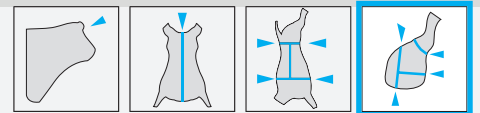


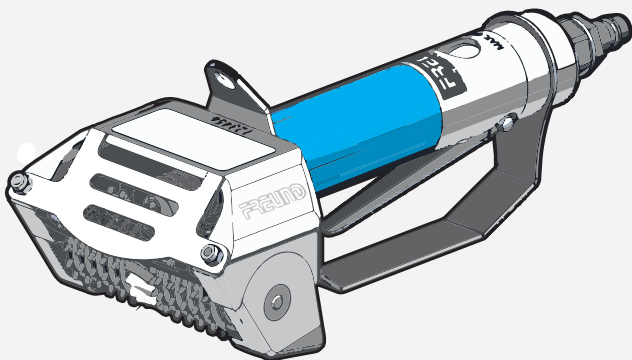
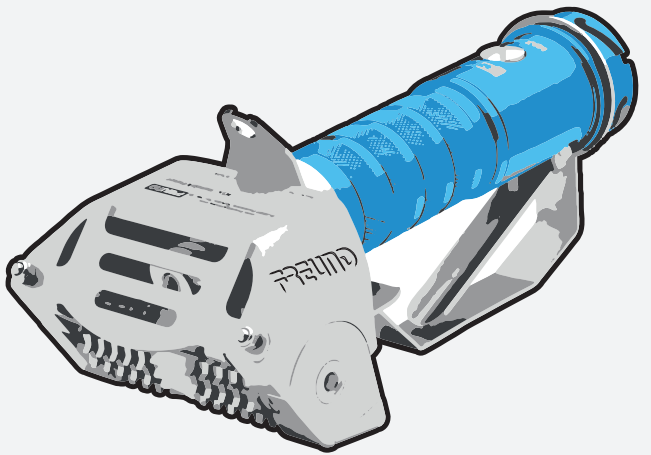
OPERATING MANUAL HAND-SKINNER

Translation of original manual



MODELS

- HSK8-P5
- HSK8-P3_EVO2
- HSK8-P3



Imprint

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Technical changes reserved

This operating manual was compiled with the greatest care. However if you notice incompleteness and/or mistakes, please inform us.

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1 About this Manual

The Hand-Skinners are also referred to as machine in this operating manual.

This operating manual was prepared to enable you to work quickly and safely with your machine.

The operating manual is a component of the machine and contains important recommendations, instructions and information.

- to enable safe and proper installation of the machine.
- to enable safe operation of the machine.
- to enable you to rectify simple faults yourself.
- for maintenance and cleaning.

Before you start operating the machine, read this entire operating manual thoroughly and carefully. It is imperative that you adhere to all written safety and warning information.

1.1 Target group

This operating manual is intended for operators of slaughtering facilities and the staff employed there, as well as for butchers and small businesses and their apprentices.

The operating manual is intended in particular for qualified personnel for assembly, installation, maintenance and servicing and for the cleaning staff.

The target group must have basic technical knowledge of how to handle the machine described herein.

1.2 Liability and warranty

All information and instructions regarding the operation and maintenance of the machine contained in this manual are provided to the best of our knowledge, taking into account our experience and know-how.

We will accept no liability for claims that extend beyond the scope of the warranty agreed in the main contract.

The original version of this operating manual was written in German. The translation was created with the best care and knowledge, but we assume no liability for translation errors. In case of doubt, the original German version always applies.

Exclusion of
liability

We assume no liability and warranty:

- for wearing parts.
- for damage that occurs during slaughtering.

Furthermore, we expressly point out that we do not assume any liability for damages attributable to the following causes:

- not observing the information provided in this operating manual at all or to the necessary extent
- non-intended use
- unsuitable or improper handling
- spare parts or parts are used which have not been approved by FREUND Maschinenfabrik GmbH & Co. KG
- changing functions or materials on the machine without prior approval
- operating the machine incorrectly or operation by unqualified personnel
- safety devices being removed or manipulated
- cleaning the machine incorrectly or unprofessionally
- chemical or mechanical overloads
- maintenance and repair work not being carried out according to instructions or maintenance intervals not being adhered to

Modifications and/or adjustments to the machine are possible in certain cases. In such cases, prior written approval must be obtained from FREUND Maschinenfabrik GmbH & Co. KG – subsequently referred to as FREUND Maschinenfabrik.

1.3 Storing the operating manual

This operating manual is part of the machine and must be accessible at all times to the operating, maintenance and cleaning staff during the entire service life of the machine.

Therefore, always keep the operating manual near the machine's place of use.

1.4 FREUND Assistance



With the purchase of a FREUND product, you get access to our online customer portal, the FREUND Assistance (FA). In the FA, the available spare parts for your product are displayed for you, and you also have the possibility to immediately send an order request to our sales department. The required assembly instructions (MTA) for the safe assembly of your FREUND spare parts are also provided for you in the FA. In addition, the CE declarations for series machines are provided for you in the FA.

1.5 Warnings

While you are using the machine, dangers may occur in certain situations or as a result of certain behaviours.

In this operating manual, warning information is given at the start of the respective chapter or life phase that involves danger of personal injury or property damage. They relate to all following actions of the chapter or life phase.

The precautions described must be observed to avoid the danger.

Structure of a warning



Signal word!

Type and source of the imminent danger.

Possible consequences of the danger if the warning is disregarded.

➤ Instructions for averting the danger.

Signal word	Meaning
DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
ATTENTION	Indicates a potentially hazardous situation which, if not avoided, could result in damage to the machine or the environment.

1.6 Symbols and layout elements

1.6.1 Layout elements

- Enumerations
 - Individual, independent instruction step
Result arising from the instruction step
 - 1. Step-by-step sequences in a specific order
 - 2. The numbers indicate that the instruction steps follow each other
 - 3. *Result arising from the instruction steps*
- References to another chapter



Important additional information or special details regarding the use of the machine



Embedded warning note - shows type and source of the danger and the measure to avoid the danger

1.6.2 Safety signs

Warning signs



Warning of a danger point

Caution! At this point there is an increased danger to your safety.



Warning of sharp-edged machine parts

Danger to the fingers and hands from cutting and striking.

Danger to limbs from cutting or severing and injuries to the body.



Warning of rotating cutting tools

Danger to limbs from cutting or severing.



Danger of entanglement of loose clothing, jewellery and long hair due to the rotational movement.



Warning of substances harmful to health and irritants

The information on the packaging and containers must be observed.
Keep separate from food.



Warning about horizontal rotary movements

Danger from unexpected machine impacts.

Danger to the fingers and hands from cutting or cutting off.

Mandatory signs



Wear protective gloves

protect the hands against friction, abrasions, and cuts.



Wear safety spectacles

protect the eyes against flying parts, fragments and squirting liquids.



Wear hearing protection

protect hearing during operation of the machine.



Wear safety shoes or rubber boots

protect the feet against crushing, falling objects and guarantee secure support.



Wear a hair net or use a blade guard

protect long hair against entanglement in the machine.



Wear a protective apron

protects the body against humidity, blood and other fluids.



Wear head protection

protect the head against injuries from contact with oscillating objects and machines and during work beneath suspended loads.



Pull out the power plug

disconnect the machine from the mains power supply before all servicing, maintenance and cleaning work.

1.6.3 Symbols



Comply with the operating manual

Be sure to observe the information and notes in the operating manual.



Separate spare parts list available

There is a separate spare parts list for this spare part.



Assembly manual available There is an extra assembly manual for this spare part. In the assembly manual, work steps and required tools are shown.



Available as a set

The symbol indicates an article in a set. In a set, multiple related spare parts are available together. A plate clarifies which parts are included.



Tool set available

To install this spare part, a special tool is required which can be ordered from us.

2

The order of the work steps is marked with numbers in the grey field.



Lubrication

Information about the amount and properties of the lubricant can be found in the operating manual.



No lubrication



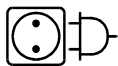
Glue

Parts must be glued; information about the type and properties of the glue can be found in the operating manual.



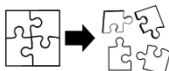
Cleaning

Instruction for an additional cleaning step.



Power plug

symbolises the connection of the machine to the power network.



Disassembly of the machine or component



Assembly of the machine or component

symbolises the assembly of the machine after prior disassembly, carry out work steps in the reverse order.

2 For your Safety

This chapter describes the safety measures and safety devices. It serves for your orientation regarding safety questions about the use of the machine.

Safety instructions are intended to provide occupational safety and prevent accidents. Observe all the safety instructions provided here and at the beginning of each chapter.

Be sure to read the following chapter on safety and the safety instructions contained within carefully before commissioning and using the machine.

2.1 Site operator's responsibilities

In accordance with the rules and regulations of the German DGUV Regel 110-008, the site operator may only allow insured persons who are over 18 years old and are familiar with the equipment and the handling of the equipment to operate slaughter equipment.

Young people over 16 years may be employed only if this is required as part of their vocational training and if they have read and understood the safety information. Their safety must be ensured by a supervisor.

Operating staff The site operator, as a higher level legal person, is responsible that the machine is used in accordance with its intended use and is responsible for training and for assigning authorized and qualified operating, maintenance and cleaning staff.

The site operator is obliged to ensure that each employee is properly trained in the operation of the machine.

Staff undergoing training may only work at the machine under the supervision of properly qualified staff.

Instruction of staff The operator is obliged to instruct employees regularly and in light of certain events (e.g. if an accident has occurred) in safe work procedures and occupational safety and health. We recommend that the instruction and the content covered should be documented by the employee's signature.

Risk assessment The site operator must inform operators of possible dangers, symptoms and preventative measures. Relevant occupational safety conditions have to be complied with.

When working with the machine, it is compulsory to wear ear protection and safety goggles.

Workplace The workplace must comply with the national and regional hygiene and workplace regulations.

Escape routes The operator must ensure that sufficient escape routes are available for the staff and that these are clearly marked. The operator must ensure that escape routes are not obstructed and that their function is not impaired (e.g. that doors open towards the escape route).

- | | |
|-----------------------|---|
| Cleaning | The operator must ensure that machine and working equipment can be cleaned easily and without any risk. The operator must provide suitable detergents and define suitable cleaning procedures. |
| Safety of the machine | <p>The site operator must ensure that the machine is only operated and used in perfect and functional condition.</p> <p>The site operator must ensure that safety devices are regularly serviced and checked for proper function.</p> |

2.2 Employee responsibilities

- | | |
|-------------------------|--|
| Operating staff | <p>The operating staff must be properly instructed and trained by the operator. Staff who have read and understood the safety information and have been properly familiarised themselves with the operation of the machine can be regarded as instructed.</p> <p>Operating staff must be familiar with the operating manual and the applicable OHS and accident prevention regulations.</p> |
| Qualified personnel | <p>A technical expert is a person who, due to technical training and experience, possesses sufficient skills and knowledge.</p> <p>The technical expert must be familiar with the operating manual and the applicable OHS and accident prevention regulations, as well as the applicable animal welfare laws.</p> |
| Safety at the workplace | <p>Maintain a stable upright position and keep your balance. Avoid awkward postures.</p> <p>Keep your workplace clean and tidy. Untidy workplaces can cause accidents.</p> <p>Always wear the personal protective equipment provided.</p> <p>Keep children, young persons and untrained staff away from the machine.</p> |
| Emergency procedures | <p>In the case of an accident, administer first aid and call a doctor and emergency medical services.</p> <p>Notify the operator or his authorised representative of every accident.</p> |
| Machine safety | <p>Before starting any work, carefully check the machine for proper function in accordance with the intended use.</p> <p>Do not set the machine into operation if it does not work correctly.</p> <p>Switch off the machine immediately if it no longer works correctly and have it checked.</p> <p>Have defective safety devices, switches or other defective machine parts repaired.</p> <p>Notify the operator or his authorised representative of any changes to the machine which may affect your safety.</p> |

2.3 Personal protective equipment

The staff must carry the customary personal protective equipment. The personal protective equipment is dependent on the respective field of work.

The personal protective equipment must be provided by the operator. For hygienic reasons, each employee gets his/her own personal protective equipment.

2.4 Safety-related components

The safety-related machine components described in this chapter must be installed and must not be modified.

Replace defective safety-related components immediately.

2.4.1 HSK8-P5/ HSK8-P3_evo2

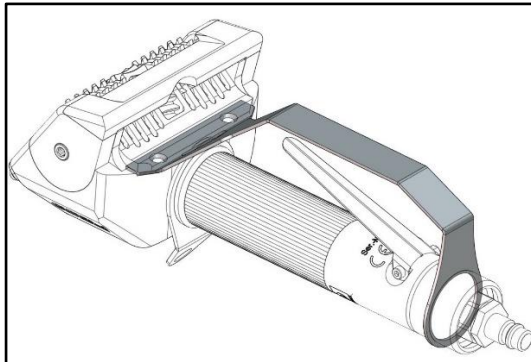


Fig. 2-1 Safety guard highlighted in a dark colour

The safety guard

- Prevents the machine being switched on unintentionally.

2.4.2 HSK8-P3

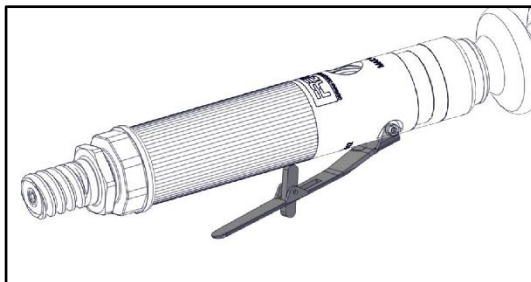


Fig. 2-2 Lever with lock highlighted in a dark colour

The lever with lock

- Prevents the machine being switched on unintentionally.

2.5 Residual risks

The stun device was built according to the current state of the art before being placed on the market and complies with the basic safety and health requirements of the European Union.

The machine is operationally safe, assuming compliance with the operating manual, the company-specific instructions and the accident prevention regulations.

However, there are still dangers involved which cannot be eliminated by design measures. These include:

- Cutting injuries from cutting tools
- Abrasions and crushings of the skin by the toothed roller
- risk of injury from negligent handling of personal safety equipment while operating the stunning device, during maintenance and repair work and during cleaning and disinfection
- danger of injury from breakage or ejection of fragments of the cutting tool.
- danger of injury from flying pieces of meat and bone fragments
- danger of injury at hand, wrist and arm due to the vibration of the cutting head during operation

It should also be noted that, despite all precautionary measures, residual risks may remain which are not evident.

You can minimise these residual risks by observing the safety instructions given at the beginning of the individual chapters and observing the instructions in the entire operating manual.

2.6 Intended use

FREUND Hand-Skinners are intended for skinning, fat trimming, and removing rind from ham and other pieces of meat.

The pieces of meat must lie securely or be fixed in place. You must not hold the pieces of meat in your hand.

Operating the machine within the limits of its intended use also involves:

- observing the safety instructions.
- proper execution of repair and maintenance work.
- regular cleaning of the machine.

Any other use is considered as contrary to the intended use and poses risks to the safety of operating staff.

Disclaimer of
liability

FREUND Maschinenfabrik does not accept liability for any damage resulting from improper use of the machine.

2.7 Improper use

Every use other than those described as → chapter *Intended use* is deemed to be non-intended and is thus inadmissible.

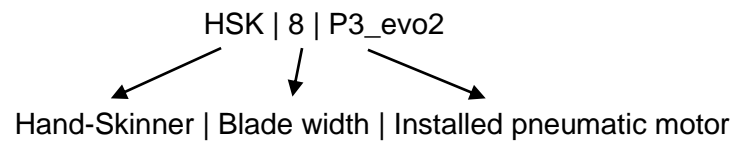
The operator is solely responsible for risks in the case of improper use. Consult the manufacturer in case of doubt.

The following are also deemed as improper use:

- the cutting and sawing of other materials such as wood, plastic or stone.
- the use of the machine in slaughter rooms.
- the use of the compressed air to clean clothing or persons.

3 Technical Description

Product code



3.1 HSK8-P5

The Hand-Skinner HSK8-P5 consists of the pneumatic motor P5 and a head piece. Both parts are already pre-assembled.

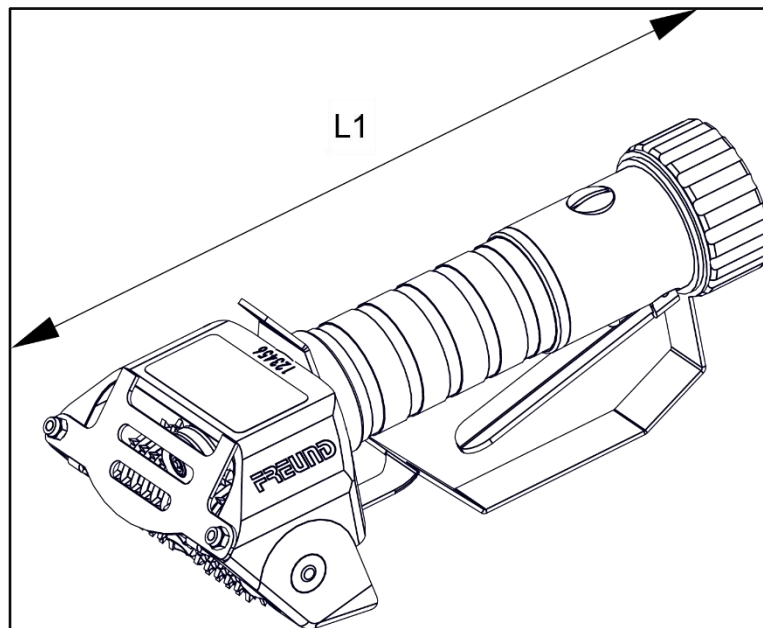


Fig. 3-1 Mounted Hand-Skinner HSK8-P5

Technical data	Weight [kg]	2
	Length L1 [mm]	250
	Vibration [m/s ²]	approx. 0.2
	Noise emission [dB (A)]	79

3.2 HSK8-P3_evo2

The Hand-Skinner HSK8-P3_evo2 consists of the pneumatic motor P3_evo2 and a head piece. Both parts are already pre-assembled.

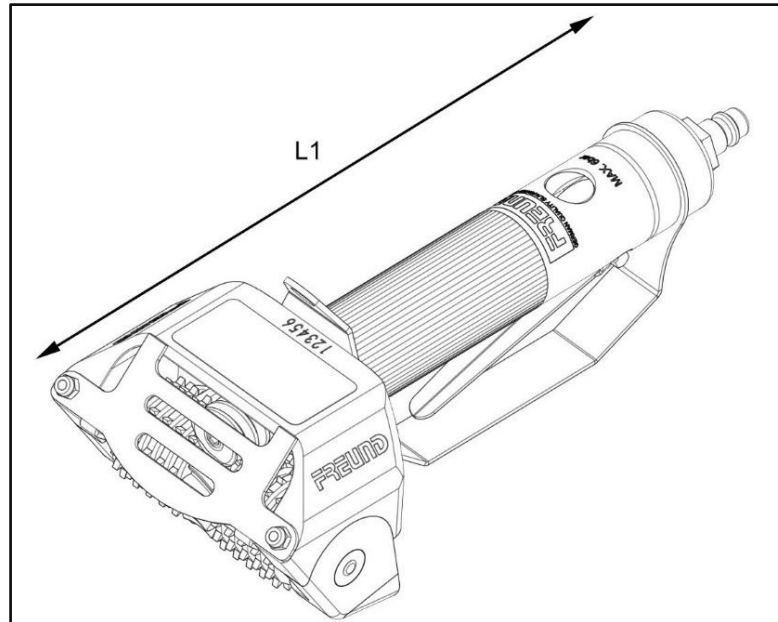


Fig. 3-2 Mounted Hand-Skinner HSK8-P3_evo2

Technical data	Weight [kg]	1.6
	Length L1 [mm]	250
	Vibration [m/s ²]	approx. 0.2
	Noise emission [dB (A)]	80

3.3 HSK8-P3

The Hand-Skinner HSK8-P3 consists of the pneumatic motor P3 and a head piece. Both parts are already pre-assembled.

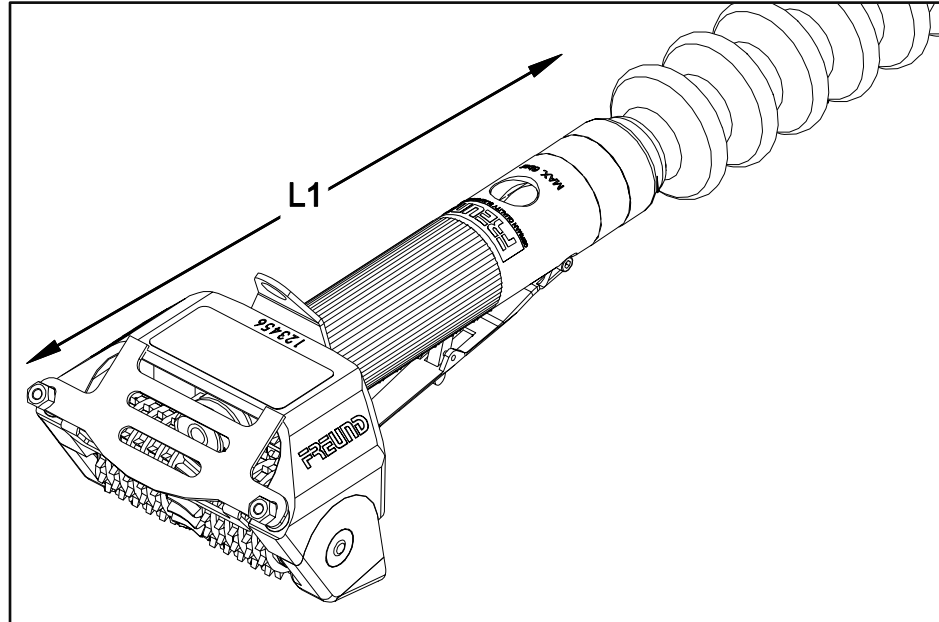


Fig. 3-3 Mounted Hand-Skinner HSK8-P3

Technical data	Weight [kg]	1.6
	Length L1 [mm]	250
	Length including hose [mm]	1,250
	Vibration [m/s ²]	approx. 0.2
	Noise emission [dB (A)]	80

3.4 Pneumatic motor P5

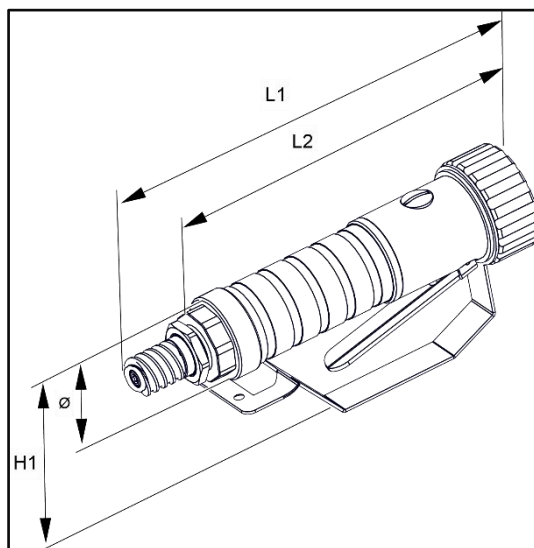


Fig. 3-4 Dimensions

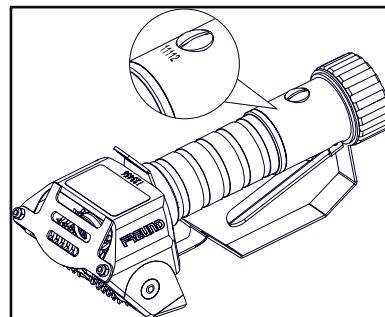


Fig. 3-5 5-digit serial number

Technical data

Drive type		Pneumatic
Weight [kg]		1.1
Length [mm]	L1	220
	L2	180
Height H1 [mm]		90
Diameter Ø [mm]		45
Power [kW]		0.66 (at 6 bar)
Operating pressure [bar]		6-8
Air consumption [l/min]		800 (at 6 bar)
Recommended interior Ø of air supply hose [mm]		min. 10

3.5 Compressed-air motor P3_evo2

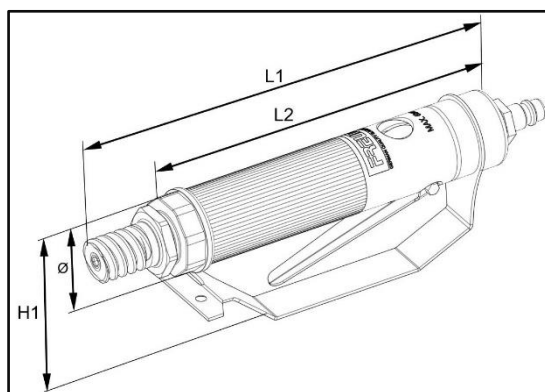


Fig. 3-6 Dimensions

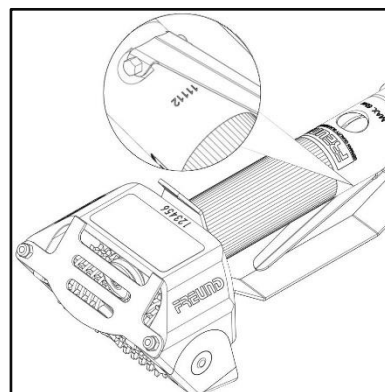


Fig. 3-7 5-digits serial number

Technical data	Drive type		pneumatic
	Weight [kg]		0,76
	Length [mm]	L1	195
		L2	157
	Hight H [mm]		62
	Diameter Ø [mm]		40
	Motor rating [kW]		0,32
	Operating pressure [bar]		6
	Air consumption [l/min]		420
	Recommended interior-Ø air supply hose [mm]		min. 9

3.6 Pneumatic motor P3

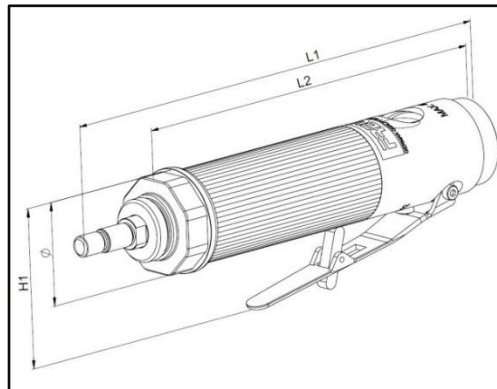


Fig. 3-8 Dimensions

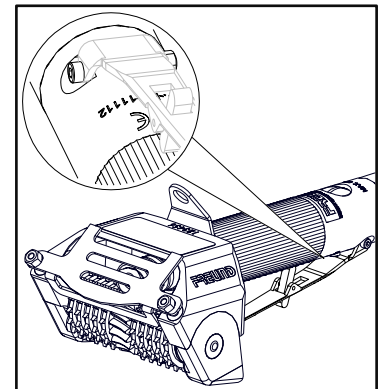


Fig. 3-9 5-digit serial number

Technical data	Drive type		Pneumatic
	Weight [kg]		0.76
	Length [mm]	L1	195
		L2	157
	Height H1 [mm]		62
	Diameter Ø [mm]		40
	Power [kW]		0.32
	Operating pressure [bar]		6
	Air consumption [l/min]		420
	Recommended interior Ø of air supply hose [mm]		min. 9

3.7 Head piece

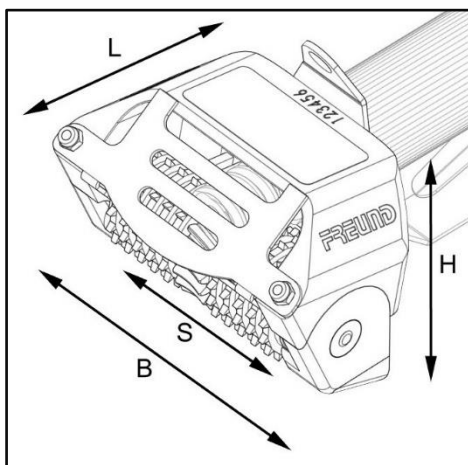


Fig. 3-10 Dimensions

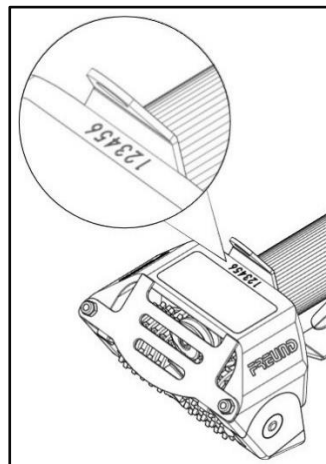


Fig. 3-11 6-digits serial number

Technical data	Weight [kg]	0.84
	Length L [mm]	73
	Width W [mm]	112
	Height H [mm]	72
	Roller speed [rpm]	450
	Cutting width S [mm]	76
	Cutting depth [mm]	approx. 3.5

3.8 Scraper

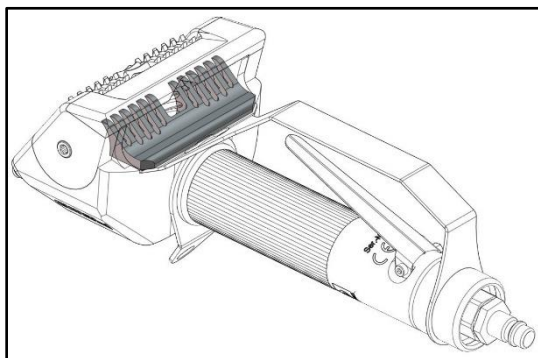


Fig. 3-12 Scraper highlighted in a dark colour



The scraper must always be installed when working with the machine. The catchment area is too large otherwise.

3.9 Optional accessories

		Order No.
All variants	Balancer 4-2.5	920-414-001
	Disinfection pool DES-B01	913-101-220
P5	Connecting kit	078-100-001
	Service unit including oil	078-100-030
P3_evo2	Connecting kit including service unit, hose kit, and oil	168-002-042
P3	Connecting kit including service unit, hose kit, and oil	168-002-042

3.10 Operating materials

3.10.1 Compressed air

The machine is operated using clean dry compressed air. The air quality must meet the requirements of DIN ISO 8573-1, quality class 3.

Minimum
requirements

- Solid contamination up to a particle size of max. 5 µm
- Maximum particle concentration up to 5 mg/m³
- Maximum Water content up to 880 mg/m³
- Maximum oil concentration up to 1 mg/m³

3.10.2 Lubricants

The disturbance-free functioning and the efficiency of the equipment depend significantly on the quality of the lubricants used.

The H1 designation has been established as an international standard for food grade lubricants. The NSF-H1 standard describes products that must be used whenever accidental contact with foodstuffs is possible.

FREUND Maschinenfabrik uses lubricants that are in compliance with the H1 standard on all equipment where accidental contact between the lubricants and the animal carcass is possible.

Information and notes on the lubricants can be found in the appendix under the headline TIN-100-013.

Safety data
sheet

For further information refer to our safety data sheets. The safety data sheets are available from our sales. Please refer to the company information at the imprint for address and telephone numbers.

3.11 Scope of delivery

	Order No.
Hand-Skinner according to your configuration, consisting of pneumatic motor and blade head	
Special key SW30 for assembling/disassembling the motor	180-001-037
Hexagon screwdriver SW4 for assembling/disassembling the axle	100-009-031
Blue blade holder with 1 blade set containing 25 blades	180-001-032
Red blade holder for used blades	180-001-034

4 Installation and Commissioning

The installation and connection of the machine is made by the operator. For damages, which result from this, the manufacturer FREUND Maschinenfabrik, is not liable.



The Handskinner is supplied fully assembled by FREUND Maschinenfabrik.

4.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be installed and commissioned by instructed and authorized personnel.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

- Never put your hands near moving machine parts.
- Keep your hands away from the cutting tools.
- Always wear protective gloves for your own safety.

4.2 Personal protective equipment



4.3 Connecting the service unit

Caution!

Overload through excessive pressure.

Premature wear of pneumatic motor.

- Do not change the default compressed-air pressure setting of max. 6 bar.
- Secure the compressed-air pressure setting using the included padlock (④).

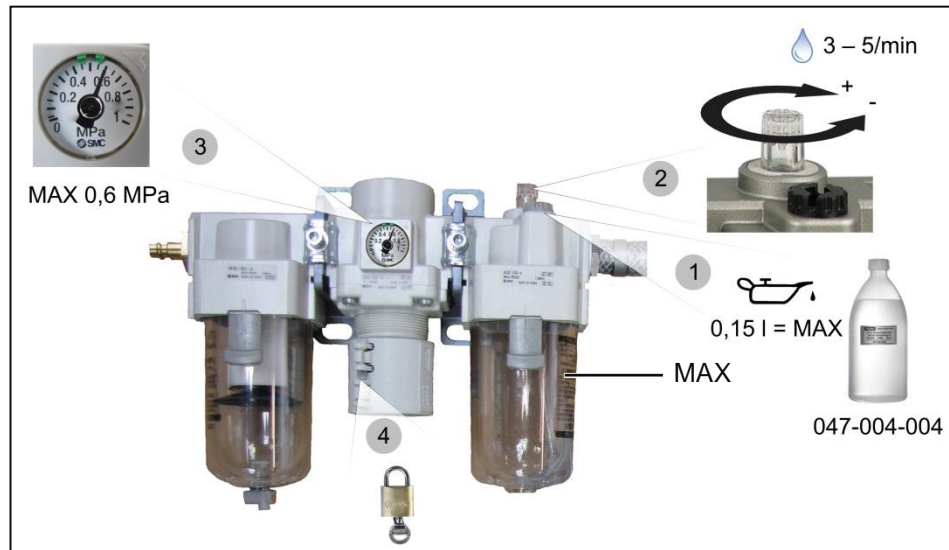


Fig. 4-1 Connecting the service unit



At the sight dome **2** you see the oil drops visibly down. Check here, that the drip setting is 3 to 5 drops per minute.

Note that the numbered scale markings are guidelines for adjusting the drip setting, and not indicators of the dripping amount.

4.4 Connecting the machine

The relevant manual can be found in the appendix.

Motor	Manual
P5	TIN-013812
P3_evo2	TIN-013183
P3	TIN-014012

4.5 Inserting the blade

You can find the corresponding instructions in the appendix under the heading **TIN-013195**.

5 Operating



The hand piece is suitable for right- and left-handers.

5.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained and cleaned by skilled personnel and personnel instructed by FREUND Maschinenfabrik.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

- Never put your hands near moving machine parts.
- Keep your hands away from the cutting tools.
- Always wear protective gloves for your own safety.

5.2 Personal protective equipment



Additionally protect the hand not holding the machine with a stab-proof protective glove with gauntlet. The gauntlet must protect the entire arm.

5.3 Daily safety check

Before starting operation, check the entire system diligently for flawless and intended functioning.

Only use faultless and fully functional machines.

Check

- the machine for surface damages and loose machine parts.
- the seating of moving parts.
These must not lock and show any partial damages.
- the firm fit of the blade in the blade housing.
- the air supply hose for kinks and damage.
- the service unit's settings, see → chapter *Connecting the service unit* on page 25

- Never use a machine with defective safety devices, switches or other defective machine parts.
- Have defective safety devices, switches or other parts repaired, and notify your employer.

5.4 Operating the machine

HSK8-P5 The HSK8-P5 is particularly suitable for use in high throughput plants. Depending on the application, the pressure supply can be increased from 6 bar to up to 8 bar. The performance data applies to 6 bar and changes with any increase in pressure.

All hand skimmers The relevant manual can be found in the appendix under the heading **TIN-013204**.

6 Cleaning and Disinfection

Cleaning is carried out in order to remove dirt, meat and fat particles from the machine.

For hygienic reasons, the machine must be thoroughly cleaned at least daily after each shift, and in between in case of heavy soiling. All surfaces must be visually clean after cleaning.

Thorough cleaning is a prerequisite for the subsequent disinfection to be effective.



Always take note of the safety instructions in the product data sheets issued for the relevant detergents or disinfectants.

6.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained and cleaned by skilled personnel and personnel instructed by FREUND Maschinenfabrik.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

- Never put your hands near moving machine parts.
- Keep your hands away from the cutting tools.
- Always wear protective gloves for your own safety.



WARNING!

Highly irritant or corrosive detergents and disinfectants.

Breathing difficulties and other health damage is possible.

- Always take note of the hazardous substance symbols and the safety data sheets issued for the relevant detergent or disinfectants.
- Wear the personal protective equipment specified by the manufacturer of the detergents and disinfectants.

6.2 Personal protective equipment



6.3 Carrying out cleaning and disinfection

- Only use detergents and disinfectants approved for the food industry.
- Always take note of the safety symbols and the safety and product data sheets issued for the relevant detergents or disinfectants.
- Store detergents and disinfectants separately or in a special room.
Make absolute sure those detergents and disinfectants do not come in contact with food.

Notice!**Damage due to high water pressure.**

High water pressures will cause damage to seals and machine parts.

- Do not use high-pressure cleaners.
 - Only work at water pressures of less ≤ 6 bar.
- Wear the personal protective equipment specified by the manufacturer of the detergent.
 - Only use cloths, brushes or other devices which are only used for cleaning.

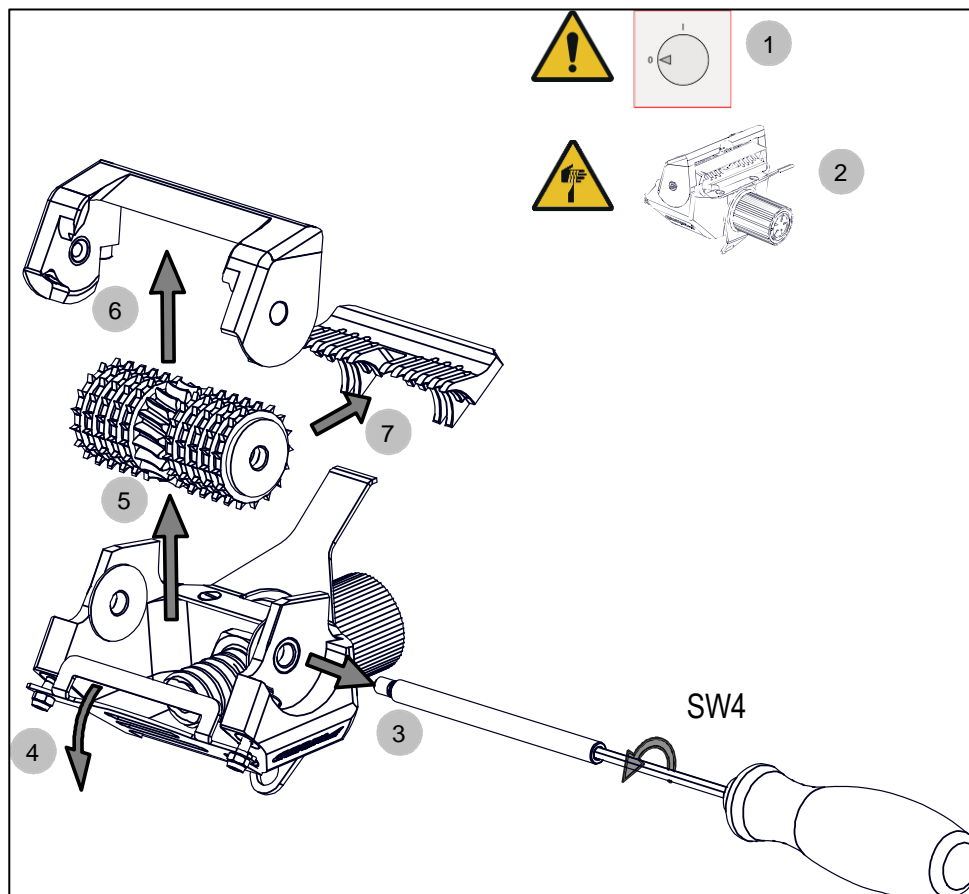



Fig. 6-1 Cleaning the machine

Work steps	Detergents and disinfectants	Auxiliary materials
		
Rough cleaning		
Removing product residue	Drinking water	Plastic scraper, brush
Removing small parts and assembly parts	Drinking water	Plastic scraper, brush; dishwasher if necessary
Intermediate rinsing		
	Drinking water, max. 60°C depending on fat melting temperature Low-pressure device, spray bottle	
Main cleaning		
Apply foam, allow to act for approx. 15 minutes	2 – 4% Somplex grease solvent 2 – 3% Ecolab P3-topax 19 2 – 3% Ecolab P3-topax 66 Ecolab P3-steril Powerfoam	Spray bottle, brush, tub, clean damp cleaning cloths
Rinse	Drinking water, max. 60°C	Low-pressure device, spray bottle
Check that machine is visibly clean		
Acid cleaning* ¹ (instead of main cleaning)		
Apply foam, allow to act for approx. 15 minutes	3 – 6% P3-topax 56 3 P3-riskan, Somplex foam, acidic	Spray bottle, brush for removing limescale deposits
Rinse	Drinking water at 50 – 60°C	Low-pressure device, water hose
Check that machine is visibly clean		
Intermediate rinsing		
	Drinking water, max. 60°C Low-pressure device, spray bottle	
Disinfection* ²		
Spray, apply foam Allow to act as per product data sheet Solution temperature approx. 15°C	1 – 2% Ecolab P3-topax 99 0.5 – 2% Ecolab P3-topax 91 1% TEGOL 2000 1% TEGOL IMC 1% Somplex	Spray bottle, spray gun, clean damp cloth

Work steps	Detergents and disinfectants	Auxiliary materials
Final rinsing		
	Drinking water, max. 60°C depending on fat melting temperature Low-pressure device, spray bottle	
Check		
that machine is visibly clean; repeat cleaning and/or disinfection if necessary		
Drying		
Rub dry or allow to dry in ambient air; allow disassembled parts to dry individually if possible		
Care		
Apply	Preservative oil, food grade oil	Spray bottle, clean cleaning cloth
Assembly		
Personnel must wash and disinfect hands		

- 1 For materials sensitive to acids such as POM, PMMA (acrylates) and cast materials, we recommend limiting acid cleaning to around 1x every 2 to 6 weeks.
- 2 The surfaces should, after cleaning and disinfection, simply be dried and protected from oxidation by a suitable preservative film.

7 Maintenance and Repair Work

To ensure a long service life and low wear, the machine must be regularly checked and maintained.

The work area on the workbench must be clean and free from foreign material for all maintenance or dismantling work.

Repair and maintenance must only be carried out by skilled and authorized qualified personnel.

Warranty If faults or defects are detected on the machine during the legal warranty period, contact our sales staff. Please refer to the company information at the imprint for address and telephone numbers.
Only use original spare parts or spare parts recommended by FREUND Maschinenfabrik.

7.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained and cleaned by skilled personnel and personnel instructed by FREUND Maschinenfabrik.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

- Never put your hands near moving machine parts.
- Keep your hands away from the cutting tools.
- Always wear protective gloves for your own safety.

7.2 Personal protective equipment



7.3 Recommended lubrications

For the refilling and topping up of the machine we offer you the following lubricants:

Retail container	Part-No.
Grease gun filled	028-100-006
1kg box	100-013-007
1l-oil bottle for the service unit	047-004-004

Ensure compliance with the general occupational safety rules when handling lubricants.

7.4 Maintenance schedule

Some maintenance tasks must be performed at regular intervals.

The table below provides an overview of the maintenance tasks to be performed, together with the maintenance interval. If necessary, adapt the maintenance intervals to your operating conditions.



Further manuals for repair and assembly tasks are available from FREUND Assistance.

Interval	Maintenance job	→ Chapter
Daily	Safety inspection before starting work	→ Chapter <i>Daily safety check</i> on page 27
	Check the service unit	→ Chapter <i>Connecting the service unit</i> on page 25
As necessary	Replace the blade	→ Assembly manual in FA.
Approx. every 250 operating hours	Check the worm wheel	→ Assembly manual in FA.
	Check the toothed roller play	
Approx. every 500 operating hours	Service the pneumatic motor.	We recommend having maintenance performed by a FREUND Maschinenfabrik service technician.

7.5 Checking the compressed-air motor

Maintenance after roughly 500 operating hours

We recommend that the compressed-air motor be left unopened for liability reasons. We recommend having maintenance performed by a FREUND Maschinenfabrik service technician.

FREUND Maschinenfabrik will not accept any liability for damage resulting from repairs not carried out by the manufacturer.

7.6 Service packages

FREUND Maschinenfabrik offers various service packages, e.g. for inspection and maintenance of the pneumatic motor and the replacement of certain wear parts (e.g. bearings, vanes).

8 Troubleshooting

If malfunction or faults occur during the operation, you can look for possible causes and remedies in this chapter.

If you do not find the malfunction or fault of your machine in the following table, contact our sales staff. Please refer to the company information at the imprint for address and telephone numbers or on our website www.freund-germany.com.

8.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained and cleaned by skilled personnel and personnel instructed by FREUND Maschinenfabrik.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

- Never put your hands near moving machine parts.
- Keep your hands away from the cutting tools.
- Always wear protective gloves for your own safety.

8.2 Personal protective equipment



8.3 Overview of possible faults

Fault	Possible cause	Remedy
Machine not running/stops during work.	No compressed air.	Check whether the compressed air supply is fully open.
		Check that the service unit setting is correct → Chapter <i>Connecting the service unit</i> on page 25. The machine is designed for an air pressure of 6 bar.
	Compressed air hoses are faulty or incorrectly connected.	Check the compressed air lines and all connections.
	Roller housing is soiled.	Check the rollers' ease of movement.
		Clean the machine, particularly the drive and rotating parts.
	Motor or gear unit parts are faulty.	Send the complete pneumatic motor to FREUND Maschinenfabrik for checking.
Machine has insufficient output.	Motor or gear unit are faulty.	Send the complete pneumatic motor to FREUND Maschinenfabrik for checking.
	Vanes worn.	
	Roller housing is soiled.	Check the rollers' ease of movement.
		Clean the machine, particularly the drive and rotating parts.
	Air pressure is too low.	Check whether the compressed air supply is fully open.
		Check the internal cross-section of the compressed air hose.
		Check the length of the compressed air hose. If supply lines are extended, the compressed air supply may not be sufficient.

Fault	Possible cause	Remedy
Machine has insufficient output.	Air pressure is too low.	Check that the service unit setting is correct → Chapter <i>Connecting the service unit</i> on page 25. The machine is designed for an air pressure of 6 bar.
	Silencer is soiled.	Rinse the silencer with clean water. Replace the silencer if necessary → Assembly manual in FA.
Lever is difficult to press or cannot be pressed at all.	Valve spring fractured.	Replace the valve spring and/or the valve.
	Valve is soiled and/or blocked.	Clean the valve.
Machine gives poor cutting results or does not cut at all / Machine gets stuck in the product.	Blade is inserted the wrong way around.	Insert the blade with the cutting edge facing forward.
	Blade is blunt.	Replace the blade → Appendix.
	No blade inserted.	Insert a blade → Appendix.
	The pitch angle is too steep.	Position the machine on the product horizontally → Appendix.
Significant worm wheel and scraper wear.	Bearing of the toothed roller and/or axle is worn.	Replace the worn parts → Assembly manual in FA.
Noises.	Gear unit is faulty or worn.	Send the complete pneumatic motor to FREUND Maschinenfabrik for checking.

9 Disposal and Recycling

The machine must be disposed of in accordance with the pertinent national regulations.

More Information For more information about our materials and their disposal please contact our sales staff.
Please refer to the company information in the imprint for the address and telephone numbers.

9.1 Disassembling and disposing of the machine



Old machines contain recoverable materials which you can return for recycling.

When disposing of the machine, make sure to observe local environmental regulations.

1. Disconnect all connections and supply lines from the machine.
2. Completely disassemble the machine.
3. Segregate all materials.
4. Dispose of waste oil and components and materials soiled with oil in accordance with the applicable environmental regulations.
5. Send the individual materials to the appropriate recycling or disposal facilities.
6. Send hazardous waste to a local hazardous waste site.

9.2 Disposing of packaging material



All packaging materials used by FREUND Maschinenfabrik are environmentally friendly and can be recycled.

You can safely dispose of the packaging materials through your local waste collection system or return them for recycling.

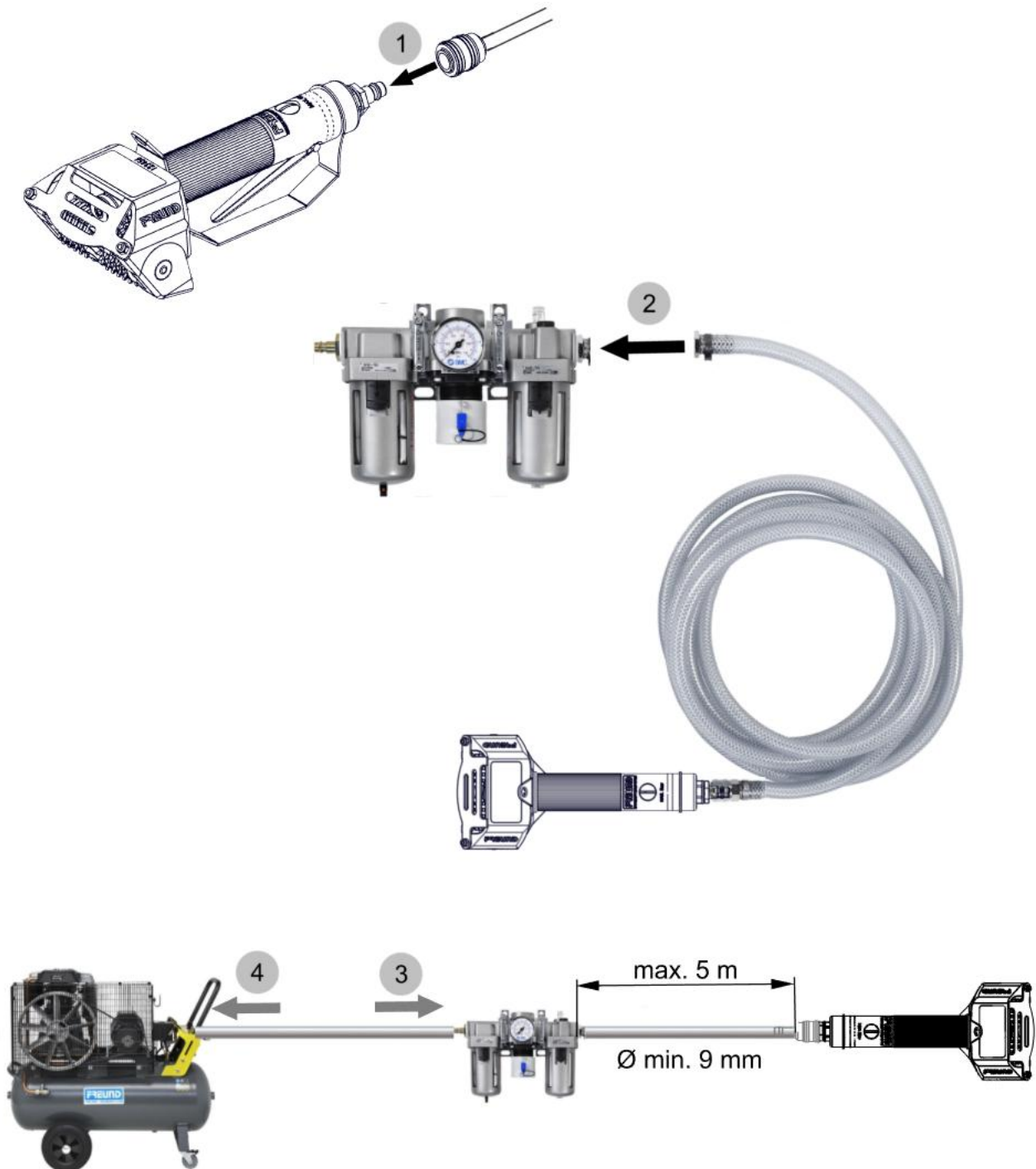


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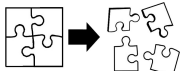
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TIN-013183 -000

Erklärung der Symbole siehe Betriebsanleitung Kap.1 / *Explanations of symbols see operating manual chp. 1*



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
Pay attention to operating manual



Montageanleitung
Assembly instructions



Werkzeugsatz
Toolkit



TIN-013195



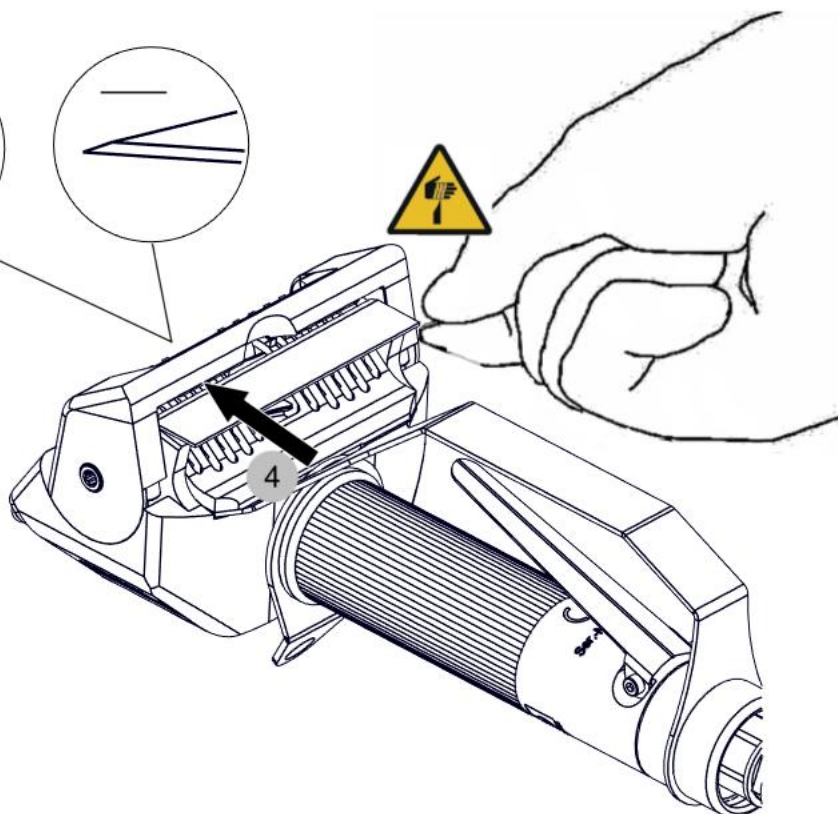
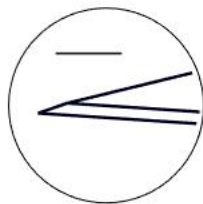
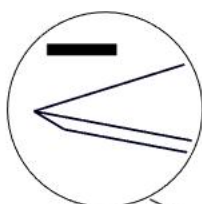
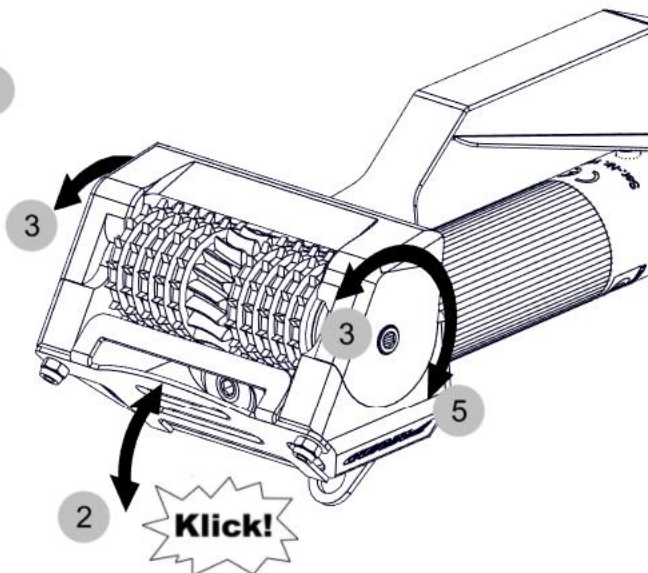
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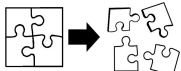


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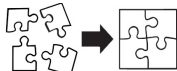


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Erklärung der Symbole siehe Betriebsanleitung Kap.1 / *Explanations of symbols see operating manual chp. 1*



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
Pay attention to operating manual



Montageanleitung
Assembly instructions



Werkzeugsatz
Toolkit

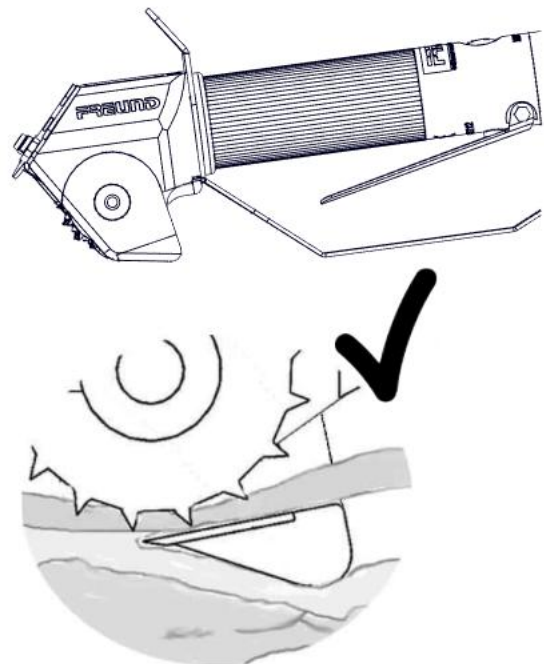
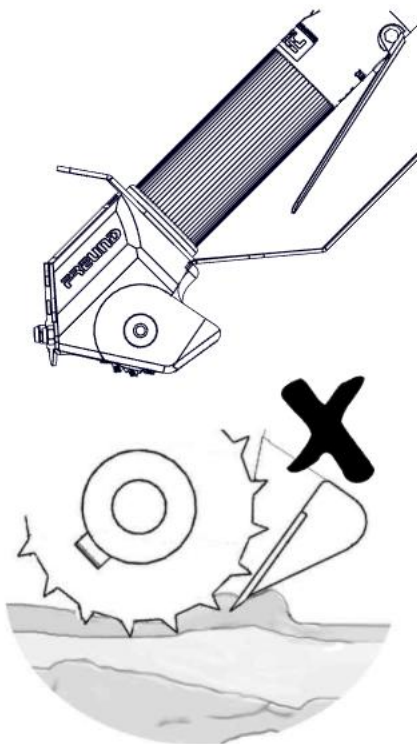
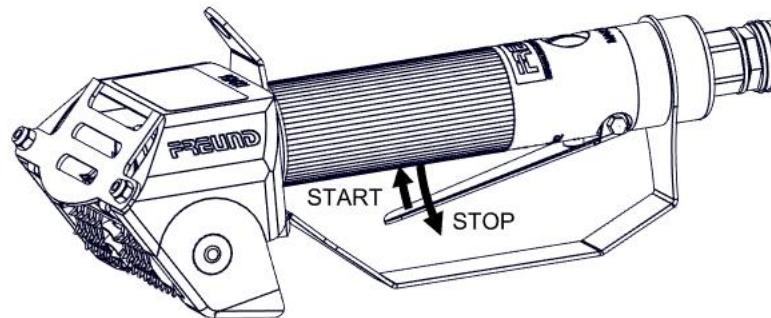


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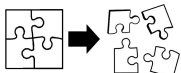
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Erklärung der Symbole siehe Betriebsanleitung Kap.1 / *Explanations of symbols see operating manual chp. 1*



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
Pay attention to operating manual



Montageanleitung
Assembly instructions



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7.6



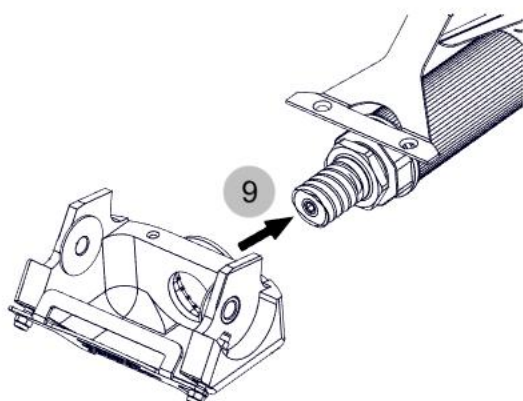
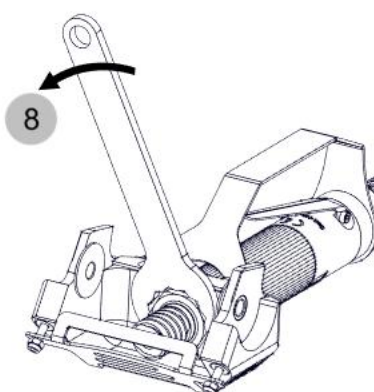
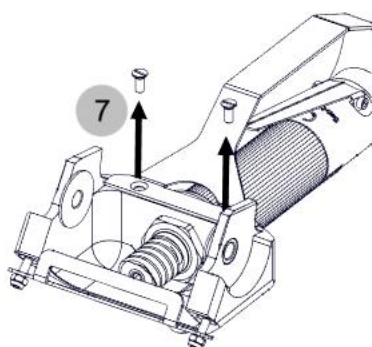
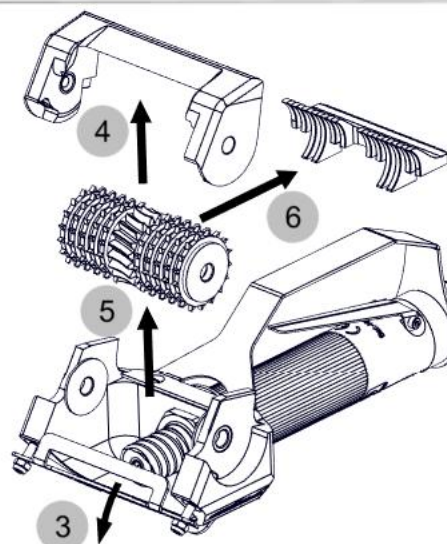
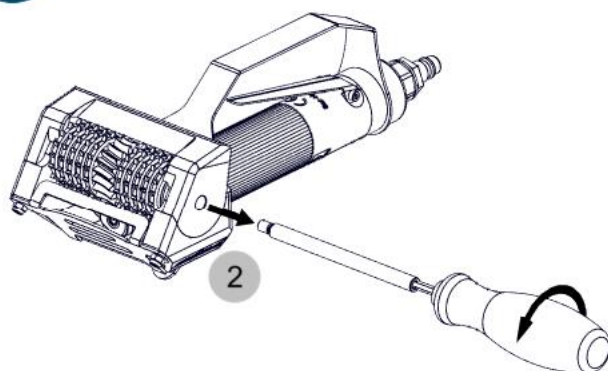
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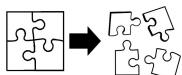
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Erklärung der Symbole siehe Betriebsanleitung Kap.1 / *Explanations of symbols see operating manual chp. 1*



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
Pay attention to operating manual



Montageanleitung
Assembly instructions



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Toolkit

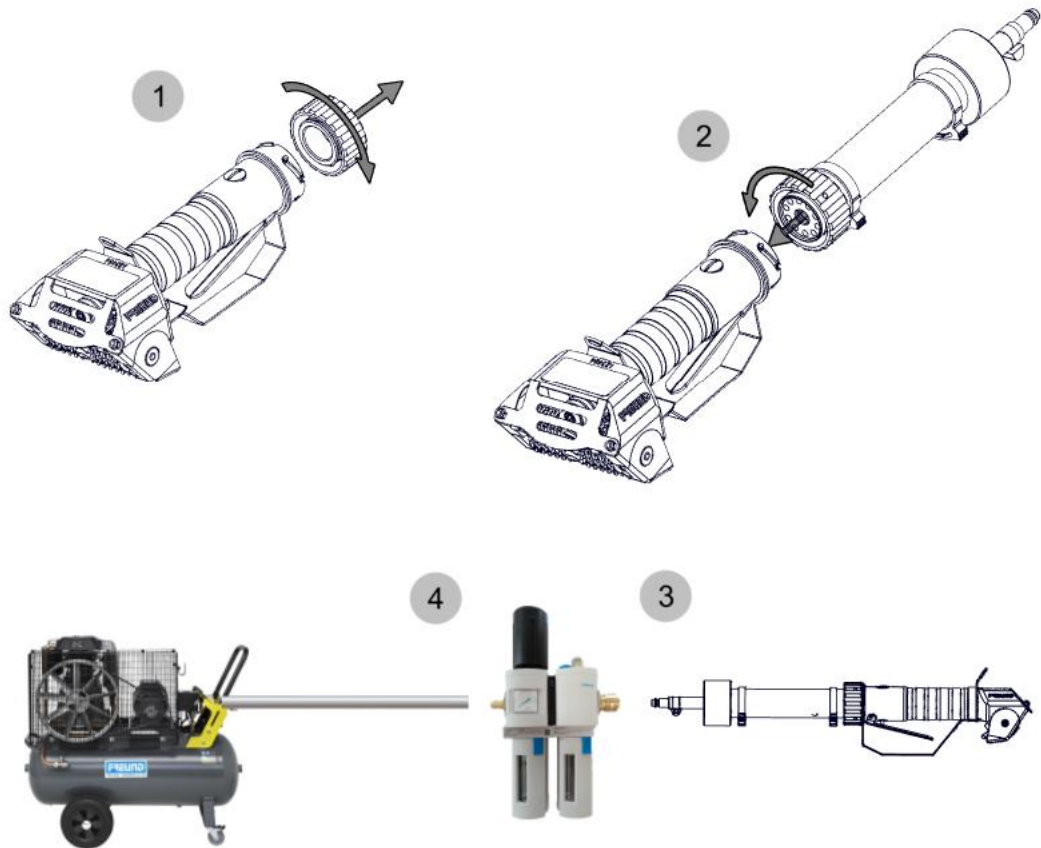


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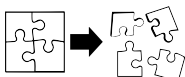
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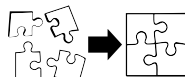


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Erklärung der Symbole siehe Betriebsanleitung Kap.1 / *Explanations of symbols see operating manual chp. 1*



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
*Pay attention to operating
manual*



Montageanleitung
Assembly instructions



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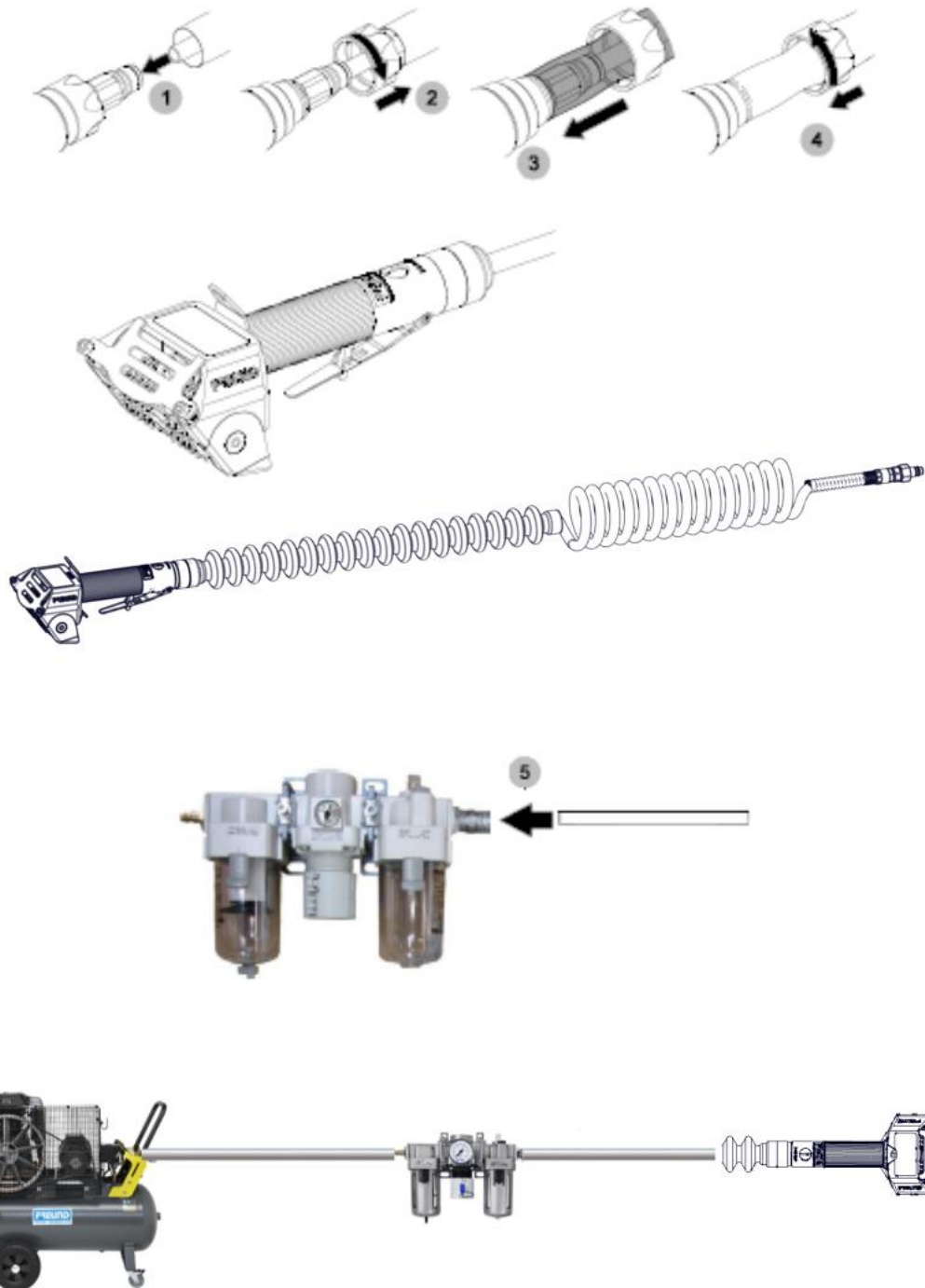


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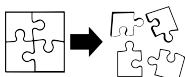
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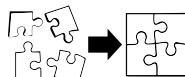


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Erklärung der Symbole siehe Betriebsanleitung Kap.1 / *Explanations of symbols see operating manual chp. 1*



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
*Pay attention to operating
manual*



Montageanleitung
Assembly instructions



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