

EFA reciprocating saws

EFA SL 24 WB



EFA SL 50-18



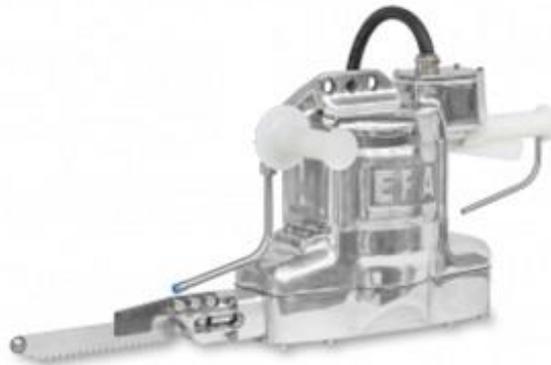
EFA 63



EFA 63 K

EFA 67

EFA 69



Translation of the operating instructions

Schmid & Wezel GmbH. All rights reserved.

Printed in Germany.

These operating instructions must not be reproduced in whole or in part, used for competitive purposes without our authorisation, or made available to third parties without our consent.

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.

Schmid & Wezel GmbH Maschinenfabrik

Maybachstrasse 2
75433 Maulbronn / Germany

 +49 7043 1020

 +49 704 310 278

 efa-verkauf@efa-germany.de

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

Table of contents

1	Introduction and general information	2
1.1	Information on the operating instructions	2
1.2	User group	2
1.3	Scope of supply	3
1.4	Intended use	3
1.5	Claims for defects, liability, warranty	4
2	Safety	6
2.1	Safety instructions	6
2.1.1	Other safety signs	7
2.1.2	Warning signs	7
2.1.3	Mandatory instruction signs	7
2.1.4	Prohibition sign	8
2.2	Personal protective equipment	8
2.3	Conduct at the workplace	8
3	Technical description	9
3.1	Dimensions	12
3.2	Nameplate	13
4	Transport and storage	14
5	Connection and start-up	15
5.1	Initial start-up	15
5.1.1	Spring balancer	15
5.1.2	Electrical connection	16
5.1.3	Water connection	16
6	Handling	17
6.1	Switch operation	17
6.1.1	Switching on	17
6.1.2	Switching off	17
6.2	Working with the reciprocating saw	17
6.2.1	Operation	18
6.2.2	Operational safety	18
7	Assembly	19
7.1	Saw blade change	19
7.2	Sharpening the saw blade	19
7.3	Changing the carbon brush – only EFA SL 24 WB, EFA SL 50-18 and EFA 63	20
8	Cleaning	21
8.1	Daily cleaning after completion of the slaughtering	21
8.1.1	Cleaning the reciprocating saw	21
9	Maintenance and repair	22
9.1	Maintenance	22
9.1.1	Daily maintenance of the and reciprocating saw	22
9.1.2	Extended maintenance – EFA SL 24 WB, EFA SL 50-18, EFA 63 and EFA 63 K	22
9.2	Repair by customer service	23
9.2.1	Return	23
10	Waste disposal – recycling	24
10.1	Disassembly and disposal	24

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 reciprocating saw 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 reciprocating 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 the existing operating instructions have been damaged or lost, you can request a replacement by stating: 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 reciprocating saw. Furthermore, it is imperative that everyone working with and on the machine has read and understood the operating instructions, and observes them.

The operation of the reciprocating saw by persons who are under the influence of alcohol, medication, or drugs is strictly prohibited.

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 reciprocating saws** 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 point the device at people!

Danger!



Never reach into the cutting area of the saw blade, you could injure yourself!

Areas of application

- **EFA SL 24 WB**
Reciprocating saw for use in butcher's shops and small meat plants; suitable for breaking cuts of meat.
- **EFA SL 50-18**
Reciprocating saw for use in butcher's shops and small meat plants; suitable for halving pigs and cattle in small quantities.
- **EFA 63** and **EFA 63 K** (shorter saw blade)
Reciprocating saws for quartering and breaking halves of beef, whole calves and pigs in medium quantities.
- **EFA 67**
Breastbone saw for sawing open the breastbone of cattle in on-the-rail operation for medium to high quantities.
- **EFA 69**
Splitting saw for halving cattle and pigs in small quantities.

The machines are 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 (S&W)**. 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 reciprocating saw is only allowed to be used:

- in a fully functional and perfect technical state, in line with the intended use, in consideration of all of the safety- and hazard-relevant aspects,
- 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 reciprocating 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 reciprocating saw if safe working with it is not possible,
- Do not make any structural changes to the reciprocating saw without authorisation.

Danger!



The reciprocating saws can be hazardous if they are used by untrained persons, in an improper manner, or for purposes that are not in line with the intended use.

Residual hazards

As the reciprocating saw 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.

There is an injury hazard, especially in the uncovered area of the saw blade. Remain focused and act with caution when working. Wear personal protective equipment.

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
	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

Some work requires protective equipment.

This protective equipment must be made available to the operator.

Lifecycle phase	Protective equipment
Transport	<ul style="list-style-type: none"> ▪ Protective gloves ▪ Safety shoes
Assembly, start-up & maintenance	<ul style="list-style-type: none"> ▪ Cut-resistant gloves ▪ Safety shoes ▪ Protective goggles ▪ Hearing protection ▪ Hairnet for long hair
Operation	<ul style="list-style-type: none"> ▪ Hairnet for long hair ▪ Cut-resistant gloves ▪ Protective goggles ▪ Hearing protection ▪ Safety shoes ▪ Protective clothing
Storage	<ul style="list-style-type: none"> ▪ Protective gloves ▪ Safety shoes
Disposal	<ul style="list-style-type: none"> ▪ 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. Ensure proper lighting of the workplace (at least 500 lux).

No other workplace should protrude into this area, otherwise there is an injury hazard due to the actions carried out with the reciprocating saw.

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 reciprocating saw when you are tired and/or unfocused.
- Store the reciprocating saw in a safe manner. Store unused devices in a dry place.
- 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.
- Only use original EFA saw blades. Follow the instructions listed under Saw blade change. See also *section 7.1 Saw blade change*.
- Do not leave any tool keys connected. Check that all keys have been removed before switching on.
- Look after your tools with care. Use only sharp and undamaged saw blades so that you can work better and more safely.
- Never drill into the motor housing (e.g. for attaching signs). Use adhesive labels to identify the device.
- Keep the ventilation slots on both sides of the motor free from dirt.
- Changes and modifications to the machine are not permitted and, if any such changes are made, **S&W's** guarantee and liability shall be invalidated.

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 reciprocating saws													
	EFA SL 24 WB		EFA SL 50-18			EFA 63 and EFA 63 K			EFA 67			EFA 69		
Power supply	V	42	230	42	115	230	42	115	230	42	208	400	42	400
Frequency	Hz	50 / 60		50 / 60			50	60	50	50	60	50	50	
Current consumption	A	25.2	4.6	46	16.8	8.4	25.2	9.2	4.6	32,5	6,5	3.5	42	4.5
Motor power max.	W	1020		1800			1020			1800			2000	
Protection class	-	III	II	III	II		III	II		III	I		III	I
Type of protection	-	IP 24		IP 24			IP 24			IP 65			IP 65	
Connection cable	m	4.0		3.5			3.5			4			4	
Length of saw blade	mm	200		475			330 - 350			269			520	
Cuts	1/min	1825		3300			5000			6000	7000	6000	3000	
Frequency of stroke	rpm	3650		3300			5000			6000	7000	6000	3000	
Stroke	mm	25		30			48			35			65	
Number of teeth	No.	37		76			55			21			34	
Sound pressure level L_{WA}	dB(A)	89		92			87			71			81	
Sound power level L_{WA}	dB(A)	100		103			98			82			92	
Hand-arm vibration	m/s^2	$a_{hd}=26$	K=0,9	$a_{hd}=29,5$	K=1		$a_{hd}=26$	K=0,75		$a_{hd}=8,5$	K=0,5		$a_{hd}=6,5$	K=3
Weight	kg	6.4		9.8			7.1			29			29	

Tab. 3.2 – Electrical data

EFA reciprocating saws	Operating voltage U [V]	Frequency f [Hz]	Amperage I [A]	Machine no.
EFA SL 24 WB	42	50 / 60	25.2	110890215
	230		4.6	110890205
EFA SL 50-18	42	50 / 60	46	110890607
	115		16.8	110890620
	230		8.4	110890606
EFA 63	42	50 / 60	25.2	110888121
EFA 63 K				110888125
EFA 63	115		9.2	110888111
EFA 63 K	230		4.6	110888105
EFA 63				110888101
EFA 67	42		50	32.5
	208	60	6,5	110885695
	400	50	3.5	110885690
EFA 69	42	50	42	110885800
	400		4.5	110885815

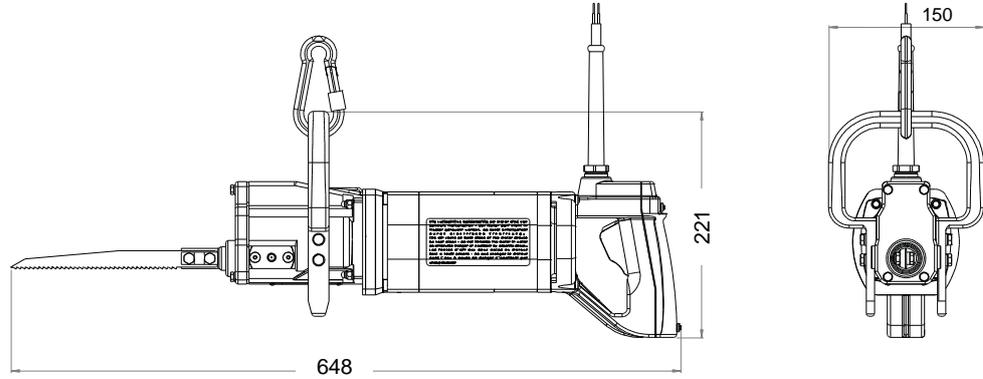
Tab. 3.3 – EFA reciprocating saw overview

EFA reciprocating saws	Usage	Application
<p style="text-align: center;">EFA SL 24 WB</p> 		<p>Reciprocating saw for rough cutting.</p>
<p style="text-align: center;">EFA SL 50-18</p> 		<p>Reciprocating saw for use in butcher's shop and small meat plants. Suitable for halving pigs and cattle; for small quantities.</p>
<p style="text-align: center;">EFA 63 EFA 63 K</p> 		<p>Reciprocating saw for quartering cattle and for other breaking operations; for all sizes of plant.</p>
<p style="text-align: center;">EFA 67</p> 		<p>Reciprocating saw for sawing open the breastbone in on-the-rail operation; for medium and large plants.</p>
<p style="text-align: center;">EFA 69</p> 		<p>Reciprocating saw for halving pigs and cattle.</p>

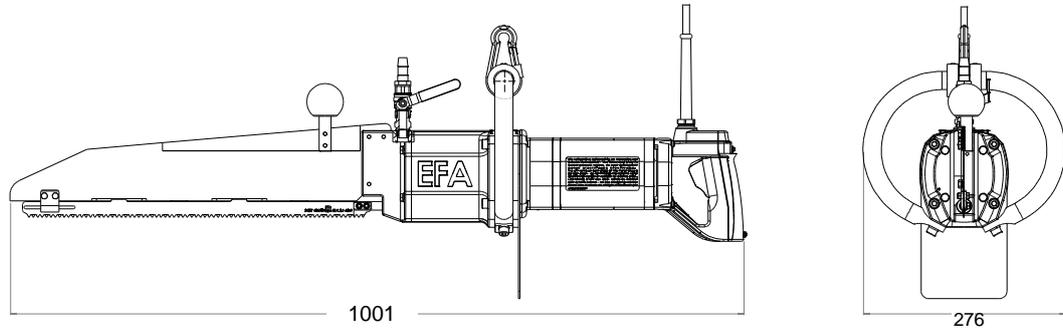
3.1 Dimensions

The following figures give you an overview of the dimensions of the EFA reciprocating saws.

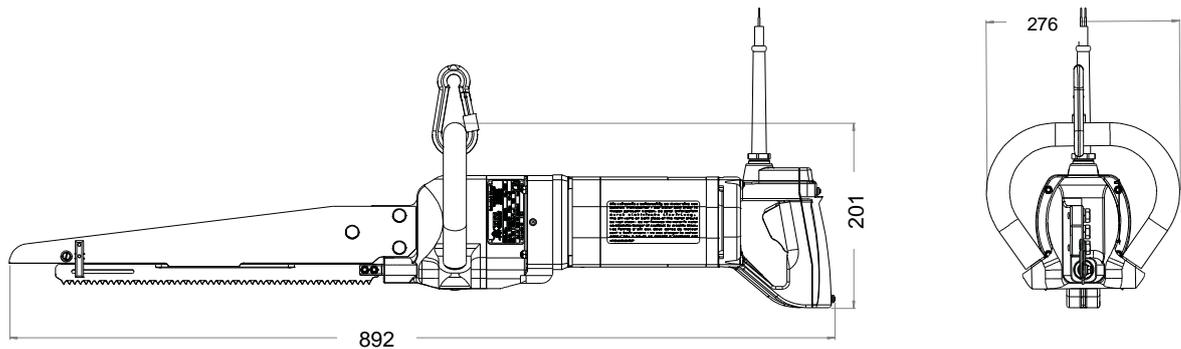
EFA SL 24 WB



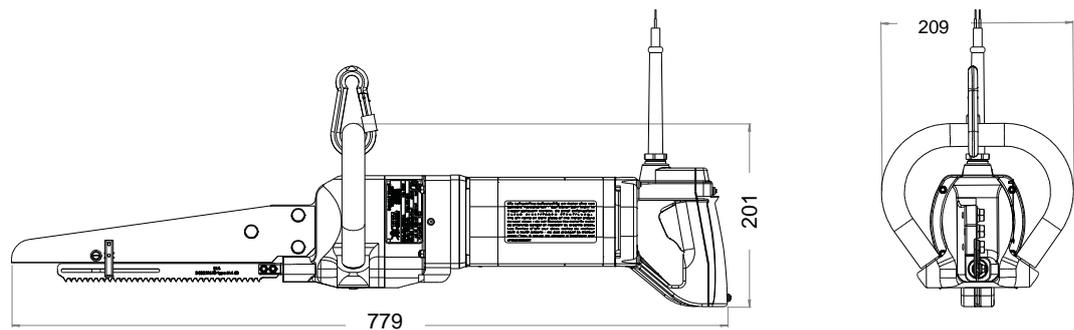
EFA SL 50-18



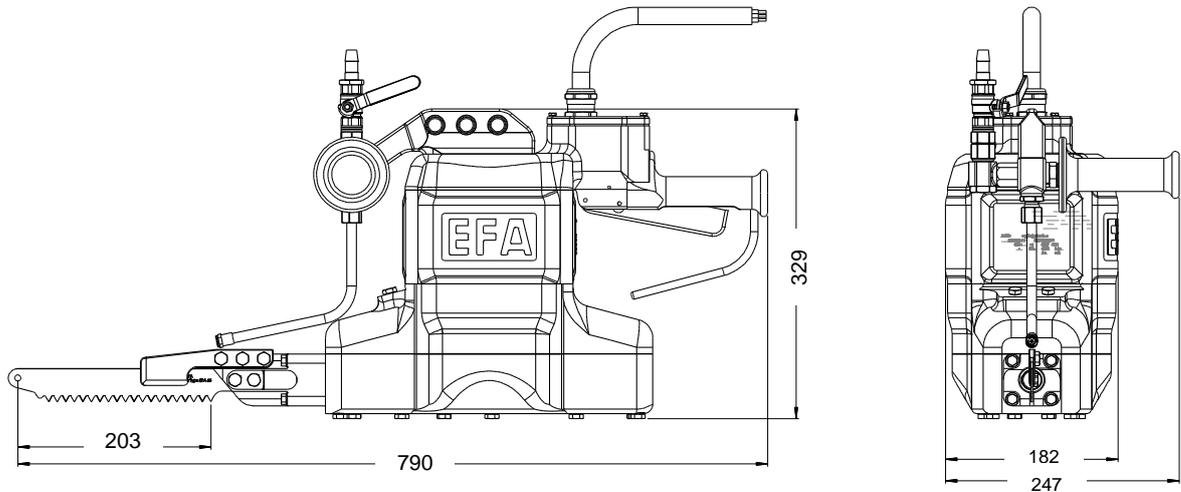
EFA 63



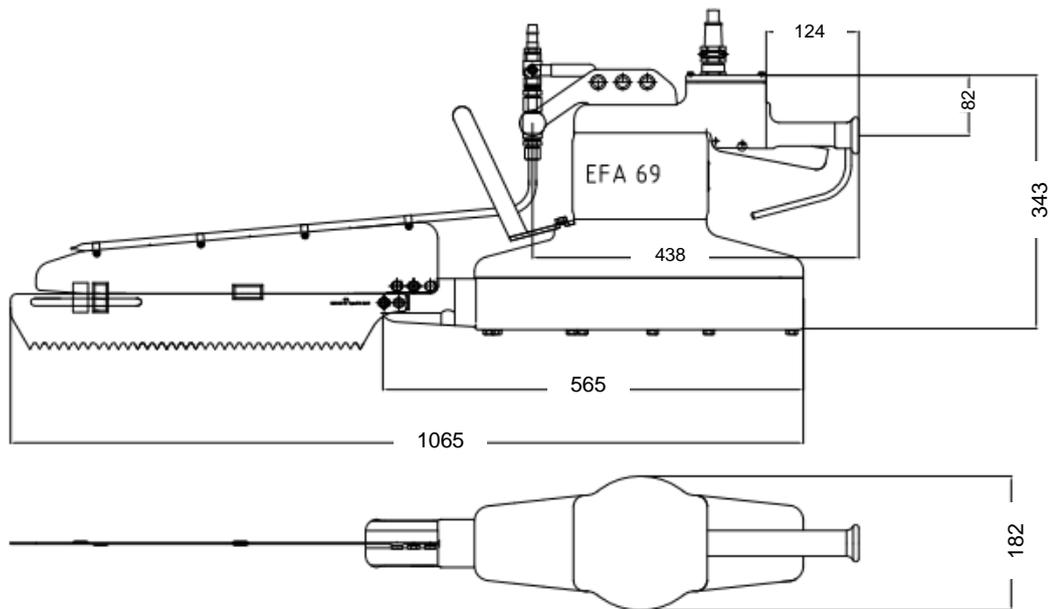
EFA 63 K



EFA 67

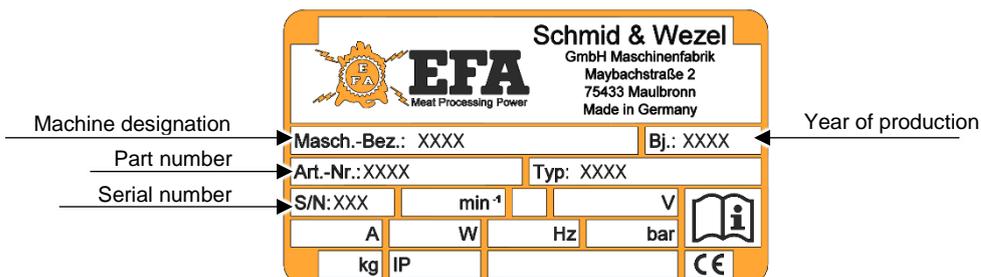


EFA 69



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 the EFA machines.



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.

Warning!



Safety instruction!

Do not remove the cutting edge guard
(if installed) until just before start-up.

Unpacking the machine

- 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 10*.

Storage of the machine

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 clean and dry condition.
- Protect the machine from corrosion.

5 Connection and start-up

5.1 Initial start-up

Caution!



Voltage!

Installation work is only allowed to be carried out by authorised specialist personnel.
Only connect the saw to the mains when it is switched off!

Caution!



Tripping hazard!

We recommend that the lines are led away upwards.
Lines that run along the floor can be a tripping hazard for the operator!

Warning!



Wear eye protection or protective goggles and safety shoes when working!

When the saw is not in use, place it in such a way that there is no accidental contact with the sharp saw blade.

This can lead to injuries.

EFA SL 24 WB, EFA SL 50-18 and EFA 63

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 5.2.

The spring balancer is secured with a safety chain (2), see Fig. 5.3 *Fine-tuning of the spring balancer*. This must be secured in a fixed position independent of the suspension of the spring balancer.

Use a trolley to attach the spring balancer to a higher element above the workplace or to the ceiling.

Danger!



Do not come into contact with the sharp saw blade.

Danger!



Due to the weight, there could be a hazard due to the machine slipping or falling when the weight relief device is attached or detached.

Danger!



When hooking in the cable of the spring balancer, the spring loaded rope can whip around if the snap hook is not properly hooked. Please note that if the rope rebounds when unloaded, it is very dangerous for people. 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 reciprocating saw.

Be careful!

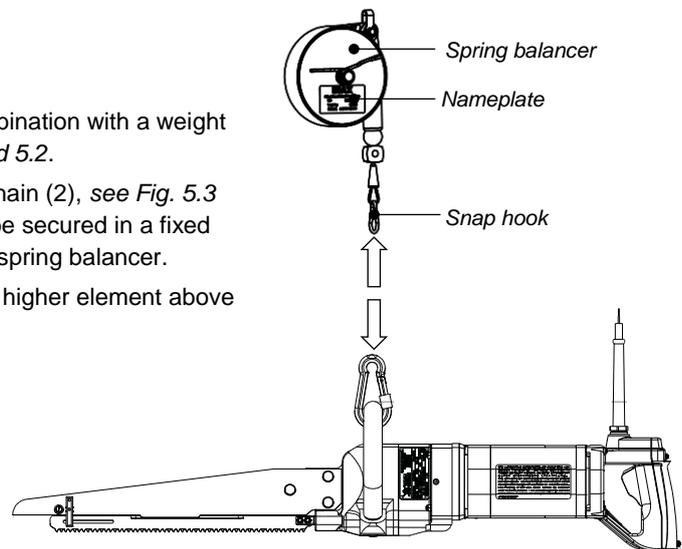


Fig. 5.1 – Weight relief system (spring balancer)

EFA 67 – EFA 69

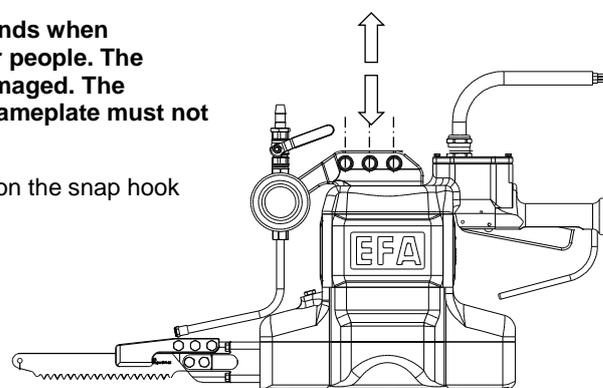


Fig. 5.2 – Weight relief system (spring balancer)

Adjustment of the spring balancer

The fine-tuning of the spring balancer is carried out via the plus/minus (+/-) screw on its housing (1).

- 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 a new adjustment is necessary.

- Turn the screw in the plus direction (+) until pulling out is possible and start the fine adjustment again.



Fig. 5.3 – Fine-tuning of the spring balancer

5.1.2 Electrical connection

The saw is operated with electrical power. It must be connected by a qualified electrician in accordance with the legal regulations and those of the local energy supply companies.

- For electrical machines, a fuse must be provided on the operating side. If the operating voltage does not correspond to a safety extra-low voltage, a residual current circuit breaker (RCCB) must be installed on the operating side.
- Before connecting the safety isolating transformer on the primary side (only for safety extra-low voltage), the connection data of the transformer must be observed. Furthermore, the existing power system type must be taken into account. Fuse protection of the transformer must be provided on the operating side.
- The cable cross-sections must be dimensioned accordingly for the electrical connection of the connecting cable between the safety isolating transformer and the control (only with safety extra-low voltage).
- The connecting line of the saw must be connected according to the electrical circuit diagram supplied.
- The saw has been designed and built according to the Machinery Directive 2006/42/EC.

Unauthorised changes and modifications, especially to the safety devices of the saw, are not permitted for reasons of operational safety and, if any such changes are made, the manufacturer's guarantee and liability shall be invalidated.

5.1.3 Water connection

EFA SL 50-18, EFA 67 and EFA 69

There is a cold water connection available.

The saw blade cooling/saw blade rinsing takes place via a ball valve with manual operation (1).

A magnetic valve can be installed instead of the ball valve (EFA 67 and EFA 69 only).

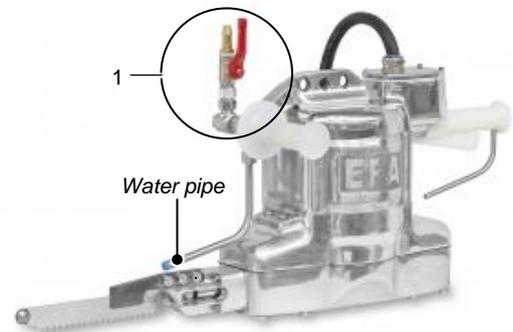


Fig. 5.4 – Ball valve

6 Handling

6.1 Switch operation

Important!



The reciprocating saw must not be switched on before the operator has read these operating instructions and the saw has been connected correctly!

Danger!



The saw blade must be correctly mounted and firmly seated.

**EFA SL 24 WB, EFA SL 50-18
EFA 63, EFA 63 K**

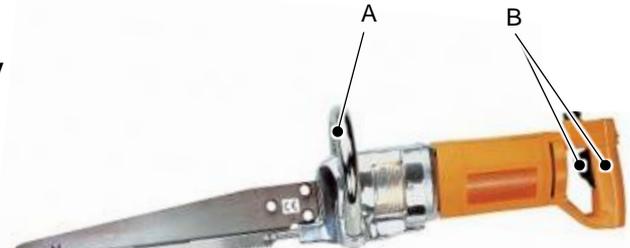


Fig. 6.1 – Switch operation

6.1.1 Switching on

Danger!



Ensure that the saw is switched off prior to connecting it to the plant network.

Before switching on, the following points must be checked without fail! An early failure of the saw blade as well as problems in the slaughtering process can thus be avoided to a large extent.

Before switching on, check that:

- the reciprocating saw is operational;
- the saw blade is correctly inserted and screwed tight. A sharp saw blade was mounted directly before starting work, see section 7.1 Saw blade change;
- the suspension (spring balancer) is correctly mounted and is operational;
- the general safety instructions have been taken into account, see chapter 2 Safety.

The machine is equipped with a handle (A) and a switching handle (B). To switch on, press the switch with your fingers, see Fig. 6.1 and Fig. 6.2.

EFA 67, EFA 69

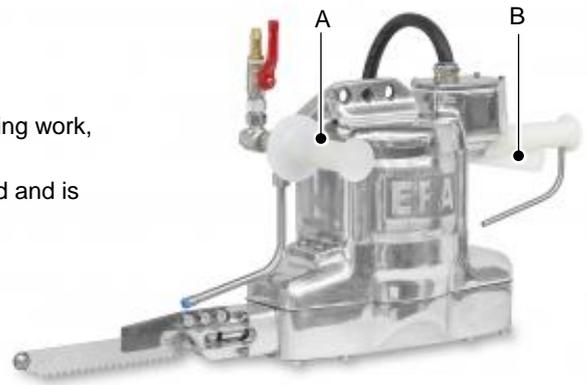


Fig. 6.2 – Switch operation

6.1.2 Switching off

Release your fingers from the switch to turn off. The switch switches off automatically due to a return spring.

Important!



The saws must be held with both hands for the run-down phase of 3 seconds!

6.2 Working with the reciprocating saw

Danger!



Never reach into the cutting area of the running saw blade, otherwise you could cut off limbs!

Warning!



Wear eye protection or protective goggles when working! Hearing protection must be worn during continuous operation!

6.2.1 Operation

Before use, check that the operating data of the mains and the device match up.

Attention!



Make sure the guide and the saw blade are as straight as possible when sawing.
Do not bend! Improper handling will lead to increased wear!

Warning!



**For safety reasons, EFA reciprocating saws must be held with two handles.
Never work one-handed!**

EFA SL 50-18, EFA 67 and EFA 69

- 1) Hold the reciprocating saw securely by both handles and switch on.
- 2) Guide it into the carcass while it is running.
Kick-back can occur when touching on bone.
- 3) Only remove the saw from the carcass while it is running and only switch it off afterwards.

See also *section 6.1 Switch operation.*

6.2.2 Operational safety

For safety reasons, EFA reciprocating saws must be held with two handles.

Never work one-handed!

- Do not carry the saw by the switching handle, it could start unintentionally.
- Be especially careful when switched on.
- Do not remove protective devices from the saw.
- Do not tilt or jam the saw blade.
- Never reach into the area of the saw blade when it is switched on.
- Do not put the device down until the saw has come to a halt (run-down time approx. 3 seconds).
- For safer handling (guiding), the saw must be suspended from a spring balancer, *see section 5.1.1 Spring balancer.*
- Regularly check the suspension for damage.
- Observe general safety regulations, *see chapter 2 Safety.*

7 Assembly



Danger!

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



Warning!

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



Danger!

Voltage!
 Disconnect the device from the mains prior to performing any assembly work!

7.1 Saw blade change



Danger!

Never reach into the cutting area of the saw blade, otherwise you could cut off limbs!



Important!

Only use genuine EFA saw blades!

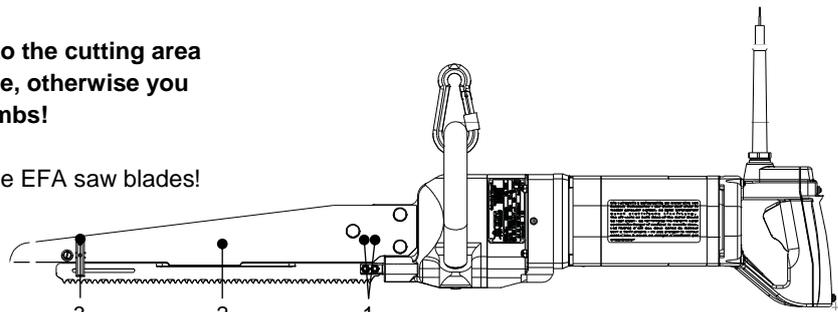


Fig. 7.1 – Saw blade change

Unscrew the two hexagon screws (1) and unhook the saw blade (2) by swivelling to the side by hand, see Fig. 7.1.

Change the saw blade and assemble in reverse order.

Grease the saw blade guide (3) with special grease (code 001365623).

Observe the tightening torque:

EFA SL 50-18, EFA 63 and EFA 63 K = 4.9 Nm

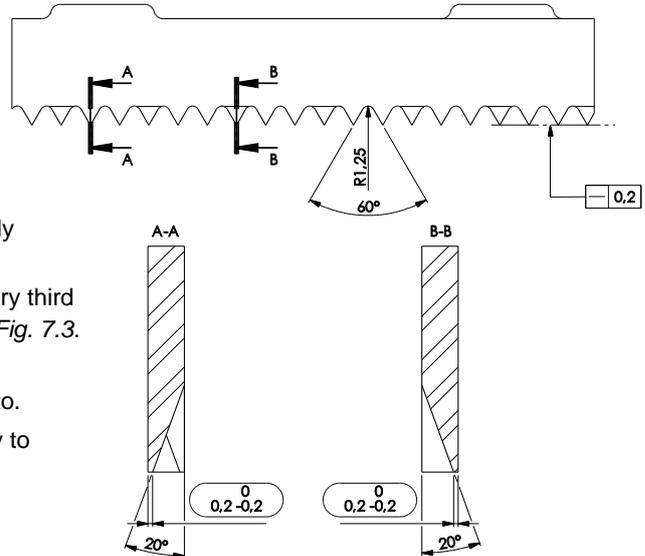
EFA SL 24 WB, EFA 67 and EFA 69 = 20.0 Nm

Important!

It is essential to carry out a test run before taking back into operation. Make sure that the saw blade is firmly seated.



EFA SL 50-18, EFA 63 and EFA 63 K



7.2 Sharpening the saw blade

Incorrectly sharpened saw blades result in production losses or a considerable hazard for the user.

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

The teeth are bevelled alternately on one side, every third tooth is unmachined on the side, see Fig. 7.2 and Fig. 7.3.

One hundred percent cutting performance is only guaranteed if the framed dimensions are adhered to.

However, if used correctly, it will only be necessary to resharpen the saw blade occasionally.

Fig. 7.2 – Grinding dimensions

We have established a sharpening service in our Service department. Incorrectly resharpened saw blades result in production losses or a considerable hazard for the user.

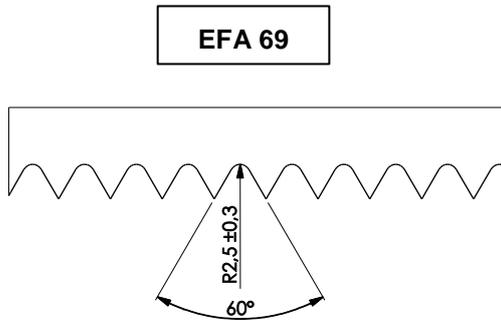


Fig. 7.4 – Grinding dimensions

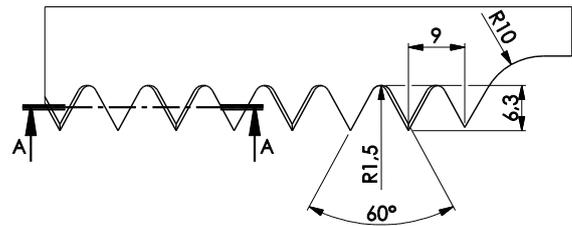
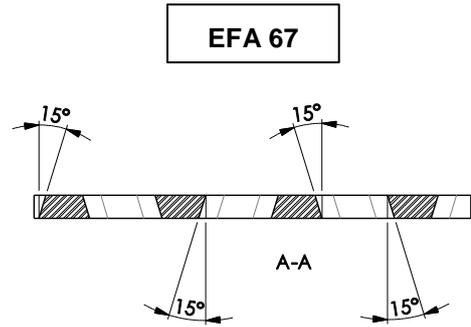


Fig. 7.3 – Grinding dimensions

7.3 Changing the carbon brush – only EFA SL 24 WB, EFA SL 50-18 and EFA 63

When the carbon brushes are worn down, the automatic switch-off interrupts the power supply and the machine stops. The automatic function prevents the armature collector from being damaged by the brush spring. There is no need for constant monitoring.

Attention!



**Disconnect the saw from the mains.
 The carbon brushes are only allowed to be replaced in pairs.**

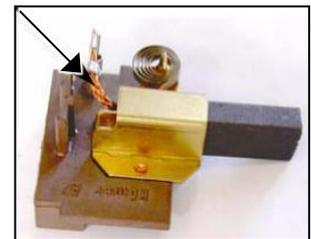


Fig. 7.5 – Changing carbon brush

When replacing the carbon with automatic feed, the connection must be laid as a loop, see Fig. 7.5.

After at least every second carbon change, the cavities between the armature, see Fig. 7.6, must be brushed through with a plastic brush.



Fig. 7.6 – Armature

8 Cleaning

Danger!



Voltage!

Only carry out cleaning work when the device is disconnected from the mains.

Danger!



Observe the safety and hygiene requirements!

8.1 Daily cleaning after completion of the slaughtering

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



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

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

For disinfection and cleaning, the saw blade must be removed as described in *section 7.1 Saw blade change*. To do this, take the device from the breaking hall to the maintenance location.



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 reciprocating saw

Warnung!



Cutting hazard!

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

For cleaning the device after work:

EFA 67 and EFA 69

- Bring the reciprocating saw to your tool point (workshop).
- Remove coarse dirt with a brush and warm water (approx. 40 – 55 °C); tenacious or crusted residues must be soaked in order to be able to remove them.
- Put a cleaning agent in warm water. Spread the solution over the surfaces to be cleaned and allow the cleaning agent to work for 15 – 20 minutes.
- Wash off the dissolved dirt with warm water.
- Manually wash the entire reciprocating saw with clean water and dry it.

EFA SL 24 WB, EFA SL 50-18, EFA 63 and EFA 63 K

- Bring the reciprocating saw to your tool point (workshop).
- Remove coarse dirt with a brush and a damp cloth (approx. 40 – 55 °C).
- Put a cleaning agent in warm water. Use a damp cloth to spread the solution over the surfaces to be cleaned and allow the cleaning agent to work for 15 – 20 minutes.
- Manually wipe down the entire reciprocating saw with a clean damp cloth and dry it.

9 Maintenance and repair

9.1 Maintenance

Note



Observe all safety instructions.

Danger!



Maintenance work is only allowed to be carried out by qualified and instructed personnel.

Warning!



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

9.1.1 Daily maintenance of the reciprocating saw

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

Lubrication

After each cleaning, lightly grease the saw blade guide with EFA special grease (code 001365623).

9.1.2 Extended maintenance – EFA SL 24 WB, EFA SL 50-18, EFA 63 and EFA 63 K (after approx. 400 operating hours)

Seals

The seal on the switch cover must be checked for function during every maintenance.

Lubrication

Every 400 operating hours, use the grease gun to press 3 shots of grease through the grease nipples (X).

Every 1200 operating hours (at least once a year), remove the gear head from the motor and clean it completely.

Grease all individual parts before assembly.

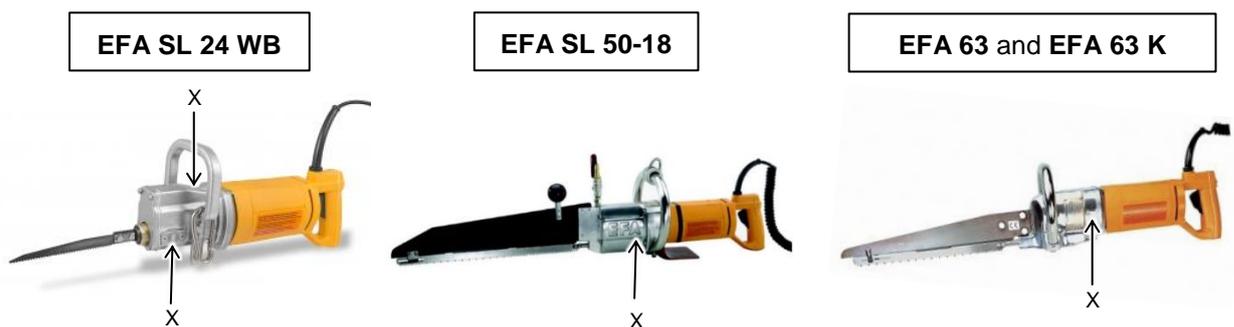


Fig. 9.1 – Lubricating points

Fig. 9.2 – Lubricating point

Fig. 9.3 – Lubricating point

9.2 Repair by customer service

Danger!



Repairs are only allowed to be carried out by qualified and instructed personnel.

Danger!



Only use genuine spare parts.

- The **EFA Service department of Schmid & Wezel GmbH** is at your disposal for repairs. If your equipment needs to be repaired, please contact the nearest authorised service centre or our head office.

Danger!



Voltage! Disconnect the reciprocating saw from the mains prior to performing any repair work.

- Please note that power tools are only allowed to be repaired by qualified electricians, as improper repairs can result in considerable hazards for the user.
- Upon request, spare parts lists can be provided to any authorized service center.
- After repairs, the fill-for-life lubrication of the gear units must be restored each time!

9.2.1 Return

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>

10 Waste disposal – recycling

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

10.1 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>