

**Cordless clamp pincer
CP 10 / CP 20 / CC 20**

Instruction manual

Instruction manual

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1 Information about this manual

1.1 Symbols and means of depiction

Warning instructions are used in this manual to warn of the risk of personal injury or property damage.

- ▶ Always read and observe these warning instructions.
- ▶ Observe all instructions that are flagged with a safety alert symbol and text.

The following symbols are used in this instruction manual:

Symbol	Meaning
	Marks an instruction which if disregarded lead to severe injuries, even including the death of personnel
	Marks an instruction which if disregarded can lead to severe injuries, even including the death of personnel
	Marks an instruction which if disregarded can lead to minor injuries
	Marks an instruction which if disregarded can lead to damage to the electrical tool or to damage to property
INFO	Information relating to the understanding or optimization of working practices
▶	One-step instruction
1. 2. 3.	Multi-step instruction ▶ Carry out the steps in the order shown.
✓	Requirement Necessary or labor-saving steps for the successful execution of an action

1.2 Scope

This instruction manual is valid for OETIKER clamp pincers CP 10 / CP 20 / CC 20.

1.3 Definitions of terms

The term "electrical tool" used in this instruction manual and these safety instructions refers both to mains-powered electrical tools (with a power lead) and to cordless electrical tools (without a power lead) including the battery power pack and charger.

2 Basic safety instructions

2.1 Using the instruction manual

- Make sure that this instruction manual is always kept close at hand ready for use.
- Pass this instruction manual on to the next owner or user.
- Please read this instruction manual carefully before commissioning the clamp pincer CP 10 / CP 20 / CC 20. Familiarize yourself with all settings and their functions. Anyone involved in setting up, commissioning, maintaining or repairing the unit must have read and understood the instruction manual and in particular the safety instructions.

2.2 Proper use

The unit may be used only for the intended purpose and under technically safe and fault-free conditions.

Clamp pincer CP 10 / CP 20 / CC 20 is intended for use only to close genuine OETIKER clamp models. No other use is permissible.

Correct usage also covers observance of this instruction manual and compliance with the technical data.

Any use not in accordance with proper usage shall be regarded as incorrect usage.

Use other than for the proper purpose

The clamp pincer CP 10 / CP 20 / CC 20 is in line with state-of-the-art technology and is safe to operate. Residual dangers remain if it used incorrectly or by untrained personnel. The manufacturer bears no responsibility for injuries to personnel and damage to property arising from improper use of the clamp pincer CP 10 / CP 20 / CC 20. In such cases the operating company bears sole responsibility.

2.3 General safety instructions

- If the safety instructions are disregarded there is a risk of potentially fatal injuries, damage to the health of personnel and damage to property on the machine or surroundings.
- Retain all operating instructions and safety instructions; they are essential for many years of fault-free operation of clamp pincer CP 10 / CP 20 / CC 20.
- Before using the clamp pincer CP 10 / CP 20 / CC 20, review and be aware of the hazard area. Only if no hazards are present may the clamp pincer be activated.
- Use only clamp pincers CP 10 / CP 20 / CC 20 which are in proper working condition. Inspect for damage prior to each use.
- Maintenance and repair work should be carried out only by qualified specialists.
- Keep your working area clean and ensure it is well lit (>400 Lux). Untidy or poorly lit working areas can lead to accidents.
- Keep children and other people away when electrical tools are being used. Distractions can cause the user to lose control of the clamp pincer CP 10 / CP 20 / CC 20.
- Do not use the electrical tool in an explosion hazard area where flammable liquids, gases or dusts are present. Electrical tools create sparks which can ignite dust or vapors.
- Clamp pincer CP 10 / CP 20 / CC 20
 - may be used only by persons who are familiar with its use and have been informed of the risks.
 - may be used only in hand-held mode. The START button and reset button must be accessible and operable in an emergency.
 - must not be used as a stationary tool, and may not be secured in a jig fixture.
 - may be opened or serviced only by the manufacturer.
 - may be used only with the original equipment battery packs.
 - may not be used during heavy rain, or under water.
- If during operation the clamp pincer CP 10 / CP 20 / CC 20 poses a safety risk to people or to the machine, release the START button and press the reset button.
- All relevant accident prevention regulations and other generally recognized health and safety rules must be complied with. The manufacturer shall not be held liable for damage resulting from unauthorized modifications to the clamp pincer CP 10 / CP 20 / CC 20.
- Suitable personal protective clothing must be worn when using the clamp pincer.
- When working at heights, clamp pincer CP 10 / CP 20 / CC 20 must be adequately secured against being dropped.
- The hydraulic oil in clamp pincer CP 10 / CP 20 / CC 20
 - must not be drained without taking necessary precautions.
 - and must be properly disposed of.
- The permissible ambient, storage and operating temperatures must be complied with.

Improvements to the machine

In our endeavor to continuously improve the quality of our products, we reserve the right to make improvements without changing the instruction manual. Details of dimensions, weights, materials, performance ratings and names may therefore be subject to necessary changes. Regarding electrical diagrams, the diagram supplied with the machine takes precedence in all cases.

2.4 Safety-conscious work

- ▶ Check the clamp pincer CP 10 / CP 20 / CC 20 for visible damage before each use and starting production. Use it only when in proper operating condition.
- ▶ Any defects must be reported to a supervisor immediately. The clamp pincer CP 10 / CP 20 / CC 20 must not be used if it is damaged or worn.

2.5 Electrical safety

- If these instructions are disregarded there is an increased risk of electric shock.
- The connection plug of the electrical tool must be the correct type for the socket. The plug must not be modified in any way. Do not use any adapter plugs in conjunction with electrical tools that rely on the protective ground in the socket.
- Avoid bringing your body into contact with grounded equipment such as pipes, radiators, cookers and fridges.
- Do not expose electrical tools to rain or wet conditions.
- Do not use wires and cables for purposes for which they are not intended, i.e. to carry the electrical tool, suspend it or pull the plug out of the socket. Keep the power cable away from heat, oil, sharp edges and moving parts.
- If you are working outdoors with an electrical tool, use only extension cables that are specifically intended for use outdoors.
- Connect the tool only to a power socket that is protected with a suitable residual current circuit-breaker.
- Before starting work with the electrical tool, carefully check that there are no live parts in the working area. If necessary, take protective measures appropriate for working in the vicinity of live parts.

2.6 Safety of personnel

- Be alert and take care what you are doing - be sensible when working with an electrical tool. Never use an electrical tool if you are tired or under the influence of drugs, alcohol or medication. A moment of inattention when using an electrical tool can lead to serious injuries.
- Always wear safety glasses and wear other personal protective equipment appropriate to the work you are performing with the electrical tool, such as dust mask, non-slip safety shoes, safety helmet or ear defenders. Wearing personal protective equipment reduces the risk of injuries.
- Avoid starting the tool up accidentally. Make sure that the electrical tool is switched off before you connect it to the power supply and / or plug the battery in, pick it up or carry it. If you have your finger on the trigger when carrying the electrical tool, or the electrical tool is switched on when it is connected to the power supply / battery, this can lead to accidents.
- Avoid any abnormal bodily posture. Make sure you are standing comfortably and are well balanced at all times. This allows you to control the electrical tool better in the event of any unexpected situation.
- Do not deceive yourself with wrong ideas of safety and do not disregard the rules for the use of electrical tools, no matter how familiar you are with their use. Carelessness can lead in a split second to serious injuries.
- Never reach into the working area around the head of the tool unless you have ensured the tool is securely stopped. The electrical tool is securely stopped only when the tool is fully open and the battery is unplugged, after the reset button has been pressed for at least 5 seconds.
- The mechanical return movement permits the user to bring the tool to the home position in an emergency and before the tool has engaged. Pressing the reset button depressurizes the tool. After the end of the work, and before putting the electrical tool down, the device and the tool must be brought to a stop and depressurized.
- When working with the cutter head or compression head keep other people, especially strangers, away from the working area! The electrical tool must be operated only by one person at a time. Inform all personnel of the hazard area of the electrical tool.

2.7 Use and handling of the electrical tool

- Do not overload the electrical tool. Use the right electrical tool for your work. You will work better and more safely within the required performance range when you use the right electrical tool.
- Do not use any electrical tool that has a defective switch or other components. An electrical tool that can no longer be switched on or off is dangerous and must be repaired.
- Withdraw the plug from the socket or take off the removable battery before you make adjustments to the device, change parts of the insert head or put down the electrical tool. These precautions prevent the electrical tool starting up accidentally.
- When electrical tools are not being used, keep them out of the reach of children. Do not allow anyone use the electrical tool if they are unfamiliar with it or have not read these instructions. Electrical tools are dangerous if they are used by inexperienced persons.
- Look after your electrical tool and insert head carefully. Check that the moving parts operate correctly and do not jam. Check that parts are not broken or damaged so as to affect the operation of the electrical tool. Have damaged parts repaired before you use the electrical tool. Many accidents arise from badly maintained electrical tools.
- Keep cutting tools sharp and clean. Carefully maintained cutting tools with sharp cutting edges are less liable to jamming and are easier to guide.
- Keep handles and holding surfaces dry, clean and free of oil and grease. Slippery handles and holding surfaces mean the electrical tool cannot be used safely and controlled in unforeseeable situations.

2.8 Use and handling of the cordless tool

- Charge the battery only with battery chargers recommended by the manufacturer. A charger that is designed for use with one type of battery is used to charge other type of battery there is a risk of fire.
- Use only the batteries provided for the electrical tools. The use of other batteries can lead to injuries and the risk of fire.
- Keep the uninstalled battery away from office staples, coins, keys, nails, screws and other small metal objects. These can potentially bridge the terminals. A short circuit between the battery terminals can cause burns or fire.
- If the battery is misused, fluid can leak from it. Avoid contact with such fluid. If you do come into contact with it, wash the affected area with water. If battery fluid gets into the eyes, seek medical assistance immediately. Contact with battery fluid can lead to skin irritation or burns.
- Do not use battery that is damaged or has been modified. Damaged or modified batteries can behave unpredictably and can lead to fire, explosion or risk of injuries.
- Never expose a battery to fire or excessive temperatures. Fire or temperatures in excess of 130 °C (266 °F) can lead to an explosion.
- Comply with all instructions for charging, and never charge the battery or cordless tool at temperatures outside the range specified in the instruction manual. Incorrect charging or charging at temperatures outside the permissible range can render the battery useless and increase the risk of fire.
- The battery may not be unplugged until the electrical tool has come to a complete stop.
- Do not charge the battery in the presence of highly flammable substances or gases. On completion of charging, unplug the charger from the socket. Do not dismantle the charger.
- If the battery is kept in storage for an extended period, the charge status must be checked regularly. The optimum charge status is between 50 % and 80 %. Batteries should be recharged a maximum of every 12 months so as to avoid deep discharging which can render the battery useless.
- When a battery has run flat it must never be stored longer than 1 month in the discharged condition, so as to avoid deep discharging which can render the battery useless.
- The state of charge can be viewed by pressing the button on the battery. The battery can remain in the electrical tool whilst this is done, but the tool must have been switched off at least 1 minute earlier, so as to ensure an accurate reading. The number of LEDs that light up indicates state of charge. A flashing LED indicates less than 10 % charge level. This display should be used only to indicate the charge remaining. For further information, consult the operating instructions supplied with the charger.

2.9 Conversions, modifications

- Clamp pincer CP 10 / CP 20 / CC 20 must not be modified either constructively or with respect to safety features without express permission from OETIKER. OETIKER shall not be held liable for any damages resulting from any such modifications.
- The housing halves of clamp pincer CP 10 / CP 20 / CC 20 are sealed with a security label. The screws on the adapter to the pincer head are sealed with sealing varnish. If the seal is broken, OETIKER will not accept any claims under warranty. In particular, repairs of any kind, apart from to the pincer head, are prohibited.
- Use only Original spare parts and accessories.
- Do not dismantle any safety equipment or features.

2.10 Qualified staff

Only authorized and qualified personnel are permitted to use this machine, subject to compliance with the technical data and the following safety rules and regulations. Qualified personnel are people who are familiar with handling, assembling, commissioning and operating the pincer and who have the qualifications appropriate to their job role.

2.11 Maintenance work

The inspection and maintenance intervals specified in the instruction manual must be complied with. The maintenance and repair manual must be complied with (see chapter 6.2, p. 6-35).

2.12 Storage and transport

To protect the clamp pincer CP 10 / CP 20 / CC 20 against damage, it must be cleaned after each use and before transport and placed in the supplied pincer case. The battery must be disconnected from the clamp pincer CP 10 / CP 20 / CC 20 for this purpose.

3 Overview

3.1 System overview

- The pincers enable flexible, cordless and precise installation of OETIKER ear clamp models and MCRs. They ensure high repeatability of the closure force and enable far-reaching process monitoring with easy setting of the closure parameters.
- The pump bodies and all operating parts are made of high-strength materials and have been rigorously tested.
- The pincer housing is made of glass-filled insulating and shock-resistant polyamide.
- The device is designed to be ergonomic, compact and robust.
- The device has a high return supply volume, for quicker operating cycles.
- The software supplied allows the process data to be displayed on a PC.
- The device is equipped with a microcontroller control system.
- Pressure monitoring is performed by an electronic pressure sensor.
- The level of battery charge is monitored continuously.
- Service management is monitored electronically.
- The traceability of the operating cycles is ensured by automatic recording and saving of the process data in an internal memory. A maximum of approx. 100,000 operating cycles can be saved.
- A mini USB port allows the saved data to be read, settings performed and software updates performed.
- Additional LED displays for quick info regarding machine status and process results.
- High availability due to long maintenance intervals (maintenance necessary every 100,000 closures).

The overall design of the CP 10 / CP 20 / CC 20 cordless clamp pincer system consists of the following main components:

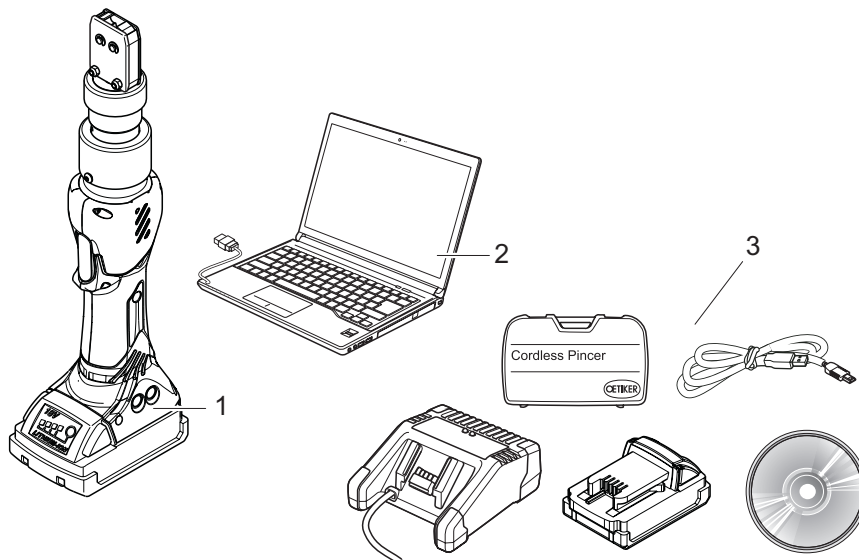


Fig. 1: Structure of entire system CP 10 / CP 20 / CC 20

1. Cordless clamp pincer CP 10 / CP 20 / CC 20
2. PC with installed software (PC not included in scope of supply)
3. Accessories

3.2 Clamp pincer CP 10 / CP 20 / CC 20

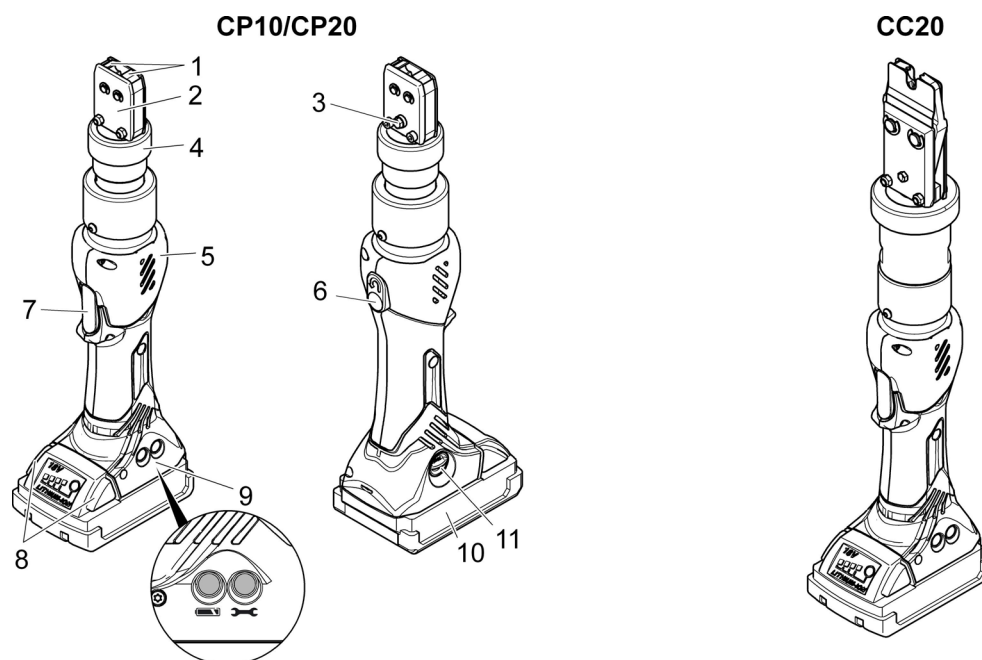
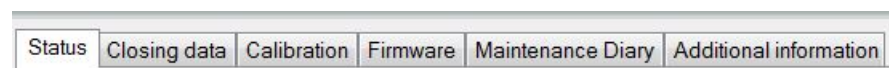


Fig. 2: Clamp pincer CP 10 / CP 20 / CC 20

1. Pincer jaws
2. Pincer plate
3. Grease nipple
4. Union nut
5. Pincer body
6. Reset button
7. START button
8. Battery release
9. Status LEDs
10. Battery
11. USB interface

3.3 Overview of PC software

The program interface is divided into 6 tabs.



- Status: Display of the closure force curve and display of process data of the most recent closure or any selected closure
- Closure data: Input and management of the closure data set
- Calibration: Activation of pincer calibration
- Firmware: Upload of new operating software for the clamp pincer
- Service log: Entry of desired or executed service measures
- Additional information: Operation manual and contact data

3.4 Accessories

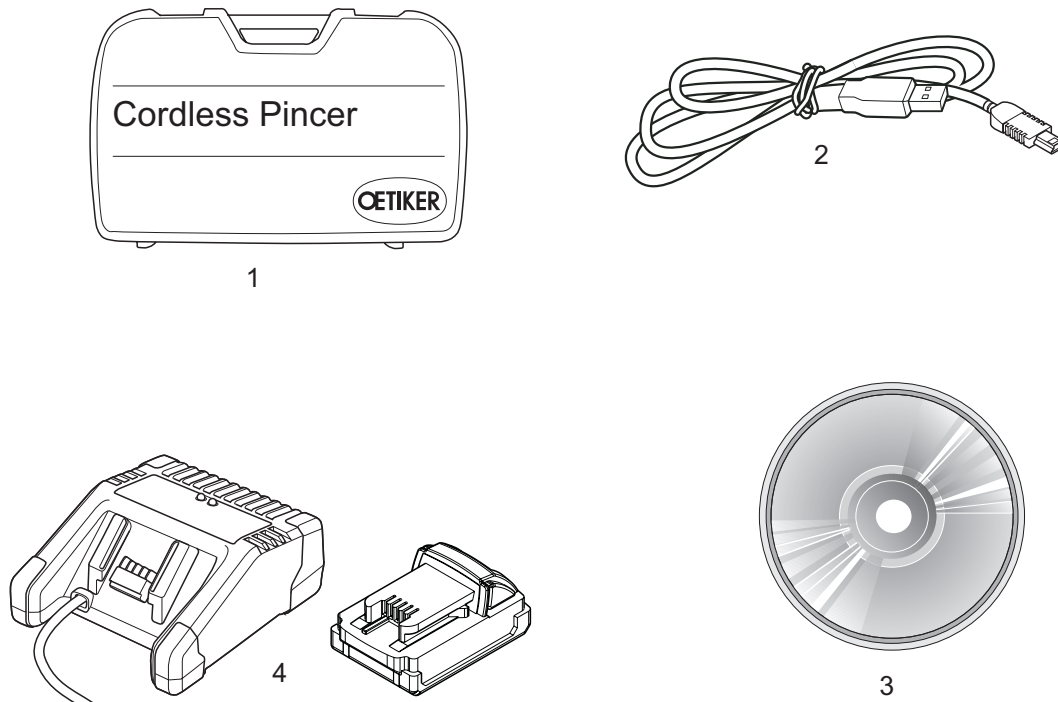


Fig. 3: Accessories

1. Transport case
2. USB 2.0 Connecting cable
3. CD-ROM with PC software and technical description
4. Battery and battery charger

There are additional accessories available for clamp pincer CP 10 / CP 20 / CC 20, e.g.:

- Test Equipment CAL 01, consisting of Calibrator CAL 01 and closure force sensor SKS 01, for measuring the pincer jaw force (closure force) and for calibrating clamp pincer CP 10 / CP 20 / CC 20
- AC adapter for operating the clamp pincer without a battery

4 PC software and firmware

4.1 System requirements

The PC on which the software is installed must satisfy at the following requirements:

- Computer: Pentium 4 processor or equivalent – CPU at least 1.7 MHz
- Graphics: Screen resolution min. 1024 x 768 pixels or higher, 65535 or more colors
- Main memory: 512 MB RAM or more (1 GB recommended)
- Hard drive: 200 MB free disk space (1 GB recommended)
- Screen resolution: 1024x768 or higher, 65535 colors or more
- Operating system: Windows Vista®, Windows 7® and Windows 8®
- Other: CD-ROM drive, USB 2.0

Installation notes

The program must be installed and started up for the first time by somebody with adequate user rights. If an error message appears during installation or on initial startup, please contact your system administrator.

Plug & Play

After the PC software supplied has been installed and clamp pincers CP 10 / CP 20 / CC 20 connected to the PC via the USB cable, the computer automatically recognizes the pincer. When connected for the first time, this recognition of the clamp pincer may take a few minutes. After this the PC software can be used.

4.2 Installing the PC software

INFO
The following descriptions assume a basic knowledge of how to use a PC with the Windows operating system.

4.2.1 Automatically installing PC software

1. Close all open applications.
2. Place the CD in the CD-ROM drive.

After a few seconds the installation instructions will be displayed on the screen.

3. Follow the instructions on the screen.

4.2.2 Manually installing PC software

If the PC configuration does not support automatic installation the PC software can be installed manually.

- Start installation by double clicking on the setup.exe file on the installation CD.

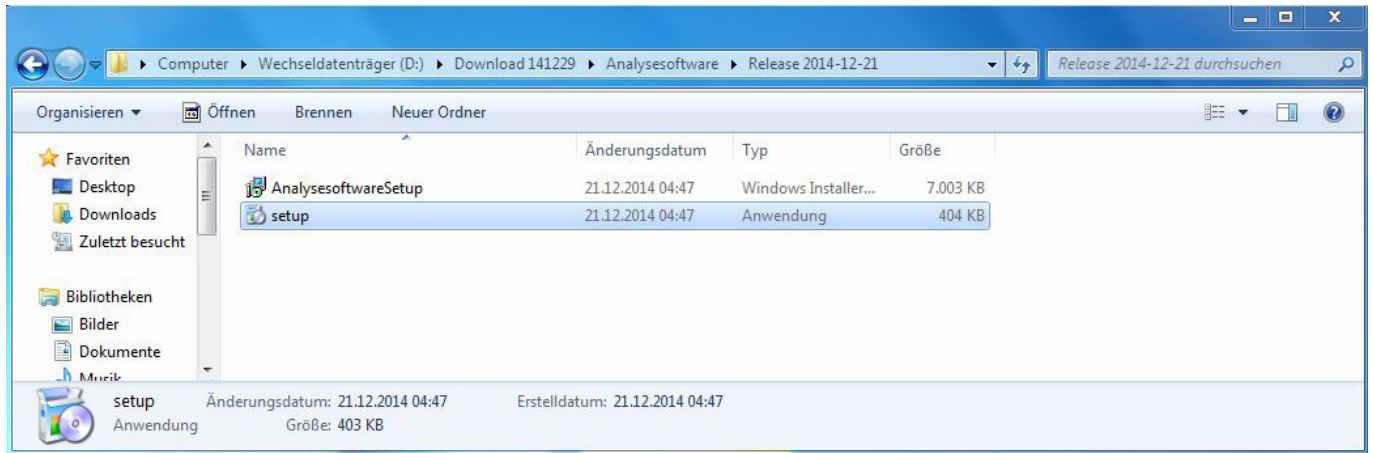


Fig. 4: Manual installation of the PC software

- Follow the instructions of the Setup wizard.

4.3 Starting PC software



1. Double click on the software icon for the PC software.

The PC software will start.

2. Press START button on clamp pincer CP 10 / CP 20 / CC 20.
3. Connect clamp pincer CP 10 / CP 20 / CC 20 and PC with the USB cable.

4.4 Updating firmware

This function allows new firmware to be loaded to the device.

	<p>NOTICE</p> <p>Damage to the clamp pincer!</p> <p>Loading the wrong firmware can cause the clamp pincer to malfunction.</p> <ul style="list-style-type: none"> ▶ Always load the correct firmware version designed for the specific clamp pincer. Example: Only load firmware for CP 10 for clamp pincer CP 10.
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INFO	<p>The firmware currently active in the device is shown in the "Device status" area.</p>
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1. Connect clamp pincer CP 10 / CP 20 / CC 20 and PC with the USB connection.

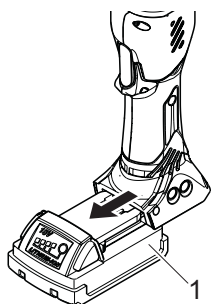


Fig. 5: Removing the battery

2. Remove battery (Fig. 5/1) from clamp pincer.

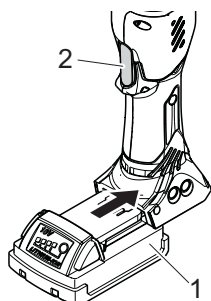


Fig. 6: Inserting the battery

3. Hold down the START button (Fig. 6/2) and reinsert battery (Fig. 6/1) at the same time. The status LEDs will flash red.

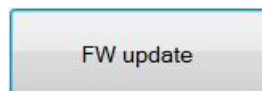
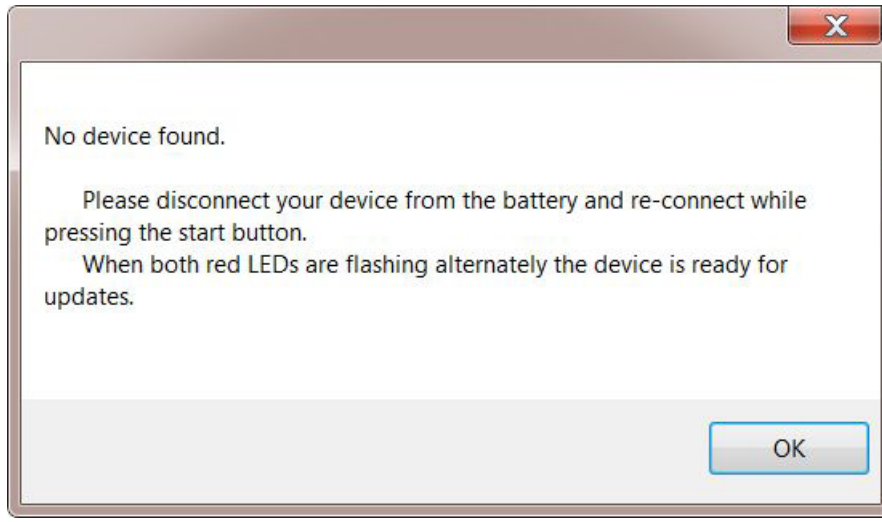


Fig. 7: Firmware update button

4. Start the PC software and click on the "FW Update" button in the "Firmware" tab.

INFO

If the "FW update" button is pressed before the device has switched to transfer mode, the "No device found" advice window is displayed, with information on how to proceed (see below).



5. Select the new firmware version in the "Open" window and press the "Open" button to confirm the selection.

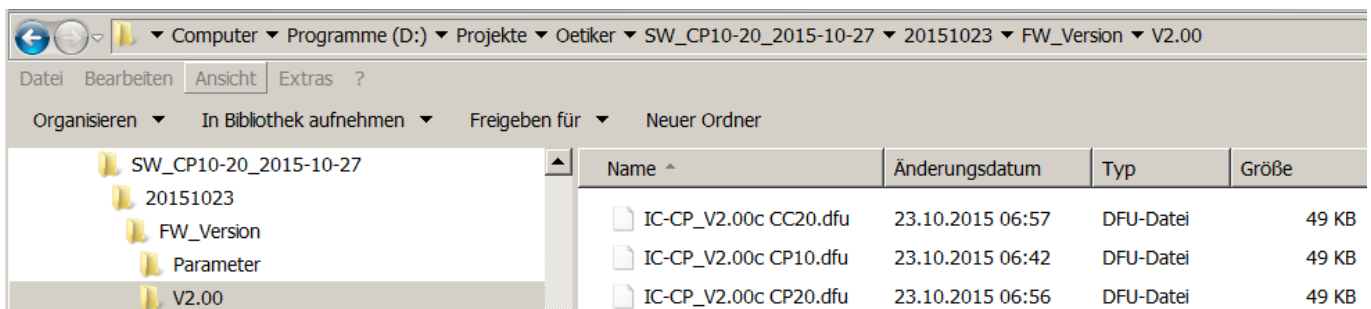


Fig. 8: Confirming firmware selection

The selected firmware will now be loaded. After the firmware has been loaded successfully the device switches on automatically, the loaded firmware is active and the firmware update is now complete.

INFO

The status of the firmware update can be read off from the progress bar for data transmission (Fig. 31/5). Once the transfer has been successfully completed, the message "Data successfully transferred" is displayed.

If the firmware transfer was unsuccessful, the information window "Data not correctly transferred" appears. In this case, repeat the process.

5 Use of clamp pincer

5.1 Setting up the clamp pincer

5.1.1 Manually entering and managing the closure data

	CAUTION
	<p>Possible damage to the clamp pincer!</p> <p>Entering incorrect closure data can cause the clamp pincer to malfunction.</p> <p>► Always enter the correct values for the clamp pincer and pincer head. Observe the specifications and technical data given by OETIKER.</p>

Requirement:

- ✓ Battery is charged.
- ✓ The clamp pincer must be connected to the PC via the USB cable.
- ✓ The clamp pincer must be switched on.

INFO
The values for the pincer model, correlation factor and closure force tolerance are automatically adopted by the PC software. These values cannot be changed manually.

Status	Closing data	Calibration	Firmware	Maintenance Diary	Additional information
Closing data set					
Pincer type:		CP10			
Pincer head:		HO-07.5-13.2			
Pincer head item no.:					

1. Enter the designation of the pincer head in the "Pincer head" file in the Closure data menu. (max. 18 characters possible).

Status	Closing data	Calibration	Firmware	Maintenance Diary	Additional information
Closing data set					
Pincer type:		CP10			
Pincer head:		HO-07.5-13.2			
Pincer head item no.:		53687230			

2. Enter the part number of the pincer head in the "Pincer head item no." field. (max. 18 characters possible).

Correlation factor:	<input type="text" value="1,5"/>
Closing force [N]:	<input type="text" value="1000"/>
Closing force tolerance \pm [N]:	<input type="text" value="120"/>
Closing force holding time [ms]:	<input type="text" value="200"/>

3. Enter the value of the target closure force in the "Closure force [N]" field.

If the minimum is not met or maximum closure force is exceeded, the closure force will be automatically restricted to the minimum/maximum value.

Correlation factor:	<input type="text" value="1.5"/>
Closing force [N]:	<input type="text" value="1000"/>
Closing force tolerance \pm [N]:	<input type="text" value="120"/>
Closing force holding time [ms]:	<input type="text" value="205"/>

4. Enter the value of the closure force holding time in the "Closure force holding time [ms]" field.

Data exchange

5. Click on the "Send data to device" button.

The data is confirmed and transmitted to the clamp pincer. The status bar shows the progress of data transmission.

INFO

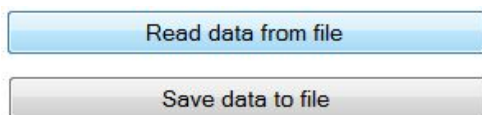
After every change to the target closure force, the clamp pincer must be calibrated.

- Save the input values and calibrate the clamp pincer.

5.1.2 Loading closure data from a file

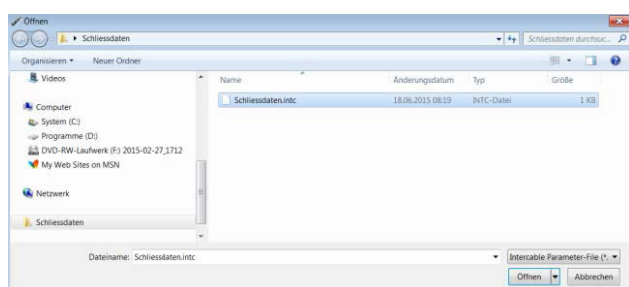
Requirement:

- ✓ Battery is charged.
- ✓ The clamp pincer must be connected to the PC via the USB cable.
- ✓ The closure data set is available on the PC or data carrier in file format (.intc).



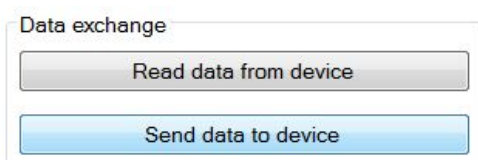
1. Click on the "Read data from file" button in the Closure data menu.

The folder overview of your PC opens.



2. Select closure data set and click on "Open".

The values of the closure data set are automatically adopted by the PC software and loaded into the input fields.



3. Click on the "Send data to device" button.

The data is confirmed and transmitted to the clamp pincer. The status bar shows the progress of data transmission.

INFO

After every change to the target closure force, the clamp pincer must be calibrated.

- Save the input values and calibrate the clamp pincer.

5.1.3 Calibrating clamp pincer



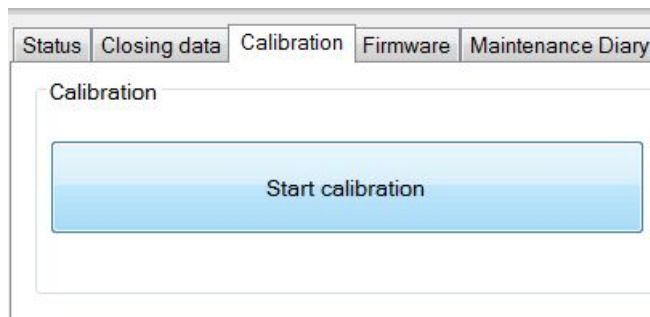
NOTICE

Possible damage to the clamp pincer and faulty clamp closures!

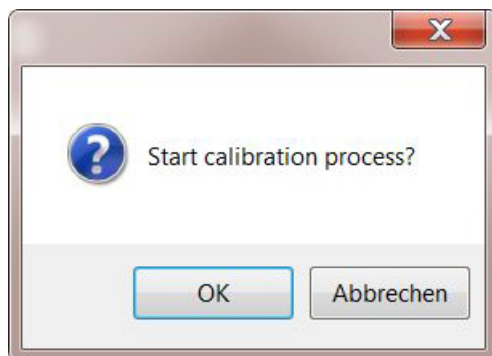
To ensure uniform and reproducible process quality calibration must be executed at least once per shift or once per day. Calibration is also necessary if any pincer components are exchanged. OETIKER recommends checking the closure force after calibration as an additional verification measure. It is critical to ensure that clamps are not closed in calibration mode.

Requirement:

- ✓ The clamp pincer must be connected to the PC via the USB cable.
- ✓ The calibration gauge is fitted with appropriate gauge jaws for the respective pincer head.
- ✓ The new closure force value has been transmitted to the clamp pincer so that it is automatically incorporated into the pincer test.

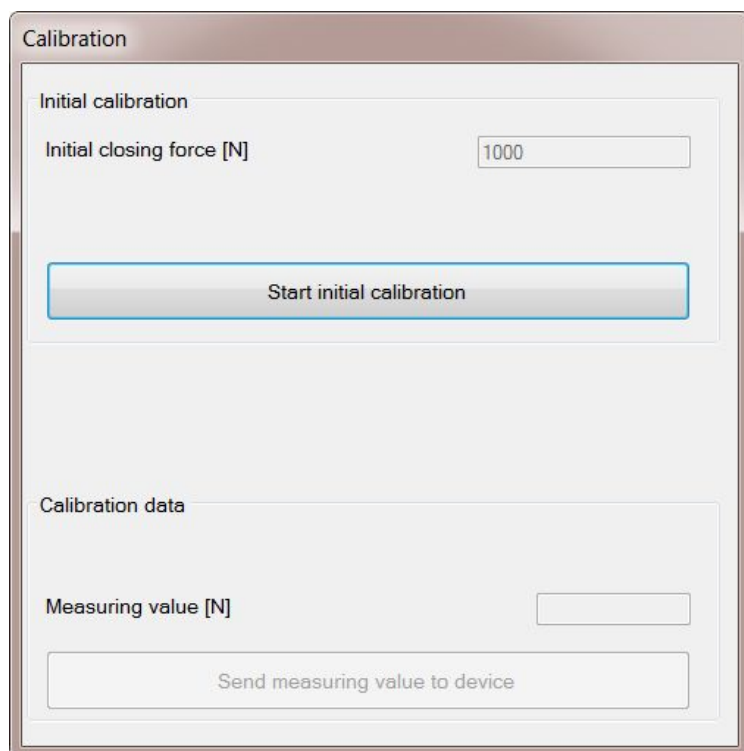


1. Click the "Start calibration" button in the Calibration menu.



2. In the Confirmation menu, click on "OK" to confirm.

Initial calibration



Calibration

Initial calibration

Initial closing force [N] 1000

Start initial calibration

Calibration data

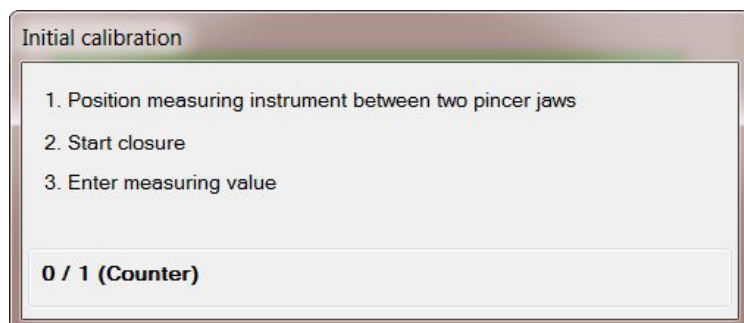
Measuring value [N]

Send measuring value to device

The "Calibration/Initial calibration" window now opens.

The initial closure force has already been input and doesn't need to be re-entered.

3. Click on the "Start initial calibration" button.



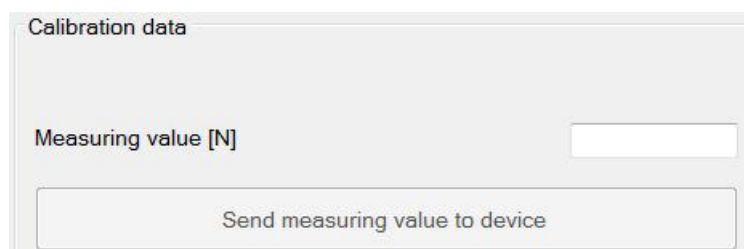
Initial calibration

1. Position measuring instrument between two pincer jaws
2. Start closure
3. Enter measuring value

0 / 1 (Counter)

The "Initial calibration" information window opens. This describes the next steps and contains a counter showing the number of measurement closures.

Once the measurement closure has been performed the "Initial calibration" window closes automatically.



Calibration data

Measuring value [N]

Send measuring value to device

4. Input the measured value into the "Measured value [N]" field.

The "Send measured value to device" button lights up green.

5. Click on the "Send measured value to device" button.

The measured value is acknowledged and sent to the device.

Closure force calibration

INFO

- ▶ Reset the measuring instrument before starting the closure force calibration.
- ▶ If the CAL01 is being used, select the "Average" setting.

The screenshot shows a software window titled "Calibration". It contains two main sections. The first section, "Closing force calibration", has a label "Closing force target value [N]" next to a text input field containing the number "1000". Below this is a large button labeled "Start closing force calibration". The second section, "Calibration data", has a label "Average value [N]" next to an empty text input field. Below this is another button labeled "Send average value to device".

After the measured value for the initial calibration has been sent, the "Calibration / closure force calibration" window will open.

The closure force target value has already been input and need not be input again.

INFO

The target closure force is carried over from the "Closure force [N]" input field of the "Closure data" tab (see *chapter 7.4*).

1. Click on the "Start closure force calibration" button.

The screenshot shows a software window titled "Closing force calibration". It has a light blue background. At the top, it says "IMPORTANT: Reset measuring instrument befor start!". Below this are three numbered steps: "1. Position measuring instrument between two pincer jaws", "2. Carry out five closures", and "3. Enter average measuring value". At the bottom, there is a counter display showing "0 / 5 (Counter)".

The button lights up green and the "Closure force calibration" information window opens. This displays the next steps and contains a counter showing the number of measurement closures. The counter provides an indication of the number of closures performed during calibration.

Calibration data

Average value [N]

Send average value to device

Once the 5 closures required for calculating the average have been performed, the "Closure force calibration" indicator closes automatically.

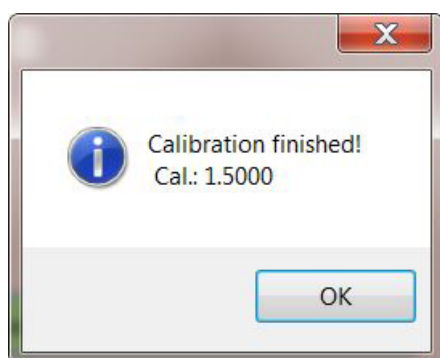
2. Enter the average of the measured values (e.g. from CAL01) into the "Average value [N]" field in the "Calibration values" area.

Send average value to device

The "Send average value to device" button lights up green.

3. Press the "Send average value to device" button.

The measured value is acknowledged and sent to the device.



The "Calibration finished" window now opens. This displays the calculated correlation factor (Cal.) (ratio between the thrust force of the plunger and the closure force of the pincer jaws) for information purposes

	<h2>NOTICE</h2>
	<p>For safety reasons, there is a minimum and maximum calculated correlation factor (Cal.), and an error message appears if it is either not met, or surpassed.</p> <p>Applicable from software version 2.07 in combination with firmware version 6.03 or higher version: The tool will be blocked for safety reason. An error "Calibration" will be displayed on the device status bar. If the tool is blocked it is not possible to perform a closure, if the START button is pressed the service LED will light up red.</p> <p>If the calibration process is interrupted for any reason and in any possible ways, the tool will also be blocked.</p> <p>► Repeat calibration if any of the described events have occurred.</p>

4. Click on the "OK" button.

The pincer test is completed and the PC software changes to the "Status" tab start screen see *chapter 7.3*.

5.2 Working with clamp pincer CP 10 / CP 20 / CC 20

5.2.1 Displaying the battery charge status

The battery charge level is displayed on the battery charger LED (see also *chapter 8.3*). It can also be read directly off the battery.

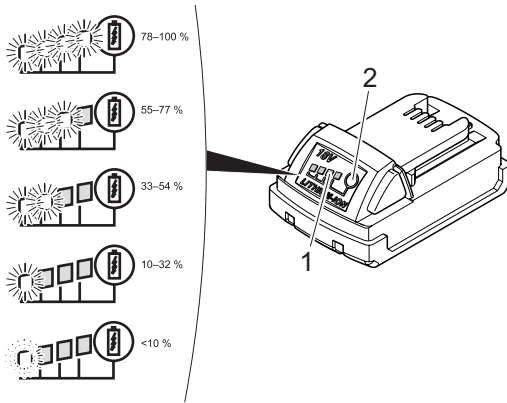


Fig. 9: Checking the battery charge level

► Press button (*Fig. 9/2*).

The number of illuminated LEDs (*Fig. 9/1*) shows the charge status. A flashing LED indicates less than 10 % charge level.

INFO

- When the battery is low, the pincer will not perform closures.
- This display should be used only to indicate the charge remaining.
- The battery can remain in the clamp pincer CP 10 / CP 20 / CC 20 whilst the charge status is being checked. In order to avoid uncertainty about the accuracy of the reading, however, clamp pincer CP 10 / CP 20 / CC 20 must be switched off for at least 1 minute prior to the test.

5.2.2 Battery charging

INFO

Further information about the battery charger can be found in the instruction manual from Techtronic Industries GmbH.

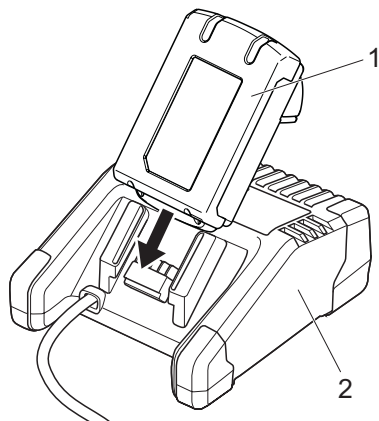


Fig. 10: Charging the battery

1. Connect charger (Fig. 10/2) to power supply.
2. Attach battery (Fig. 10/1) to battery charger.
3. Remove the battery (Fig. 10/1) from the battery charger as soon as it has reached the desired charge status.
4. After charging, disconnect the battery charger (Fig. 10/2) from the power supply.

5.2.3 Inserting battery



CAUTION

Risk of injury due to accidentally pressing the START button!

Once the battery has been inserted, the pincer is ready for use. If the START button is pressed (even accidentally) the pincer jaws will close!

► Ensure the START button is not pressed accidentally.

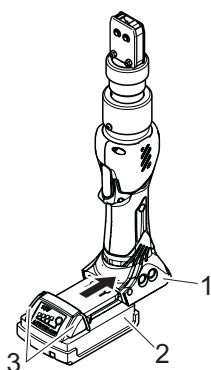


Fig. 11: Inserting the battery

- Slide battery (Fig. 11/2) into clamp pincer CP 10 / CP 20 / CC 20 (Fig. 11/1) until the safety catch locks. The battery is inserted when the buttons (Fig. 11/3) move and a click noise is audible.

5.2.4 Aligning the pincer head

The pincer head can be rotated into a position convenient to the user.



WARNING

Risk of injury!

Body parts could be crushed if work with the clamp pincer CP 10 / CP 20 / CC 20 is done improperly.

► Never insert your finger or other part of the body into the clamping area of the pincer head.

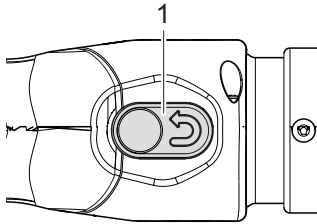


Fig. 12: Press Reset button

1. Press the Reset button (Fig. 12/1).

The pincer is now de-energized

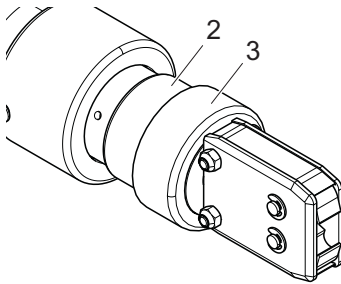


Fig. 13: Rotate the pincer head

2. Grip pincer head in area 2 (Fig. 13/2) and rotate into the desired position.

5.2.5 Performing closure

	WARNING
	<p>Risk of injury!</p> <p>Body parts could be crushed if work with the clamp pincer CP 10 / CP 20 / CC 20 is done improperly.</p> <p>► Never insert your finger or other part of the body into the clamping area of the pincer head.</p>

	NOTICE
	<p>Possible damage to the clamp pincer and faulty clamp closures!</p> <p>To ensure uniform and reproducible quality of the workflow, the calibration must be executed at least once per shift or once per day. Calibration is also necessary if any pincer components are exchanged. OETIKER recommends checking the closure force after calibration as an additional verification measure. It is critical to ensure that clamps are not closed in calibration mode. The clamp pincer may be used for a maximum of two closures per minute.</p>

INFO
<p>If there is no actuation of clamp pincer CP 10 / CP 20 / CC 20 for a certain period of time, it switches to sleep mode.</p> <p>► Press the START button again.</p> <p>Clamp pincer CP 10 / CP 20 / CC 20 is ready again.</p>

The following description serves as an example for ear clamps. You can find more detailed information on OETIKER products from your OETIKER contact person.

Requirements:

- ✓ Closure force and closure force holding time have been set using the PC software and uploaded to the clamp pincer.
- ✓ The clamp pincer has been calibrated.

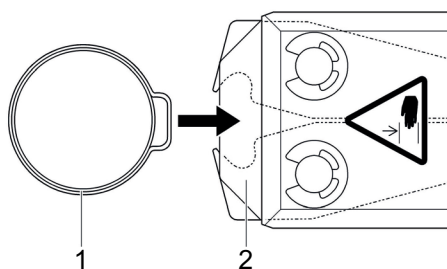


Fig. 14: Insert clamp

1. Insert the ear of an OETIKER clamp (Fig. 14/1) into the clamping range of the pincer head (Fig. 14/2).

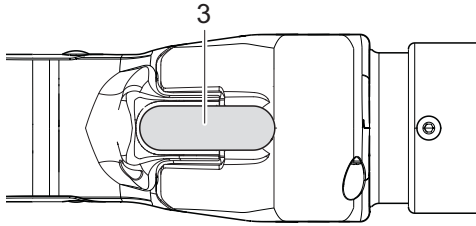


Fig. 15: Start closure

2. Press the START button (Fig. 15/3) and hold it down.

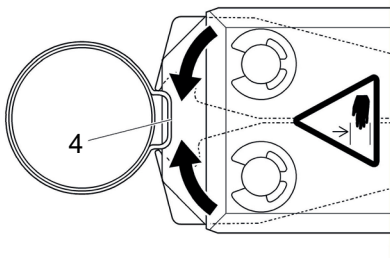


Fig. 16: The clamp is closed

The closure process is triggered and the clamp (Fig. 16/4) closes.

On reaching predefined parameter values the pincer jaws are opened.

3. Release the START button.

INFO

Closure is performed using the closure data loaded by the PC software.

A further closure operation can now be performed.

Canceling the closure process

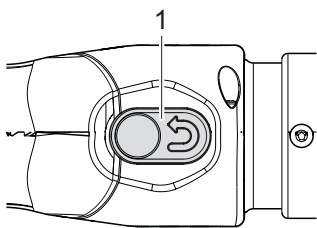


Fig. 17: Reset button

1. Release the START button (Fig. 15/3).
2. Press the Reset button firmly (Fig. 17/1).

When the Reset button is pressed, the pincer jaws return to their home position. The pincer head is now de-energized.

5.2.6 Decommissioning clamp pincer CP 10 / CP 20 / CC 20

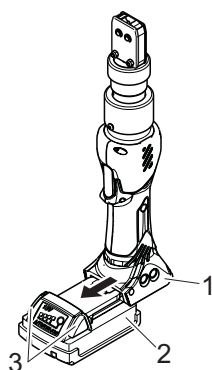


Fig. 18: Removing the battery

- ▶ Press buttons (Fig. 18/3) and pull battery (Fig. 18/2) out of clamp pincer CP 10 / CP 20 / CC 20 (Fig. 18/1).
- ▶ If necessary, clean any debris from the clamp pincer CP 10 / CP 20 / CC 20 after use and store in the case.

5.3 Documenting the process data

INFO

Requirements:

- ✓ Clamp pincer CP 10 / CP 20 / CC 20 must be connected to the PC via the USB cable.
- ✓ The status tab must be active (see Fig. 31).

5.3.1 Creating single report

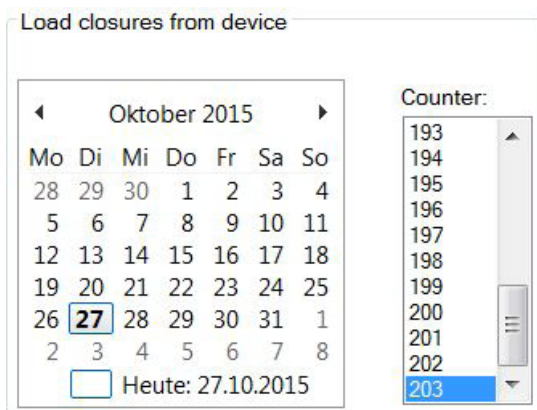


Fig. 19: Counter reading

1. Select the desired day in the calendar in the Status menu.
2. Select the desired counter reading number in the "Counter" list.
3. Click on the "Single report" button

The serial number, the process data and the closure force diagram for the closure operation are shown in the layout.

Printing a single report

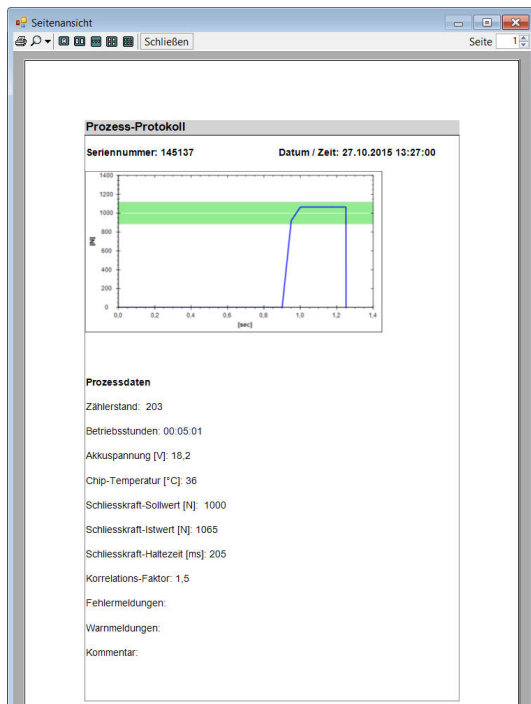



Fig. 20: Single report

- Click on the  icon in the menu bar.
The "Print" menu window opens and the preview can be printed.

5.3.2 Creating multiple reports

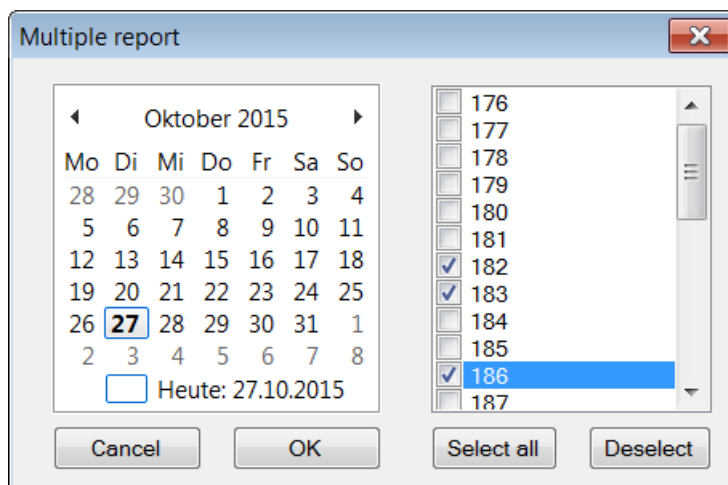


Fig. 21: Calendar and Counter reading

1. Click on the "Multiple reports" button in the Status menu, or click on the menu file on the output report.
2. Select the desired date in the calendar.
3. Select the desired counters in the "Counter" list
4. If necessary, select additional dates and repeat the process.
5. If desired, press the "Select all" button to select all the closure operations on the selected day.

6. When the selection is complete, click on the "OK" button.

The selected closure operations are displayed with the process data, warning messages and error messages, and the closure force diagram are shown in the "Page view" window.

Printing multiple reports

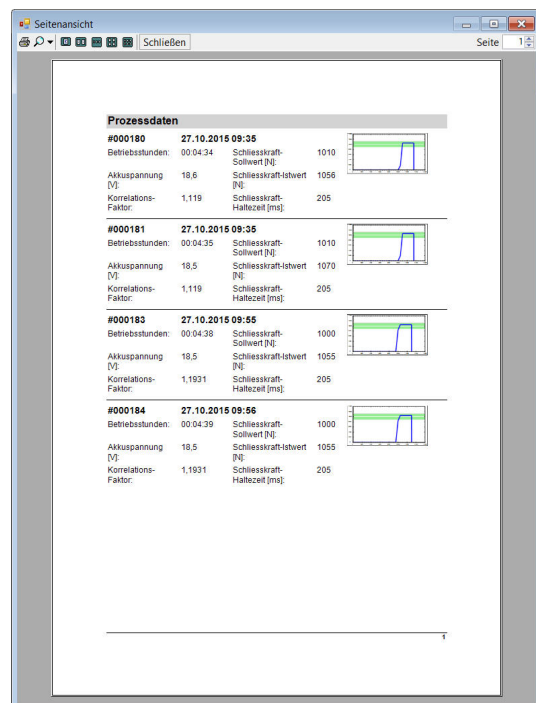


Fig. 22: Multiple reports

- Click on the icon in the menu bar. The "Print" menu window opens and the preview can be printed.

5.3.3 Generate a report as a CSV file

Single reports or multiple reports can be exported as CSV files.

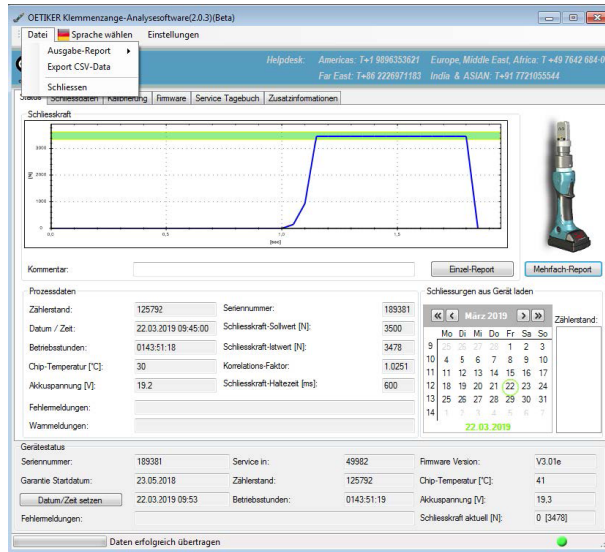


Fig. 23: Report as CSV file

1. In the menu file, click on "Export CSV data".
2. Select the desired date in the calendar.
3. Select the desired counters in the "Counter" list.
4. If necessary, select additional dates and repeat the process.
5. If desired, press the "Select all" button to select all the closure operations on the selected day.
6. Select the storage destination.

The data are available for further processing. The contain real data, without any graphics.

6 Maintenance and repair

If you have questions about maintenance and repair, please contact your OETIKER representative.

Alternatively use the following help desk numbers:

- Americas: T+1 -989-635-3621
- Europe, Middle East, Africa: T+49 7642 684-0
- Far East: T+86 2226971183
- India & Asian: T+91 7721055544

OETIKER spare parts

In order to ensure the fast and accurate delivery of spare parts, a clear purchase order is essential. It must include the following information:

- Product name, software version (see *chapter 7.2*)
- Type designation and article number (see technical data sheet)
- Serial number (engraved on the clamp pincer)
- Name of spare part and number of units required
- Shipping method
- Full address

6.1 General safety instructions on maintenance and repair work

- Clamp pincer CP 10 / CP 20 / CC 20 is designed for continuous use at a closure frequency of two closures per minute. After 100,000 closures, scheduled service must be performed. Otherwise the warranty lapses. Servicing of the pincer body must be performed only by OETIKER.
- Cleaning, lubrication and maintenance work should only be carried out by authorized technical personnel in accordance with the enclosed maintenance instructions and local safety regulations. Failure to observe these instructions and regulations may lead to personal injury and property damage.
- For maintenance and repair of pincer heads, use only OETIKER original spare parts.
- Following initial commissioning, clamp pincer CP 10 / CP 20 / CC 20 should be cleaned daily or weekly, depending on level of cleanliness or debris buildup.
- Never immerse clamp pincer CP 10 / CP 20 / CC 20 in water or other liquids.
- When the service led illuminates, clamp pincer CP 10 / CP 20 / CC 20 must be sent to OETIKER. There is no service work that the customer can or should perform on the clamp pincer. Any attempt at service work will void the warranty.
- In the event of oil loss, send cordless clamp pincer CP 10 / CP 20 / CC 20 to your regional OETIKER service center.

6.2 Maintenance

6.2.1 Before maintenance work

	WARNING
	<p>Risk of crushing by the clamp pincer!</p> <p>Clamp pincer CP 10 / CP 20 / CC 20 is only completely disconnected from power when the battery is removed.</p> <p>► Before performing maintenance work, remove the battery of clamp pincer CP 10 / CP 20 / CC 20.</p>

6.2.2 After maintenance work

- ▶ Check all screw connections.
- ▶ Reattach all safety equipment immediately.
- ▶ Check all functions of clamp pincer CP 10 / CP 20 / CC 20.
- ▶ Calibrate clamp pincer CP 10 / CP 20 / CC 20.

6.2.3 Weekly maintenance work

Pincer head

The rollers, plunger and pin on the pincer head are subject to mechanical loading. They must be lubricated at least once a week when clamp pincer CP 10 / CP 20 / CC 20 is in regular use.

Recommended lubricant:

Type	Type	Manufacturer	OETIKER Part no.
Grease	RENOLIT LX 2	FUCHS SCHMIERSTOFFE GmbH Friesenheimer Strasse 19 D-68169 Mannheim Phone +49 621 3701-0 Fax +49 (621) 3701-7000	08901490

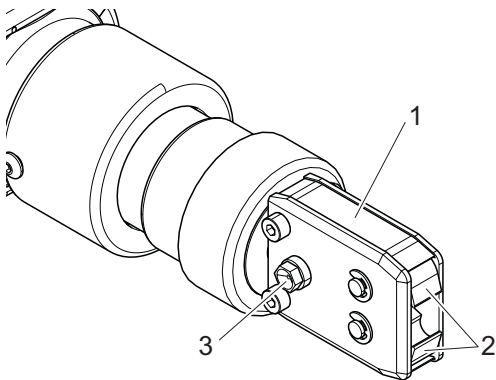



Fig. 24: Lubricating the pincer head

1. Remove the battery.
2. Grease the pincer head (Fig. 24/1) via the grease nipple (Fig. 24/3) using a grease gun with special lubricant RENOLIT LX 2.
3. Check pincer jaws (Fig. 24/2) for wear and breaks at the clamping points, exchange if necessary (see tool catalog for part no.).
4. Check the clamp pincer for mechanical damage.
5. Replace any defective parts.

6.2.4 Preventative maintenance work

For preventative maintenance, OETIKER recommends sending the pincer to OETIKER once a year or when prompted by the pincer maintenance counter, whichever comes first.

6.2.5 Repair


	WARNING
	<p>Risk of crushing by the clamp pincer!</p> <p>Clamp pincer CP 10 / CP 20 / CC 20 is only completely disconnected from power when the battery is removed.</p> <ul style="list-style-type: none">▶ Before performing maintenance work, remove the battery of clamp pincer CP 10 / CP 20 / CC 20.

6.2.6 Replacing pincer jaws

INFO
<p>Replacement pincer jaws are available fully assembled in the form of replacement jaw kit.</p> <p>It must include the following information:</p> <p>Product name, article number, shipping method, full address.</p> <p>Corresponding technical details can be found in the tools catalog.</p>

Changing the pincer jaws

There is a number engraved on the pincer jaws. You can use this number to order a pincer jaw replacement kit (see also the tools catalog). The following description serves as an example for pincer heads for ear clamps. You can find more detailed information on OETIKER products from your OETIKER contact person.

	NOTICE
	<p>Damage to the clamp pincer by fitting unauthorized parts!</p> <ul style="list-style-type: none">▶ Only use original OETIKER pincer jaws. Only fit the designated pincer jaw type in the pincer head.

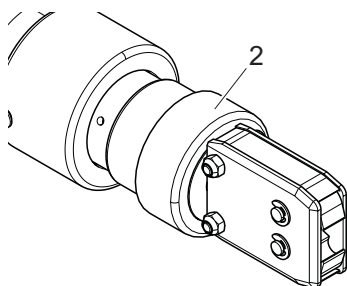


Fig. 25: Unfastening the pincer head

1. Remove the battery.
2. Unscrew the union nut (Fig. 25/2).

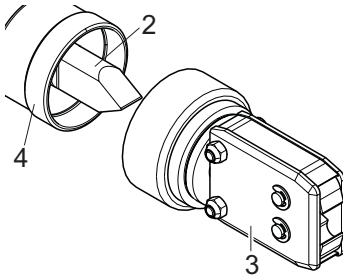


Fig. 26: Disconnect the pincer head

3. Disconnect the pincer head (Fig. 26/3) from the clamp pincer (Fig. 26/4).
The plunger (Fig. 26/2) stays in the clamp pincer (Fig. 26/4).

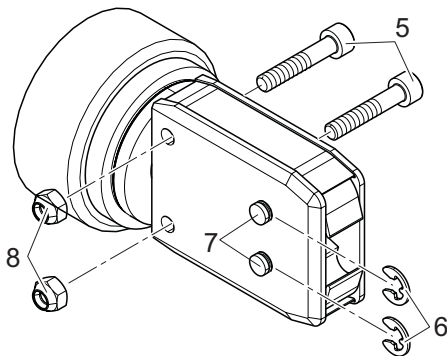


Fig. 27: Dismantling the pincer head

4. Remove two lock pins (Fig. 27/6) on pincer head (Fig. 26/3).
Do not push back pin (Fig. 27/7)!
5. Unscrew two hexagon nuts (Fig. 27/8) from the hexagon bolts (Fig. 27/5).

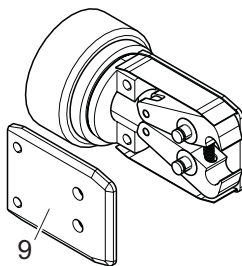


Fig. 28: Removing the side plate

6. Remove the side plate (Fig. 28/9).

6.2.7 Replacing pincer head

INFO

- Each type of clamp pincer can accept various different pincer heads. The type designations can be found in the tools catalog.
- The pincer heads CP 10 / CP 20 / CC 20 can not be exchanged between models.

Scope of delivery of a pincer head set

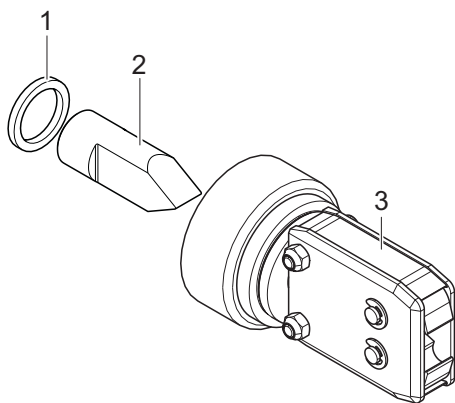


Fig. 30: Pincer head set

- Spacer washer (*Fig. 30/1*)
- Plunger (*Fig. 30/2*)
- Pincer head (*Fig. 30/3*)

Installing pincer head set

1. Remove the battery.
2. Installing pincer head (see chapter 6.3.1, p. 6-36ff).

7 Description of PC software

7.1 Structure of the PC Software

Each tab shows the "Device status" area and the status of data transmission and connection to the PC.

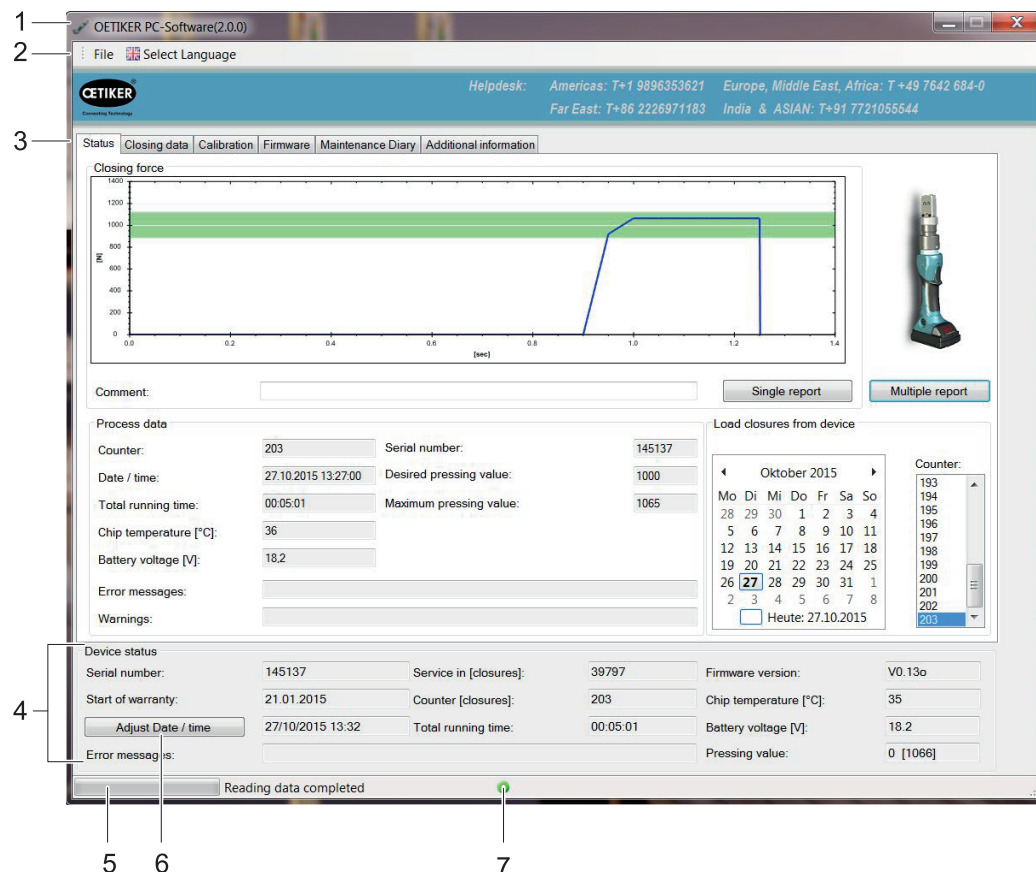


Fig. 31: Structure of the PC software

Item	Designation	Explanation
1	Software version	PC software version in use
2	Menu bar	<ul style="list-style-type: none"> File <ul style="list-style-type: none"> Export closure data reports End PC software Select Language
3	Tabs	See chapter 7.3 to chapter 7.7.
4	Device status	Status information about the device currently connected.
5	Data transfer	Information on data transfer between the device and PC software
6	Adjust Date/Time	For correcting the date/time. The date and time of the computer are loaded into the window beside the button
7	Traffic light symbol	Status of the connection to the device; <ul style="list-style-type: none"> Green: Connection active

7.2 Status menu

- Display of the closure force curve (progression of the closure force over time) of the most recent closure or any selected closure.
- Display of the process data for the most recent closure or any selected closure.

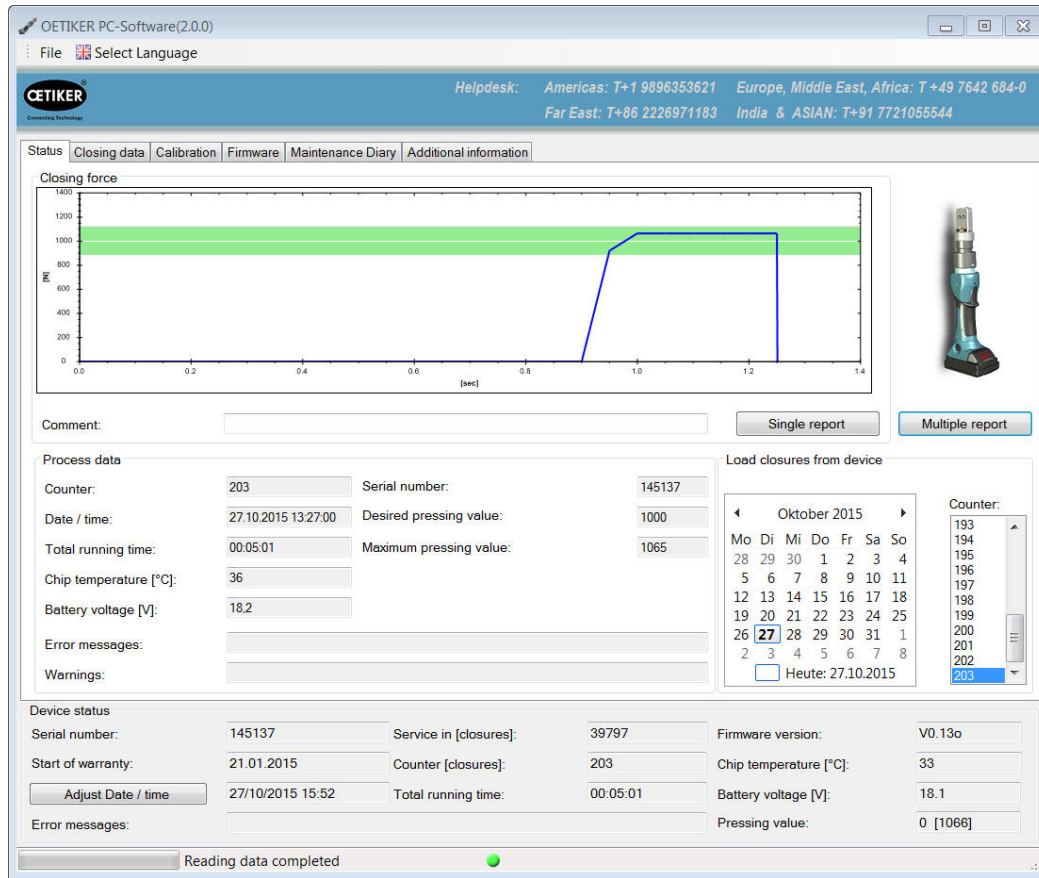


Fig. 32: Status menu

Input field/Display field / Option field	Description
Closure force	The graphic displays the progression of the closure force over time for the selected closure operation. When closure has been performed correctly, the summit of the curve must lie within the green shaded area. If this is not the case, contact your service partner without delay.
Comment	For input of user-defined texts (maximum 10 lines). The comments refer to the selected closure operation and are included in the single report for that closure, but not in the multiple report (see below for an explanation). The text is not saved in the device.
Single report / Multiple report	The closure force diagram for a closure operation, together with other process data, can be called up by pressing the buttons "Single report" (documentation of an individual closure operation) or "Multiple report" (collective documentation of several closure operations). (See chapter 5.3).
Process data	Shows the process data saved in the device for each closure. These data are used when creating the "Single report". The process data displayed relate to the selected closure (counter).

Input field/Display field / Option field	Description
Loading closures from the device	<p>The calendar is used to select the process data for closures saved in the device.</p> <p>The closures are numbered sequentially. The numbers can be viewed in the "Counter" window.</p> <p>Depending on the date selected, the closures for that day are now displayed.</p> <p>Days during which closures were performed are shown bold in the calendar.</p>

7.3 Closure data menu

This menu allows the target values for the closure force and holding time-closure force to be input. The image for the clamp pincer represents the device type actually connected.

Fig. 33: Closure data menu

Input field/Display field / Option field	Description
Closure data set	Entry of the target values for the closure force and closure force holding time
• Pincer type	Displays the designation of the pincer actually connected
• Pincer head	Entry of the designation of the pincer head (max. 18 characters)
• Pincer head item no.	Enter the pincer head article number
• Correlation factor	The correlation factor (ratio between the thrust force of the plunger o the closure force of the pincer jaws) is automatically calculated and displayed here during the calibration procedure.

Input field/Display field / Option field	Description
<ul style="list-style-type: none"> Closure force [N] 	<p>Enter the closure force. The input value for the closure force must be within the closure force range for the device. The closure force range is determined by the pincer head attached to the device.</p> <p>The closure force ranges for the clamp pincers are determined as follows:</p> <ul style="list-style-type: none"> CP 10 = Closure force min. 800 N to max. 4,500 N CP 20 = Closure force min. 3,500 N to max. 10,000 N CC 20 = Closure force min. 3,500 N to max. 20,000 N <p>NOTICE</p> <p>When a new closure force is input, these data must be loaded to the device (see the "Data exchange" area) in order for the new value to take effect in the device.</p>
<ul style="list-style-type: none"> Closure force tolerance \pm [N] 	<p>Factory target values for the closure force tolerance are selected and displayed according to the specified closure force.</p>
<ul style="list-style-type: none"> Closure force holding time [ms] 	<p>The closure force holding time can be freely selected within the range min. 200 ms to max. 2000 ms. The pincer jaws open at expiry of the specified holding time.</p> <p>NOTICE</p> <p>When a new closure force holding time is input, these data must be loaded to the device (see the "Data exchange" area) in order for the new value to take effect in the device.</p>
<ul style="list-style-type: none"> Data exchange 	<p>The buttons for this area relate to data communications between the software, device and data storage medium (e.g. PC)</p>
<ul style="list-style-type: none"> Reading data from device 	<p>The stored and active closure data in the clamp pincer are loaded to the "closure data set" area of the PC software.</p>
<ul style="list-style-type: none"> Sending data to device 	<p>The closure data shown in the "closure data set" area of the PC software are sent to the device and saved there.</p> <p>NOTICE</p> <p>If a new target value for the closure force is loaded, a new calibration is indicated automatically. Perform calibration see <i>chapter 5.1.3</i>.</p>
<ul style="list-style-type: none"> Loading data from file 	<p>A previously saved closure data set is loaded from a file in the "closure data set" area into the PC software.</p>
<ul style="list-style-type: none"> Saving data in file 	<p>The closure data in the "closure data set" area of the PC software are saved into a file.</p>

7.4 Calibration menu

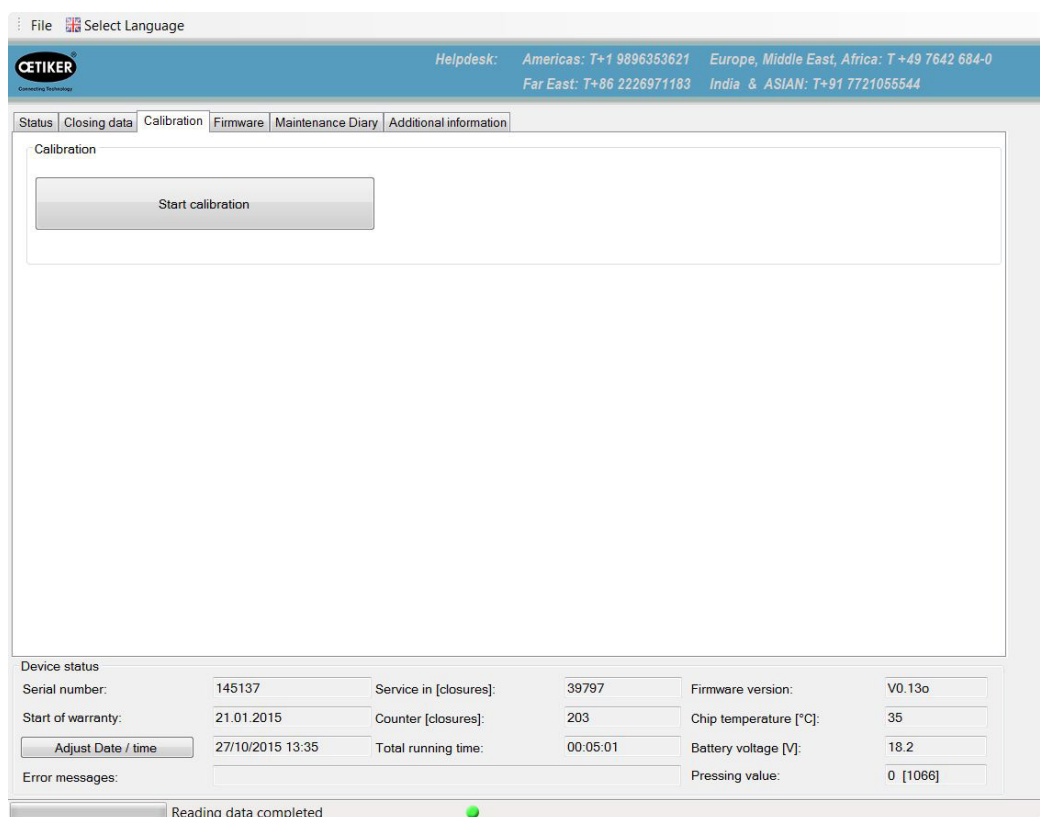



Fig. 34: Calibration menu

Calibration of clamp pincer CP 10 / CP 20 / CC 20 is activated in the Calibration menu.

If the device is modified (for instance by attaching a new pincer head – even if the article number is the same) or if a new target value for the closure force is input, the pincer must be checked.



NOTICE

Possible damage to the clamp pincer and faulty clamp closures!

To ensure uniform and reproducible quality of the workflow, the pincer calibration must be executed at least once per shift or once per day. Calibration is also necessary if any pincer components are exchanged. OETIKER recommends checking the closure force after calibration as an additional verification measure. It is critical to ensure that clamps are not closed in calibration mode.

Calibration is performed in partial processes Initial calibration and Closure force calibration (see also *chapter 5.1.3*).

Initial calibration

Initial calibration is performed at a low initial closure force, so that if the target values deviate grossly from suitable values there is no risk of damage to the pincer elements or of injury to the user.

Only one measured closure is performed during the course of the initial calibration.

The initial calibration closure force for the various devices is factory-set as follows:

- CP 10 = Closure force 1000 N
- CP 20 = Closure force 3500 N
- CC 20 = Closure force 3500 N

Closure force calibration

Closure force calibration is performed with the target value for the closure force, so as to achieve the highest accuracy by the pincer system.

Five measured closures are performed during the course of the closure force calibration. An average is calculated from the results of these five measured closures, and this is loaded to the device.

7.5 Firmware menu

New firmware is loaded on the device with the Firmware menu (see *chapter 4.4*).

File Select Language

CETIKER® Helpdesk: Americas: T+1 9896353621 Europe, Middle East, Africa: T+49 7642 684-0
Far East: T+86 2226971183 India & ASIAN: T+91 7721055544

Status Closing data Calibration **Firmware** Maintenance Diary Additional information

Firmware

FW update Firmware:

Device status

Serial number:	145137	Service in [closures]:	39797	Firmware version:	V0.13o
Start of warranty:	21.01.2015	Counter [closures]:	203	Chip temperature [°C]:	35
<input type="button" value="Adjust Date / time"/>	27/10/2015 13:36	Total running time:	00:05:01	Battery voltage [V]:	18.2
Error messages:				Pressing value:	0 [1066]

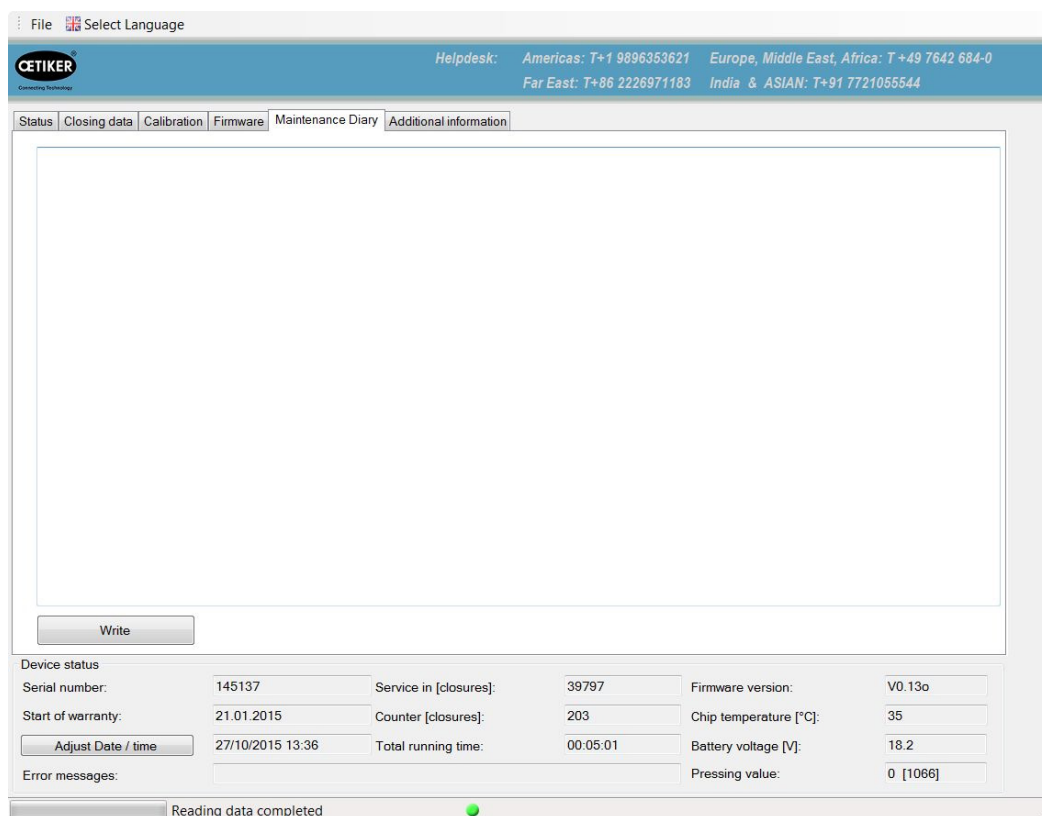
Reading data completed


Fig. 35: Firmware menu

7.6 Service log menu

Above the "Write" button there is a window into which text can be input. Pressing the "Write" button then loads the text to the pincer. Communication between the user and service staff is facilitated because the communication content is inseparable from the pincer.

INFO
Changes and deletions can be performed at any time.



File  Select Language

CETIKER
Connecting Technology

Helpdesk: Americas: T+1 9896353621 Europe, Middle East, Africa: T +49 7642 684-0
Far East: T+86 2226971183 India & ASIAN: T+91 7721055544

Status Closing data Calibration Firmware Maintenance Diary Additional information

Write

Device status

Serial number:	145137	Service in [closures]:	39797	Firmware version:	V0.13a
Start of warranty:	21.01.2015	Counter [closures]:	203	Chip temperature [°C]:	35
<input type="button" value="Adjust Date / time"/>	27/10/2015 13:36	Total running time:	00:05:01	Battery voltage [V]:	18.2
Error messages:		Pressing value:	0 [1066]		


Reading data completed 

Fig. 36: Maintenance diary menu

7.7 Additional information menu

The Additional information menu allows information to be called up from the headings that are listed.

The screenshot displays the CETIKER software interface. At the top, there is a menu bar with 'File' and 'Select Language'. Below this is a header section with the CETIKER logo and contact information: 'Helpdesk: Americas: T+1 9896353621 Europe, Middle East, Africa: T+49 7642 684-0 Far East: T+86 2226971183 India & ASIAN: T+91 7721055544'. The main interface has a tabbed menu with 'Status', 'Closing data', 'Calibration', 'Firmware', 'Maintenance Diary', and 'Additional information'. The 'Additional information' tab is active, showing a 'Manual' section with links for 'User manual' and 'Adress list'. A note states 'To open the manual Adobe reader is necessary'. Below this, there is a 'Device status' section with various fields: 'Serial number: 145137', 'Service in [closures]: 39797', 'Firmware version: V0.13a', 'Start of warranty: 21.01.2015', 'Counter [closures]: 203', 'Chip temperature [°C]: 35', 'Adjust Date / time' button, '27/10/2015 13:36', 'Total running time: 00:05:01', 'Battery voltage [V]: 18.2', 'Error messages:', and 'Pressing value: 0 [1066]'. At the bottom, a status bar indicates 'Reading data completed' with a green dot.

Fig. 37: Additional information menu

8 Appendix

8.1 General information in event of faults

If the closure operation of clamp pincer CP 10 / CP 20 / CC 20 does not start or does not operate correctly, consult maintenance personnel responsible for clamp pincer CP 10 / CP 20 / CC 20.

8.2 Reaction in event of faults

If a fault occurs, the clamp pincer will be blocked. The service LED will light up red or orange. Operation can be restarted only by briefly removing the battery and reinserting it ("reset").

If after the clamp pincer have been "reset" the fault is still present, contact your OETIKER contact person.

8.3 Error messages and troubleshooting measures

INFO

Changes and deletions can be performed at any time.

Service LED

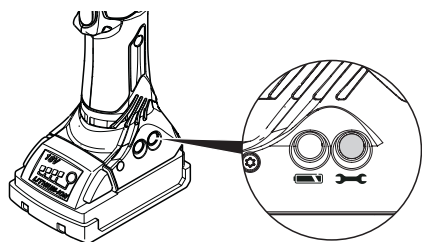








Fig. 38: Service LED

Display after the pressing operation		Cause / remedy
	lights up green	Closure force OK.
	flashes green/red	Closure force OK, service interval exceeded. ► Have the device serviced.
	lights up red	Closure force incorrect, hardware error or calibration error ► Recalibrate the device. Repeat the joint. Contact the Service Center if necessary.
	lights up orange	Temperature error. ► Warm up the tool or cool it down

Display after plugging in the battery		Cause / remedy
	lights up green	No fault
	lights up orange	Temperature error. ► Warm up the tool or cool it down

Error messages via the service LED

Battery LED

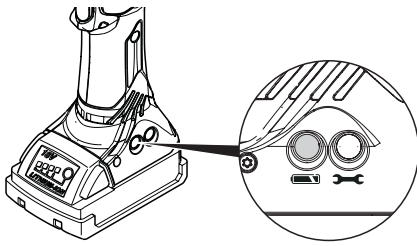


Fig. 39: Battery LED

Display after the pressing operation		Cause / remedy
	none	No fault
---	flashes red	Battery has only approx. 10 % capacity remaining ► Charge the battery or change it.
—	lights up red	Battery flat ► Charge the battery or change it.

Display after plugging in the battery		Cause / remedy
—	lights up green	No fault
—	lights up red	► Charge the battery or change it.

Error messages via the battery LED

8.4 Decommissioning and storage

If the cordless clamp pincer CP 10 / CP 20 / CC 20 is to remain out of service for an extended period, it must be decommissioned.

- Remove the battery from the clamp pincer.
- Replace any defective parts.
- Clean clamp pincer CP 10 / CP 20 / CC 20 before storing.
- Store clamp pincer CP 10 / CP 20 / CC 20 in the case in a clean, dry place and so it is protected from dust.

8.5 Recommissioning

- Perform commissioning (see *chapter 4* and *chapter 5.2*).

8.6 Disposal

The product must be disposed of in accordance with the EC Directive 2002/96/EC:

- Dispose of packaging materials in accordance with local regulations.

The individual components of the device must be disposed of separately.

- Drain the oil and dispose of it at a special disposal point.
- Dispose of the battery separately in accordance with the battery disposal regulations.

The device, all spare parts and in particular the consumable fluids used and other environmentally polluting substances must be disposed of by specialist firms in accordance with applicable statutory regulations.

If necessary, please seek advice from OETIKER.

8.7 Technical data

8.7.1 USB interface

INFO
<ul style="list-style-type: none"> The USB port is used exclusively for data transfer with the PC (no continuous data exchange). Before the USB connection from the PC to clamp pincer CP 10 / CP 20 / CC 20 is first established, a driver must be loaded on to the PC and installed. This installation takes place automatically. If automatic installation fails, the necessary driver is located in the installation directory of the PC and can be installed manually. Once the USB connection has been plugged in, program CP 10 / CP 20 / CC 20 may need to be reopened in order to locate the driver

8.7.2 Physical sizes CP 10 / CP 20 / CC 20

External dimensions

Max. 310 × 70 × 80 mm (without battery and without pincer head)

Weight

(including 2 Ah battery and standard pincer head)

- CP 10: max. 2.5 kg
- CP 20: max. 3.1 kg
- CC 20: max. 3.3 kg

Color

Blue, black

8.7.3 Accuracy within the working temperature range

Closure force tolerances in working temperature range with standard pincer heads.

Machine capability cmk > 1.33.

	Force priority closure
CP 10	±150 N
CP 20	±150 N
CC 20	±250 N

Accuracy within the working temperature range

8.7.4 Temperature

Storage temperature	-10 °C ...+40 °C
Working temperature	0 °C ...+40 °C

8.7.5 Noise

Sound pressure level	< 70 dB (A)
Noise level	> 85 dB (A) may occur during operation

8.7.6 Thrust force

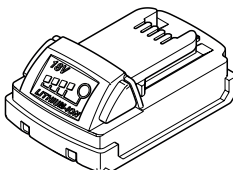
Clamp pincer CP 10	max. 7.3 kN
Clamp pincer CP 20	max. 23.2 kN
Clamp pincer CC 20	max. 23.2 kN

The mechanical system safety valve is adjusted so that the following maximum thrust forces cannot be exceeded for safety reasons.

Clamp pincer CP 10	max. 8.4 kN
Clamp pincer CP 20	max. 26.7 kN
Clamp pincer CC 20	max. 26.7 kN

8.7.7 Battery

Only the following batteries may be used:

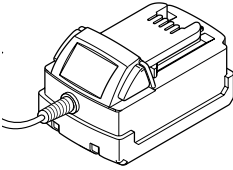
Article number	Capacity	
14002340	2.0 Ah	
14002346	4.0 Ah	

Batteries

8.7.8 AC power adaptor

(not included in standard scope of supply)

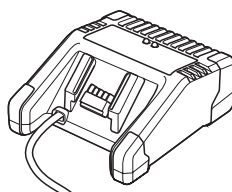
Only the following AC power adaptors may be used:

Article number	AC adapter	Region	
14002341	230 V/50 Hz-18 V	EU	
14002341 + 06001709 (ad- apter)	230 V/50 Hz-18 V	UK	
14002344	120 V/60 Hz-18 V	US	
14002347	230 V/50 Hz-18 V	AUS/NZ	

AC power adaptors

8.7.9 Battery charger

Only the following battery chargers may be used:

Article number	Region	
14002339	EU	
14002339 + 06001709 (ad- apter)	UK	
14002342	US	
14002345	AUS/NZ	

Battery chargers

8.7.10 Labels and warnings on the CP 10 / CP 20 / CC 20

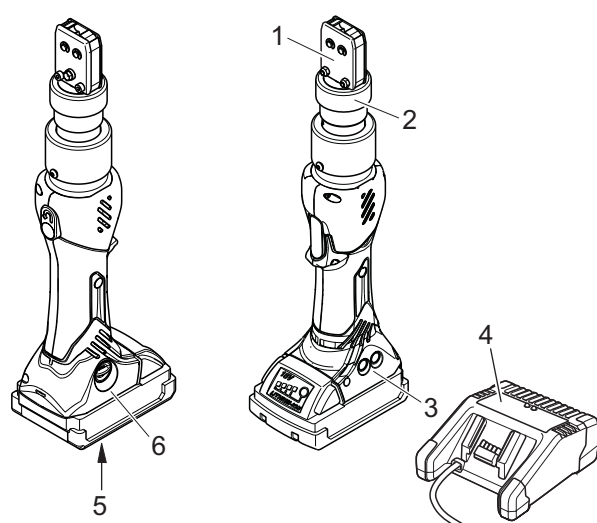


Fig. 40: Labels and warnings on the CP 10 / CP 20 / CC 20

1. Risk of crushing
2. Warning label
3. Rating plate
4. Rating plate, battery charger
5. Rating plate, battery
6. Rating plate

8.8 Warranty and guarantee

8.8.1 Warranty

The legal warranty applies.

8.8.2 Guarantee

Guarantee period for wear parts

- 24 months or 100,000 closures, whichever comes first
- The guarantee period begins from the time the tool is purchased from new. Starting date is the date on the original sales receipt
- Services provided under guarantee do not lengthen or renew the guarantee period for the tool

Wear parts

- Solenoid
- Motor with gear (drive unit)
- Pump body
- Pincers:
 - Pincer jaw kit
 - Plunger

8.8.3 Requirements

- The clamp pincer must have been commissioned as specified in the instruction manual.
- The clamp pincer housing must not have been opened.
- Perform maintenance as specified (see chapter 6, p. 5-33).
- The clamp pincer must have been used solely for the intended purpose.

Return

We recommend returning the components in their original packaging.

If that is not possible, the components should be packed in equivalent protective packaging. If the component is damaged due to inadequate packaging, the customer shall bear the costs, notwithstanding any justified guarantee and warranty claims.

For warranty/ guarantee claims it is mandatory to complete the Power Tool Return Form - please go to:
<https://oetiker.com/en-us/powertoolreturn>

8.8.4 Consequential damages

We accept no liability for consequential damage arising indirectly or directly from the use of our clamp pincers.

8.8.5 Costs

If there are no reasons for a warranty/ guarantee claim, the customer will be charged for the costs incurred.

8.9 Declaration of Conformity

INFO
The Declaration of Conformity for the clamp pincers is supplied separately.

9 Help and Support

If you need help or technical support, contact your local OETIKER Service Center.

For more information, please visit www.oetiker.com.

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E-Mail	ptsc.hoe@oetiker.com
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Phone	+91 9600526454