

The logo consists of the word "SCHARFEN" in a bold, white, sans-serif font, centered within a solid blue rectangular background with rounded corners.

Operating Instructions for Food Slicer

Model
VA 4000
VA 4000 GR
VA 4000 T
VA 4000 GR T

Hermann Scharfen
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1. General Information

1.1. Notes regarding the operating instructions

Read the following hints before installing and operating this machine!

Make yourself familiar with this machine by reading this operating instructions carefully.

Within this operating instructions there are indicated the following safety notes and hints:



means Attention. Notes for probable danger and for avoiding mistakes.



means notes and hints regarding certain operation procedures.

1.2. Notes regarding warranty

The installation and initial operation has to be done by an authorised supplier or service technician.

Only trained persons are allowed to operate this machine. When required, the training has to be repeated.

Supervisory and operating staff have to read the operating instructions carefully before initial operation of this machine. Starting, operating and cleaning have to be done according the operating instructions and are only allowed after having been introduced to the way of working.

In case of

- unauthorised installation
- unauthorised electrical installation
- wrong operation
- misuse
- constructional alteration
- detaching security or protecting equipment
- and in case of using non-original Scharfen spare parts

any responsibility from our side is refused.

In above cases the operator acts on his own risk and is responsible himself for damages which might occur.



Therefore, only use original Scharfen spare parts!

In case high pressure or steam cleaning devices or water plugs are used any claims regarding warranty will be refused.

This is valid also for faults and damages which are caused by natural wear and tear.

The pictorial representation might differ from the machine supplied because of regional specific requirements or as a result of technical improvement.

The contents of this operating instructions is not affected by that.

1.3. Notes regarding security

This machine corresponds to legal security and hygienic requirements. Nevertheless there is a risk of getting hurt in case of wrong or inattentive operation or maintenance. Especially for your hands or fingers there is a risk of injury. The operating staff has to be trained carefully how to operate and maintain this machine according to this operating instructions.

Pay attention in any case to the following notes regarding security:



See to it that unauthorised, untrained persons and in particular children cannot start the machine.

It is not allowed to detach, to modify or to disregard protecting or security equipment. Otherwise there is a high risk of injury.

Always work with concentration, do not let distract yourself from your work.

Only cut food products as indicated in this operating instructions.

Never carry out experiments. Never try to cut foreign material.

Never cut deep frozen products.

Never check the sharpness of the blade with your fingers.

Never detach the blade without suitable devices.

Never use the machine as a place to put something on or to do other work on.

Take care that the floor space is clean, dry and non-slip.

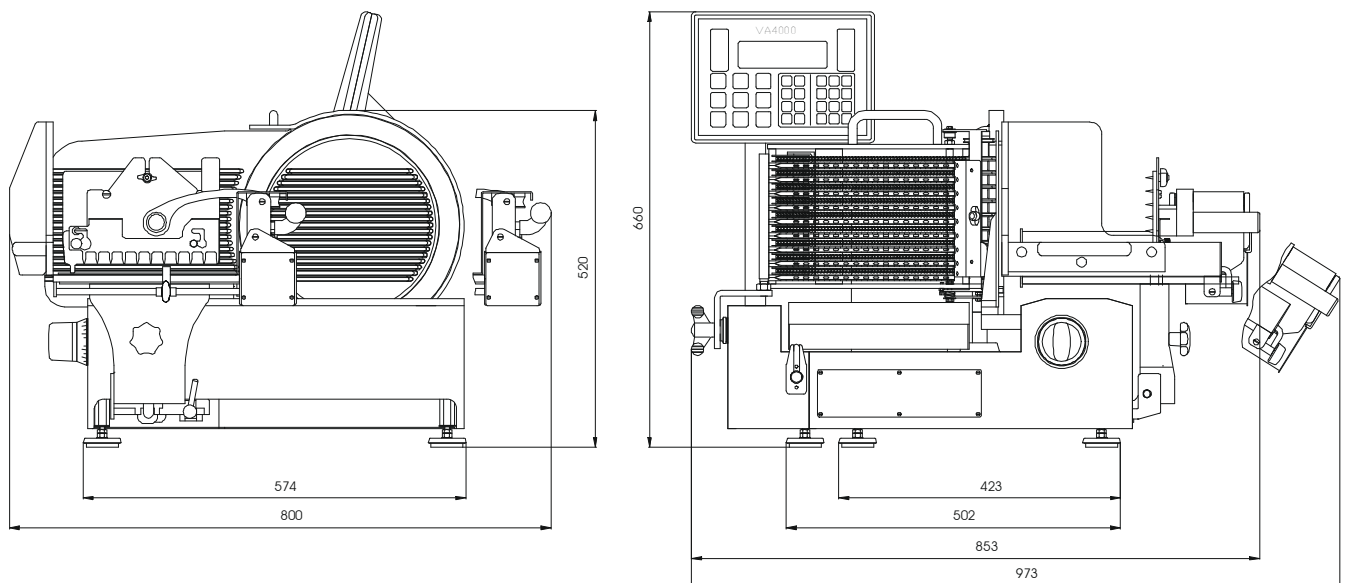
In case the current supply cable or the plug are defective, these parts have to be exchanged or repaired by your after sales service or an electrician.

For cleaning pull the plug in any case.

In case of non-typical noise switch off the machine immediately.

In case the fault cannot be put right by yourself, you have to inform your after sales service.

1.4. Dimensions of the machine and technical data



overall dimensions	w 800 x l 853 x h 660 mm
counter space required	574 x 470 mm
max. cutting size	ca. 255 x 195 mm
thickness of slices (infinitely variable)	0 - 10 mm
diameter of blade	330 mm
sound level	< 54 db(A)
weight	app. 80 kg
voltage and cycles	see rating plate
power	0,6 kW

Manufacturer: Hermann Scharfen GmbH & Co. Maschinenfabrik KG

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1.5. Description of the machine

This food slicer is fully automatic with integrated shingling and stacking device.

The carriage is moved automatically. For cleaning and sharpening the automatic drive of the carriage can be disengaged.

The blade is driven electrically with a 1-phase or 3-phase gear motor. This gear motor is maintenance-free and air-cooled.

By means of a special air circulation the warming up of the motor is very low, especially around the blade.

The automatic carriage is moved by a strong d.c. motor.

The food product is pushed against the blade by a fully automatic end piece holder.

The material used in the food zone corresponds to all requirements of food hygiene.

The complete machine body, the thickness plate, the blade guard and the carriage are made of stainless steel.

The blade is hard chromed.

All visible bearings as well as open sliding surfaces are lubricated only with lubricant suitable for food zones.

For switching the machine on and off there is used a double red/green push button.

Self-starting of the machine after a voltage drop is avoided by the electric control.

There are internal fuses to protect the electronic control and the motors controlled electronically.

The carriage can only be tilted aside when the automatic drive is disengaged and the thickness plate is closed completely.

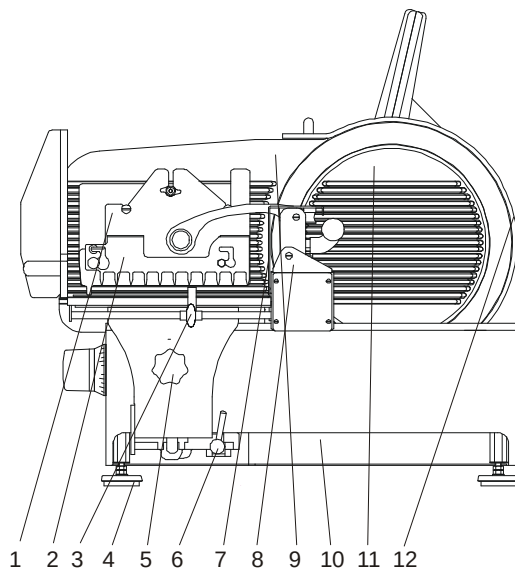
When the carriage is tilted aside, the thickness plate is locked in this position.

The protecting and security equipment as well as electrical and mechanical components correspond to regulations in force.

The machine is equipped with the following security equipment:

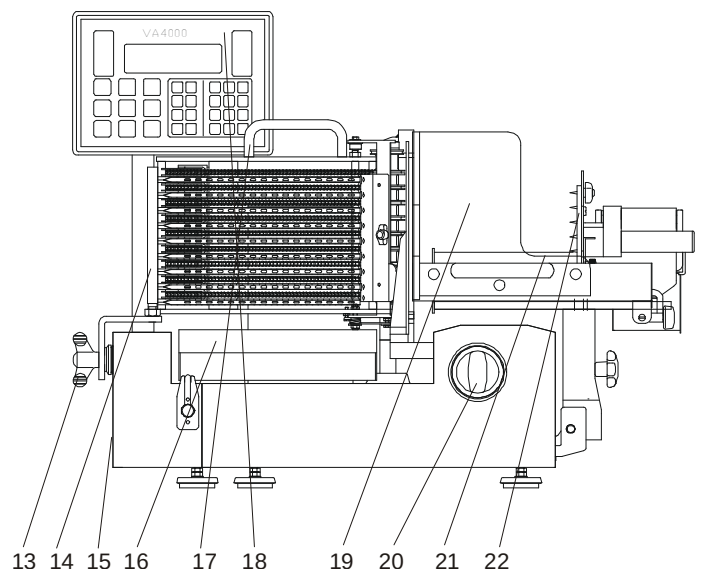
- no self-starting of the machine after a voltage drop
- fully automatic stop of the blade
- double push-button
- fixed ring around the blade, non-removable
- central blade protection, fixed, removable
- locked thickness plate when the carriage is tilted aside
- internal fuses for current supply and electronic control

1.5.1. General plan of the machine



- 1 end piece holder
- 2 comb, end piece holder
- 3 adjusting bar
- 4 rubber foot
- 5 star knob for carriage
- 6 lever
- 7 carriage feed plate
- 8 carriage
- 9 thickness plate

- 10 guiding axle carriage
- 11 blade guard
- 12 fixed ring
- 13 star knob stacking device
- 14 stacking device
- 15 rating plate
- 16 receiving plate
- 17 chain frame
- 18 display and keyboard



- 19 hand protection
- 20 thickness knob
- 21 guiding axle, end piece holder
- 21 plate of end piece holder

1.6. Usage

The following food products can be sliced by taking into account the maximum cutting capacity:

- - all kinds of sausages
- - ham / bacon

- - roast meat / cooked ham
- - meat
- - cheese

The following products are not allowed to be sliced because of danger to get injured:



- NON FOOD articles
- food products with bones
- deep frozen food products

The machine has to be installed in a shopping room. The installation in moist rooms is allowed.

The machine is drip-proof only.

High air humidity and condensation water may damage the machine. The machine is **not splash-proof**.

2. Installation and initial operation



First read the operating instructions very carefully!

You have to pay attention to all notes.

Operating procedures have to be carried out as described.

Always work carefully and with concentration, this way you can avoid damages and injuries.

The installation, introduction and initial operation has to be done by an authorised supplier or service technician.

2.1. Checking the contents of the carton

The supplied carton has to have the following contents:

- Scharfen food slicer model VA 4000
- as well as the following equipment:
- chain frame
- stacking device
- receiving plate or conveyor belt
- table for food slicer (only for machines with conveyor belt)
- sharpening device
- these operating instructions

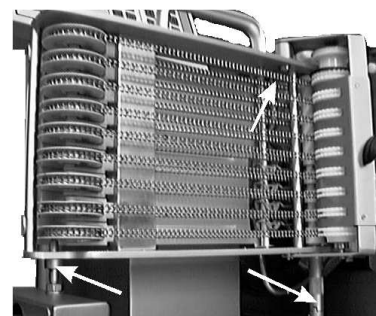
2.2. Installation



The food slicer model VA 4000 has to be installed on a plain, horizontal, non-slip and stable surface. If necessary the machine has to be screwed tight in addition.

Recommended height of the working surface about 800 mm. Pay attention to the required counter space.

Place the chain frame upon the 3 locating bolts.



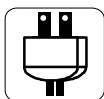
Place the stacking device upon its location bushing and screw it tight.



Place the receiving plate upon the machine.



2.3. Electrical installation



Before you plug in the machine, you have to check if the current supply is the same as indicated on the rating plate. In case there are discrepancies you have to inform the supplier or technical service.

Under no circumstances plug in the machine!

The socket-outlet has to be equipped with earthing contact. It has to be connected according to customary regulations.

A defective socket-outlet may damage the machine or endanger the operator.

In case it is necessary to exchange the plug, this has to be done by an electrician or the after sales service.

2.4. Checking the direction of blade rotation

Switch on the machine.

Push the green push button  → Display is illuminated.

For machines with 3-phase motor:

Close the thickness plate completely. Push the key "cleaning". On the display there is indicated CLEANING and the blade is rotating now.

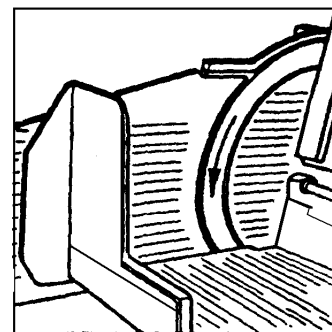


The blade has to rotate in direction of arrow (counter clockwise).

The blade is stopped by pushing again the key "cleaning".



In case the blade rotates in wrong direction, the positions of the poles in the plug have to be changed by an electrician or service technician.



3. Operation

3.1. Important notes before switching on the machine

Because of security reasons pay attention to the following notes:



- first read this operating instructions carefully
- take care that the machine is placed on a stable and secure surface
- work with concentration
- never touch the blade

3.2. Switch functions (push button)

green push button = main switch on

red push button = main switch off



3.3. Thickness of slices

The thickness of slices is infinitely variable from 0 to 10 mm. In order to adjust the thickness of the slices you have to turn the thickness knob. Turning to the right: thickness plate opens. Turning to the left: thickness plate closes. The scale on the thickness knob serves as adjusting aid.



In case the machine does not start after having pushed the key "Start/Stop" and there is flashing on the display the value for the thickness of slices, you have to adjust with the thickness knob a value $>0,4$. Then start again.



3.4. Operation of the end piece holder

Pull the lever of the end piece holder drive in direction of the carriage in order to disengage the lever. Keep the lever pulling while you are moving the end piece holder. In order to engage the lever release the lever and move the end piece holder slightly backwards and forwards.



3.5. Automatic or manual movement of the carriage

The machine is equipped with an automatic carriage movement which can be disengaged. The carriage can then be moved by hand.

automatic movement = lever in upright position

movement by hand = lever in horizontal position

Adjusting automatic movement

Switch off the machine.

Turn lever counter clockwise in upright position.

Move the carriage forward and backward by hand until it is engaged.

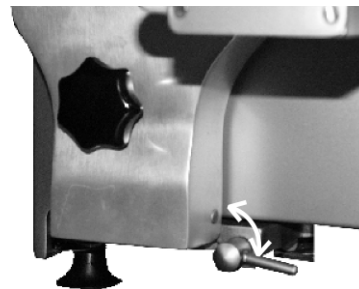
Carriage can no longer be moved by hand now.

Adjusting movement by hand

Switch off the machine.

Turn lever in horizontal position.

Carriage can be moved by hand now.



Always switch off the machine for adjusting the carriage movement!

3.6. Automatic operation

3.6.1. Engaging carriage

Turn lever at the bottom right side of the machine counter clockwise in upright position.

Move the carriage forward and backward by hand until it is engaged.

Carriage can no longer be moved by hand now.

3.6.2. Loading the carriage and adjusting the thickness of slices



It is possible to slice 2 sausages with smaller calibre at the same time. The slices are placed on the receiving plate side by side.

Lift up end piece holder.

Lay the food product against the back of the carriage.

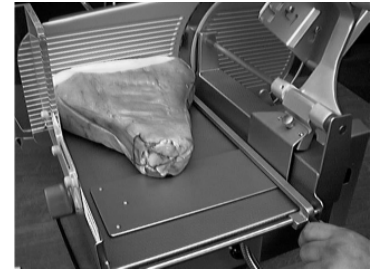
Adjust the adjusting bar according to the size of the food product.

Disengage the end piece holder and adjust according to the size of the product.

Place the end piece holder upon the food product.

Push the comb of the end piece holder into the food product.

Adjust the thickness of slices with the thickness knob (max. 8 mm).



By pushing the key "end piece holder backward" the end piece holder is moved automatically.



3.6.3. Adjusting the speed of the carriage

Switch on the machine by pushing the green main switch.

By pushing the keys "carriage faster" or "carriage slower" you can change the speed of the carriage. The actual speed is shown on the display. You can change from MIN, 26, 27, ..., 48, 49 to MAX. If there is shown for example 35, the machine cuts about 35 slices per minute.

Pay attention to the fact that sensitive food products have to be sliced with slower speed. If the speed is too high you cannot expect exact slicing results.

3.6.4. Notes regarding the slicing programme

You can choose the following functions per slicing procedure which will be explained in detail in chapter 4:

- Stacking of slices, choice of 1 to 4 stacks.
- Shingling of slices lengthwise, choice of 1 to 2 lines, per line several shingled portions on top of the other, adjusting the shingling distance of slices lengthwise.
- Shingling of slices crosswise, choice of 1 to 9 lines, per line several shingled portions on top of the other, adjusting the shingling distance of the slices lengthwise and crosswise.
- Circle shingling of four different diameters and several portions on top of the other.

3.7. Manual operation

3.7.1. Disengaging carriage

Turn lever at the bottom right side of the machine clockwise in horizontal position. Carriage can be moved by hand now.

3.7.2. Loading the carriage and adjusting the thickness of slices

Lift up end piece holder.

Lay the food product against the back of the carriage.

Adjust the adjusting bar according to the size of the food product.

Disengage the end piece holder and adjust according to the size of the product.

Place the end piece holder upon the food product.

Push the comb of the end piece holder into the food product.

Adjust the thickness of slices with the thickness knob (max. 10 mm).

3.7.3. Notes regarding the slicing programme

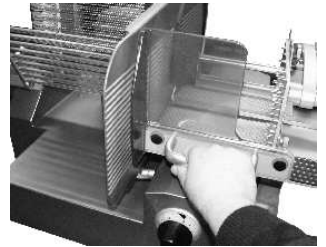
You can choose the following functions per slicing procedure which will be explained in detail in chapter 4:

- Stacking of slices, choice of 1 to 4 stacks.
- Shingling of slices lengthwise, choice of 1 to 2 lines, per line several shingled portions on top of the other, adjusting the shingling distance of slices lengthwise.
- Shingling of slices crosswise, choice of 1 to 9 lines, per line several shingled portions on top of the other, adjusting the shingling distance of the slices lengthwise and crosswise.
- Circle shingling of four different diameters and several portions on top of the other.

Move the carriage forward and backward by using the handle in front of the carriage. It is very important to push the carriage to the utmost back position in order to trigger off the depositing procedure.

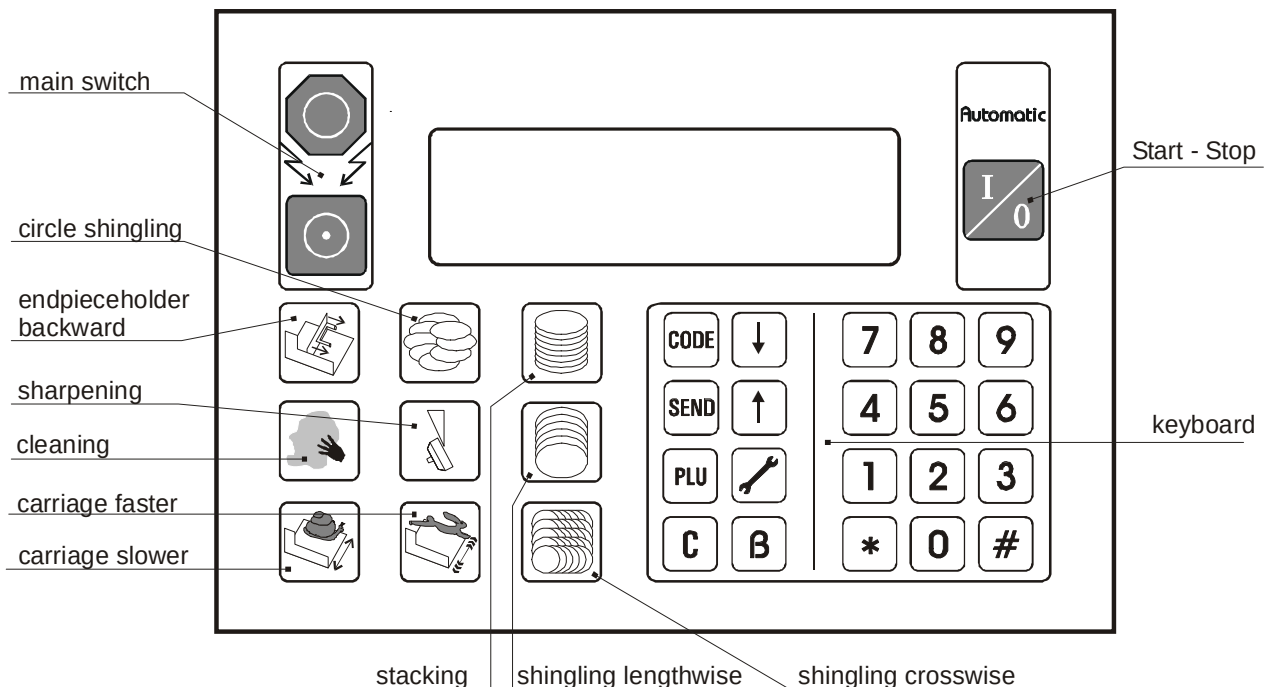


Always use the handle in order to move the carriage. The drive of the end piece holder is also running during the manual operation, so that the product will be moved towards the blade automatically.



4. Slicing functions

4.1. Description of the keyboard



4.2. Starting the slicing programme

You have already put the food product into the carriage and you have adjusted the thickness of slices and the speed.



In order to achieve a good depositing result the diameter of the sausage or product to be cut should be at least 60 mm.



When the machine is installed the technician adjusts the slicing programmes corresponding to your special requirements. These programmes are saved for the functions stacking, shingling lengthwise and shingling crosswise. The main application for the keys stacking, shingling lengthwise and shingling crosswise remains unchanged and is loaded after every restart of the machine.

This way you can operate the machine easily. You can start the machine as follows:

- push the green main switch
- then push the key "start-stop" 

Now the blade is turning and also the carriage is moving automatically if it is engaged. In case the carriage is disengaged and you want to operate the machine manually you have to move the carriage forward and backward by using the handle in front of the carriage. It is very important to push the carriage to the utmost back position in order to trigger off the depositing procedure.

In case you want to adjust another slicing programme, proceed as described in point 4.3.

4.3. Changing the slicing programme

By pushing the key CODE you can always quit the chosen programme without saving the modifications you made.

You can move from line to line by pushing the keys ↑↓.

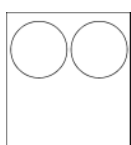
The modifications are saved for the actual operation by pushing the key "start-stop" and the machine starts slicing automatically.

4.3.1. Stacking

Push the key "stacking".



There is now shown on the display the preset stacking programme. It is shown graphically and in words. For example as follows:



STACKING	: SET VALUE	ACTUAL VALUE
QUANTITY STACKS	: 2	Pce
CROSSWISE=1, LENGTHWISE=2	: 1	(this line is only shown with 1 or 2 stacks)
QUANTITY SLICES	: MAX	

The cursor is flashing in the line QUANTITY STACKS. You can now change the value.

The QUANTITY of STACKS can be chosen by pushing the required number of stacks on the key board. The maximum quantity is 4 stacks (two stacks each side by side and behind each other). Enter the value by pushing the key ↓ and the cursor moves to the next line.

In case you have entered 2 stacks you can choose the position of the stacks, either side by side (CROSSWISE) or one behind the other (LENGTHWISE). This has the following sense: In case the food product is not very high but long (for example bacon) it makes no sense to choose two stacks side by side (crosswise) as they would overlap each other. However, the receiving plate is large enough to position the stacks behind each other.

When there are sliced round food products with a calibre of maximum 90 mm there can be positioned two stacks side by side. As the stacks in the front of the receiving plate are higher than in the back there can be sliced more slices per stack.

The inquiry for positioning crosswise or lengthwise is only available when you are choosing a quantity of two stacks.

Enter your input by pushing the key ↓ and you will now be asked for the QUANTITY of SLICES which should be sliced **per** stack. If you want to make use of the maximum possible height of the stack, you should enter a quantity > 99 (for example 111) and there will be shown on the display MAX after having pushed the key ↓.



During the slicing procedure the machine is examining continuously the adjusted thickness of slices and hereby calculates the maximum height of the stack. When the maximum height of the stack is reached the machine stops, even if the entered quantity of slices is not reached.

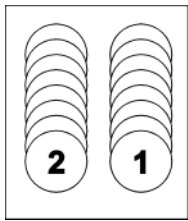
When the input is terminated you can start the machine by pushing the key "start - stop". **In order to avoid wrong operation during the sharpening procedure the blade will not turn when the thickness plate is opened completely and you try to start the machine by pushing the key "start - stop". In case there is flashing the value for the thickness of slices in the last line of the display and the machine does not start, you did not adjust the thickness of slices.** Adjust the thickness of slices with the thickness knob and start the machine again. After having started the machine, the number of slices already cut is shown on the display in the column ACTUAL VALUE. The speed of the carriage indicated on the display can be changed at any time, also during the slicing procedure by pushing the keys "carriage faster" or "carriage slower".

The slicing procedure can be interrupted at any time by pushing the key "start - stop".



4.3.2. Shingling lengthwise

Push the key "shingling lengthwise". There is now shown on the display the preset shingling programme. It is shown graphically and in words. For example as follows:



SHINGLING LENGTHWISE	:SET VALUE	ACTUAL VALUE
QUANTITY SHINGLED PORTIONS:	4	Pce
QUANTITY SLICES	: 10	Pce
DISTANCE LENGTHWISE	: 15	mm
QUANTITY LINES	: 2	Pce

The cursor is flashing in the line QUANTITY SHINGLED PORTIONS. You can now change the value.

The QUANTITY of SHINGLED PORTIONS per line can be chosen by pushing the required number of shingled portions on the key board. The maximum quantity is 9 shingled portions (one upon the other). Enter the value by pushing the key ↓ and the cursor moves to the next line.

You will now be asked for the QUANTITY of SLICES which should be sliced **per shingled portion per line**. If you enter a quantity > 99 there will be shown on the display MAX after having pushed the key ↓. The cursor moves to the next line.

Now you will be asked for the DISTANCE LENGTHWISE. This is the distance between the slices, i.e. if you enter for example 15, the machine cuts one slice, then the receiving plate moves 15 mm backwards and the next slice will be laid on the slice already cut with a distance of 15 mm from one edge to the other. The maximum distance is 30 mm. If you enter a value > 30 the display automatically indicates 30 mm.



The quantity of slices is connected closely with the distance lengthwise. The larger the distance the less slices per line can be positioned on the receiving plate. Therefore, the machine examines if the required quantity of slices can really be positioned after you have entered the value for the distance by pushing the key ↓. In case it is not possible, the distance is automatically reduced to the maximum possible distance.

Enter the value by pushing the key ↓ and the cursor moves to the next line. You are now asked for the QUANTITY of LINES. You have the choice of 1 or 2 lines, which can be positioned side by side on the receiving plate. If the diameter of the food product is maximum 90 mm the lines are positioned separately from each other.

When the input is terminated you can start the machine by pushing the key "start - stop". **In order to avoid wrong operation during the sharpening procedure the blade will not turn when the thickness plate is opened completely and you try to start the machine by pushing the key "start - stop". In case there is flashing the value for the thickness of slices in the last line of the display and the machine does not start, you did not adjust the thickness of slices.** Adjust the thickness of slices with the thickness knob and start the machine again. After having started the machine, the number of slices already cut is shown on the display in the column ACTUAL VALUE. The speed of the carriage indicated on the display can be changed at any time, also during the slicing procedure by pushing the keys "carriage faster" or "carriage slower".

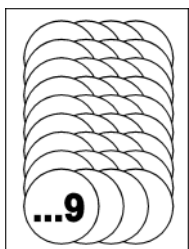
The slicing procedure can be interrupted at any time by pushing the key "start - stop".

4.3.3. Shingling crosswise

Push the key "shingling crosswise".



There is now shown on the display the preset shingling programme. It is shown graphically and in words. For example as follows:



SHINGLING CROSSWISE	:SET VALUE	ACTUAL VALUE
QUANTITY SHINGLED PORTIONS:	4	Pce
QUANTITY SLICES	: 10	Pce
DISTANCE LENGTHWISE	: 15	mm
QUANTITY LINES	: 4	Pce
DISTANCE CROSSWISE	: 15	mm

The cursor is flashing in the line QUANTITY SHINGLED PORTIONS. You can now change the value.

The QUANTITY of SHINGLED PORTIONS per line can be chosen by pushing the required number of shingled portions on the key board. The maximum quantity is 9 shingled portions (one upon the other). Enter the value by pushing the key ↓ and the cursor moves to the next line.

You will now be asked for the QUANTITY of SLICES which should be sliced **per shingled portion per line**. If you enter a quantity > 99 there will be shown on the display MAX after having pushed the key ↓. The cursor moves to the next line.

Now you will be asked for the DISTANCE LENGTHWISE. This is the distance between the slices, i.e. if you enter for example 15, the machine cuts one slice, then the receiving plate moves 15 mm backwards and the next slice will be laid on the slice already cut with a distance of 15 mm from one edge to the other.

 The quantity of slices is connected closely with the distance lengthwise. The larger the distance the less slices per line can be positioned on the receiving plate. Therefore, the machine examines if the required quantity of slices can really be positioned after you have entered the value for the distance by pushing the key ↓. In case it is not possible, the distance is automatically reduced to the maximum possible distance.

Enter the value by pushing the key ↓ and the cursor moves to the next line. You are now asked for the QUANTITY of LINES. You have the choice of 1 up to 9 lines, which can be positioned side by side on the receiving plate (in lengthwise direction). These lines are shingled lengthwise as well as in crosswise direction. The distance for crosswise shingling will be adjusted in the next line. Enter the value by pushing the key ↓ and the cursor moves to it.

You will now be asked for the DISTANCE CROSSWISE. This is the distance (max. 50 mm) between the slices positioned side by side. If you enter for example 15, the machine positions the second slice with a distance of 15 mm next to the first one. In case the last line gets beyond the receiving plate you either have to reduce the distance crosswise or the quantity of lines.

 The quantity of slices is connected closely with the distance crosswise. The larger the distance the less slices per line can be positioned on the receiving plate. Therefore, the machine examines if the required quantity of slices can really be positioned after you have entered the value for the distance by pushing the key ↓. In case it is not possible, the distance is automatically reduced to the maximum possible distance.

When the input is terminated you can start the machine by pushing the key "start - stop". **In order to avoid wrong operation during the sharpening procedure the blade will not turn when the thickness plate is opened completely and you try to start the machine by pushing the key "start - stop". In case there is flashing the value for the thickness of slices in the last line of the display and the machine does not start, you did not adjust the thickness of slices.** Adjust the thickness of slices with the thickness knob and start the machine again. After having started the machine, the number of slices already cut is shown on the display in the column ACTUAL VALUE. The speed of the carriage indicated on the display can be changed at any time, also during the slicing procedure by pushing the keys "carriage faster" or "carriage slower".

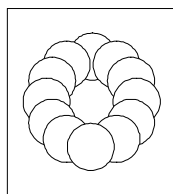
The slicing procedure can be interrupted at any time by pushing the key "start - stop".

4.3.4. Circle shingling

Push the key "circle shingling". programme. It is shown



There is now shown on the display the preset circle shingling graphically and in words. For example as follows:



CIRCLE SHINGLING :

QUANTITY SHINGLED PORTIONS :	4	Pce .
QUANTITY SLICES :	10	Pce .
DIAMETER SAUSAGE :	80	mm
DIAMETER CIRCLE :	220	mm

The cursor is flashing in the line QUANTITY SHINGLED PORTIONS . You can now change the value.

The QUANTITY of SHINGLED PORTIONS can be chosen by pushing the required number of shingled portions on the key board. The maximum quantity is 9 shingled portions (one upon the other). Enter the value by pushing the key ↓ and the cursor moves to the next line.

You will now be asked for the QUANTITY of SLICES which should be sliced **per circle**. The maximum quantity of slices is 40. Confirm the entered value by pushing the key ↓. The cursor moves to the next line.

Now you will be asked for the DIAMETER of the SAUSAGE. You have to indicate the diameter as exact as possible as this value takes influence on the shape of the circle. Confirm the entered value by pushing the key ↓. The cursor moves to the next line.

Now you will be asked for the DIAMETER of the CIRCLE. There is meant the outside diameter of the circle. Generally there can be entered a maximum diameter of 230 mm. The machine examines if the required diameter can really be positioned after you have entered the value. In case it is not possible, the value is automatically calculated to the possible diameter.

The larger the diameter of the food product is the less numbers of slices should be deposited in one circle. It also makes no sense to choose the smallest diameter and 20 slices per circle as then the result would rather be a "tower" and not a circle. For testing you should take a food product with a diameter of about 80 to 90 mm. Then you should cut a circle with a diameter of 230 mm with 20 slices, then cut a circle with a diameter of 190 mm with 10 slices, afterwards a circle with a diameter of 140 mm with 8 slices and finally a circle with a diameter of 100 mm with 6 slices. All circles are positioned accurately on top of each other as the centre of each circle is always the centre of the receiving plate.

When the input is terminated you can start the machine by pushing the key "start - stop". **In order to avoid wrong operation during the sharpening procedure the blade will not turn when the thickness plate is opened completely and you try to start the machine by pushing the key "start - stop". In case there is flashing the value for the thickness of slices in the last line of the display and the machine does not start, you did not adjust the thickness of slices.** Adjust the thickness of slices with the thickness knob and start the machine again. After having started the machine, the number of slices already cut is shown on the display in the column ACTUAL VALUE. The speed of the carriage indicated on the display can be changed at any time, also during the slicing procedure by pushing the keys "carriage faster" or "carriage slower".

The slicing procedure can be interrupted at any time by pushing the key "start - stop".

5. Programmed Operation (PLU)

Within the so called PLU-Mode you can programme for certain articles all necessary slicing data and call them up at any time. There can be programmed 99 different PLU-Numbers with maximum 3 digits each.

With every PLU-Number there are programmed all necessary slicing data, such as: name of the article, diameter of the food product, speed of the carriage, thickness of slices and all parameter for stacking, shingling lengthwise, shingling crosswise or circle shingling.

5.1. Choosing PLU-Number

After having started the machine by pushing the green main switch the machine is within the manual mode and can be operated as described before. To change to the PLU-Mode there has to be pushed the key PLU one time. Then there will be shown on the display `PLU - MODE`. By pushing the key PLU again the machine returns to the manual mode. Within the PLU-Mode the display looks like follows:

```

      PLU - MODE
Choose article      : 001  Cursor is flashing

      SET VALUE    ACUTAL VALUE
Thickness of slices :      -1,0  mm
  
```

Now you can enter the PLU-Number. In case you have saved a PLU-Number with 1 digit, there will be shown an article programmed under this number after having entered the first digit. If you continue entering a second or third digit, the programmed article with PLU-Number consisting of 2 or 3 digits will be shown on the display accordingly. When entering a fourth digit the complete number will be moved to the left with the result that the first digit will be lost and the fourth digit will be on the third position now.

Example:

On the display there is indicated PLU-Number '602'. If now a further digit is entered, for example '4', there will be shown on the display the PLU-Number '024'.

In case you are entering a PLU-Number without programmed slicing data, there will be shown on the display `PLU NOT PROGRAMMED`. As soon as there is entered a programmed PLU-Number there will be shown on the display the name of the article, for example "cooked ham".

In case there is already shown an article on the display, you can scroll up and down with the keys <↑> and <↓>. The PLU-Numbers are indicated in chronological order.

When you have found the correct PLU-Number you have to confirm by pushing the key "start-stop".

Now you will be asked for the number of portions to be sliced. There is meant the total number of needed portions of one PLU-Number. If you have to cut for example 20 portions you have to enter 20. After these 20 portions have been cut the machine stops automatically. On the display there is shown the countdown of the portions which have still to be cut. Even if the slicing procedure is interrupted the machine keeps in its memory the portions which still have to be cut. The countdown will be continued after the restart of the machine. In case you do not want to continue the portions of the chosen PLU-Number you can just enter a new PLU-Number and the previous number or portions is deleted.

After having entered the number of portions the machine can be started by pushing the key "start-stop" without effecting further adjustments. However, you have to see to it that the programmed thickness of slices is adjusted with the thickness knob before. In case it has not been done, the actual value in the line THICKNESS OF SLICES is flashing. It stops flashing when the correct thickness of slices has been adjusted. Now you can start the machine by pushing the key "start-stop" again.

In case the food product is sliced up during the production of one portion the machine stops and the end piece holder moves backwards automatically. After having reloaded the carriage with a new food product the incomplete portion will be terminated when pushing the key "start-stop". If you do not want the machine to continue where it stopped before you can cancel this function by pushing the key "C".

In case you want to modify the programmed parameters of a certain article for a short time and you do not want to save these modifications, you can modify the values by pushing the key <#>. You can then select all parameters of this certain article for modification by pushing the keys ↓ and ↑. Regarding meaning and data input of the parameters see chapter "Data conditioning". When the input is terminated you can start the machine by pushing the key "start - stop". The modifications can be undone at any time by pushing the key ↶.

The above described modification of parameters of a certain article is only temporary and is not permanently saved within the programmed PLU-Number. When choosing this certain article again the originally programmed data are indicated. Concerning permanent modification see chapter "Data conditioning".

In case you are pushing the key "start-stop" without having chosen a valid PLU-Number there is again shown on the display `PLU NOT PROGRAMMED`

5.2. Data conditioning

In order to call the function **DATA CONDITIONING** you have to push within the PLU-Mode the following key combination <CODE> <1> <*>

On the display there will be shown the main menu for choosing several functions

```
PLU - DATA CONDITIONING
CREATE ARTICLE      YES=1*
COPY ARTICLE       YES=2*
DELETE ARTICLE     YES=3*
MODIFY ARTICLE     YES=4*
FUNCTION <CODE>    Cursor is flashing here
```

By pushing the keys 1 (2, 3, 4) and * you can choose the required function. You can leave the menu by pushing the key CODE.

5.2.1. Create article and modify data

After having pushed 1* within the menu data conditioning there will be shown on the display:

```
****    CREATE ARTICLE    ****
PLU-NUMBER :      001  Cursor is flashing
```

Exit menu by pushing the key CODE.

Now you have to enter the new PLU-Number. In case the PLU-Number already exists there will be shown on the display the name of an article already programmed. If not, there will be shown `PLU NOT PROGRAMMED`. A PLU-Number already programmed cannot be created again. In case an existing number should be used for another article, this number has to be deleted first → DELETE ARTICLE. After having done so you can create a new article within this menu. After having entered the new PLU-Number confirm by pushing the key ↓ and the cursor is moved to the next line.

Now you will be asked for the diameter of the food product. Enter the value in millimetres. For rectangular food products you have to enter the cutting length in millimetres. Enter your input by pushing the key ↓ and you will get to the next page.

In this line you have to enter the name of the article. You have to enter the single letters by using the supplied film (see illustration on the right) which has to be laid upon the keyboard. Now push the corresponding keys for entering the name of the new article.

Entering special letters:

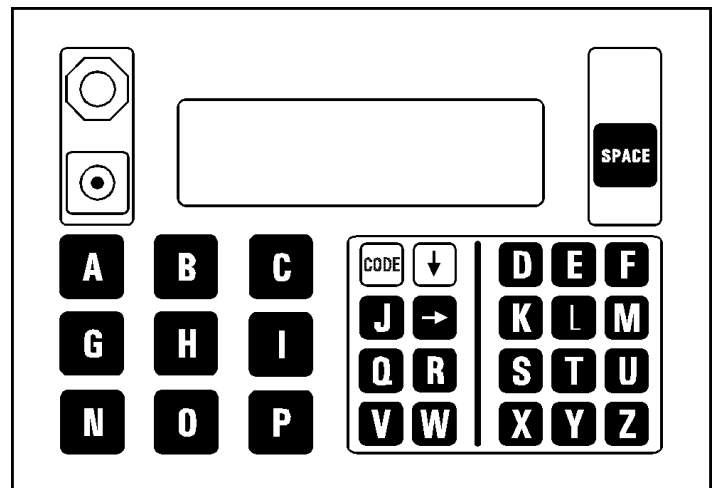
The letters A, O, U and E are configured that way that special letters can be entered, too. The special letters can be called up by pushing the key for the required letter a longer time. The letters are displayed in the following order:

A→Ä→Å, O→Ö, U→Ü, E→É

After having entered all letters confirm your input by pushing the key ↓ and the cursor is moved to the next line. The film can be taken away now and the keys have their original function again.

The display now shows texts you are already familiar with (stacking, shingling lengthwise, shingling crosswise). By pushing the keys "stacking", "shingling lengthwise" or "shingling crosswise" you can enter the required slicing data. Proceed in the same way as described in chapter 4. In addition you have to enter the SET VALUE for the thickness of slices as well as the required speed by pushing the keys "carriage faster" or carriage slower".

You can leave the menu at any time by pushing the key CODE. When the complete input for the new article has been terminated, all data are saved by pushing the key "start-stop".



5.2.2. Copy article

In order to create quickly a new PLU-Number for a similar article, you can use the copy function. With this function you can copy all slicing data of an existing article for another article. In case this other article does not yet exist it will be created by copying.

After having pushed 2* within the menu data conditioning there will be shown on the display:

```

****   COPY ARTICLE   ****
PLU old       : Cursor is flashing
PLU new       :
```

Enter the old PLU-Number. In case this PLU-Number does not exist, there will be shown on the display PLU not programmed. If it is available there will be shown the name of the article programmed with this PLU-Number. When the correct article has been chosen confirm by pushing the key ↓.

Now enter the new PLU-Number to which the slicing data of the old PLU-Number shall be copied. The new number must be free. It is not possible to copy the slicing data to a PLU-Number which is existing already. The new number is confirmed by pushing the key ↓ and will then be copied. You can interrupt this procedure by pushing the key CODE at any time.

5.2.3. Delete article

With the function delete article you can delete an existing PLU-Number including all slicing data for a certain article. After having pushed 3* within the menu data conditioning there will be shown on the display:

```

****   DELETE ARTICLE   ****
PLU-NUMBER   : Cursor is flashing
```

Enter the PLU-Number you want to delete. In case this PLU-Number does not exist, there will be shown on the display PLU not programmed. If it is available there will be shown the name of the article programmed with this PLU-Number. When the correct article has been chosen confirm by pushing the key ↓ and the cursor moves to the next line. In this line there is indicated "DELETE 1 = yes 0 = no :". The cursor is flashing behind the double point. The PLU-Number is only deleted when entering "1" and confirming by pushing the key ↓. The PLU-Number you deleted can now be used again for other articles. You can interrupt this procedure by pushing the key CODE at any time.

5.2.4. Modify article

With this function you can modify single parameters within an existing PLU-Number. After having pushed 4* within the menu data conditioning there will be shown on the display:

**** MODIFY ARTICLE ****

PLU NUMBER : Cursor is flashing

Enter the PLU-Number of the article where you want to modify certain parameters. In case this PLU-Number does not exist, there will be shown on the display PLU not programmed. If it is available there will be shown the name of the article programmed with this PLU-Number. Confirm the PLU-Number by pushing the key ↓. Now you have to proceed in the same way as described in chapter 5.2.1 → create article. All programmed values can be modified by overwriting. The modified values are saved by pushing the key "start-stop", see chapter 5.2.1 → create article. You can interrupt this procedure by pushing the key CODE at any time.

6. Slicing of end pieces

Special notes regarding slicing of rests and end pieces of food products:

Before placing the remaining piece of the food product in the carriage you have to cut off the pointed end. Otherwise the food product cannot be held correctly by the end piece holder. It is even better to turn the original cutting side of the food product to the end piece holder.

Move the end piece holder backwards as far as it will go, either by pushing the key "end piece holder backward" or by moving the end piece holder by hand.

Lay the food product against the back of the carriage.

Adjust the adjusting bar according to the size of the food product.

Disengage the end piece holder and push it by hand behind the food product, until the food product is in close contact to the thickness plate.

Adjust the thickness of slices with the thickness knob (max. 10 mm)



Never try to hold the food product by hand, you may hurt yourself seriously!

Always use the end piece holder.

Never try to load the carriage while it is moving automatically. Always switch off the machine first, otherwise there is a risk to get injured!

7. Cleaning

Before initial operation and after a longer period of standstill the machine has to be cleaned carefully.

With permanent use of the machine you have to clean it at least one time per day or if necessary also a few times per day. For cleaning proceed as follows:



Risk of getting hurt!

Be careful when cleaning the machine. Especially in the area of the knife there is a risk of injury. Always work with concentration, do not let distract yourself from your work.

7.1. How to proceed with cleaning

Switch off the machine.

Adjust manual movement of the carriage (see 3.4).

Pull off the plug.

Close the thickness plate completely by turning the thickness knob to the left.

Loosen the star knob of the carriage.

Pull the carriage to the front.

Tilt the carriage aside.



The carriage cannot be tilted aside in case

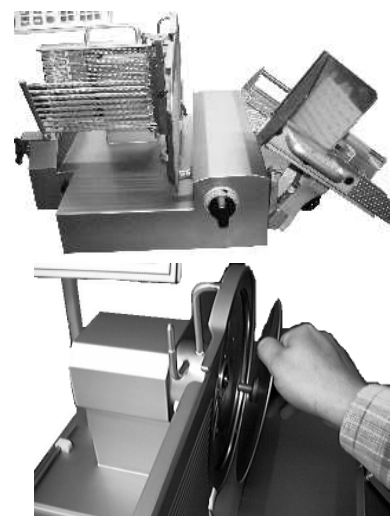
- the thickness plate is still opened

- the carriage has not been adjusted to manual movement.

Always tilt the carriage with care, do not use force!

7.2. Taking off the blade guard

Loosen the knurled knob and hold the blade guard with the other hand.



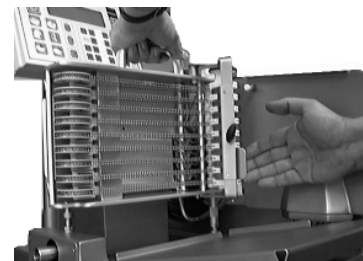
By pushing against the knurled knob the blade guard is tipped against your hand and you can take the blade guard off.

7.3. Taking off chain frame, stacking device and receiving plate

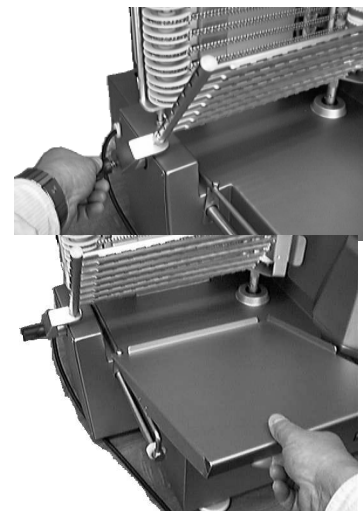
Pull the roll of the chain frame to the left and take off the chain frame upwards.



Always lay down the chain frame on an even flat ground, otherwise there is a risk that the needles of the chains are bent or break.



Loosen the star knob of the stacking device and take off the stacking device sideways.



Take off the receiving plate upwards.

7.4. Taking off parts of the carriage

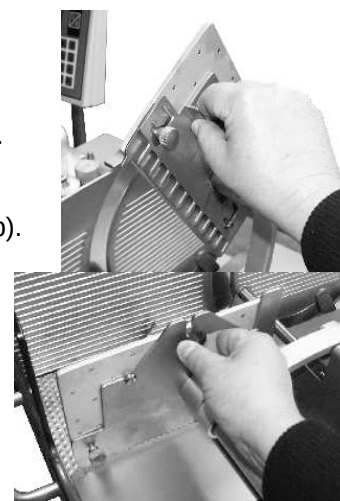
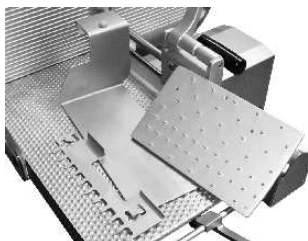
Lift up the end piece holder.

Loosen the knurled knob of the comb of the end piece holder and take the comb off.

Loosen the knurled knob of the plate of the end piece holder and take the plate off.

Loosen the star knob of the adjustable bar and lift it up.

Take off the feed plate by pulling it upwards (the end piece holder has to be lifted up).



For cleaning only use usual washing-up liquids. Do not use scratching or scouring cleansing agents or devices.



The machine is only drip-proof. Therefore do not use high pressure cleaning devices, water hoses or similar devices. Furthermore you must not pour water over the machine. Danger of short circuit or machine defect. In such cases any claims regarding warranty will be refused.

7.5. Cleaning the blade

Attention! Risk of getting hurt!

When the thickness plate is closed completely it is possible to let the blade rotate for cleaning. For doing so push the key "cleaning". In case the thickness plate is not closed there will be shown on the display a corresponding error message. When it is closed there will be shown on the display CLEANING and the blade is rotating. The blade can be stopped by pushing again the key "cleaning".

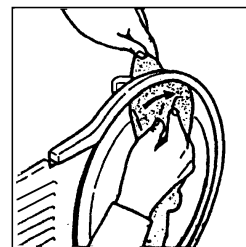
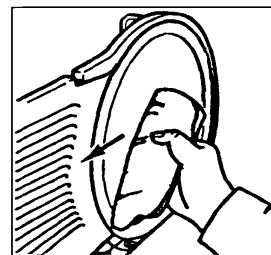
Clean the inside of the blade with a wet cloth. Proceed for the backside of the blade in the same way.

Now switch off the machine at the main switch.

Dry the inside and the backside of the blade carefully.

Put a moist cloth between the blade and the fixed protecting ring. Turn the blade by hand one complete rotation and push the moist cloth against the protecting ring while turning.

In case the thickness plate is opened while the blade is rotating the motor of the blade is stopped immediately.



7.6. Cleaning the single parts

cleaning	detergent	procedure	cleaning device	procedure after cleaning
machine	warm water, detergent, acid free from chlorine	manually	cleaning rag, cleaning brush	wash up with clear water, dry
machine with tefloned parts	warm water, detergent, acid free from chlorine	manually	cleaning rag, cleaning brush	wash up with clear water, dry dry tefloned parts very carefully
detached parts	warm water, detergent, acid free from chlorine	manually	cleaning rag, cleaning brush	wash up with clear water, dry
blade	warm water, detergent, acid free from chlorine	manually	cleaning rag or sponge	wash up with clear water, dry
sharpening stones	warm water, detergent, acid free from chlorine	manually	cleaning brush	degrease with degreasing agent (spirit or similar)

7.7. Reassembling the parts

Reassemble the parts in reverse order. (7.4. → 7.1).

Attention! Risk of getting hurt!

Place the splice bar of the blade guard onto the plastic bolt. Turn the blade guard to the blade and see to it that the flange of the blade guard is positioned in the centre of the blade.

Tighten the blade guard by turning the knurled knob clockwise by hand.

Turn the carriage back. Tighten the star knob of the carriage.

Check again the complete machine.

Only after having checked the machine plug it in for operation.



8. Sharpening the blade

In case the cutting result should no longer be satisfactory or the food products are getting "beards", the blade has to be sharpened.

There cannot be indicated certain intervals for sharpening as it depends on how frequently the machine is used.



Pay attention to the fact that the blade has to be exchanged if the gap between blade edge and the fixed protecting ring is more than 5 mm.

According to security regulations further sharpening of the blade it is not allowed when the gap is more than 5 mm.

8.1. Sharpening device



Every sharpening device is marked with the serial number of the machine. Only this sharpening device may be used for sharpening.

Usage of other sharpening devices can cause serious injuries or damage the machine. Never use another sharpening device.

The sharpening device is equipped with 1 stone for sharpening and 1 stone for taking off the burr.

Never use the sharpening device on an uncleaned machine as the stones will then lose their efficiency. In case this should happen anyway, clean the stones carefully with washing liquid and a brush.

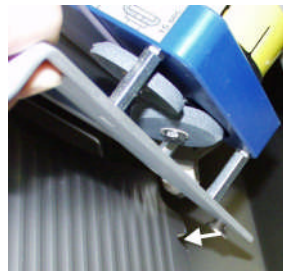
8.2. Mounting the sharpening device



Important! Adjust the machine to manual carriage movement (see chapter 3.4.)

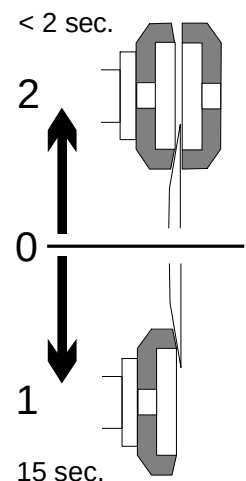
Take off all removable parts (see chapter 7.4.)

- In order to avoid wrong operation during the sharpening procedure the blade will not turn when the thickness plate is opened completely and you try to start the machine by pushing the key "start-stop".
- Only when the thickness plate is opened completely the blade starts turning after having pushed the key "sharpening". In case the thickness plate is not opened completely there will be shown on the display an error message and the blade does not turn.
- Open the thickness plate completely.
- Position the carriage in the centre.
- Lift up end piece holder
- Mount the sharpening device in such a way to the thickness plate that the cone of the sharpening device fits into the slit on the bottom of the thickness plate (direction of arrow)
- Pull out the pin on top of the sharpening device in direction of arrow and move the sharpening device over the edge of the thickness plate.
- Move the sharpening device with the pulled out pin to the front in direction of the blade (direction of arrow), so that the pin is engaged in the hole of the thickness plate.
- The sharpening stones are now in the correct position, i.e. the blade edge is positioned between the two sharpening stones.



8.3. Sharpening the blade

- Switch on the machine
- Turn the yellow handwheel of the sharpening device in direction 1. By means of this the sharpening stone sharpening the blade is pushed towards the blade.
- Approximately 15 seconds are enough.
- Switch off the machine
- check if there has been built a visible burr at the edge of the blade
- If not: Sharpen again
- Switch on the machine again
- For taking off the burr turn the yellow handwheel in direction 2. Now both sharpening stones are touching the blade.
- Approximately 2 seconds are enough to take off the burr.
- When the sharpening procedure is terminated turn the yellow handwheel to 0.



8.4. Remove sharpening device

- Switch off the machine.
- Pull the pin of the sharpening device upright in direction of arrow.
- Tilt the sharpening device aside to the right.
- Remove the sharpening device.

Now clean the machine entirely from wheel swarf, see chapter 4. Cleaning. First clean the machine with a dry cloth. Then make a complete wet cleaning.



Attention! Risk of getting hurt!

Always work with concentration! Do not let distract yourself from your work!

Never check the sharpness of the blade with your fingers.

9. Maintenance

Clean the machine at least one time per day.

If necessary sharpen the blade.

In case the gap between blade edge and fixed protecting ring is more than 5 mm the blade has to be exchanged.

If necessary the sharpening stones have to be cleaned or exchanged.

For lubricating only use acid free oil.

Oiling points:

Guiding axle of end piece holder (1 time per week)

Guiding axle of carriage (as required)

Exchanging the blade

Remove the blade guard as described in point 7.2.



Attention! Risk of getting hurt!

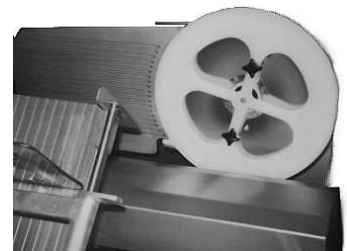
Upon request there will be supplied a knife removal device. The knife removal device has to be mounted on the blade. For this purpose put the two bolts of the knife removal device into the borings of the blade and fix the device with the star knobs.

Loosen the 4 fixing screws of the blade and take the blade off.

Take off the knife removal device and mount it on the new blade.

Mount the new blade on the machine and fasten it with the 4 fixing screws.

Take off the knife removal device and mount the blade guard.



10. Trouble shooting

trouble

solution

grinding noise

blade guard has not been mounted correctly
loosen blade guard, mount it again and fix it as described in point 7.2

blade guard is dirty
clean as described in chapter 7.4

deflector finger touches the blade
adjust deflector fingers with hexagon socket screws

guide roll is jumping

needles of the chain are bent
take off the chain frame as described in point 7.3,
straighten the needles with a flat nose plier

stacking device touches chain frame

stacking device is bent
take off the stacking device as described in point 7.3,
straighten the fingers of the stacking device

metallic sound

star knob of the stacking device is loose
fasten the star knob

slice gets caught by the deflector

distance between deflector and blade is too large
adjust deflector with hexagon socket screws

machine stops automatically	short-term voltage drop, switch on the machine again
automatic carriage movement does not work	error message on the display "carriage not engaged" engage the carriage as described in point 3.4. "Fuse" is shown on the display. Fuse for automatic carriage movement is activated. Wait 5 minutes.
display is not illuminated	fuse for electronic control is activated. Wait 5 minutes.
machine is getting warm	wall socket and plug have to be checked by an electrician.
sausage skin tears or stacks are irregular	sharpen the blade and take off burr after 3 sec.

The machine is equipped with automatic fuses. In case there are any misfunctions on the machine during operation proceed as follows. Switch off the machine at the main switch. Wait for about 5 minutes and start the machine again. Only if the misfunction occurs again ask for after sales service for checking.

10.1. Error messages on the display

"Make service"	The machine has cut more than 750.000 slices. It is necessary to effect general maintenance on the machine. Inform your after sales service. By pushing again the key "Start Stop" the machine starts as usual.
-----------------------	---

11. Waste disposal

The producer is obliged to take back the machine for waste disposal. For this purpose the machine can be returned to the manufacturer free of charge.