks in operation > 5 minutes, switch off the machine at the main switch in order to save the battery.

## 5.4 Changing the crimping dies



### Positioning the crimping dies

1. Completely open the crimping tool.  
Open the relief valve on the hydraulic pump.
2. Press and hold the illuminated button  Open tool.

## WARNING!



### Risk of squeezing!

When the die system closes, there is a risk of getting squeezed between the dies.

- Only replace the crimping dies when the machine is switched off.

3. Using the retaining bolt, insert the crimping die (2) into the mounting hole (3) of the base die (1).
4. Insert all eight crimping dies (2) one after the other.



Always use a complete set of equal crimping dies with the same identification and diameter. One set comprises eight crimping dies.

## Removing the crimping dies

1. Completely open the crimping tool.  
Open the relief valve on the hydraulic pump.

## WARNING!



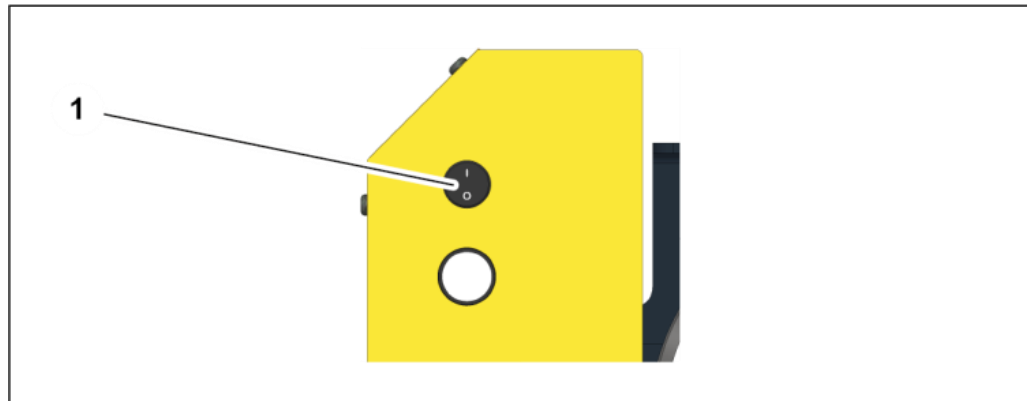
### Risk of squeezing!

When the die system closes, there is a risk of getting squeezed between the dies.

- Only replace the crimping dies when the machine is switched off.

2. Manually turn the crimping die to be moved (2) by 30°. This loosens the retaining bolt in the mounting hole.
3. Remove the crimping die concerned.  
A flat-head screwdriver can be used for assistance. For this purpose, position the flat-head screwdriver between the base die and crimping die and carefully extract the crimping die.
4. Remove all eight crimping dies (2) one after the other.

## 5.5 Switching off



1. Complete the forming process.
2. Deposit the work piece outside the machine.
3. Disconnect the pump from the power supply (depends on the pump).
4. Switch off the machine at the main switch (1).
5. Check the machine for contamination, leaks and external damage.
6. Check the crimping tool and retaining bolts for contamination, damage and secure fitting.
7. Check the oil level of the hydraulic pump.
8. Remove contamination, dust and chips using a vacuum.



Inform the fitter in case of damage or other irregularities.

## 5.6 Emergency stop

### In case of an emergency

In an emergency, stop the operation of the hydraulic pump immediately and open the relief valve of the hydraulic pump. Switch off the main switch.

### Restarting after an emergency

1. Remedy the cause of the emergency stop.
2. Switch on the main switch.

## 5.7 Cleaning

### ATTENTION!



#### **Risk of damage to machinery!**

If the machine is cleaned with a steam jet or compressed air, dirt and water may ingress in the machine and cause serious damage.

- Do not use a steam jet to clean the machine.
- Do not use compressed air to clean the device.

1. Vacuum the machine from metal abrasion (crimping scale) in the opened crimping tool, or use a soft cloth to clean it. For this purpose, remove the crimping dies.

## 6 Maintenance

Regular maintenance will ensure the continuous operation reliability of the machine.

### 6.1 What you have to observe

This section describes activities to be performed by you as the operator at regular intervals to ensure smooth operation of the machine.

- Maintenance work may only be performed by qualified maintenance staff (fitter).
- Repair work on the machine or components may only be performed by appropriately qualified expert staff!
- Welding, flame-cutting and grinding work on and in the machine and its environment must be approved in advance. There is a risk of fire. The machine must be cleaned from dust and inflammable substances. Adequate ventilation must be ensured.

### 6.2 Maintenance schedule

If not specified otherwise, inspections listed in the maintenance schedule are visual inspection. Replace defective parts immediately.

If you work in 2 shifts, the check frequency has to be doubled. If you work in 3 shifts, you proceed as with 2-shift operation.

Record maintenance work performed in the maintenance log.

Maintenance item	Daily	Weekly	Monthly	Every 6 months	Number of years
<b>Hydraulic system</b>					
Hydraulic energy lines – hoses: Check for porosity and leaks.	X				
Hydraulic energy lines - bolted connections of hoses and pipes: Check for leaks.* <i>And after each relocation of the machine.</i>	X*				

Maintenance item	Daily	Weekly	Monthly	Every 6 months	Number of years
Hydraulic hoses: Have replaced (DIN 20066) no later than six years after manufacture (see label). Make sure that replacement hoses are of equivalent quality (high-pressure hoses).					6
<b>Crimping tool</b>					
Crimping tool: Check for damage and wear.			X		
Retaining bolt: Check for damage.			X		
Slide bearing plates: Check for wear (see "Checking and replacing slide bearing plates" in Section 6). Replace the slide bearing plates below the basic dies after 5 years or 100,000 crimping operations, respectively, at the latest. Replace the slide bearing plate on the front plate after 10 years or 200,000 crimping operations, respectively.				X	
Pressure springs between base dies: Check for damage.				X	
Check all bolted connections for secure fitting and retighten if necessary.					1
<b>Safety equipment</b>					
Fixed guards and covers: Check for completeness and correct installation.			X		
Warning signs on the machine: Check legibility (see "Warning signs on the machine" in Section 2).				X	



Hydraulic oil changes and wear part replacements must be recorded in the maintenance log!

## 6.3 Hydraulic oil change

### CAUTION!



#### Risk of injuries!

Contact with hydraulic oil and other consumables imposes a risk of injuries for the skin, eyes, respiratory and intestinal tracts! Hydraulic liquid spills impose danger of slipping and falling!

- Observe supplier's protection and safety instructions (see data sheet).
- Wear personal protection equipment.
- Do not eat, drink or smoke in the working area and when handling consumables.
- Ensure good ventilation.
- Avoid floor contamination.

### ATTENTION!



#### Risk of fire!

Hydraulic liquid spray or spills imposes a risk of fire.

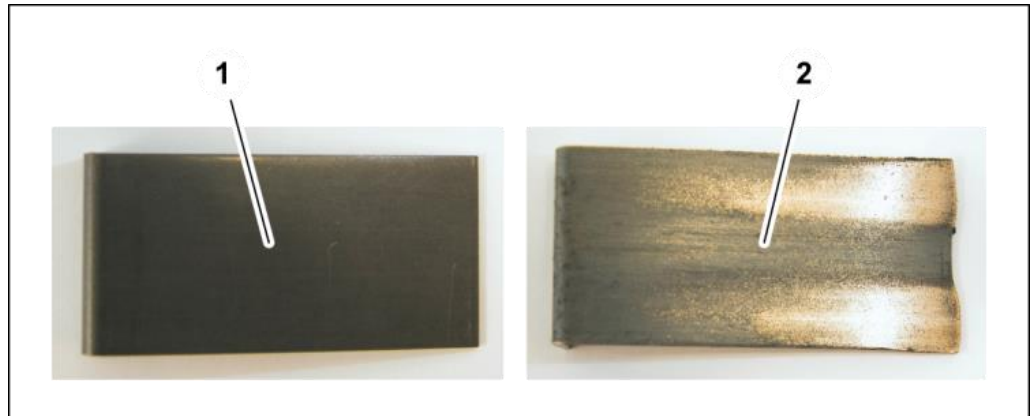
- Avoid ignition sources (welding, cutting and soldering work) near the hydraulic oil filling.



Hydraulic oil change in accordance with the instructions of the hydraulic pump manufacturer.

## 6.4 Checking and replacing slide bearing plates

### Checking slide bearing plates



Check slide bearing plates for wear, replace defective parts. The slide bearing plate (1) is new, the slide bearing plate (2) is worn.

### ATTENTION!

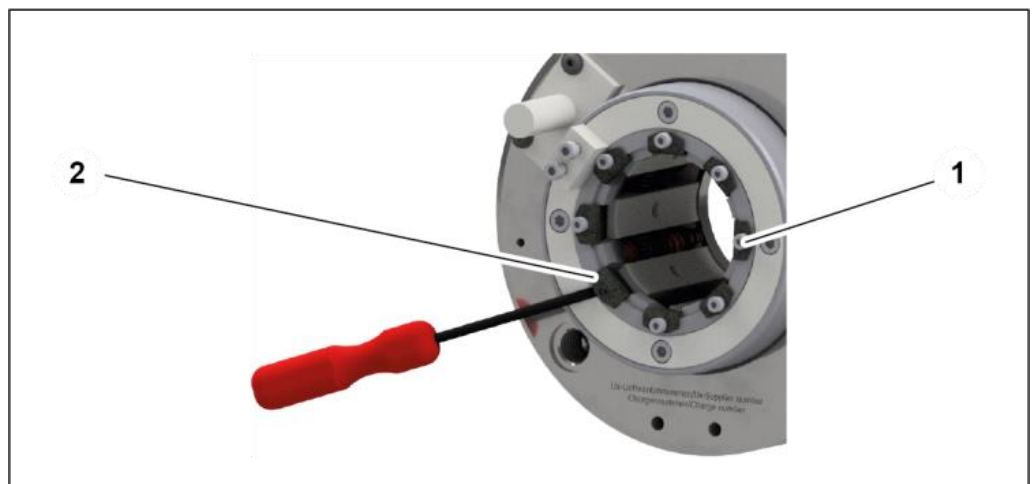


#### Risk of damage to machinery!

Worn slide bearing plates may cause damage to the machine and result in forming dimension inaccuracies.

- Replace worn slide bearing plates in good time.

### Replacing slide bearing plates



1. Open the crimping tool fully.
2. Loosen bolts (1) on bearing plate (2).
3. Remove the worn bearing plate (2).
4. Insert the new bearing plate (2).  
Replace all eight bearing plates in this manner.



5. Tighten screws (1).



Shims, if present, have to be inserted at the same position as before.



The bearing plate on the front plate can only be replaced by the UNIFLEX Service.

## 6.5 Changing the battery

### WARNING!



#### **Danger to life and limb!**

Using other, damaged or manipulated batteries may result in fire, explosion and a risk of injuries.

- Only use an approved battery, see “Technical data” in Section 3.
- Do not use any damaged or manipulated battery.

1. Press and hold the unlocking button on the battery adapter.
2. Pull the battery out of the machine.
3. Push a new battery into the battery compartment.

## 6.6 Charging the battery

### WARNING!



#### **Danger to life and limb!**

Using a non-authorized charger imposes a fire risk.

- Only use the correct charger for the battery.

1. See enclosed charger instructions.

## 7 Troubleshooting

Error	Cause	Remedy
Machine does not close/open	Too little hydraulic oil in the hydraulic pump	Refill oil
	Relief valve on the hydraulic pump not completely closed/open	Open or close the relief valve
Machine forms unevenly/conically	Bearing plates worn	Check bearing plates for wear and replace if necessary
	Base dies damaged	Check base dies for damage and replace if necessary
	Crimping dies damaged	Check crimping dies for damage and replace if necessary
	Crimping area is not centred	Preferably form the work piece in the centre of the crimping die length
Crimping dimension not achieved	Bearing plates worn	Check bearing plates for wear and replace if necessary
	Oil pressure too low	Check oil pressure of the hydraulic pump, the pump or pipe may be leaking or defective, repair or replace
	Incorrect crimping dies used	Check crimping die diameter and crimping die section and replace, if required (for crimping die section, please refer to "Technical data" in Section 3)
App is not connected	Battery on the machine empty	Charge the battery
	Bluetooth is not activated on mobile phone/tablet PC	Select and activate Bluetooth in the settings.

## 8 Decommissioning, disposal

### WARNING!



#### Risk by electrical voltage!

There is a risk of electrocution near the live parts!

- Shut down the machine/unit.
- Disconnect the machine/unit from the power supply.

### CAUTION!



#### Risk of injuries!

Contact with hydraulic oil and other consumables imposes a risk of injuries for the skin, eyes, respiratory and intestinal tracts! Hydraulic liquid spills impose danger of slipping and falling!

- Observe supplier's protection and safety instructions (see data sheet).
- Wear personal protection equipment.
- Do not eat, drink or smoke in the working area and when handling consumables.
- Ensure good ventilation.
- Avoid floor contamination.

### ATTENTION!



#### Risk of fire!

Hydraulic liquid spray or spills imposes a risk of fire.

- Avoid ignition sources (welding, cutting and soldering work) near the hydraulic oil filling.

### CAUTION!



#### Risk of injuries!

Parts of the machine/unit may be under pressure and/or tension. Loosening components may impose a risk of injuries!

- De-pressurize the machine/unit before performing any work and check for potential sources of hazard.

## 8.1 Dismantling

This section describes activities to be performed by you as the operator to ensure the safe dismantling of the machine/unit.

- The machine/unit may only be dismantled by entrusted and qualified staff.
- Open the machine/unit completely.
- Depressurise the machine/unit before dismantling it (deactivate the hydraulic pump and secure it against restart; operate valve manually, if any; open bolted hydraulic connections slowly and carefully).
- Check the machine/unit for mechanical tension and consider it during dismantling.
- Empty the machine/unit of all consumables, see “Maintenance”, Section 6.

## 8.2 Recycling

The machine/unit contains metal, hydraulic hoses, electric cables and electronic components, depending on the type.

As regards disposal, the applicable national environmental protection and waste disposal regulations have to be complied with.

## 8.3 Consumables and waste

Observe applicable national environmental protection and waste disposal regulations.

Return consumables, e.g. oils, greases, test media, to supplier - they are hazardous waste. Also observe the information given on the safety data sheet.

## 9 Annex



Individual machine/unit components may deviate in their features. Please indicate the serial number of the machine for spare part orders.



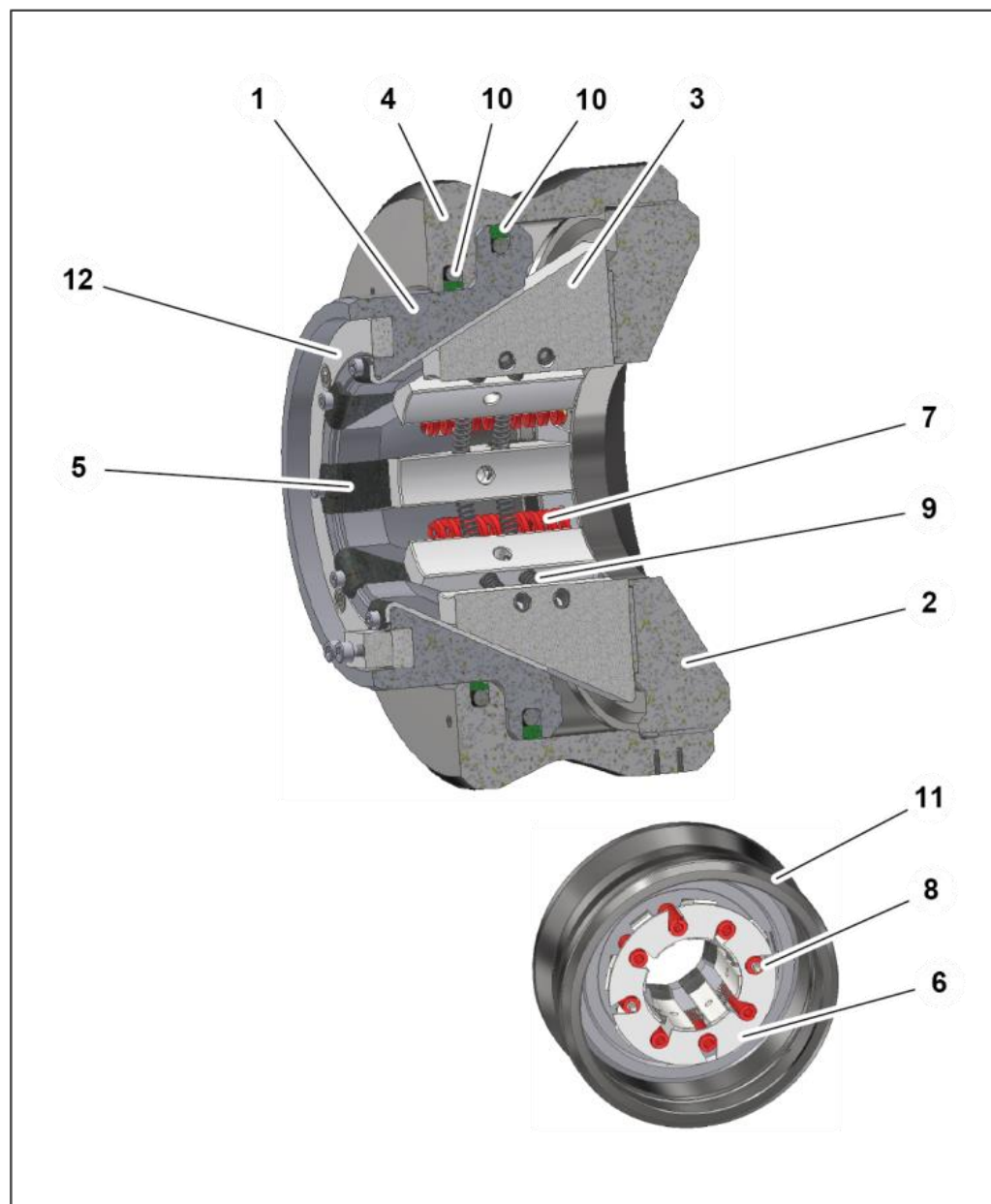
## 9.2 Accessories (retrofittable)

Accessories	Part code
Battery 10 Ah, 18V	TH8E-100-BAT10
Battery 8 Ah, 18V	TH8E-100-BAT08
Portable pump for cordless screwdriver	85CE-PDP 70 MPa
Hand pump	85CE-0HP / 82C-2HP 70 MPa
Turbo air pump	85C-0AP / 85CE-XAM 70 MPa
Electric pump	82CE-0EP 70 MPa
PB 263	Crimping dies

Please contact our Sales department for ordering accessories.

## 9.3 Spare parts list

### 9.3.1 Tool

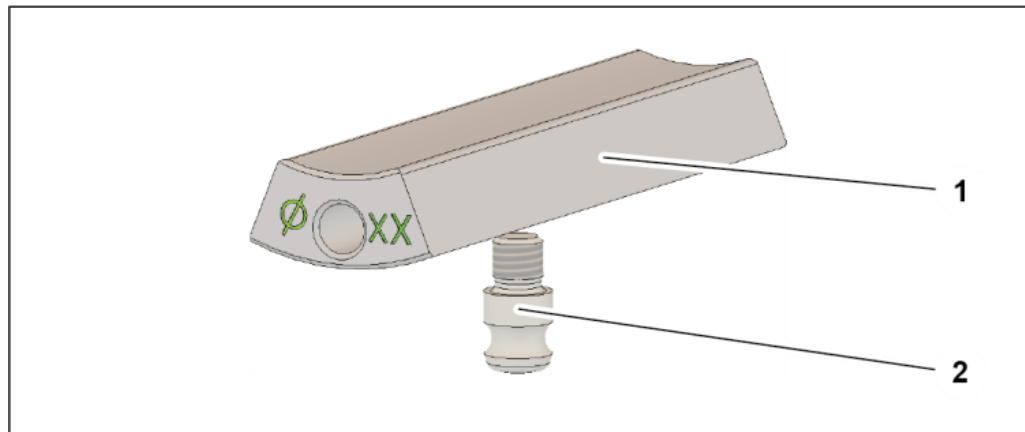


Item	Quantity	Part code	Designation
1	1	262.194.1	Piston
2	1	262.217.2	Front plate S 2 XL
3	1	262.1080	Base die set SH 2 XL
4	1	262.193.1	Cylinder case
5	1	262.197.4	Bearing plate, piston
6	1	262.198.3	End support plate



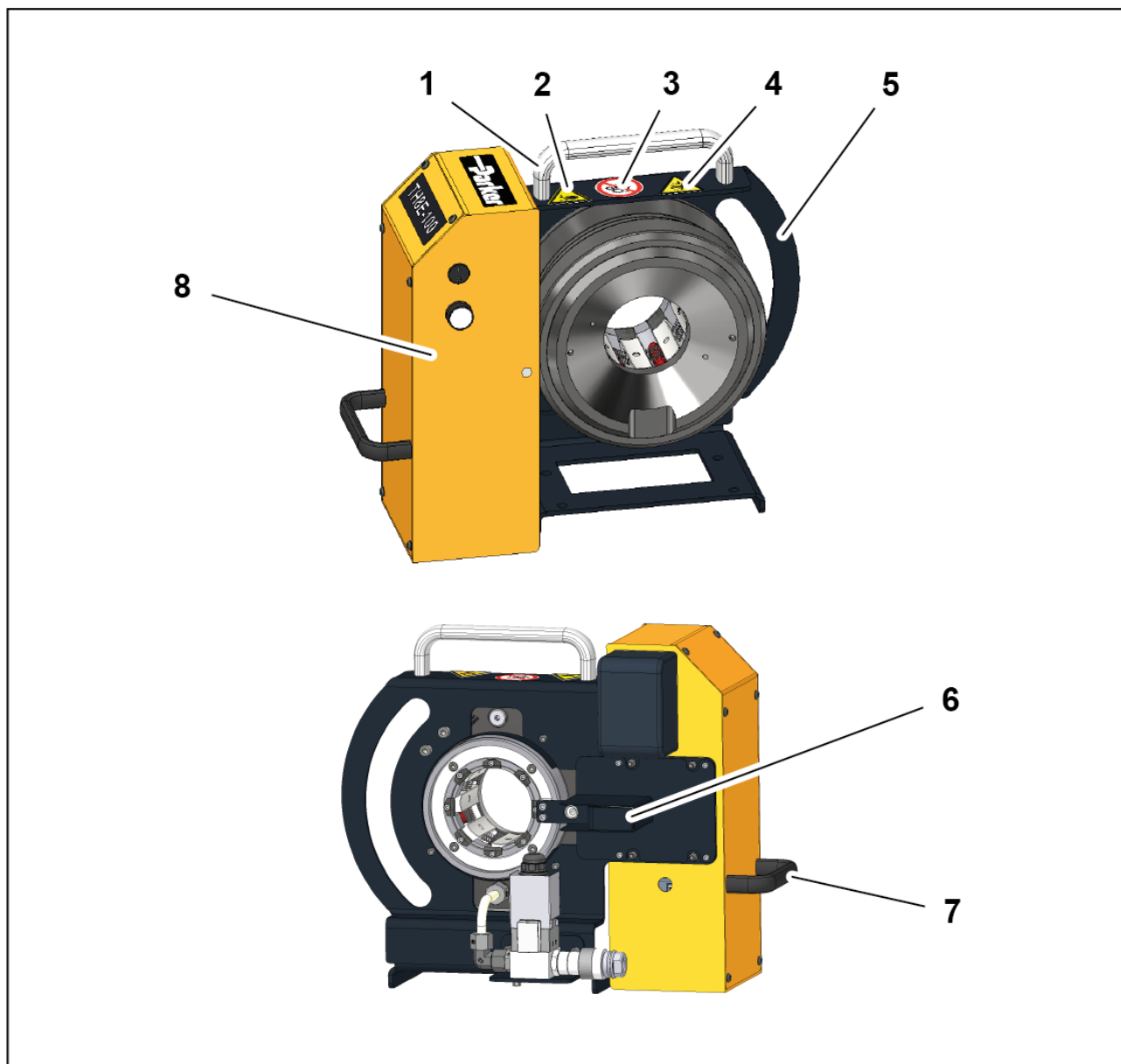
Item	Quantity	Part code	Designation
7	8	262.036	Pressure spring
8	2	262.023.4	Guide pin
9	16	262.034	Pressure spring
10	1	262.290	Gasket set S 2 XL
11	1	262.1090	Hollow piston tool SH 2 XL
12	1	262.199.3	Supporting ring

### 9.3.2 Crimping dies



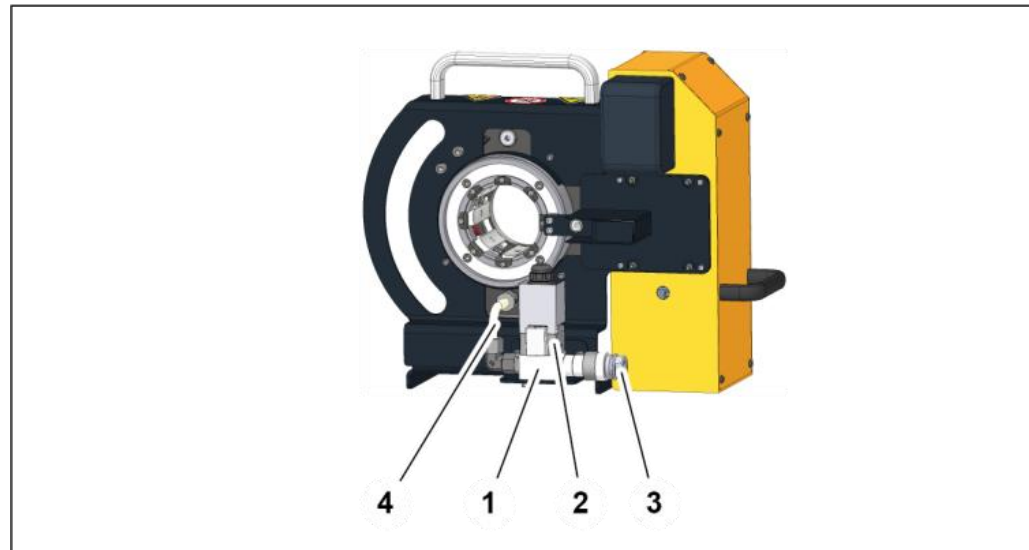
Item	Quantity	Part code	Designation
1	1 set	PB 263.2-75-∅xx	Crimping dies with QDC hole
2	8 pcs	262-129.3	Retaining bolts for PB 263

### 9.3.3 Mechanical equipment



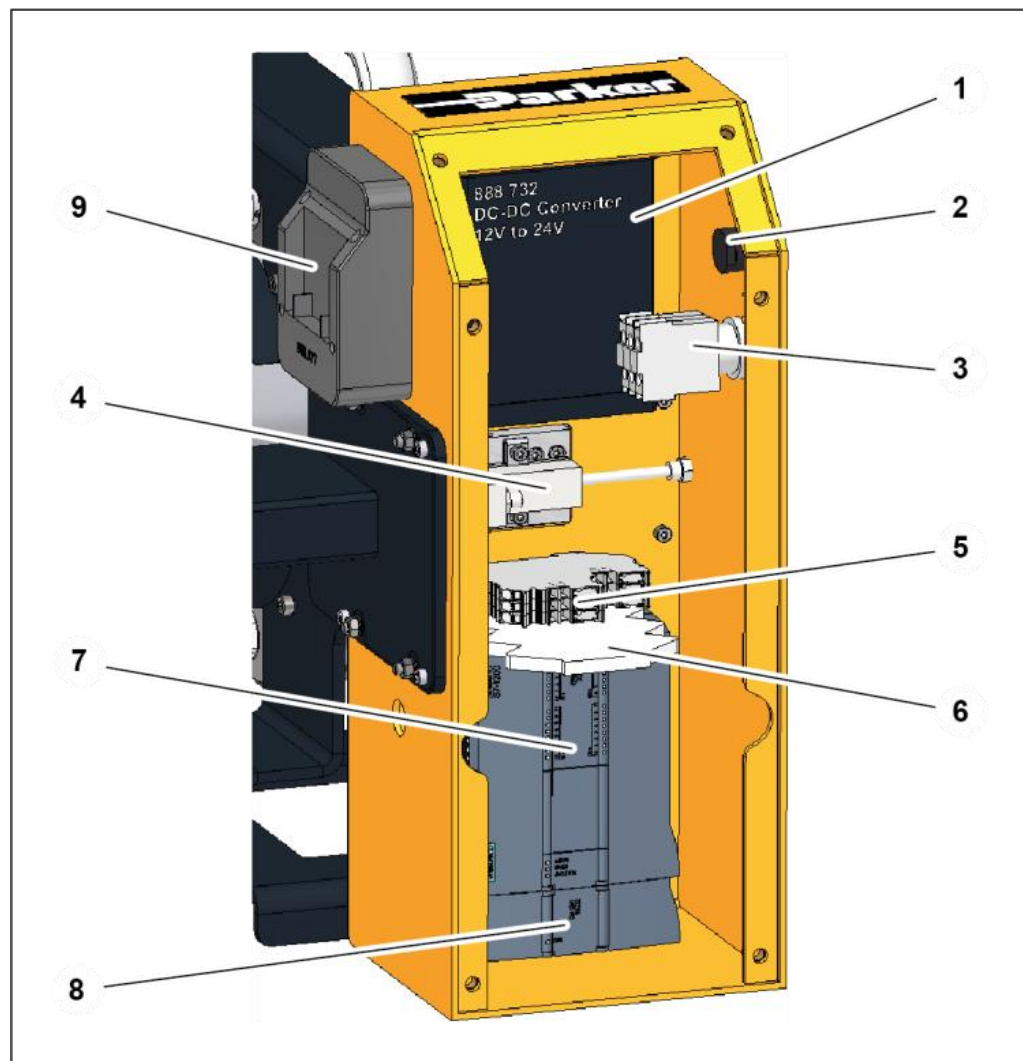
Item	Quantity	Part code	Designation
1	1	280.109	Strap grip
2	1	715.4	Squeezing risk warning sign
3	1	578.4	Oil prohibition sign
4	1	716.4	Hand injuries warning sign
5	1	262.460.2	Chassis Parker S 2 XL
6	1	262.464.3	Stop arm
7	1	319.122	Strap grip
8	1	262.462.2	Case

### 9.3.4 Hydraulic system



Item	Quantity	Part code	Designation
1	1	830.054	Single connection plate
2	1	830.055	2/2 directional valve
3	1	840.161	Hydraulic coupling
4	1	262.238.3	Hydro pipe

### 9.3.5 Electrical equipment



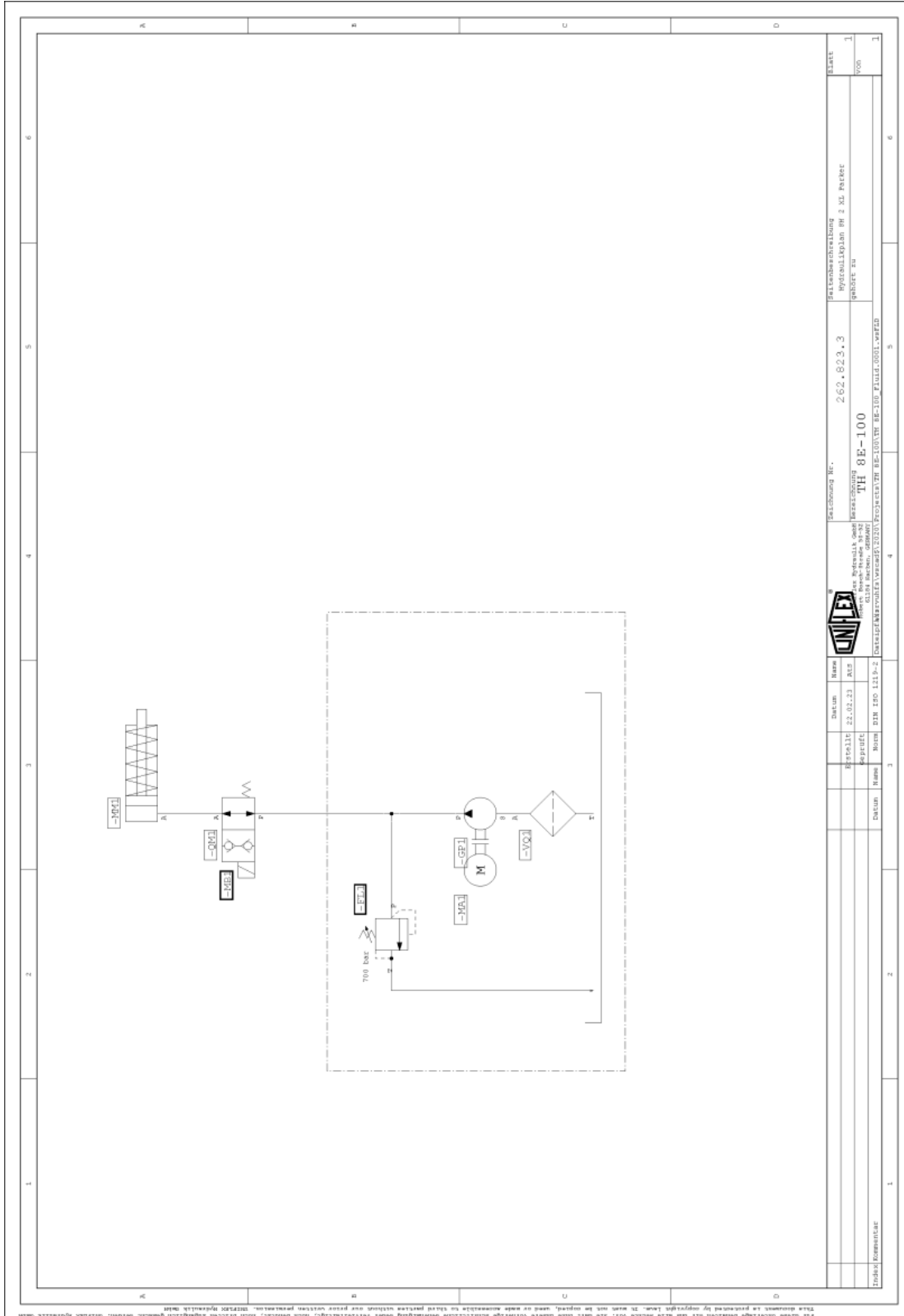
Item	Quantity	Part code	Designation
1	1	888.732	DC-DC converter 12V to 24VDC
2	1	888.178	Base plate proportional controller
3	1	8.07.022 8.07.026 8.07.029 8.07.023 8.07.027 8.07.030 8.07.025	Illuminated button
4	1	807.418	Inductive position encoder 50mm
5	2	888.345	Serial terminal
6	1	807.401	Supply terminal
7	1	807.375	CPU Controller

Item	Quantity	Part code	Designation
8	1	807.363	Extension module
9	1	888.977	Battery adapter

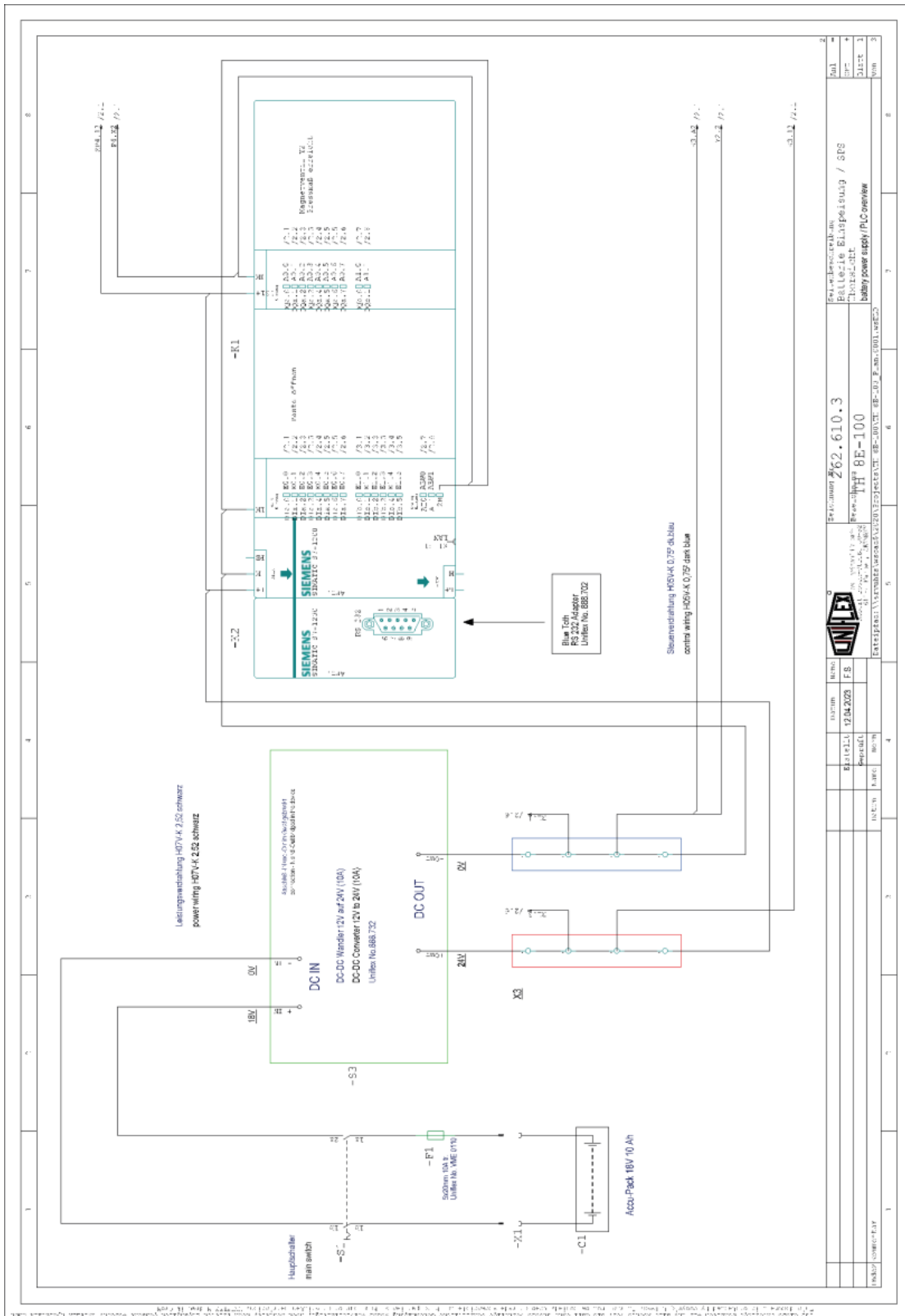
## 9.4 Spare parts kit

Quantity	Part code	Designation
1 set	262.1	Spare parts kit S2 bearing plates
1 set	262.2	Gasket set S2
8 per set	262.129.3	Retaining pin for PB 263
1	262.9	Spare parts kit, base dies for PB 263 including pressure pieces

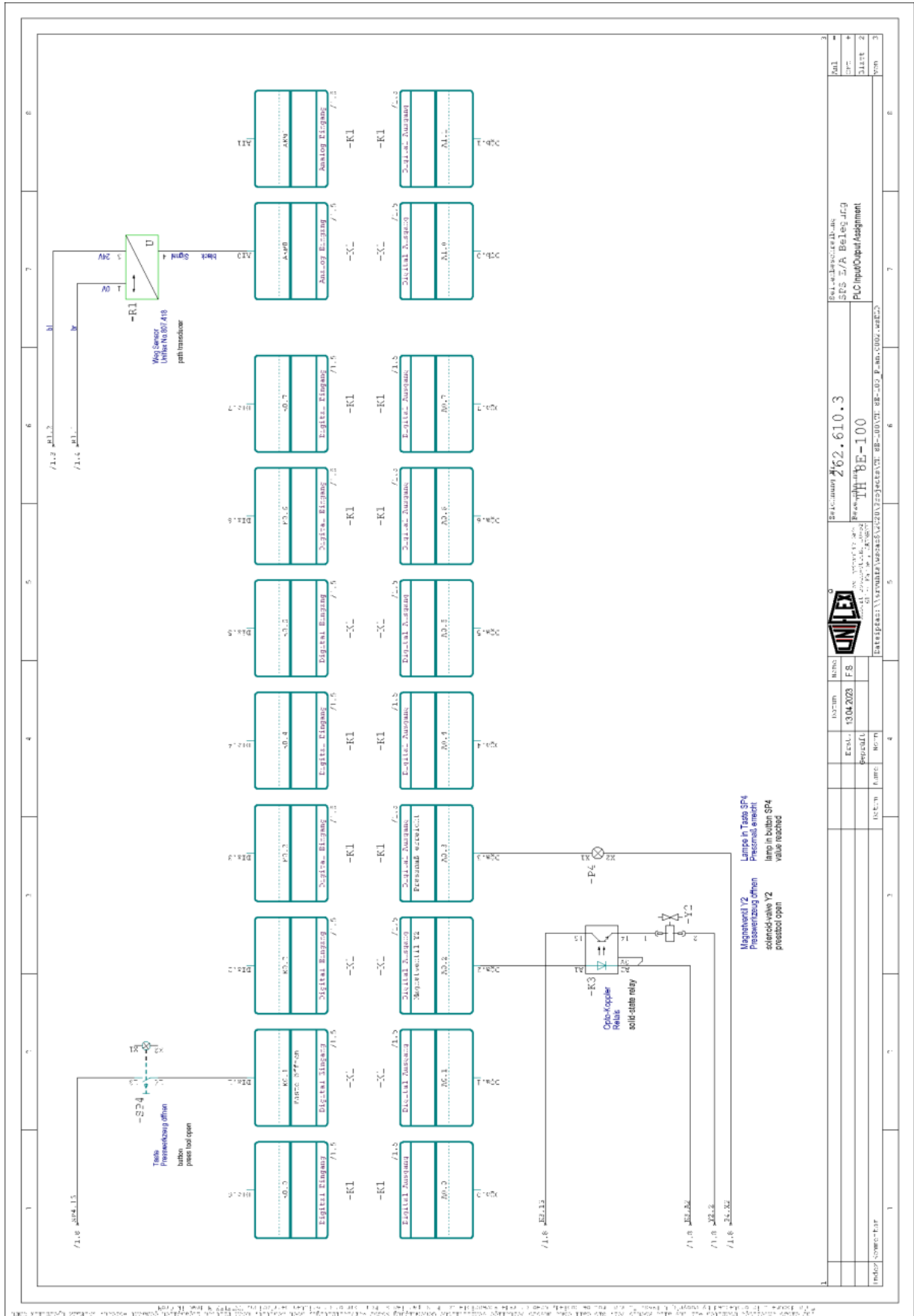
# 9.5 Hydraulic diagram



# 9.6 Electric diagram



9 Annex  
9.6 Electric diagram







## 9.7 Maintenance log

Hydraulic oil	Hose assembly	Retaining bolt	Slide bearing plate	Pressure springs	Remark	Date	Signature
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### 9.8 Declaration of qualified staff

I herewith declare that I have attended an internal training for the operation of the machine and have been informed on all safety-related details. In addition I declare that I have read and understood this Operation Manual completely.

City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature









[www.parker.com](http://www.parker.com)



European Headquarters  
La Tuilière 6, 1163 Etoy,  
Switzerland  
Tel: +41 21 821 85 00

Your authorized Distributor