

Operating Instructions

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Version: 09



TREIF - PUMA-CE /E
TREIF - PUMA-CE /EB
TREIF - PUMA-CE /E HS
TREIF - PUMA-CE /EB HS

- english -



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Händler:



1. Information on the operating instructions

By all means read this page !

These operating instructions have been written for the buyer/operator, the operating staff, and the maintenance staff of the machine TREIF PUMA-CE 'electronic'. These instructions should be kept in the vicinity of the machine at all times.

Only a good understanding of these operating instructions can prevent failures of the machine TREIF PUMA-CE 'electronic', and can guarantee troublefree operation. The producer shall not assume any liability for damage and operational failures which occur due to non-adherence to these operating instructions.

This machine may only be handled by staff who have read and understood these operating instructions.



On-the-job safety symbol

You will find this symbol at all instructions related to work safety in these operating instructions, for which there is a danger to health and life for the operator. Hand all instructions related to work safety to other users of the machine as well.

Apart from the instructions in these operating instructions, the universally valid and regional safety and accident prevention regulations have to be adhered to.

For the buyer/operator to read:

Ask your operating and maintenance staff to confirm that they have read and understood these operating instructions. For this purpose use the record in chapter 20. If you need some more copies of these operating instructions, get in touch with your dealer or directly with TREIF Company.

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Subject to modifications for the purpose of technical progress. The illustrations and drawings of the machine in these operating instructions might differ from the machine supplied.



These operating instructions contain all necessary information on the following subjects:



- Machine variants, dimensions, technical data
What can be cut on the machine TREIF PUMA-CE 'electronic' ?



- Safety instructions
Read by all means !
Necessary safety instructions for troublefree and safe operation.



- These instructions describe how the machine is transported and how it is made operational.
How is the trial run carried out ?
Adjustment for cutting operation (knife assembly)



- Instructions for the operation of the machine
Explanation of the operating panel
Method of operation of the control



- Explanation of the operating elements
Cutting instructions
How does the machine TREIF PUMA-CE 'electronic' work ?
Types of knife available



- How is the machine TREIF PUMA-CE 'electronic' cleaned thoroughly and safely ?



- Necessary maintenance work to guarantee perfect function and permanent readiness for operation of the machine.



- Help and remedies in case of failure
Service Menu
Adjustment of the display language.



- Advice on stockkeeping of spare parts
Maintenance and instruction records
Cutting programs: Your notes !



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TREIF

Maschinenbau GmbH, Lebensmitteltechnik · Südstraße 4 · D-57641 Oberlahr

EC Conformity Declaration

as defined by the EC machine guideline 98/37/EC

We hereby declare that the design of

TREIF – machine series: **Fox, Puma, Lion, Jaguar**
From delivery date: **01.05.2000**

in the delivery condition complies with the following pertinent regulations:

EC machine guideline 98/37/EC
EC low voltage guideline 73/23/EEC
EC electromagnetic compatibility guideline 89/336/EEC

Harmonised standards used, in particular:

- EN55014 Part 1 and Part 2** Electromagnetic compatibility – requirements for household appliances, electric tools, and similar apparatus appliances
- EN 292-1:1991** Machine of machinery, Basic concepts, general principles for design, Part 1: Basic terminology, methodology
- EN 292-2:1991 + A1 March 1995** Safety of machinery, Basic concepts, general principles for design, Part 2: Technical principles
- EN 60204-1:1998** Safety of machinery, Electrical equipment of machines, Part 1: General requirements
- EN 1672-2:1997** Food processing machinery, Safety and hygiene requirements, Basic concepts
- prEN 13870** Part 2: Hygiene requirements Food processing machinery, chop cutting machines, safety and hygiene requirements
Draft: March 2000


National technical specifications used, in particular:

UVV - VBG 19 from 1st April 1990 in the version from 1st January 1993

Area of use according to regulations:

The slice and portion cutter is intended exclusively for the industrial cutting of comestibles such as meat, sausage and cheese, for example. Any other use of the machine is forbidden.

This declaration will become invalid if any alteration is made to the machine which is not approved by us.


(Date, Uwe Reifenhäuser – Managing Director)

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3. Dimensions and technical data

3.1. Machine specification

Different versions of the TREIF PUMA-CE 'electronic' are available. These variants differ in

the length of the infeed chamber

PUMA-CE 700 -E	infeed length 700 mm
PUMA-CE 1100 -E	infeed length 1.100 mm

Outlet side with or without conveyor

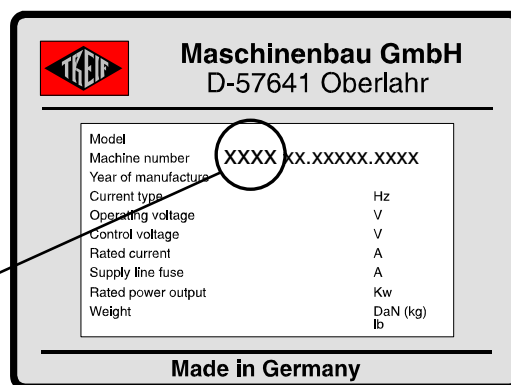
PUMA-CE -E	without conveyor
PUMA-CE -EB	with conveyor

High-Speed - Model

PUMA-CE	Standard
PUMA-CE HS	High-Speed



The identification plate of the machine will identify the variant of PUMA-CE 'electronic'.



Variante	Model	Infeed length	Conveyor
-194 0	PUMA-CE 700 /E	700 mm	no
-194 3	PUMA-CE 700 /EB	700 mm	yes
-195 0	PUMA-CE 1100 /E	1.100 mm	no
-195 3	PUMA-CE 1100 /EB	1.100 mm	yes
-394 0	PUMA-CE 700 /E HS	700 mm	no
-394 3	PUMA-CE 700 /EB HS	700 mm	yes
-395 0	PUMA-CE 1100 /E HS	1.100 mm	no
-395 3	PUMA-CE 1100 /EB HS	1.100 mm	yes

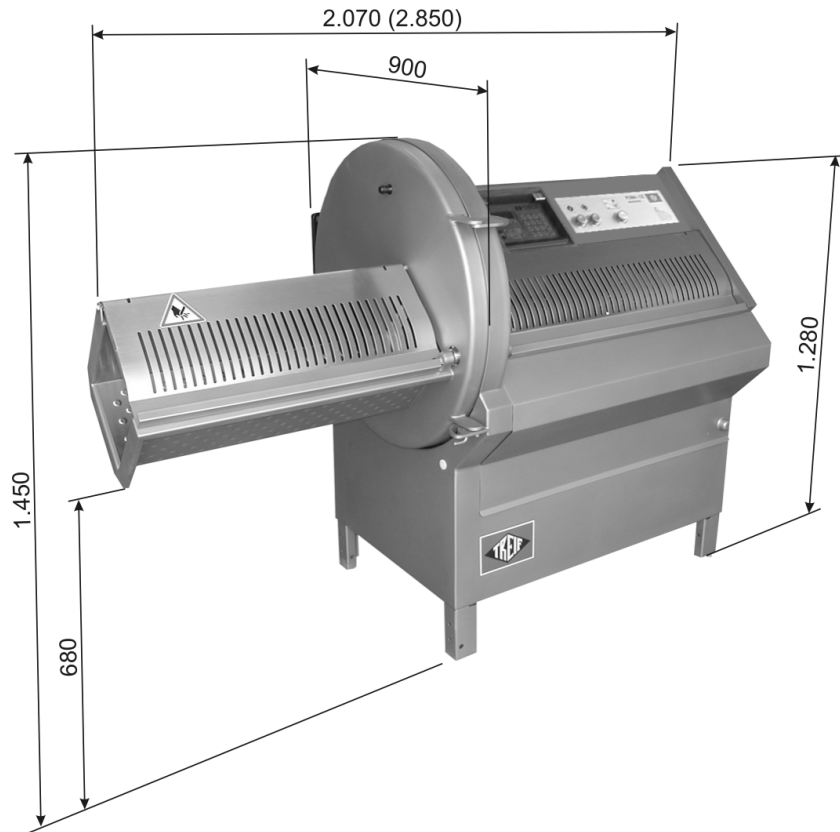


3.2. Dimensions

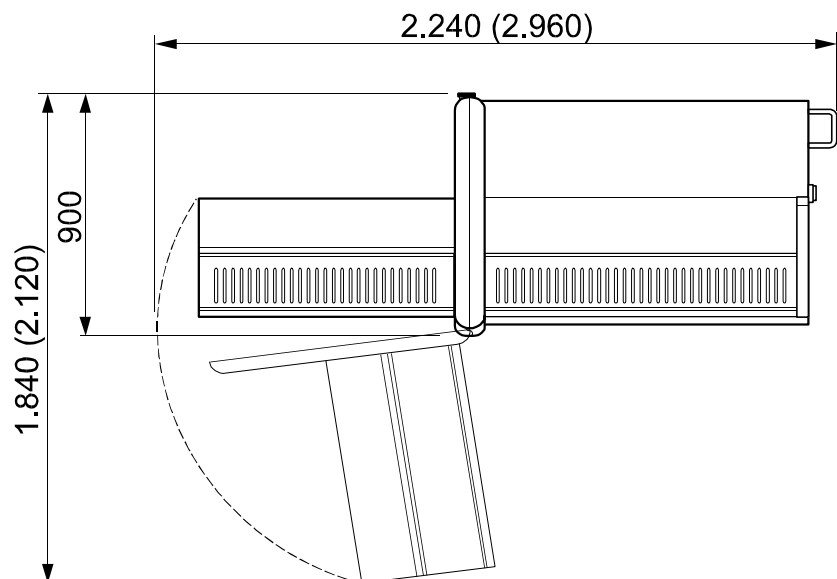
All specifications in mm

3.2.1 TREIF PUMA-CE 'electronic' without conveyor

Dimensions in brackets () for PUMA-CE 1100

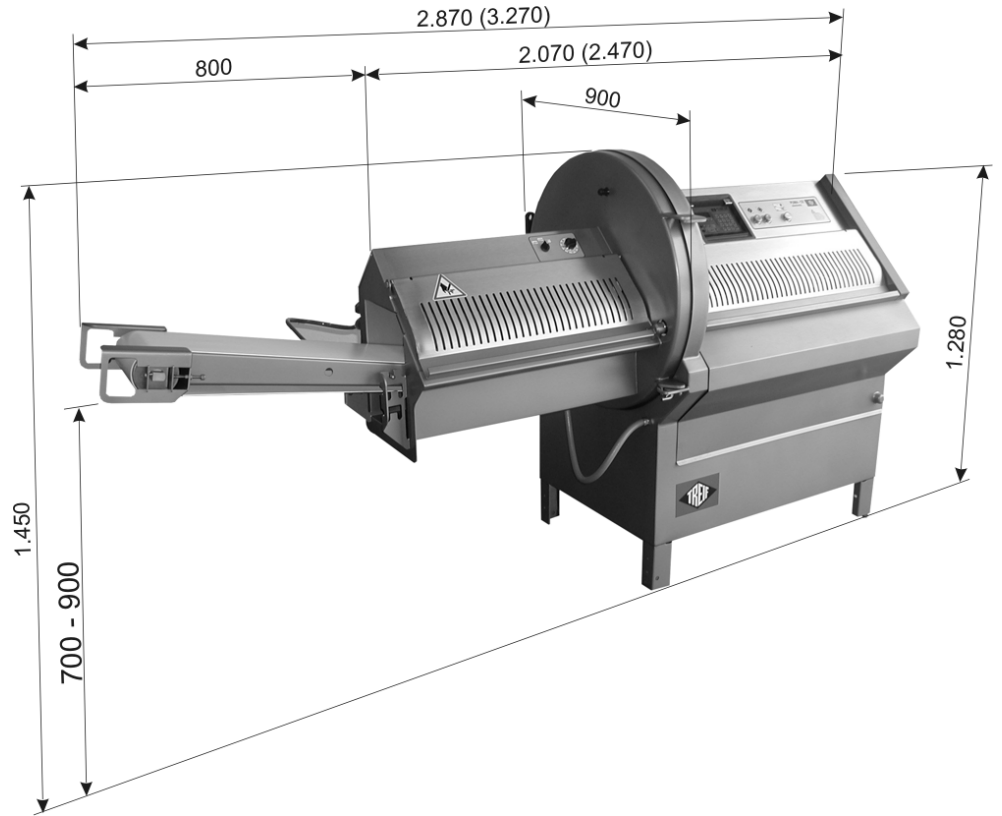


Space requirement

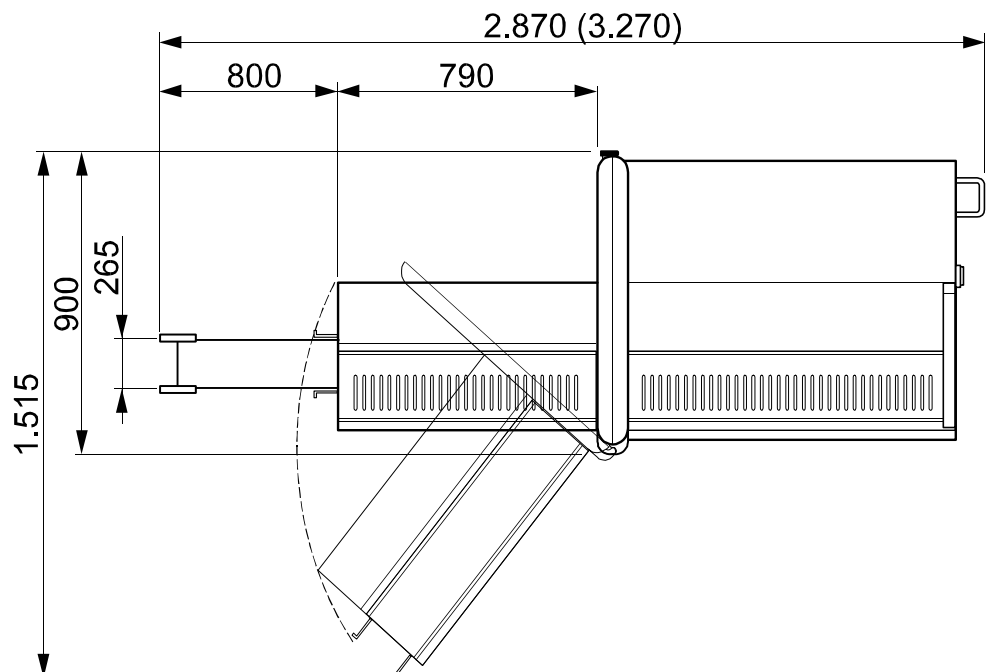




3.2.2 TREIF PUMA-CE 'electronic' with conveyor
Dimensions in brackets () for PUMA-CE 1100



Space requirement





3.3. Technical data

PUMA-CE <i>electronic</i>	700 E	700 EB	1100 E	1100 EB	700 E -HS	700 EB -HS	1100 E -HS	1100 EB -HS
Type (refer to chapter 3.1.)	-194 0	-194 3	-195 0	-195 3	-394 0	-394 3	-395 0	-395 3
length x width x height	refer to chapter 3.2.							
weight	285 kg	305 kg	305 kg	325 kg	285 kg	305 kg	305 kg	325 kg
maximum feed length	700 mm		1100 mm		700 mm		1100 mm	
maximum cross section of product to be cut	220 x 240 mm							
cut-off length - with single knife - with double knife - with single knife 'RS' - with single knife 'LS'	0,5 - 35 mm continuously adjustable 0,5 - 25 mm continuously adjustable 0,5 - 250 mm* continuously adjustable 0,5 - 15 mm continuously adjustable				0,5 - 25 mm continuously adjustable 0,5 - 15 mm continuously adjustable 0,5 - 250 mm* continuously adjustable 0,5 - 15 mm continuously adjustable			
cuts per minute - with single knife - with double knife	200 400				280 560			
conveyor speed	---	1,5 - 30 m / min.	---	1,5 - 30 m / min.	---	1,5 - 30 m / min.	---	1,5 - 30 m / min.
operating voltage	refer to type plate							
connected load	3,4 kW	3,5 kW	3,4 kW	3,5 kW	3,4 kW	3,5 kW	3,4 kW	3,5 kW
equivalent continuous noise level	< 75 dB (Ain idle operation)							
min. temperature of product	-4° Cel. other temperatures to order							
permissible ambient temperature	0 to 40° Cel. other temperatures to order							


* In case of cut-off lengths exceeding 35 mm bzw. 25mm, the knife is rotated inter-
mittently. The machine should not be operated in this operating mode permanently. The thermal motor switch could switch the machine off for a short time.

3.4. Range of operation and intended application

Use TREIF PUMA-CE 'electronic' only to cut foodstuffs, such as meat, sausage, cheese or fish. The temperature of the product must not drop below -4° Celsius.

Use of the machine exceeding the above range is considered to be unintended.

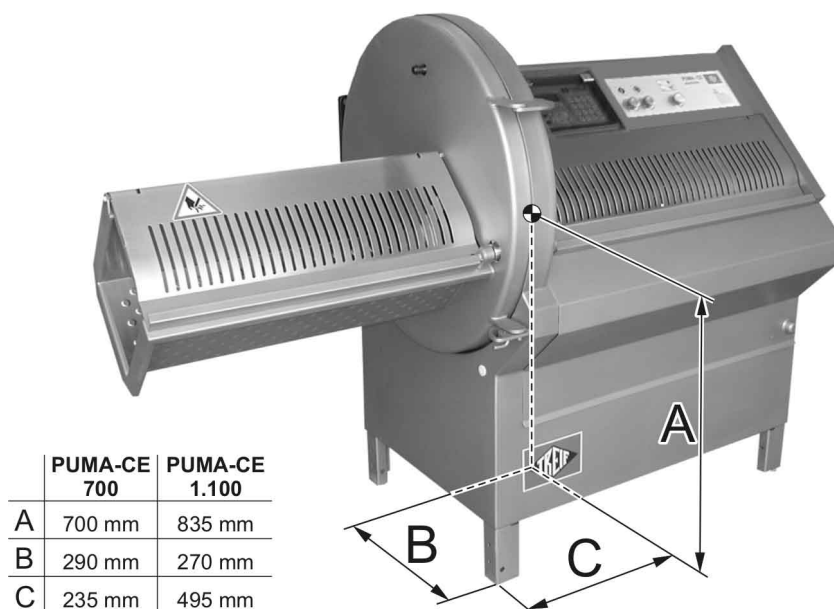
Thus, wood must not be cut on this machine, for example !
The producer shall not be held liable for damage occurring from unintended use; the risk shall be borne by the user exclusively.
Intended use shall also include the observation of these operating instructions and the adherence to the maintenance instructions.

 **ATTENTION: Serious damages to the knife and machine may occur when cutting materials that are too hard or strongly frozen, or as a result of foreign matter in the cutting channel! This may also result in dangers to persons!**

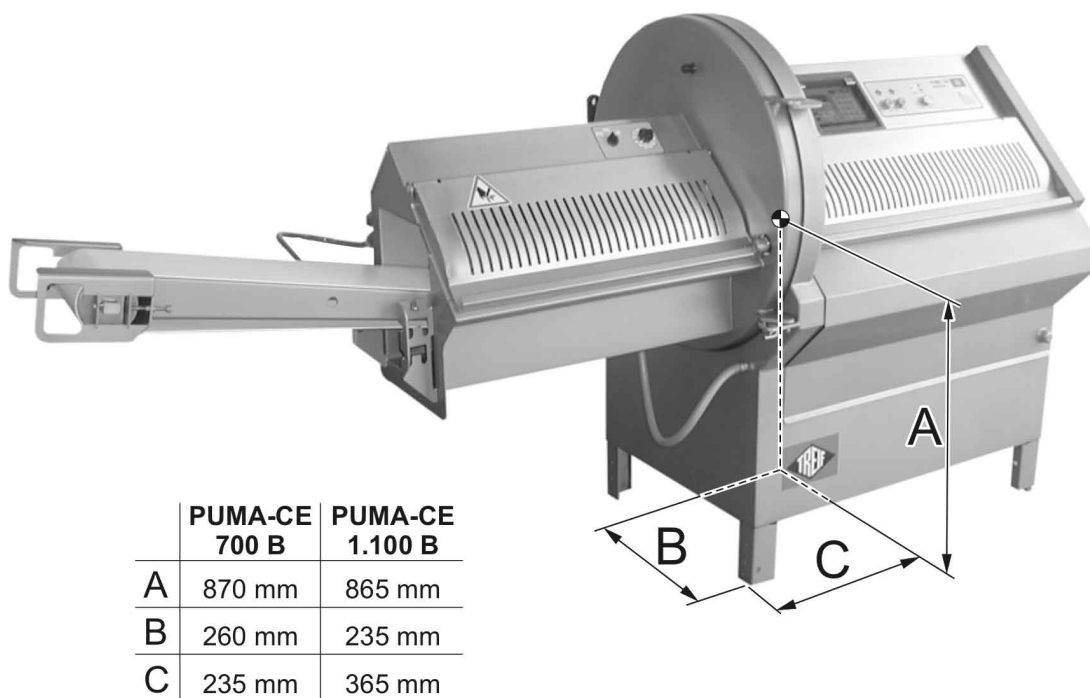


3.5. Centre of gravity of the machine

TREIF PUMA-CE elektronik **without** conveyor

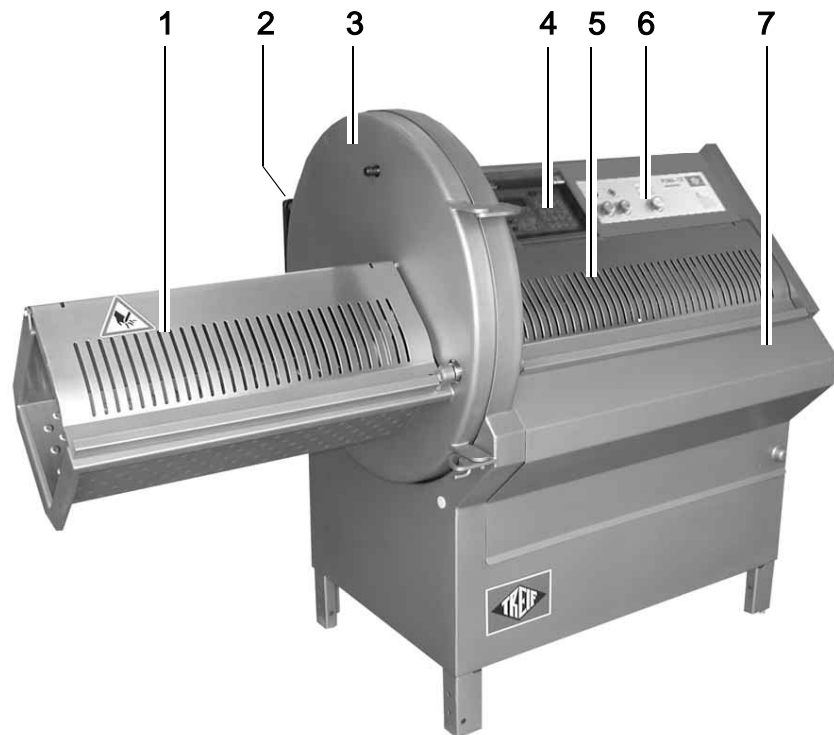


TREIF PUMA-CE elektronik **with** conveyor

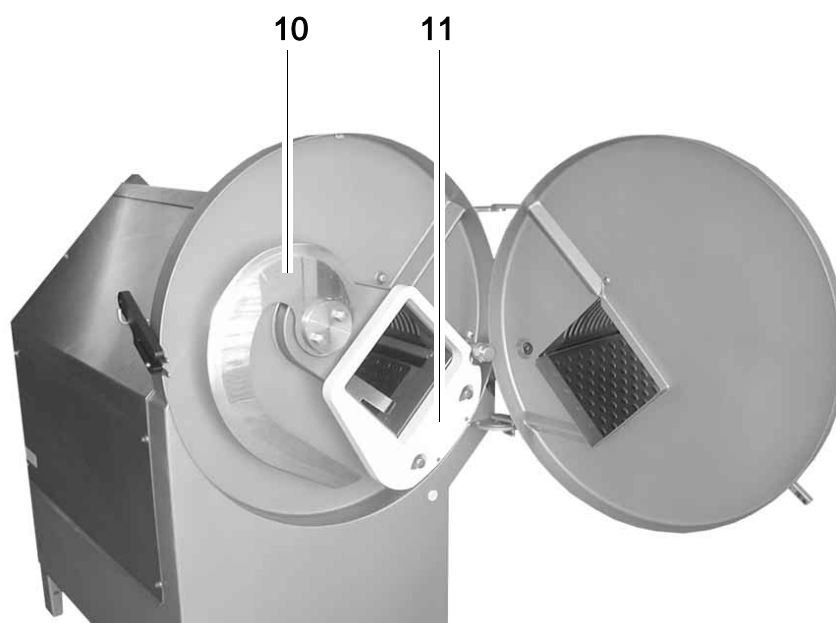




4. General arrangement of the machine

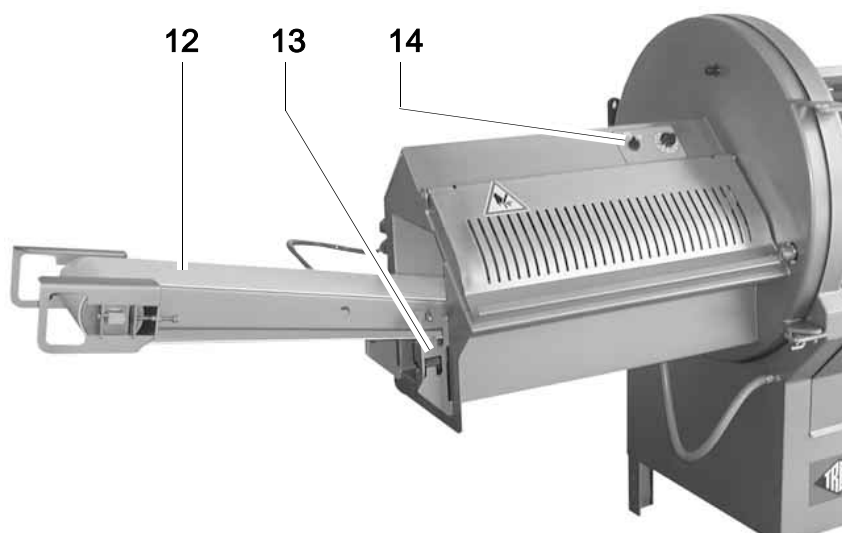


1. Cover of the removal chamber
2. Door latch
3. Knife box door with integrated removal chamber
4. Control panel
5. Loading door
6. Additional control panel
7. Feed cover
8. Main switch (Emergency-shut down)
9. Pneumatik-Wartungseinheit



- 10. Knife
- 11. Counterblades

only for machines with conveyor



- 12. Conveyor
- 13. Conveyor support, adjustable in height
- 14. Control panel for conveyor



5. Safety

Read this chapter by all means before starting to operate the machine !

5.1. On-the-job safety instructions

5.1.1 Intended use

- The use of the machine TREIF PUMA-CE 'electronic' might be dangerous. For this reason the plant may only be operated by trained staff applying it according to the intended use.
Intended use shall also include the observation of these operating instructions and the adherence to the maintenance instructions.
- The machine TREIF PUMA-CE 'electronic' has been designed to exclusively cut foodstuffs, such as meat, sausage, cheese or fish. All other uses of the machine exceeding the above range, such as cutting wood, is prohibited.

5.1.2 Organisational measures

- The function of the safety equipment has to be checked every day before starting the machine.
- Observe general legal and other binding regulations for the prevention of accidents and for the protection of the environment in addition to these operating instructions.
- The buyer/operator has to issue operating instructions in which the competence during initial operation, handling, and maintenance is defined.
- The machine must not stay unattended as long as it is in operation.
- The operator also has to take care that no unauthorized persons work on the machine.
- At least once a year, all safety-related equipment of the machine has to be checked for perfect function by trained specialist staff.
- Occasionally, at least, the buyer/operator has to check the safety and accident-conscious performance of his staff in compliance with these operating instructions.
- In the event of sale or lease of the machine
 - hand over the operating instructions.
 - point out the safety instructions.
 - inform TREIF Company of the sale in writing.

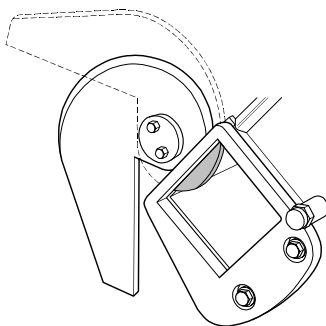


5.1.3 Qualification and duties of staff

- The machine TREIF PUMA-CE 'electronic' may only be operated, maintained, and repaired by authorized, trained, and instructed staff. These persons have to receive special instructions on the potential hazards.
- Every person who is involved in the erection, initial operation, handling, and maintenance of the machine has to read and understand the complete operating instructions, and especially the chapter on "safety instructions".
- Foreign-language staff is to be trained especially intensive. The buyer/operator has to convince himself of the fact that the foreign-language staff has really understood the operating instructions. If you should require copies of foreign-language operating instructions, please get in touch with your dealer or with TREIF Company directly !
- Untrained and tired staff is to be kept from working at the machine.

5.1.4 Safety instructions for operation

- The operator shall be obligated to report immediately any changes on the machine which could adversely affect the safety.
- Never touch the knife edge !
- In the event of failure always switch off the main switch first of all ! In addition, always disconnect the machine from the power outlet !
- The knife box cover may only be opened, if the main switch has been set to position » O « !
- The knife box door may be opened only after the conveyor (if fitted) has been dismantled.
- The machine should not be operated during a longer period of time without cutting product.
- The cover of the removal chamber must be opened only after the knife has come to a standstill.
- The loading door must be opened only after the product feed holder has moved back.
- If the knife continues running with a cover open or the knife box door open, the machine has to be switched off immediately. The machine may not be put into operation again until after the failure has been remedied by the TREIF aftersales service.
- When working in the open cutting area and when cleaning the knife, always wear cut-proof gloves, a cut-proof apron as well as non-slipping and cut-proof shoes.
- If one of the covers or the knife box door are opened during the cutting process, the knife may come to a standstill within the chamber.
Danger of injury on the stationary knife !
- If the knife edge comes to a standstill inside the chamber after cutting processes that have been terminated in the normal way (cf. drawing), switch the machine off immediately.
The machine must not be reused until the knife brake has been readjusted or replaced by the maintenance personnel.





5.1.5 Safety instructions for cleaning

- Before starting any cleaning work on the machine, the main current supply has to be interrupted and to be secured against unintentional reconnection.
- The knife box door may be opened only after the conveyor (if fitted) has been dismantled.
- Always lay down the dismantled parts in safe places !
- Never permit the knife to protrude from the edge of the table !
- During the cleaning process, bear in mind especially that standing knives may cause severe injuries as well !
- When working in the open cutting area and when cleaning the knife, always wear cut-proof gloves, a cut-proof apron as well as non-slipping and cut-proof shoes.
- During cleaning, always use the personal protective equipment stated in the DIN Safety Data Sheets for the detergents and disinfectants !
- Check the safety stickers on the machine for completeness and legibility after every cleaning process. (Abschnitt 5.2)
- If the seal on the knife shaft becomes damaged, a breeding ground for bacteria may develop inside the machine. After every cleaning process, inspect the knife shaft seal for visible damage. If it is damaged, have it replaced by the TREIF service engineer immediately

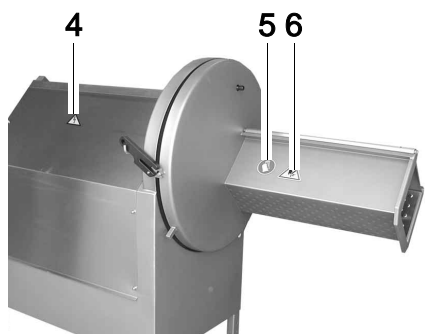
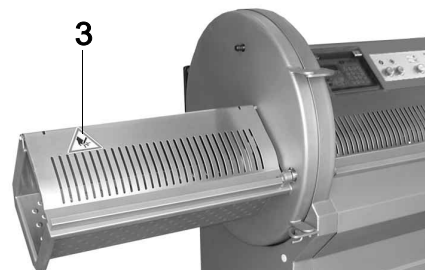
5.1.6 Notes on maintenance and repair work

- Before starting any maintenance and repair work on the machine, the main current supply has to be interrupted and to be secured against unintentional reconnection.
- Spare parts or accessories supplied by, respectively expressly approved off by TREIF may be replaced or screwed to the machine only. This applies especially for contactors "K1M", "K1S" and "K3" !
- Unauthorized rebuilding and modification of the machine which could impair the safety is prohibited.
- Always clean the knife, before you sharpen it !
- Get hold of the knife only at its non-cutting edge.
- Always put dismantled knives away in a safe place !
- Carry out a performance test of the safety switches after every maintenance and repair work (cf. chapter 8.2).
- When working in the open cutting area and when cleaning the knife, always wear cut-proof gloves, a cut-proof apron as well as non-slipping and cut-proof shoes.



5.2. Warning signs on the machine

Several warning signs have been attached to the machine. All of these signs have to be in place, and have to be legible. If required, they can be ordered.

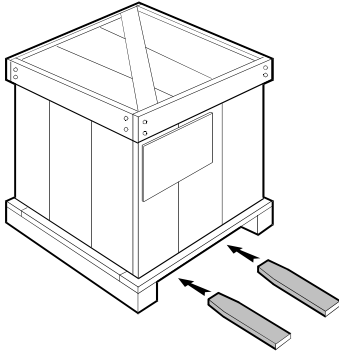


	<p>1. Knife box: DANGER OF INJURY BY CUTTING !</p>
	<p>2. Machine casing right: READ OPERATING INSTRUCTIONS !</p>
	<p>3. Extraction lid: DANGER OF INJURY BY CUTTING !</p>
	<p>4. Back side of the machine: ELECTRIC SHOCK!</p>
	<p>5. Rear extraction shaft WEAR CUT-PROOF GLOVES !</p>
	<p>6. Rear extraction shaft DANGER OF INJURY BY CUTTING !</p>



6. Transport and erection

6.1. Transport



We recommend to have the machine erected and connected by the dealer only. It would be useful, if your own maintenance staff were present during erection and connection.

- Transport the machine as closely as possible to the site of erection, before the packing is removed. Use a fork-lift truck or an elevating truck to transport the machine.
- Remove the packing, and examine the machine for possible transport damage.
- Advise the carrier immediately and in writing of any damage in transit.
- Compare the delivery with the docket (delivery note) !

6.2. Erection

- Use a fork-lift truck or a four-wheel lifting truck to move the machine to its final erection site.



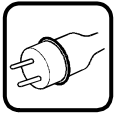
Attention: machines with conveyor

- Dismantle the conveyor if you wish to move the machine with a fork lift truck or elevating truck.
Dismounting the conveyor is described in chapter 7.1

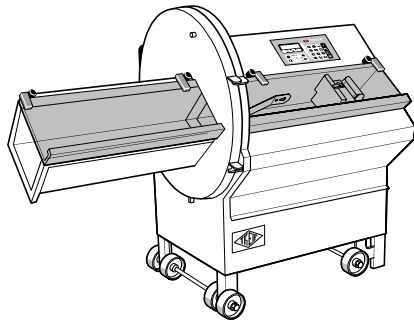
Never drive the machine when the knife box door is open. Danger of tilting !

If the machine wobbles:

- Compensate potential unevenness of the floor by means of the jackscrew (24 mm) in the right-hand side, rear foot of the under-structure.
- Counter the adjustment screw after setting.



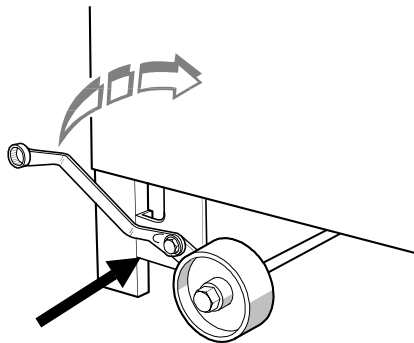
refer to chapter 6.2: Erection



If your machine is fitted with wheels: (optional extra)

A set of wheels is available as an optional extra for the TREIF PUMA-CE 'electronic'. The wheels shown on the right in the drawing are castors.

During cutting operations, the wheels must be retracted, i.e. the machine must be resting on its feet !



Danger of injury

Retracting/extending wheels:



Caution: Danger of pinching.

For reasons of safety, the ring spanner must only be applied to the axle bracket extension. (See illustration) Otherwise your fingers could get pinched.

- Place the ring spanner supplied on the hexagon nut on the axle mounting bracket.
- Extend or retract the wheels as appropriate.

force required to fold out the running gear	force required to fold in the running gear



Moving the machine:



Caution:

Machines with running gear must not be moved manually across "inclines" with an angle of inclination greater than 5°. If the machine must be moved over a steeper incline, a hand lift or a forklift must be used.

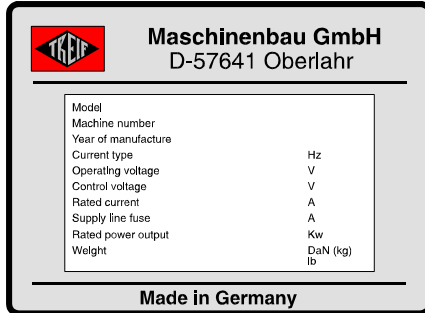


- On rising inclines, hold the machine by the handle as illustrated and push upwards.
- On falling inclines, hold the machine by the handle as illustrated and pull downwards.



6.3. Electrical installation

The machine has to be installed and secured by a chartered electrician in compliance with the regulations applicable at the location of erection.



- Please note the electric circuit diagram in the catalogue of spare parts in the manual !
- Please refer to the identification plate for the power of the back-up fuse to be provided by the customer.
- Check whether the operating voltage mentioned on the identification plate corresponds to the voltage of your mains supply. The permissible deviation is 5 % maximum.
- It is imperative that the correct phase sequence of the supply voltage is observed, when the machine is installed !

The machine has been set for “DOCKWISE PHASE SEQUENCE” in the works of the producer.

If the three-phase socket has an anti-clockwise phase sequence, a chartered electrician has to change two of the three phases of this socket.

The installation of the machine has to be effected by means of a plug-and-socket connection or by means of a lockable mains switch.



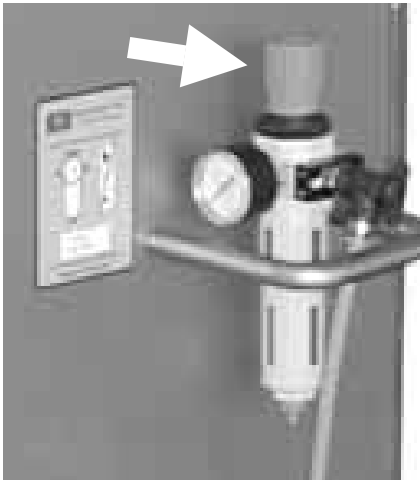
6.4. Pneumatic connection

Pneumatic facility:

- Operating pressure: **6 bar**
- Air consumption: **max. 60 Ltr./min.**
(Refer to label on the machine)

NOTE: The air supply must be free of oil and water !

Connection to the maintenance units takes place via a plug connector.



6.4.1 Adjustment/correction of operating pressure

The operating pressure of the compressed air supply must constantly be adjusted to 6 bar. If the manometer indicator should show a different value:

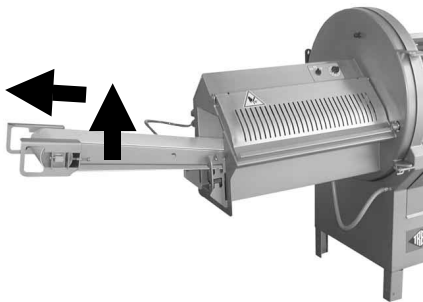
- Press the rotary knob (arrow) and twist until an operating pressure of 6 bars is indicated.



7. Fitting conveyor

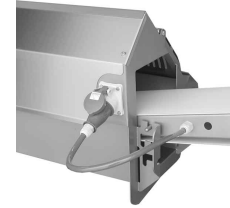
(only on machines with conveyor)

⚠ Attention: DANGER OF TILTING !
When the conveyor is fitted the machine is top heavy when the knife box door is opened !
For this reason always dismount the conveyor when you wish to open the knife box door !



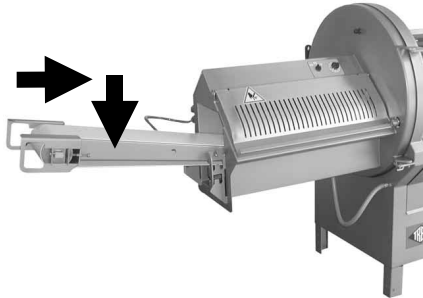
7.1. Dismounting conveyor

- Close knife box door.
- Disconnect the power supply plug of the conveyor belt (refer to photo).



⚠ The power supply plug of the conveyor belt has to be removed before the conveyor belt is disassembled (cf. drawing).

- Lift conveyor slightly and draw it out of the outlet channel.



7.2. Fitting conveyor

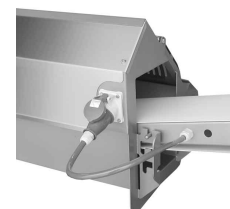
- Close knife box door.
- Slide conveyor into outlet channel (observe mounting position) and hang it in the conveyor support using the bolts at the side.

⚠ The conveyor belt has to be pushed underneath the two bolts located on the side of the removal chamber !

- **Adjust the outlet height** for cutting operations **with** and **without counterblades** on the conveyor belt carrier.

	1	Outlet heigh 900 mm without counterblade
	2	Outlet heigh 900 mm with counterblade
	3	Outlet heigh 800 mm without counterblade
	4	Outlet heigh 800 mm with counterblade
	5	Outlet heigh 700 mm without counterblade
	6	Outlet heigh 700 mm with counterblade

- Plug in the power supply plug (refer to photo).





7.3. Removing / fitting conveyor belt

(only for dismantled conveyor)



Remove conveyor belt

- Dismount conveyor (cf. chapter 7.1).
- Rest the conveyor belt on the holding device of the friction-drum motor.
- Tilt the roller bearing as shown.
- Slant the conveyor belt and remove the belt to the side.



Fitting conveyor belt

- Fit conveyor belt
- Fit roller bearing in compliance with sketch and move it upwards with firm pressure.

If the roller bearing may be moved upwards too easily, the tension of the conveyor belt must be readjusted (cf. chapter 15.6).



8. Trial run

Prior to the initial operation the maintenance staff of the machine has to carry out a trial run in order to check the functions of the machine. Furthermore, this trial run has to be carried out in the event of every new start-up, i.e.

- after every relocation of the machine
- after every maintenance and repair work
- after every change of sockets

Before starting the machine, always check all components mounted (knife, counterblades and product feed holder) for tight fit !

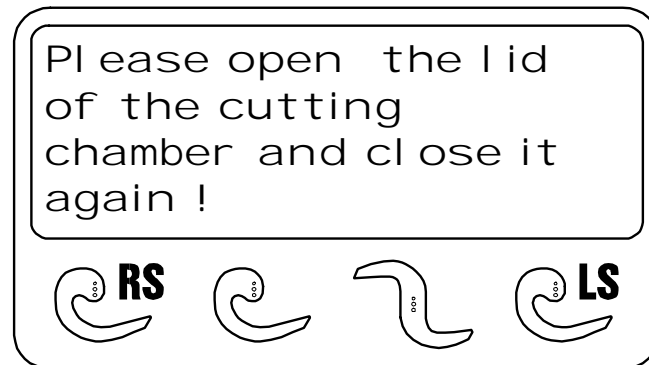
The machine may only be operated, if the undercarriage (supplementary equipment) is folded up!

Perform the test run as described on the following page.



8.1. Sense of rotation test of the electric motor

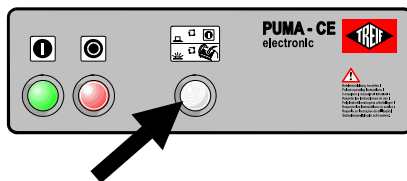
- Close knife box door.
- Remove all loose objects from the insertion shaft.
- Set main switch to » ON«
- The following display will appear:



- Please open the infeed device and close it again

Depending on the setting of the 'LID START' button (arrow):

- LID START OFF (lamp off):
The knife makes a SINGLE CUT, cutting program P1 appears on the display and the cutting material holder takes up the rear stop position.
- LID START ON (lamp on):
Cutting program P1 appears on the display, the knife operates until the cutting material holder reaches the front stop position and switches over to 'return journey'.



The knife must rotate top down through the shaft!

If this is not the case:

- Have two of the three phases of the supply line changed.

Note:

Phase changes may only be performed by a chartered electrician.



8.2. Performance test of the safety switches

If one of the covers is lifted or the knife box door is opened, the machine is switched off automatically, and the knife must come to a standstill instantaneously.

⚠ If the above action does not take place, the machine must by no means be put into operation, resp. must not be used any further !

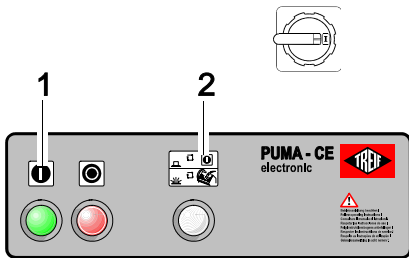
Note: Defective safety switches may only be replaced by the aftersales services staff of TREIF or a chartered electrician !

Carry out the performance test of the safety switches as follows:

- Set the main switch to »ON«.
- Briefly open and close the cover.

Depending on the setting of the 'LID START' button 2:

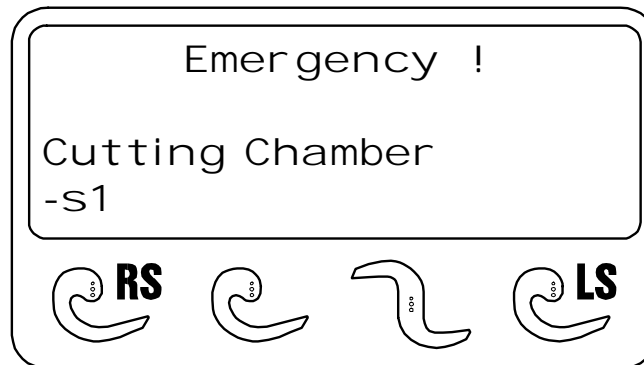
- *LID START OFF (lamp off):*
Press START button. The machine starts running!
- *LID START ON (lamp on):*
The machine starts upon closure of the replenishing cap.

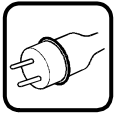


8.2.1 Safety monitoring "replenishing cap"

- During the advance motion of the product feed holder, lift the loading door by a maximum of 8 mm: The feeding action has to be interrupted immediately !

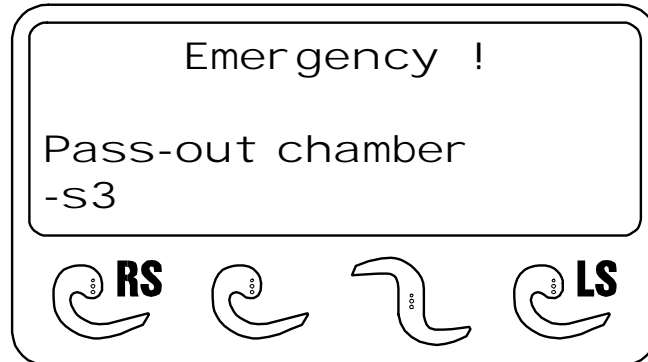
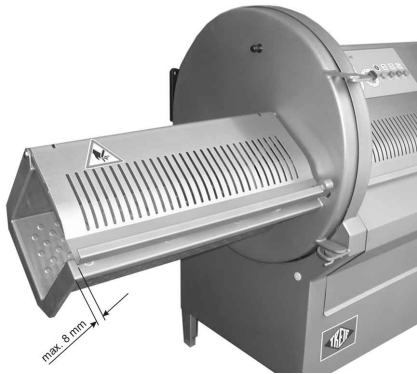
The display will read as follows:





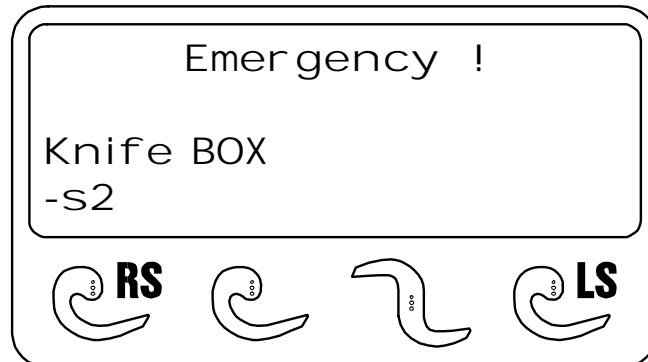
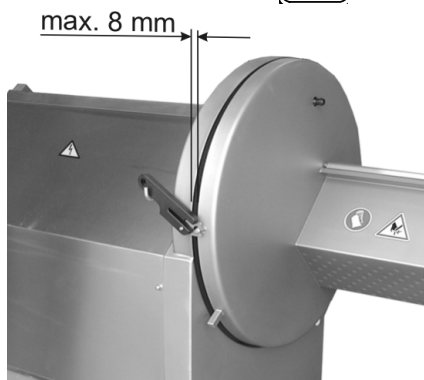
8.2.2 Safety monitoring "extraction lid"

- Start up the machine again.
- Open the cover of the removal chamber by a maximum of 8 mm whilst the product feed holder is moving:
The feeding action has to be interrupted immediately !
The display will read as follows:



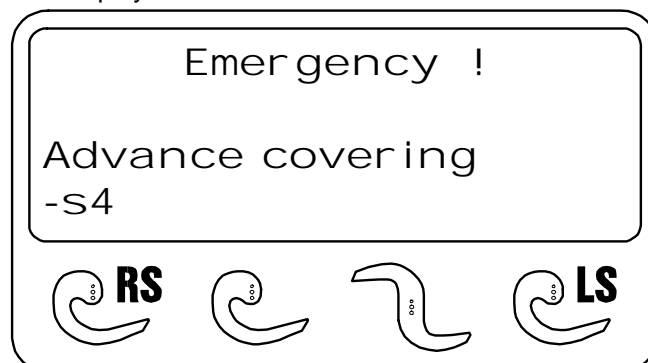
8.2.3 Safety monitoring "knife box door"

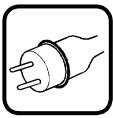
- Put the machine into operation again, and open the knife box door by a maximum of 8 mm during the advance motion of the product feed holder:
The feeding action has to be interrupted immediately !
The display will read as follows:



8.2.4 Safety monitoring "infeed cover"

- Open the loading door.
- Remove the feed cover upwards.
- Close the loading door again.
- Press the START button. The machine must not start !
The display will read as follows:





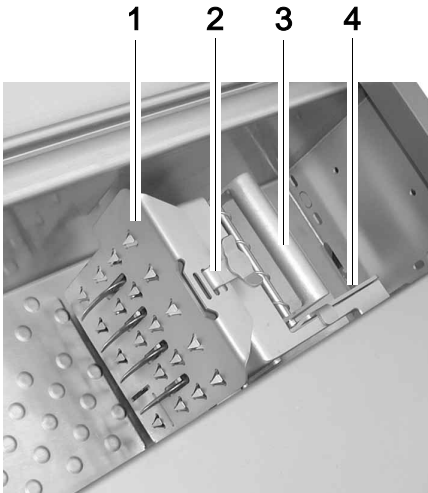
9. Setting up operations

9.1. Product feed holder

Two different cutting material holders are used with the TREIF PUMA-CE 'electronic'

9.1.1 Manual cutting material retainer

The cutting material holder can be adjusted to suit different cutting materials via transfer of the infeed plate.



Feed plate position	Cutting process
Front (e.g. fresh meat)	Clamping lever remains open during cutting (minimum scrap).
Centre (standard)	Product must be secured for cutting by raising the clamping lever.
Rear (Products with inconsistently shaped ends)	Product must be secured for cutting by raising the clamping lever (somewhat more scrap).

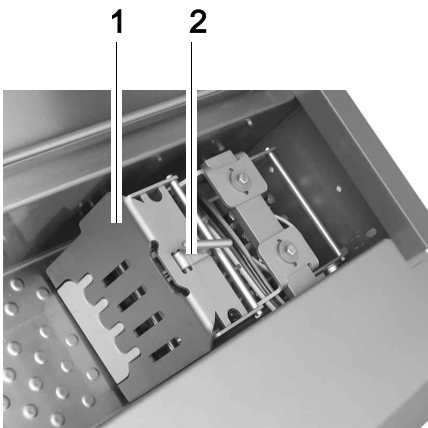
Adjusting the feed plate:

- Raise locking catch **4** and open clamping lever **3**.
- Loosen locking handle and swivel clamp **2** to the side.
- Lift out feed plate **1** from retainer.
- Install feed plate with base in desired groove, i.e. » *front/centre/rear* «
- Swivel clamp **2** onto feed plate and install in appropriate groove in head of feed plate.
- Secure clamp with locking handle.

9.1.2 Pneumatic product holder

The pneumatic cutting material holder can also be adjusted to suit different cutting materials via transfer of the infeed plate.

Feed plate position	Cutting material
Assemble at the front	e.g. fresh meat (minimum residual piece)
Assemble at the rear	Cutting materials with misshapen end pieces (residual piece remains slightly larger)

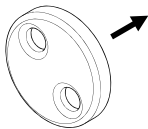
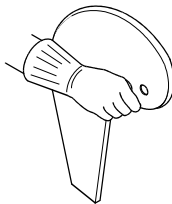
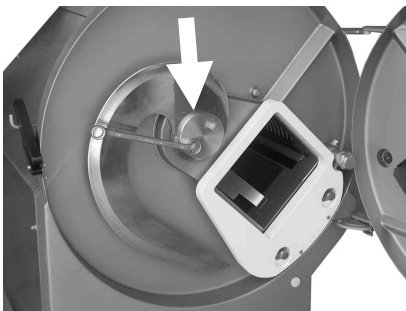
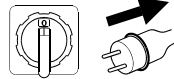


Convert infeed plate:

- Loosen toggle handle and swivel aside holding claw **2**.
- Lift infeed plate **1** upward out of the support.
- Hang foot of the infeed plate into >>front/centre/back<< with the desired notch.
- Swivel holding claw **2** across the infeed plate and hang into the corresponding notch at the head of the infeed plate. **2**
- Secure holding claw via toggle handle.



9.2. Mount / Change of knife



Always wear your personal protective clothes and equipment described in the chapter "Safety" when handling knives !

Dismounting of knife:

- Set the main switch to position OFF, and remove the mains plug from the power outlet.
- Dismount conveyor when fitted.
- Open knife box door.
If the knife is partly covered by the counterblade, have the machine carry out a SINGLE CUT. (cf. chapter 12.6)

If the knife continues to come to a standstill behind the counterblade, the machine must not be operated any more until the knife brake has been readjusted or changed by the aftersales services staff of TREIF.

- Loosen both hexagonal nuts (SW24) by means of the provided ring spanner. (refer to photo).
- Hold the knife with one hand and unscrew both nuts.
- Remove retaining disc (arrow) and take the knife off.

Caution:
Get hold of the knife only in the way shown in the drawing !

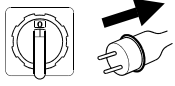
Mounting of knife:

- Place the knife on the knife shaft (wrong fitting is not possible due to the different diameters of the mounting holes).
- Place retaining disc (observe fitting position !).
- Tighten hexagon nuts.

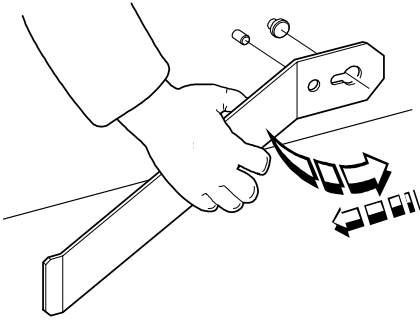


10. Accessory

10.1. Conveyor belt in the insertion shaft



- Set the main switch to position OFF, and remove the mains plug from the power outlet.



Dismounting the holding appliance:

- Open filling cover to the limit stop
- Lift retainer away from the chamber wall slightly and pull back.



Disassemble the conveyor belt

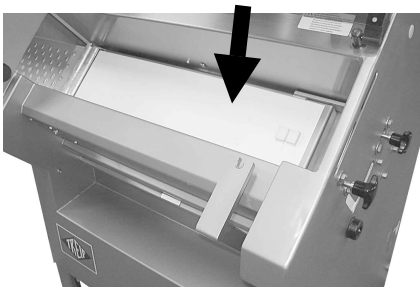
- Remove feed cover upwards.



- Loosen hexagon nut several turns using the provided ring spanner and dismantle the cutting material holder.



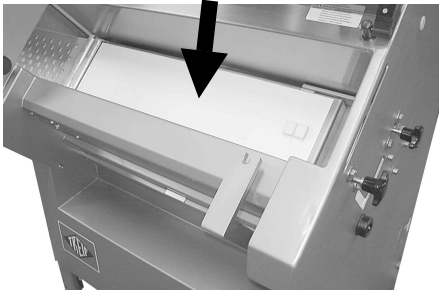
- Loosen both star handles and unscrew completely.
- Lift the front conveyor belt (arrow) out of the machine.



- Lift the rear conveyor belt (arrow) out of the machine.



refer to chapter 10.1:Fit / replace conveyor belt in the feeding box



Fitting the conveyor

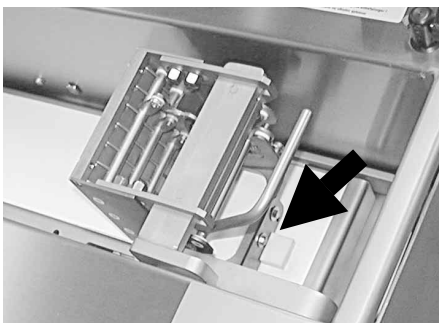
- Open filling cover to the limit stop
- Remove feed cover upwards.
- Insert the rear conveyor belt (arrow) in the feeding box as shown.



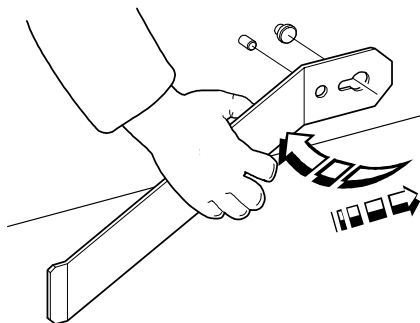
- Insert the front conveyor belt (arrow) in the feeding box as shown.
- Tighten the star grips.



- Install cutting material holder (standard design) and secure.



Note: The raw material holder must be seated in the slot of the guide block (arrow) of the conveyor belt.

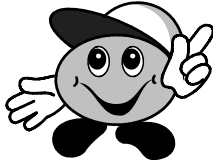


- Secure downholder according to the diagram.
- Hanging in the feed cover
- Close the loading door.

11. Method of operation of the control

The control of PUMA-CE “electronic” provides a multitude of functions and adjustment possibilities.

We recommend that you carefully read the next two chapters in order to be able to take advantage of all possibilities of the machine.



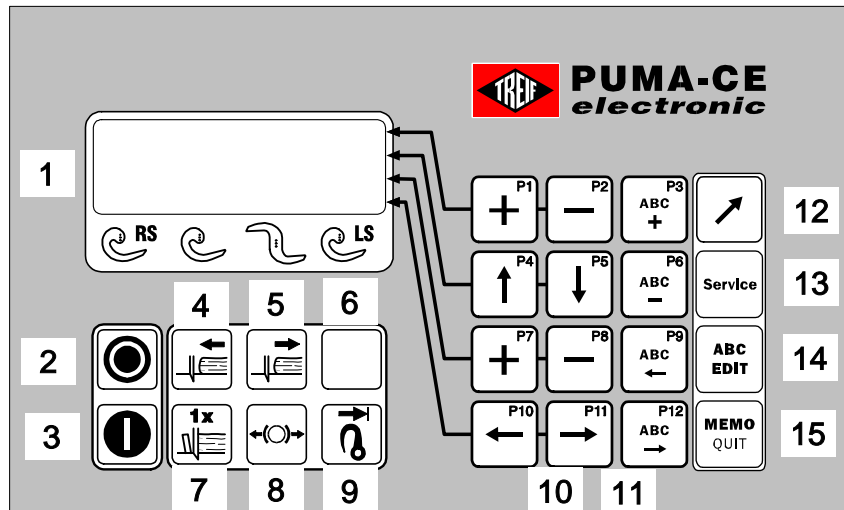
Tip:

It is recommended to note the storage locations with the different products.

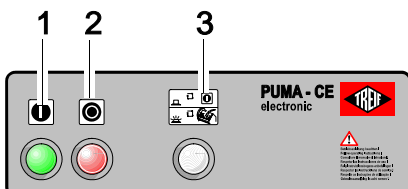
This is a great help in finding the modes later !

At the end of these operating instructions, you will find corresponding tables for your entries.

11.1. Control panel - Overview



- 1 LCD display
- 2 STOP - push-button
- 3 START - push-button
- 4 product holder forwards
- 5 product holder return
- 6 Reserve
- 7 SINGLE-CUT button
- 8 Release the brak (*only in case of a failure or, if a new knife needs to be mounted*)
- 9 Return travel limitation for the product feed holder
- 10 Program softkeys P1 to P12
- 11 EDIT keys
- 12 SHIFT key (edit / fast programme selection)
- 13 SERVICE key
- 14 ABC EDIT key
- 15 MEMO / QUIT button



11.2. Additional operator console

- 1 START - push-button
- 2 STOP - push-button
- 3 Function 'LID START' ON / OFF

11.3. General handli

Several cutting procedures are already installed on delivery of the machine and can be used immediately. The preset values can be optimised according to the cutting material, prior to the first cut. The program can subsequently be saved anew.

The following points apply for all modifications of adjustment values:

- *tapping button*: fine adjustment
- *holding button down*: the setting changes with increasing speed



Tip: It is recommended to note the storage locations with the different products. This is a great help in finding the programs later. At the end of these operating instructions, you will find corresponding tables for your entries.

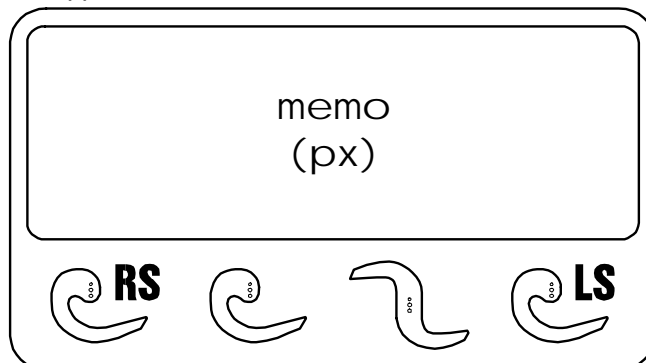
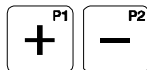
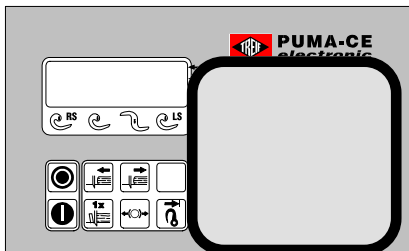
11.4. Shortcut program selector keys

The operator console of the TREIF PUMA-CE 'electronic' has 12 shortcut program selector keys. You should file your most frequently used cutting programs in these program storage spaces.

Keys "P1 - P12" can be assigned any of the 4 operating modes, modified and subsequently saved.

Assign shortcut program selector key:

- Set the main switch to »ON«.
- After display of the program version, the control system automatically performs a 'reference run', in order to determine required length parameters. Cutting program "P1" appears a few seconds later.
- Press program selector key "+" as often as required until the desired cutting program is attained.
- Press SHIFT key and corresponding shortcut program selector key P1-P12 and keep depressed until the following display message appears:



MEMO
QUIT





(x = selected shortcut key)

- Modify program, if necessary and save via MEMO/QUIT.

11.5. Cutting programs: number and type





11.5.1 Number of memory locations:

The electronic control of TREIF PUMA-CE “electronic” has a total of 32 memory locations, which can be occupied by various cutting programs. The program sites S1 to S20 are occupied with five sites each for the four modes of operation. In addition, there are twelve free program sites P1 to P12 to be used to change an existing cutting program and to assign to a program function key (cf. chapter 11.4)

Mode of operation	 RS			 LS
Mode of operation	S1 - S5	S6 - S10	S11 - S15	S16 - S20
	P1 - P12			

11.5.2 Contents of the cutting program:









The content of a cutting program depends on the mode of operation.

 RS			 LS
Product name	Product name	Product name	Product name
Cutting thickness	Cutting thickness	Cutting thickness	Cutting thickness
Length	---	---	Length
Number of slices	---	---	Number of slices
First cut * *	---	---	First cut * *
Remaining piece	---	---	Remaining piece
---	---	---	Number of empty cuts
---	---	---	Number of slices / stack
---	---	---	Return travel
---	---	---	1/2 slice
*Toler. in cutting thickn.	---	---	*Toler. in cutting thickn.
Cutting zone	---	---	---
Type of optimisation	---	---	Type of optimisation
type of knife	type of knife	type of knife	type of knife

* = cf. chapter 11.9

11.6. Minimum/maximum input

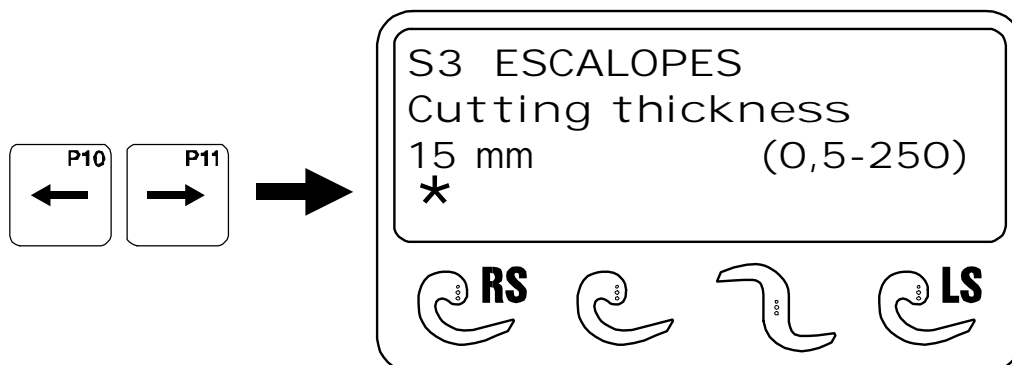
For all numeric inputs the control allows a minimum and a maximum value.

	PUMA-CE /E				PUMA-CE /E HS			
	 RS			 LS	 RS			 LS
Cutting thickness (mm)	0,5-250	0,5-35	0,5-25	0,5-15	0,5-250	0,5-35	0,5-25	0,5-15
Length (%)	0-100	---	---	0-100	0-100	---	---	0-100
Number of slices (Piece)	? - 100	---	---	? - 100	? - 100	---	---	? - 100
First cut (mm)	0-250	---	---	0-250	0-250	---	---	0-250
Remaining piece (mm)	0-250	---	---	0-250	0-250	---	---	0-250
Number of empty cuts	---	---	---	0-99	---	---	---	0-99
Number of slices/stack	---	---	---	0-99	---	---	---	0-99
Return travel	---	---	---	0 - 10	---	---	---	0 - 10
1/2 slice	---	---	---	+/- 10	---	---	---	+/- 10
Toler. in cutting thic kn.(%)	0 - 20	---	---	0 - 20	0 - 20	---	---	0 - 20
Cutting zones	1 - 10	---	---	---	1 - 10	---	---	---
Mode of optimat ion	number of slices - per cent	---	---	number of slices - per cent	number of slices - per cent	---	---	number of slices - per cent

On the display, the respective minimum and maximum value is rendered in brackets () behind the value adjusted.

11.7. Adjustment of mode of operation

There are 4 possible operating modes when cutting with the TREIF PUMA-CE 'electronic'. The current operating mode is indicated by * in the bottom line of the display.

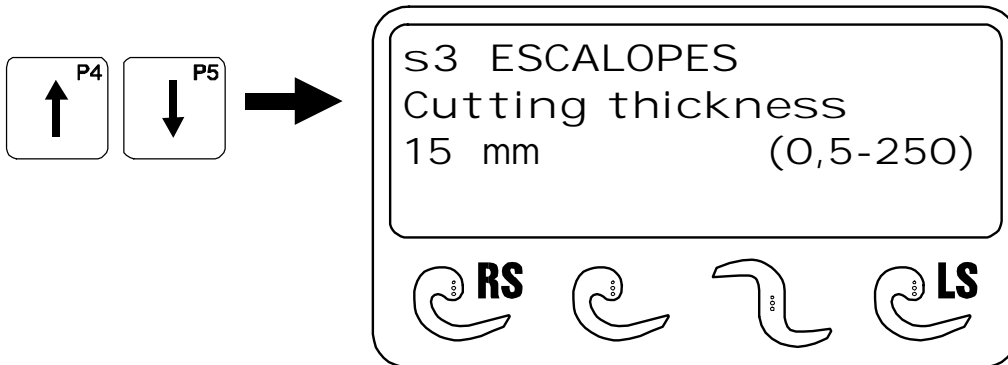


The desired operating mode is set via the lower arrow keys.

11.8. Program parameters

Each cutting program contains a wealth of program parameters (depending on the mode of operation selected).

The adjustable limiting values for each program parameter are displayed in [] in the third line of the display (please also observe chapter 11.6)



Use the two “Select program parameter” arrow keys to select the individual program parameters in the respective mode of operation one after the other.

By means of the “ARROW UP / ARROW DOWN” program keys, the various cutting parameters can be selected one after the other.

The cutting parameters displayed can be changed by means of the “+ / -” editing key.

– **Cutting thickness:**

The cutting thickness corresponds to the slice thickness of a cut. The limiting values depend on the mode of operation selected.

– **Length:**

This parameter determines the length of a cutting zone in per cent relative to the entire product length (= 100 %).

Depending on the type of optimisation, the **Length** parameter may be replaced by the **Number of slices** parameter. This parameter is selectable in RS and LS modes of operation only.

– **Number of slices:**

Parameter to optimise a zone given a number of slices.

This parameter is selectable in RS and LS modes of operation only.

– **First cut:**

If a value larger than zero is entered here, a piece with a defined length (0 to 250 mm) is cut from the product rack prior to the start of the actual cutting process. This parameter is selectable in RS and LS modes of operation only.

– **Remaining piece**

The value entered determines the length of the product rack, which remains on the product feed holder after termination of the cutting procedure. The length of the end piece may be between 0 and 250 mm. This parameter is selectable in RS and LS modes of operation only.

- **Number of empty cuts:**
This parameter renders the number of knife revolutions, during which the product is not fed forward. Empty cuts between 0 and 99 may be entered. This parameter is selectable in LS mode of operation only.

- **Slices/package:**
A number of slices from 0 to a maximum of 99 slices, which are cut consecutively, can be set here. This parameter is selectable in LS mode of operation only.

- **Return travel:**
This parameter determines the travel, by which the product is pulled back from the cutting level during the empty cuts.
The first feed movement after the performance of empty cuts has to be increased by the value set here. The adjustment range is between 0 and 10 mm.
This parameter is selectable in LS mode of operation only.

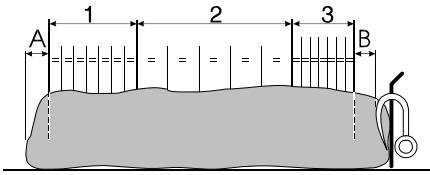
- **1/2 slice:**
Adjustment of the slice thickness of the first two slices of a group or a stack. If the thickness of the first two slices deviates to the thickness of the following slices in a group, this adjustment value has to be modified. The adjustment limits are between \pm 10 mm.
This parameter is selectable in LS mode of operation only.
 - *If the first slice is too thin and the second slice is too thick:
Enter the corrective value with the “+” sign.*
 - *If the first slice is too thick and the second slice is too thin:
Enter the corrective value with the “-” sign.*

- **Tolerance in cutting thickness:**
By what the percentage the slice thickness entered may deviate from the actual thickness of the cut slice is determined by selection of the slice thickness tolerance.
The tolerance limits are between 0 and 20%.
This parameter is selectable in RS and LS modes of operation only.

- **Cutting zone:**
The cutting zone is defined as being the division of a product rack into pieces of different cutting thicknesses.
The maximum number of cutting zones is 10 pieces.
This parameter is selectable in RS mode of operation only.

- **Type of optimisation:**
This is the parameter to change the type of optimisation.
The **Length** and the **Number of slices** can be adjusted.
This parameter is selectable in RS and LS modes of operation only.

11.9. Cutting zones - definition



When a single knife is used, the product can be divided up in up to ten different cutting zones (example: 3). The remaining centre piece between first cut [A] and the remaining piece [B] is divided up proportionately in zone lengths. These zone lengths can be set to different cutting thicknesses.

Alternative:

If the **Number of slices** type of optimisation is used, the cutting zone will be divided up into the given number of slices.

Function after start:

- The raw material is first pushed to the knife slot.
- The control calculates the length of the product rack to be cut between the first cut [A] entered and the remaining piece [B].
- The centre piece calculated is cut up according to the cutting thickness set.

The thickness of the slices is increased / decreased (within the possibilities of the cutting thickness tolerance set) in such a way that the last cut corresponds exactly to the remaining piece [B] set (which can be "0 mm" as well).

Tolerance in cutting thickness:

The tolerance in cutting thickness is used to determine by how many per cent the slice thickness may be increased or decreased for remaining piece processing.

Example: cutting thickness: 30 mm
 tolerance in cutting thickness: 10 per cent
 = the slices may vary between 27 and 33 mm in thickness.

Switching the function off:

If the tolerance in cutting thickness is set to '0 %', the product will be cut as set for the cutting thickness.

The remaining piece processing function is thus switched off.

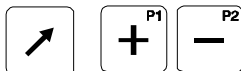
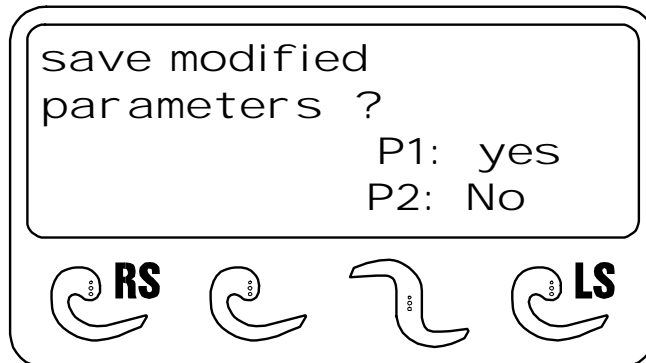
MEMO
QUIT

11.10. Storage of cutting programs

It is not necessary to store immediately each individual change of a setting in MEMO/QUIT. Storage in MEMO/QUIT should be performed only when all the settings of the program have been correctly adjusted.

Change of cutting program

If you change to another cutting program without having stored the previous changes, the following display will appear:



Save by pressing and keep pressed the **Shift** key and

P1	save cutting program
P2	do not save cutting program

11.11. Entering / modifying the product name

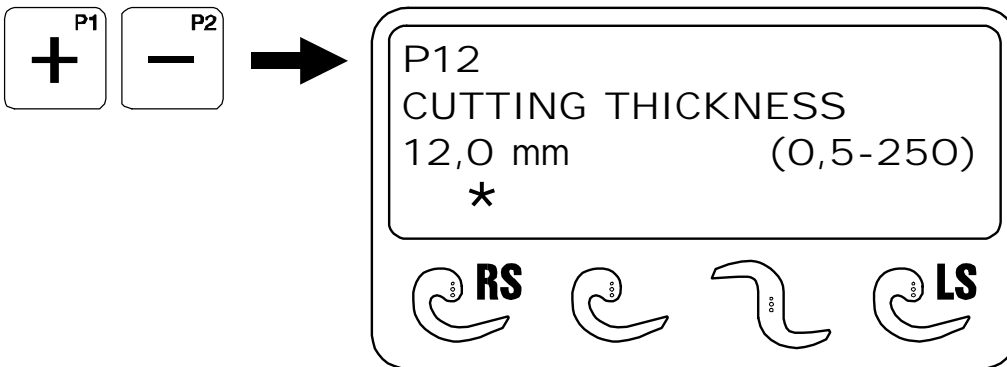
A product name can be entered or modified with the machine at a standstill only.

Task: The product name of "piece of roast" is to be entered in a free program storage location.

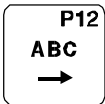
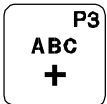
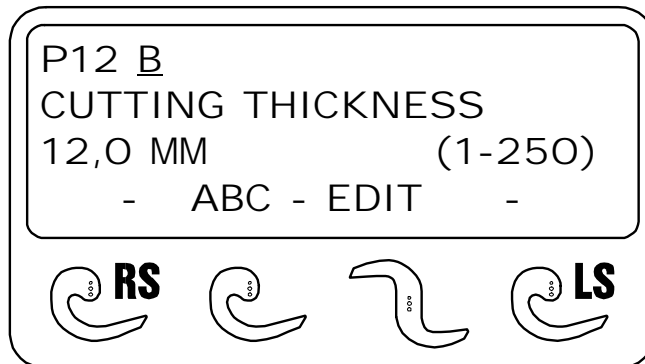
Selecting the program storage location: (cf. chapter 11.4:Program softkeys)



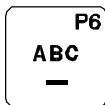
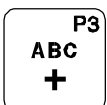
- Set the main switch to »ON«.
After display of the program version, the control system automatically performs a 'reference run', in order to determine required length parameters. Cutting program "P1" appears a few seconds later.



- Press program selector key "+" as often as required until a free program storage space is attained.
- Press the "ABC edit" key:
The input cursor will start flashing in the uppermost line of the display.



- Press "ABC +" key as long as necessary until the first letter of the word "BRATENSTUECKE", thus a "B" is attained.
- Use the scroll key "arrow to the right" (P9) to move the input cursor to the next input field.



- NOTE** With the "ABC edit" mode active, the two program softkeys P8 and P9 are used as cursor keys for the input of the product name !
- Press key "ABC +" or "ABC -" as long as necessary until the next letter of the word is attained.



When the product name has been entered completely:

- Press the "Memo" key, and the product name will be saved.

11.12. Operating mode single knife (single)

Selecting the cutting program

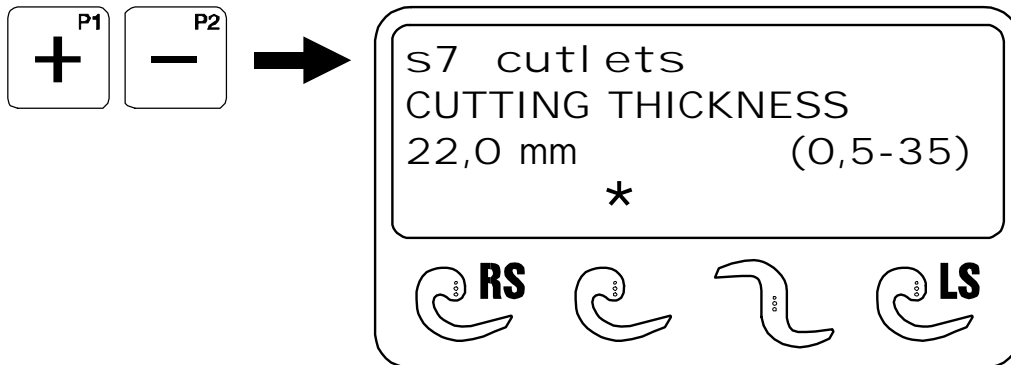
(cf. chapter 11.4:Program softkeys)



- Set the main switch to »ON«.

After display of the program version, the control system automatically performs a 'reference run', in order to determine required length parameters.

Cutting program "P1" appears a few seconds later.



- Press program selector key "+" as often as required until the desired cutting program is attained.

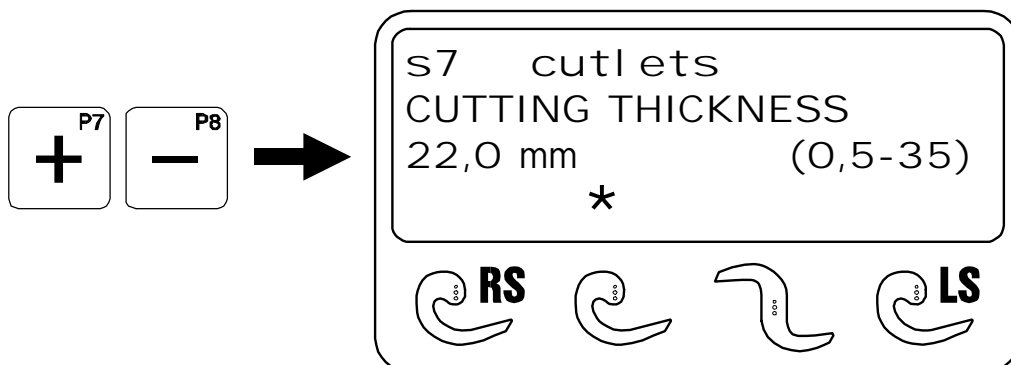


Alternatively:

First of all set the operating mode by means of the lower arrow keys; subsequently switch onward to the desired cutting program.

Set cutting thickness

NOTE: The cutting thickness can also be readjusted ON-LINE (during the cutting process)!



- Press edit key "+ / -" as often as required until the desired cutting thickness is attained.

To start cutting program, refer to section 12.

11.13. Operating mode double knife (single)

Selecting the cutting program

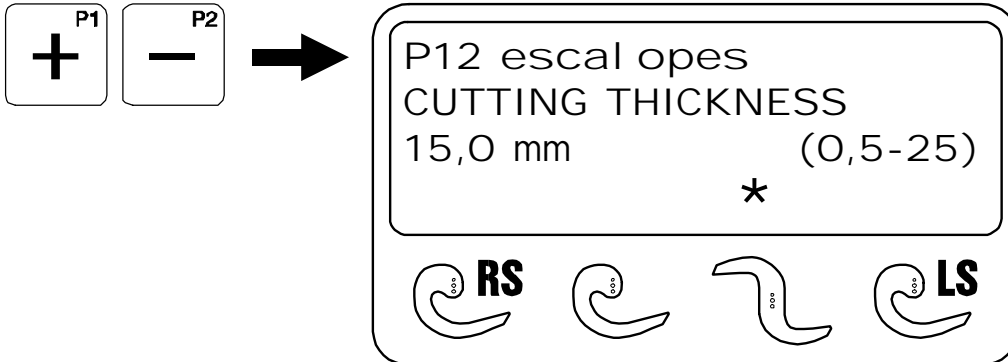
(cf. chapter 11.4:Program softkeys)



- Set the main switch to »ON«.

After display of the program version, the control system automatically performs a 'reference run', in order to determine required length parameters.

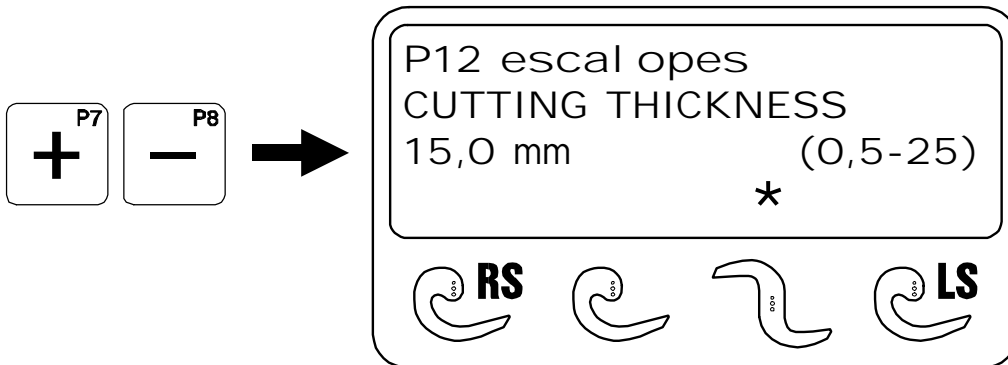
Cutting program "P1" appears a few seconds later.



- Press program selector key "+" as often as required until the desired cutting program is attained.

Set cutting thickness

The cutting thickness can also be readjusted ON-LINE (during the cutting process)!

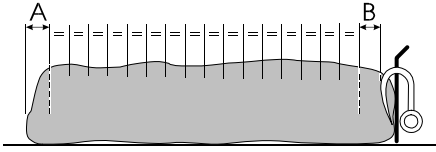


- Press edit key "+ / -" as often as required until the desired cutting thickness is attained.

To start cutting program, refer to section 12.

11.14. Operating mode single knife 'RS' Cutting within a cutting range

(Definition "CUTTING RANGE", refer to section 11.9.)



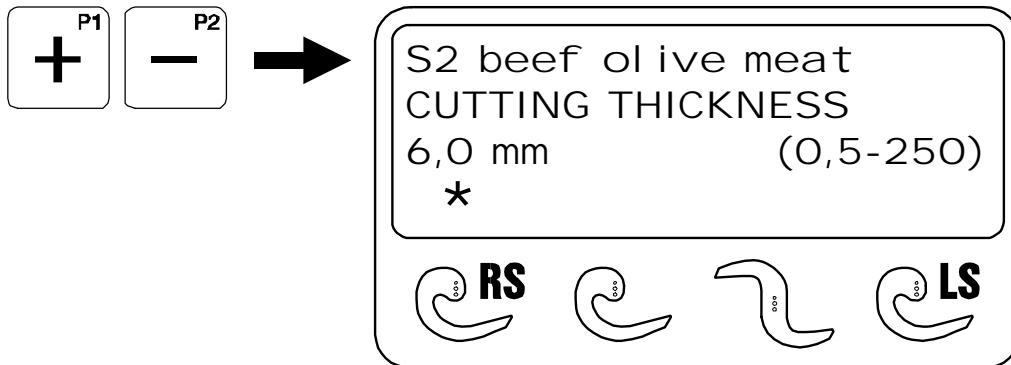
This section describes the procedure applied, if a strand of cutting material between a defined first cut [A] and a residual piece [B] is to be cut into equally sized slices.

Selecting the cutting program

(cf. chapter 11.4:Program softkeys)



- Set the main switch to »ON«.
After display of the program version, the control system automatically performs a 'reference run', in order to determine required length parameters. Cutting program ©P1 appears a few seconds later.



- Press program selector key "+" as often as required until the desired cutting program is attained.

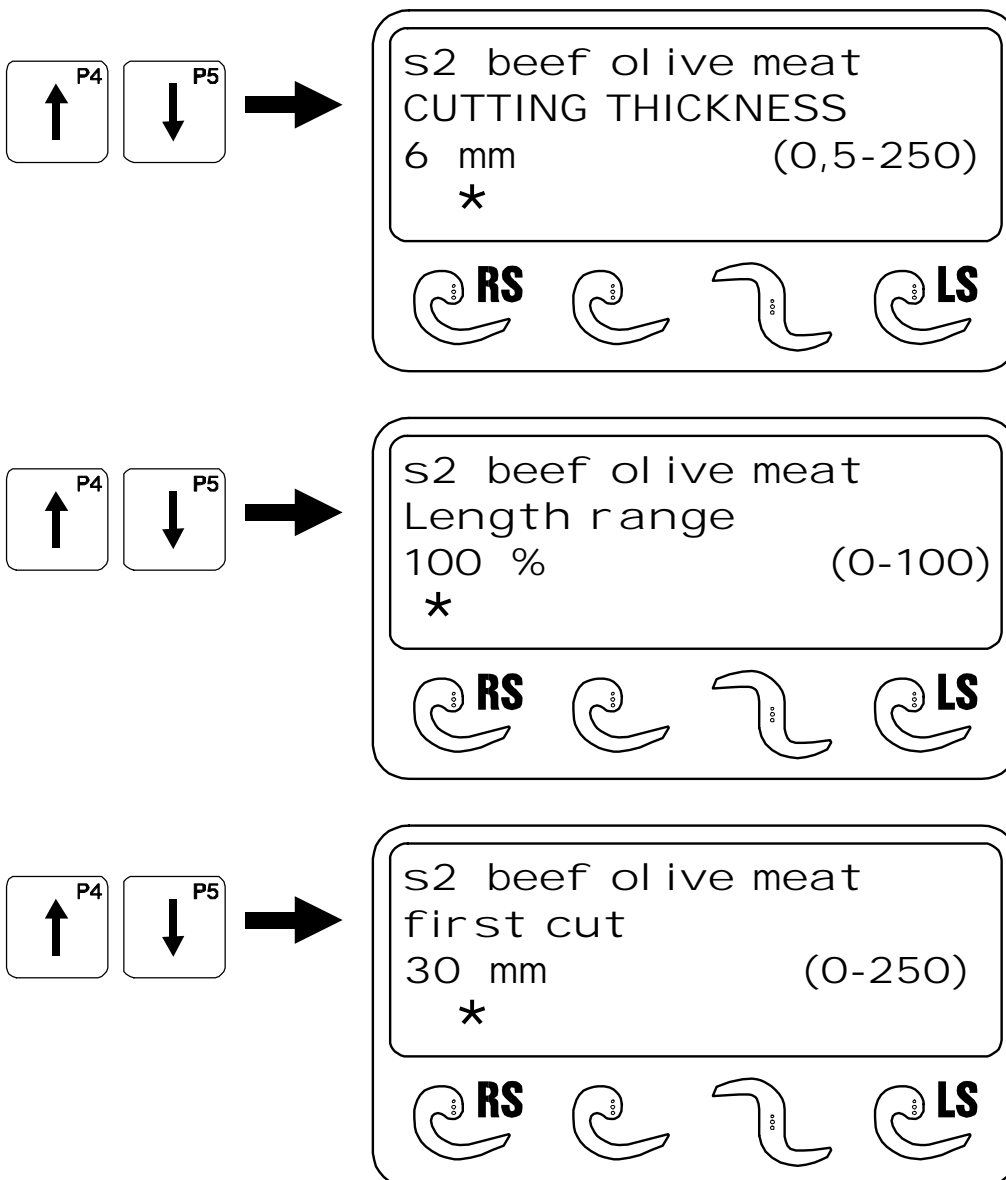
Refer to chapter 11.14.: Operating mode single knife 'RS'
Cutting within a cutting range

Alter cutting parameters


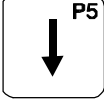

Alteration of set values is only possible prior to the first cut!

The different cutting parameters can be invoked in succession according to the following scheme by means of the program-content key "ARROW UP". The respectively displayed cutting parameter can be altered via the edit key "+ / -".





Refer to section 11.8. for explanatory notes to the individual parameters.


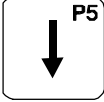



Refer to chapter 11.14.: Operating mode single knife 'RS'
Cutting within a cutting range










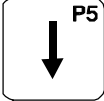

s2 beef olive meat
final piece
20 mm (0-250)
*



s2 beef olive meat
cutting thickn. tol.
10 % (0-20)
*


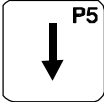










s2 beef olive meat
cutting regions
1 piece (1-10)
*



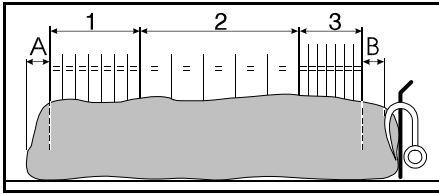




s2 beef olive meat
mode of optimization
per cent (quantity)
*

To start cutting program, refer to section 12.

11.15. Operating mode single knife 'RS' Cutting within several cutting ranges



(Definition "CUTTING RANGE", refer to section 11.9.)

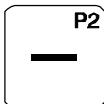
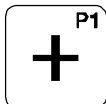
This section describes the procedure applied, if a strand of cutting material between a defined first cut [A] and a residual piece [B] is to be cut in different cutting ranges (example = 3) and different slice thicknesses.



Selecting the cutting program

(cf. chapter 11.4:Program softkeys)

- Set the main switch to »ON«.
After display of the program version, the control system automatically performs a 'reference run', in order to determine required length parameters.
Cutting program "P1" appears a few seconds later.



- Press program selector key "+" as often as required until the desired cutting program is attained.

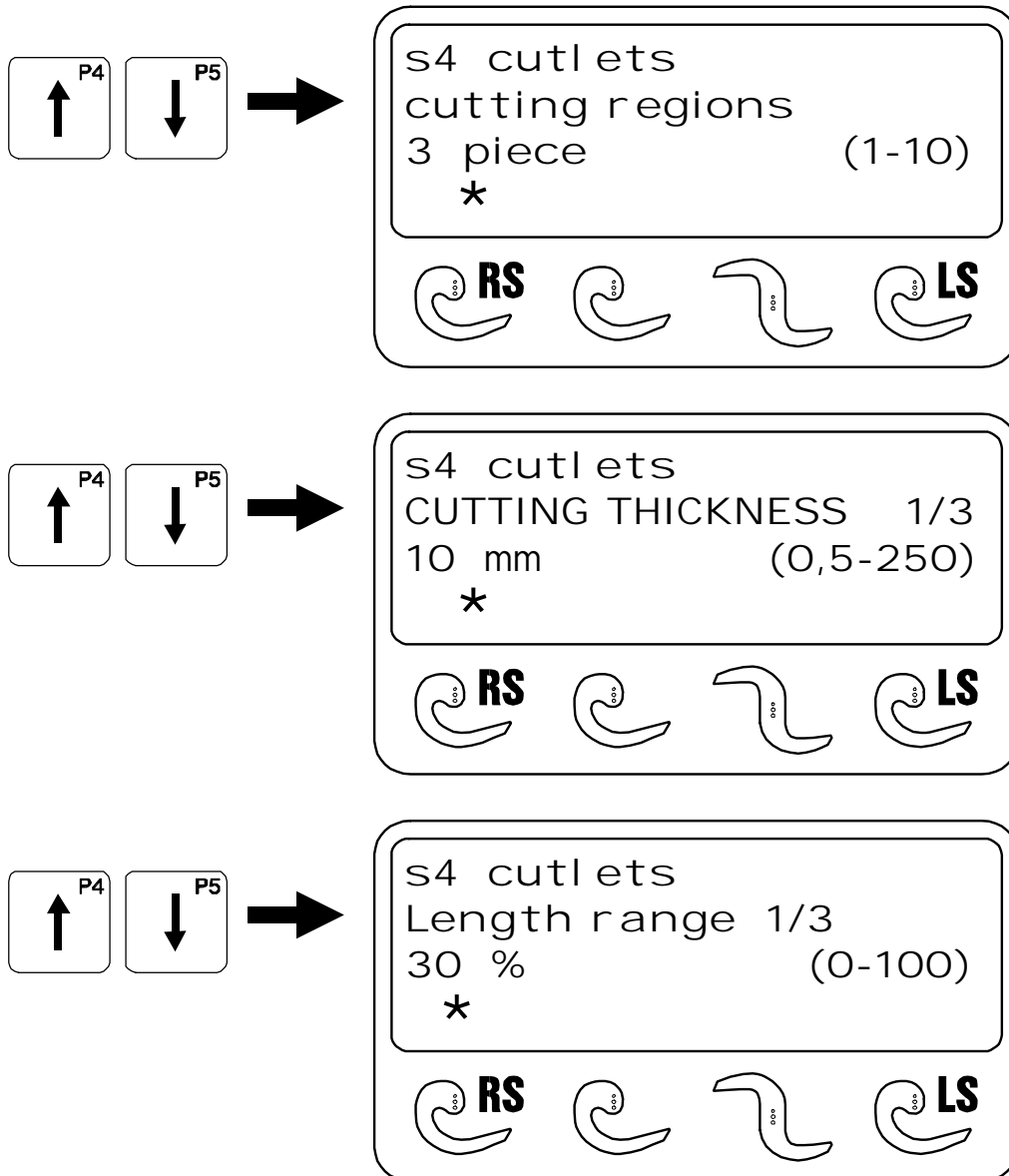
Refer to chapter 11.15.: Operating mode single knife 'RS'
Cutting within several cutting ranges

Alter cutting parameters


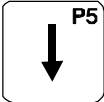

Alteration of set values is only possible prior to the first cut!

The different cutting parameters can be invoked in succession according to the following scheme by means of the program-content key "ARROW UP/ DOWN". The respectively displayed cutting parameter can be altered via the edit key "+ / -".


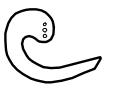
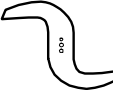

Refer to section 11.8. for explanatory notes to the individual parameters.

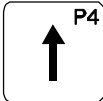
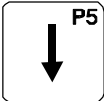



Refer to chapter 11.15.: Operating mode single knife 'RS'
Cutting within several cutting ranges







s4 cutlets
CUTTING THICKNESS 2/3
30 mm (0,5-250)
*

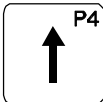
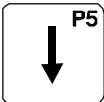








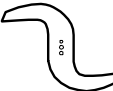

s4 cutlets
Length range 2/3
50 % (0-70)
*

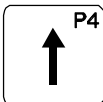
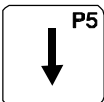











s4 cutlets
CUTTING THICKNESS 3/3
15 mm (0,5-250)
*

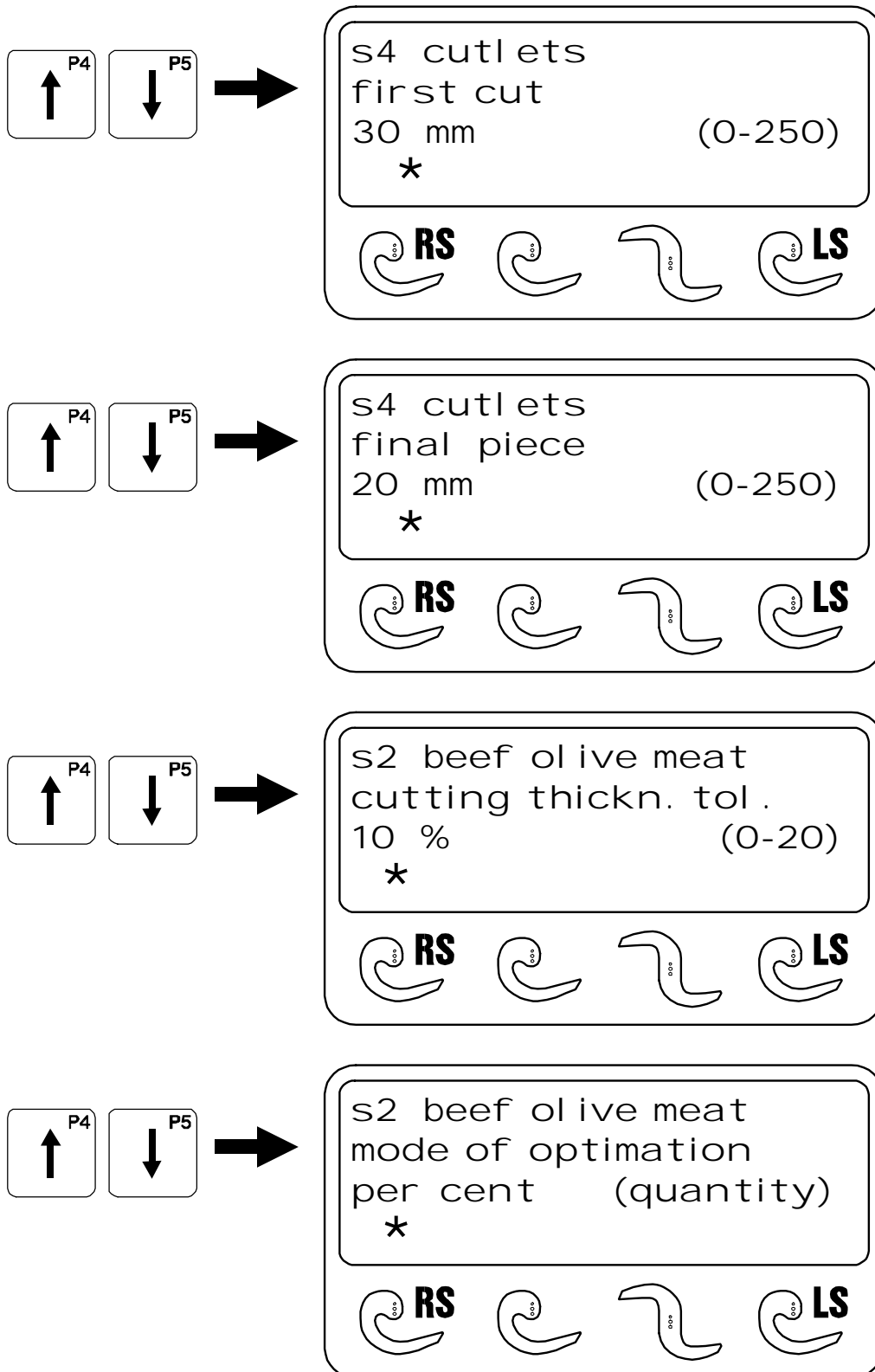





s4 cutlets
Length range 3/3
20 % (0-20)
*

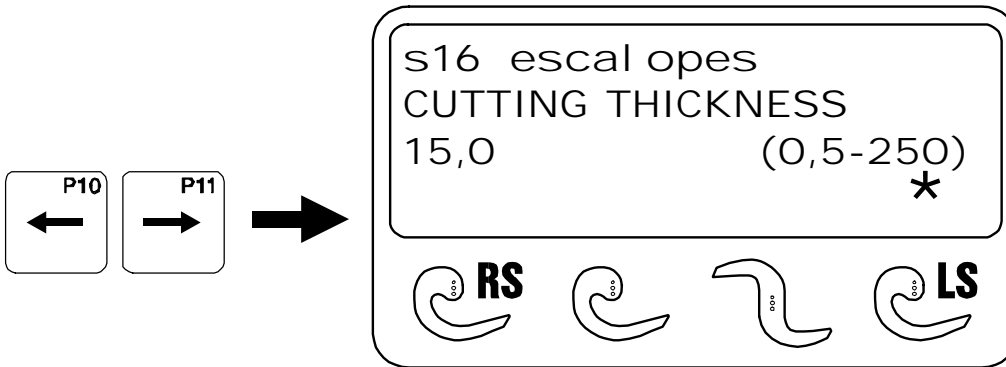
Refer to chapter 11.15.: Operating mode single knife 'RS'
Cutting within several cutting ranges



To start cutting program, refer to section 12.

11.16. Operating mode single knife LS Cutting with empty cuts

This section describes the possibility of cutting up a previously defined number of slices to a group of slices by including empty cuts and depositing them at intervals.



Enter program parameters

The desired operating mode LS is set via the two lower arrow keys.

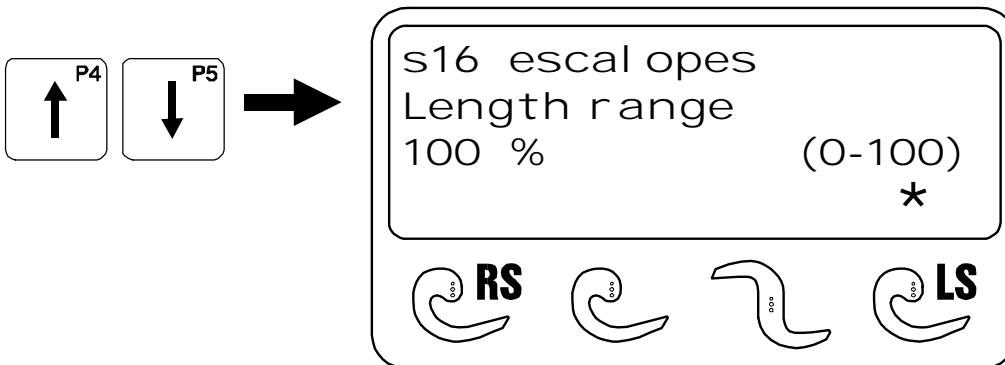
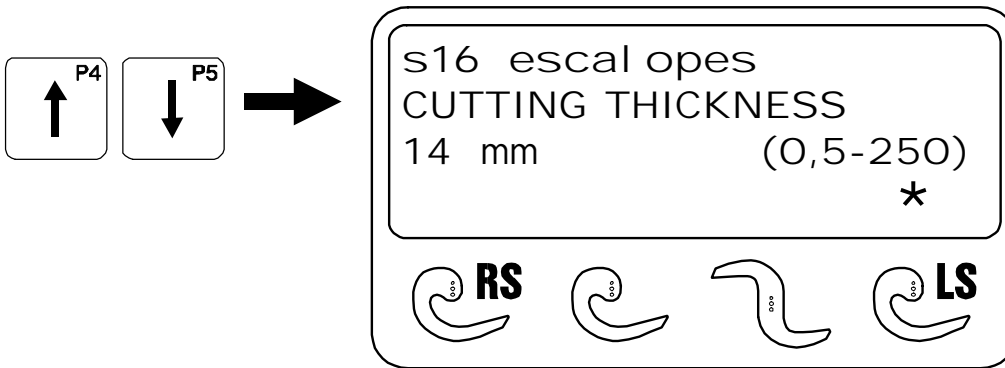
The following program parameters can be set:

Alteration of set values is only possible prior to the first cut!

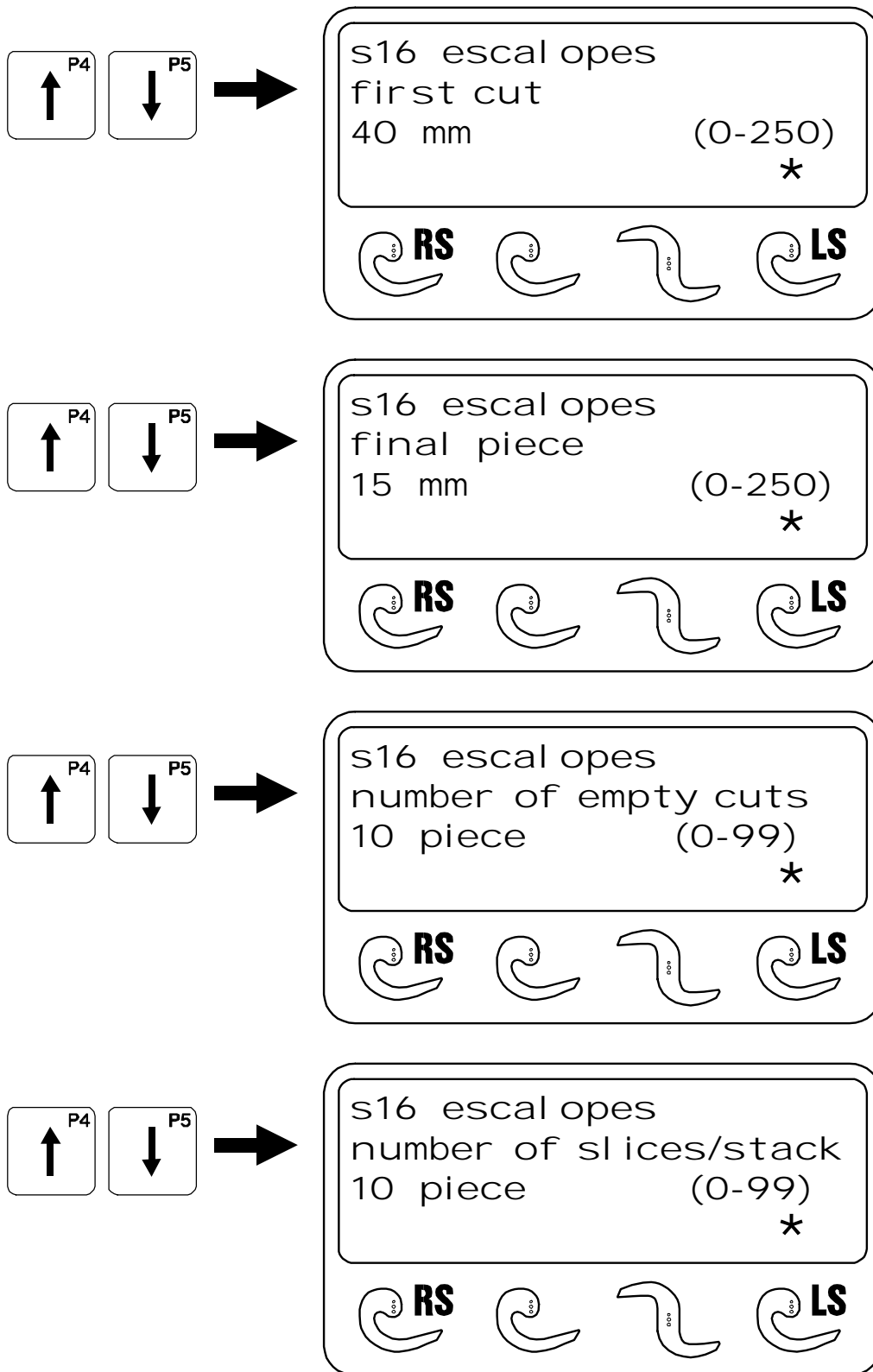
The different cutting parameters can be invoked in succession according to the following scheme by means of the program-content key "ARROW UP".

The respectively displayed cutting parameter can be altered via the edit key "+ / -".

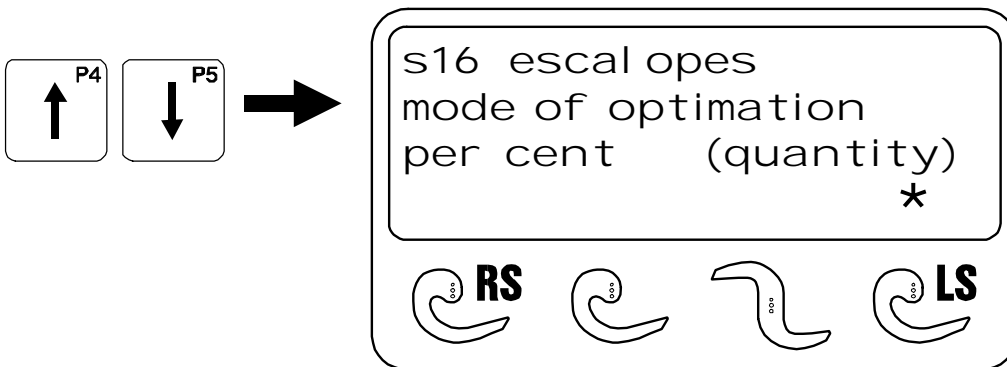
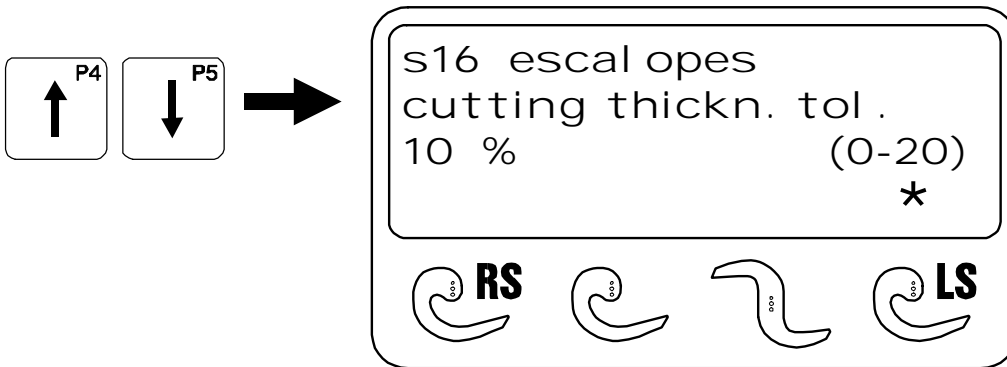
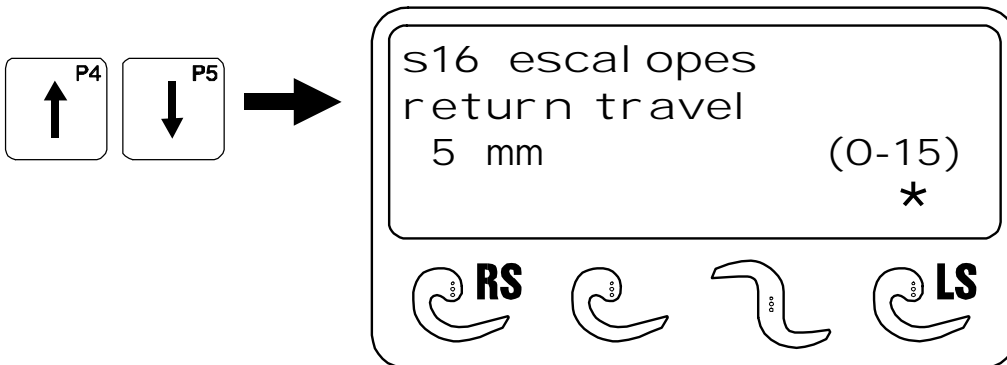
Refer to section 11.8. for explanatory notes to the individual parameters.



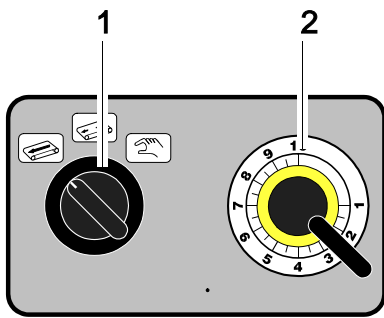
Refer to chapter 11.16.: Operating mode single knife LS
Cutting with empty cuts



Refer to chapter 11.16.: Operating mode single knife LS
Cutting with empty cuts



To start cutting program, refer to section 12.



11.17. Conveyor control

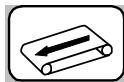
(only for machines with conveyor)

Conveyor speed

...can be adjusted both prior to and during the cutting operation by means of speed controller **2**. The adjustment is independent of the selected cutting program.

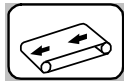
Control

The control system of the machine automatically starts and stops the conveyor belt. The operating mode is set via selector switch **1**:



– *Continuous operation*

The conveyor belt runs at the set speed as soon as the main switch is turned on. This setting is not dependent on the feed movement.



– *Cyclical operation*

The conveyor belt runs at the set speed as soon as the cutting procedure is started. During the manual start-up phase, the conveyor belt is stopped. Immediately after the cutting procedure is ended, the belt stops.



– *Manual feed*

The conveyor belt runs at the set speed as long as the selector switch is held. It is possible to remove the cut slices without opening the removal cover.

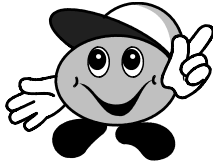


12. Cutting products

12.1. Before you start . . .

Before putting the machine into operation, check the function of the safety buttons every day ! (chapter 8.2)

If one of the safety covers is opened or removed during a cutting process, the machine is switched off automatically, and the knife comes to a standstill instantaneously! By this action, the knife may come to a standstill in the chamber.



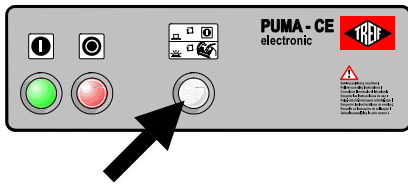
Attention:
Danger of injury on the stationary knife!

NOTE: *Before starting cutting operations, always check to ensure that the machine is perfectly clean. If it is not, thoroughly clean and disinfect it (see chapter 14)*

12.2. Determine start function

You may select between two start functions for the following cutting mode:

- Starting the machine via the START button:
Deactivate 'LID START' switch (lamp off).
- Starting the machine via the replenishing cap:
Activate 'LID START' switch (lamp on).



12.3. Product placing

12.3.1 Manual cutting material retainer

- Open the loading door.
- Lift locking lever **2** of the product feed holder: the product feed holder opens.
- Place the product in the infeed chamber, and push the product right up to the product feed holder (cf. chapter 13.2)
- Pull clamping handle **1** of the product feed holder up: the product is attached to the product feed holder.
- Close the loading door.



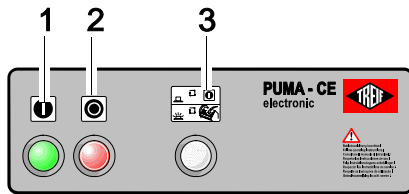
12.3.2 Pneumatic product holder

- Open the loading door.
- Place the product in the infeed chamber, and push the product right up to the product feed holder. (cf. chapter 13.2.)
- Close the loading door.



The cutting material holder automatically grips the cutting material upon activation of the machine. The cutting material holder opens up and automatically ejects the residual piece upon completion of the cutting process.

NOTE: *Manual closure of the cutting material holder is recommended in the event of cutting materials with a misshapen end piece.*



12.4. Running the cutting program

- Place the product as described in chapter 12.3.1

Depending on the position of the 'LID START' 3 switch::

- *LID START OFF (lamp off):*
Press *START* button. The machine starts running!
- *LID START ON (lamp on):*
The machine starts upon closure of the replenishing cap.

Upon activation, the cutting material holder continuously pushes the cutting material towards the knife slot. The knife stands still during this "start-up phase". Once the cutting material has reached the knife slot, an optical sensor activates the cutting program and the knife starts operating.

Conclusion: The cutting programs do not start when no product has been laid in the infeed channel !



NOTE: The "STOP" button can be used at any time to interrupt the cutting process.



In order to stop the cutting procedure as fast as possible in case of danger, the emergency shut-down switch has to be actuated. In this way the knife may come to stop in the chamber. Danger of injury on the stationary knife!

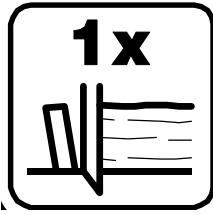
12.5. After the product feed holder has returned:

The replenishing cap opens automatically upon completion of the return journey of the cutting material holder.

- Open the cover of the removal hopper, and remove the slices cut from the chamber. (Does not apply to machines with conveyor belt).
- Remove residual piece from cutting material holder (does not apply if pneumatic cutting material holder is assembled).



12.6. The single-cut function

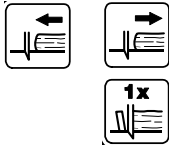


The single-cut function has mainly two purposes:

- cutting the product individually with different cutting thicknesses
- interrupting a cutting process to cut, for example, a roast piece out of a cutlet section.

Cutting a product piece individually:

- Open the infeed cover
- Insert cutting material and attach to the cutting material retainer.
- Close the infeed cover
- Move the product to the desired cutting position by pressing the button 'Product holder forwards' and 'Product holder return'.
- Press button 'SINGLE CUT'.
One cutting process is performed.

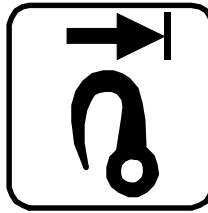


The product can now be cut individually using the buttons 'Product holder forwards' and 'SINGLE CUT'.

Interrupting cutting process to cut a piece out of a product section:

- Interrupt cutting process at the desired position by means of the "STOP" button.
- Move the product to the next cutting position using the button 'Product holder forwards'. (If you have moved the product too far forwards you can move it backwards by pressing the button 'Product holder return').
- Press button 'SINGLE CUT'.
One cutting process is performed.
- Press "START" button to complete cutting of the remaining piece according to the program.



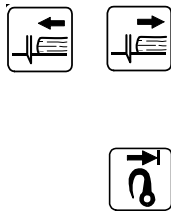


12.7. Return travel limitation of the product feed holder

Purpose:

If a particular cutting programme is used always to cut short products (e.g. escalope), the return travel of the product feed holder in the infeed chamber can be limited. In this way, empty travels of the product feed holder can be avoided.

Adjustment of the return travel limitation:



- Use the keys 'forward movement of product feed holder' and 'backward movement of product feed holder' (with the knife at a standstill) to move the unit into the requested out-off position.
- Briefly press the "Return travel limitation" key. In the subsequent cutting cycles, the product feed holder will return to the position set only. The following additional message will appear on the display:

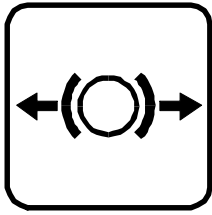


Cancel return journey limitation



- Press the "Return travel limitation" key and keep it pressed until the display indicates the cancellation of the return travel limitation.

NOTE The return travel limitation is not saved in the program. When the machine is switched off, the return travel limitation set will be erased automatically.

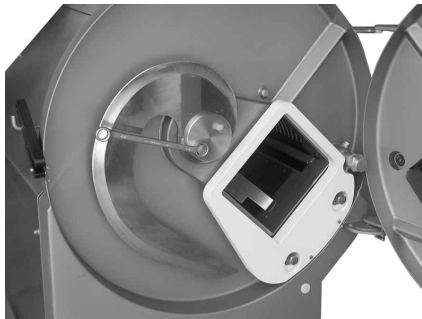


12.8. BRAKE RELEASE" push-button

The key "loosen brake" is for fault clearance, if for instance the knife jams in the knife slot as a result of bone splinters, and for twisting the knife into a freely accessible position while exchanging the knife.

If the knife jams in the shaft:

- Open the knife box door.
- Press the "RELEASE BRAKE" push-button
The following indication will appear on the display:



The brake of the knife motor is released, and the knife can be turned freely.

Use the ring spanner supplied along with the machine to turn the knife!

WARNING: Danger of injury on the standing knife!

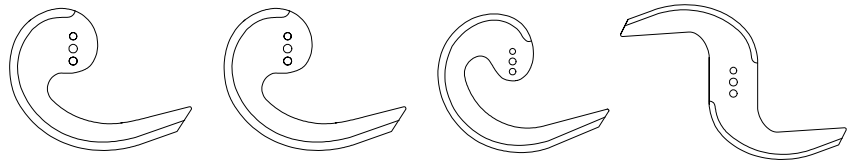


- Eliminate cause of fault.
- Press the "RELEASE BRAKE" push-button again:
The 'Brake of knife release' function is reset.
- Close the knife box door, and continue with the cutting operation.



13. Cutting instructions

13.1. Types of knife available



A wide selection of knives is available for the PUMA-CE.

As a standard feature the machine is equipped with a “single knife” and a “double sickle-shaped knife”, if nothing to the contrary has been agreed upon when the machine is ordered.

The different types of knife are distinguished from each other by the following:

- Length of cut
- Method of grinding
- With or without serrations and type of serration
- Single or double blade

Please make use of the expertise of our Applications Technology Department and consult us if you require advice on a suitable knife for your particular needs.

Selection of the correct knife

Advantages of single blade

- Max. cutoff length, 250 mm
- Less waste,
- Fewer bone fragments
- More uniform slice thickness (particularly with thin slices)

QUALITY!

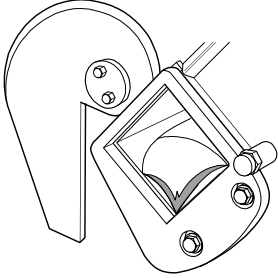
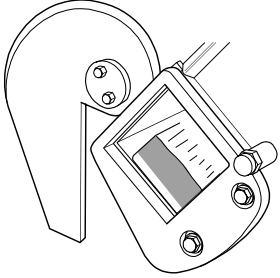
Advantages of double blade

- Double the capacity of a single blade

CAPACITY!



13.2. Place the product properly !

Cutlets with rib bones	Belly
 <p data-bbox="539 689 922 779">If possible, place the rib bones along the front wall of the infeed chamber.</p>	 <p data-bbox="984 689 1361 779">Place the belly as shown in the drawing. The rind must always be underneath.</p>

Other notes:

- As a rule the best cutting results are obtained at a temperature of the product to be cut of 0° to -2° Celsius.
- Make sure to have a sharp knife !
Adhere to the sharpening instructions. (cf. chapter 15.2)
- Make sure the product to be cut is securely placed in the infeed channel. Whenever possible, secure the product by means of the product feed holder, without fail.
- Pay attention that the counter-blade is adjusted correctly in accordance with the cutting material! Observe height adjustment of the counter blade! (Refer to section 15.5.)

In case of irregular cut-off lengths, please refer to chapter 16: "Fault finding".

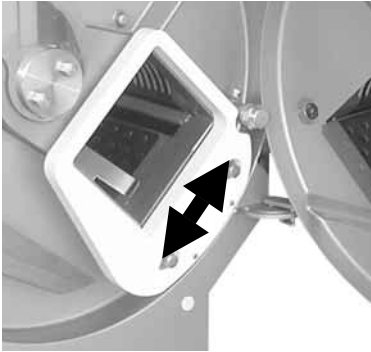


13.3. Cutting with or without counter-blade

(For machines with a conveyor belt only)

It is sensible to cut without a counter-blade when cutting thin slices (< 5 mm).

This way the cut off slices are fanned out more precisely onto the conveyor belt.



13.3.1 Height adjustment of the counter-blade

The height of the counter-blade can be adjusted to suit the cutting material, in order to achieve a better cutting result.

- with soft or fresh cutting material = setting "**bottom**"
- with firm or semi-frozen cutting material = setting "**top**"

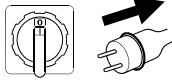
For height adjustment of the counter-blade, refer to section 15.5.



14. Cleaning

After every working session, i.e. depending on the product and soiling of the machine, but at least once a day, the machine has to be cleaned and disinfected !

In order to permit the machine to be thoroughly cleaned, some components must be removed or disassembled. These operations are described on the following pages.



Always place the dismantled parts in a safe place.

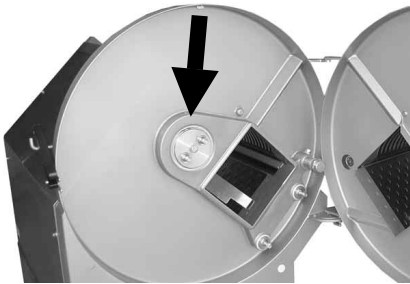
For all cleaning work: Always switch off main switch, and disconnect the machine from the power outlet.



Please keep in mind, especially during cleaning, that severe injuries may occur on standing knives as well !



Always wear cut-proof gloves, a cut-proof apron, and non-slip-ping and cut-proof shoes for all work on the open cutting chamber and for cleaning the cutting set blades !



Daily checks:

If the seal on the knife shaft becomes damaged, a breeding ground for bacteria may develop inside the machine.

After every cleaning process, inspect the knife shaft seal (arrowed) for visible damage.

If it is damaged, have it replaced by the TREIF service engineer immediately !

For machines with a conveyor belt only !



Attention: Danger of tilting !
When the conveyor is fitted the machine is top heavy when the knife box door is opened!
For this reason always dismantle the conveyor when you wish to open the knife box door ! !



14.1. Preparatory work for cleaning

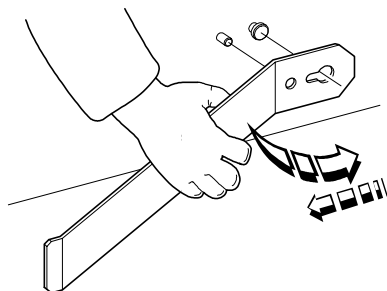


For machines with a conveyor belt only

- Disassemble the conveyor belt (cf. chapter 7.1.)

⚠ No water may penetrate into the plug housing when cleaning the conveyor belt !

- Remove conveyor belt (cf. chapter 7.3)



Dismounting the holding appliance:

- Lift retainer away from the chamber wall slightly and pull back.



Remove the feed cover:

- Use both hands to get hold of the feed cover at the upper inside edge, and remove the unit to the top.



Open knife box door and remove the door latch:

- Move the door latch and open the knife box.
- Relocate the door latch and remove it.



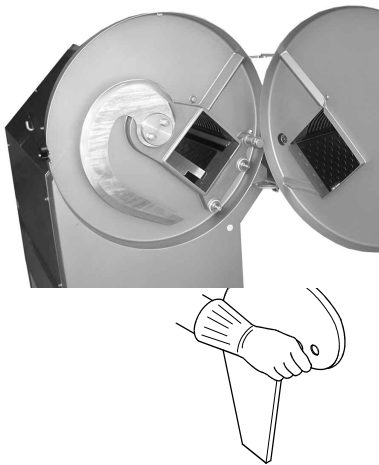
Unscrew the counter-blade:

- Unscrew the hexagonal screws 1
- Remove counter-blade

ATTENTION: the counterblade is fragile. Do not drop it !



refer to chapter 14.1: Preparatory work for cleaning

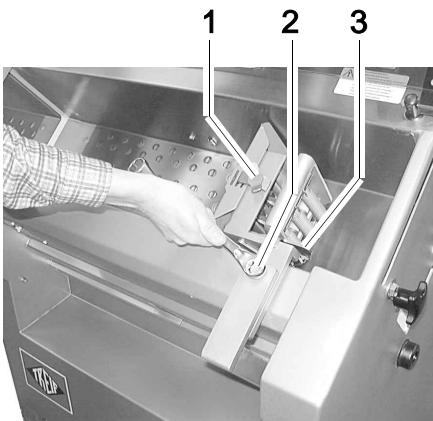


Removing the knife:

⚠ Always wear the personal protective gear prescribed in the chapter "safety" when working in the open cutting range and when cleaning the knife! !

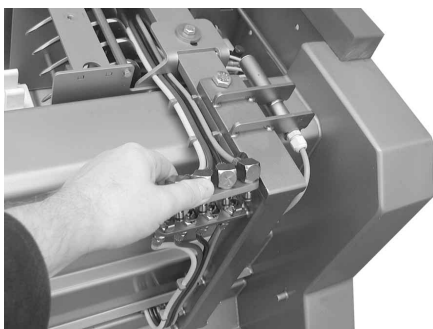
- Loosen both hexagonal nuts by means of the provided ring spanner.
- Hold the knife with one hand and unscrew both nuts.
- Remove retaining disc and take the knife off

⚠ Attention:
Get hold of the knife only in the way shown in the drawing !



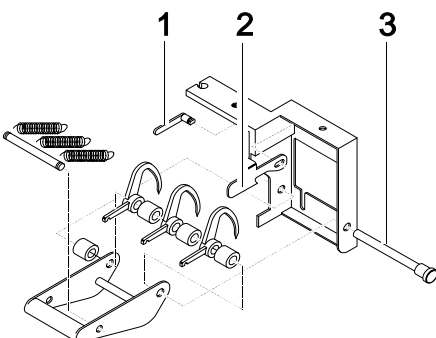
Removing the product feed holder:

- Raise the locking lever **3** and open the product feed holder. (With manual cutting material holders)
- Unscrew the locking handle **1** and remove the clamp.
- Lift the feed plate out of the retainer.



With pneumatic cutting material holders:

- Loosen pneumatic connection.
- With the ring spanner supplied, unscrew the hexagon screw **2** a few turns.
- Remove the product feed holder upwards out of the machine.



Disassembly of the product feed holder: (With manual cutting material holders only)

- Unhook the springs from the gripping spikes.
- Pull out axle **3**:
the product feed holder will then separate into its component parts.
- Turn spindle **1** through 90° and remove locking lever **2**.



14.2. Instructions for cleaning

In order to avoid damage to the machine and to guarantee a hygienic cleaning of the machine, cleaning has to be effected according to the cleaning, and disinfection plan listed below.

The data in the cleaning plan refer to single-shift-operation !!

Solely the specified and approved cleaning agents and disinfectants may be used, in order to avoid damage to the machine. Use of chloric cleaning agents is prohibited.

The water temperature for cleaning must not exceed 50° C.

14.2.1 Requirements for successful hygiene:

Good cleaning is a pre-requisite for successful disinfection. The cleaning should only be carried out by trained staff !

- Observe the steps described in the cleaning plan, such as:
 - Pre-cleaning
 - Cleaning
 - Disinfection
- Only start with the disinfection after completion of all cleaning measures to be carried out within the room.
- It is imperative to adhere to the dosage of the detergent and disinfectant. Use measure !
- Avoid water puddles.

14.2.2 Safety instructions for cleaning

- Procure the corresponding DIN Safety Data Sheets for the detergents and disinfectants used.



During cleaning, always use the personal protective equipment stated in the DIN Safety Data Sheets for the detergents and disinfectants !

If a high-pressure cleaning device is used:

- Distance to the machine should be at least 50 cm !
- Pressure should never exceed 50 bar !
- Do not direct the spray jet on to the operating buttons !
- Do not spray into the machine from the bottom !
- Do not damage the warning signs !



14.3. Cleaning and disinfection plan

Pre-Cleaning (Start after finishing production)				
<i>Working steps</i>	<i>Detergent</i>	<i>Process</i>	<i>Appliances</i>	<i>Notes</i>
Coarse cleaning, (removal of product rests)	---	manual, mechanical	plastic spatula, plastic scraper	---
Dismantling of small parts	---	---	ring spanner supplied	
Rinse thoroughly	potable water	low pressure < 30 bar temperature 50° C (according to fat softening point)	low-pressure cleaning device, hose	From top to bottom. Do not forget small parts !
Check for visual cleanness	---	visual	---	---

Cleaning (alkaline or acid)				
<i>Working steps</i>	<i>Detergent</i>	<i>Process</i>	<i>Appliances</i>	<i>Notes</i>
Cleaning small parts	Ecolab: 1-2% * P3-steril	use brush to manually clean in the tub low pressure < 30 bar action time: approx. 15-30 min temperature 40° C	low-pressure foaming device, manual spraying device, brush, tub	Spray small parts from bottom to top
Alkaline cleaning (daily)	Ecolab: 2-5% * P3-topax 19 or Topactive 200	lather, low pressure < 30 bar action time: approx. 15 min	low-pressure foaming device	Foam the machine from bottom to top
Acid cleaning (To be employed approx. once a week instead of alkaline cleaning, if necessary, to remove any furring.)	Ecolab: 2-5% * P3-topax 56	lather low pressure < 30 bar action time: approx. 15 min	low-pressure foaming device	Foam the machine from bottom to top
Rinsing	potable water	low pressure < 30 bar temperature 50°C	low-pressure cleaning device, hose	Rinse the entire machine from top to bottom; rinse small parts on a grate or table.
Check for visual cleanness	---	visual	---	Check product- touching and adjacent areas especially.



Disinfection (after completion of all cleaning measures to be carried out within the room)				
<i>Working steps</i>	<i>Detergent</i>	<i>Process</i>	<i>Appliances</i>	<i>Notes</i>
Disinfection small parts	Ecolab: P3-alcodes	spray	low-pressure cleaning device, atomiser pistol, dosage device	Spray small parts from top to bottom.
Disinfection	Ecolab: 1 % * P3-topax 91 P3-topax 99	spray, lather, low pressure < 30 bar depending on the action range; observe instructions of Henkel Company	low-pressure cleaning device, atomiser pistol, dosage device	Spray the machine from top to bottom. Please observe the regulations of the authorities.
Rinsing	potable water	low pressure < 30 bar	low-pressure cleaning device, hose	Observe excerpt from the Regulations on Meat Hygiene !
Drying	---	---	---	---

* = solution in potable water

Excerpt from the Regulations on Meat Hygiene, Encl. 2, II, 4:
Materials, such as detergents and disinfectants, are to be used in such a way that they do not have a detrimental action on the furnishing equipment or the working equipment.
They have to be rinsed thoroughly after use.

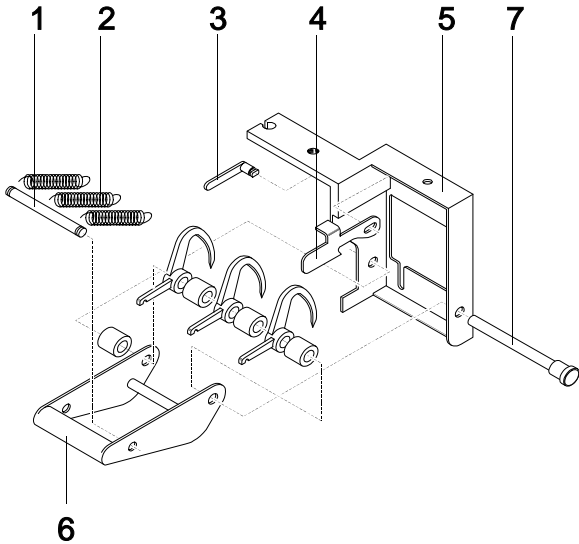
Check after each cleaning that none of the safety signs are missing or unreadable.



14.4. Remounting after cleaning

Assembly of product feed holder:

(With manual cutting material holders only)



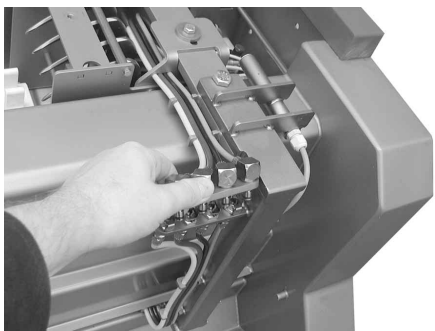
- Insert spindle **3** as shown in the drawing.
- Install locking lever **4** and turn spindle **3** downwards.
- Fit clamping lever **6** (observe correct fitting position).
- Push shaft **7** into the frame **5** of the product feed holder to a distance of a few centimetres.
- In the following sequence, install a spacer, gripping spike, spacer, gripping spike, etc. on the shaft as shown in the drawing.
- Now push the shaft **7** fully through the retaining plate.
- Install the springs **2** on the locking pin **1**.
- Place the locking pin with springs in the clamping lever.
- Hook the springs into the holes in the gripping spikes.
- Raise the clamping lever **6** and secure locking lever **4**.



Installing the product feed holder:

Fit the product feed holder under the retaining bar.

- With the ring spanner supplied, tighten hexagon screw .

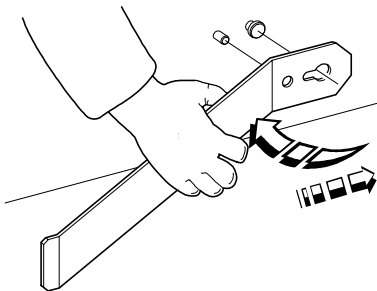


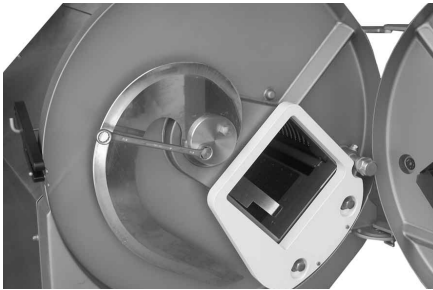
With pneumatic cutting material holders:

- Reattach pneumatic connection.

Installing the clamping arm

- Secure downholder as diagrammed.

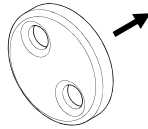




ref. to chapter 14.4: Remounting after cleaning

Mounting of knife:

- Place the knife on the knife shaft (wrong fitting is not possible due to the different diameters of the mounting holes).
- Place retaining disc (observe fitting position !).
- Tighten hexagon nuts .



⚠ Always wear your personal protective clothes and equipment described in the chapter "Safety" when handling knives !



Screw on counterblade:

- Fit the conterblade correctly.
- Tighten hexagon head cap screws **1**.

ATTENTION: the counterblade is fragile. Do not drop it !



Close knife box door:

- Place the door latch on the bolt, and relocate it to the left.
- Close the knife box door, and move the door latch upright again.



Mounting the feed cover:

- Install the feed cover at an angle from above, making sure that it fits tightly at both ends.



For machines with conveyor

- Fit conveyor belt (cf. chapter 7.3)
- Mount the conveyor (cf. chapter 7.2)

After this mounting work the machine is ready for operation again.



15. Maintenance

The function of the safety switches has to be verified after all maintenance and repair work (chapter 8.2)

Carry out an operational check after every maintenance work.

Being the buyer/operator, have the check-up work confirmed. In this way the adherence to the check-up work for safety and warranty reasons can be verified easier.

For this purpose use the maintenance record in chapter 20.

For machines with conveyor:

 **Attention: Danger of tilting !**
When the conveyor is fitted the machine is top heavy when the knife box door is opened !
For this reason always dismount the conveyor when you wish to open the knife box door !

15.1. Regular maintenance work

The following table lists all maintenance work to be carried out regularly. Below the table the individual work will be described in greater detail.

work	when	chapter
sharpening of knife	when blunt	15.2
lubrication of the guide part	40 operating hours	15.3
Adjustment of the counter-blade	when new counterblade is fitted	15.4
for machines with conveyor		
retensioning of the conveyor belt	when the conveyor belt runs lopsidedly, resp. slips through	15.5
set spacing between conveyor and counterblade	when a conveyor is fitted for the first time	15.7



15.2. Knife sharpening



Always wear your personal protective clothes and equipment described in the chapter "Safety" when handling knives !

15.2.1 Serrated standard knife: TREIF-order-No.: 43 765

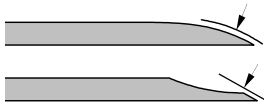
NOTE It is not possible to regrind serrated knives on site as special sharpening equipment is required for the purpose. Please get in touch with your dealer or directly with TREIF !

Please send your blunt cut-off knife to the following address with a note reading "for regrinding":

**TREIF - Maschinenbau GmbH
Südstraße 4
D-57641 Oberlahr / Ww.**

TIP We recommend to stock a second cut-off knife for exchange in order to prevent downtimes of the machine.

15.2.2 Sickle-shaped knife:



15.2.3 Hollow-edged knife:

Special care must be taken when grinding to obtain the crowned blade contour which is extremely important for good cutting results!

Note: Only sharpen the bevelled side of the blade.

- Sharpen the knife edge only in wet state by means of a whetstone.
- Subsequently remove the burr on the rear side of the blade with a polishing disc or a whetstone !
- In the event of major damage on the edge, the blade has to be disassembled (cf. chapter 9.2), and has to be resharpened on the bevelled side under a full, steady jet of water (cf. sketch).
- Subsequently, the burr on the rear side of the blade has to be removed.

NOTE: The high-quality, hardened knife steel must by no means exceed 100° Celsius during the sharpening process. At higher temperatures the knife loses hardness, and thus turns blunt faster.







15.3. Greasing of the feed guide part

The friction bearing of the feed guide part has to be greased every 40 operating hours. For this purpose use the grease gun supplied along with the machine.

- **IMPORTANT:** Move product feed holder into its furthest, right-hand end position.
- With a grease gun, pump several shots of grease into the grease nipple, as shown in the drawing.
- To be performed monthly:
Unscrew and remove the rear panel from the machine and wipe off residues of grease from the feed guide assembly and sliding bar.

To refill the grease gun refer to your dealer for the type of grease approved of by us. If you want to buy the lubricating grease yourself, use one of the following greases:

Grease producer	Kind of grease
	MOBILUX
	SHELL FB 2 DARINA FETT 2
	ARALUB HL 2
	MULTIFAK 20
ARAL	EURAL GREASE EP 2*

* USDA - H1approved



15.4. Adjustment of the counterblade

ATTENTION:

the counterblade is fragile. Do not drop it !

If a new counterblade is mounted for the first time, the gap to the non-cutting knife edge has to be set anew.

Please proceed as follows: (knife has to be mounted previously)

- Set the main switch to "ON".
- Open the knife box door.
- Dismount conveyor when fitted.
- Press the 'Brake release' push-button:

The following indication will appear on the display:



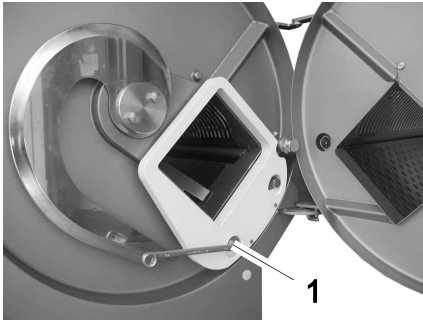
The brake of the knife motor is released, and the knife can be turned freely.



Never touch the knife edge! Always wear the personal protective gear specified in chapter "Safety" when handling knives!



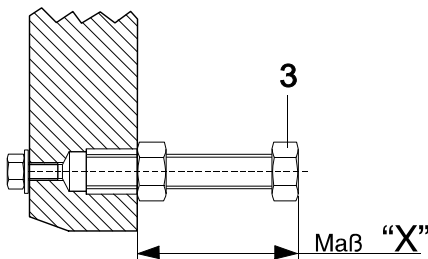
ref. to chapter 15.4. Adjustment of the counterblade



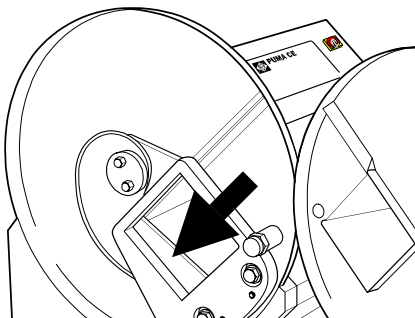
- Undo collar nuts **1** and disassemble the counterblade.



- Loosen both lock nuts **2** on the back side of the counter-blade



- Preset hexagon head cap screws **3** to a height of approx. 49 mm (Refer to measurement "X" drawing)
Do not tighten lock nuts **2** !

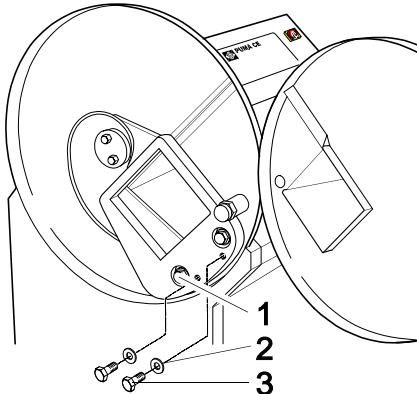


- Fit the counterblade correctly, and use collar nuts **1** to screw down.
- Check the space between the counterblade and the knife.
*The counterblade should be set as closely as possible to the non-cutting knife edge, but it must not make tight contact !
The gap between cut-off knife and counter-blade should measure **0.5 - 1.0 mm** in the lower area (arrow).*
- If the distance of the counter-blade is too wide or too narrow - readjust distance. See next page.

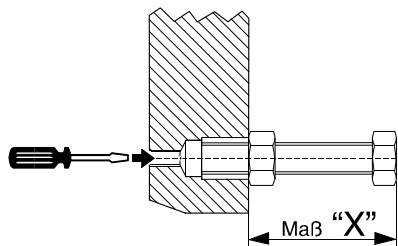


ref. to chapter 15.4. Adjustment of the counterblade

Readjust distance of the counter-blade



- Loosen both union nuts **1** half a turn.
- Loosen hexagon head screw **3** with washer **2** and unscrew.



- Readjust the distance of the counter-blade via hexagon head screws **4**. For this purpose, insert a screwdriver into the front end of the threaded hole (M6x8) and adjust both hexagon head screws to the desired degree.

Reduce distance:

Tighten hexagon head screws

Increase distance:

Unscrew hexagon head screws

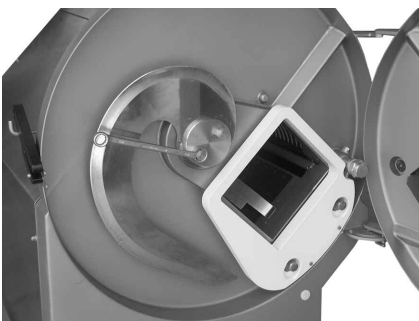


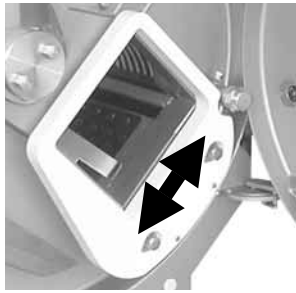
If the setting is correct

- Remove counter-blade and tighten both lock nuts **5**.
*Note: Make sure that adjusting screws **4** do not twist thereby!*
- Insert counter-blade in the correct installation position and secure with union nuts **1**.
- Insert hexagon head screws **2** with washers **3** and tighten.

Check:

- After this adjustment, turn the knife through the shaft several times by means of the provided ring spanner.
- Close the knife box door
- Press the "RELEASE BRAKE" key again:
The "KNIFE BRAKE RELEASED" function is cancelled.
The knife will be adjusted automatically in the correct position. Afterwards the machine is ready for operation.





15.5. Height adjustment of the counter-blade

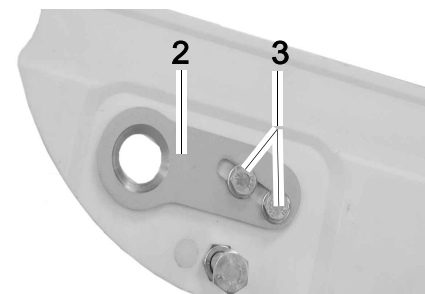
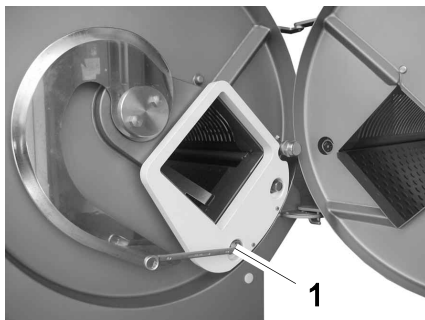
The height of the counter-blade can be adjusted to suit the respective cutting material, in order to attain a better cutting result

- Set the main switch to "ON".
- Dismount conveyor when fitted.
- Open the knife box door.
- Press the 'Brake release' push-button:
The following indication will appear on the display:



The brake of the knife motor is released, and the knife can be turned freely.

⚠ Never touch the knife edge! Always wear the personal protective gear specified in chapter „Safety“ when handling knives!

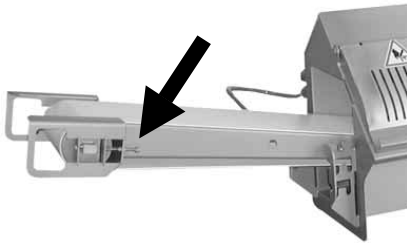


- Undo collar nuts **1** and disassemble the counterblade.
- Loosen both hexagon head screws **3** on the back side of the counter-blade.
- Shift locking plate **2** until the desired adjustment is achieved.
 - with soft or fresh cutting material = setting "**bottom**"
 - with firm or semi-frozen cutting material = setting "**top**"
- Fit the counterblade correctly, and use collar nuts **1** to screw down.
- Close the knife box door.
- Press the "RELEASE BRAKE" key again:
The "KNIFE BRAKE RELEASED" function is cancelled.
The knife will be adjusted automatically in the correct position. Afterwards the machine is ready for operation.



15.6. Retensioning the conveyor belt

(only for machines with conveyor)



If the conveyor belt moves lopsided or slips it must be retensioned as follows:

- Let the machine run in slow conveyor speed.
- For retensioning evenly turn the clamping screws (arrows) clockwise until the conveyor does not slip any more.

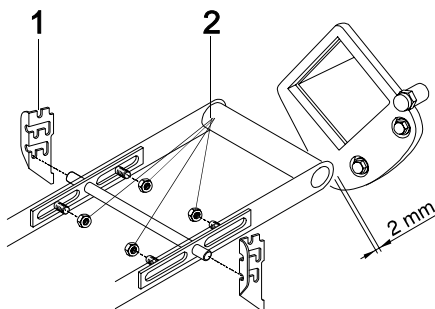
Advice: The conveyor belt **has to run in the centre** of the conveyor belt carrier. If it should run lopsidedly, the clamping screw on this side has to be loosened somewhat, resp. the screw on the opposite side has to be somewhat retensioned.



It is imperative that you make sure the belt runs in the centre of the belt carrier and does not scrape anywhere. Scraping along the belt carrier will destroy the belt !

15.7. Setting spacing between conveyor and counterblade

When you install a conveyor for the first time, the spacing to the counterblade must be set as follows:



- Remove conveyor belt (cf. chapter 7.3)
- Slide conveyor (without conveyor belt) into the outlet channel (pay attention to mounting position) and hang it into the bolts **1** at the side.
- Loosen both hexagon head screws **2** on the back side of the counter-blade.
The conveyor belt frame can now be horizontally displaced.
- Slide conveyor towards counterblade to a spacing of 2 mm.
- Retighten all four hexagon nuts **2**.
- Dismount conveyor frame once more and fit conveyor belt (cf. chapter 7.3)



16. Fault finding

Failure	Reason	Remedy
No LCD display	Main switch not turned on	Turn on main switch
	Supply line has not been connected properly	Check supply line
	Fuse in power feed cable defective	Replace
Display shows: Emergency off – Knife box – Infeed chamber – Removal – Feed cover	Knife box door not closed	Close
	Loading door not closed	Close
	Cover of the removal hopper not closed	Close
	Feed cover not closed	Close
Display shows: Failure – Knife drive – Feed drive	Motor overheated during operation	Let it cool down (restarting is carried out automatically) If this failure should occur more often, consult expert
	Feed drive overheated during operation	Let it cool down, then switch main switch off and on again. If this failure should occur more often, consult expert
Machine does not start after pressing the START button	Starting procedure has not been observed	Open and close the loading door, and then press START button
Cutting process starts immediately without the product being pushed forward first	Lens of the optical detector is dirty	Clean lens
Product feed holder does not move forward	Product is too large: product is jammed	Cut product into smaller pieces
	Slide bearings of the guide part have run "dry"	Lubricate guide part cf. chapter 15.3
Product feed holder moves backward for a short distance only	return travel limitation has been set too far to the front	set limitation further back or erase cf. chapter 12.7
Lengths of first cuts are irregular	Product is too soft	Chill the product
	Product has not been attached to the product feed holder	Attach product to the product feed holder
	Slide bearings of the guide part have run "dry"	Lubricate guide part cf. chapter 15.3



Failure	Reason	Remedy
Cuts are not cut through properly	Knife tip is too short due to frequent regrinding	Replace knife
Knife sticks in channel	Bone fragments in product	Release brake and remedy the failure cf. chapter 12.8
Poor cutting results	Knife is blunt	Regrind or replace knife (re cf. chapter 15.2 or 9.2)
Pneumatic cutting material holder does not grip automatically	Compressed air supply of the machine out of order	Check compressed air supply (re cf. chapitre 6.4.)
	Plug connector of compressed air supply not reconnected after cleaning	Insert plug connector (Refer to page 68)

Only for machines with conveyor:		
Conveyor belt runs lopsidedly	belt is not tensioned equally	readjust the tensioning screws cf. chapter 15.6
Conveyor belt slips through	belt has not been tensioned enough	tighten tensioning screws cf. chapter 15.6
Conveyor belt does not run	conveyor speed control system is set to position »O«	change setting Also possible with the machine running
	Plug not inserted in conveyor	Insert plug cf. chapter 7.2
	Conveyor drive motor overloaded	Let it cool down (restarting is carried out automatically)



17. Repair instructions

 The work described below may only be carried out by the service department or especially trained staff.

Note: When carrying out any work on the electrical systems, always observe the information in the relevant circuit diagram.
Do not hesitate to telephone our customer service department with any questions you may have. (☎ 02685/944-0)

Failure	Reason	Remedy
No LCD display	Input fuse in feed cable defective	Replace
	Fuse F1, F2, F3, F4 or F5 defective	Replace
	Display defective	Replace
	Control unit N 1 defective	Replace
	Power unit T1 defective	Replace
Display shows: Emergency off — Knife box — Infeed chamber — Removal — Feed cover	Appropriate cover is open	close
	Are solenoids of S1, S2, S3 and S4 active ?	Check, and replace the solenoid, if necessary
	Motor protection switches S1, S2, S3, S4 have been misaligned or are defective	Adjust, respectively replace
Display shows: Failure — Knife drive — Feed drive	Motor overheated during operation	Let it cool down (restarting is carried out automatically)
	Feed drive overheated during operation	Let it cool down, then switch main switch off and on again
After pressing the Start push-button, the product feed holder does not move forward (no message on display)	Feed motor is defective	Repair or replace
	Synchronous belt has torn	Replace
Product feed holder stops at front; knife continues running	Proximity switch S15 is defective or misaligned	Replace or adjust
Product feed holder has moved backward; the feed motor continues operating (friction clutch causes loud banging)	Proximity switch S6 is defective or misaligned	Replace or adjust
'Open and close loading door' message cannot be removed after several attempts	CPU A1 defective	Replace May be replaced by same make / type only !
	Contactors K1M, K1S, K2, K3, K4, K5 or K6 is defective	Replace May be replaced by same make / type only !
Cutting process starts immediately without pushing the product forward first	Emitter S16A or reflector S16B of the light barrier is dirty or defective	Clean or replace



Failure	Reason	Remedy
Knife motor does not run	Contactors K1M or K4 is defective	Replace May be replaced by same make / type only !
	Brake of knife motor is defective	Replace or repair
	CPU N1 defective	Replace
'Brake release' function has been selected; knife cannot be moved	Contactors K3 or K6 is defective	Replace
	CPU N1 defective	Replace
Knife partly stops in the chamber	Adjustment of the knife brake has changed due to wear	Replace or readjust the knife brake

Only for machines with conveyor		
conveyor belt does not run	Fuse F1, F2 or F3 defective	Replace
	Conveyor drive motor overloaded	Let it cool down (restarting is carried out automatically)
	Conveyor drive motor defective	Replace
	Power control N2 of the conveyor drive motor is defective	Replace



18. Service Menu

Warning !

Modifications of the adjusted values may cause wrong functions of the machine !

Purpose:

TREIF PUMA-CE 'electronic' has been provided with a service menu, in which various parameters have to be determined and then adjusted in dependence of some "hardware" components (eg. light barrier).

The adjustments have to be modified, if:

- a new light barrier has been installed
- another display language is requested.
- the originally programmed cutting program (adjusted in the works of the manufacturer) is to be activated again.

Warning ! All your inputs and modifications will be lost !

- a new "rear limit switch" has been adjusting

Please proceed as follows:

The following steps describe, how

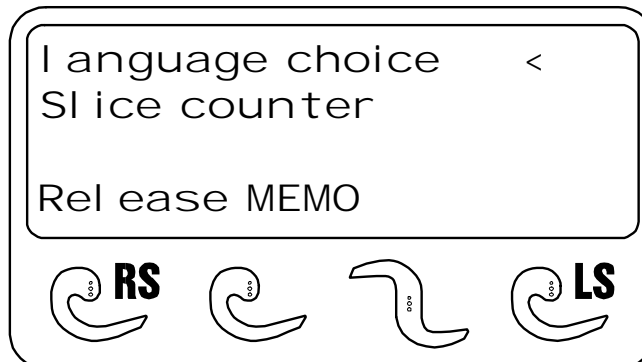
- the service menu is called.
- the requested program is called
- the modification is carried out.

18.1. Call the service menu



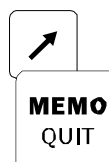
- Set the main switch to OFF.
- Please open the infeed device and close it again
- Press the Service key.

The following display will appear:





Service



18.2. General operation

- Select the requested menu item.
- Press the Service key for acknowledgement.
- Depending on the menu item selected, the input of the service code is requested.
- Use the program function keys to enter **P2**, **P5**, **P4**, and **P6** after each other. In the process, press the Shift key and keep it pressed.
- Carry out the settings, and use the Service key to quit this menu item.
- Use the MEMO/QUIT key to quit the service menu.

18.3. Menu items

	Menu item	Comment
1	Language selection	To be used to set a different display language.
2	Reset slice counter	To be used to set the integrated slice counter to zero
3	Release MEMO	Acknowledgement to save own or modified cutting programs.
4	Initialise the service parameters with the works settings	All cutting parameters will be overwritten with the values set in the works of the manufacturer.
5	Initialise the service parameters with the works settings	All service parameters will be overwritten with the values set in the works of the manufacturer (to be used by service staff only).
6	Edit service parameters	Given standard settings can be viewed and corrected, if necessary (to be used by service staff only).
7	Perform calibration routine	The machine axles will be re-adjusted (cf. chapter 18.4)
8	Quit service menu	Return to the cutting program.




Service

18.4. Calibration routine

- Press the Service key to access the service menu.
- Select the CALIBRATION ROUTINE parameter.
- Use the program function keys to enter **P2**, **P5**, **P4**, and **P6** user code after each other. In the process, press the Shift key and keep it pressed.
- Attach a cuttable and firm measuring object to the gripper hook.
- Use the Feed forward and Feed backward keys to move the feed unit to the front most position.



 **Caution:**
The feed unit must not be moved into the dynamic feed system DVS !



- Press the Start key to start the calibration routine.
- The completion of the routine will be indicated by OK on the display.



19. Stockkeeping of spare parts

Stockkeeping of the most important spare and wearing parts at the location of erection is an important prerequisite for the persistent function and readiness of the machine TREIF PUMA-CE 'electronic'.

To order spare parts please refer to the catalogue of spare parts. The producer shall only assume any guarantee for the original TREIF spare parts supplied by the producer.

The producer wishes to point out explicitly that spare parts and accessories not supplied by him cannot be checked and approved of by his technicians. The assembly and/or use of such products might negatively affect the given constructive properties of the TREIF PUMA-CE 'electronic', and thus might impair the active and/or passive safety. Damage which occurs due to the use of non-original TREIF spare parts and accessories shall be excluded from any liability and guarantee on the part of TREIF Maschinenbau GmbH.

Please note that there are special manufacture and delivery specifications for own and foreign parts, and that the producer will always offer you spare parts according to the latest technical state of the art and in compliance with the latest legal regulations.

On demand the producer will supply you with a list of recommended spare parts to be kept on stock.



20. Records

20.1. Instruction record

Ask your operating and maintenance staff to confirm in the following list that they have read and understood these operating instructions.

These operating instructions have been read and understood.

Date	Name	Signature

20.2. Maintenance record

Ask your maintenance staff to confirm in the following list the maintenance work and performance tests carried out.

Work done	Date	Name/Signature



21. Your cutting programs

No.	Product-name	Cutting thickness	Length / Number of slices	First cut	Remaining piece	Number of empty cuts
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						



No.	Slices/ packet:	Return travel	1 / 2 Slice	Tolerance in cutting thickness	Cutting zone	Type of optimisation	Mode of operation		
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
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20									