

EFA breastbone saw

EFA 57



Operating instructions

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Any changes or amendments to these operating instructions are only allowed to be made by us; otherwise any warranty claim against us will be void.

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1. Introduction and general information

Important!



Operating instructions cannot prevent misuse in every case!

1.1 Information on the operating instructions

These operating instructions are part of the technical documentation of the machine and comply with the Machinery Directive.

The machine has been designed and built according to the selection of the harmonising standards to be observed as well as other technical specifications.

The operating instructions are intended to describe the operation and handling of the EFA pneumatically operated breastbone saw and provide the necessary safety instructions.

They contain details for the intended use as well as important information:

- for safe handling of the machine,
- for maintenance,
- for cleaning.

If the instructions are followed, the EFA pneumatically operated breastbone saw will be operated safely, properly and economically and its operational capability will be maintained.

Observance of these instructions helps to avoid dangers, minimise repair costs and downtimes, and increase the reliability and service life of the machine.

A prerequisite for safe handling and trouble-free operation of the machine is observance of the following . . .

- the operating instructions,
- the company directives (safety signs and danger warnings),
- the legal provisions on occupational safety,
- the applicable laws and regulations.

These operating instructions must always be kept accessible at the machine for all work to be carried out.

Note!



If these operating instructions have been damaged or lost, you can request a new copy by stating the part number "Art Nr.", year of construction "Bj." and serial number "S/N" see *paragraph 3.3 – Nameplate*.

If you have any questions, or if you cannot solve a problem with the help of these operating instructions, please contact our Service department.

1.2 User group

Only instructed and/or trained personnel over 16 years of age are allowed to set up or operate the EFA pneumatically operated breastbone saw. Furthermore, it is imperative that everyone working with and on the machine has read the operating instructions and observes them.

Instructed person

Persons over 16 years of age who have been instructed and trained by a qualified person (specialist) in the tasks assigned to them and about possible dangers in the event of improper behaviour, as well as in the handling of the necessary protective devices and protective measures, are considered to be instructed persons.

Trained person (specialist personnel)

Persons who have obtained a professional qualification and have demonstrated this by checking the results or passing an examination are considered to be trained persons.

1.3 Scope of supply

- Pneumatically operated breastbone saw EFA 57
- Saw blade
- Air-outlet hose with sound absorber
- Assembly tool: Socket wrench
- EFA special grease (1 kg tin)
- Grease gun
- Operating instructions



Upon receipt of the delivery, check immediately whether the scope of supply corresponds to the accompanying documents.

Submit a complaint in the event of:

- apparent transport damage immediately to the supplier,
- apparent defects/missing items, to **Schmid & Wezel GmbH**.

These operating instructions describe the **EFA pneumatically operated breastbone saw** with all possible options.

Options are not necessarily included in the scope of supply and can only be retrofitted to a limited extent.

1.4 Intended use

The EFA pneumatically operated breastbone saw is used for opening breastbones designed for on-the-rail operation in medium sized and large plants.

EFA pneumatically operated breastbone saws are only allowed to be used:

- in fully functional condition,
- with properly functioning safety devices,
- with the equipment approved by the manufacturer.

Do not use materials harmful to health.

If, contrary to the intended use, materials harmful to health are to be processed then **Schmid & Wezel GmbH** must be informed in writing about the planned use and the protective measures taken by the customer/operating company.

The customer/operating company is solely responsible for suitable protective measures (e.g. extraction devices, respiratory protection, protective suits, etc.) and company directives.

If the EFA pneumatically operated breastbone saw is not used as intended or is modified without the approval of **Schmid & Wezel GmbH**, persons could be injured and the machine damaged.

The operating permit is invalidated.

The intended use includes in particular that you:

- Observe the operating instructions and company directives,
- Observe maintenance instructions and intervals,
- Immediately rectify any faults that impair safety,
- Do not operate the EFA pneumatically operated breastbone saw if safe working with it is not possible,
- Do not structurally modify the EFA pneumatically operated breastbone saw without authorisation.

1.5 Claims for defects, liability, warranty

Warranty and liability claims for personal injury and damage to property are excluded in particular in the following cases:

- Improper use or unsuitable use,
- Improper transport or storage,
- Improper assembly and/or initial start-up,
- Improper operation (operating errors),
- Disregarding of operating instructions/company directives,
- Faulty or negligent handling,
- Improper maintenance/repair,
- Unsuitable equipment or spare parts that are not approved by **Schmid & Wezel GmbH Maschinenfabrik**,
- Natural wear and tear,
- Improper or unprofessional rectification of defects by the customer/operating company or third parties,
- Unauthorised structural changes to the machine without written permission from **Schmid & Wezel GmbH**,
- Chemical, electrochemical or electrical influences – unless they are the responsibility of **Schmid & Wezel GmbH**.

Liability

The manufacturer accepts no liability for accidents, machine damage and consequences of machine failure resulting from failure to observe the operating instructions. In addition, the local accident prevention regulations and general safety regulations for the area of application of the machine apply.

Limitation of liability

All technical information, data and instructions for the operation of the machine contained in the operating instructions are up to date at the time of delivery. They are provided to the best of the manufacturer's knowledge, taking into account previous experience and knowledge. The manufacturer reserves the right to make technical modifications in the course of further development of the machine described in these operating instructions. No claims can therefore be derived from the information, figures and descriptions in these operating instructions. The manufacturer shall be liable for any errors or omissions within the scope of the warranty obligations entered into in the contract, to the exclusion of further claims.

Claims for damages are excluded, irrespective of the legal basis on which such claims are derived. Only the text of the **operating instructions** is authoritative.

The textual and graphical representation in the operating instructions does not necessarily correspond to the scope of supply or a spare parts order. Illustrations in these instructions are not to scale.

Technical changes

The manufacturer **Schmid & Wezel GmbH** reserves the right to make technical changes within the scope of improving the usage properties and further development without prior notice. Figures are for basic understanding and could differ from the actual design of the system.

Copyright

The manufacturer reserves the copyright to these operating instructions. These operating instructions are intended for assembly, operating, maintenance and monitoring personnel.

Transferring the operating instructions to third parties without the written consent of the manufacturer **Schmid & Wezel GmbH** is not permitted. Duplication in any kind and form – in whole or in part – as well as the use and/or communication of the contents are not permitted without written declaration of the manufacturer.

Note!



All content, texts, drawings, pictures and other representations are protected by copyright and are subject to industrial property rights.
Any improper use may be punishable!

2. Safety

Everyone who is involved in the installation, start-up, operation, set-up, equipping and maintenance of the machine in the operating company must have read and understood the operating instructions, in particular the "Safety" chapter.

Safe operation of the machine is only guaranteed if:

- Unauthorised persons are kept away from the working area of the machine,
- Safe working with awareness of the dangers involved is regularly checked in accordance with the operating instructions,
- No working methods are employed that could compromise safety,
- Malfunctions in the machine are eliminated immediately,
- Maintenance work is carried out regularly.

Important!



The operating instructions must be accessible at all times during the entire period of use of the machine for the operating, maintenance and cleaning personnel.
Therefore, always keep these operating instructions close to the machine.

First aid

Important!



In the event of an accident, provide **FIRST AID**.






- Keep calm!
- Remove injured persons from the danger area without endangering yourself!
- Inform other employees (first-aiders, paramedics) or request help!

2.1 Safety instructions



During the use of the machine, dangers could arise in certain situations or through certain behaviour.

The measures described to protect against dangers must be observed.

The safety instructions are identified as shown in the following tables (pictograms).





Symbol / pictogram	Signal word	Damage / injury to . . .	Definition	Possible consequences of disregarding the safety instructions
	Danger	Persons	Imminent danger	Death, serious bodily injury or substantial damage to property
	Warning	Persons	Potentially dangerous situation	Death or serious bodily injury could occur
	Caution	Persons	Less dangerous situation	Slight or minor injuries
	Attention	Property	Potentially harmful situation	Damage to the product or its environment
	Information	-	Application tips and other important/useful information	No dangerous/harmful situation

2.1.1 Other safety signs








Symbol	Meaning
	Mark of conformity The machine complies with the applicable regulations of the EC Machinery Directive
	Recyclable materials! Ensure that the materials are recycled properly!

2.1.2 Warning sign


Warnings and symbols used in the operating instructions and documentation are intended to help you to recognise and assess the dangers more easily.

Symbol	Meaning
	Warning! Sharp cutting tool! Contact with the running cutting tool/saw blade will lead to extremely severe cutting injuries involving permanent or even fatal injury. Ensure that a sufficient safety distance is maintained. Contact with the stationary cutting tool/saw blade could lead to severe cutting injuries involving permanent injury. Wear safety gloves. Ensure that a safety distance is maintained.
	Warning of hand injuries There is a danger of hands being pinched, pulled in or otherwise injured. Keep your hands away from places that bear this warning sign!
	Warning of noise with high sound pressure level If the sound pressure level at the workplace exceeds 85 dB(A). Remaining for a relatively long period can cause permanent hearing damage. Only enter the area if wearing the correct hearing protection.
	Warning of hot surface! It is not always possible to notice the presence of hot machine parts, containers or materials, as well as hot liquids. If such a safety sign is affixed to a component, care must be taken. Do not touch hot surfaces without protective gloves.

2.1.3 Mandatory instruction sign

Symbol	Meaning
	General mandatory instruction sign! Observe company directive, notes in operating instructions and generally applicable safety regulations.
	Wear cut-resistant gloves! Cutting injuries possible. Provide information about suitable cut-resistant gloves.
	Use safety shoes Safety shoes form part of the personal protective equipment and provide protection for the health of the worker. They prevent accidents and injuries such as crushing by heavy objects.
	Wear a protective helmet! Head injuries are possible due to objects falling, tipping over or being thrown out, or due to swinging loads; bumping into obstacles also represents a danger. A suitable protective helmet must always be worn on the head when in the indicated area.
	Wear protective goggles! Eye injuries (loss of vision) possible when working due to flying solid objects.
	Wear hearing protection! If the continuous sound pressure level of the machine/system is above 85 dB(A), hearing protection must be worn to prevent permanent hearing damage.
	Wear protective clothing! Protection against contact with auxiliary or working equipment. Find out about suitable protective clothing.

2.1.4 Prohibition sign

Symbol	Meaning
	General prohibition sign! The red signal border/prohibition stripe indicates an immediate danger and is overlaid diagonally over the self-explanatory symbol. The general prohibition sign must always be used in conjunction with another sign.

2.2 Personal protective equipment in the following lifecycle phases

Some work requires protective equipment. This protective equipment must be made available to you.

Lifecycle phase	Protective equipment
Transport	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Safety shoes
Assembly, start-up & maintenance	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Safety shoes ▪ Protective goggles ▪ Hairnet for long hair
Operation	<ul style="list-style-type: none"> ▪ Hairnet for long hair ▪ Cut-resistant gloves ▪ Protective goggles ▪ Hearing protection ▪ Safety shoes
Storage	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Safety shoes
Disposal	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Safety shoes

2.3 Conduct at the workplace

The workplaces must be designed in such a way that each employee has at least 1.5 m² of freedom of movement.

The floor must minimise the danger of slipping on wet, greasy or dirty surfaces.

The workplace must comply with local hygiene and workplace regulations.

- Keep your workplace tidy and in good working condition. A cluttered or messy workplace can lead to accidents.
- Take environmental influences into account. Ensure proper lighting (at least 500 lux).
- Keep other persons away from your workplace. Focus on the job in hand when working.
- Do not use the EFA pneumatically operated breastbone saw when you are tired and/or unfocused.
- Avoid wearing loosely fitting items of clothing and jewellery that can be caught by moving parts. Wear sturdy shoes during your work. Always wear a hairnet!
- Ensure that your workplace has a correct, ergonomic set-up and make sure that you are standing securely.
- Store the EFA pneumatically operated breastbone saw safely. Store unused devices in a dry place.
- When the EFA pneumatically operated breastbone saw is not in use, it must be stored in such a way that unintentional contact with the sharp saw blade is avoided.
- Look after your equipment with care. Use only sharp and undamaged saw blades for safe work.
- Only use genuine EFA accessories/spare parts.
Non-compliance will void the warranty.
The use of other equipment, accessories or spare parts can endanger you and other persons.

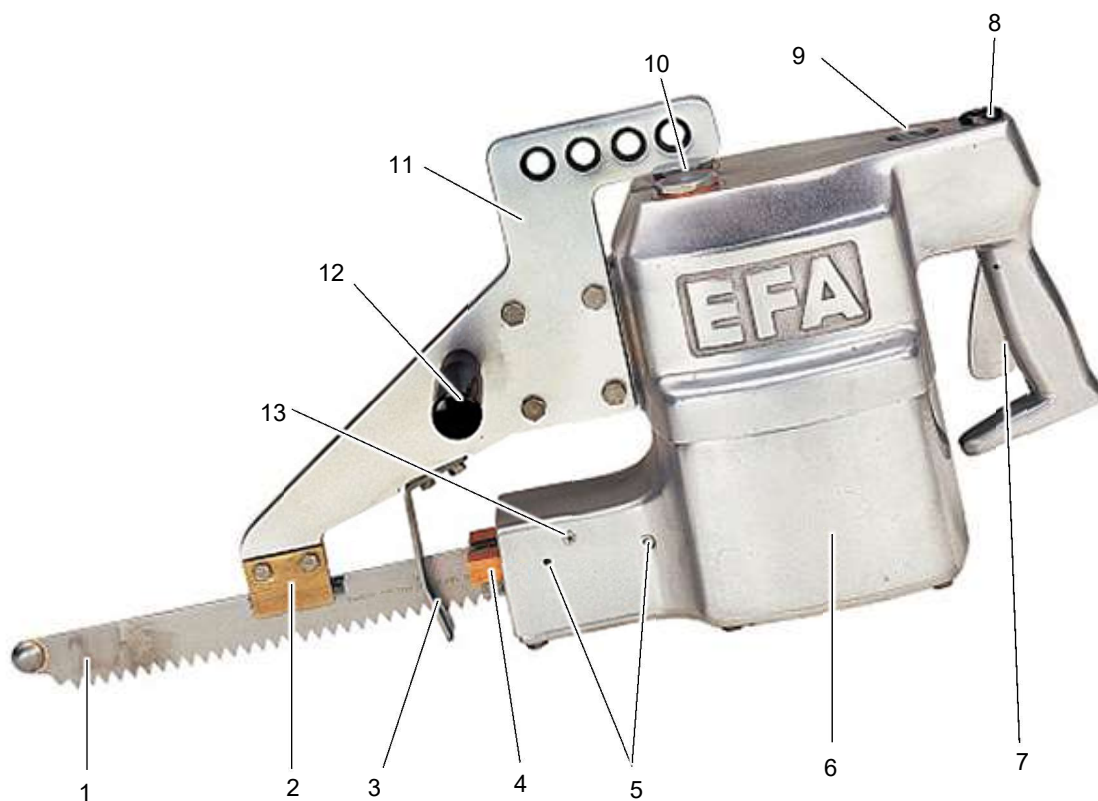
3. Technical description

Tab. 1 – Technical data

Name Type	Power	Operating pressure	Air consumption at full load	Length of saw blade	Stroke rate	Cutting performance per breastbone	Weight	Connection of the oil mist lubricator	Vibration emission (measurement inaccuracy)	Sound pressure level (measurement inaccuracy)	Sound power level (measurement inaccuracy)	Peak sound pressure level	Cross-section	
	watt	bar	m ³ /min	mm	min	sec	kg	inch	m/s ²	dB (A)	dB (A)	dB (C)	mm	
EFA 57	1150	6 – 8	1.5	312	3200	3 – 5	17	1/2"	16.6 (0.275)	89 (3)	100 (3)	107.3 (3)	ID	OD
													16	22

3.1 Machine overview

Pneumatically operated breastbone saw EFA 57



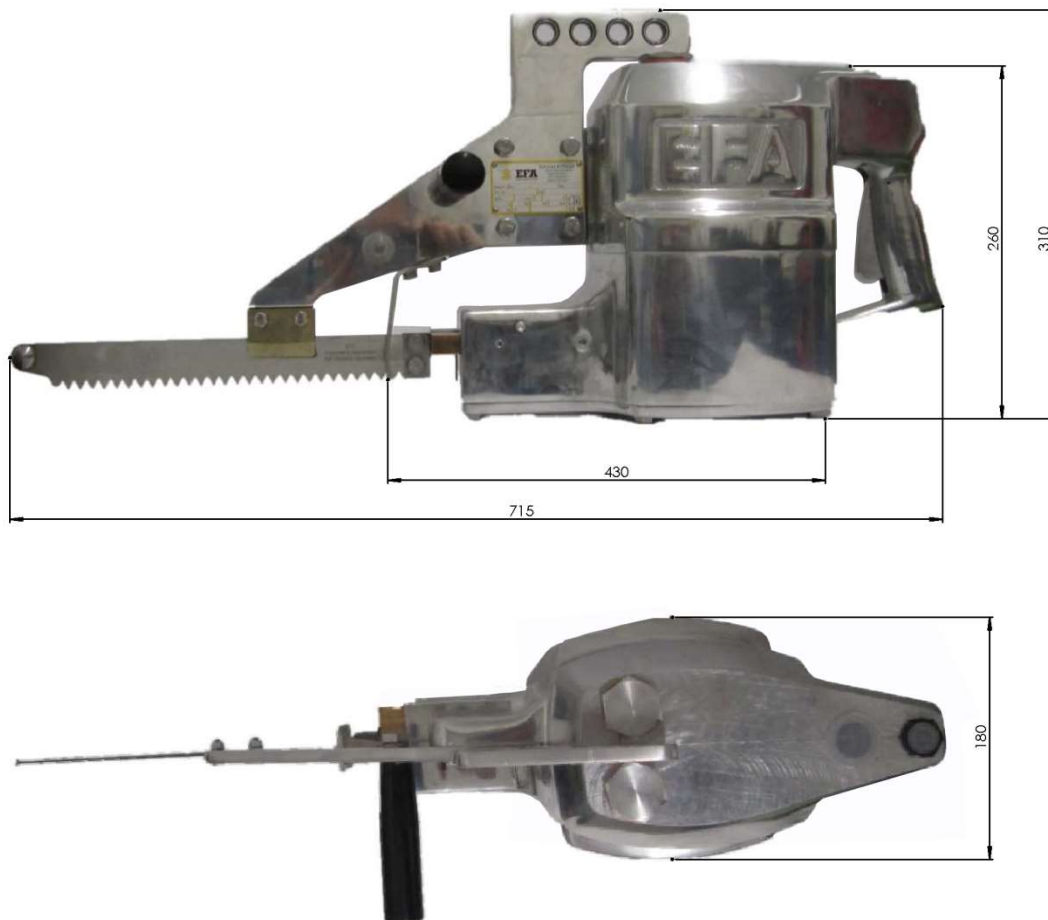
No.	Part description	No.	Part description
1	Saw blade (78 teeth)	8	Supply air connection
2	Guide plate	9	Exhaust air connection
3	Keep-off rail	10	Sound absorber
4	Slider edge (2x)	11	Guide with holes for spring balancer
5	Threaded pin for slider adjustment	12	Tapered handle
6	Housing complete	13	Grease nipple
7	Handle with valve lever		

3.2 Dimensions

The following figure gives you an overview of the dimensions of the machine.

Pneumatically operated breastbone saw EFA 57 – part no. 110 885 700

Pneumatically operated breastbone saw EFA 57



3.3 Nameplate

The nameplate is attached to the guide and contains information on the machine performance.

The following figure shows an example of the nameplate for the pneumatically operated breastbone saw EFA 57.



4. Transport and storage

The machine has been tested and carefully checked in our factory before shipment.

The test ensures that the machine is working properly.

Despite all care taken, there is a possibility that the machine could be damaged during transport.

Therefore, check the machine for possible transport damage when unpacking it.

Unpacking the machine

The machine is ready for use immediately after unpacking.

- Remove all packaging materials and dispose of them in a professional and environmentally friendly manner.
- Check the machine for possible transport damage.
- Information on disposal and recycling can be found in *chapter 9*.

Storage of the machine

For safe storage of the machine, it is essential to observe the following instructions:

- Only store the machine in dry rooms.
- Only store the machine in a dry condition.
- Protect the machine from corrosion.

5. Connection and start-up

The working area for the operator should be at least 1.5 square meters in size.

No other workplace should protrude into this area, otherwise there is a danger of injury due to the actions carried out with the EFA pneumatically operated breastbone saw.

The lighting of the workplace must be at least 500 lux.

The EFA pneumatically operated breastbone saw is delivered from the factory ready for use.

Caution!



Danger from unintentional switch-on!

Connect the EFA pneumatically operated breastbone saw to the compressed air supply only when switched off!

Caution!



Tripping hazard!

Lay compressed air lines outside the traffic area.

Caution!



Danger of malfunctions and injuries!

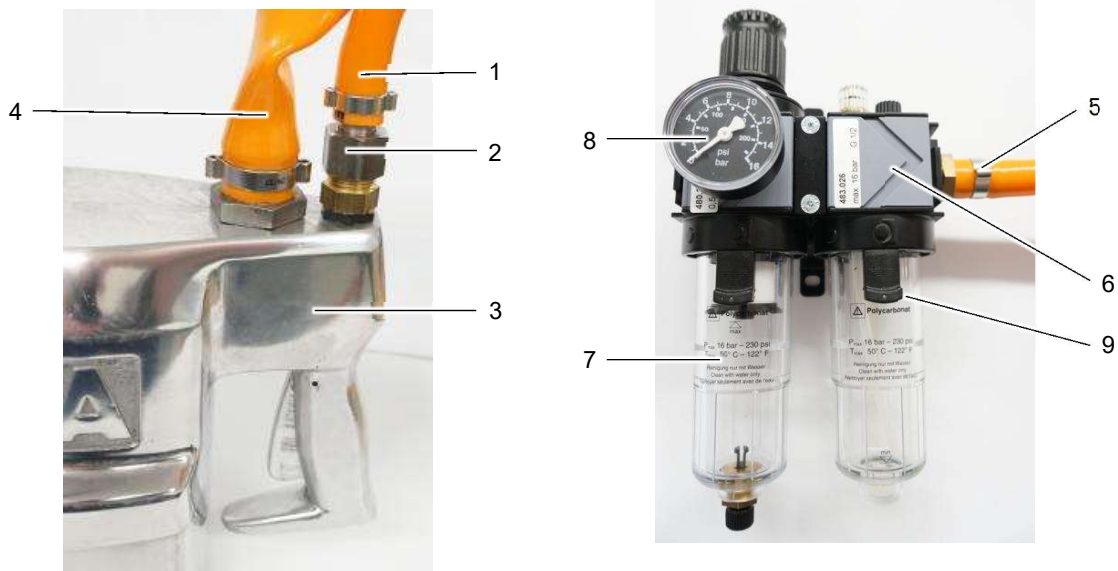
Installation work is only allowed to be carried out by authorised specialist personnel.

5.1 Connecting the EFA pneumatically operated breastbone saw

Attention! Device damage!



Operate the EFA pneumatically operated breastbone saw only with clean, water-free and oiled air!



- 1) Insert the air hose (1) as far as it will go into the screw-in fitting (2) on the valve housing (3) of the EFA pneumatically operated breastbone saw.
- 2) Screw the air-outlet hose (4) onto the valve housing (3) of the EFA pneumatically operated breastbone saw.
- 3) Connect the EFA pneumatically operated breastbone saw to the oil mist lubricator (6) with the thread nipple of the air hose (5) (with filter pressure reducer).
 Make sure that the oil mist lubricator is assembled in the following sequence: water separator (7), pressure gauge (8), oil mist unit (9).



The oil mist lubricator and the air hose are not included in the scope of supply but can be purchased on request from our Sales department at **Schmid & Wezel GmbH**.

- Air hose: Part no. 311 366 811
- Oil mist lubricator: Part no. 311 367 043

To ensure lubrication of the pneumatic motor, the oil mist lubricator must be set to 2 – 3 drops of oil per minute (or one drop of oil for approx. 15 cuts).

If the compressed air connection is faulty and there is a high water content in the compressed air, water can escape at the connection point.

Therefore, make sure that the hose connection is correct and that compressed air with a low water content is used (the water separator must be emptied regularly).

If no dried air is available, a water absorber must be installed by the customer.

5.1.1 Filter pressure reducer

The air from pneumatic systems is usually contaminated and enriched with moisture.

A filter pressure reducer with water separator must therefore be installed between the pneumatic system and the tool. This not only regulates the operating pressure, but also cleans and dries the compressed air. The utility and service life of the EFA pneumatically operated breastbone saw are thus considerably increased.

The filter pressure reducer should be installed as close as possible to the EFA pneumatically operated breastbone saw.

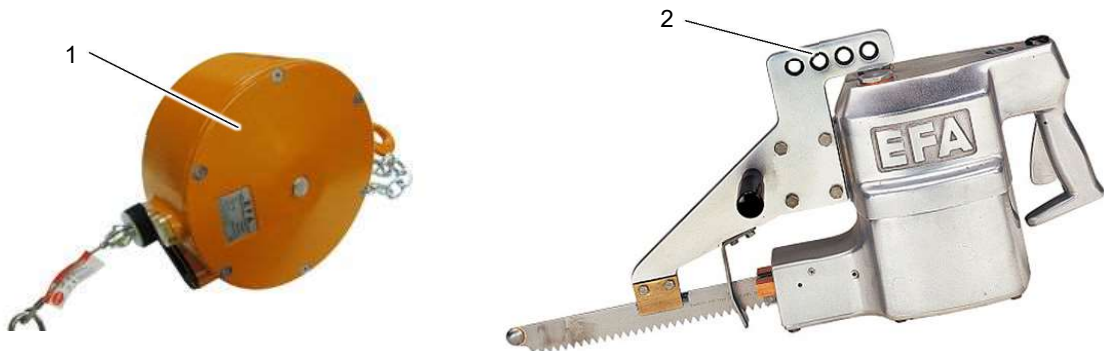
- Set an operating pressure of max. 8 bar at the filter pressure reducer.

You can purchase a suitable filter pressure reducer from **Schmid & Wezel GmbH** on request, through our Sales department.

5.1.2 Spring balancer

The machine must always be operated in combination with a weight relief device (spring balancer (1)). Use a trolley to attach it to a higher element above the workplace or to the ceiling.

Information on fine-tuning of the spring balancer can be found in *chapter 6.4*.



Suspend the EFA pneumatically operated breastbone saw so it is top-heavy if possible (2). The vertical can be readjusted if necessary (by selecting a different hole on the guide (2)).

Due to the weight (17 kg), there could be a hazard due to the machine slipping or falling when the weight relief device is attached or detached. Also make sure that the machine does not jam on the snap hook. Be careful!

Caution!



Danger of injury when adjusting the spring balancer with an attached pneumatically operated breastbone saw!

Before adjusting the spring balancer, remove the EFA pneumatically operated breastbone saw!

5.2 Handling

The EFA pneumatically operated breastbone saw is held with both hands while the saw is suspended from the spring balancer and is guided to the breastbone of the suspended carcass.

The EFA pneumatically operated breastbone saw must not be switched on before the operator has read these operating instructions and the saw has been connected correctly, *see chapter 2 – Safety*.

Caution!



Machine damage and hazard to third parties due to improper use!

Use the machine properly.

Warning!



Cutting hazard: Limbs can be severed!

Never reach into the area of the running saw blade.

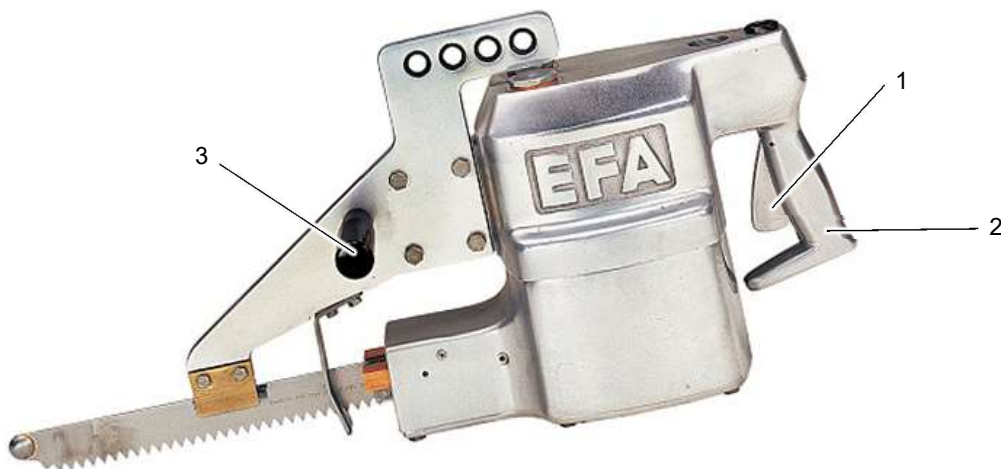
Attention!



Wear eye protection or protective goggles when working!

5.3 Switching on the EFA pneumatically operated breastbone saw

The EFA pneumatically operated breastbone saw is equipped with a valve lever (1) for switching on the compressed air flow.



- 1) Make sure that the EFA pneumatically operated breastbone saw is connected to the local compressed air network (supply pressure 7 bar).
- 2) Perform a function test before starting work.
- 3) Hold the device firmly by its handles (2, 3).
- 4) To switch on, use your index and middle fingers to operate the operating lever.

Attention!



Device damage!

Improper handling will lead to increased wear!

The machine must not be switched on unless the saw blade has been correctly mounted and is firmly seated.

Attention!**Hearing damage!**

Hearing protection is recommended for continuous operation!

Warning!**Cutting hazard!**

The EFA pneumatically operated breastbone saw deflects slightly when started due to torque.

Ensure a firm hold!

5.4 Switching off

- Release the operating lever.

The switch switches off automatically due to the return spring.

After switching off, the EFA pneumatically operated breastbone saw comes to a standstill after a short overrun.

The machine can be switched on and off at any time.

5.5 Working with the EFA pneumatically operated breastbone saw

The EFA pneumatically operated breastbone saw is held with both hands while the saw is suspended from the spring balancer and is guided to the breastbone of the suspended carcass.

- Hold the EFA pneumatically operated breastbone saw securely by both handles and switch it on.

Caution!**Blocking hazard!**

Do not stop the saw during the cutting process.

Attention!

Wear eye protection or protective goggles when working!

- Guide the EFA pneumatically operated breastbone saw against the piece of meat while it is running.
- Only remove the saw from the piece of meat while it is running and only switch it off afterwards.

5.5.1 Operational safety

- Before using the device, check whether the operating data of the compressed air supply and the device match.
- Be especially careful when switched on.
- Hold the machine securely by both handles.
- Never operate the operating lever when the device is not in use.
- Do not tilt or jam the saw blade.
- Do not remove protective devices from the saw for breaking carcasses.
- After switching off, the saw blade comes to a standstill within 2 s. Only then release the handles.

5.6 Procedure for non-utilisation

Separate the EFA pneumatically operated breastbone saw from the spring balancer and put it in a protected place.

When you interrupt work, place the EFA pneumatically operated breastbone saw flat to the side so that the handle is not under load.

If work is interrupted for a longer period of time, disconnect the machine from the compressed air network.

6. Assembly

Warning!



Unintentional switching on!

Before carrying out any assembly or adjustment work, switch off the device and disconnect it from the compressed air network!

6.1 Changing the saw blade

Attention!



Only use genuine spare parts!

This is the only way to ensure the proper functioning of the machine.

Attention!



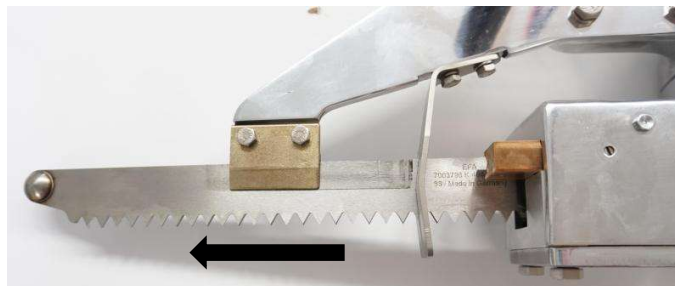
Cutting hazard!

Wear cut-resistant safety gloves!

The following tools and accessories are required for disassembly/assembly:

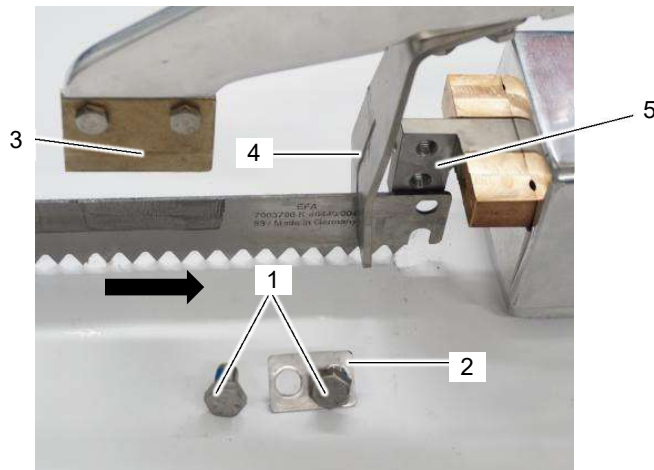
- Socket wrench

6.1.1 Changing the saw blade



- 1) Disconnect EFA pneumatically operated breastbone saw from compressed air supply.
- 2) Manually pull the saw blade forwards out of the housing until the two hexagon screws (1) on the slider can be reached.





- 3) Loosen hexagon screws (1) with socket wrench (accessory) and remove them together with washer (2).
- 4) Pull the saw blade out of guide (3) and keep-off rail (4).
- 5) Change saw blade. Insert the new saw blade into the guide (3) and push it back until the screws on the slider (5) can be inserted again.
- 6) Tighten the hexagon screws (1) together with washer (2) using a socket wrench. Observe the tightening torque of 20 Nm.
- 7) Connect the EFA pneumatically operated breastbone saw to the compressed air supply and carry out a test run.
Check guide.

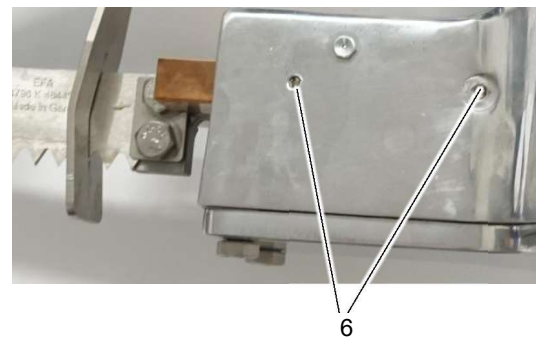
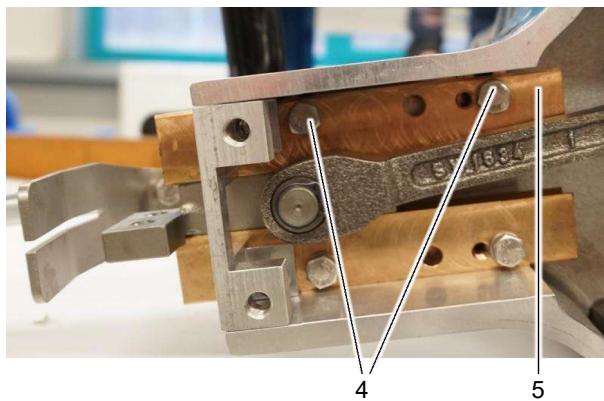
6.2 Setting of the ledges/slider clearance

After changing the saw blade or if necessary (see chapter 8, list of malfunctions) the slider clearance on the ledge must be remeasured and readjusted if necessary.



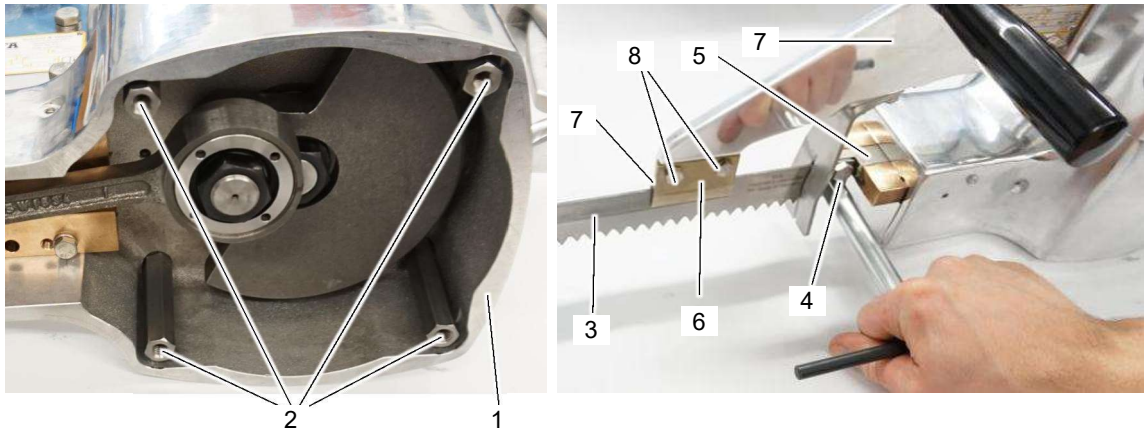
Check the slider clearance with a feeler gauge (0.02 – 0.06):

- 1) Remove the saw blade as described in chapter 6.1.
- 2) Loosen the 6 hexagon screws (1) on the lower housing section with a socket wrench (2) and remove the cover (3) from the housing.



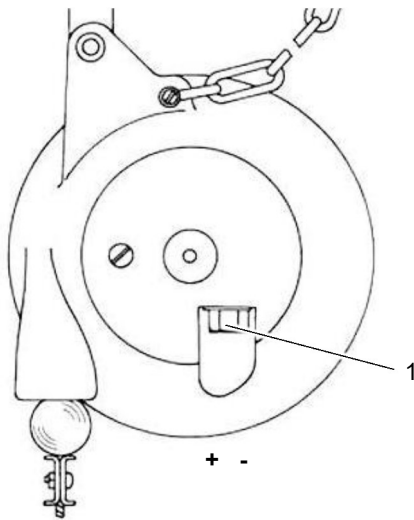
- 3) Loosen the two hexagon screws (4) on the ledge (5) on the adjustment side and readjust the slider clearance via the two threaded pins (6):
 - Loosening = clearance enlargement
 - Tightening = clearance reduction
- 4) After adjusting the slider clearance, retighten the hexagon screws (4). Mount the saw blade as described in chapter 6.1 and screw the housing cover back on.

6.3 Adjusting the saw blade guide



- 1) Loosen complete housing (1) with hexagon bolt (2).
- 2) Fully fasten the complete saw blade (3) with hexagon screws (4) in the slider (5) and place the guide plate (6) on the saw blade.
- 3) Align the complete housing (1) with the guide (7) according to the flange-mounting surface of the guide plate (6),
- 4) insert washers (7) as required and tighten the hexagon screws (8).
- 5) Tighten the hexagon bolt (2) and close the housing (1) with the cover and 6 hexagon screws.

6.4 Adjustment of the spring balancer



The fine-tuning of the spring balancer is carried out via the PLUS/MINUS screw (1) on the housing.

- To do this, turn the screw in the direction of MINUS until the device is freely suspended and balanced (with the tension spring) at working height.

If it is not possible to pull out, the spring balancer is blocked and readjustment is necessary:

- Turn the screw in the PLUS direction until pulling out is possible and start the fine adjustment again.

The correct setting is achieved when the attached load can be easily pulled into the desired position and returns to its initial position after release.

7. Service and maintenance

Note! Observe all safety instructions.



To ensure the longest possible service life and low wear and tear, the EFA pneumatically operated breastbone saw must be checked and serviced regularly.

Service and maintenance work must only be carried out by instructed personnel.

Only use genuine spare parts or spare parts recommended by **Schmid & Wezel GmbH Maschinenfabrik**.

Attention!



Cutting hazard!

Before carrying out any maintenance work, switch off the device and disconnect it from the compressed air network!

Warning!



Risk of contamination!

Cleaning, maintenance and lubrication work must not be carried out in the immediate vicinity of foodstuffs!

7.1 Daily cleaning

After completion of the slaughtering and breaking operations, the pneumatically operated breastbone saw must be cleaned.

Trouble-free continuous operation can only be guaranteed if the EFA pneumatically operated breastbone saw is kept perfectly clean at all times. In the normal course of events, the device should be cleaned and disinfected before each use.



Observe the safety instructions in the product data sheets of the cleaning agents.

Observe the applicable safety and hygiene requirements!

For disinfection and cleaning, the saw blade must be removed as described in chapter 6.1. To do this, take the device from the breaking hall to the maintenance location.

7.1.1 Cleaning during operation

The device must be cleaned with hot water after each cut during operation.

7.1.2 Cleaning the EFA pneumatically operated breastbone saw

Note!



Do not use any aggressive solvents!

Do not use a steam blaster or high-pressure cleaner!

Do not immerse the device in water!

Clean the EFA pneumatically operated breastbone saw after each shift with a cloth, brush and warm water (40 °C ... 55 °C).

For thorough cleaning, the saw blade must be removed and the housing of the EFA pneumatically operated breastbone saw must be opened.



Attention!



EFA pneumatically operated breastbone saw should only be cleaned after having been disassembled.

Only use cleaning agents that are compatible with materials and food-grade!

- 1) Remove the saw blade as described in chapter 6.1 and clean and disinfect it thoroughly.
- 2) Loosen the 6 hexagon screws (1) on the lower housing section with a socket wrench (2) and remove the cover (3) from the housing.
- 3) Carefully clean the interior of the housing and all internal parts with a brush and wipe out with a cloth and cleaning agent.

Attention!



Machine damage!

Do not allow any water to get into the drive part of the housing.

- 4) Clean the guide (4) and the keep-off rail (5) thoroughly with a brush and a damp cloth.
- 5) Tenacious or crusted residues must be soaked in order to be able to remove them.
- 6) Use cleaning agents (recommended: cleaning foam). Contact time: 15 ... 20 minutes.

Recommended cleaning agents:

- Diversey Lever Tego 2000: Surface-active disinfectant
Diversey Lever GmbH
Mallaufstr. 50-56, 68219 Mannheim
- P3-topax 91: Surface-active disinfectant
Henkel-Ecolab Deutschland GmbH
Postfach 13 04 06, 40554 Düsseldorf

Disinfectants must not come into direct or indirect contact with foodstuffs. Therefore, rinse the device with clear water after disinfection.

Attention!



Before using cleaning agents, the material compatibility must be tested at a suitable point.
Observe the manufacturer's instructions when handling the cleaning agent!

7) Check whether all of the residues have been removed. If necessary, repeat the cleaning process.

Assembly:

- 1) Apply a thin coat of EFA special grease to all sliding surfaces (guide, guide ledges (6), piston rod (7)).
- 2) Screw the cover tightly onto the housing again with the 6 hexagon screws.
- 3) Install the cleaned saw blade according to chapter 6.1.
- 4) Connect to compressed air and carry out a test run.

7.2 Daily maintenance

7.2.1 Tools and accessories

- Grease gun
- Tube special grease (food-grade with H1 approval)

7.2.2 Lubrication

- After each cleaning, lightly oil the saw blade with acid-free EFA special oil.

Lubricants

The grease and oil are subject to the regulations applicable in the foodstuff industry.

Please use only lubricants suitable for contact with foodstuffs.

Suitable grease and oil for your machine can be purchased from **Schmid & Wezel GmbH** through our Sales department.

7.2.3 Saw blade

The saw blade must be checked regularly for damage, firm seating and straight running.

Attention!



If the self-locking of the hexagon nuts on the slider is no longer guaranteed, they must be renewed immediately.

7.3 Extended maintenance

After approx. 50 operating hours, extended maintenance must be carried out.

7.3.1 Lubrication of the EFA pneumatically operated breastbone saw

- Disconnect the saw from the compressed air network.



To ensure the lubrication of the sliders and the gear unit, the machine must be greased at the grease nipples (1) and (2) with 1 – 2 strokes from the grease gun.

7.3.2 Extended maintenance after 400 operating hours

- If the performance decreases or after approx. 400 operating hours, the rotor blades of the pneumatic motor must be checked for wear and replaced if necessary (in this case we recommend sending the EFA pneumatically operated breastbone saw to our Service department).
- A soiled sound absorber (1) must be cleaned or replaced.



7.3.3 Sharpening saw blade

Attention!

Blades that are not properly sharpened will result in loss of production and endanger the user.



If your equipment needs to be resharpened, please contact the sharpening service at your nearest authorised service centre or our head office.

Sharpening can also be carried out on commercially available automatic reciprocating saw blade sharpening machines.

More detailed information on sharpening the saw blade is available on request from our Service department.

Attention!

Do not use force, as parts could be damaged!

Only use genuine EFA spare parts!

7.4 Oil mist lubricator

For proper functioning and to maintain the appropriate service life of the EFA pneumatically operated breastbone saw, the oil mist lubricator (filter pressure reducer) must be checked at regular intervals (1 x per week).

- Remove any condensation and, if necessary, top up with special oil (available from **Schmid & Wezel GmbH**).
- Check the operating pressure (max. 8 bar) at regular intervals.

8. Maintenance

During operation, it is possible that the function can be disrupted, but in most cases, troubleshooting is relatively easy.

Attention!



All work must be carried out by qualified, instructed specialist personnel only.

In *Table 2 – Malfunction – Possible causes – Remedy*, these malfunctions are listed with possible causes and resulting remedies.

Repair by *Table 2 – Malfunction – Possible causes – Remedy*

Malfunction	Possible cause	Remedy
The device does not start when the operating lever is actuated	Air filter on oil mist lubricator dirty	Ensure energy supply Clean air filter
	Parts of the motor or gear are defective	Return device to the manufacturer for maintenance
	Loose hose connection	Check correct connection of the hoses
	Rotor blade defective	Return device to the manufacturer for maintenance
The operating lever cannot be pressed down or only with great difficulty	Valve spring broken Valve blocked by dirt	Return device to the manufacturer for maintenance
Handle iced up	Air pressure set too high	Regulate to 6 – 8 bar
Device does not start	Parts of the motor or gear are defective	Return device to the manufacturer for maintenance
Device parts rusted	Water in supply line. Oil mist lubricator defective	Replace oil mist lubricator if necessary or return to manufacturer for maintenance
Saw blade does not cut (no cutting performance)	Saw blade blunt	Replace saw blade, sharpen if necessary
Saw blade judders	Saw blade not correctly mounted, screws loose	Mount the saw blade correctly, retighten screws as specified
	Slider clearance incorrectly adjusted	Adjust slider clearance
	Guide: gap size too large	Adjust saw blade guide Replace guide if necessary (return to manufacturer for maintenance)

8.1 Repair by the customer service

Only qualified persons are authorised to perform repairs. The **EFA Service department of Schmid & Wezel GmbH** is at your disposal for repairs.

In the event of faults that cannot be clearly localised, the machine should always be returned to **Schmid & Wezel GmbH** for repair.

Do not repair defective devices on site (in the immediate vicinity of foodstuffs)!

Provide all of the necessary tools and ensure that the work environment is clean.

Warning!



Cutting hazard!

Before carrying out any maintenance work, switch off the device and disconnect it from the electrical system or compressed air network!

9. Waste disposal, recycling

The machine must be disposed of in accordance with the valid legal regulations of the respective countries.

9.1 Disassembly and disposal



Old and used machines contain reusable materials that can be recycled.

During disposal, it is essential to observe regional and local environmental protection regulations.

- Disconnect the machine from the compressed air supply.
- Disassemble the machine completely.
- Degrease the machine completely.
- Dispose of used oil and components and materials contaminated with oil in accordance with the applicable environmental conditions.
- Separate all reusable materials according to type.
- Sort the individual reusable materials for recycling and disposal.
- Dispose of the hazardous waste at a local hazardous waste disposal site.

Or:

- Return your waste electrical equipment to our head office.



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