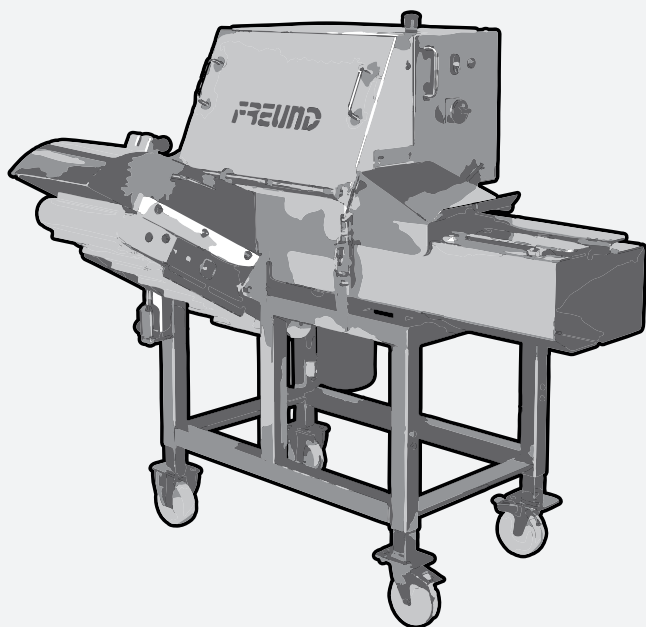
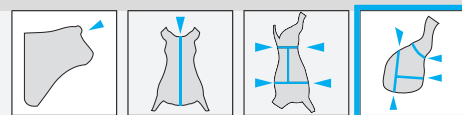


OPERATING MANUAL

SRC34_EVO2

Translation of original manual



Imprint

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Technical changes reserved

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

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1 About this Manual

The operating manual also refers to the Spare-Rib-Cutter as the “machine”.

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

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

- to install the machine safely and properly.
- to operate the machine safely.
- to rectify simple faults yourself.
- for maintenance and cleaning.

Before you start operating the machine, read this entire operating manual thoroughly and carefully. In particular, follow all written safety and warning information.

1.1 Target group

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

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

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

1.2 Liability and warranty

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

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

The original version of this operating manual was written in German. The translation was created with the best care and knowledge, but we assume no liability for translation errors. In the event of inconsistency or conflict between the English and the German version, the German version shall prevail.

Exclusion of liability

We assume no liability and warranty:

- on spare parts.
- if damage occurs during slaughtering.

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

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

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

1.3 Storing the operating manual

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

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

1.4 Symbols and layout elements

1.4.1 Layout elements

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



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



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

1.4.2 Safety signs

Warning signs



Warning of a danger point

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



Warning of dangerous electrical voltage

Danger to life from electric shocks to the body.



Warning of sharp-edged machine parts

Danger to the fingers and hands from cutting and striking.

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



Warning of rotating cutting tools

Danger to limbs from cutting or severing.



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



Warning of danger of crushing due to rotating rollers

Danger to hands and fingers due to being crushed by rotating rollers, rollers or conveyor wheels.



Warning of hand injuries

Danger to the hands and fingers from crushing due to the sinking or downward movements of machine parts, particularly in the area between the spine and the blade guard.



Warning of suspended load

Danger to the body from falling loads or machines.



Warning of substances harmful to health and irritants

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



Warning of cutting tools running-on or restarting

Danger to limbs from cutting or severing.

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

Prohibition signs



General prohibition signs

This sign is only used in connection with an additional sign or text, which describes the prohibition in greater detail.



High-pressure cleaners forbidden

Do not use high-pressure cleaners to clean the machine. Parts of the machine could be damaged.

Mandatory signs



Wear protective gloves

protect the hands against friction, abrasions, and cuts:

- during the changing of sharp or cutting tools,
- during cleaning,
- while touching hot surfaces.



Wear safety spectacles

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

- during operation,
- while the machine is cleaned.



Wear hearing protection

protect hearing during operation of the machine.



Wear a hair net or use a blade guard

protect long hair against entanglement in the machine.



Wear head protection

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



Wear a protective apron

protects the body against humidity, blood and other fluids.



Wear safety shoes or rubber boots

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

- during operation,
- while the machine is cleaned.



Pull out the power plug

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



Observe the assembly manual or spare parts lists

Further information can be found in the assembly manuals and spare parts lists.

1.4.3 Symbols



Comply with the operating manual

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



Separate spare parts list available

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



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



Available as a set

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



Part of a spare parts kit

This spare part is part of a spare parts kit, in which parts identified through experience as requiring replacement or being subject to wear are combined.



Tool set available

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

2

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



Lubrication

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



Glue

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



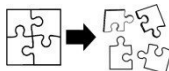
Cleaning

Instruction for an additional cleaning step.

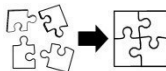


Power plug

symbolises the connection of the machine to the power network.



Disassembly of the machine or component



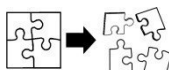
Assembly of the machine or component

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

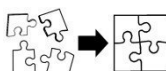


Lubrication

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



Disassembly of the machine or component



Assembly of the machine or component

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



Click

symbolize the noise if something clicks in, snaps shut or is closed tightly.



Correct

This result of an instruction is correct.



Incorrect

This result of an instruction is incorrect.

2 For your Safety

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

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

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

2.1 Warning notes

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

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

The precautions described must be observed to avoid the danger.

Structure of a warning note



Signal word!

Type and source of the imminent danger.

Possible consequences of the danger.

➤ Measures to avoid the danger.

Signal word	Meaning
DANGER	indicates an imminently hazardous situation which, if not avoided, will result in danger to life or death.
WARNING	indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.
Caution	indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.
Attention	indicates a potentially hazardous situation which, if not avoided, could result in damage to machine or environment.

2.2 Site operator's responsibilities

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

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

- | | |
|-----------------------|--|
| Operating staff | <p>The site operator, as a higher level legal person, is responsible that the machine is used in accordance with its intended use and is responsible for training and for assigning authorized and qualified operating, maintenance and cleaning staff.</p> <p>The site operator is obliged to ensure that each employee is properly trained in the operation of the machine.</p> <p>Staff undergoing training may only work at the machine under the supervision of properly qualified staff.</p> |
| Workplace | <p>The workplace must comply with the national and regional hygiene and workplace regulations.</p> |
| Cleaning | <p>The operator must ensure that machine and working equipment can be cleaned easily and without any risk. The operator must provide suitable detergents and define suitable cleaning procedures.</p> |
| Risk assessment | <p>The site operator must inform operators of possible dangers, symptoms and preventative measures. Relevant occupational safety conditions have to be complied with.</p> <p>Ensure eye and ear protection is worn at all times when operating the machine.</p> |
| Instruction of staff | <p>The operator is obliged to instruct employees regularly and in light of certain events (e.g. if an accident has occurred) in safe work procedures and occupational safety and health. We recommend that the instruction and the content covered should be documented by the employee's signature.</p> |
| Escape routes | <p>The operator must ensure that sufficient escape routes are available for the staff and that these are clearly marked. The operator must ensure that escape routes are not obstructed and that their function is not impaired (e.g. that doors open towards the escape route).</p> |
| Safety of the machine | <p>The site operator must ensure that the machine is only operated and used in perfect and functional condition.</p> <p>The site operator must ensure that safety devices are regularly serviced and checked for proper function.</p> |

2.3 Employee responsibilities

- | | |
|---------------------|---|
| Operating staff | <p>The operating staff must be properly instructed and trained by the operator. Staff who have read and understood the safety information and have been properly familiarised themselves with the operation of the machine can be regarded as instructed.</p> <p>Operating staff must be familiar with the operating manual and the applicable OHS and accident prevention regulations.</p> |
| Qualified personnel | <p>A technical expert is a person who, due to technical training and experience, possesses sufficient skills and knowledge.</p> <p>The technical expert must be familiar with the operating manual and the applicable OHS and accident prevention regulations, as well as the applicable animal welfare laws.</p> |

Safety at the workplace	<p>Maintain a stable upright position and keep your balance. Avoid awkward postures.</p> <p>Keep your workplace clean and tidy. Untidy workplaces can cause accidents.</p> <p>Always wear the personal protective equipment provided.</p> <p>Keep children, young persons and untrained staff away from the machine.</p>
Emergency procedures	<p>In the case of an accident, administer first aid and call a doctor and emergency medical services.</p> <p>Notify the operator or his authorised representative of every accident.</p>
Machine safety	<p>Before starting any work, carefully check the machine for proper function in accordance with the intended use.</p> <p>Do not set the machine into operation if it does not work correctly.</p> <p>Switch off the machine immediately if it no longer works correctly and have it checked.</p> <p>Have defective safety devices, switches or other defective machine parts repaired.</p> <p>Notify the operator or his authorised representative of any changes to the machine which may affect your safety.</p>

2.4 Personal protective equipment

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

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

2.5 Electrical safety in accordance with EN60204-1

All our electrical machinery and equipment is tested for electrical safety prior to commissioning and following modification or repair in our factory by an electrically skilled person in accordance with the electrical engineering rules as per DIN VDE 0701-0702 / EN60204-1. The inspection interval for machinery and equipment that is used in slaughtering and cutting plants is every six months.

2.6 Requirements on the installation location

- | | |
|-------------------------|---|
| Installation conditions | <ul style="list-style-type: none"> • enclosed and frost-free room • ambient temperature between -25°C to +4°C • ground must be level, solid and load-bearing |
|-------------------------|---|

Set up the machine in a manner that all control elements and bolt connections are always freely accessible.

Operation and all maintenance and repair work must be carried out safely and without obstacles.

2.7 Safety devices

2.7.1 Safety signs on the machine

Description of safety signs and symbols → chapter *Symbols and layout elements* on page 8

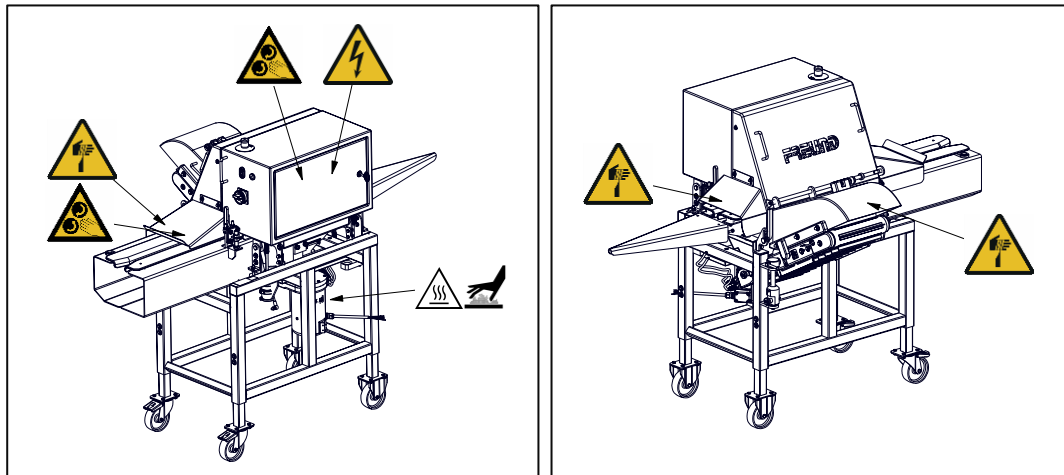


Fig. 2-1 Safety stickers on the front and back of the machine

2.7.2 Position of the safety devices

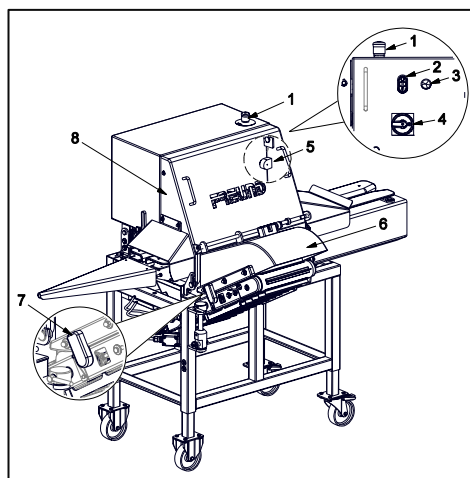


Fig. 2-2 Position of the safety devices

- 1 Emergency stop switch
- 2 On/Off switch
- 3 Indicator lamp
- 4 Main switch
- 5 Magnetic sensor for the conveyor wheel cover
- 6 Conveyor wheel cover
- 7 Magnetic sensor for the conveyor belt cover
- 8 Conveyor belt cover

2.8 Residual risks

The machine has been built according to the scientific and technological state of the art and complies with the basic occupational health and safety requirements of the European Union.

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

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

- danger to life from live machine parts
- Cutting injuries from cutting tools
- risk of injury from negligent handling of personal safety equipment while operating the machine, during maintenance and repair work and during cleaning and disinfection
- risk of accident through toppling machine
- hearing damage from noise if noise emissions exceed 75 dB(A)
- danger of injury from flying pieces of meat and bone fragments
- Risk of fingers and hands being crushed in the area between the spine and the conveyor wheel cover
- Risk of injury at the automatic drawing-in of the conveyor wheels

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

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

2.9 Intended use

The Spare-Ribs-Cutter SRC_evo2

- is intended for separating the spine in Spare-Ribs from the divided backbone of pigs.
- is only suitable for use with fresh pieces of meat.
- is only permitted to be operated with the provided safety devices, which must be fully functional.

Safety
requirements

The machine is only permitted to be operated in cutting rooms. Operation in slaughter rooms is prohibited.

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

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

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

Disclaimer of
liability

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

2.10 Improper use

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

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

The following are also deemed as improper use:

- the cutting and sawing of other materials such as wood, plastic or stone.
- the cutting of frozen products.
- the use of the machine in slaughter rooms.
- the use of the machine without functional safety devices.

3 Technical Description

3.1 Working method

The T-shaped spine is drawn in on the guide bars by the conveyor wheels and broken into Spare-Ribs and vertebrae by a pointed circular knife blade.

The separated pieces are fed separately into various collection containers by the guide bars installed underneath the cutting unit. Due to the pointed circular knife blade, waste in comparison with the conventional saw blade is avoided and the quality of the pieces of meat is improved. Contamination by bone meal is almost ruled out.

As all moving parts are under a cover, any risk of injury during operation is ruled out.

3.2 Variants h5 and h10

The SRC34-h10_evo2 allows the processing of thicker rib pieces compared to the SRC34-h5_evo2.



If you use the appropriate variant, the service life of the conveyor wheels is increased.

3.3 Technical data

Machine	Dimensions (L x W x H) [mm]	1400 x 1100 x 1425 (1625) (h10: +5)					
	Weight [kg]	250					
	Circular knife blade Ø [mm]	345					
	Circular knife blade speed [rpm]	380			460		
	Noise emission [dB (A)]	≤ 70 can rise to 95 dB (A) during operation					
	Rated voltage [V]	400			230		
	Frequency [Hz]	50			60		
	Maximum line fuse [A]	10			16		
Motor type		Gear motor 08B		Shaft-mounted gear motor		Drum motor	
	Motor rating [kW]	2.3		0.37		0.12	
	Speed [rpm]	1410	1692	1400	1680/112	14.7	14,7
	Torque [Nm]						
	Rated current [A]	4.3	7,4	1.24	2,1	0.34	0,4
	Protection class	IP65		IP65		IP65	

3.4 Overview of the machine

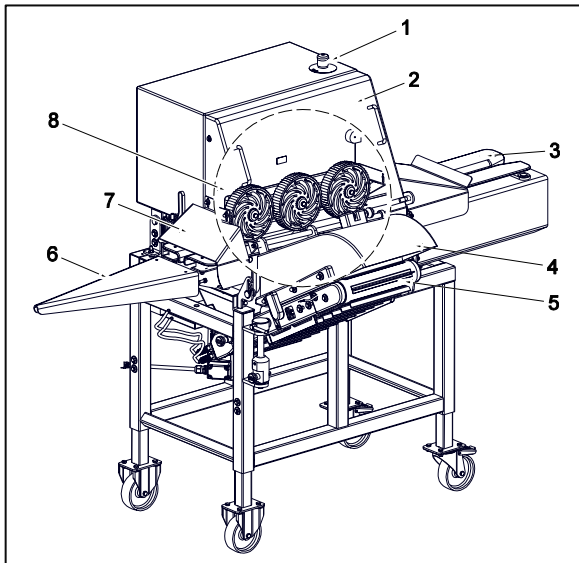


Fig. 3-1 Front view of the machine

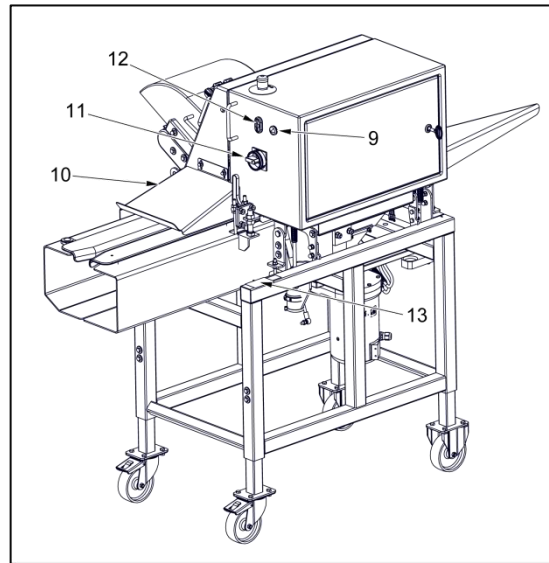


Fig. 3-2 Rear view of the machine

	Description	Function
1	Emergency stop switch	<ul style="list-style-type: none"> stops the machine immediately After an emergency stop shutdown, the machine can only be restarted using the On/Off switch if the emergency stop switch has been unlocked.
2	Conveyor belt cover	<ul style="list-style-type: none"> Separating safety device The machine cannot be started and operated without a conveyor belt cover or with an opened conveyor belt cover. Secured by a magnetic sensor The yellow indicator lamp goes out if the blade guard is open
3	Guide bars	<ul style="list-style-type: none"> Hold the spine and guide it to the circular knife blade. Adjustable and variable
4	Conveyor wheel cover	<ul style="list-style-type: none"> Separating safety device The machine cannot be started and operated without a conveyor wheel cover or with an opened conveyor wheel cover Secured by a magnetic sensor The yellow indicator lamp goes out if the blade guard is open
5	Conveyor belt	<ul style="list-style-type: none"> Transports the cut spare ribs into the container provided Comprised of the conveyor belt frame and the conveyor belt itself
6	Offcut guide	<ul style="list-style-type: none"> Guides the offcuts into the container provided
7	Blade guard	<ul style="list-style-type: none"> Separating safety device

	Description	Function
8	Conveyor wheels	<ul style="list-style-type: none"> Convey the spine to the circular knife blade
9	Indicator lamp	<ul style="list-style-type: none"> Lights up when a magnetic sensor is open For checking whether the conveyor wheel cover and/or conveyor belt cover are closed properly
10	Cover profile	<ul style="list-style-type: none"> Separating safety device
11	Main switch	<ul style="list-style-type: none"> Switches the machine's power supply The machine is switched off in the "0" position. Can be secured with a padlock to prevent the machine from being switched on accidentally
12	On/Off switch	<ul style="list-style-type: none"> Switches the machine on and off
13	Rating plate and serial number	<ul style="list-style-type: none"> Displays the machine's performance data

3.5 Dimensions

The two versions SRC34/h5 and SRC34/h10 differ in height by 5 mm.

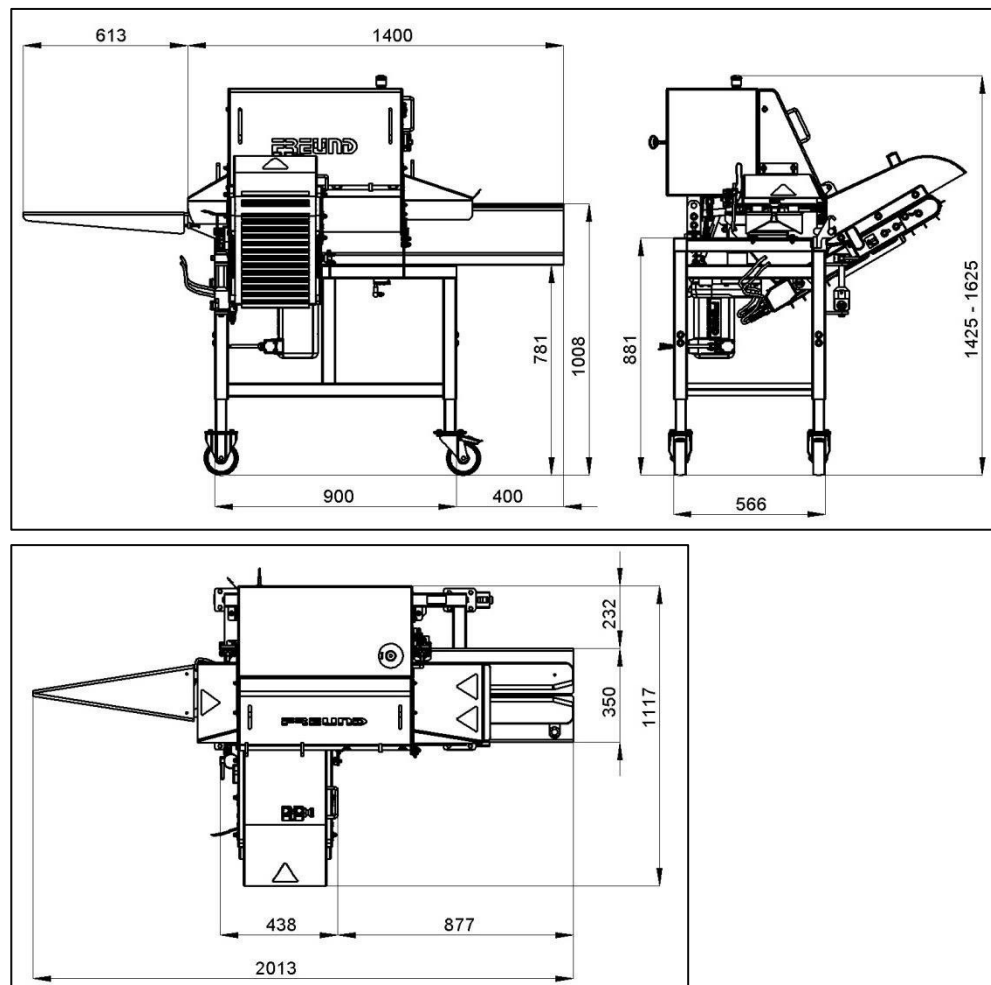


Fig. 3-1 Dimensions SRC [mm]

3.6 Rating plate


①	 www.freund-germany.com DE 33100 Paderborn, Schulze-Del.-Str. 38
②	SpareRibsCutter SRC34/h5 Patent erteilt
③	Nennspannung: 400V 3ac Betriebsart: S6-20% Nennleistung: 2800W Drehzahl: 380 U/min Frequenz: 50Hz Schutzart: IP65 Nennstrom: 5,9A cos phi = 0.78 Bauwoche: 18/2015 PPA: 42440
④	

Fig. 3-3 Rating plate example

	Explanation
1	Company address
2	Machine type and designation
3	<i>Performance data:</i> Rated voltage [V] Duty type Rated output [W] Speed [rpm] Frequency [Hz] Protection class Rated current [A] Displacement power factor [cos φ]
4	Year of manufacture of the machine, production order no.

3.7 Lubricants

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

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

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

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

Lubricating grease FREUND lubricating grease is based on highly refined paraffin oil and is tasteless and odourless. It is physiologically safe and is conforming to NSF-H1.

Gearbox grease FREUND-grease is high-performance transmission grease that is extremely resistant to high pressure loads and high temperatures. It is physiologically harmless and resistance to oxidation and ageing.

3.8 Optional accessories

3.8.1 Attachment version of ZKM25-13

The attachment version of the circular cutting knife ZKM25-13 is used for trimming the divided backbone during the cutting up work.

- Features
- Space-saving design with motor above the working area
 - Safety devices and hygiene standard according to CE standard
 - Completely enclosed three-phase motor (IP 65)
 - Easy installation

Technical data	Weight [kg]	approx. 33
	Dimensions (L x W x H) [mm]	510 x 400 x 750
	Circular knife blade Ø [mm]	250
	Cutting height [mm]	75
	Motor rating [kW]	0.95

3.9 Scope of delivery

- Machine with operating manual
- SRC technical information
- Distance gauge 30/32
- Whetstone
- 1 Spanner SW60
- 1 Double-ended box spanner SW8/10
- 12 Spring washers A8

4 Transport und Storage

FREUND-machines are intended for shipment via motor truck, train, aircraft, or ship. The secure shipment will be separately or in multiple packages.

Trial run at
manufacturer

The machine has been thoroughly checked before shipping and has already undergone a trial run in the factory. This check ensures that the machine corresponds to the data specified and works correctly.

Despite all the care taken the machine can be damaged in transit.

4.1 Safety information



WARNING!

Danger due to falling or toppling load.

Death or very serious injuries are possible.

- Only use approved lifting gear and accessories appropriate for the total weight of the machine.
- Never stand under a suspended load.
- Secure the danger zone against unauthorized access.
- Wear a hard hat, protective footwear and gloves.

4.2 Personal protective equipment



4.3 Transporting the machine

All FREUND-machines can be transported using a fork-lift truck or lift truck. The length of the fork must at least correspond to the depth of the machine.

- Only use lifting equipment and gear that has been approved for the weight of the machine. This includes transporting using a crane, fork-lift truck or lift truck.
For the weight of the machine refer to → chapter *Technical data* on page 19.
- Secure the machine during transport to prevent it from tilting and slipping.
- Only use ropes and lifting appliances which ensure sufficient safety and load bearing capacity.

4.4 Unpacking the machine

After unpacking, the machine is ready for use.

Recycling and
disposal

The original packaging of the machine is made of recyclable material and can be given to the system for collecting recyclables.

For details about recycling and disposal of the package refer to the → chapter *Disposal and Recycling* on page 55.

- Remove all packing materials and dispose of it properly and in an environmentally sound manner.
- Remove any accumulated condensate.
- Check the machine for transport damage.
- Watch the machine during the first hours of operation to check whether any malfunctions occur.

4.5 Storing the machine

To store the machine safely, be sure to observe the following notes:

- Only store the machine in dry and frost-free rooms.
- When storing the machine for a longer period, make sure it is dry.
- Store the machine so that damage to the machine is excluded.
- Protect the machine against corrosion.

5 Installation and Commissioning

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

Description of safety signs and symbols → chapter *Symbols and layout* elements on page 8

5.1 Safety information



DANGER!

Live machine parts.

Danger to life.

- Before starting any installation, maintenance and repair work, disconnect the machine from the power supply.
- Secure the machine against being inadvertently switched back on.



WARNING!

Risk of accident caused by insufficiently qualified personnel

Danger to Life and most severe injuries are possible.

- The machine may only be commissioned by instructed and authorized personnel.
- All works to live components may only be performed by approved electricians.



WARNING!

Machine may start unexpectedly.

Severe cutting and crushing injuries to hands and arms.

- Turn the main switch to the "0" (OFF) position.
- Secure the main switch against unauthorised access.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

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



Caution!

Uncontrolled machine movement.

Risk of injury by not blocked locking device of the machine.

- Check whether the trestle rollers of the machine are blocked by the locking device.

5.2 Personal protective equipment



5.3 Adjusting the working height

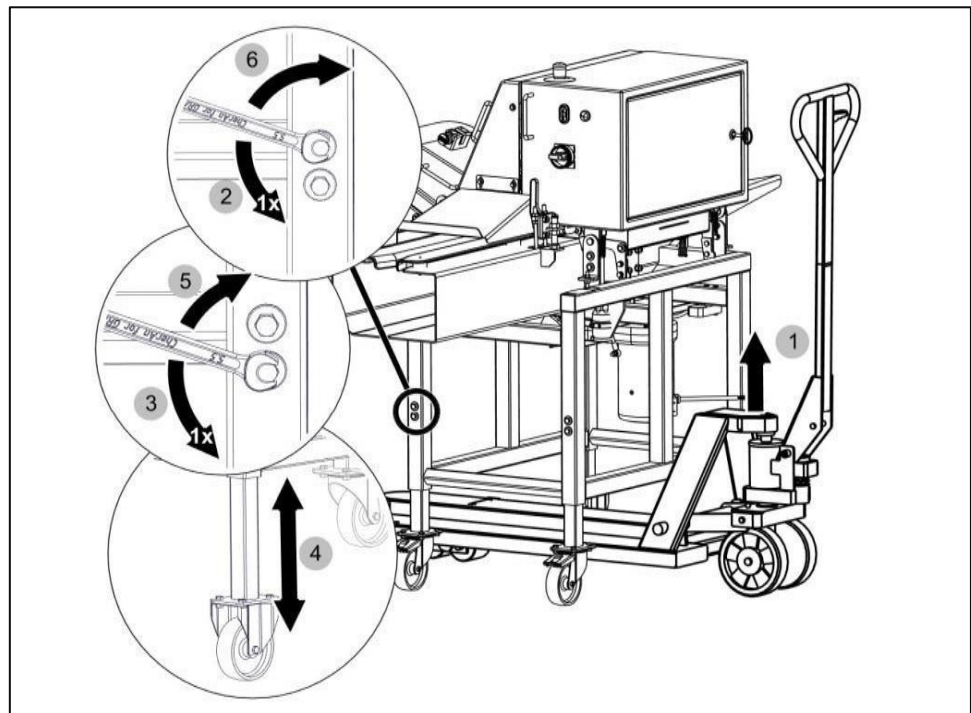


Abb. 5-1 operational steps to adjust the working height

5.4 Changing the cutting height

You can find the corresponding instructions in the appendix under the heading **TIN-011286**.

5.5 Carrying out a test run

Carry out a test run prior to initial commissioning or if the machine has not been used for a long time.

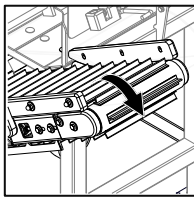
Watch the machine during the test run to check whether any malfunctions occur.

Check

- Whether the machine is stationary and whether the trestle rollers are blocked.
- That the circular knife blade is firmly seated.
- The emergency stop switch and the magnetic sensors for correct function (→ Chapter *Daily safety check* → *Emergency stop switch* → *Indicator lamp/magnetic sensors* on page 30).

During the test run, ensure that the

- rotation direction of the motors is correct.



The rotation direction of the motors can be checked using the conveying direction of the conveyor belt. All motors are rotating correctly if the conveyor belt moves in the indicated direction.

If the rotation direction of the motors is not correct, shut down the machine immediately and arrange for the machine to be checked by a qualified electrician (→ Appendix B *Wiring diagrams*).

- Pay attention to noticeable and unusual noises during operation of the machine.
The motors must not have any speed fluctuations and no noticeable noises.

6 Operating

Description of safety signs and symbols → chapter *Symbols and layout elements* on page 8

6.1 Safety information



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

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



WARNING!

Sharp-edged machine parts.

Cutting hazard.

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



WARNING!

Rotating saw blades and blades.

Risk of being caught and drawn in due to wearing loose clothing, long hair and jewellery.

- Wear only close-fitting clothes.
- Do not wear jewellery while working.
- Protect long hair with a hair net.



WARNING!

Forced infeed of the spines.

Crushing injuries to hands from the infeed slot when drawing in the spine.

- Think ahead and work carefully.
- Do not reach into the infeed slot while feeding the spine.
- Always wear protective gloves for your safety.



Caution!

Uncontrolled machine movement.

Risk of injury by not blocked locking device of the machine.

- Check whether the trestle rollers of the machine are blocked by the locking device.

6.2 Personal protective equipment



6.3 Daily safety check

Before starting work, check the machine diligently for flawless and intended functioning.

Check

- the machine for signs of visible damage and loose machine parts.
- the screw connections for tightness.
- all electrical connections and connection lines for external damage.
- the function of the safety devices.
Conveyor wheel protective cover and conveyor belt cover must be firmly attached in their holders and closed, → section Indicator lamp/magnetic sensors on page 31
- whether the circular knife blade is correctly installed, firmly secured and can be turned freely.
- the firm seating of the conveyor belt.
the conveyor belt is undamaged and correctly tensioned.
The drum motor must be able to rotate freely.
- the stability of the machine.
The trestle rollers of the machine must be blocked by the locking device.
- Never use a machine with defective safety devices, switches or other defective machine parts.
- Have defective safety devices, switches or other parts repaired, and notify your employer.
- Ensure that no persons are present in the danger zone of the machine.

Indicator
lamp/magnetic
sensors

Check the indicator lamp and magnetic sensors for correct function.

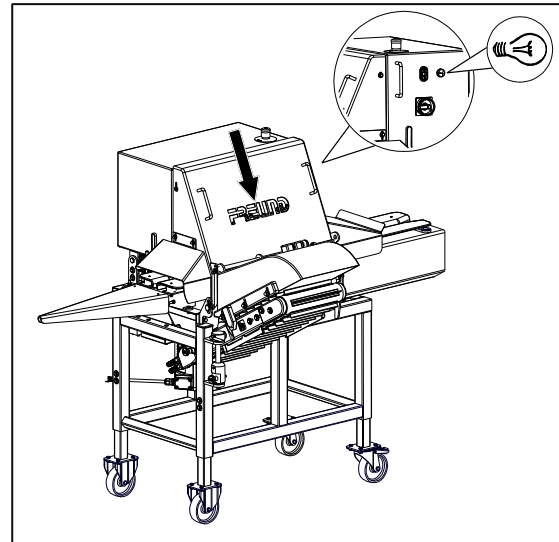
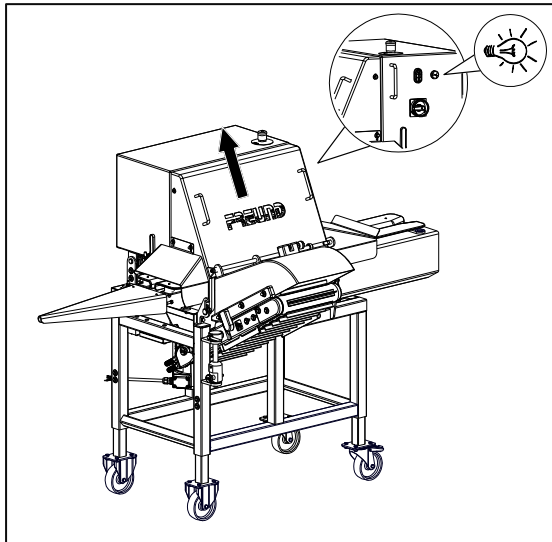


Fig. 6-1 Checking the conveyor wheel cover

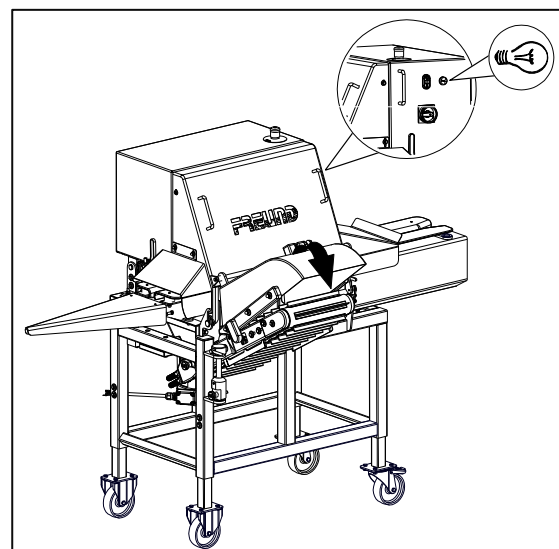
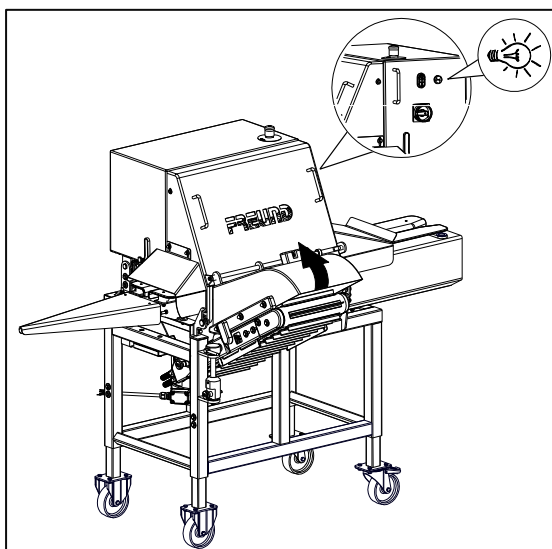
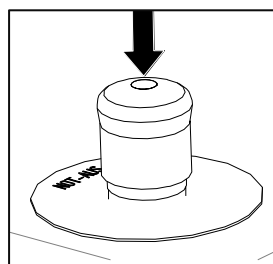


Fig. 6-2 Checking the conveyor belt cover

Emergency stop
switch

Check the emergency stop switch for correct function:



The red cap engages in the pressed position.
The machine stops immediately during
operation.

Fig. 6-3 Pressing down the
emergency stop switch

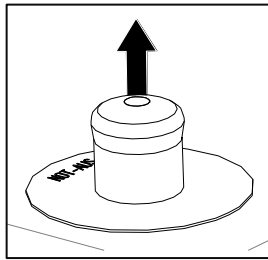


Fig. 6-4 Unlocking the emergency stop switch

The emergency stop switch is unlocked again.
The machine remains switched off, but is not de-energised.

The machine can only be restarted using the On/Off switch.



The emergency stop switch must be unlocked for operation.

6.4 Operating the machines

Attention!

Possible damage to the conveyor wheels.

High loads on the conveyor wheels result in breakage of the spokes.

- Place the spine with the shoulder side at the front in the guide bars straight.
- Do not tilt the spines.

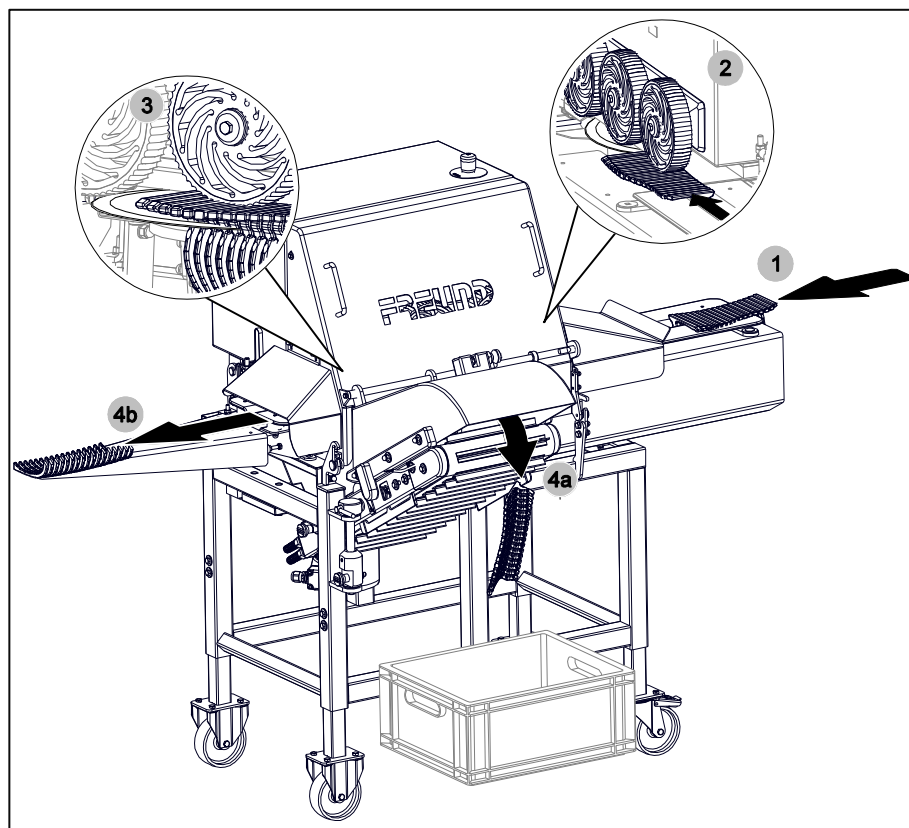
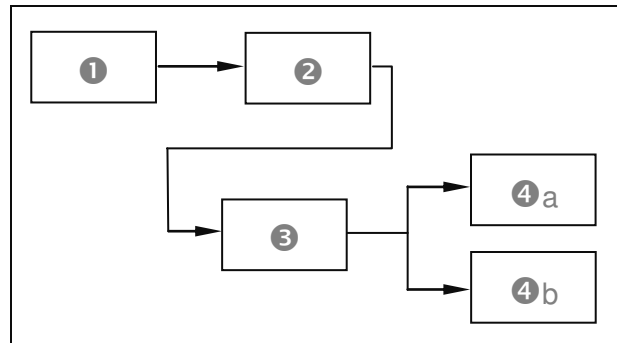


Fig. 6-5 Operating the machine



- 9 Feed
- 10 Convey
- 11 Cut
- 12 Sort
- a Product
- b Offcuts

Fig. 6-6 Schematic depiction of the workflow

7 Cleaning and Disinfection

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

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



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

Description of safety signs and symbols → chapter *Symbols and layout* elements on page 8

7.1 Safety information



DANGER!

Live machine parts.

Danger to life.

- Before starting any installation, maintenance and repair work, disconnect the machine from the power supply.
- Secure the machine against being inadvertently switched back on.



WARNING!

Risk of accident caused by insufficiently qualified personnel.

Danger to Life and most severe injuries are possible.

- The machine may only be maintained, repaired and cleaned by qualified personnel.



WARNING!

Highly irritant or corrosive detergents and disinfectants.


Breathing difficulties and other health damage is possible.

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

7.2 Personal protective equipment



7.3 Preparing the machine

1. 
2. Open the machine and remove the circular knife → You can find the corresponding installation manual in the spare parts list under the heading **MTA-011285-C**.
3. Remove the conveyor belt, → You can find the corresponding installation manual in the spare parts list under the heading **MTA-005141-C**.

7.4 Carrying out cleaning and disinfection


- Only use detergents and disinfectants approved for the food industry.
- Be sure to adhere to the specified, interdependent, parameters for detergents (concentration, dwell time, dwell temperature).
- Store detergents and disinfectants separately or in a special room. Make absolute sure those detergents and disinfectants do not come in contact with food.
- Only use cloths, brushes or other devices which are only used for cleaning and disinfection.

Notice!

Damage due to high water pressure.

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

- Do not use high-pressure cleaners.
- Only work at water pressures of less ≤ 6 bar.

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

Work steps	Detergents and disinfectants	Auxiliary materials
Drying		
Rub dry or allow to dry in ambient air; allow disassembled parts to dry individually if possible		
Care		
Apply	Preservative oil, food grade oil	Spray bottle, clean cleaning cloth
Assembly		
Personnel must wash and disinfect hands		

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

8 Maintenance and Repair Work

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

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

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

Warranty If faults or defects are detected on the machine during the legal warranty period, contact our sales staff. Please refer to the company information at the imprint for address and telephone numbers.

Only use original spare parts or spare parts recommended by FREUND Maschinenfabrik.

Service FREUND Maschinenfabrik offers you the possibility of having needs-based maintenance, including the semi-annual electrical inspection, carried out on the machine by our service technicians.

If you are interested in maintenance work at our factory or by a service technician at your site, please contact our sales department. Please refer to the company information in the imprint for the address and telephone numbers.

Description of safety signs and symbols → chapter *Symbols and layout* elements on page 8

8.1 Safety information



DANGER!

Live machine parts.

Danger to life.

- Before starting any installation, maintenance and repair work, disconnect the machine from the power supply.
- Secure the machine against being inadvertently switched back on.



WARNING!

Risk of accident caused by insufficiently qualified personnel

Danger to Life and most severe injuries are possible.

- The machine may only be maintained, repaired and cleaned by qualified personnel.
- All works to live components may only be performed by approved electricians.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

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



Caution!

Uncontrolled machine movement.

Risk of injury by not blocked locking device of the machine.

- Check whether the trestle rollers of the machine are blocked by the locking device.

8.2 Personal protective equipment



8.3 Recommended lubricants



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

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

Retail container	Part-No.
1kg box fluid gear grease	171-500-010
1 kg box lubricating grease	100-013-007
1kg box grease for gear wheels	100-013-002

8.4 Maintenance schedule

Some maintenance jobs must be carried out at regular intervals.

The following table gives you an overview of the maintenance work to be carried out and the corresponding maintenance interval. Adjust the maintenance intervals to your working conditions, if necessary.



You find further instructions to repair and assembly works in the spare parts lists.

Interval	Maintenance job	→ chapter
Daily	Visual inspection before starting any work	→ chapter <i>Daily safety check</i> on page 30
	Checking the safety devices	→ chapter <i>Daily safety check</i> on page 30
Every 6 month	Periodic inspection on electrical appliances acc. to VDE 0701/0702/EN60204-1	→ chapter <i>Periodic inspection of electrical equipment</i> on page 40
Annual	Renew gear grease and seals Check bearing, replace if necessary	→ chapter <i>Lubricating the gear unit</i> on page 42
If required	Replacing the circular knife blade	→ chapter <i>Replacing the circular knife blade</i> on page 41
	Sharpening the circular knife blade	→ chapter <i>Sharpening the circular knife blade</i> on page 41
	Replacing the conveyor wheel	→ chapter <i>Replacing the conveyor belt</i> on page 42
	Repacing the conveyor belt	→ chapter <i>Replacing the conveyor belt</i> on page 42

8.5 Periodic inspection of electrical equipment



Periodic inspections of non-stationary electrical machinery and equipment that is used in slaughtering and cutting plants must be carried out at intervals of six months in accordance with EN 60204-1.

The electrical test must be carried out by an electrically skilled person in the sense of the accident prevention regulation "Electrical installations and equipment" or by an electrically instructed person.

Service package
SDL-003-004

We at FREUND Maschinenfabrik would like to give you the option to arrange for the next periodic inspection of your machinery or equipment to be carried out at our factory. We offer the service package SDL-003-004 including a complete inspection of the electrical system with inspection report and test sticker.

If you are interested in arranging for a periodic inspection at our factory or by a service technician on-site, please contact our sales department. Please refer to the company information in the imprint for address and telephone numbers.

8.6 Replacing the circular knife blade

You can find the corresponding installation manual in the spare parts list under the heading **MTA-011285-C**.

8.7 Sharpening the circular knife blade

Caution!

Improper resharpening can result in breakouts of the cutting edges or in breakage of the circular knife blade.

- Arrange with FREUND Maschinenfabrik or a specialist company for the resharpening of the circular knife blade.

1. Steps 1 – 10, → Chapter *Replacing the circular knife blade*, on page 41



Only sharpen the smooth side of the circular knife blade without micro-toothing until no burr is noticeable.

The micro-toothing must only be sharpened by a specialist company, trained personnel or at FREUND.

- 2.

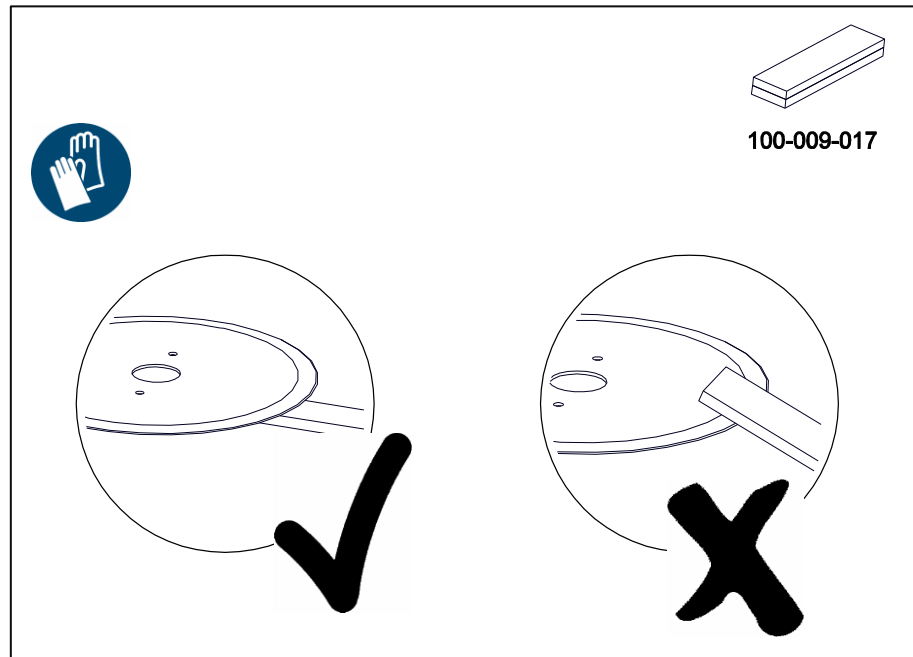


Fig. 8-1 Sharpening the circular knife blade

8.8 Lubricating the gear unit

Only use oils and greases that are approved for use in the food industry (→ chapter *Recommended lubricants* on page 39).

The total grease capacity of the gear motor is 750 g.

Main drive Change grease and seals in the main drive motor every year. Also check the bearings and replace them if necessary.

We recommend having the gear unit greased by qualified personnel on a regular basis. FREUND Maschinenfabrik will offer this service within a needs-based maintenance, → *Service* on page 38.

8.9 Replacing the conveyor belt

You can find the corresponding installation manual in the spare parts list under the heading **MTA-005141-C**.

8.10 Replacing conveyor wheels

You can find the corresponding installation manual in the spare parts list under the heading **MTA-011842-C**.

9 Troubleshooting

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

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

9.1 Safety information



DANGER!

Live machine parts.

Danger to life.

- Before starting any installation, maintenance and repair work, disconnect the machine from the power supply.
- Secure the machine against being inadvertently switched back on.



WARNING!

Risk of accident caused by insufficiently qualified personnel

Danger to Life and most severe injuries are possible.

- The machine may only be maintained, repaired and cleaned by qualified personnel.
- All works to live components may only be performed by approved electricians.



WARNING!

Sharp-edged machine parts.

Cutting hazard.

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



Caution!

Uncontrolled machine movement.

Risk of injury by not blocked locking device of the machine.

- Check whether the trestle rollers of the machine are blocked by the locking device.

9.2 Personal protective equipment



9.3 Overview of possible faults

9.3.1 Gear motors

Fault	Possible cause	Remedy
Motor does not start or stops during operation.	Power supply is interrupted or defective.	Check all electrical connections.
		Check whether the connection cables are defective.
		Check whether all electrical connections are tight.
	Electrical connection is not correct.	Check the electrical connection according to the circuit diagram, <i>Wiring diagram at the spare parts list</i> .
	The motor circuit breaker has tripped.	Check the motor circuit breaker for correct setting. Observe the power specification on the rating plate.
	Contactor does not switch.	Check the actuation of the contactor.
	Motor is overheated.	See also fault → <i>Motor heats up too much</i> .
	Internal or external thermal switch has tripped / failed.	Check whether there is any overload or overheating.
		After the motor has cooled down, check the continuity of the internal thermal protection. See also fault → <i>Motor heats up too much</i> .
	Motor is overloaded.	Rectify the cause of the overload.
Direction of rotation of motor is incorrect .	Machine is connected incorrectly.	Change the phases of the supply line to the machine.

Fault	Possible cause	Remedy
Motor hums and has high current consumption.	Rotor is scraping.	Arrange for the fault to be rectified in a specialist workshop or contact FREUND Maschinenfabrik.
Fuses trip or contactor trips immediately.	Short circuit in the supply line to the motor.	Rectify the short circuit.
	Supply line is connected incorrectly.	Check the wiring according to the wiring diagram, → <i>Wiring diagram at the spare parts list.</i>
	Motor has a short circuit.	Arrange for the fault to be rectified in a specialist workshop or contact FREUND Maschinenfabrik.
	Motor has an earth fault.	
Noise development too high.	Ball bearing is clamped, dirty or damaged.	Realign the motor and the conveyor belt frame with each other.
		Check the roller bearing and replace it if necessary.
	Unbalance in the rotating parts.	Rectify the unbalance.
Motor heats up too much.	Supply line has a loose contact (a phase is missing).	Rectify the loose contact.
		Check all electrical connections according to the circuit diagram, → <i>Wiring diagram at the spare parts list.</i>
	Fuse has blown.	Replace the fuse.
	Difference of the mains voltage by more than 5% (area A) /10% (area B) from the motor rated voltage.	Adjust the motor to the power supply. Contact FREUND Maschinenfabrik.

Fault	Possible cause	Remedy
Overload relay has switched off.	Overload of the motor.	Rectify the cause of the overload.
		Switch the overload relay back on.
		Check the current specification on the overload relay and increase this if necessary.
	Meat is blocking the conveyor wheels.	Open the protective cover and remove the pieces of meat. Check the conveyor wheels for damage.
Oil discharges at the shaft sealing ring.	Shaft sealing ring is worn.	Replace the seal.
		Check whether unfavourable chemicals or abrasive materials are the cause.
		Do not use a high-pressure cleaner for the cleaning.
	Shaft sealing ring is damaged.	Check that there are no steel residues, material deposits or other parts on seals.
	Cover bearing is damaged or worn.	Check whether the conveyor belt is tensioned or loaded too much.
		Check whether water or chemicals have penetrated into the cover bearing.

Fault	Possible cause	Remedy
Oil discharges at the shaft sealing ring.	Excess grease in the labyrinth seal.	Check whether oil or grease can escape. Oil remains liquid and grease becomes solid when it gets cold.
		Remove excess grease. If the problem persists, contact FREUND Maschinenfabrik.

9.3.2 Conveyor belt and drum motor

Fault	Possible cause	Remedy
Motor does not start or stops during operation.	Motor winding has a phase error.	Replace the drum motor or contact FREUND Maschinenfabrik.
	Motor winding has a short circuit (insulation fault).	
	Drum and/or conveyor belt are blocked.	Ensure that conveyor belt and drum motor are not obstructed and that all rollers and drums can turn freely. If the drum motor cannot turn freely, the gear unit or the bearing may be blocked. In this case, contact FREUND Maschinenfabrik.
	Gear unit and/or bearings are blocked.	Check whether the drum motor can be turned freely by hand. If not, replace the drum motor or contact FREUND Maschinenfabrik.
Motor runs, but drum does not turn.	Transmission loss.	Contact FREUND Maschinenfabrik.
Motor heats up in normal operation.	Drum motor is overloaded.	Check the rated current for overload.
	Conveyor belt tension is too high.	Reduce the conveyor belt tension if necessary.

Fault	Possible cause	Remedy
Loud noises of the drum motor in normal operation.	Motor mounting is too loose.	Check the motor mounting.
		Check the shaft tolerances.
		Check the fastening bolts.
	Conveyor belt tension is too high.	Reduce the conveyor belt tension if necessary.
	An external conductor has failed.	Check all electrical connections.
		Check the power supply.
Drum motor vibrates strongly.	Motor mounting is too loose.	Check the motor mounting.
		Check the shaft tolerances.
		Check the fastening bolts.
Drum motor runs with interruptions or slower than specified.	Drum motor and/or conveyor belt is temporarily or partially blocked.	Check that conveyor belt and drum motor are not obstructed and that all rollers and drums can turn freely.
	Power supply is interrupted or defective.	Check whether all electrical connections are tight.
		Check whether the connection cables are defective.
	Gear unit is damaged.	Check whether the drum motor can be turned freely by hand. If not, replace the drum motor or contact FREUND Maschinenfabrik.
	Conveyor belt slips.	See also fault → <i>Conveyor belt slips on drum motor.</i>

Fault	Possible cause	Remedy
Motor winding: A phase has failed.	Winding insulation has failed or is overloaded.	Check the continuity, the current and the resistance of each phase winding.
		Replace the drum motor or contact FREUND Maschinenfabrik.
Motor winding: Two phases have failed.	Power failure on one phase which results in overload on the other two phases. Disconnection failure.	Check the power supply to all phases.
		Check the continuity, the current and the resistance of each phase winding.
		Replace the drum motor or contact FREUND Maschinenfabrik.
Motor winding: All three phases have failed.	Motor is overloaded.	Rectify the cause of the overload.
	Electrical connection is not correct.	Check whether the correct supply voltage is applied.
		Check the continuity, the current and the resistance of each phase winding.
		Check the electrical connection according to the circuit diagram, → <i>Wiring diagram at the spare parts list.</i>
		Replace the drum motor or contact FREUND Maschinenfabrik.

Fault	Possible cause	Remedy
Conveyor belt slips on the drum motor.	Conveyor belt is blocked.	Check that conveyor belt and drum are not obstructed and that all rollers and drums can turn freely.
	Insufficient friction between drum motor and conveyor belt.	Check condition and tension of the conveyor belt and of the drum.
	Insufficient friction between drum motor and conveyor belt.	Check whether there is oil or grease between the conveyor belt and drum motor.
	Friction too high between conveyor belt and conveyor belt mounting.	Check the underside of the conveyor belt and sliding plate for soiling.
		Check whether water has penetrated between conveyor belt and sliding plate and a suction effect / traction effect has been produced.
	Conveyor belt tension is too low.	Tension the conveyor belt if necessary.
Conveyor belt is not adjusted correctly. Conveyor belt does not run centrally.	Lubricant between conveyor belt and drum of the drum motor.	Remove excess lubricant.
	Possible material deposits on the drum motor, rollers and/or on the conveyor belt.	Check that conveyor belt and drum are not obstructed and that all rollers and drums can turn freely.
		Check the conveyor belt connection.

Fault	Possible cause	Remedy
<p>Conveyor belt is not adjusted correctly.</p> <p>Conveyor belt does not run centrally.</p>	Conveyor belt is defective or too slack.	<p>Check the tension and the conveyor belt condition.</p> <p>Tension the conveyor belt if necessary.</p>
		Check the conveyor belt connection and adjustment.
	Conveyor belt tension is uneven.	Check the conveyor belt adjustment.
		Ensure that the conveyor belt tension is the same on both sides.
	Top/bottom rollers are not adjusted correctly.	Check the adjustment of the supporting and reversing rollers.
	Start roller and/or end roller are not adjusted correctly.	Check the adjustment of drum motor and rollers.
Oil discharges at the cable terminal box.	Cable connection bushing is loose.	Ensure that the cable connection bushing and/or the cable seals do not leak and are not stressed by overheating or chemicals.
	Internal cable seal is defective.	
Oil discharges at the drum end housing.	End housing in the drum is loose.	Check whether there are gaps between the drum and the end housings.
		Check whether the conveyor belt is tensioned too much or subjected to impact loads.
Silver metallic colouring of the oil.	Gear unit wear.	Check whether there is any overload present.
White colouring of the oil.		<p>Check the condition of the seals for contamination by water or other liquid.</p> <p>Change the oil.</p>

Fault	Possible cause	Remedy
Black colouring of the oil.	Operating temperature is too high or overload of the machine.	Check whether the ambient temperature is too high or whether an overload current is present. Change the oil.
Cable terminal box is defective or damaged.	Incorrect operation by the user.	Only let the machine be operated by skilled personnel.
	Damage during the transport or the installation.	Check the type of damage and possible cause. Replace the terminal box.
Failure of the cover bearings.	Conveyor belt tension is too high.	Reduce the conveyor belt tension if necessary.
	Lubrication is not sufficient.	Check the oil level and the installation of the drum motor.
	Shaft is incorrectly adjusted or too highly loaded.	Check whether the bolts are tightened too much.
		Check whether conveyor belt frame or motor mounting are incorrectly adjusted.
		Check the shaft sealing rings for external soiling.
	Shaft sealing ring is damaged or worn.	Contact FREUND Maschinenfabrik.
	Bearing is too loose or too tight on the shaft.	

Fault	Possible cause	Remedy
Rotor bearings are worn or have failed.	Lubrication is not sufficient.	Check the oil grade and the oil level.
Intermediate gears and bearings have failed.	Lubrication is not sufficient.	
	Gears and/or bearings are worn.	Check the service life and tolerances of the journals and drives/shafts.

9.3.3 Meat transport

Fault	Possible cause	Remedy
Meat is not further transported.	Conveyor wheel spokes are broken.	Replace the conveyor wheels.
	Spacing of the guide bars is too narrow.	Adjust the spacing of the guide bars differently as described in → chapter <i>Changing the cutting height</i> on page 27.
Meat stops before conveyor wheel.	Spine crust is too thick.	Separate the thick crust from the spine previously.
		Feed the spine the other way round (thicker end at the back).
Meat and/or bone residues block the further transport.	Meat is not cut through correctly.	Remove the interfering pieces of meat.
		Check whether the circular knife blade is sharp enough.
		Check the spacing of the guide bars and adjust them differently as described in → chapter <i>Changing the cutting height</i> on page 27.

Fault	Possible cause	Remedy
Meat is not cut through correctly.	Circular knife blade is blunt.	Check whether the circular knife blade is sharp enough. Sharpen the circular knife blade as described in → chapter <i>Sharpening the circular knife blade</i> on page 41.
	Circular knife blade no longer immerses sufficiently into the slots.	Circular knife blade diameter is too small after the sharpening.
		Replace the circular knife blade.
	Circular knife blade is not attached optimally.	Check the circular knife blade is seated correctly.
		Remove any contamination.
		Replace the circular knife blade.

10 Disposal and Recycling

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

More Information

For more information about our materials and their disposal please contact our sales staff.

Please refer to the company information in the imprint for the address and telephone numbers.

10.1 Disassembling and disposing of the machine



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

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

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

10.2 Disposing of packaging material



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

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

11 Appendix

11.1 EC-Declaration of conformity

EG-Konformitätserklärung • EC-Declaration of Conformity • Declaración CE de conformidad • Déclaration CE conformité



im Sinne der EG-Richtlinie Niederspannung 2014/35/EU und der EG-Richtlinie EMV 2014/30/EU
content according to Low Voltage Directive 2014/35/EC and EMC Directive 2014/30/EC
 contenido según Directiva de Baja Tensión 2014/35/CE y Directiva de EMC 2014/30/CE
contenu conforme à la Directive Basse Tension 2014/35/CE et la Directive CEM 2014/30/CE

Hersteller • Manufacturer •
 Constructor • Constructeur

FREUND Maschinenfabrik GmbH & Co. KG
Schulze-Delitzsch-Str. 38
D-33100 Paderborn
Germany

Hiermit erklären wir, dass das elektrische Betriebsmittel • *We hereby declare that the electrical equipment* •
 Por la presente declaramos que el equipo eléctrico • *Nous déclarons par les présentes que le matériel électrique*

Typ • Model • Modelo • Type

Serien-Nummer • Serial-Number •
 Número de série • N° de série

mit allen einschlägigen Bestimmungen der EG-Richtlinien 2014/35/EU und 2014/30/EU übereinstimmt.
fulfils all relevant provisions of EC Directive 2014/35/EC and 2014/30/EC.
 concuerdo con todas las disposiciones de la Directiva 2014/35/CE y 2014/30/CE.
satisfait à la ensemble des dispositions pertinentes de la Directive 2014/35/CE et 2014/30/CE.

Folgende harmonisierte Normen (oder Teile dieser Normen) wurden angewendet:
The following harmonised standards (or parts thereof) were applied:

Se aplicaron las siguientes normas armonizadas (o partes de estas normas):
Les norms harmonisées suivantes (ou parties de ces normes) ont été utilisées:

DIN EN ISO 12100, EN 60204-1, DIN EN 60335-2-87, EN 55011,
EN 55022, EN 1672-2, EN 55081-1/-2, EN 50082-1

Das Gerät stimmt auch mit allen einschlägigen Bestimmungen der folgenden EG Richtlinien überein:

The equipmet is also in compliance with all relevant provisions of the following EC-directives:

El equipo eléctrico también corresponde a las siguientes directivas de la CE:

Cette matériel satisfait également à toutes les dispositions pertinentes des directives CE suivantes:

Tierschutz-Schlachtverordnung (TierSchlV)
EG VO 1099/2009

Wird dieses Produkt in eine Anlage integriert oder mit anderen Komponenten (z.B. Steuerungen) ergänzt und betrieben, so ist der Hersteller oder Betreiber der Gesamtanlage für die Einhaltung der EG-Richtlinie 2014/30/EU und/oder der EG Richtlinie 2006/42/EG verantwortlich.

If the product is integrated in a system or combined with other components (e.g. controllers), the system manufacturer is responsible for compliance with EC Directive 2014/30/EC and/or 2006/42/EC for the complete system.

Si este producto se integra en otros sistemas o combinado con otros componentes (p.e maniobras), es responsable el fabricante o usuario del conjunto de cumplir con la 2014/30/CE y/o la Normativa 2006/42/CE.

Si le produit est intégré à un système ou combiné avec d'autres composants (par exemple, les contrôleurs), le fabricant du système est responsable de la conformité, suivant la directive européenne 2014/30/CE et/ou la directive 2006/42/CE pour le système complet.

Name und Unterschrift
 Name and Signature
 Nombre y firma
 Nom et signature



Robert Freund

Paderborn,

Geschäftsführer • Managing Director • Director gerente • Directeur

www.freund-germany.com

Conformity

The company FREUND Maschinenfabrik GmbH & Co. KG hereby confirms, for articles and their materials that, when used as intended, come into contact with food comply with the following general requirements.


- Regulation (EC) No. 1935/2004 of 27 October 2004 for articles and materials that are intended to come into contact with food.
- Regulation (EC) No. 10/2011 of 14.01.2011 for plastic articles and materials that are intended to come into contact with food.
- Regulation (EC) No. 2023/2006 of 22 December 2006 for good manufacturing practices for articles and materials that are intended to come into contact with food.
- LFGB - Food, Articles of Daily Use and Feeding Stuff Law, as of 01.09.2005.

This applies to all the following machine types and their spare parts:

SRC34_evo2

Machine parts that come into contact with food	Material designation	Groups of materials and articles	Notes
Circular knife blade	1.4034	Stainless steel	
Conveyor wheel	X5CrNi18-10	Stainless steel	
Guide bars	X5CrNi18-10	Stainless steel	
Conveyor belt	PVC-Band FDA IK2075	Plastics	
Fastening elements	1.4034	Stainless steel	
Cover	Vulkollan	Plastics	
Supporting profiles	X5CrNi18-10	Stainless steel	

Paderborn, 30.07.2018


Head of Development



TIN-011286

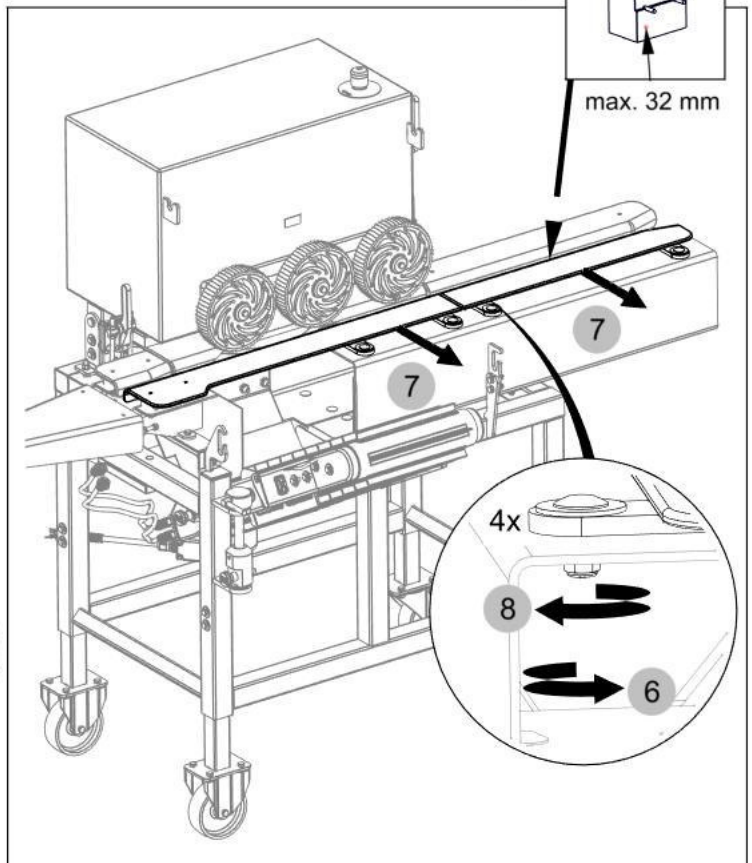
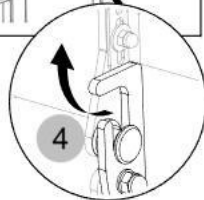
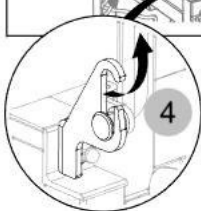
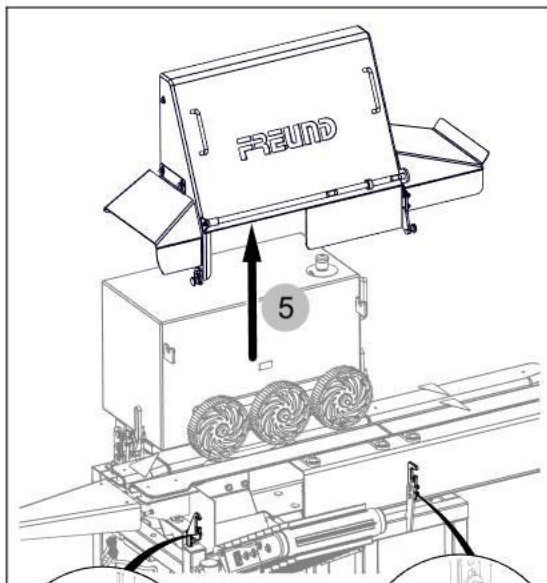
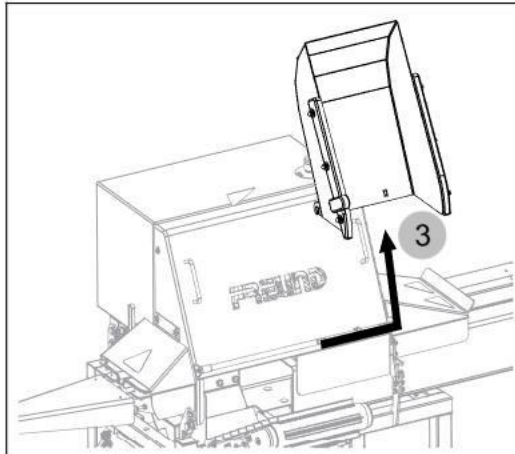
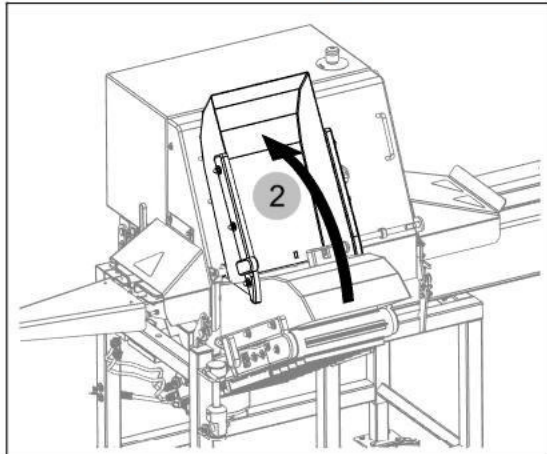


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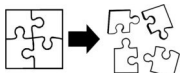
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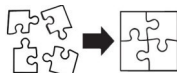


TIN-011286-C -001

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



Demontage
Disassembly



Montage
Assembly



Betriebsanleitung beachten
Pay attention to operating manual



Montageanleitung
Assembly instructions



Werkzeugsatz
Toolkit

www.freund-germany.com