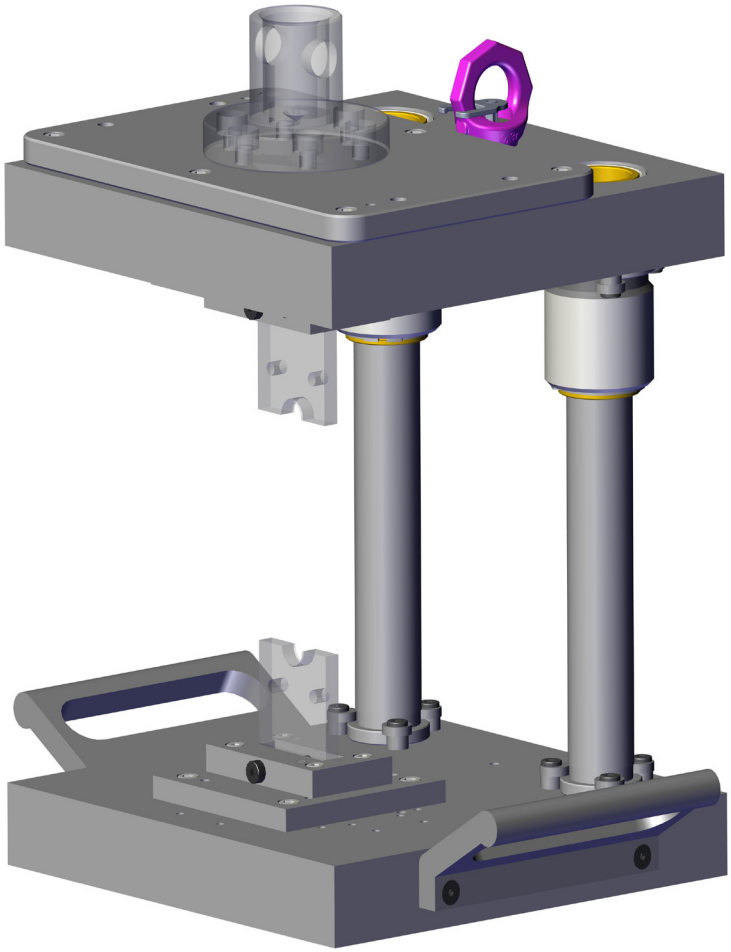
Reliable Connections



OETIKER OptiSwage
Two-Jaw Platform

Instruction manual

Translation of the original
instruction manual
Part-No. 08907227
Issue 251114_V01_b

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Table of Content

1 Information about this instruction manual

1.1 Symbols and meanings of the representations used

Various warning signs are used in this instruction manual to alert the reader about potential damage to property and personal injury.

- ► Compliance with these warning signs is mandatory.
- ► Compliance with the instructions that are flagged with a warning sign and text is mandatory.

The following symbols are used in this instruction manual:

DANGER — **Hazardous situation.**
Disregarding this instruction will lead to death or serious injury.

WARNING — Indicates a hazard with medium risk, which can lead to death or serious injury.

CAUTION — Indicates a hazard with low risk, which can lead to medium or minor injuries.

NOTICE — Indicates a danger of damage to the device! Indicates information useful for operation.

Symbol	Meaning
► ...	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.
Connecting	Display or operating elements of the menu or the PC software are highlighted.

Symbol	Meaning
	Draws attention to dangerous situations with possible personal injury and damage.
	Risk of hand injuries
	For your own safety read the instruction manual and safety instructions before operating tool.
	**Mandatory general notes!** The mentioned safety instructions must be observed.
	**Wear eye protection!** Wearing safety goggles when working on the system is mandatory.
	**Wearing safety boots is mandatory!** Wearing safety boots when working on the system is mandatory.
	**DO NOT USE IN DAMP AREAS!** Do not use in damp or wet areas. Avoid exposure to excessive moisture or rain.
	**Correct disposal** Dispose of this device in accordance with local, regional, and national regulations. Heavy steel components should be recycled whenever possible.

1.2 Scope

This instruction manual applies to the following tools:

- OETIKER Two-Jaw Platform (Article number: 13403988 and 13404005).

This instruction manual describes the function as well as the correct installation, operation, storage and transport.

This instruction manual contains important information for safe working procedures.

2 Basic safety instructions

WARNING

IMPORTANT SAFETY INSTRUCTIONS REGARDING INJURY OF PERSONS

NOTICE

For your own safety read the instruction manual and safety instructions before operating tool.

2.1 How to use the instruction manual

- ► Make sure that this instruction manual is always available for use within easy reach.
- ► If the Two-Jaw Platform is sold, ensure this instruction manual is passed on to the next owner of the Two-Jaw Platform.
- ► Please read the instruction manual carefully before commissioning the Two-Jaw Platform
  - – Familiarize yourself with all settings and their functions.
  - – Anyone setting up, commissioning, maintaining or repairing the Two-Jaw Platform must have read and understood the instruction manual and in particular the safety instructions.

2.2 Intended use

- The Two-Jaw Platform is a swaging tool and used for swaging (crimping) OETIKER Multi Crimp Rings (MCR).
- The swaging tool is only to be installed and operated in a press that meets the correct requirements (*see chapter 4.4*). Operation of the swaging tool is prohibited until the press (external driving mechanism) complies with the provisions of the Machinery Directive 2006/42/EC.
- The swaging tool must be used in a designated industrial environment intended for machine operation.
- Any use beyond the specified applications is not permitted.
- The manufacturer and vendor shall not be held liable for any damage, injury, or loss resulting from the use of the OETIKER swaging tool for purposes other than those expressly specified in this manual.
- Any unauthorized or improper use is carried out at the users own risk. The user assumes full responsibility for any resulting consequences.
- The swaging tool is built in accordance with the currently valid state of technology as well as the safety-related rules currently in effect.
- To ensure compliance and maintain warranty coverage, use the OETIKER swaging tool exclusively with the official OETIKER ClassicCrimp jaws or OETIKER EcoCrimp jaws.

2.3 Inadvertently starting the Two-Jaw Platform

DANGER

There is a risk of serious injury!

The swaging tool is installed and operated in a press provided by the operator.
If the press is started unintentionally, a press cycle may be triggered.

- ► Ensure that the press cannot be started up inadvertently before installing, removing or while working on the swaging tool.
- ► Always follow the safety instructions provided by the press manufacturer.

2.4 General safety instructions

WARNING

IMPORTANT SAFETY INSTRUICTION

- Please read and follow all safety instructions before using this tool.
- Not following the instructions may cause serious injury.

WARNING

INSTRUCTIONS PERTAINING TO A RISK OF INJURY TO PERSONS

- This tool must only be used as described in the instruction manual. Improper use may lead to injury.

NOTICE

For your own safety read the instruction manual and safety instructions before operating tool.

- Follow the instruction manual and maintenance guidelines at all times.
- Only qualified technicians shall be permitted to proceed with maintenance and repair tasks.
- Only trained and informed individuals may operate the Two-Jaw Platform.
- Compliance with all applicable accident prevention regulations and recognized safety standards is mandatory.
- Keep children and unauthorized persons away from the work area.
- Secure the workshop against unauthorized access.
- Do not force the tool. It will perform safely when used as intended.
- ALWAYS USE SAFETY GLASSES. Also use face or dust mask if the operation is dusty. Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
- SECURE WORKPIECE. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
- MAINTAIN TOOLS WITH CARE. Keep tools clean for best and safest performance. Follow instructions for lubricating and changing accessories.

Work area

- Keep the work area clean and well-lit. Cluttered or poorly lit spaces increase the risk of electric shock, fire, and personal injury.
- Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. The tool is able to create sparks resulting in the ignition of the dust or fumes.
- Keep bystanders, children, and visitors away while operating the tool. Distractions may result in the loss of control of the tool.

Personal safety

- Stay alert. Watch what you are doing and use common sense when operating the tool. Do not use the tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool increases the risk of injury.
- Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair increases the risk of injury as a result of being caught in moving parts.
- Avoid unintentional starting of the press. Be sure the switch is off before connecting to the air supply. Do not carry the tool with your finger on the switch or connect the tool to the air supply with the switch on.
- Do not overreach and maintain good posture. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.
- Use personal protective equipment. Wear non-slip safety shoes suitable for the working environment.
- Always wear eye protection. Use additional face or dust protection if necessary.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded.
- Thoroughly investigate the workpiece for possible hidden wiring before performing work. Contact with live wiring may shock the operator.

Tool use and care.

- Store the tool out of reach of children and other untrained persons. A tool is dangerous in the hands of untrained users.
- Check for misalignment, binding of moving parts, breakage of parts, and any other condition that affects the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
- Use only accessories that are identified by the manufacturer for the specific tool model.

Service

- Tool service must be performed only by qualified repair personnel.
- When servicing a tool, use only authorized replacement parts.
- Use only the lubricants supplied with the tool or specified by the manufacturer.

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.

2.5 Specific safety instructions

2.5.1 Moving parts

During operation, there is a risk of serious injury from crushing, cutting and shearing of fingers and hands between the upper and lower halves of the Two-Jaw Platform and in the area of the swaging jaws.

- Do not reach between the upper and lower platens or between the swaging jaws during operation.
- Before carrying out installation, uninstallation or maintenance work on the swaging tool, ensure that the press cannot inadvertently be activated.

2.5.2 Flying parts

If components of the assembly or tool break during operation, parts can be ejected at high speed.
There is a risk of serious eye injury.

WARNING

Risk of injury

- ► Wear eye protection when working with the swaging tool.

2.6 Safe Working Practices

NOTICE

Use protective equipment that is appropriate for the task including:
safety goggles and safety shoes.

NOTICE

Do not operate the swaging tool in areas where acids or similar chemicals are stored.

2.7 Modifications and damages

- ► Do not modify the swaging tool without the consent of OETIKER. Any modification excludes liability on the part of OETIKER for any resulting damage or injuries.
- ► Only use original spare parts and accessories.
- ► Do not operate the swaging tool if it has visible damage (e.g., to the swaging jaws). In case of visible damage, take the tool out of service immediately.

2.8 Qualified personnel

The use of this swaging tool is reserved exclusively for authorized and qualified personnel. Use without reading the instruction manual is prohibited. The authorization levels for use are as follows:

Personnel / Activities	Operator	Maintenance and repair personnel
Operating the swaging tool	✓	✓
Installing, deinstalling and cleaning the swaging tool	✓	✓
Maintaining and repairing the swaging tool	×	✓

Explanation: ✓ = permitted × = not permitted

«Operator»

- is familiar with the specified safety instructions and regulations
- knows the relevant procedures described in this document
- has been trained appropriately
- has been trained in the use of the swaging tool and press

The operating company must ensure that the employee has received the safety instructions and relevant regulations in their respective language.

«Maintenance and repair personnel»

- possesses the knowledge described for the „operator”
- has received technical training and is experienced in the use of appropriate tools for maintenance and repair of the swaging tool

2.9 Maintenance tasks

The maintenance intervals specified in the instruction manual must be observed.
Maintenance and repair instructions must be observed accordingly (*see chapter 6*).

► Only qualified maintenance and repair personnel shall be permitted to proceed with maintenance and repair tasks.

► Do not immerse the swaging tool in water or other fluids.

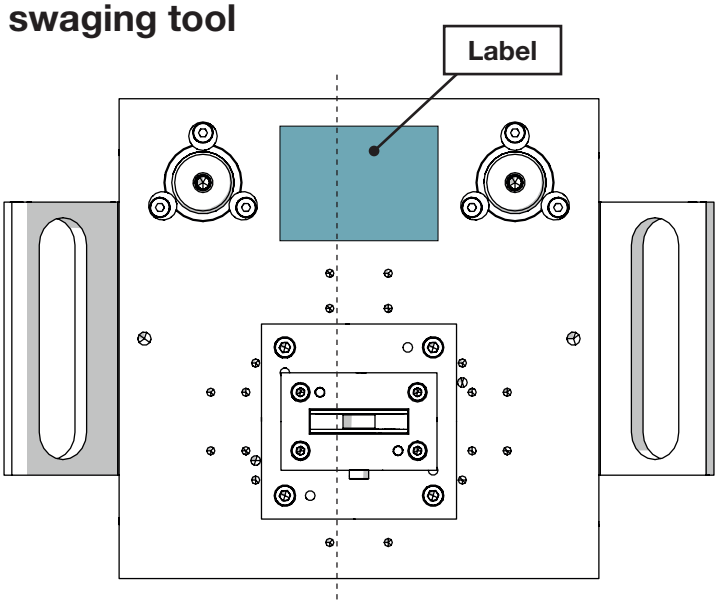
2.10 Operator Responsibilities

Operators must ensure safe and compliant use of the OETIKER swaging tool by adhering to the following obligations:

► Comply with all applicable legal, industry-specific, and company-internal regulations related to accident prevention, occupational safety, and health protection.

► Follow all environmental protection laws and regulations applicable in the country where the tool is used.

2.11 Signs on the swaging tool



The following information can be found on the laser marking:

- Manufacturer
- Mandatory safety signs according to ISO 7010
  - Read instruction manual
  - Wear eye protection
  - Wear foot protection
- Type of product
- Oetiker material number
  - Data Matrix
- Year of production
- Weight

3 Description

3.1 Design

The following figure shows the design of the swaging tool.

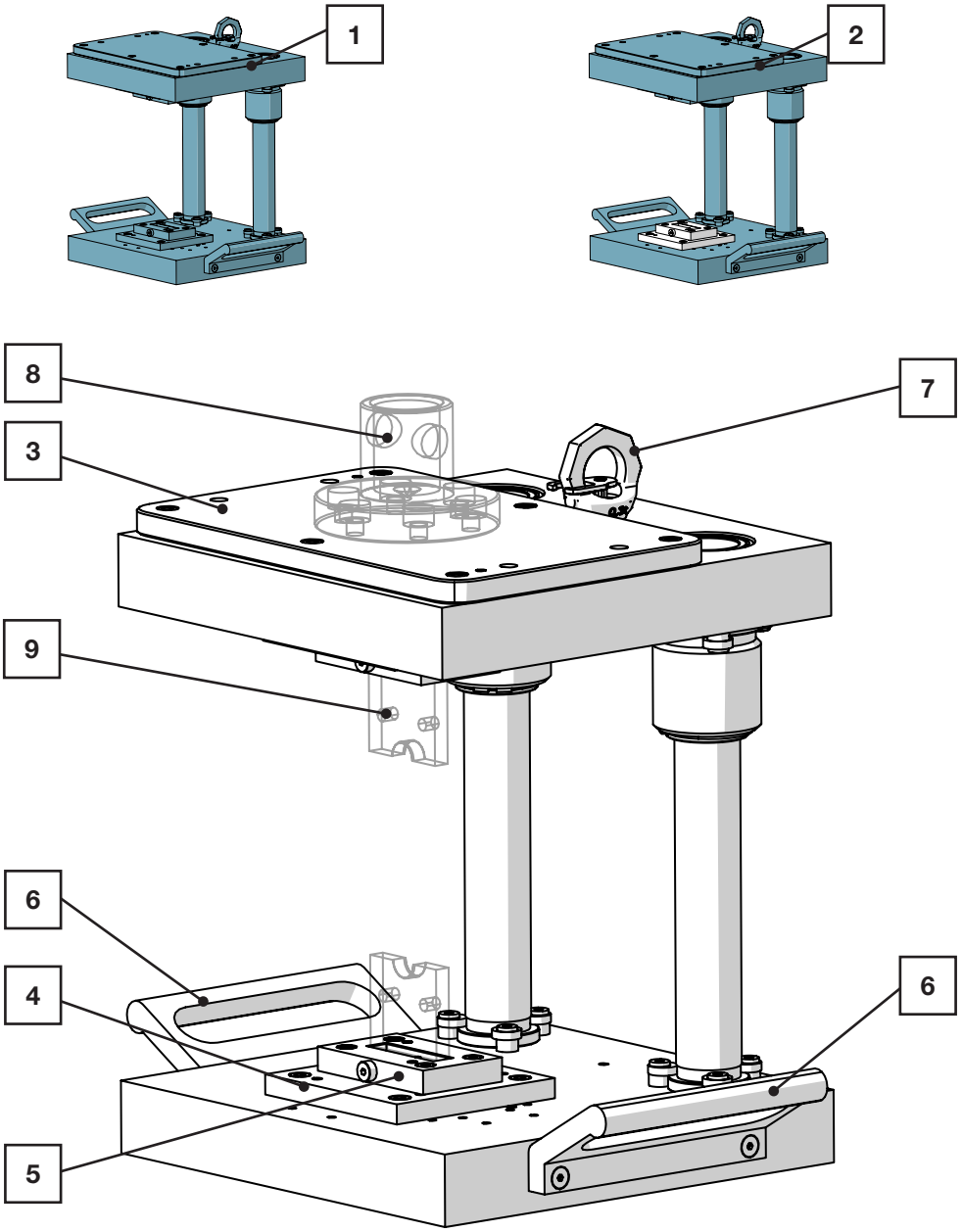


Fig. 1: Design

1	Two-Jaw Platform	2	Two-Jaw Platform without jaw mounts	3	Press adapter plate
4	Pressure plate	5	Holding plate	6	Transport handles
7	Eyebolt	8	Press connecting flange (to be provided by the customer)	9	Swaging Jaws (sold separately)

3.2 Function

The Two-Jaw Platform, together with suitable swaging jaws, is used to swage Oetiker Multi Crimp Rings. It is operated by an external driving mechanism, e.g., a hydraulic press. The upper half of the swaging tool can be lifted, thus allowing radial workpiece placement. The swaging jaws are not in the scope of deliver of the Two-Jaw Platform die set and need to be ordered separately.
The integrator is responsible for the design and layout of the press connecting flange (8) and the reworking of the press adapter plate (3).

4 Installation

DANGER

Risk of Serious Injury

► Starting the press unexpectedly can cause severe injuries.

WARNING

Risk of injury

► Wear safety shoes and eye protection when working with the swaging tool.

NOTICE

Make sure that the swaging tool is always carried by two people.

NOTICE

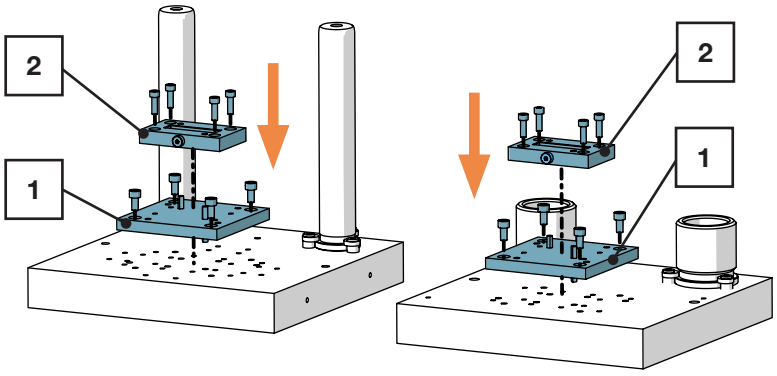
The press bed / machine bed must be leveled for safe operation.

4.1 Unpacking

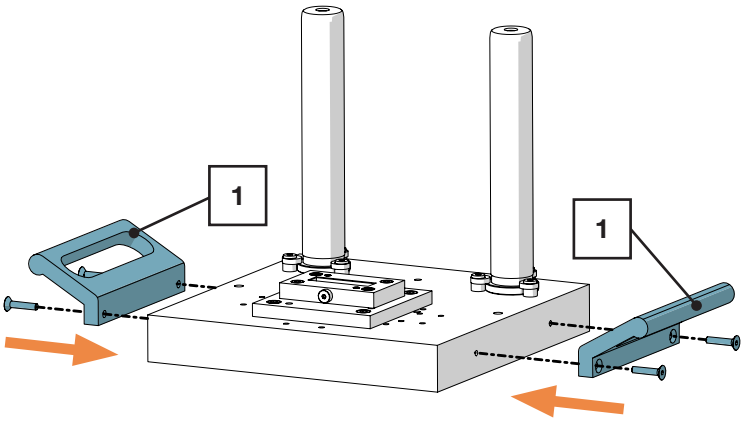
1. Remove packaging materials completely. Save the wooden box for later storage and transport (*see chapter 8*).
2. Check components for completeness, correctness and damage. Replace damaged components with original spare parts. If parts are missing, contact OETIKER customer service (*see chapter 10*).

4.2 Preparing the installation

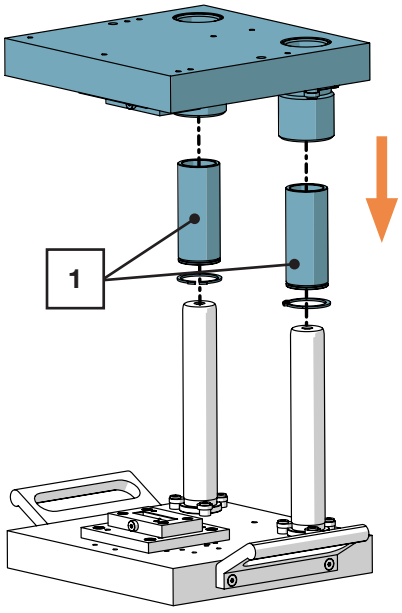
1. Ensure that the installation site meets the following conditions:
   - Sufficient space for the installation/deinstallation as well as for the operator's work area
   - No acids or similar chemicals are nearby
2. Ensure that the press meets the correct requirements (*see chapter 4.4*).
3. Assemble the Pressure plate (1) and Tool holding plate (2) on both halfs of the pillar frame.



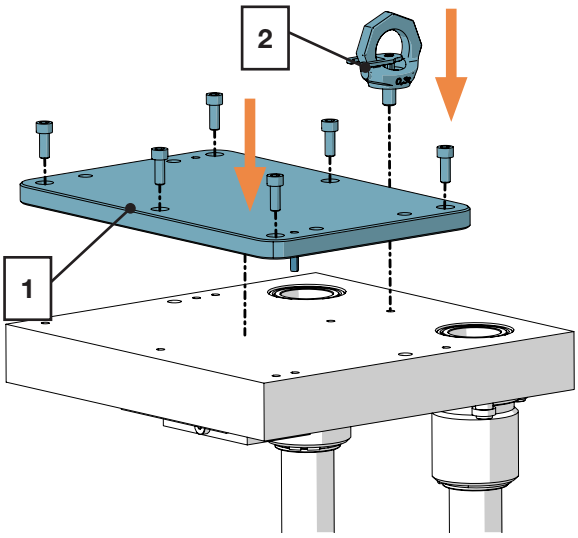
4. Install the handles (1) on the bottom half of the pillar frame.



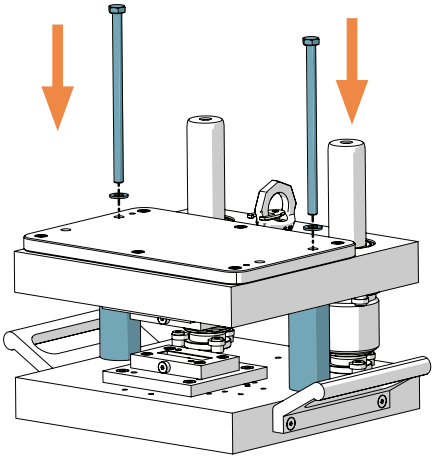
5. Unite the top and bottom part of the pillar frame with the ball cage (1).



6. Adapter plate must be drilled in accordance with the customer's press interface.
7. Install the Press adapter plate (1) and the eyebolt (2).
   Make sure the eyebolt is mounted as shown in the picture.



8. Install the rest of the handling parts *as shown in chapter 4.3* (Assembling the Swaging tool).



9. Install the press connecting flange (Provided by customer).

4.3 Assembling the Swaging tool

DANGER

Serious injuries due to overturning of the swaging tool.

- Always install all safe handling components before lifting or moving the tool (*see figure 2*).

WARNING

Risk of injury

- Wear eye protection and safety shoes when working with the swaging tool.
- Make sure that the swaging tool is always carried by two people (*see chapter 4.3.1*) or by crane (*see chapter 4.3.2*).

WARNING

Risk of injury

- Check that all the screws of the handling parts are tighten correctly before any transport action.

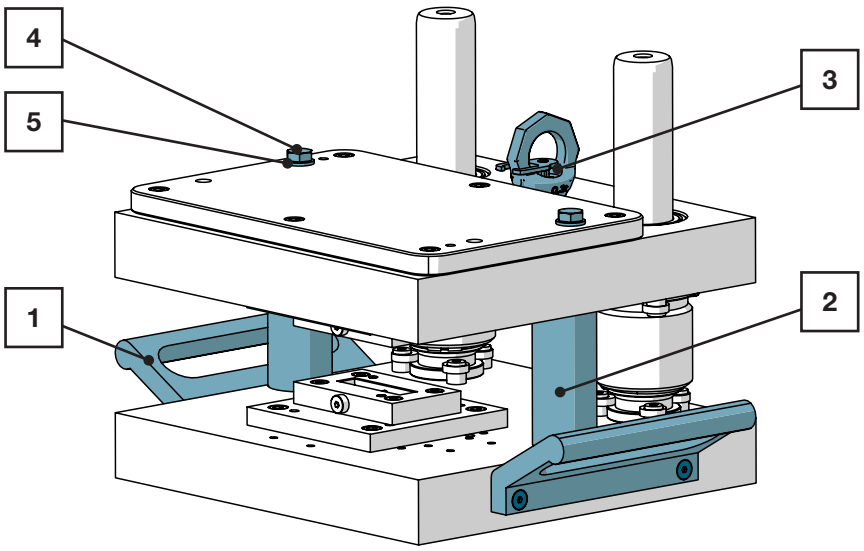


Fig. 2: Handling parts of the swaging tool

1 Transport handles
2 Damper
3 Eyebolt
4 Transport screw
5 Washer (transport screw)

4.3.1 Transport with handles

WARNING

Risk of injury due to shifted center of gravity (Two-Jaw Platform tilts forward during transport)!

- Transport the press with two people only.
- Both persons must each have one hand on the handle and one hand on the front of the top plate, position (*refer fig. 3*) (risk of tipping during transportation).
- Always wear safety equipment during transportation (gloves, safety shoes, etc.).

Center of gravity in transport configuration:

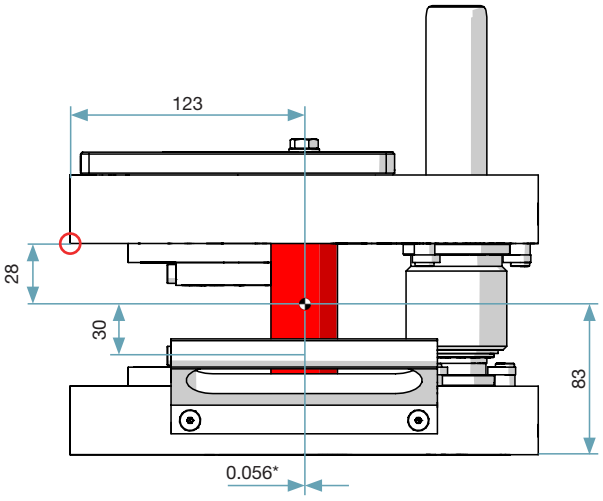


Fig. 3: Center of gravity in transport configuration

NOTICE

Important

- The center of gravity is not aligned with the center line of the handle.
- Therefore the Two-Jaw Platform will tip forward when lifted by the handles.

4.3.2 Transport with crane

WARNING

Risk of injury due to shifted center of gravity (Two-Jaw Platform tilts forward during transport)!

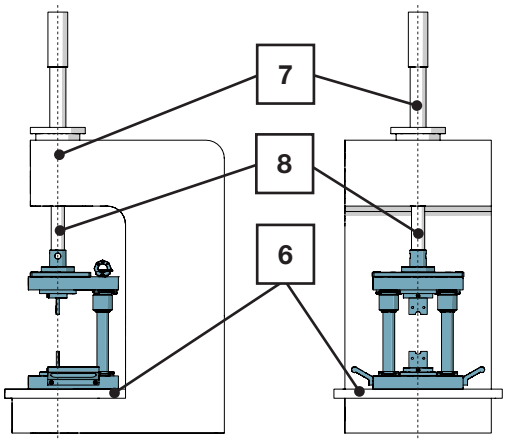
- The eyebolt must only be loaded axially relative to the shaft – no side (transverse) loads are permitted. Ensure proper installation according to the assembly instructions
- Working under suspended loads or moving suspended loads above persons is prohibited.
- Only certified and tested lifting equipment and accessories (slings, chains, hooks, etc.) may be used. The permissible load capacity of the lifting equipment must be observed.
- Always wear safety equipment during transportation (gloves, safety shoes, etc.).

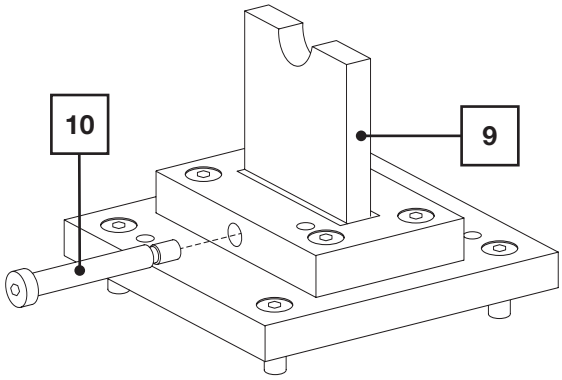
4.4 Minimal requirements for press

- 80 kN / 8 t (for a single crimping).
  250 kN / 25 t (for three simultaneous crimping).
- Opening gap: 319 mm + height of custom flange.
- Press work surface: 250 mm x 250 mm (handles may protrude).
- Center of force to be considered for the space requirement.
- Force precision: +/- 5 % of expected peak crimp force.
- Stroke and force limiter mandatory to protect the tool against overload conditions.

4.5 Integration of the Two-Jaw Platform into the press

1. Position the Two-Jaw Platform on the machine bed (6) of the press.
2. Remove the transport screw (4), washer (5) and damper (2).
3. Align the press connecting flange of the Two-Jaw Platform with the axis (7) of the press ram (8).
4. Close the press carefully and connect the press ram (8) with the Two-Jaw Platform.
5. Secure the connection.
6. When the connection is secured, open the press again.
7. Install the two-segment jaws (9) using the shoulder screw (10).





NOTICE

We recommend fixing the bottom Two-Jaw Platform platen to the machine bed of the press.

5 Operation

WARNING

Fingers and hands are at risk of being crushed during the pressing process.

- ► Do not touch or reach into the swaging jaws or the upper and lower platens of the swaging tool while it can be activated.

WARNING

Serious injuries can occur due to ejected metal splinters from breaking jaws when overloading the jaws.

- ► Ensure that the selected closing force is only high as needed for a securely crimped connection.
- ► Ensure that the amount of pressure on the jaws is limited.
- ► Wear safety goggles when working with the swaging tool.

5.1 Preparing operation

- ► Ensure that the following prerequisites are fulfilled:
  - – Swaging tool installed correctly.
  - – Swaging jaws are installed.
  - – Additional workpiece fixturing, if required, is to be put in place.
  - – The external diameter of the MCR to be swaged matches the swaging jaws installed plus the desired diameter reduction.
  - – The desired press stroke and pressing time is known.
  - – Remove all handling parts (*see chapter 4.3)*.
  - – Ensure load absorption is correctly set up: limitation of maximum press stroke. Limit amount of pressure on jaw itself. The load absorption can be part of the press or is done externaly.

5.2 Testing function

Before implementing the swaging tool, a functional test is mandatory. When setting up a new application (workpiece or MCR), a functional test is optional.

✓ The swaging tool is installed correctly.

1. Check that the chosen swaging jaws are the correct size and type for the MCR being used.
2. Open the press.
3. Insert and secure the workpiece and MCR.
4. Start the press.
5. Measure the external diameter of the crimped MCR.
6. If the desired value is not reached, either the press settings are not correct (stroke) or the selected and inserted swaging jaws are not correct:
   - – change the press settings and check the swaging jaws for correctness and repeat the procedure until the diameter reaches the target value for the application.

5.3 Swaging with the swaging tool

✓ Operation prepared (*see chapter 5.1*)

✓ Functional test completed (if applicable) (*see chapter 5.2*)

1. Open the press
2. Insert and secure workpiece with MCR
3. Start the press.
4. Measure the external diameter of the crimped MCR.

5.4 Operating OptiSwage Two-Jaw Platform together with EcoCrimp jaws

Oetiker EcoCrimp jaws have a special design that allows enlarged diameter reduction when swaging Oetiker MCR 250 RX.

► In case of operation OptiSwage Two-Jaw Platform together with EcoCrimp jaws the following must be considered in addition:

- A patent application for the 2-segment jaw design of EcoCrimp jaws is pending.
- Relevant design-details of EcoCrimp jaws are depending on ring diameter and ring width.
- Applying a stroke and force limiter (end-stop) (*see chapter 4.4*) , outside the jaws is specifically important for EcoCrimp jaws.
- Otherwise, the jaws must carry the whole remaining press force at the bottom dead center. This could reduce the jaw's life-time mentionable or even immediately damage the jaws.
- Proper alignment of upper and lower jaws is specifically important for the functionality and durability of EcoCrimp jaws. Please assure, that all related components of OptiSwage Two-Jaw Platform are capable to provide the intended guiding quality.
- The validation of EcoCrimp jaws for the intended use is in the sole responsibility of the customer.
- The Purchaser shall be responsible for any product liability claims resulting from or in connection with the use of the Tools by the Purchaser. In case such claims are asserted against Oetiker, the Purchaser shall indemnify and hold harmless Oetiker upon first demand from and against such third-party claims (including but not limited to Oetiker's costs of its legal defence).

6 Maintenance

DANGER

Serious injuries due to inadvertently starting the press.

- ► Ensure that the press cannot be started inadvertently before working on the swaging tool.

DANGER

Serious injuries.

- ► Safety goggles and safety shoes must be worn during all maintenance work.

6.1 Maintenance schedule

► Maintain the swaging tool as specified in the maintenance schedule:

When?	What?
Daily	► If soiled, clean the swaging tool with a dry cloth on all accessible locations.
Weekly	► Clean and oil the swaging tool (*see chapter 6.2*).
	► Check wether the jaws are worn (*see chapter 6.3*) and within tolerances according jaw drawings.
	► Replace jaws if they are outside of tolerances.
	► Replace jaws in the event of breakage (*see chapter 6.3*).
	► Replace jaws if they show signs of wear.
After 250,000 strokes and every year	► Remove and check all components of the Two-Jaw Platform for wear. ► Replace any components with a high degree of wear (*see chapter 6.4*).

6.2 Cleaning and oiling the swaging tool

OETIKER recommends oiling the surfaces to prevent corrosion.

1. Clean the swaging tool with a dry cloth.
2. Oil the surfaces of the swaging tool with an applicable oil (*see chapter 9.1.2*).

6.3 Checking and changing swaging jaws

Check all edges on the jaws around the crimping area for any wear or damage (*see chapter 6.4.1*).

To change the swaging jaws unscrew and remove the shoulder screw.

Replace the jaw (*see chapter 4.5 step 7*).

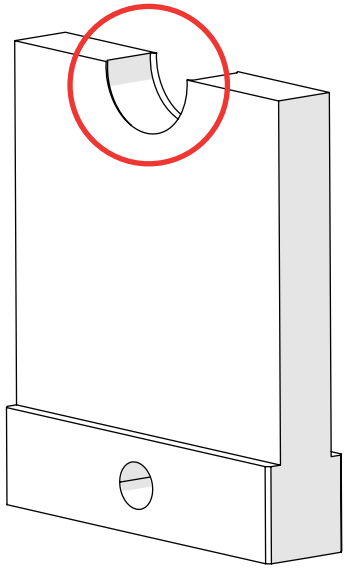


Fig. 4: Checking and changing swaging jaws

6.4 Checking and replacing internal components

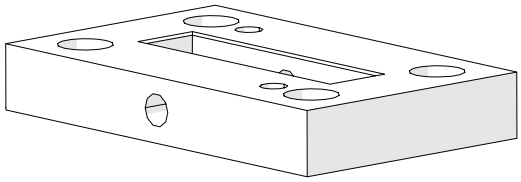
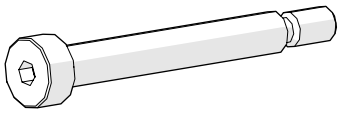
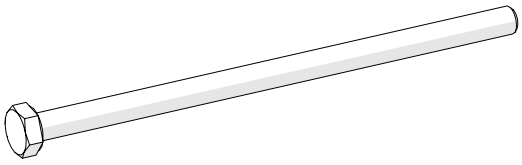
NOTICE

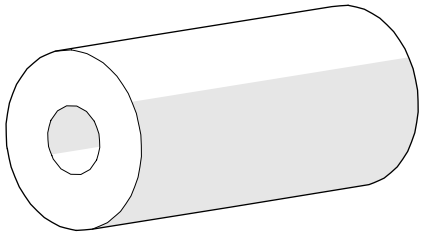
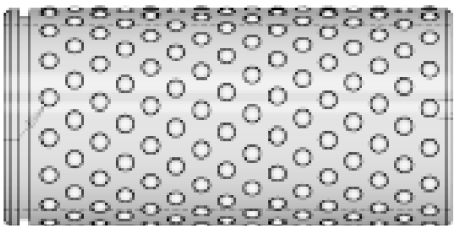
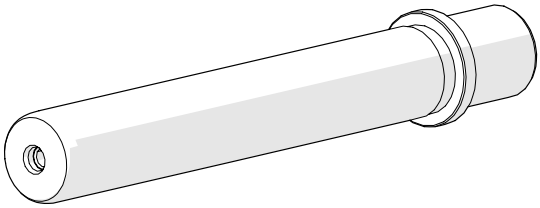
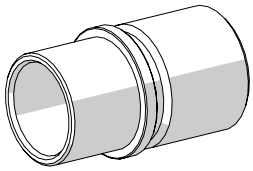
Maintenance of the anchor point (eyebolt) must be carried out in accordance with local safety regulations.

- This includes inspection intervals, load testing, and documentation as required by national or workplace-specific standards.

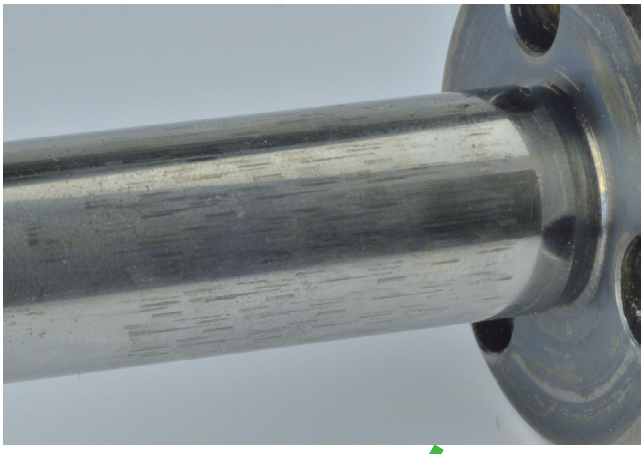
6.4.1 Overview

Check the following parts:

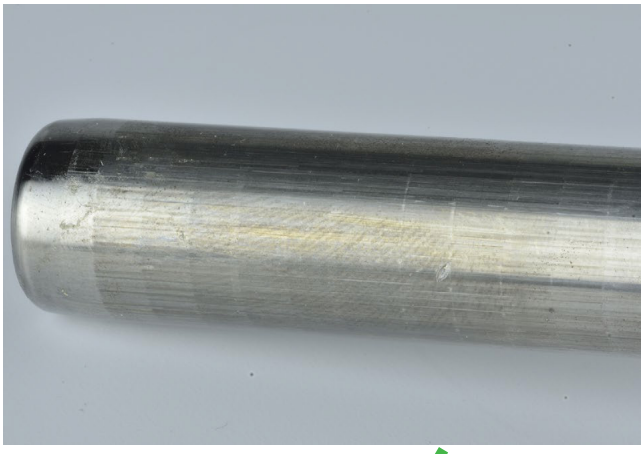
▶ Holding plate	Check the fitting between the jaw and holding plate to guarantee the tolerances	
▶ Shoulder screw	Check the thread and the collar for damage or heavy wear	
▶ Transport screw	Check the thread Check for bending	

► Damper	Check for heavy wear or permanent deformation	
► Ball cage	Check for heavy wear, deformation of shape, and other damage	
► Pillar	Check for heavy wear and other damage (*refer figure 5*)	
► Sleeve	Check for heavy wear and other damage (*refer figure 6*)	

► Sleeve and pillar --> Check for heavy wear and other damages

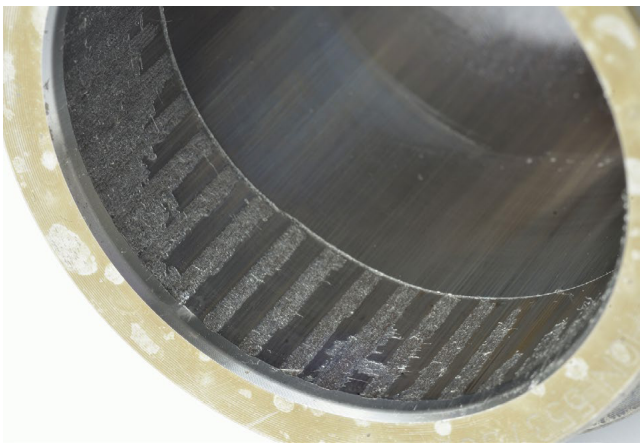


Normal abrasion, short stroke ✓

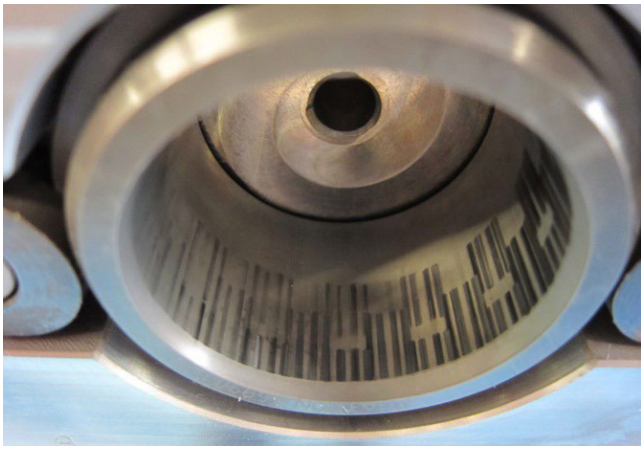


Normal abrasion, long stroke ✓

Fig. 5: Examples of wear marks



Defect, surface overloaded ✗



Fine centring, normal abrasion ✓

Fig. 6: Examples of wear marks

6.5 Ordering spare parts

1. Contact the OETIKER customer service for ordering spare parts (*see chapter 10*).
2. Provide the following particulars:
   - Product identifier, article number, serial number of the swaging tool (*see chapter 2.10*).
   - Quantity and name of the spare part, spare part number (*see chapter 9.2*).
   - Shipping information (truck or train) and exact delivery address.

7 Troubleshooting

DANGER

Risk of Serious Injury

- Starting the press unexpectedly can cause severe injuries.

NOTICE

To resolve any malfunction originating from the press, please refer to the press instruction manual.

Malfunction	Possible cause	Troubleshooting measures
Ballcages are not the same height	Ballcages are not assembled correctly	► Reassemble the top Two-Jaw Platform assembly (*see chapter 4.2, step 5*)
Two-Jaw Platform doesn't close fully	Insufficient lubrication	► Lubricate the ballcages (*see chapter 9.1.2*)
Two-Jaw Platform doesn't close to the transport configuration	Jaws are still mounted	► Make sure to remove the jaws before installing the handling parts
Strange movements, cracking or noises	Too much friction or binding in the guides	► Replacing the guide assemblies

For all other issues please contact your local OETIKER Service Center.

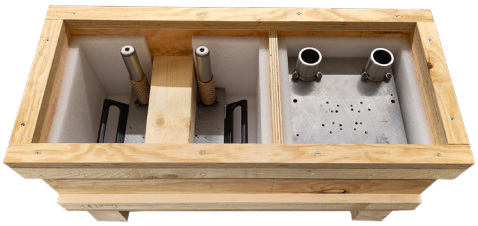
8 Transport, storage and disposal

The Two-Jaw Platform (258.004.760 / Mat. Nr. 13403988) is delivered in a wooden box.
Before transporting and storing, please oil the swaging tool (*see chapter 6.2*).

Packing dimension: 848 x 378 x 380 mm

weight empty: 19 kg

weight full: 62.7 kg

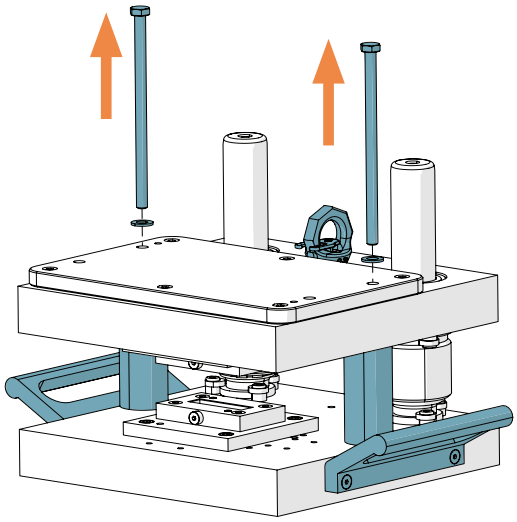


The Two-Jaw Platform will be transported in a dissembled state for protection.
Small materials are enclosed.

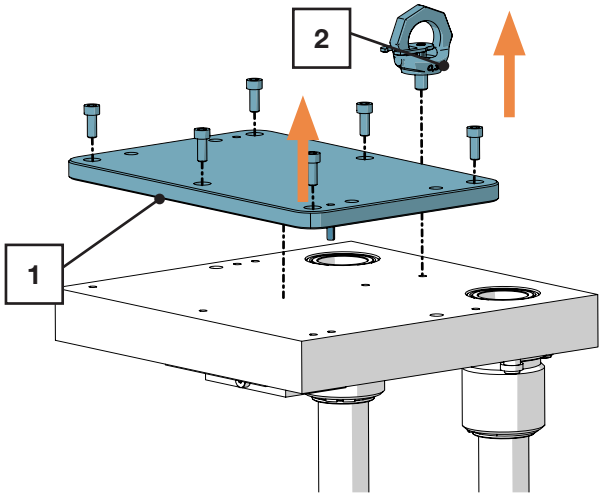
Do not throw away the transport box, it can be used for future transportation and storage.

8.1 Disassembly

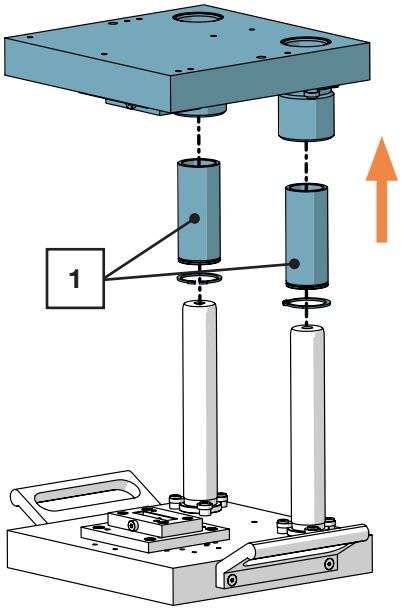
1. Uninstall the press connecting flange (customer specific).
2. Uninstall the rest of the handling parts as *shown in chapter 4.3* (Assembling the Swaging tool).



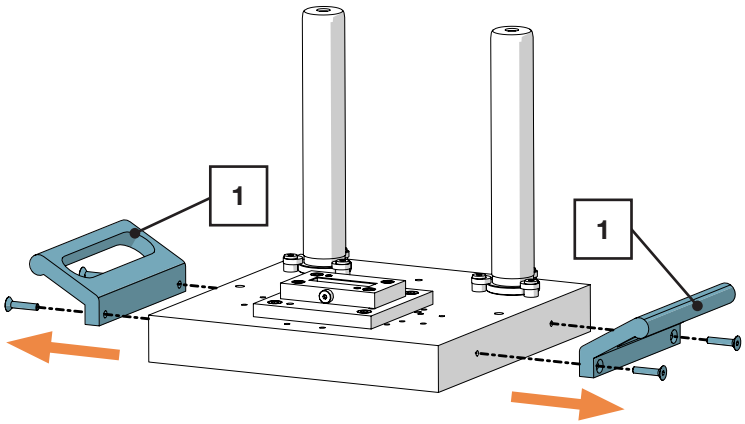
3. Uninstall the press adapter plate (1) and the eyebolt (2).



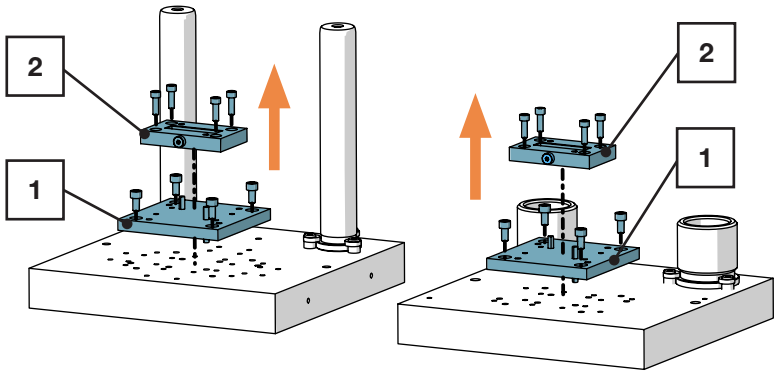
4. Disassemble the top and bottom part of the pillar frame with the ball cage (1).



5. Uninstall the handles (1) on the bottom half of the pillar frame.



6. Disassemble the pressure plate (1) and tool holding plate (2) on both halfs of the pillar frame.



8.2 Storage

1. Ensure the following conditions in the storage location:
   - dust free
   - clean
   - dry (humidity: max 80% up to 31°C; max. 50% at 40°C; decreasing linearly between these ranges)
   - correct room temperature (Storage temperature: 0°C to 60°C)
2. Ensure that the tool is secured against sudden movement.
   Handling parts must be installed for handling and storage.

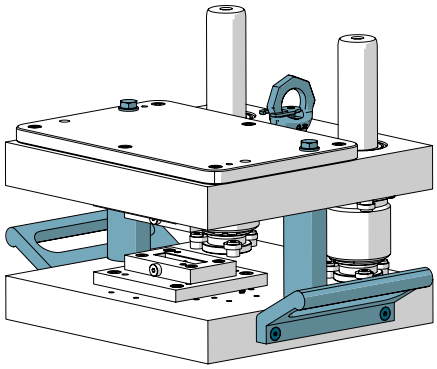


Fig. 7: Storage Two-Jaw Platform

8.3 Disposal

Correct disposal

Dispose of this device in accordance with local, regional, and national regulations.

Heavy steel components should be recycled whenever possible.

► The disposal of the tool, all replacement parts the operating materials or other substances hazardous to the environment must be carried out by specialized companies in accordance with the applicable legal regulations.

9 Appendix

9.1 Technical Data

9.1.1 General technical data

Parameter		Value
Dimension [mm] «open»	Length	246
	Width	364
	Height	319
Dimension [mm] «closed»	Length	246
	Width	364
	Height	236
Weight [kg] (without jaws and press adapter flange)		ca. 43.7

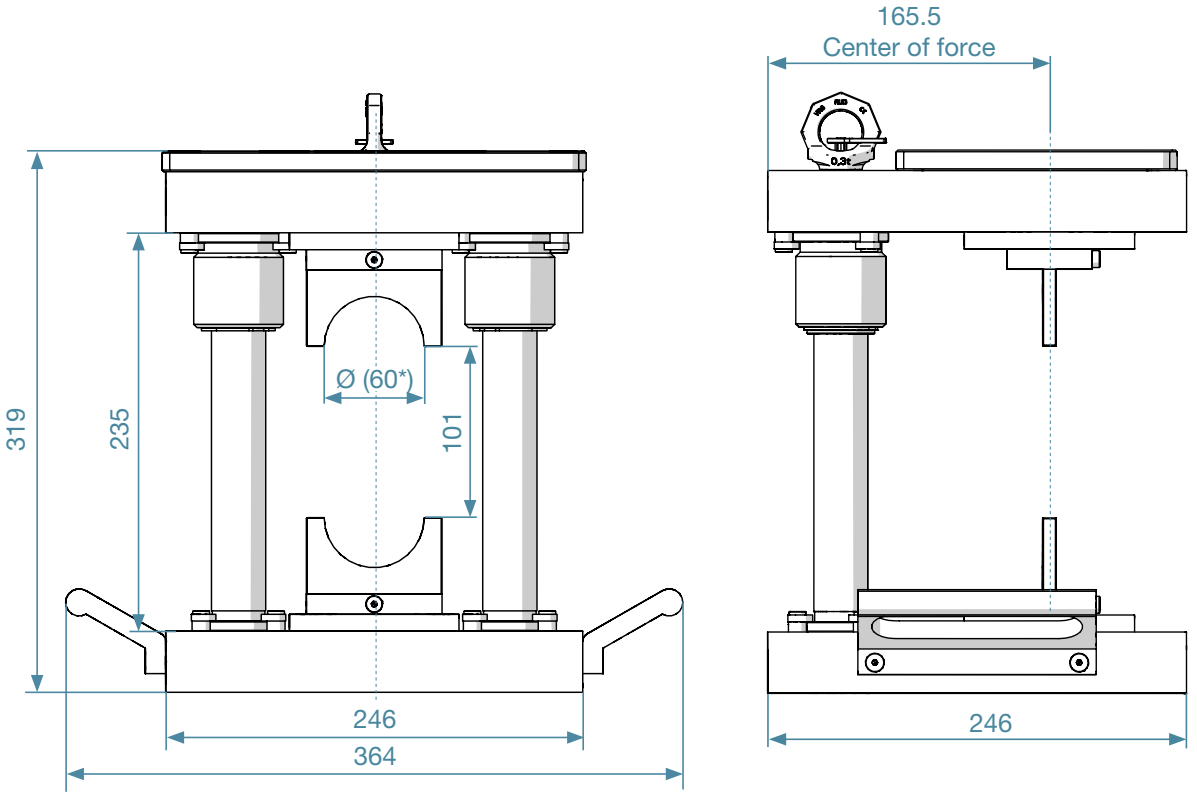


Fig. 8: Dimensons (all units in [mm])

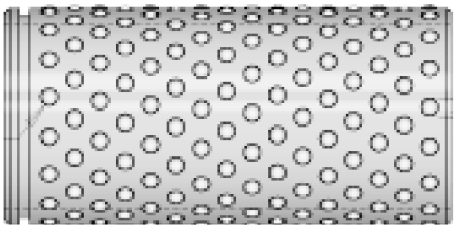
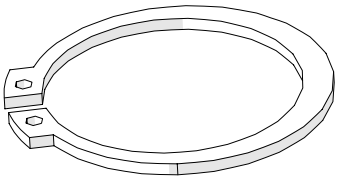
(*) Jaws are not included in the scope of delivery

9.1.2 Lubricant

Lubricant no.	Description	Type	Manufacturer	OETIKER Part no.
01	Lubrication	VLS 250/1/400	Meuseburger Georg GmbH & Co KG Kesselstrasse 42 6960 Wolfurt - Austria +43 5574 67 06	
02	Lubrication	Microlube GB 0	Klüber Lubrication München GmbH & Co. KG Geisenhausenerstr. 7 81379 München +49 89 7876 0	

9.2 Spare parts

The following tables list the most important spare parts that are available for repeat orders and reserve stock.

Spare part	Quantity	Article no.	Comment/type
Press adapter plate kit	1	13404009	includes screws
Pressure plate kit	1	13404011	includes preinstalled dowel pins and screws
Holding plate kit	1	13404010	includes mountings screws and a shoulder screw
Ballcage Meusburger	2	05010360	
Safety clip Meusburger	2	05011665	

10 Contact details

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

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

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