



CE

Pneumatic Pincers Oetiker ME

- HO 2000 ME
- HO 3000 ME
- HO 4000 ME
- HO 5000 ME
- HO 7000 ME

Original instruction manual
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Operating Instructions

Item No. 08902533
Oetiker – Horgen/CH

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1 Introduction

1.1 Scope

These operating instructions are valid for the HO 2000 ME, HO 3000 ME, HO 4000 ME, HO 5000 ME and HO 7000 ME Pneumatic Pincers as well as for factory-assembled pincer heads.

Note: "ME" is the abbreviation for "mechanical".

1.2 Intended purpose

The ME Pneumatic Pincer is used for closure of Oetiker Ear Clamp types.

Note: The ME Pneumatic Pincer is not to be used as a hammer or other such tool, nor for purposes other than those explicitly specified in this technical description.

The manufacturer is not liable for damages caused by improper use or incorrect operation of the ME Pneumatic Pincer.

1.3 Statement of conformity

This device complies with following EC Directives:

EN 12100-1:2010: Safety of machinery – General principles for design – Risk assessment and risk reduction

CE Declaration of Conformity

The "CE Declaration of Conformity" is delivered within the product packaging.

1.4 Technical data

The main dimensions of the ME Pneumatic Pincer can vary depending on pincer type and the standard pincer head used. (Unless otherwise specified, all dimensions are in mm.)

Pincer type	A		B		C	D	E	Weight
	min.	max.	min.	max.				
HO 2000 ME	213	214	73	74	101	G1/4"	47	0.90 kg
HO 3000 ME	257	252	73	78	140	G1/4"	47	1.00 kg
HO 4000 ME	291	296	73	78	179	G1/4"	47	1.10 kg
HO 5000 ME	309	314	102	107	167	G1/4"	54	1.65 kg
HO 7000 ME	400	405	102	107	258	G1/4"	54	1.90 kg

Tab. 1

1.5 Operating conditions

The ME Pneumatic Pincer is to be used in a clean, dry environment only.

1.6 Condition upon delivery

The ME Pneumatic Pincer was tested at the factory for functionality and is ready for installation.

2 Components

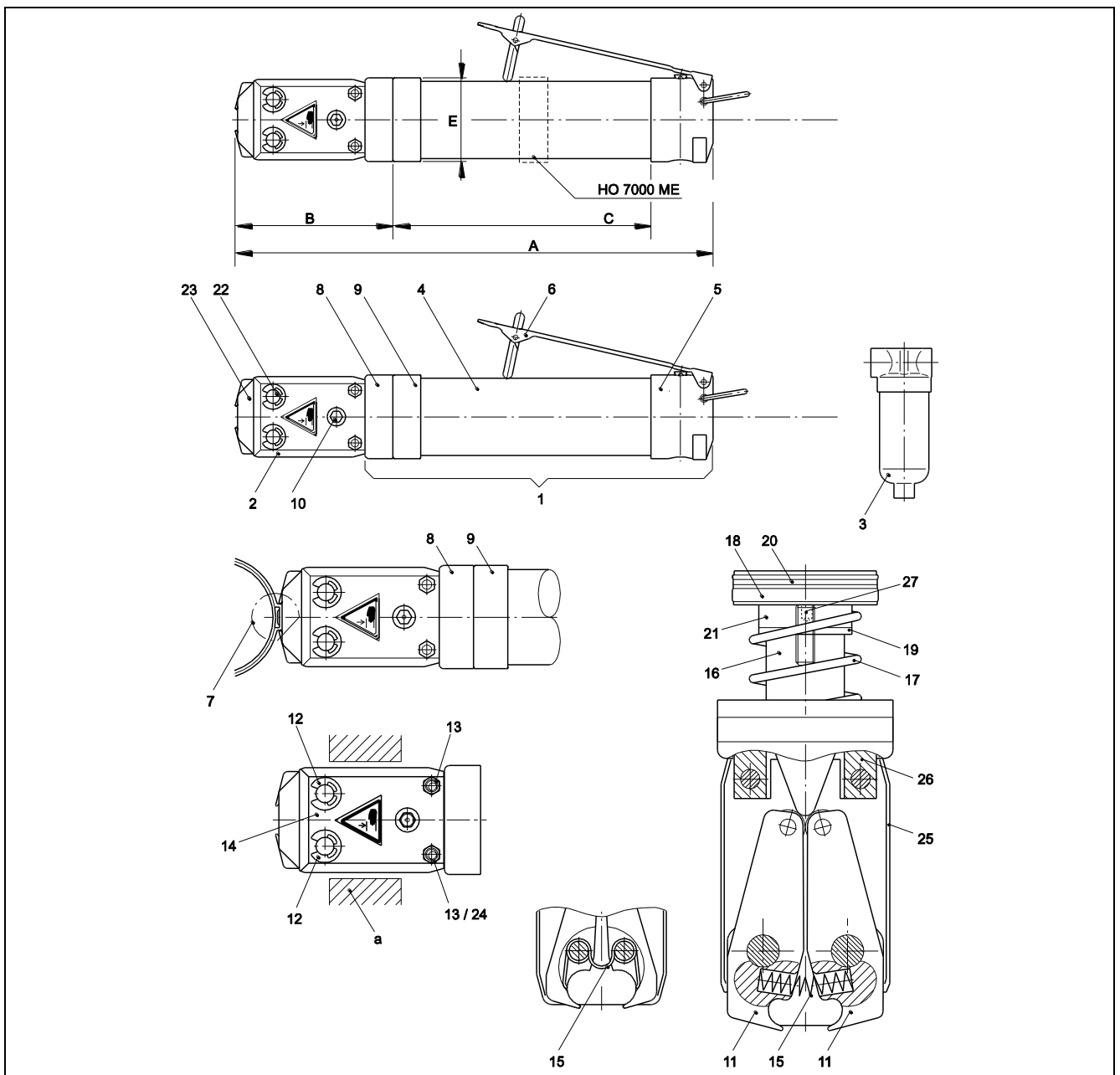


Fig. 1

Standard components include:

Pincer body (1), pincer head (2), assembled compressed air filter (3), and, as necessary, additional spacer (19).

Legend

a Holding area for services

1 Pincer body	15 Compression spring
2 Pincer head	16 Plunger
3 Compressed air filter, assembled	17 Compression spring
4 Cylindrical tube	18 Guide band
5 Release mechanism	19 Spacer
6 Release lever	20 Lip seal
7 Clamp zone	21 Piston
8 Cap nut	22 Pin
9 Lock nut	23 Shield plate
10 Grease zerk	24 Screw
11 Pincer jaw	25 Protection plate
12 Retaining ring	26 Pincer holder
13 Hexagonal nut	27 Headless screw
14 Pincer plate	

! NOTICE

The minimum closing gap has to be taken into account depending on your application and the band thickness of the Oetiker Ear Clamp used.

These can be changed using the spacer supplied.

- Observe the "Minimum closing gap" table (see chapter 8.3, p. 8-15).




3 Safety instructions

3.1 Symbols and means of representation used

Safety notices are used in this operation instructions to warn of the risk of personal injury or property damage.

- ▶ Always read and observe these safety notices.
- ▶ Observe all notices that are flagged with a safety alert symbol and signal word.

The following symbols are used in this instruction manual:

Symbol	Meaning
 WARNING	Hazardous situation. Failure to observe this notice may lead to death or serious injury.
 CAUTION	Hazardous situation. Failure to observe this notice may lead to minor injury.
CAUTION	Information on the avoidance of property damage.
 NOTICE	Information relating to the understanding or optimization of working practices. Information indicating technical requirements for optimum performance and efficiency. Disregarding this information can cause the product to malfunction.
▶	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

3.2 Labels on product and packaging

3.2.1 Labels on product

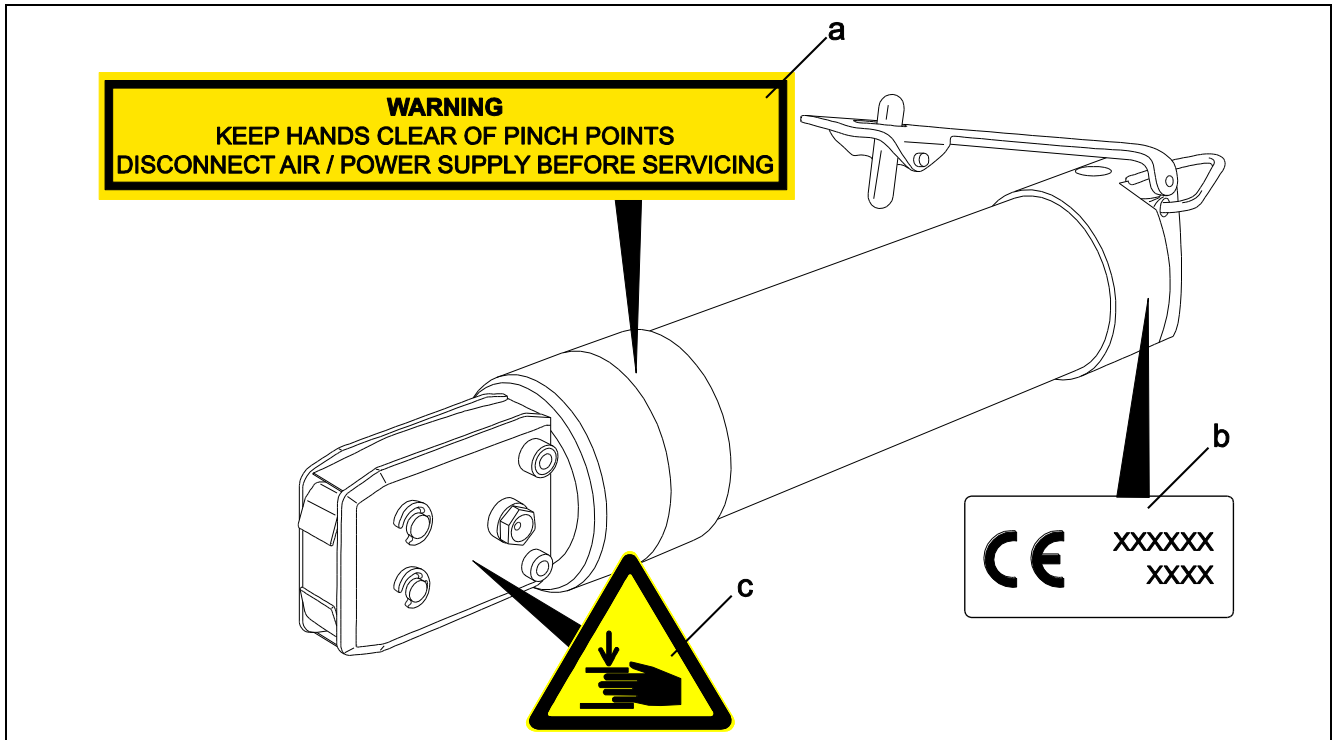


Fig. 2

- a Warning label
- b Serial number, CE label
- c Risk of crushing

3.2.2 Labels on packaging

Symbol	Meaning
	Keep this side up.
	Keep dry.

3.3 General

The ME Pneumatic Pincer reflects the current level of technology. It is safe to operate, but only if the following instructions and precautions are followed: There are dangers if the ME Pneumatic Pincer is improperly installed and/or operated by untrained personnel.

Each person authorized to install, operate and maintain the ME Pneumatic Pincer has to read and understand these operating instructions and especially the safety instructions herein.

In addition, these individuals have to be regularly trained in all relevant questions associated with working safety and environmental protection.

The operator, not the manufacturer of the ME Pneumatic Pincer, is responsible for all personnel injury and equipment damage resulting from improper usage.

In particular, observe the following:

- ▶ Do not let the ME Pneumatic Pincer fall.
- ▶ Only use the ME Pneumatic Pincer if it is in perfect condition.
- ▶ Replace any defective component immediately.
- ▶ Use only original Oetiker replacements and accessories.
- ▶ Never grip cylindrical tube (4) of the ME Pneumatic Pincer.
 - You can, however, grip pincer type HO 7000 ME at the reinforced location at the center of cylindrical tube (4).
- ▶ Do not disassemble the safety device at release lever (6).
- ▶ Never install pincer head (2) without its lateral cover.
- ▶ Always wear safety glasses while using the ME Pneumatic pincers.

3.4 Working on pneumatic equipment

Maintenance and repair work on pneumatic equipment is only to be carried out by specially trained personnel. Pneumatic equipment is always to be completely depressurized before starting any maintenance or repair work.

4 Layout and function

The ME Pneumatic Pincer consists of pincer body (1) with release mechanism (5) and pincer head (2).

4.1 Functional description

For Oetiker Ear Clamps, the ear of an Ear Clamp is positioned in the clamp zone (7) on the pincer head. Pressing the release lever (6) activates the clamping sequence, closing the ear clamp. Releasing the release lever opens the clamp zone on the pincer head, allowing the next clamping sequence to be carried out.

When using special heads - e.g., for closing Oetiker Low Profile Clamps or special heads for Ear Clamps having geometric involutions - the clamp zone (7) can deviate somewhat from that shown. The technical data sheet of the respective Oetiker product group describes how to properly close the clamp.

5 Installing the ME Pneumatic Pincer

The ME Pneumatic Pincer is delivered completely assembled. Connection to the local compressed air supply is required.

Requirements of the local compressed air supply:

- Working pressure of 5 to 6 bar: The working pressure is in direct relation to the closing force. The higher the inlet pressure, the higher the closing force.
 - Air quality according to ISO 8573-1
 - If the supplied compressed air filter is not used, install a 40 µm filter element in the upstream filter.
 - We recommend installing a shut-off valve in the air supply line, which can be closed for safety reasons during maintenance and repair work.
 - For technical regulation reasons and especially for long supply lines, an air reservoir (1 to 5 liters depending on pincer size) should be installed before the filter.
 - In order to optimize the closing process of Oetiker Ear Clamps and Low Profile Clamps when using Oetiker pincers ME that are incorporated in an installing device, we recommend a floating fixture of such pincers.
- ▶ Fix compressed air filter (3) to a suitable location using the supplied bracket.
 - ▶ Connect the compressed air filter to the local compressed air supply (G1/4“).
 - ▶ Check to ensure cap nut (8) and lock nut (9) are tight.

5.1 Clamping force test

Oetiker Ear Clamp types have to be closed with a prescribed and uniform clamping force - “force priority”. This leads to a constant, consistent and allowable tension loading of the band material. In this way, individual components, components to be removed and Ear Clamps are not overloaded. Obtain the recommended closing forces for the relevant Oetiker product groups from the technical data sheets. The clamping force is regulated by changes in the working pressure. To determine and set the correct clamping force, a clamping force test device, e.g., Oetiker Test Equipment CAL 01 is used.

- ▶ Please refer to the catalog “Connecting Solutions“ for more details.

NOTICE

In order to ensure uniform and reproducible process quality it is mandatory to perform an assembly tool pincer test at least once per shift, minimum daily. Furthermore, a pincer test is mandatory in the event any pincer components are replaced.

To maintain consistent pincer force, sufficient compressed air pressure and volume must be provided.

- ▶ To achieve uniform quality, verification is necessary.

6 Operation

6.1 Pincer head alignment

Turn pincer head (2) to an optimal operational position as follows:

1. Interrupt the air supply.
2. Loosen lock nut (9).
3. Slightly loosen cap nut (8).
4. Turn pincer head (2) to the desired position.
5. Tighten up cap nut (8).
6. Secure it with lock nut (9).

6.2 Clamping procedure

WARNING

Risk of injury at release lever

Be careful **not** to pinch your fingers when activating release lever (6).

- ▶ Never grasp the ME Pneumatic Pincer under release lever (6).

WARNING

Risk of injury at pincer head

Be careful **not** to pinch your fingers when closing pincer jaw (11).

- ▶ Never grasp clamp zone (7) of the ME Pneumatic Pincer.

1. Introduce the ear of the Ear Clamp into clamp zone (7) on pincer head (2).
2. Activate release lever (6) as follows:
3. Use your thumb to fold out the security pin. At the same time press release lever (6) down.
The ear is getting closed.
4. Let go of release lever (6).

6.3 Troubleshooting

Malfunction	Cause	Remedy
Ear Clamp becomes crushed or clamp band tears.	Clamping force too high Spacer incorrectly sized	<ul style="list-style-type: none">▶ Adjust the clamping force to Ear Clamp being used.▶ Choose correct spacer size.
Ear Clamp does not close or is not properly connected.	Pincer jaw broken Spacer incorrectly sized	<ul style="list-style-type: none">▶ Replace pincer jaws.▶ Choose correct spacer size.

Tab. 2

7 Maintenance

7.1 Weekly

1. Interrupt air supply.
2. Grease pincer head (2) at grease zerk (10) with one press of a grease gun:
 - Grease nipple: AM6
 - Grease: see list below under “Grease”.
3. Check pincer jaw (11) for wear and check the clamping locations for damage.
4. Replace any defective component immediately.

7.2 Yearly maintenance

If your Oetiker ME Pneumatic Pincer is in regular use, we recommend a yearly maintenance.

Oetiker requires that the yearly maintenance be completed at an Oetiker Power Tool Service Center.

- ▶ Please contact Oetiker for information on returning the ME Pneumatic Pincer for maintenance.

7.3 Grease

RENOLIT* LX-EP2 or RENOLIT* DURAPLEX EP2, Oetiker Item No. 08901490.

* RENOLIT are products from FUCHS PETROLUB AG, D-68169 Mannheim, Phone +49 621 38 02 00, www.fuchs.com

7.4 Check clamping force

WARNING

Risk of injury at pincer head

Be careful **not** to pinch your fingers when closing pincer jaw (11).

- ▶ Do not reach into the clamp zone (7) of the ME Pneumatic Pincer.
- ▶ Check clamping force using a clamping force test device, e.g., Oetiker Test Equipment CAL 01.

8 Repairing

8.1 Replace pincer jaws

WARNING

Risk of injury at pincer head

- ▶ Be careful **not** to pinch your fingers when closing pincer jaw (11).
- ▶ Never grasp clamp zone (7) of the ME Pneumatic Pincer.

A number is engraved on the pincer jaw.

- ▶ Use this number to order a "Replacement jaw kit".

NOTICE

- ▶ Never install pincer jaws other than those specified for the pincer head.

1. Shut-off the compressed air supply.
2. Separate pincer head (2) from pincer body (1):
 - Loosen lock nut (9).
 - Unscrew cap nut (8).

The plunger remains in pincer body (1).

WARNING

Risk of injury

The compression spring is under tension.

- ▶ Hold on to the pincer head as you remove it.

3. Remove two retaining rings (12) from the side with grease zerk (10) of the pincer head (2).
 - Do not push the bolt back.
4. Remove the two hexagonal nuts (13).
 - Do not push the bolts back.
5. Remove pincer plate (14).
6. Remove compression spring (15) and pincer jaw (11).

7. Grease the spare pincer jaw and spring from the "Replacement jaw kit" (see the "Maintenance" section for the grease type) and install.
8. Position pincer plate (14). Guide the cover plates on both sides into the grooves of the pincer plate.
9. Tighten the two hexagonal nuts (13) and install the retaining rings (12) on the bolts.
10. Check pincer jaws (11) for smooth movement.
11. Screw pincer head (2) on pincer body (1), ensuring that the plunger lies between both pincer jaws (11).
 - Secure with lock nut (9).

8.2 Exchange pincer head

WARNING

Risk of injury when pincer head is not mounted

Starting a closure can cause the compression spring and plunger to fly apart if the pincer head is not mounted.

- ▶ Never operate the pneumatic pincer unless the pincer head is mounted.

You can use various pincer heads with the same pincer body. The exact type reference is specified in the catalog "Connecting Solutions".

Extent of supply of the pincer head-set: pincer head (2), plunger (16), piston (21), compression spring (17), guide band (18), spacer (19).

1. Shut-off the compressed air supply.
2. Separate pincer head (2) from pincer body (1).
 - Loosen lock nut (9).
 - Unscrew cap nut (8).
 - Remove plunger and compression spring from the pincer body.
3. Insert spacer (19) in the new plunger (16) in accordance with the "Minimum closing gap" table (see chapter 8.3, p. 8-15).
4. Grease plunger (16), piston (21) with lip seal (20) and guide band (18) from the new pincer head set as follows:
 - Piston (21), lip seal (20) and guide band (18) with: RENOLIT* IPR 2 (Oetiker Item No. 08901485)
 - Wedge (16) with: RENOLIT* LX-EP2 or RENOLIT* DURAPLEX EP2 (Oetiker Item No. 08901490)

* RENOLIT are products from FUCHS PETROLUB AG, D-68169 Mannheim, Phone +49 621 38 02 00, www.fuchs.com

5. Insert plunger (16), piston (21) with lip seal (20) and guide band (18) in the pincer body.

! NOTICE

► In the next step, be careful **not** to damage lip seal (20) and guide band (18).

6. Insert compression spring (17).

7. Screw the new pincer head (2) on the pincer body (1) ensuring that the plunger (16) lies between both pincer jaws (11).

- Secure with the lock nut (9).

8.3 Minimum closing gap

The minimum closing gap will be adjusted by using different spacers (19).

The spacers are in relation to the used clamp to avoid that the ear is damaged or cut off.

One spacer is already installed. The additionally supplied spacer is suitable for other clamp types or band dimensions.

Pincer head type	Spacer [mm]		Resulting closing gap [mm]		Recommended for band thickness [mm]	
	installed	optionally supplied	installed	optionally supplied	installed	optionally supplied
HO-05.5 – 08.6	9.0	9.3	0.8	1.0	0.5	0.6
HO-07.5 – 11.6	3.6	4.6	1.0	1.5	0.6	>0.6
HO-07.5 – 13.2	1.0	1.9	1.0	1.5	0.6	>0.6
HO-10.2 – 11.6	3.6	4.6	1.0	1.5	0.6	>0.6
HO-10.2 – 13.2	1.0	1.9	1.0	1.5	0.6	>0.6
HO-10.2 – 16.2	2.2	2.8	1.0	1.5	0.6	>0.6
HO-10.5 – 13.7	2.1	-	1.8	-	0.8 / 1.0	-
HO-10.5 – 16.6	2.1	-	1.8	-	0.8 / 1.0	-
HO-14.5 – 16.6	2.1	-	1.8	-	0.8 / 1.0	-

Tab. 3

9 Disconnecting, Storage, Reconnecting

1. Clean and lightly grease the ME Pneumatic Pincer before storing.
2. Replace defective components.
3. Carry out a renewed commissioning following the “Installing the ME Pneumatic Pincer” section.

10 Disposal

- ▶ Dispose of packing material in accordance with local regulations.
- ▶ When disposing of the ME Pneumatic Pincer, observe country and regional laws and guidelines in each case. For this purpose, we recommend contacting a company specializing in disposals.