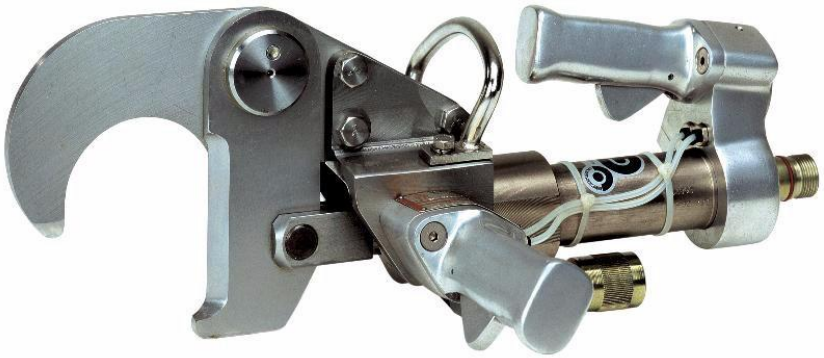
EFA cutters

Two-hand operation

EFA cutter Z08
EFA cutter Z08 E
EFA cutter Z12
EFA cutter Z12 E
EFA cutter Z13
EFA cutter Z13 E
EFA cutter Z14
EFA cutter Z14 E
EFA cutter Z27
EFA cutter Z27 E
EFA cutter Z27S
EFA cutter Z27S E
EFA cutter Z28
EFA cutter Z28 E
EFA cutter Z28S
EFA cutter Z28S E
EFA cutter Z140
EFA cutter Z140 E



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Schmid & Wezel GmbH
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Original operating instructions

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Schmid & Wezel GmbH

Maschinenfabrik

Maybachstraße 2
75433 Maulbronn / Germany

☎ +49 7043 1020

🖷 +49 7043 10278

@ efa-verkauf@efa-germany.de

Internet: http://www.efa-germany.de

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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 careful 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 cutters and provide the necessary safety instructions.

These operating instructions are intended for the machine operator and contain the details of the intended use and important information:

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

If the instructions are followed, the EFA cutter 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 your operating instructions are damaged or lost, you can request a new copy by stating the machine designation, part number, serial number and year of production, *see section 3.2 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 cutter. Furthermore, it is imperative that everyone working with and on the machine has read and understood 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

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 cutters** 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

Danger! **Never reach into the cutting edge area of the cutter.**
You could cut off limbs!

The cutter is suitable for use in medium sized and large plants and is used for cutting/breaking operations (meat in non-frozen condition) on carcasses.

The machine is not equipped for a different type of use. Should the user desire to use the equipment for a different purpose than intended, please contact **Schmid & Wezel GmbH & Co**. (**S&W**) beforehand.

For all other types of use, the user must be advised of the inherent accident hazard and increased wear.
In the event of non-compliance, the liability shall be borne by the user alone.

The cutter is 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 cutter 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 cutter if safe working with it is not possible,
- do not make any structural changes to the cutter without authorisation.

Residual hazards

As the cutter is intended for industrial use on carcasses, there is a possibility of injury or, in case of gross misuse, of **fatal** injury. Therefore, in case of misuse, the possibility of immediate death or death by blood loss must be expected.
Consequently, always pay attention to the correct handling of the machine.

To generate force, the cutter requires a hydraulic unit and a control unit.

The machine itself cannot build up pressure.
The force is only generated in conjunction with the upstream pressure generating unit and the associated hoses.

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 **original 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 and notes	No dangerous/harmful situation

2.1.1. Other safety signs

Symbol	Meaning
CE	**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 signs

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: Dangerous electrical voltage! Touching live parts can result in immediate death. Covers or cabinets marked with this sign are only allowed to be opened by qualified electricians after the machine has been switched off.
	Warning: Sharp cutting tool! Contact with the running cutting tool 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 could lead to severe cutting injuries involving permanent injury. Wear safety gloves. Ensure that a safety distance is maintained.
	Warning: 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: Noise with high sound pressure level! If the sound pressure level at the workplace is above 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 signs

Symbol	Meaning
	General mandatory instruction sign! Observe company directives, 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 the operator.

Lifecycle phase	Protective equipment
Transport	▪ Protective gloves ▪ Safety shoes
Assembly, start-up & maintenance	▪ Protective gloves ▪ Safety shoes ▪ Protective goggles ▪ Hairnet for long hair
Operation	▪ Hairnet for long hair ▪ Cut-resistant gloves ▪ Protective goggles ▪ Hearing protection ▪ Safety shoes ▪ Protective clothing
Storage	▪ Protective gloves ▪ Safety shoes
Disposal	▪ Protective 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. No other workplace should protrude into this area, otherwise there is an injury hazard due to the actions carried out with the EFA cutter.
Ensure proper lighting of the workplace (at least 500 lux).
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.
- Keep other persons away from your workplace. Focus on the job in hand when working.
- Do not use the EFA cutter when you are tired and/or unfocused.
- Knife changes as well as installation, maintenance and repair work are only allowed to be carried out on devices that have been disconnected from the pressure generating unit on the input side and the associated hoses.
- 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.
- Lead the connecting lines of the cutter upwards to avoid creating a tripping hazard.
- Store the cutter in a safe manner. Look after your tools with care. Use only sharp and undamaged knives so that you can work better and more safely.
- Do not leave any tool keys connected. Check that all keys have been removed before switching on.
- Look after your equipment with care. Use only sharp and undamaged blades for safe work.
- Only use **genuine EFA accessories/spare parts**.

The use of other equipment, accessories or spare parts can endanger you and other persons.
Non-compliance will void the warranty.

3. Technical description

Tab. 3.1 – Technical data

Description		EFA cutters Two-hand operation								
		Z08	**Z12**	**Z13**	**Z14**	**Z27**	**Z27S**	**Z28**	**Z28S**	**Z140**
Opening of cutter	mm	80	120	130x160	140	260	186	260	186	140
Closing time – opening time (cutter)	sec	1.0-1.0	3.0-3.0	3.0-2.0	1.5-1.5			1.3-0.75		2.5-2.5
Operating pressure	bar	200								
Hose length	m	5								
Sound pressure level (EN ISO 11688-1)	dB(A)	< 85								
Hand-arm vibration (EN 28662)	m/s²	< 2.5								
Weight (cutter)	kg	12.0	27.0	31.0	14.0	24.0	22.5	24.0	22.5	26.0
		Z08 E	**Z12 E**	**Z13 E**	**Z14 E**	**Z27 E**	**Z27SE**	**Z28 E**	**Z28SE**	**Z140 E**
Opening of cutter	mm	80	120	130x160	140	260	186	260	186	140
Closing time – opening time (cutter)	sec	1,0-1,0 0,7-0,7	3,0-3,0 2,0-2,0	3,0-2,0 2,0-1,5	1,5-1,5 1,0-1,0			1,3-0,75 1,0-0,5		2,5-2,5 1,8-1,8
Operating pressure	bar	200								
Hose length	m	5								
Weight (cutter)		12.0	27.0	31.0	14.0	24.0	22.5	24.0	22.5	26.0

Tab. 3.2 – EFA cutter overview

EFA cutters	area of application	Application
Z08 E **Z08**		Hock and leg cutter for cattle; for medium sized and large plants
Z12 E **Z12**		Hydraulic horn and leg cutter with high closing pressure for cattle; for medium sized and large plants
Z14 E **Z14**		Hydraulic leg cutter for cattle; for medium sized and large plants

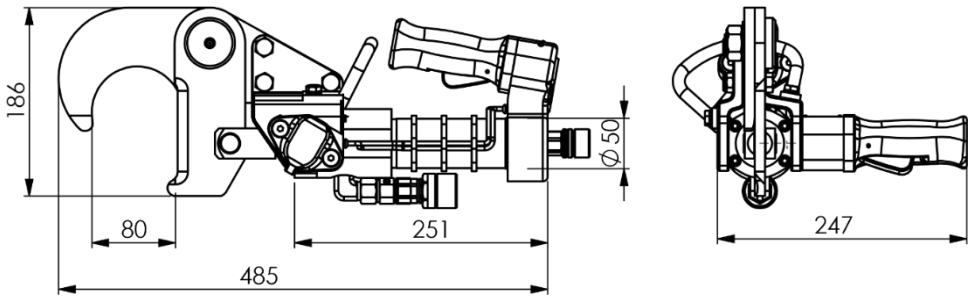
Z13 E **Z13** 		Hydraulic guillotine style dehorner for stumpless cutting of horns; for medium sized and large plants

Z27 E **Z27** 		Cutter for quartering with high performance
Z27S E **Z27S** 		Hydraulic hog head forceps
Z28 E **Z28** 		Hydraulic cutter for quartering for various applications; among others also for dropping the head of cattle and hogs; for medium and large plants
Z28S E **Z28S** 		Hydraulic sow head cutter
Z140 E **Z140** 		Hydraulic cutter for horns

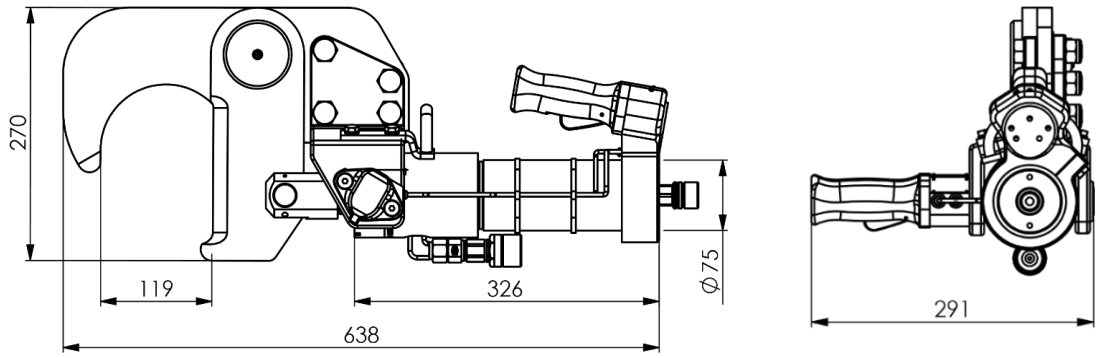
3.1 Dimensions

The following figures give you an overview of the dimensions of the cutter.

EFA Z08(Art. Nr. 008005000)**; EFA Z08 E**(Art. Nr. 008015230)



EFA Z12 (Art. Nr. 008004998); **EFA Z12 E**(Art. Nr. 008014545)



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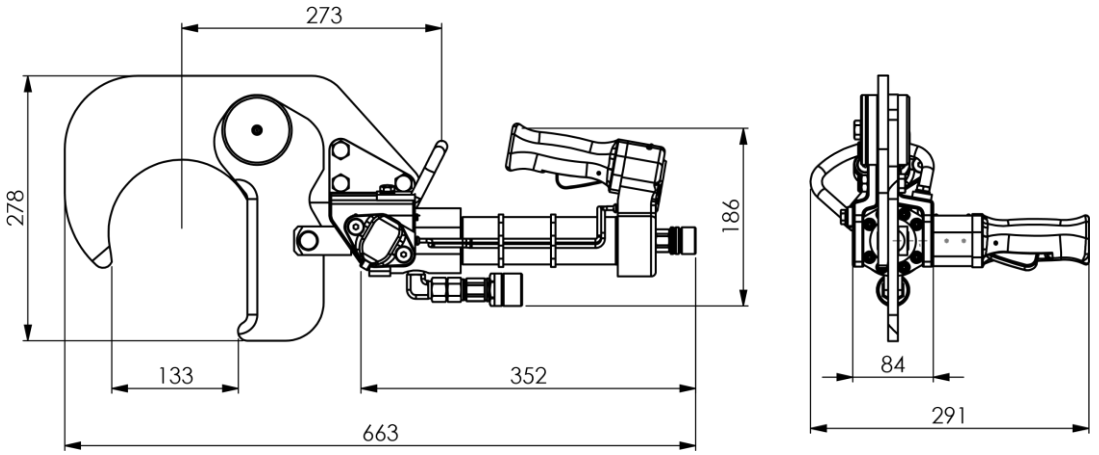
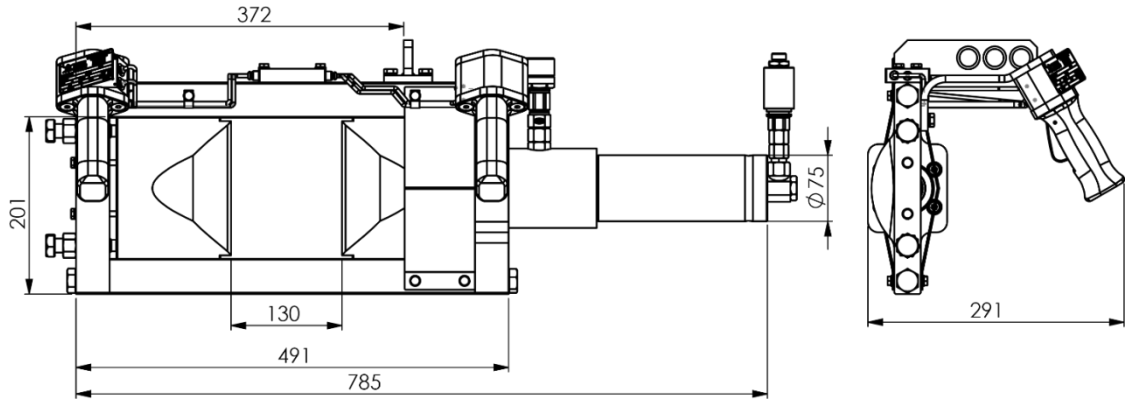
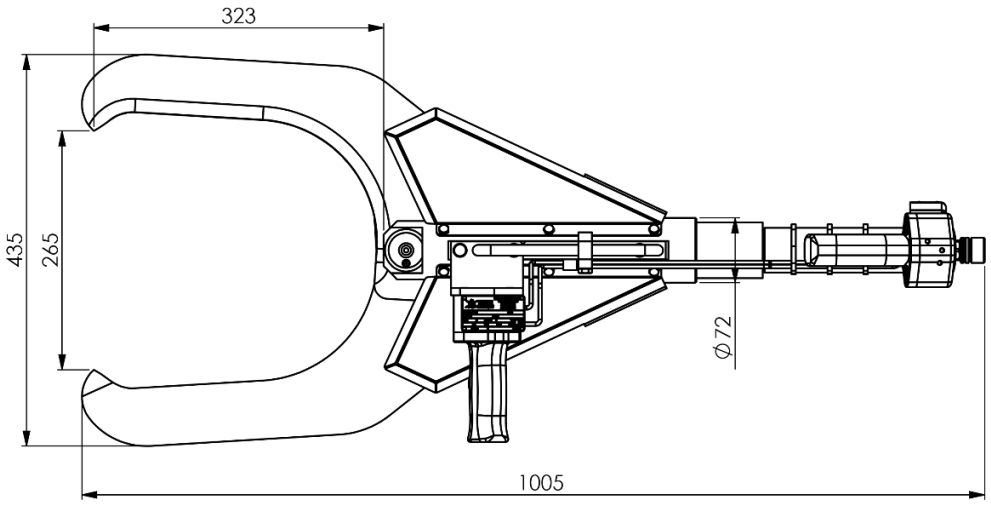


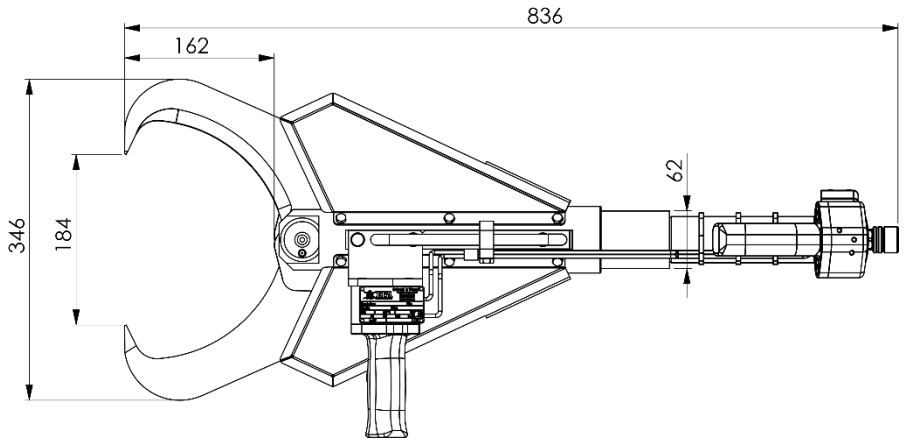
EFA Z13 (Art. Nr. 008009032)**; EFA Z13 E** (Art. Nr. 008014515)



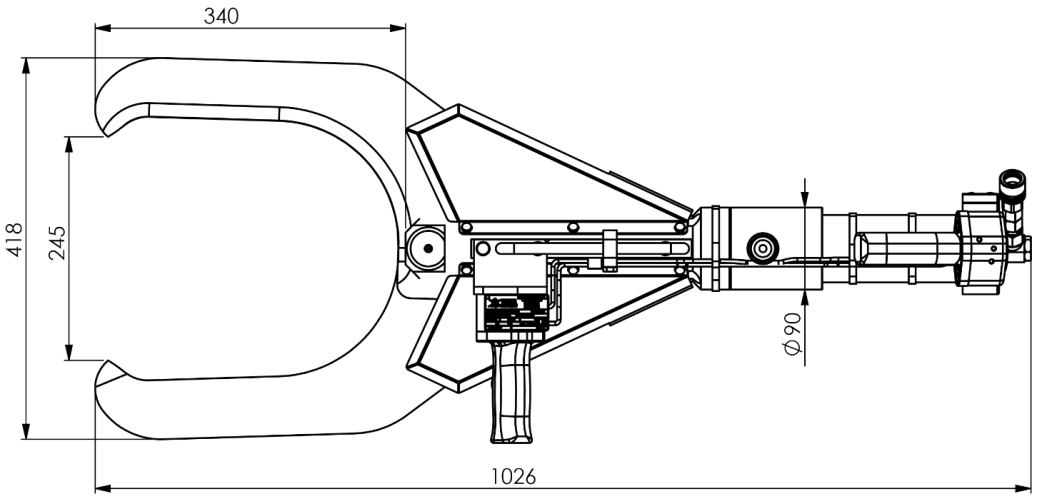
EFA Z27 (Art. Nr. 008008535); **EFA Z27 E** (Art. Nr. 008015200)



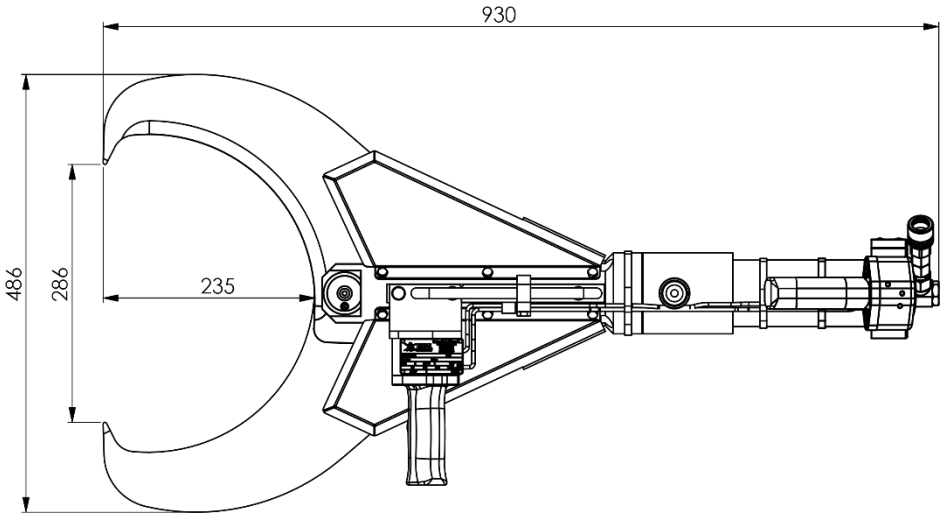
EFA Z27S (Art. Nr. 008010524); **EFA Z27S E**(Art. Nr. 008015220)



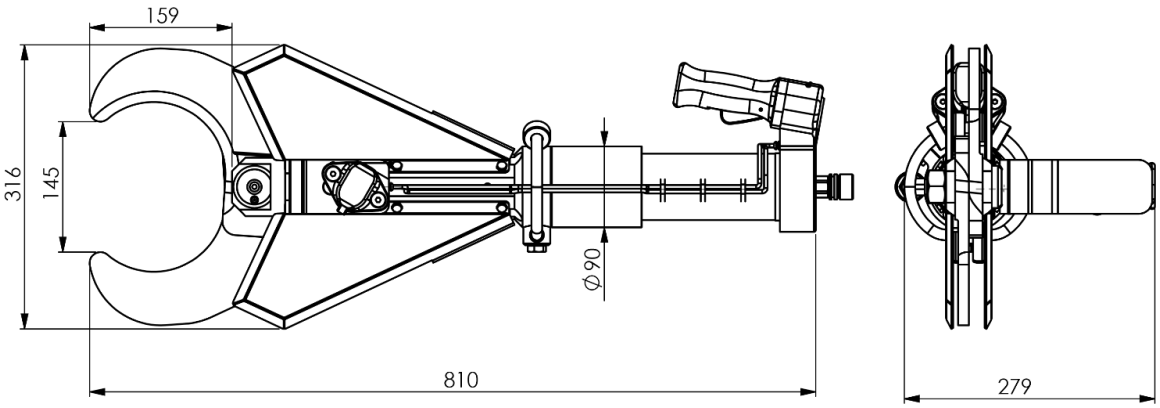
EFA Z28 (Art. Nr. 008009825); **EFA Z28 E**(Art. Nr. 008015230)



EFA Z28S (Art. Nr. 008011001); **EFA Z28S** E(Art. Nr. 008016078)

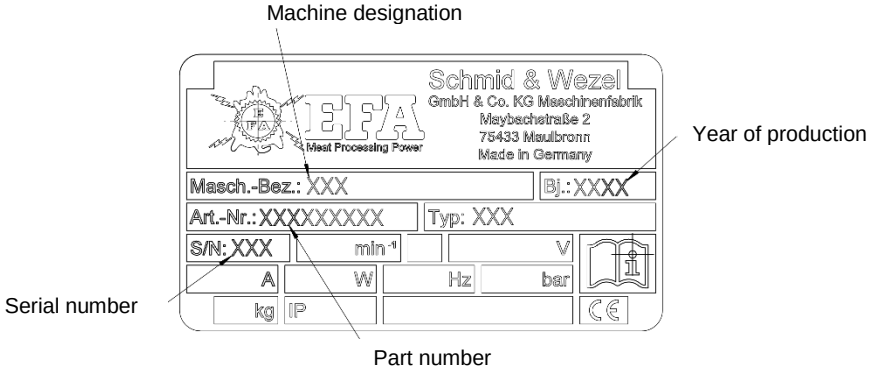


EFA Z140 (Art. Nr. 008010975); **EFA Z140 E**(Art. Nr. 008015270)



3.2 Nameplate

The nameplate is attached to the machine and contains information on the machine performance.
The following figure shows an example of the nameplate for EFA cutters.



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

Warning! **Safety instruction!**

Do not remove the cutting edge guard until just before start-up.

- 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 *section 9*.

Storage of the machine

Warning! **Safety instruction!**

Do not remove the cutting edge guard until just before start-up.

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

– Only store the machine in a dry, ventilated room.
– Only store the machine in a dry condition.
– Protect the machine from corrosion.

5. Connection and start-up

5.1 Initial start-up

Caution! **Danger of malfunctions and injuries!**
Installation work is only allowed to be carried out by authorised specialist personnel.

Danger! **Do not come into contact with the uncovered cutting edges.**

5.1.1 Spring balancer

The machine must always be operated in combination with a weight relief device (spring balancer), *see Fig. 5.1 and Fig. 5.2*.

The spring balancer is secured with a safety chain (2), which must be secured in a fixed position irrespective of how the spring balancer is suspended.

Attach it to a higher element above the workplace or to the ceiling. Hang the cutter with the head uppermost if possible. The vertical alignment can be readjusted if necessary.

Danger! **Due to the weight, *see Tab. 3.1 Technical data*, there could be a hazard due to the machine slipping or falling when the weight relief device is attached or detached.**

Danger! **Please note that if the rope rebounds when unloaded, it is very dangerous for people and the spring will also be irreparably damaged. The maximum load specified on the nameplate must not be exceeded.**

Also make sure that the machine does not jam either on the snap hook or on the hook of the cutter. Be careful!

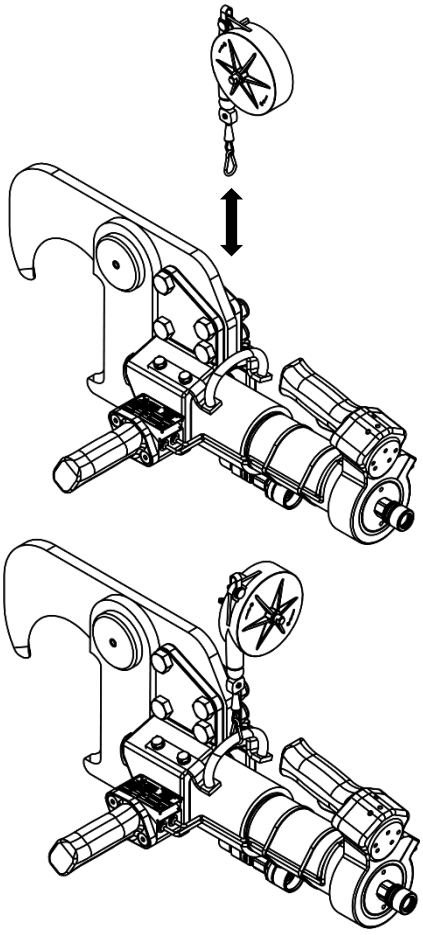


Fig. 5.1 – Weight relief system (spring balancer)

Adjustment of the spring balancer

The fine-tuning of the spring balancer is carried out via the plus/minus (+/-) hexagon screw on its housing.

- To do this, turn the screw with the socket wrench (1) 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 with the socket wrench (1) in the direction of plus (+) until pulling out is possible and start the fine adjustment again.

When the cutter is not in use, place it in such a way that there is no accidental contact with the cutting edges, because they are sharp.

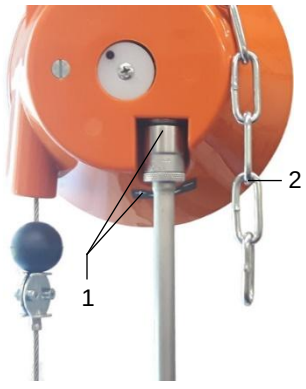


Fig. 5.2 – Fine-tuning of the spring balancer

5.1.2 Compressed air maintenance unit

(Only for pneumatically controlled EFA cutters, see Fig. 5.3 Connection diagram)

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 (empty the water separator regularly).

The water separator is not part of the machine, but must be installed upstream.
An oil mist lubricator is mounted on the hydraulic unit (observe the flow arrow on the oil mist lubricator). A water absorber must be provided by the customer if no dried air is available.

- Oil filling: Use oil (001365611/12).
- Oiler adjustment: 1 drop of oil for about 15 cuts.
- Pressure gauge setting: Operating pressure 5 – 8 bar.

5.1.3 Hydraulic unit

Danger! **Secure the unit sufficiently so that it cannot fall down.**

The cutting mechanism of the EFA cutter works hydraulically. Connect the cutter to a hydraulic unit that is ready for operation (see also separate operating instructions for the hydraulic unit). The hydraulic hoses to be used have threaded connections of different sizes to avoid incorrect connection.

5.1.4 Connection of hydraulic hoses

- Connect hydraulic hoses, flow (M16x1.5) and return (M14x1.5) with the threaded connections on the hydraulic unit and with the screwable hydraulic couplings (coupling plug + coupling sleeve) to the cutter. Screw the couplings tightly up to the end position, as they are self-locking in a loose connection. It is not necessary to bleed the cutter, because after repeated actuation of the cutter the air escapes from the unit via the hydraulic hoses.
- With pneumatic control: Screw the control hose unit onto the cutter with 2 hexagon screws.
- With electrical control: Connect the control cable to the control socket on the handle.
- Push the multicore cable through the lower opening of the housing of the pneumatic control unit. Only 3 lines are required for the pneumatic control. The colourless line remains empty.
- With the pneumatic control, push the red line into quick plug connection "a" and yellow cable into quick plug connection "b" of the two-hand safety block as far as it will go.
- With the pneumatic control, push the blue cable into the quick plug connection "Pl" of the Y-connection as far as it will go.
- Connect the compressed air connection to the grommet with external thread using an air hose. Do not close any oiler in between.

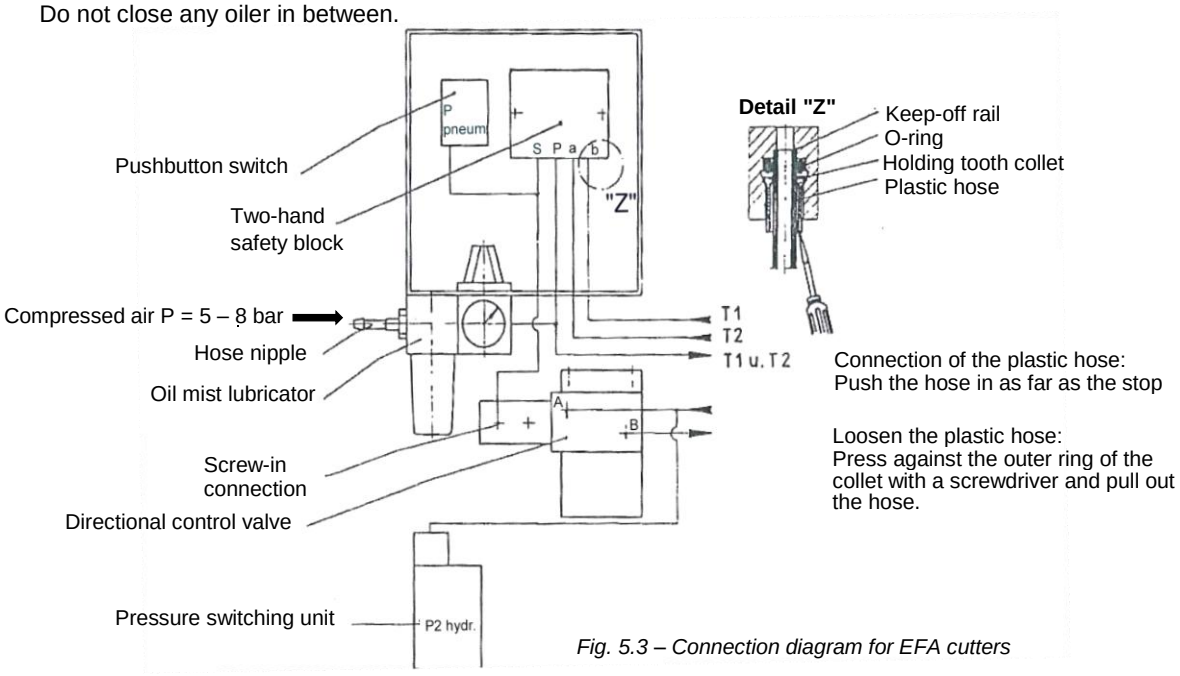


Fig. 5.3 – Connection diagram for EFA cutters

5.1.5 Coupling and uncoupling the cutter with pneumatic control

The cutter is equipped with a plug connection (1) on the flow and a coupling (2) on the return.

Proceed as follows:

- Switch off the compressed air supply to the cutter and operate the switches on the cutter once. The hydraulic hose cpl. is now depressurised and the hose unit (3, 4) can be uncoupled.
- Uncouple the depressurised hydraulic hose completely from the cutter (screw coupling).

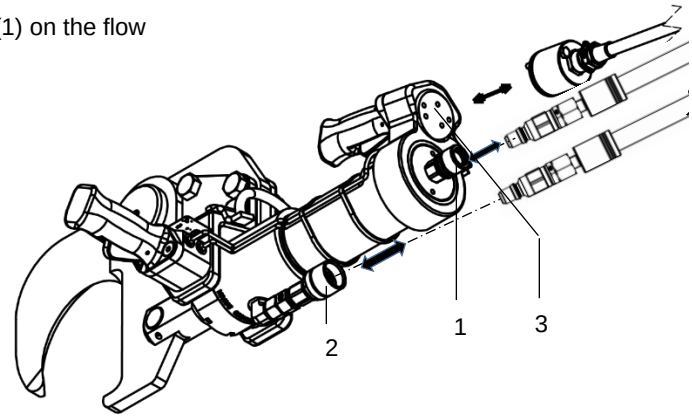


Fig. 5.4 – Coupling and uncoupling the cutter

The hydraulic couplings are self-locking so that no oil leaks when uncoupling.

Important! You should protect the plug connection and coupling from dirt!

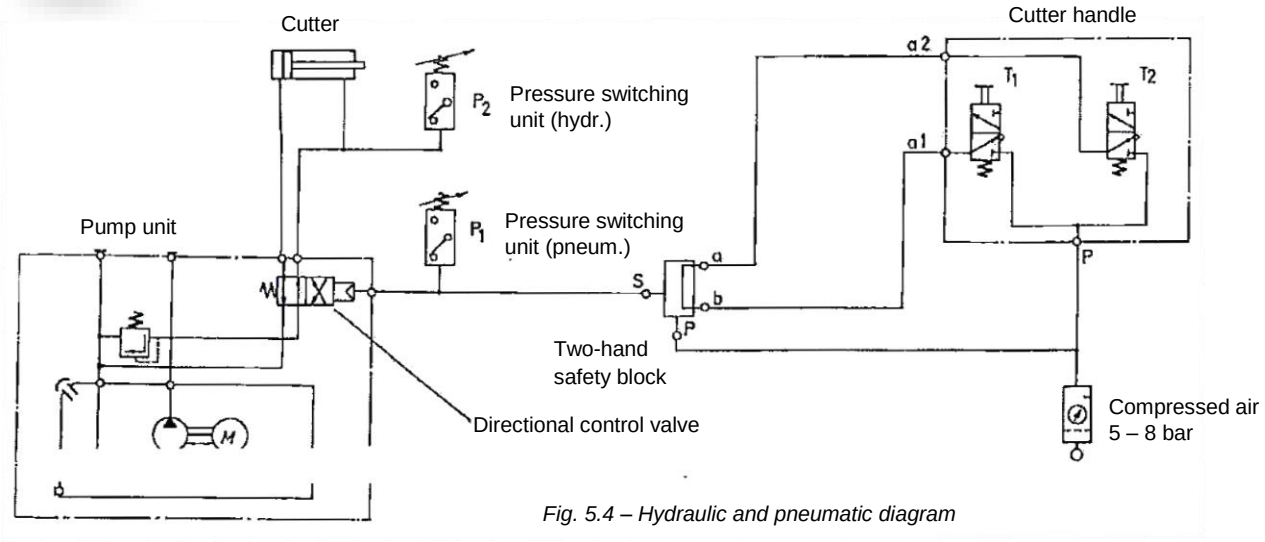


Fig. 5.4 – Hydraulic and pneumatic diagram

5.1.6 Connecting and disconnecting the cutter with electrical control

Important! Only bundle the entire hose unit with the enclosed cable ties after you have installed the cutter at the place of use and professionally connected and laid all lines!

This applies to the following cutter: Z13 E; Z14 E; Z140 E; Z28S E; Z28 E; Z27 E; Z12 E; Z08 E

The cutter is equipped with a hydraulic plug connection on the flow and a coupling on the return.

The electrical control of the cutter is established as follows with connectors:

- Attach the hydraulic hoses for the flow and return of the complete hose unit on the cutter by removing the protective caps and then tightening the cap nuts.
- Plug the electrical spiral line into the cutter on the coupling side as described in *Fig. 5.5* and secure it by tightening the cap nut.
- Attach the spiral line with the enclosed cable ties. This requires the first cable tie to be roughly centred on the coils of the spiral line and must include at least one further hydraulic hose. Always attach the spiral line without stretching it in order to maximise the strain relief effect (see *Fig. 5.6*).
- Screw the spiral line to the electrical connection line of the complete hose unit on the connector side by tightening the cap nut.
- Attach the connection point between the spiral line and the connection line of the complete hose unit by installing one cable tie enclosing at least one further hydraulic hose each approx. five centimetres before and behind it. Always attach the spiral line without stretching it in order to maximise the strain relief effect (see *Fig. 5.7*).
- Use the remaining cable ties to bundle the complete hose unit to the hydraulic unit. Attach cable ties that enclose both hydraulic hoses and the electrical connection line at distances of approx. 80 centimetres.

The hydraulic couplings are self-locking so that no oil can leak when uncoupling.

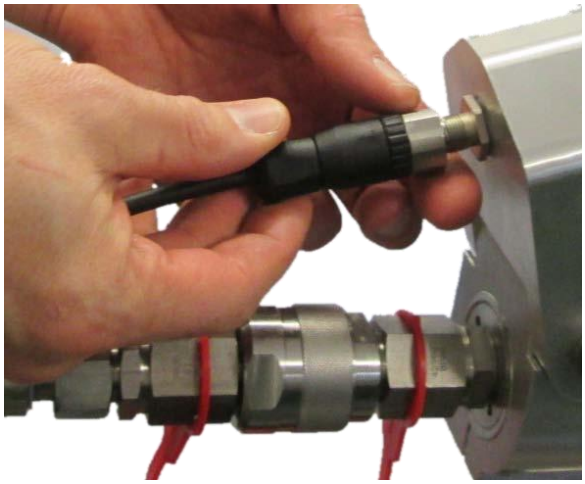


Fig. 5.5 Connection of the spiral line

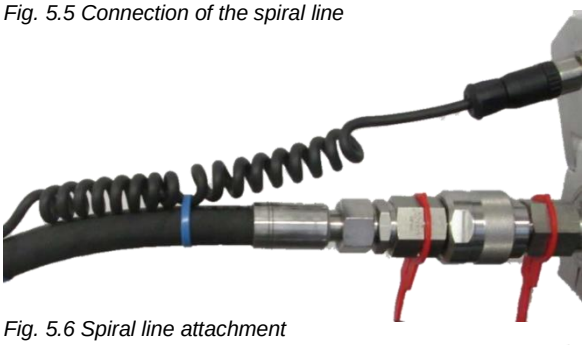


Fig. 5.6 Spiral line attachment

Fig. 5.7 Plug connection attachment

Important! You should protect the coupling and plug parts from dirt!

5.1.7 Adjust handle holder

The handle's angle can be adjusted.

To do this, loosen the hex screw (SW19)

and then tighten it again in the desired position.

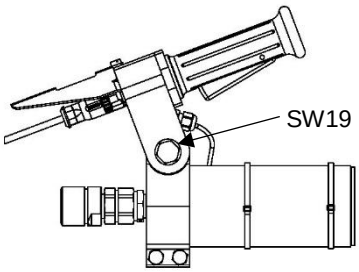


Abb. 5.8 Handle holder

Handling

6.1 Switch operation

Important! **The cutter must not be switched on before the operator has read these operating instructions and the cutter has been connected correctly!**

The **EFA cutters** are equipped with a two-hand safety circuit.

Switching on

Important! The cutter is only allowed to be switched on when the knife play is correct!

- Hold the EFA cutter securely!
- Operate both switching handles simultaneously to close the knives (On).

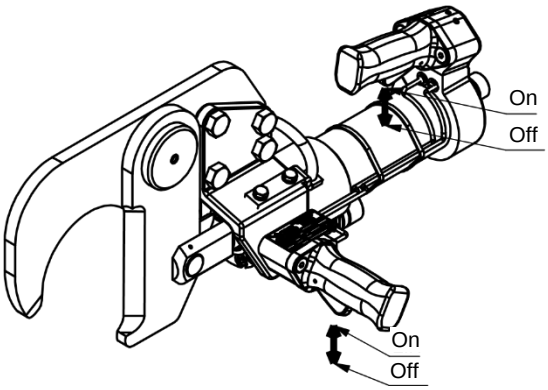


Fig. 6.1 – Handles with switch

Switching off

- Release both switching handles simultaneously to open the knives (Off).

The cutting process can be interrupted or repeated at any time.

6.2 Working with the cutter

Danger! **Never reach into the cutting edge area of the cutter, otherwise you could cut off limbs!**

Warning! Wear eye protection or protective goggles when working.

Wear hearing protection during your work.

Work step

The hydraulic unit must be ready for operation.

Hold the cutter securely, place it in the correct position and operate the two-hand safety circuit, *see section 6.1 Switch operation*.
The cutting process can be carried out when the animal/meat is either hanging up or lying on the table.
Operating the two-hand safety circuit (On) triggers a quick cut.

Caution! Always position the cutter at right angles and in the cutting edge area (not with the tips of the blades). Otherwise there could be a knife breakage as a result of an overload.

6.2.1 Operational safety

1) Hold the machine securely by both handles.
2) Be especially careful when breaking, the cutting edges can close within a few seconds.
3) Always position the instrument at right angles and in the cutting edge area, so that no knife breakage occurs as a result of overloading.
4) For safer handling (guiding), hang the cutter on a spring balancer, *see section 5.1.1 Spring balancer.*

6. Assembly

Danger!

Disconnect the device from the plant network prior to performing any assembly work!

Warning!

Wear cut-resistant gloves and safety shoes during all assembly work.

7.1 Knife change

Tab. 7.1 – Spare and wear parts

Item no.	Designation	Quantity
1	Hexagon nut	4
2	Threaded bolt cpl.	1
3	Bolt	1
4	Clamping pin	1
5	Hexagon nut	1
6	Knife cpl.	1
7	Knife	1
8	Fitting bolt	4

Tab. 7.2 – Spare and wear parts

Item no.	Designation	Quantity
1	Bolt	1
2	Cover	2
3	Bolt	2
4	Adapter sleeve	3
5	Hexagon nut	1
6	Hexagon screw	12
7	Threaded bolt cpl.	1
8	Knife cpl.	2

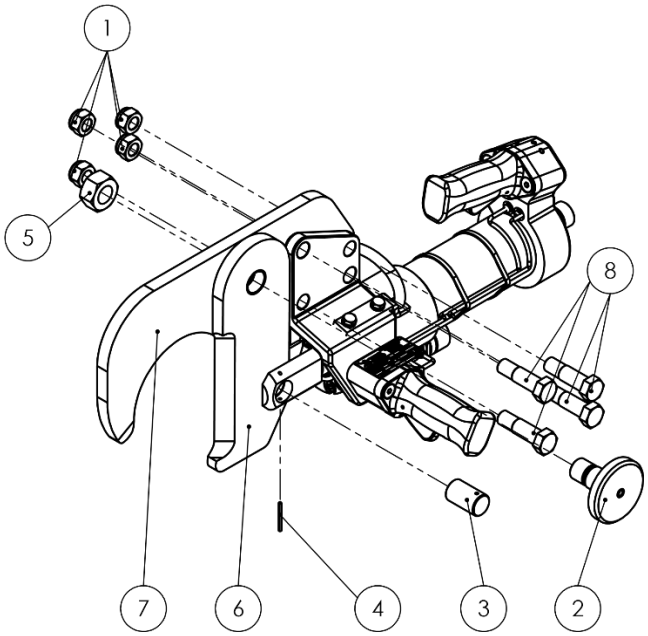


Fig. 7.1 – Exploded view

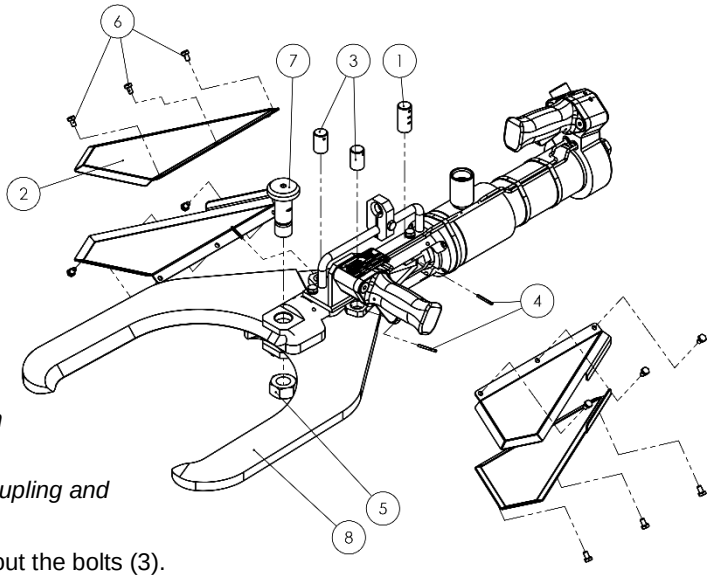


Fig. 7.2 – Exploded view

7.1.1 Replacing the knives

1) Close the knives (6, 7 or 8).
2) Switch off the hydraulic unit, depressurise the system by actuating the two-hand safety circuit once, *see section 6.1 Switch operation*.
3) Uncouple the cutter, *see section 5.1.5 Coupling and uncoupling the cutter*.
4) Remove the retaining pins (4) and press out the bolts (3). Make sure that the fork is positioned securely.
5) Remove the hexagon nut (5) and threaded bolt (2).

Before assembling the cutter, clean the dismantled parts, check them for wear and renew them if necessary. Grease all sliding points with EFA special grease.

7.1.2 Checking the knife play

The knives must always be set free of play and easy to move (because of the breakage hazard).
To reduce knife play, tighten the hexagon nut (6); to increase knife play, loosen it.

7.1.3 Knife installation

Before reinstallation, clean the dismantled parts, check them for wear and renew them if necessary. Grease all sliding points with EFA special grease.
Before fastening the forks, adjust the knives (1) so they move smoothly and without play, by means of the self-locking hexagon nuts (6).

7.1.4 Hydraulic unit

Drain the oil fill at least once a year, check for dirt and replace if necessary, *see section 5.1.3 Hydraulic unit* and separate operating instructions for the hydraulic unit.

7. Service and maintenance

Note! **Observe all safety instructions.**

To ensure the longest possible service life and low wear and tear, the cutter 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**.

Warning!

Cutting hazard!
Before carrying out any maintenance work, switch off the device and disconnect it from the plant network!

8.1 Daily cleaning after completion of the slaughtering

Trouble-free continuous operation can only be guaranteed if the EFA cutter is kept perfectly and hygienically clean at all times.

Also observe the safety instructions in the product data sheets of the cleaning agents.

Observe the applicable safety and hygiene requirements for this purpose!

Do not use any aggressive solvents!
Do not use a steam blaster or high-pressure cleaner!
Do not immerse the device in water!

8.1.1 Cleaning the cutter

Warning!

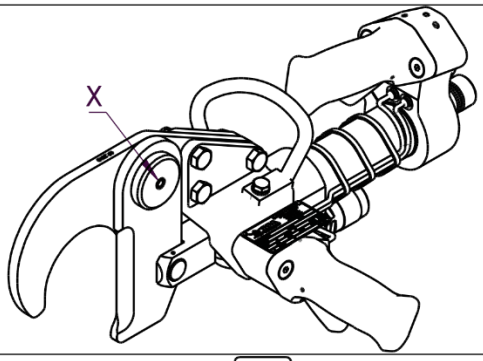
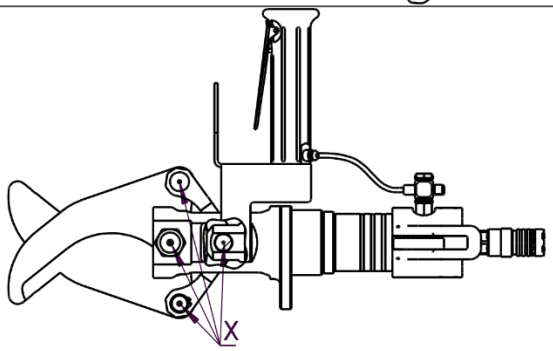
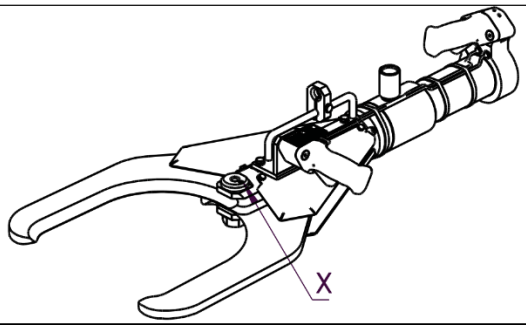
Wear cut-resistant gloves and safety shoes when cleaning the cutter.

To clean the device after working with it, use a cloth, brush and warm water (40 – 55 °C). Stubborn or encrusted dirt must be soaked in cleaning agent. To do this, clean with a cleaning agent that you spread on the surface to be cleaned and leave to take effect for 15 – 20 minutes. Then wash off the dissolved dirt manually with warm water.

The cylinder seal consists of an elastomer on NBR basis, which is resistant to most alkaline solutions.
If acidic cleaning agents are used, they must be checked for compatibility with NBR materials.

The cutter can be cleaned with a high-pressure water jet, but the cylinder seal must not be exposed to the jet directly.
The cutter must then be relubricated at the lubricating points mentioned (X).

Tab. 8.1 – Lubricating points

Cutters	Lubricating points (X)
Z08;Z12;Z14;	
Z078;Z079;Z080; Z090;Z100;Z160	
Z27;Z27S;Z28; Z28S;Z140	

8.2 Daily maintenance of the cutter

8.2.1 Lubrication

After each cleaning, lightly grease the joints and sliding points as well as the knives with EFA special grease. Grease the knives through grease nipples, *see Fig. 8.1, Fig. 8.2 Lubricating points* with EFA special grease (1 – 2 strokes with grease gun).

8.2.2 Knife play

Regularly (every month) check the knife play. Due to the breakage hazard, the knives must always be adjusted so they move smoothly and without play. If the self-locking of the hexagon nut is no longer guaranteed, it must be renewed immediately, *see section 7.1 Knife change*.

8.3 Extended maintenance
(after about 100 operating hours)

8.3.1 Oil mist lubricator
(Only for pneumatically controlled EFA cutters)

The oil mist lubricator must be checked at regular intervals, the condensation must be removed and the special oil topped up.

8.3.2 Hydraulic unit

Check the oil level in the hydraulic unit regularly and top up oil if necessary, *see section 5.1.3 Hydraulic unit* and the supplied operating instructions.

Attention!

Foodstuffs quality: Approval H1.
Pay attention to cleanliness!
Use a funnel with a fine-mesh sieve
(mesh width approx. 0.4 mm).

The hydraulic oil is classified as a hazardous substance and must be used and disposed of accordingly.
Hydraulic oil must never be allowed to enter the sewerage system or the atmosphere.

8.3.3 Sharpening the knives

Danger! **Cutting hazard**

Incorrectly sharpened knives result in production losses or a considerable hazard for the user.
We have established a sharpening service for you in our Service department. Please contact the nearest authorised service centre or our head office in this case.
However, if used correctly, it is usually not necessary to resharpen the knives.

If necessary, the knives can also be resharpened with commercially available sharpening equipment if only a small amount of material has been worn away.

Do not use force, as parts could be damaged!
Only use **genuine EFA spare parts**!

8.3.4 Repair by customer service

Danger! **Disconnect the device from the plant network prior to performing any repair work!**

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.

8.3.5 Return

Return your waste electrical equipment to the head office of **Schmid & Wezel GmbH** for disposal.

8. 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.

1) Disconnect the machine from the mains power and/or the pneumatic/hydraulic supply.
2) Disassemble the machine completely.
3) Degrease the machine completely.
4) Dispose of used oil and components and materials contaminated with oil in accordance with the applicable environmental conditions.
5) Separate all reusable materials according to type.
6) Sort the individual reusable materials for recycling and disposal.
7) Dispose of the hazardous waste at a local hazardous waste disposal site.

Or

8) Return your waste electrical equipment to our head office.

Schmid & Wezel GmbH
Maschinenfabrik

Maybachstraße 2
75433 Maulbronn / Germany

☎ +49 7043 1020

🖷 +49 7043 10278

@ efa-verkauf@efa-germany.de

Internet: http://www.efa-germany.de

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