KRONEN®
Nahrungsmitteltechnik

Cube, strip & slice cutting machine KUJ V

Translation of the original instruction manual
Version: May 2019, English

Please read carefully the instruction manual before beginning any work. We will not assume any responsibility for damages and troubles to the machine resulting from disregarding the instructions.

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Identification

This instruction manual has been designed to help you to use the machine as intended. It contains important information about how to use the machine safely, properly and economically.

Compliance with the information it contains will help to avoid risks, to reduce repair costs and downtimes as well as to increase the machine's reliability and service life.

This instruction manual is valid only for the following machine:

Designation	Dicing, julienne and slicing machine KUJ V (referred to hereinafter as "machine")
Part number	88282
Manufacturer	Kronen GmbH Römerstraße 2a D-77694 Kehl am Rhein Germany Tel.: +49 (0) 7854 9646-0 Fax: +49 (0) 7854 9646-500

List of valid pages

This instruction manual contains a total of 88 pages, including the cover page.

Copyright	Kronen GmbH		
Issue	May 2019	First issue	February 2013

This instruction manual is not a controlled document. Please ask the manufacturer for the most up-to-date version.

Introductory notes

The instruction manual is part of the scope of supply and must be kept with the machine at all times.

We reserve the right to make technical changes for the purpose of improving the machine or increasing levels of safety.

In addition to compliance with the instruction manual and the accident prevention regulations in force at the place of use, observation of generally acknowledged practices for safe and proper working is also mandatory.

About this instruction manual

This instruction manual provides you with information about and instructions for:

- Your safety when working on and with the machine
- The design and structure of the machine
- Operation
- Set-up
- Service and maintenance.

If your duties involve working on or with the machine, you must read the instruction manual before starting work.

You need to pay particular attention to the safety instructions in each chapter.

The following table provides an overview of the content of the instruction manual:

Chapter		Target group	Content
1	Safety	All	Essential safety instructions
2	Transport, installation and connection	Service	Transport, installation and connection
3	Mechanical design	Service	Drawings
4	Technical description	All	Technical data, product description
5	Design and function	All	Description of functions
6	Operator control and display elements	All	Safety devices, operator control elements
7	Operation	Operators, machine setters	Operating instructions
8	Set-up	Operators, machine setters	Replacement of cutting blades
9	Cleaning	Service	Cleaning
10	Service and maintenance	Service	Lubrication
11	Troubleshooting	Operators, service personnel	Causes of and solutions for faults
12	Spare parts	Service	Spare parts and wear parts
13	Disposal	Operators, service personnel	Disposal
14	Appendix	All	Certificates, declaration of conformity

Table 1: Content of the instruction manual

Typography

The following conventions have been used in this instruction manual.

1. One or the first in a sequence of operator actions 2. Subsequent operator actions	Operator actions must be completed in a specific order.
• Text	List of bullet points
☞ Chapter 1. Safety	Reference to a section in the instruction manual
ON/OFF rotary switch CONTROLLER ON button	Operator control or display element

Glossary

PPE

The abbreviation PPE stands for personal protective equipment. PPE is any equipment designed to be used or worn by an employee to protect against a risk or risks which may impair his or her safety when working, as well as any additional equipment used for the same purpose.

Any PPE made available for use must bear the CE marking. Minimum requirements for the use of PPE are described in more detail elsewhere in these instructions.

Warranty and liability

Our "General conditions of sale and delivery" always apply. The customer will have been provided with these at the latest when a contract is concluded.

We do not accept warranty or liability claims made for personal injury or damage to property if such injury or damage can be attributed to one or more of the following causes:

- Non-compliance with the instruction manual
- Inappropriate use
- Incorrect or improper installation, operation and maintenance
- Non-compliance with the safety instructions and instructions in the instruction manual
- Non-compliance with the warnings affixed to the machine
- Operation with safety devices which have been incorrectly or improperly fitted or are out of order
- Welding work on load-bearing machine parts, unauthorised modifications and conversions to the machine. This includes the installation and configuration of safety devices and valves.
- Spare parts and add-on equipment causing damage to property (and resulting consequential damage) and not authorised in writing by the manufacturer

Standards and directives

The machine is intended exclusively for cutting vegetable and seedless fruit. Products not cited must be approved by the manufacturer of the machine on a case-by-case basis.

The machine has been built in accordance with the state of the art and acknowledged safety engineering practice. The associated design and manufacturing processes are compliant with the following directives and standards:

- 2006/42/EC: Machine directive
- EN 1672-2:2005 + A1:2009 - Food machines - General design principles- Part 2: Hygiene requirements
- EN 1678:1998+A1:2010 - Food machines - Vegetable cutting machines - Safety and hygiene requirements
- EN 13871:2005+A1:2010 - Food machines - Dicing machines - Safety and hygiene requirements
- EN 60204-1:2006 - Safety of machines - Electrical Equipment of machines - Part 1: General requirements
- EN ISO 12100:2010 - Safety of machines - General design principles - Risk assessment and reduction
- EN ISO 13849-1:2008 - Safety of machines - Safety-related parts of controllers - Part 1: General design principles
- EN ISO 13850:2008 - Safety of machines - Emergency stop design principles
- EN ISO 14120:2015 Safety of machinery - Separating safety equipment - General requirements for the design and construction of permanent and movable separating safety equipment

1. Safety

1.1. Safety instructions and pictograms used

Each chapter starts with general safety instructions relating to the activities it describes. Special safety instructions about individual operations precede the description of the operation to which they apply.

We differentiate between two categories of safety instruction. The table provides an overview of the relationship between pictograms and signal words and the actual risk and possible consequences.

Symbol	Signal word	Damage for…	Definition	Consequence
	**Danger**	Personnel	Immediate and imminent risk	Death or very serious injuries will result
	Warning		Potentially dangerous situation	Death or very serious injuries could result
	Caution		Less dangerous situation	Minor or slight injuries
	Attention	Machine	Potential to cause material damage to the machine	Material damage to the machine and other equipment in its vicinity
	**Note**	Machine	Tips for users and other useful information	No dangerous consequences for personnel or material damage to machine

In the case of specific risks, the pictogram will be replaced

	**with the following warnings as appropriate:**					
General Danger		Risk of cuts	Caution slippery surface	Suspended loads	Danger harmful	Danger high voltage

1.1.1. Component parts of safety instruction

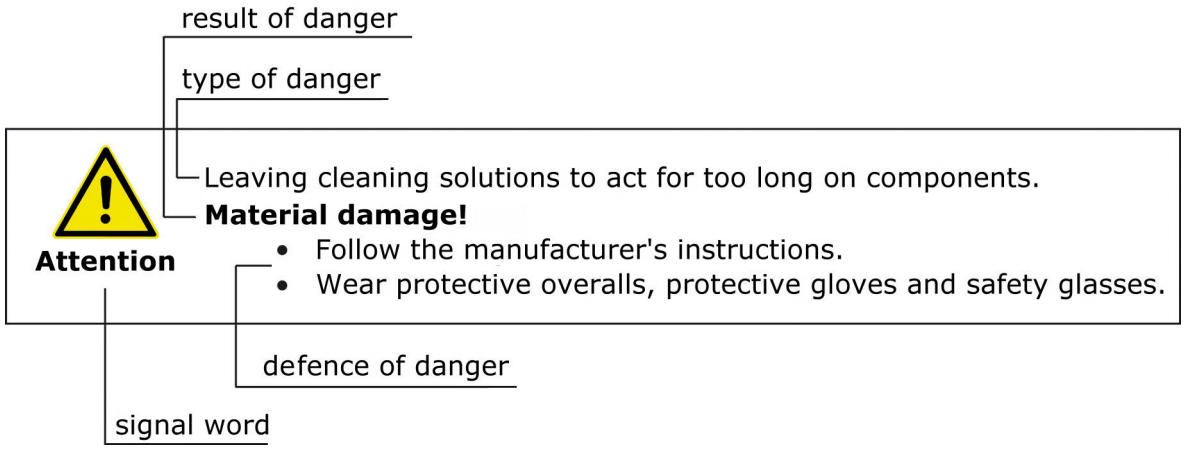


Figure 1: Component parts of safety instruction

1.2. Organisational issues

The instruction manual must at all times be kept in a clearly legible condition in an accessible location (the tool compartment or a designated container) at the machine's place of use. In the event of heavy soiling or loss, it must be replaced by an identical version (☞ Chapter 14. Appendix)

Anyone intending to work on and with the machine must be able to access the instruction manual at all times.

The machine may be used only as intended.

The machine may be operated only when in perfect working order and the function of safety devices in particular must be checked regularly.

Only sufficiently qualified and authorised personnel who have read and understood the instruction manual (in particular the safety instructions therein) are permitted to operate, maintain and repair the machine. These personnel must be given training and instruction in all relevant issues of occupational safety and the protection of the environment at regular intervals (this applies in particular to personnel who only work on or with the machine occasionally, e.g. setters and maintenance engineers).

Make the necessary PPE available to operating, maintenance and service personnel.

Carry out checks at regular intervals to ensure that personnel are following working practices which exhibit an awareness of safety and risks and are in compliance with the instruction manual.

Whenever they are working on and with the machine, personnel must wear suitable protective overalls. They must also use additional PPE (e.g. protective gloves) as appropriate for the work being carried out.

Protective overalls must not be worn loose (this is in order to avoid the risk of them getting caught in parts of the machine). Personnel must tie back hair and are forbidden to wear loose clothing and jewellery (including rings) whilst working. This is in order to avoid the risk of injury due to becoming suspended from or pulled into the machine, for example.

Supplementary to the information in the instruction manual, generally valid statutory and other binding regulations relating to accident prevention and the protection of the environment must also be observed.

This instruction manual must be supplemented with operating instructions relating to occupational health and safety legislation and national industrial safety regulations.

1.3. Personal considerations

All persons working on or with the machine must read the instruction manual and sign to confirm that they have understood its content.

The machine may be operated only by persons who have completed appropriate training and instruction and have been authorised to do so.

The authority of each member of personnel must be clearly defined. Supervisors are permitted to overrule instructions from third parties that pose a risk to safety.

Responsibilities of personnel in respect of the operation, setting up and maintenance of the machine must be clearly defined.

Personnel requiring training, teaching or familiarisation or undergoing general vocational training must be supervised at all times by an authorised individual when working on or with the machine.

Only qualified electricians or persons with appropriate training working under the guidance and supervision of a qualified electrician are permitted to carry out work on the machine's electrical equipment; all work must be compliant with good electrical engineering practice.

1.4. Product safety

The machine has been designed and built in compliance with applicable safety regulations and the state of the art.

Despite this, there can be risks to persons and property if:

- The machine is not used as intended
- The machine is operated by untrained personnel
- The machine is modified or converted incorrectly or improperly
- Safety instructions are not complied with
- The instruction manual is not complied with.

The machine is supplied tested and in perfect technical order; it may be used only when in perfect technical order.

In addition to the instruction manual, compliance with the following is mandatory:

- Warnings affixed to the machine
- Applicable legislation
- Statutory and other binding accident prevention regulations.

1.5. Working area

Danger

Moving machine parts.

Risk of serious or even fatal injury!

- Before starting up the machine, make sure that the danger zone has been vacated.
- Wear suitable protective overalls.

1.6. Safety equipment and protective devices

The machine may be operated only with safety equipment and protective devices in proper working order.

It must be brought to a standstill immediately if a safety or protective device is found to be faulty or out of order.

Once a safety or protective device has been triggered, the machine may be put back into operation only if:

- The source or fault has been rectified
- You are convinced that there is no risk to persons or property.

You are only permitted to disable, modify or restrict the function of safety equipment and protective devices for the purpose of transitory intervention (e.g. tests, troubleshooting, making good of damage, replacement of machine parts) if you have taken sufficient alternative measures to ensure safety.

1.6.1. Safety equipment and protective devices on the machine

The machine features the following safety equipment and protective devices:

- START/STOP push button
- EMERGENCY STOP button
- A protective casing covering the cutting tool

1.6.2. Emergency stop button

The EMERGENCY STOP button is located at the front end of the machine.

The emergency stop button is used to stop the machine in order to reduce or avoid emerging or existing risks of personal injury or material damage. The emergency stop button locks when pressed and has to be released manually.

Figure 2: Emergency stop button

Note

After releasing the emergency stop button, the machine does not restart automatically. The machine has to be restarted following the reset (☞ Chapter 7.2. Switching the machine on and off).

Before starting up the machine, check that:

- The cutting tool has been attached correctly
- The protective casings are closed
- A collecting tray has been placed under the ejector chute.

1.6.3. Safety covers/safety devices

The machine is equipped with safety covers in the area of the cutting tool and the housing. The knife compartment door is locked by means of three cam type closures.

Figure 3: Protective casings

Note

If the knife compartment door is opened during operation or if the EMERGENCY STOP button is pressed, the machine switches off. After the corresponding safety cover has closed or the EMERGENCY STOP button is pressed, the machine must be restarted (☞ see Chapter 7.2. Switching the machine on and off).

1.6.4. Safety doors and safety covers

One housing cover and one safety door on the control cabinet, both of which can be locked with a two-way key, secure the control cabinet and the motor housing against contact with moving parts. The door and the cover prevent contact with the dangerous movements of the belt drives and with electrically charged components while enabling access for repair and maintenance work.

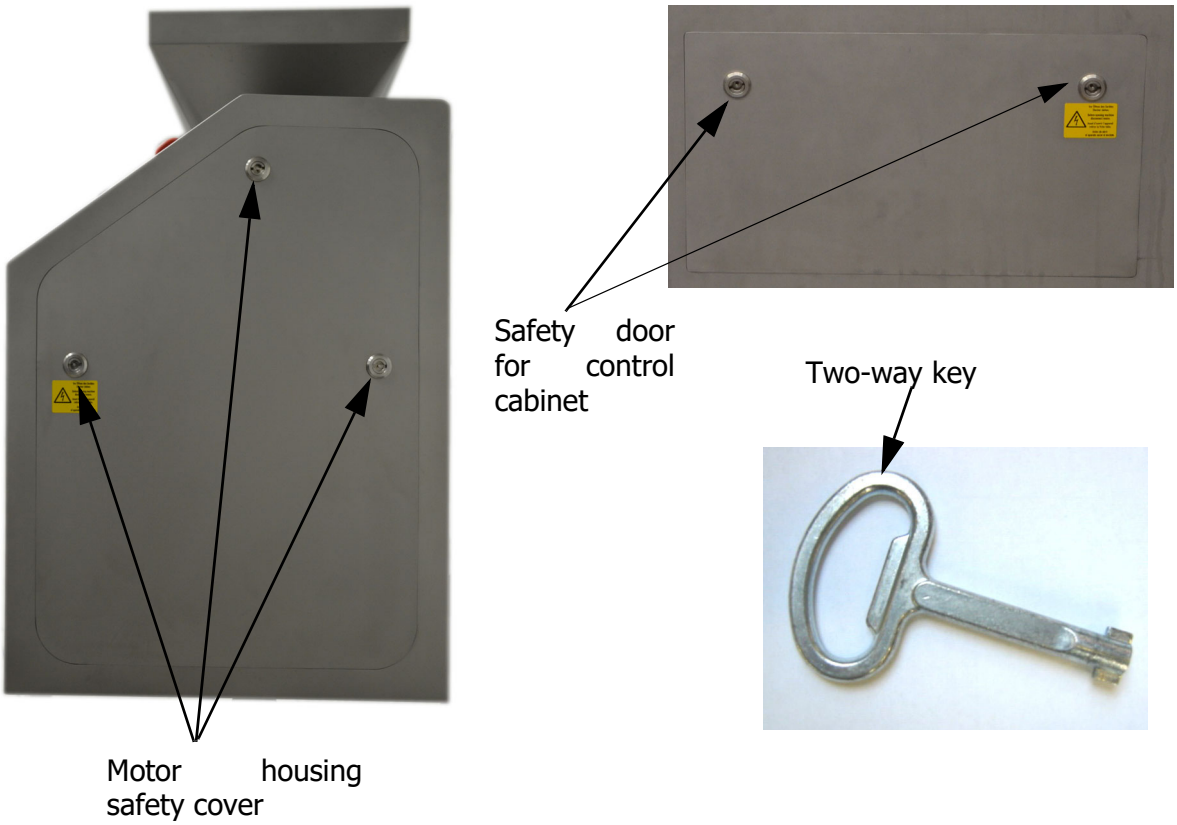


Figure 4: Safety doors and safety covers

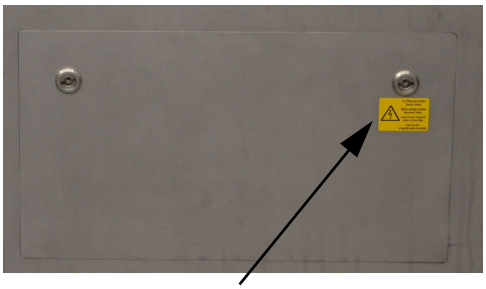
Use the two-way key provided to lock and unlock the safety door and the safety cover.

1.7. Warnings affixed to the machine

The warnings affixed to the machine must not be removed or obscured and must be clearly legible.

Check their condition regularly.

On the housing cover



On the control cabinet

Warning sign on the product ejector chute

1.8. Safe operation

If you suspect that the safe operation of the machine is a risk, it must be shut down immediately.

To run the machine in safe operation:

- Check the machine at least once per shift for externally visible damage.
- Report damage and defects as well as changes in operational performance immediately to a supervisor.

Check all safety devices:

- At least once a week in the case of continuous operation
- At the start of every shift in the case of intermittent operation
- Every time the machine is serviced and cleaned.

Every day, at the start of every shift, check that:

- The protective casings are in proper working order.

1.9. Essential safety instructions for first use

Before the machine is put into operation for the first time, it must be installed in accordance with regulations and then acceptance-tested in accordance with the manufacturer's specifications.

Before starting up the machine, always make sure that:

- All safety equipment and protective devices are in full working order
- The machine is only to be used as intended
- All service and maintenance work is complete
- All loose parts of rotating machine components have been removed
- The machine's danger zone has been vacated

Immediately after starting up the machine, check that the operator control and display elements, as well as the monitoring devices, are functioning correctly.

1.10. Essential safety instructions for operation

Only put the machine into operation if:

- All safety devices and safety-related equipment (e.g. removable safety devices, emergency stop devices) are present and in full working order
- The machine (e.g. trolley, accessories) has been secured to prevent it from rolling away accidentally; do not allow any working practices which could put the machine at risk of tipping.
- You have familiarised yourself with the site's working environment prior to starting work.
- You have familiarised yourself with all operational sequences (e.g. start-up and shutdown, operator control and display elements) associated with the machine.
- You are able to complete the operator actions described in the instruction manual and are aware of the consequences of every action you take.
- Prior to starting or restarting the machine, you have made sure that its operation will not put anyone at risk.
- You are aware of the emergency procedures.

Check the machine at least once per shift for externally visible damage and defects. Report any changes you notice (including those affecting operational performance) immediately to a supervisor.

Do not reach into the infeed or ejector chute during operation.

In the event of malfunctions during operation, you must shut down the machine immediately and disconnect it from the mains supply.

1.11. Essential safety instructions for cleaning, service and maintenance

The machine may be cleaned, serviced and maintained only by persons who have completed appropriate training and instruction and have been authorised to do so.

Coordinate arrangements for all cleaning, service and maintenance work with all parties involved (e.g. operators).

Only commence cleaning, service and maintenance work if:

- You have read and understood this instruction manual
- The machine has been de-energised (disconnected from the mains supply) and a notice has been affixed warning against restarting
- The machine is standing on an even surface with a sufficient load-bearing capacity
- The working area for all operations has been fenced off and secured (put up a sign) and there are no unauthorised persons in the area
- All machine parts have cooled to room temperature
- Suitable lifting gear and transport equipment compliant with regulations governing the site of use are available for replacing larger components
- Suitable collecting trays are available for all substances which might pose a risk to groundwater (e.g. lubricants)
- All depressurised machine parts are secured against accidental restarting (e.g. water supply connection)
- Ports and screwed joints for lubricants and care products have been cleaned.

During cleaning, service and maintenance work, you must:

- Check all machine parts removed during such work for damage and wear
- Replace all bent or frayed cables, hoses and lines
- Replace all self-locking screws and nuts
- Remove all tools, materials and other equipment used from the machine

Once cleaning, service and maintenance work is complete, you must check that:

- All screw connections loosened during such work have been tightened
- All safety equipment and protective devices removed have been restored to full working order
- All tools, materials and other equipment used have been removed from the machine's working area
- Any fluid leaks (e.g. cleaning solution, lubricant) have been removed from the working area
- All substances which could pose a risk to groundwater have been removed in compliance with the regulations governing the site of use

1.12. Mechanical hazards

Danger

Moving, rotating knives.
Risk of serious or even fatal injury!

- Never reach into the infeed or ejector chute.
- De-energise the machine (disconnect the power plug) prior to commencing any maintenance or cleaning work.
- Note the warnings affixed to the machine.

Potential hazard	Action for avoidance
Malfunctions due to unauthorised conversions, repairs, tampering or modifications affecting the machine's design, electrical components or control components	Do not undertake any unauthorised conversions, repairs, tampering or modifications affecting the machine's design, electrical components or control components
Uncontrolled voltage rise on machine parts due to blockages and jams caused by foreign bodies (e.g. cutlery, containers)	Do not tamper with, bypass or disable safety and protective devices
	Disconnect the power supply and wait until the residual energy has dissipated
Crushing, shearing, cutting and severing of body parts due to unprotected moving and rotating machine parts	Do not tamper with, bypass or disable safety and protective devices
	Never reach into the infeed or ejector chute
	Do not put the machine into operation if safety equipment and protective devices have malfunctioned
	Shut the machine down immediately if safety equipment and protective devices malfunction
	Note the warnings affixed to the machine
	Wear protective overalls
Cutting and severing of body parts when setting up the machine	Wear suitable PPE (protective gloves)

1.13. Electrical hazards

Danger

Where electrical equipment is concerned, it is inevitable that certain components will be **live**.
Hazardous shock currents - risk of fatal injury!

- De-energise the machine (disconnect the power plug) prior to commencing any maintenance or cleaning work.
- Work on electrical equipment may be carried out only by qualified electricians.
- Note the warnings affixed to the system.

Potential hazard	Actions for solution
Hazardous shock currents	Note the warnings affixed to the machine
	The machine must be de-energised for cleaning (disconnected from the mains supply)
	The machine must be de-energised for cleaning (disconnected from the mains supply) when work is being carried out on electrical equipment
	Anyone undertaking work on electrical equipment must be accompanied by a second person able to assist in the event of an emergency
	Check electrical equipment, lines, cables and power plugs daily for damage
	Do not continue to use damaged electrical equipment, lines, cables and plugs; replace them immediately
	Refit any connections which come loose
	Only use electrical equipment, lines, cables, plugs and fuses in accordance with specification
	Never use water or other fluids to clean electrical equipment, lines, cables and plugs
	Do not insert objects into ventilation slots
	Wear suitable PPE
Direct contact with live parts which have become live due to errors	Note the warnings affixed to the machine
	Never use water or other fluids to clean electrical equipment, lines, cables and plugs
	Note error messages on the controller
	Disconnect the power supply and wait until the residual energy has dissipated
Impermissible voltage connection	Only use electrical equipment, lines, cables and plugs in accordance with specification

Potential hazard	Actions for solution
Live, bare/rotating parts	Note the warnings affixed to the machine
	Do not touch live, bare/rotating parts
	Disconnect the power supply and wait until the residual energy has dissipated
	Wear suitable PPE

1.14. Thermal hazards

Potential hazard	Action for avoidance
Hot surfaces of machine parts during and after operation	Note the warnings affixed to the machine
	Do not touch machine parts during operation
	Allow machine parts to cool to room temperature
Impermissible heating of machine parts	Only ever use machine parts in accordance with specification
	Lay lines and cables in such a way as to prevent the risk of impermissible heating

1.15. Hazards during production

Potential hazard	Action for avoidance
General machine soiling	Clean the machine thoroughly prior to every change in production (remove production residue)
	Clean the machine thoroughly on a regular basis
	Keep the area around the machine clean at all times
Contamination of production material	Remove all traces of detergent once cleaning is complete (rinse with water)
	Use "test strips" once the machine has been cleaned

1.16. Noise hazards

The workspace-related emissions value is below 70 dB (A).

Therefore, it is not necessary to wear hearing protection.

1.17. Hazards due to unexpected malfunctions

The machine could malfunction unexpectedly due to:

- The failure of or a fault affecting the power supply
- The restoration of the power supply following a temporary loss
- External factors influencing the machine
- Operator errors (human error or activity).

1.18. Other hazards

Once the machine has been shut down or brought to a standstill, various forms of energy can still be present. These include hazardous electrical voltage in live power lines and electrical components.

1.19. Additional hazards

Potential hazard	Action for avoidance
Falling over, slipping, tripping	Make good uneven surfaces underfoot and damaged floor coverings
	Remove trip hazards (e.g. objects)
	Keep access routes clear
	Remove soiling (e.g. production material) from the floor of the working area
Malfunctions due to unauthorised conversions, repairs, tampering or modifications affecting the machine's design, electrical components or control components	Do not undertake any unauthorised conversions, repairs, tampering or modifications affecting the machine's design, electrical components or control components
Operating materials (e.g. lubricants, detergents)	Wear suitable PPE (e.g. protective gloves, aprons, safety glasses) during cleaning
	Wear suitable PPE (e.g. protective gloves) when topping up lubricants
	Observe the information in safety data sheet (MSDS), safety codes and operating instructions
	Use suitable transport and storage equipment
	Decant as per specifications
	If possible, use a less hazardous substance with an equivalent effect

1.20. Emergencies

Danger

Unsuitable extinguishing equipment.
Hazardous shock currents - risk of fatal injury!

- Never use water to extinguish electrical fires.
- Use CO2 fire extinguishers only.

Warning

Unsuitable extinguishing equipment.
Toxic gases and vapours!

- Use CO2 fire extinguishers only.

Note

Keep yourself updated of possible options and life-saving equipment available on site for first aid.

Make sure you always know:

- Where fire extinguishers are located
- How best to fight fires.

1.20.1. What to do in an emergency

What has happened?	What to do
Material damage	• Do not panic • Shut down the machine, remove the mains plug and secure against accidental restarting • Inform a supervisor immediately
Personal injury	• Do not panic • Shut down the machine, remove the mains plug and secure against accidental restarting • Remove the person from the danger zone • Secure the accident zone • Administer first aid • Inform a safety officer or supervisor immediately
Fire (incipient fire)	• Do not panic • Shut down the machine, remove the mains plug and secure against accidental restarting • Use a suitable extinguisher to put out the incipient fire • Inform a safety officer or supervisor immediately
Catastrophic event (major fire, explosion)	• Do not panic • Evacuate everyone from the danger zone • Use only designated escape routes • Inform a safety officer or supervisor immediately • Chain of survival

1.21. Protecting the environment

Whenever you are working on and with the machine, ensure compliance with local regulations governing waste prevention and procedures for recycling and/or disposal.

When carrying out maintenance work in particular, you must take care to ensure that substances which could be harmful to groundwater (e.g. lubricants, detergents) do not pollute the soil or enter the sewer system.

You must use a suitable container to collect, store and transport such substances and you must dispose of them in accordance with regulations.

2. Transport, installation and connection

Usually, the machine is installed and put into operation by our authorised service engineers.

These engineers issue the customer an acceptance certificate (☞ Chapter 14. Appendix).

For shipment, the machine is screwed to a Euro pallet and covered with a plastic sheet or transport cover for protection.

Warning

Machine can fall over on or off Euro pallet or means of transport (e.g. lift truck).

Heavy load - Risk of serious or even fatal injuries!

- Only qualified personnel are permitted to take part in transportation activities.
- Wear suitable PPE (e.g. protective gloves, work gloves).
- Transport and lifting equipment must be able to support the weight and dimensions of the machine.
- It must also be compliant with local regulations governing accident prevention.
- Take care when fastening or rigging the machine to transport and lifting equipment.

2.1. Transport

Attention

Incorrect rigging points.

Material damage!

- When lifting the machine, do not take hold of them by their covers, handles or conveyor belts.

The machine must be transported on the Euro pallet. The safeguards fitted (strap links between the machine and the pallet) must not be removed until the machine reaches its intended site of use. The rolling lifting carts used for transport must have an approved permissible carrying capacity of up to 600 kg.

Make sure that the employees involved in transporting and installing the machine are wearing safety shoes (with steel toe caps) and suitable industrial gloves.

In the absence of a large lift truck for lifting the machine off the Euro pallet, this task can be carried out by no fewer than 8 people (6 to lift the machine and 2 to pull away the Euro pallet), subject to compliance with applicable safety regulations and due care and attention (the machine weighs approximately 260 kg).

Danger

There is an increased **risk of injury** especially during installation!

Hands and feet can be **crushed**, for example.

2.2. Installation and connection

The working area for operation, maintenance, cleaning and service must not be restricted.

We recommend an additional spatial requirement of 1,0 m around the machine, in order to work effectively on the machine.

Basic ambient conditions and set-up conditions:

- Operation exclusively indoors/in closed rooms
- set-up altitude: max. 1000 meters above sea level (NN),
- environment must not contain salt or sulphur,
- do not set up the machine in Ex areas.

1. The installation area should have a level, load-bearing, and non-slip substrate.
2. Floor flatness must not exceed 2%.
3. Check the load-bearing capacity of the floor area on which the machine is to stand (15 N/mm²).
4. Remove the packaging material and any transport locking devices (such as screws).
5. Position the machine at the final destination using lifting and transport equipment.
6. Lock the transport rollers by pressing the foot switch downwards.
7. Use the ready-assembled mains plug to connect the machine to the power supply.
   - The mains voltage must match the information on the type plate.
   - The route taken by the mains cable must not pose a trip risk.
   - There must be some strain relief on the mains cable.
8. Connect the water feed line at the coupling.

2.3. First use

Warning

First use.
Risk of injury and damage to property!

- Only authorised and qualified personnel are permitted to put the machine into operation.

Prior to first use, all safety devices and safety-related equipment (e.g. removable safety devices, emergency stop devices) must be in full working order.

2.4. Moving the component

The protective casings must be closed when moving the machine.

The mains plug must be disconnected before moving the machine.

3. Mechanical design

3.1. Installation diagram

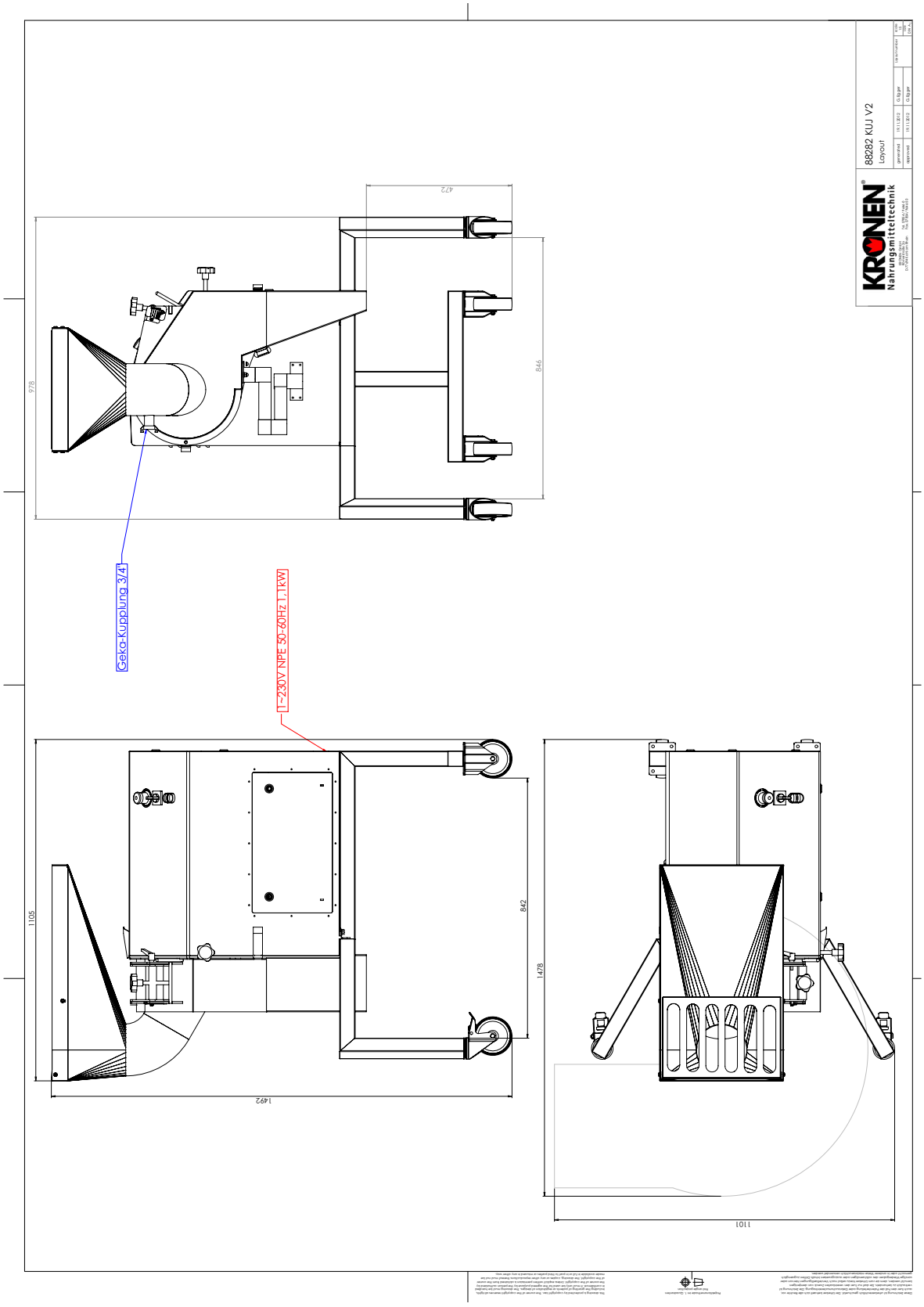


Figure 5: Mechanical design, overview

4. Technical description

4.1. Intended use

The machine is intended exclusively for cutting vegetable and seedless fruit. Products not cited must be approved by the manufacturer of the machine on a case-by-case basis.

Applicable technical data is outlined in Chapter 4.4. Technical data.

The machine is compliant with the requirements of EC Machinery Directive 2006/42/EC in respect of the basic health and safety requirements of the harmonised standards derived from this directive.

The machine may be used only in perfect working order and as intended. Operators must demonstrate an awareness of safety and risks and comply with the information in the instruction manual. Faults which could impair safety in particular must be rectified immediately.

Intended use also includes observation of the information in the instruction manual, compliance with inspection and maintenance regulations and observation of operating instructions.

Use for an alternative purpose or a purpose beyond the scope defined above is deemed to be unintended. The operator, and not the manufacturer or supplier, shall be held responsible for any resulting damage.

4.2. Unintended use

Unintended use would include for example the crushing and grinding of ice or bones.

The machine may be operated only as a complete unit. It is forbidden to run individual machine components for other purposes (using the motor to drive another machine, for example).

Unintended use of the machine can lead to

machine components being torn from their supports/mounts, for example.

4.3. Product description

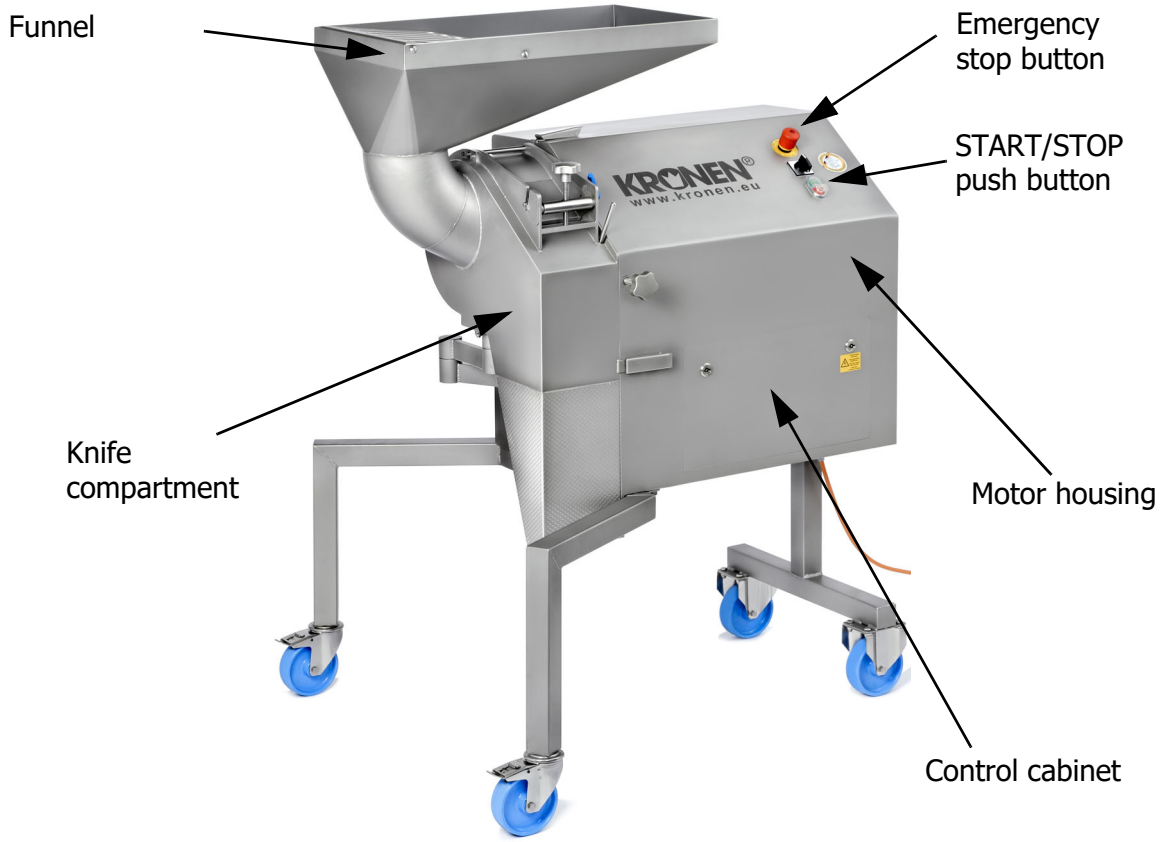


Figure 6: Dicing, julienne and slicing machine KUJ V

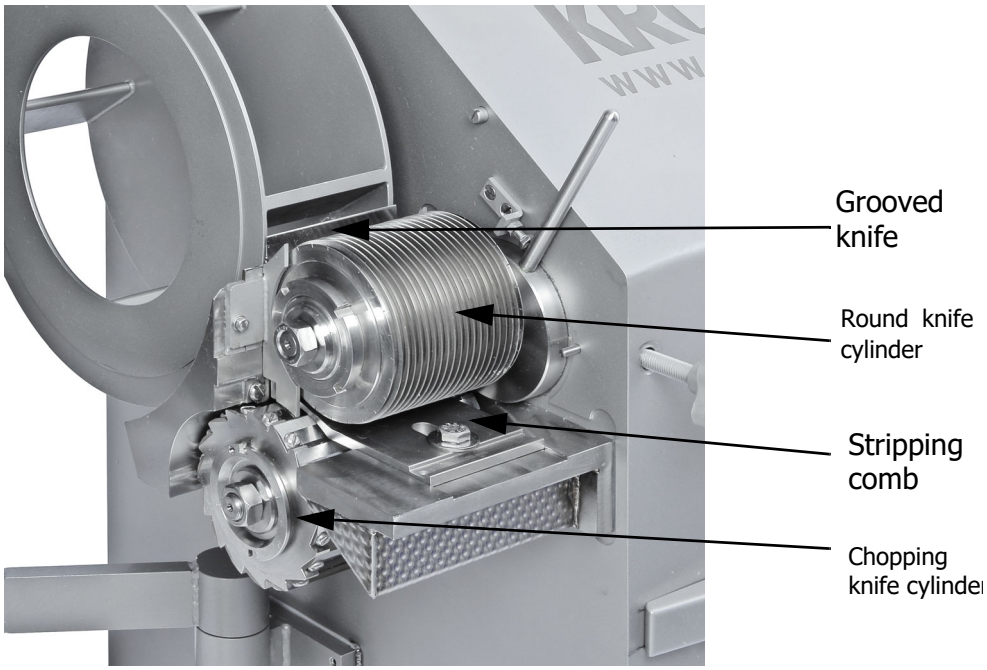


Figure 7: Knife compartment

4.4. Technical data

Ambient temperature		°C	5-30
Air humidity	Relative	%	25-70
Length		mm	1105
Width		mm	978
Height		mm	1492
Weight		kg	260
Voltage		V	230
Frequency		Hz	50
Total output		kW	1.1
Total current		A	4.2
Power	5x5 mm 15x15 mm 20x20 mm	kg/h kg/h kg/h	1000 2000 3000
Water supply connection		"	3/4
Sound pressure level		db(A)	<70

Table 2: Technical data

4.5. Type plate

The type is located at the back side of the machine.

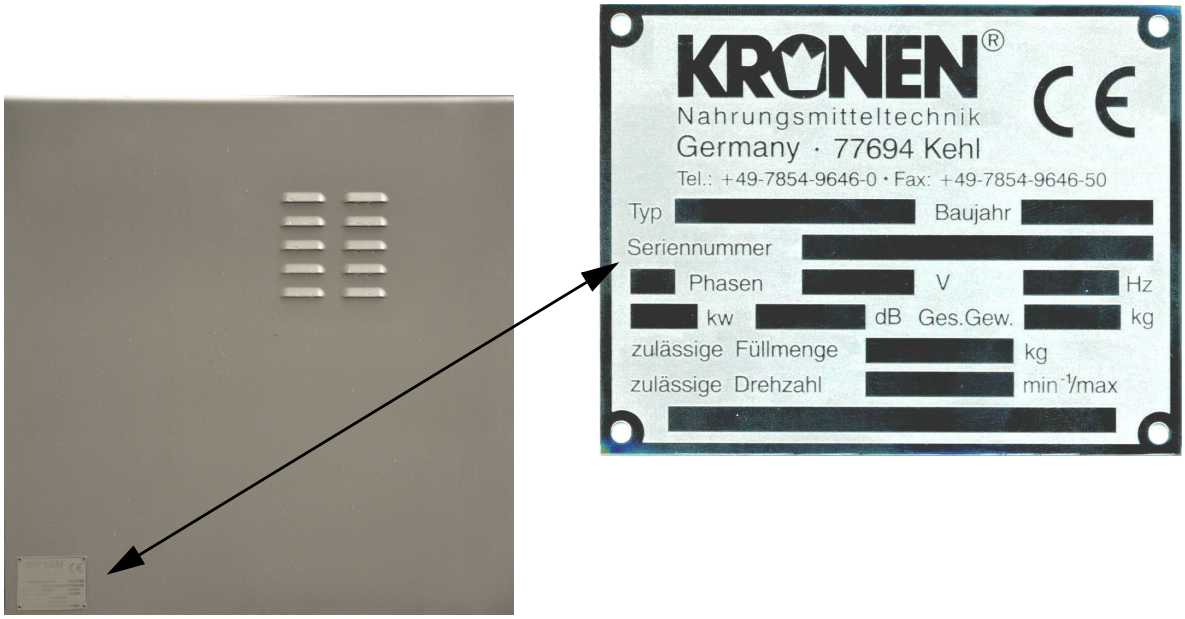


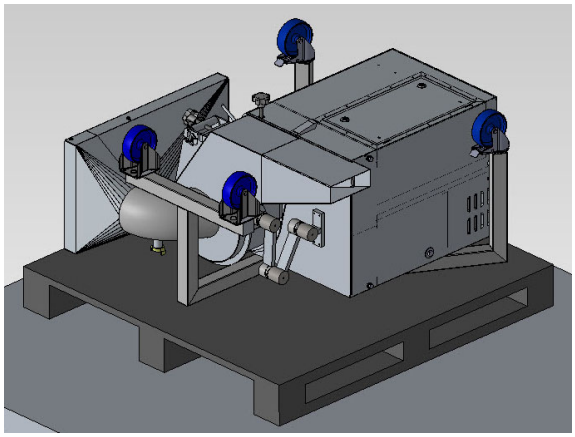
Figure 8: Type plate

5. Design and function

5.1. General

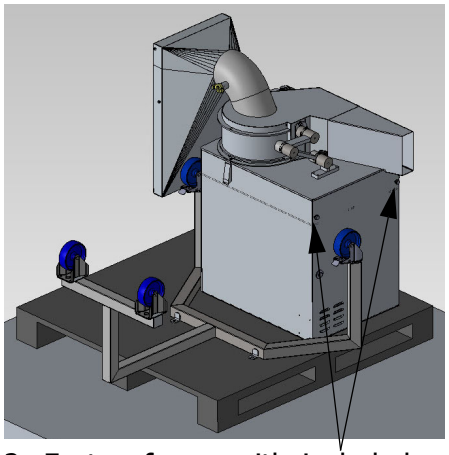
This chapter provides an overview of the design and function of the individual elements of the machine.

Supplement: Design for overseas, installation in case of separated frame.



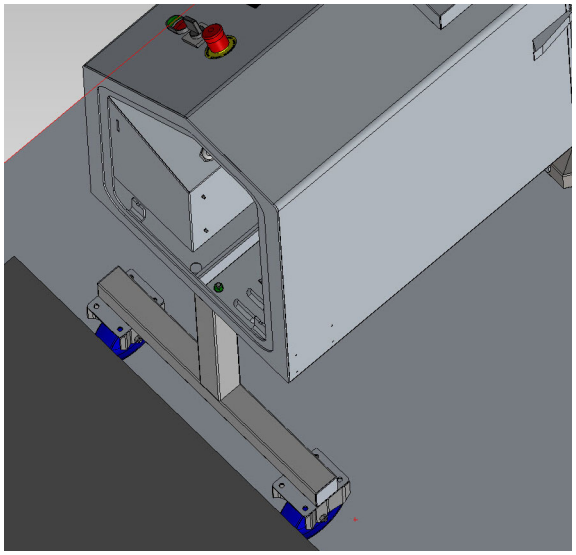
1. Pull frame forward and set up machine on the side.

Figure 9: Machine packaged for air/sea freight



2. Fasten frame with included washers and screws.

Figure 10: Setup of the machine



3. Align machine carefully with about 4 people and tighten nut on threads.

Figure 11: Fastening the machine on the base frame

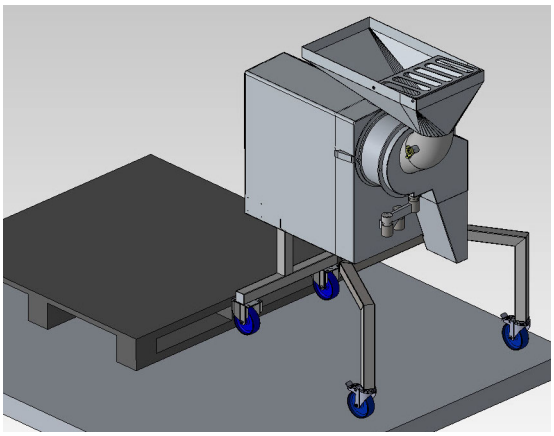


Figure 12: Machine completely assembled

For an overview of the machine elements, refer to Chapter 4.3. Product description.

5.2. Safety equipment and protective devices

Note

For the location and function of safety equipment and protective devices, refer to Chapter 1.6. Safety equipment and protective devices.

5.3. Description of functions

You can use the machine to cut vegetables, seedless and stoneless fruit.

The KUJ V allows you to cut your product into slices, strips or cubes.

Production material

…is prepared for the production process and placed in the funnel so that it is conveyed to the knife compartment.

In the knife compartment

…the product is moved along the drum wall by centrifugal force.

The vertical transverse knife blade

…cuts your product in the next step into slices first.

The round knife cylinder

…cuts these into strips…

…and the **chopping blade cylinder underneath**

…cuts these into cubes in the last step.

By removing the chopping knife cylinder the product can also be cut into strips; removing the round knife cylinder as well cuts the product into slices.

Important: Before filling the running machine with product, make sure that a collection container is positioned under the ejector chute.

For cutting, the product must be filled into the funnel by hand or with an inclined conveyor.

The maximum load height of the funnel is not higher than 1.5 meters.

The maximum opening of the contact guard on the funnel is 40 mm, to ensure protection against contact.

It is possible to connect water to the funnel tube by means of the 3/4” GEKA coupling.

If the product allows, cut using water, if possible.

6. Operator control and display elements

The control and display elements are located on the front end of the machine housing. The control cabinet is integrated in the housing.

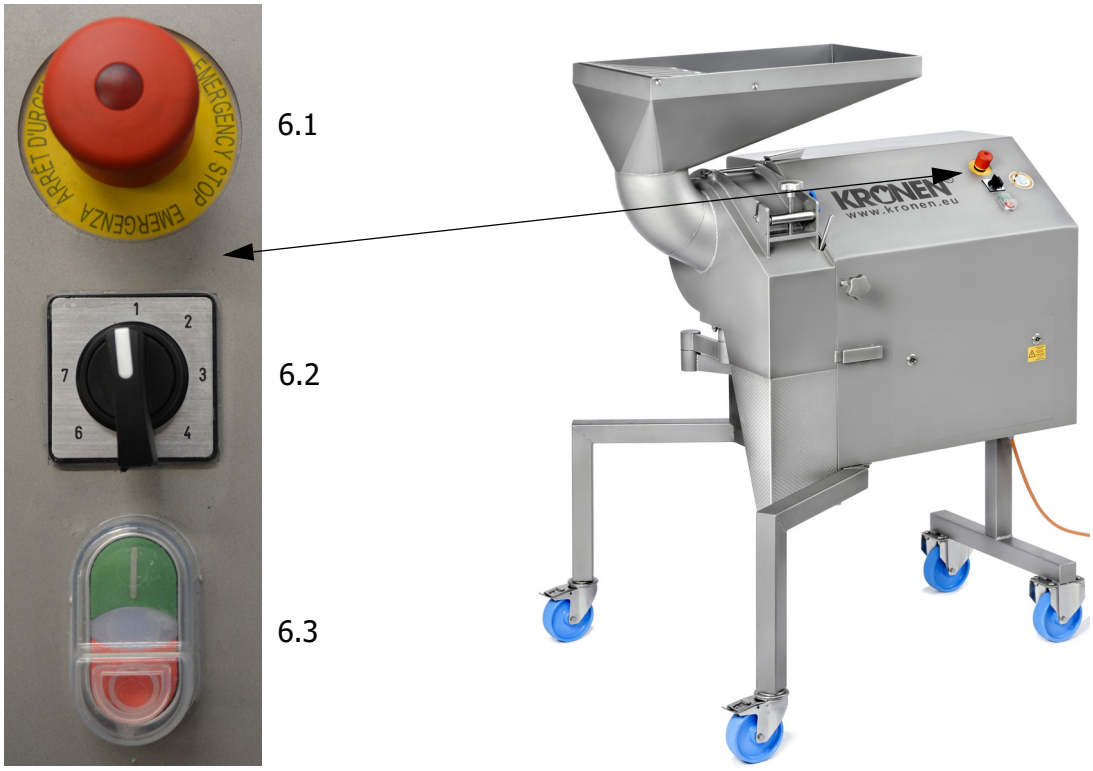


Figure 13: Operator control elements

6.1. Emergency stop button

One EMERGENCY STOP button is installed on the control cabinet and the other is on the front end of the machine.

The emergency stop button is used to stop the machine in order to reduce or avoid emerging or existing risks of personal injury or material damage.

The emergency stop button locks when pressed and has to be released manually.

Figure 14: EMERGENCY STOP button

Note

After releasing the emergency stop button, the machine does not restart automatically. The machine has to be restarted following the reset (☞ Chapter 7.2. Switching the machine on and off).

Before starting up the machine, check that:

- The cutting tool has been attached correctly
- The protective casings are closed
- A collecting tray has been placed under the ejector chute.

6.2. Speed selector switch

The speed selector switch is installed in the machine housing.
This selector switch can be used to adjust the speed of the drive unit.

1 = slow
7 = fast
For a soft or brittle product, select a slower speed. For a hard product, set the speed higher.

Figure 15: Speed selector switch

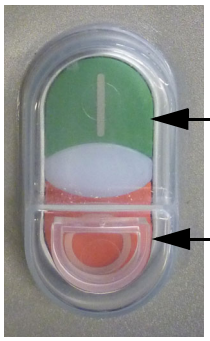
Note

This information is provided only for general orientation. The customer must determine the best setting for his product based on experience.

Speeds	Motor frequency	Examples of products
1	30 Hz	Strawberries, tomatoes, melons, watery fruits in general, eggs, carrots
2	35 Hz	
3	40 Hz	Less watery fruits such as apples and pears, bell peppers cut in cubes and strips, cucumbers, bananas
4	45 Hz	Cucumbers, mushrooms, eggplants, zucchini, salmon
5	50 Hz	Cucumbers, mushrooms, eggplants, zucchini, salmon, potatoes, onions
6	55 Hz	Onions, potatoes, ham, garlic, nuts, almonds, radishes, etc.
7	60 Hz	

Table 3: Speed adjustment

6.3. START/STOP push button



The START/STOP button is installed at the front end of the machine.
START
The machine starts after this button is pressed.
STOP
The machine stops immediately after this button is pressed.

Figure 16: START/STOP button

Danger

Even when the START/STOP button is OFF, some equipment will remain live.
Hazardous shock currents - risk of fatal injury!

- Do not touch areas in the control cabinet marked with warning signs.

7. Operation

7.1. General

Tasks prior to starting work:

- Make sure that there is no sand or other foreign objects such as stones or seeds in the product to be cut.
- Exercise caution when handling the knife inserts. Always use the handling tool provided.
- Before switching on the machine, always make sure that there are no foreign objects in the rotor and cutting area, such as pieces of wood or packaging materials.
- Please be aware that the motor will run only if the door is properly closed.
- The motor stops immediately if the door is opened during processing.
- In case of abnormal or loud noises during operation, stop the machine immediately and check for damage to the blades or whether there are any foreign objects in the cutting area.

Important

The maximum diameter of the product to be cut must not exceed 80 mm. Large products, such as celery, cabbage, etc. must be divided accordingly prior to cutting.

7.2. Switching the machine on and off

The dicing, julienne and slicing machine is delivered ready for operation.

1. Connect the machine with the electrical network using the connection cable with the CE plug.
2. Make sure that the EMERGENCY STOP button has been released.

Start up the machine

3. Press the ON button to start the machine.

Shut down the machine

4. Press the OFF button to shut off the machine.

Danger

Moving, rotating knives.
Risk of serious or even fatal injury!

- Never reach into the infeed or ejector chute during operation.
- Note the warnings affixed to the machine.

Caution

Product waste and product residue.
Risk of slipping!

- Product waste and product residue must be removed immediately and disposed of responsibly.

7.3. Poor cutting quality

1. Cutting quality is insufficient.
   - Check the knife blades for damage and blunting.

Danger

Moving, rotating knives.
Risk of serious or even fatal injury!
- Before commencing, shut down and de-energise the machine (remove the mains plug) and secure against accidental restarting.
- Only authorised personnel are permitted to do this.
- Wear suitable PPE (protective gloves with forearm protection).

Shut down the machine

2. Shut down the machine (☞ Chapter 7.2. Switching the machine on and off).

From this point on you must wear safety gloves with forearm protection!

3. Open the knife compartment.
4. Take a standard piece of paper and fold it to form an arc.
5. Turn the cutting knife slowly and guide the paper along the outside of the knife blades.
6. If the paper is cut lightly and cleanly, the cutting quality of the blade is still completely intact (wear safety gloves with forearm protection!!!)
   - If they do not, you will need to replace the cutting knife (☞ Chapter 8. Set-up).
7. Close the knife compartment.

Start up the machine

8. Switch on the machine (☞ Chapter 7.2. Switching the machine on and off).

8. Set-up

Before starting work, check that:

- The working area is locked and secured in order to prevent unauthorised access to the danger zone
- There are no slip risks in the vicinity
- There are no trip risks on any routes you might need to take

Danger

Moving cutting knives.
Risk of serious or even fatal injury!

- Before commencing, shut down and de-energise the machine (remove the mains plug) and secure against accidental restarting.
- Only authorised personnel are permitted to do this.

8.1. Protective gloves

We recommend using the following protective gloves:

Designation	Niroflex-group
Supplier	FGS Fleischerei- und Gastronomie-Service Südbaden e. G. Wasserstraße 24 77652 Offenburg,Germany Tel.: +49 (0) 781 79 00-0 Fax: +49 (0) 781 23 34-5

These gloves have the following safety features:

- Grip dots
- Maximum anti-slip thanks to welded raised rubber pimples made from silicone
- Ideal for working with machine parts with smooth surfaces (e.g. glass, plastic, sheet steel, metal)
- Combined protection: Airtight, cut-resistant and anti-slip
- Available in 5 sizes

Note

Please contact the supplier for more information.

8.2. Machine set-up

Caution

Sharp cutting edges.
Risk of cuts!

- Exercise caution when unpacking and packing cutting knives, as well as when handling them in general.
- Do not take hold of the cutting knife by its cutting edges.
- Wear suitable PPE (protective gloves with forearm protection).

Attention

Damage to the cutting knife.
Material damage!

- Exercise caution when unpacking and packing cutting knives, as well as when handling them in general.
- Always place knives on a soft surface.
- Cutting knives must be placed in suitable packaging prior to transportation.
- Always use original packaging for transportation.

Note

If you are not able to sharpen the cutting knife, we would be delighted to do this for you.

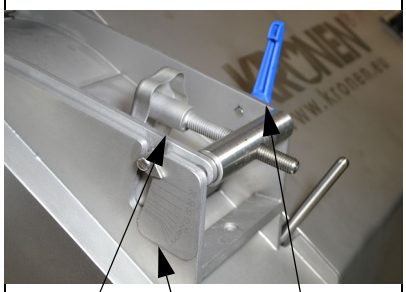
Shut down the machine

1. Shut down the machine (☞ Chapter 7.2. Switching the machine on and off).

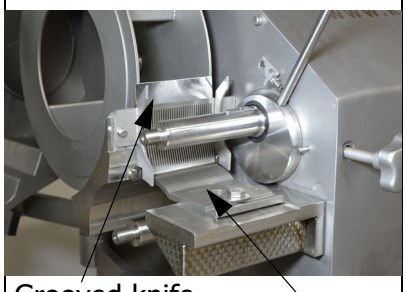
Set-up

2. Wear safety gloves! Risk of cuts!
3. Loosen clamping lever.
4. Turn adjusting screw to the highest position (indicator on the scale must be on 25).
5. Swivel the adjusting screw into horizontal position (see illustration at right).
6. Fasten the clamping lever again.
7. Open the machine.

- Adjusting screw for adjusting the cutting thickness. The indicator on the scale shows the cutting gap in mm.

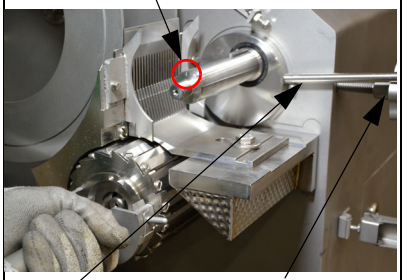


8. Insert grooved knife (above) and tighten the corresponding hexagon screw using a size 8 double open end spanner.
9. Insert stripping comb with washer and hexagon screw. Do not tighten the screw at first.



10. Loosen the locking screw.
11. Push lever for adjusting the eccentric shaft downwards.
12. The marking on the cross cutting blade has to be turned to 12 o'clock position.
13. Use the cylinder grip to place the cross cutting blade on the knife shaft. The feather-key at the machine and the groove on the cylinder must fit together.

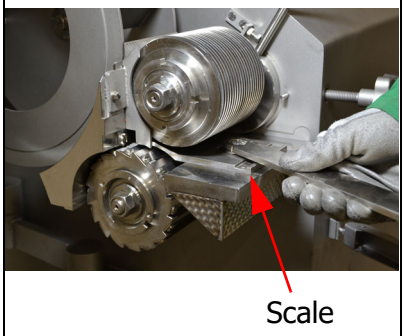
    Danger of injury!!!
14. Mount washer and nut.



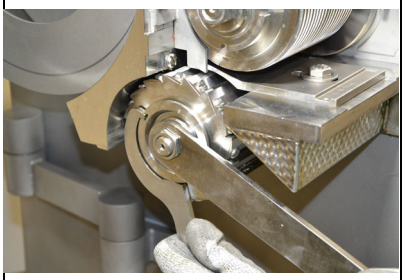
15. The marking on the cross cutting blade has to be turned to 12 o'clock position.
16. Use the cylinder grip to place the cross cutting blade on the knife shaft. The feather-key at the machine and the groove on the cylinder must fit together.

    Danger of injury!!!
17. Mount washer and nut.

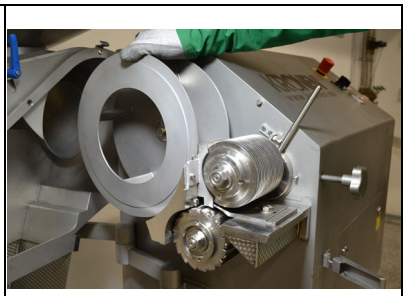
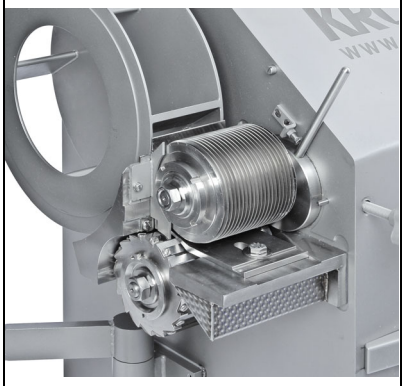
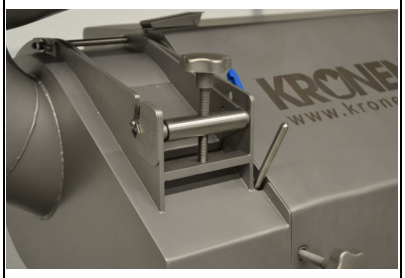
18. Move lever to the top position and fasten with the locking screw.
    - If the lever is not in contact with the screw, slightly turn the rotor so that the gear teeth will lock and the lever can be adjusted.
19. Align guide rake at the circular knife spindle and, using scale, adjust 2 lines in direction of the grooved knife, so that there is no grinding noise. Then tighten the screw.



20. Hold the cross cutting blade with the hook spanner. Tighten the nut slightly with the double ended ring spanner.



21. Hold the circular knife spindle with the hook spanner Tighten the nut slightly with the double ended ring spanner.

22. Turn rotor blades clockwise by hand and check for freedom of movement. Caution: knives! **Danger of injury!!!**	
23. Machine setup is complete.	
24. Close machine and lock with the two cam type closures. 25. Loosen clamping lever. 26. Move adjusting screw to starting position (vertical). 27. Fasten the clamping lever.	
Water connection on the filling chute and the ejector tube for the cut product. The hinge for opening the cover can only be actuated by first opening the quick release on the other side of the cover. First pull the cover forward and then tilt it to the side.	

8.3. Tools/accessories

Tools and parts needed for setup of the machine:

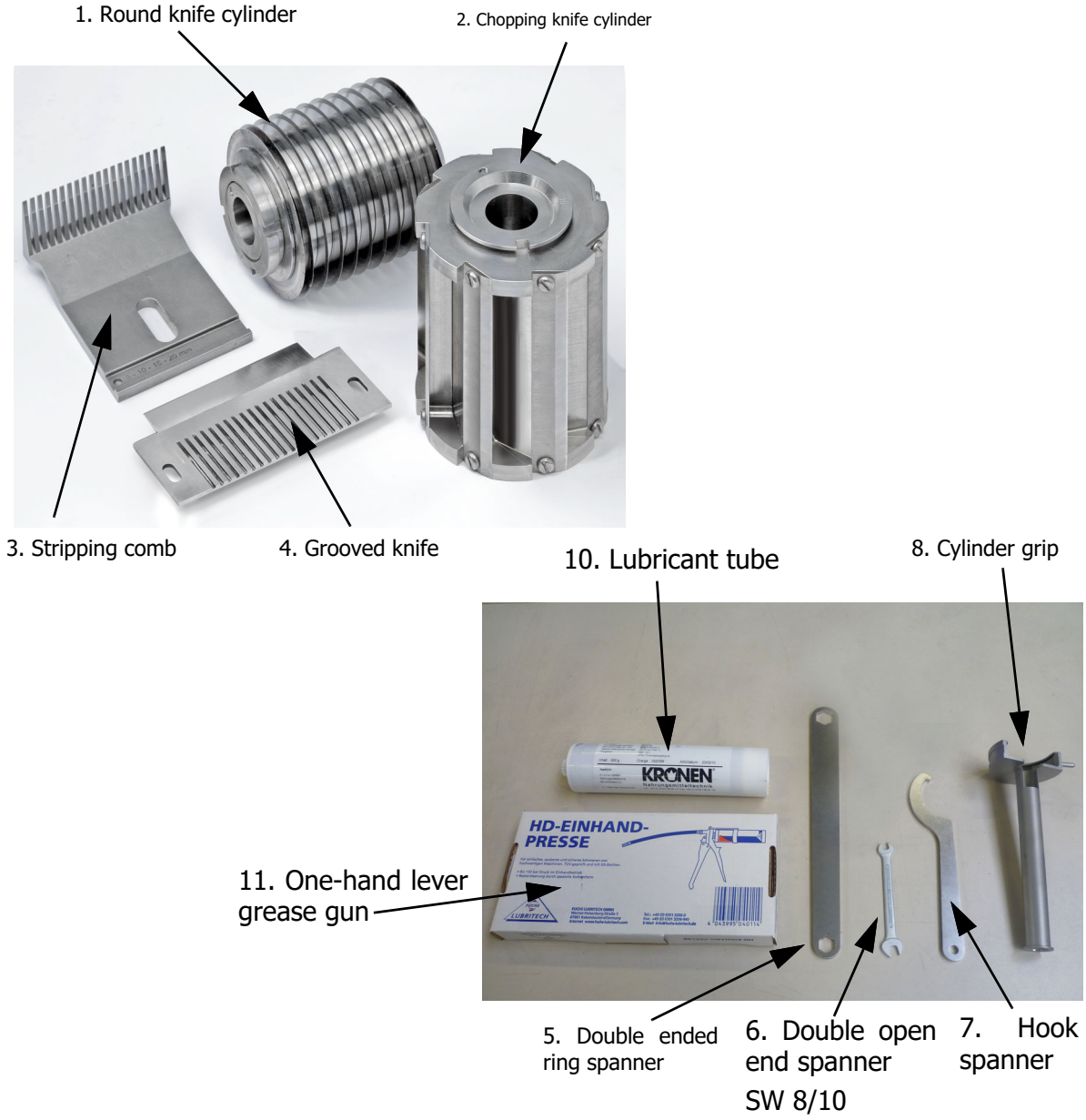


Figure 17: Tools/accessories

Tool	Accessory	
1. Round knife cylinder	5. Double ended ring spanner	10. Lubricant tube
2. Chopping knife cylinder	6. Double open end spanner	11. One-hand lever grease gun
3. Stripping comb	7. Hook spanner	
4. Grooved knife	8. Cylinder grip	

9. Cleaning

To clean our machines we recommend the following products exclusively, which are made of natural, renewable and fully biodegradable raw materials; these products can be purchased from Kronen.

HACCP compliant support of production:

Designation:	**Kronen Destain**
Part number:	**BIO1000**
Effectiveness / concentration:	Kronen Destain is powerful alkaline cleaner, especially for effortless cleaning of conveyor belts: • Non-foaming, phosphate-free • Free of aggressive and abrasive substances • High-yield, economical • Biodegradable **Application area:** For conveyor belts that are soiled from cutting foods (lettuce, carrots, etc.). **Application / dosing:** Use Kronen Destain undiluted or 1:1, depending on the degree of soiling. Allow to work 24 - 48 hours, then rinse thoroughly with clear water. In case of extreme soiling, use a brush. Kronen Destain is sufficient for 6-10 applications, depending on the degree of soiling. **Ingredients:** Anionic and non-ionic tensides, additives. **pH-value:** In concentration 13

Designation:	**Kronen Destain PLUS**
Part number:	**BIO1006**
Effectiveness / concentration:	Kronen Destain PLUS is powerful alkaline cleaner, especially for effortless cleaning of washing machines: • Sustainable reduction of accumulations / sediment • Non-foaming, phosphate-free • Free of aggressive and abrasive substances • High-yield, economical • Biodegradable **Application area:** Washing machines with pipeline systems; in the water circuit. **Application / dosing:** After mechanical cleaning, pour Kronen Destain PLUS into the washing machine in a concentration of 5%. Allow machine to pump 1-2 hours in circulation. Then rinse thoroughly with clear water. Collect cleaning solution in a suitable container. Kronen Destain PLUS can be used for 6-10 applications, depending on the degree of soiling. **Ingredients:** Anionic and non-ionic tensides, additives. **pH-value:** In concentration 13

Notice

Read the information on the packaging for additional information.
The manufacturer of the machine accepts no liability whatsoever for misapplication that is attributed to the cleaning agent.

9.1. Cleaning the machine

Danger

Moving, rotating knives.
Risk of serious or even fatal injury!

- Before commencing, shut down and de-energise the machine (remove the mains plug) and secure against accidental restarting.
- Only authorised personnel are permitted to do this.

Danger

Where electrical equipment is concerned, it is inevitable that certain components will be live.
Hazardous shock currents - risk of fatal injury!

- De-energise the machine (disconnect it from the mains supply) prior to commencing any cleaning work.
- Note the warnings affixed to the system.

Warning

High-pressure cleaner.
Risk of injury and damage to property!

- Never use high-pressure cleaners to clean the machine.
- Water pressure must not exceed the maximum available from a conventional mains water supply.

Caution

Water.
Material damage!

- Never use water or other liquids to clean the control cabinet.
- The membrane keypad and control cabinet should only ever be cleaned using a cleaning cloth.
- Water or other liquids should never be allowed to get into electrical component parts.

Caution

Leaving detergents/cleaning solutions to act for too long on component parts.
Material damage!

- Follow the manufacturer's instructions.
- Do not use detergents containing chlorine or salt (risk of contact corrosion).
- Cleaning solutions must not exceed a temperature of 60°C.
- Wear protective overalls, protective gloves and safety glasses/a face mask.
- Cleaning must always be followed by rinsing with zero-bacteria water.

Note

Clean and rinse the machine thoroughly at least once a day.
The machine must be cleaned and rinsed thoroughly prior to production start-up (see also the in-house production guide, HACCP legislation).

Shut down the machine

1. Shut down the machine (☞ Chapter 7.2. Switching the machine on and off).
2. Cover or seal all openings which moisture must not be allowed to penetrate for reasons of safety or performance.

Cleaning the machine

3. Apply the cleaning solution evenly across the entire surface of the machine using a standard cleaning brush or spray nozzle.
   - Leave the cleaning solution to work for 4 minutes.
4. Remove stubborn or tough stains by hand with a standard domestic cleaning brush.
   - Do not use steel wool or equipment with sharp edges.
   - Fruit juices and cell saps usually leave a green-grey covering on the cutting knife. Brush or scrub this off.
   - If you are using pickling methods (e.g. for gherkins, corn cobs, carrots) you will need to take extra care when cleaning the cutting tools.
5. Rinse away any traces of cleaning solution and product residue with warm water (at low pressure).
6. Allow the machine to dry before restarting.
7. Spray the cutting tools with food-safe grease.
8. Once cleaning is complete, remove all equipment and tools from the working area.
9. Completely remove all covers and seals from openings.

Start up the machine

10. Switch on the machine (☞ Chapter 7.2. Switching the machine on and off).

Note

Overalls which become soiled or soaked in cleaning solutions should be submitted for in-house recycling.

10. Service and maintenance

This chapter contains important information about the service and maintenance of your machine.

Regular service and maintenance carried out in compliance with specifications is vital for:

- Operational reliability
- Fault-free operation
- A long machine service life
- The quality of the products you are producing

Third-party equipment and devices must be kept in perfect condition.

Note

Please contact us regarding repairs that are covered by a service agreement.

Only spare parts included in our spare parts lists may be used (☞ Chapter 12.2. Mechanical spare parts).

10.1. Safety

Danger

Moving, rotating knives.
Risk of serious or even fatal injury!

- Before commencing, shut down and de-energise the machine (remove the mains plug) and secure against accidental restarting.
- Only authorised personnel are permitted to carry out maintenance work.

Danger

Where electrical equipment is concerned, it is inevitable that certain components will be live.
Hazardous shock currents - risk of fatal injury!

- De-energise the machine (disconnect it from the mains supply) prior to commencing any service or maintenance work.
- Work on electrical equipment may be carried out only by qualified electricians.
- Note the warnings affixed to the system.

Warning

Failure to carry out service and maintenance correctly.
Risk of injury and damage to property!

- Only authorised personnel are permitted to carry out maintenance work.

Attention

Use of incorrect operating materials and spare parts.
Material damage!

- Only use approved operating materials and spare parts.

10.2. Protecting the environment

Whenever you are working on and with the machine, ensure compliance with local regulations governing waste prevention and procedures for recycling and/or disposal.

Lubricants are usually hazardous to groundwater. Whenever you are working on the lubricant system, ensure that:

- Collecting trays with a suitable volumetric capacity for the amounts to be collected are used
- Lubricants do not spill onto the ground
- Any lubricant leaks are cleaned up immediately

10.3. Inspection and maintenance

The nature and extent of wear is largely dependent upon individual usage and operating conditions. All maintenance intervals indicated assume optimum operating conditions (☞ Chapter 4.1. Intended use).

If defects identified might:

- Pose a risk to personal safety
- Pose a risk of consequential damage to machine parts

You must

- Stop the machine immediately (remove the mains plug)
- Affix a warning to the machine clearly outlining the situation
- Inform the responsible service and maintenance personnel.

If, in spite of a defect having been identified, the machine can continue to operate in the short term without posing a risk to personal safety or machine parts, you should:

- Stop the machine at the end of the current production process (remove the mains plug)
- Inform the responsible service and maintenance personnel.

Note

Record all service and maintenance work in the table provided (☞ Chapter 14. Appendix).

10.4. Repairs

Contact our service personnel whenever you need repairs.

If the operator's own qualified specialist personnel carry out repair work, the information in this instruction manual must be observed to the letter.

We do not accept liability for material damage and malfunctions resulting from non-compliance with this instruction manual; non–compliance will also invalidate the machine's warranty.

You may only ever use:

- Suitable tools
- Spare parts approved by us

10.5. Restarting

Carry out a safety check prior to restarting (☞ Chapter 1.9. Essential safety instructions for first use).

10.6. Lubrication

10.6.1. Lubricant

We recommend the following lubricant:

	Grease gun/grease tube:	**Grease spray:**
Designation:	Renolit G7 FG1	CARAMBA
Part number:	46985/46986	46984

Lubricating grease with zero mineral oil content for use in the foodstuffs industry and made from organic (plant oils) and inorganic (thickeners) natural materials.

Note

Please contact the supplier for more information.

10.6.2. Lubricating points

Caution

Use of incorrect operating materials.
Material damage!

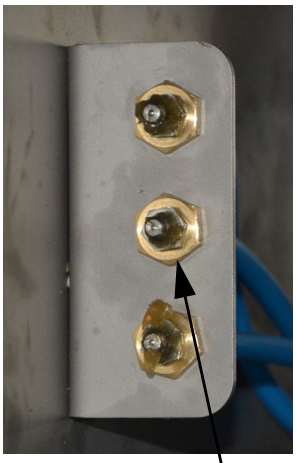
- Do not mix lubricating greases of different saponification types.
- Only use approved operating materials.
- The use of other operating materials is subject to written approval from the machine manufacturer.

Note

Bearings should be relubricated when the lubricating points are still at operating temperature (shortly before shutdown).

The amount of relubrication required will vary according to operating conditions and may be between 20% and 80% of the initial lubrication volume.

10.6.3. Relubrication

	Shut down the machine 1. Shut down the machine (☞ see Chapter 7.2. Switching the machine on and off). 2. Open the machine housing using the two-way key provided.	
	Relubricate the lubricating points 3. Clean the lubricating points using a cleaning cloth. 4. Inject lubricant into the lubricant nipples using a grease gun. • Old lubricant should be able to escape freely. • Continue injecting until fresh lubricant is visible at the sealing gaps on the bearings. 5. Remove any excess lubricant. 6. Clean the lubricating nipples. 7. Close the machine housing. Lubrication cycle: 1x per months at a usage rate of 8 hours per day.	 Lubricating points
	Start up the machine 8. Switch on the machine (☞ see Chapter 7.2. Switching the machine on and off).	

11. Troubleshooting

Danger

Where electrical equipment is concerned, it is inevitable that certain components will be live.

Hazardous shock currents - risk of fatal injury!

- De-energise the machine (disconnect the power plug) prior to commencing any maintenance or cleaning work.
- Work on electrical equipment may be carried out only by qualified electricians.
- Note the warnings affixed to the system.

Attention

Repairs may only be made by authorised contracted workshops or specialist professionals. The power plug must be disconnected before any maintenance work is carried out.

Note

This chapter only describes faults and examples of maloperation which operators are permitted to deal with. Other faults can only be dealt with by specialist personnel.

Start by checking if one of the safety devices has been triggered. For example, one of the protective housings might not have been closed properly.

Check the following:

- Is there any evidence of mechanical damage on the outside of the machine housing? If yes, where?
- Is there any evidence of external damage on the mains cable?
- Has there been a cable fire (smell of charred plastic)?
- Has water been sprayed into the control cabinet (open to check)?
- Is there any evidence of damage to the knife shaft (wear chain mail gloves with forearm protection and turn the cutting blade in the direction of travel)?
- Do the conveyor belts appear to be seriously damaged, frayed or torn completely?
- Has an attempt been made to use the machine in a way which contravenes its intended purpose (e.g. to process bones or frozen food)?
- Have foreign bodies (e.g. knives, forks, spoons) got into the working area of the machine?
- Is there evidence of visible damage to the protective housings (or in their immediate vicinity)?

11.1. Customer service

Should you need to contact our customer service team for assistance, please provide the following information:

- The data from your machine's type plate
- The nature and extent of the fault
- When the fault occurred and the prevailing circumstances at the time
- A possible cause

Notice

Our spare parts sale team can be contacted Monday to Thursday between 8 a.m. and 5 p.m. and on Friday between 8 a.m. and 4 p.m. by calling +49 (0) 7854 9646-112.

12. Spare parts

12.1. Ordering spare parts and wearing parts

In addition to the spare parts and wearing parts listed, you can also order other components for your machine.

You must provide the following information when placing an order:

- Designation (type plate)
- Serial number (type plate)
- Number of parts required

Attention

Failure to carry out service and maintenance correctly.
Risk of injury and damage to property!

- Only authorised personnel are permitted to carry out maintenance work.

Attention

Use of incorrect spare parts.
Material damage!

- Only use approved spare parts.

Notice

Our spare parts sale team can be contacted Monday to Thursday between 8 a.m. and 5 p.m. and on Friday between 8 a.m. and 4 p.m. by calling +49 (0) 7854 9646-112.

12.2. Mechanical spare parts

12.2.1. Position of mechanical spare parts

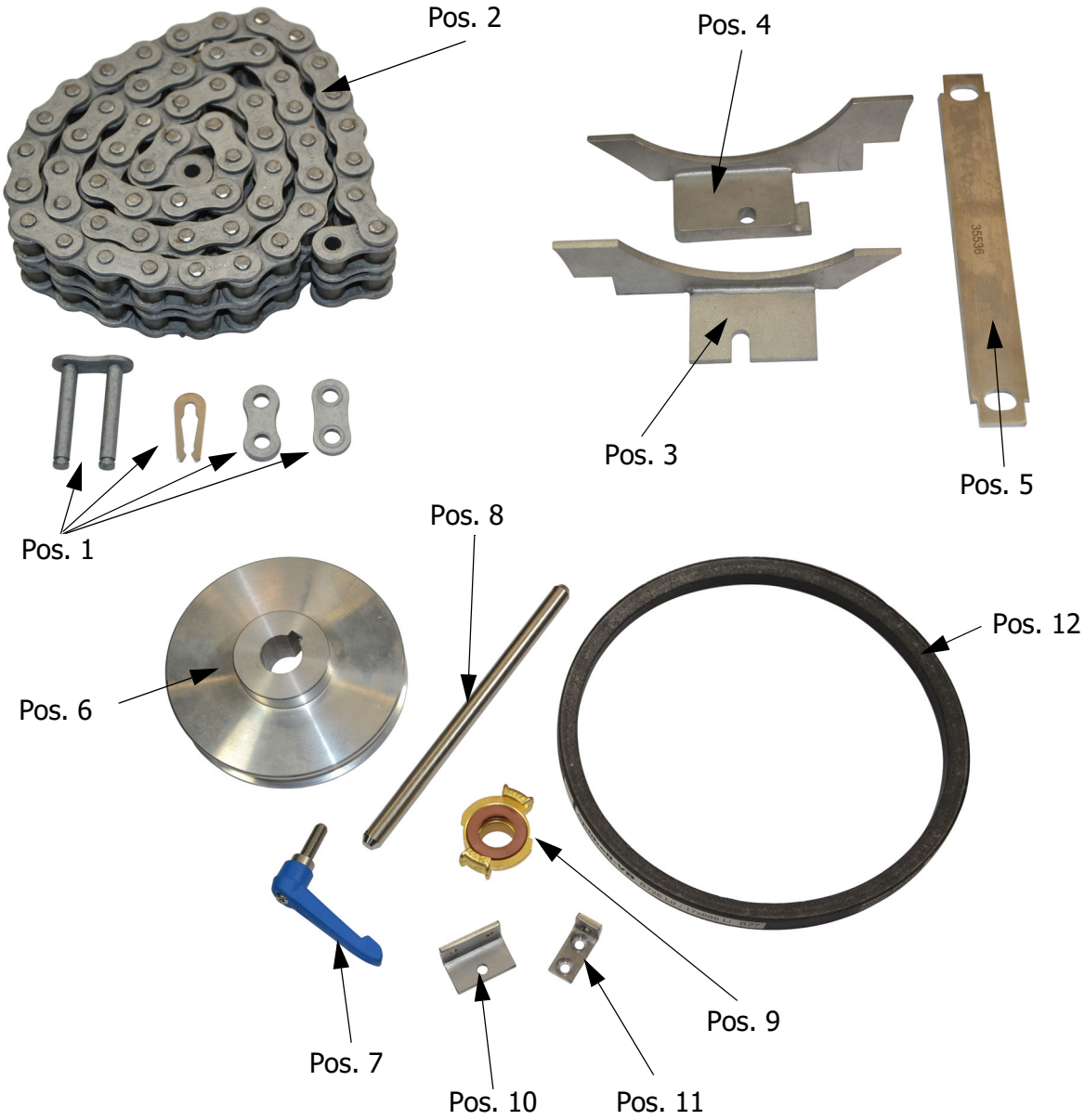


Figure 18: Position of mechanical spare parts

12.2.2. Mechanical spare parts list

Item	Part number	Designation	Quantity
1	36408	Spring-clip connecting element	1
2	36400	Roller chain	1
3	40352	Guide element, right	1
4	35152	Guide element, left	1
5	35536	Transverse knife blade	1
6	99834	Belt pulley for motor	1
7	25568	Clamping lever, blue	1
8	1616	Bolt	1
9	44634	GEKA coupling	1
10	36272	Bracket for solenoid switch	1
11	37752	Angle	1
12	980290	V-belt	1

Table 4: Mechanical spare parts list

12.2.3. Overview spare parts grooved knife

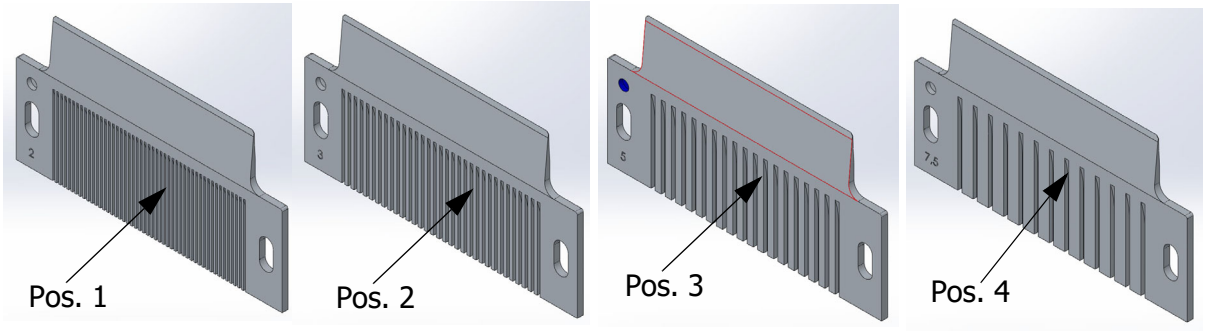


Figure 19: Overview spare parts grooved knife

12.2.4. List of spare parts grooved knife

Item	Part number	Designation	Quantity
1	99228	Grooved knife 2 & 4mm KUJ V	1
2	98622	Grooved knife 3,6,9 & 12mm KUJ V	1
3	97118	Grooved knife 5,10,15 & 20mm KUJ V	1
4	99230	Grooved knife 7,5 & 15mm KUJ V	1

Parts list 1: List of spare parts grooved knife

12.2.5. Overview spare parts toothed grooved knife

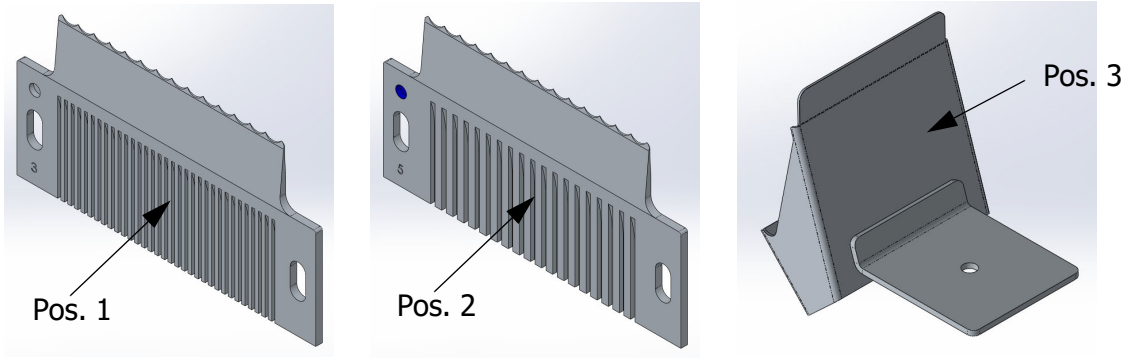


Figure 20: Overview spare parts toothed grooved knife

12.2.6. List of spare parts toothed grooved knife

Item	Part number	Designation	Quantity
1	735081	Grooved knife 3mm KUJ V toothed	1
2	735079	Grooved knife 5,10,15 & 20mm KUJ V toothed	1
3	98262	Product guidance slicing KUJ V	1

Parts list 2: List of spare parts toothed grooved knife

12.2.7. Overview spare parts grating knife

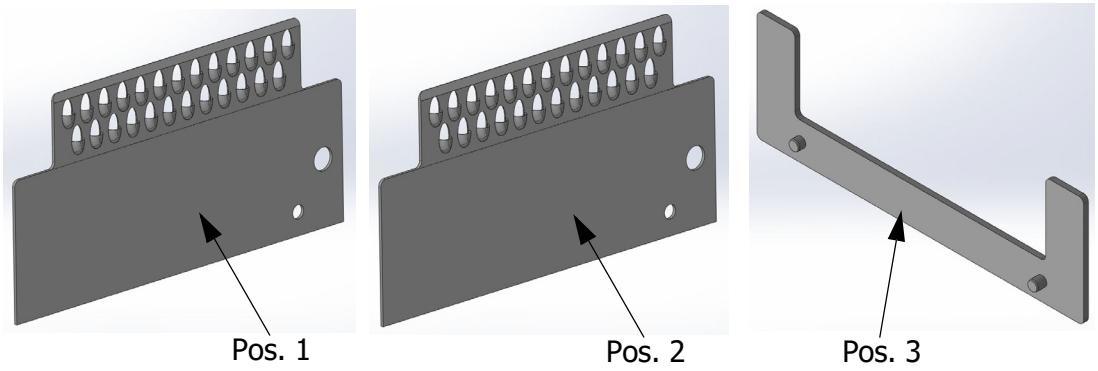


Figure 21: Overview spare parts grating knife

12.2.8. List of spare parts grating knife

Item	Part number	Designation	Quantity
1	734804	Grooved knife grating 3mm KUJ V	1
2	734803	Grooved knife grating 4,2mm KUJ V	1
3	734517	Clamping plate grating KUJ V	1

Parts list 3: List of spare parts grating knife

12.2.9. Overview grooved knife wave cut

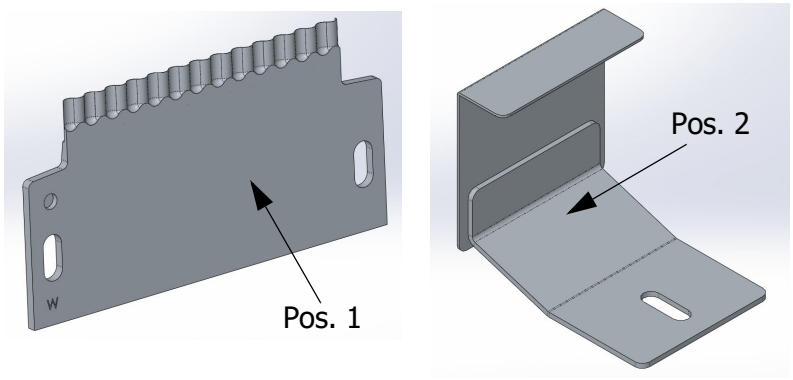


Figure 22: Overview grooved knife wave cut

12.2.10. List of spare parts grooved knife wave cut

Item	Part number	Designation	Quantity
1	75250	Grooved knife wave cut 10mm KUJ V	1
2	75243	Product guidance wave cut KUJ V	1

Parts list 4: List of spare parts grooved knife wave cut

12.2.11. Overview spare parts scrapers

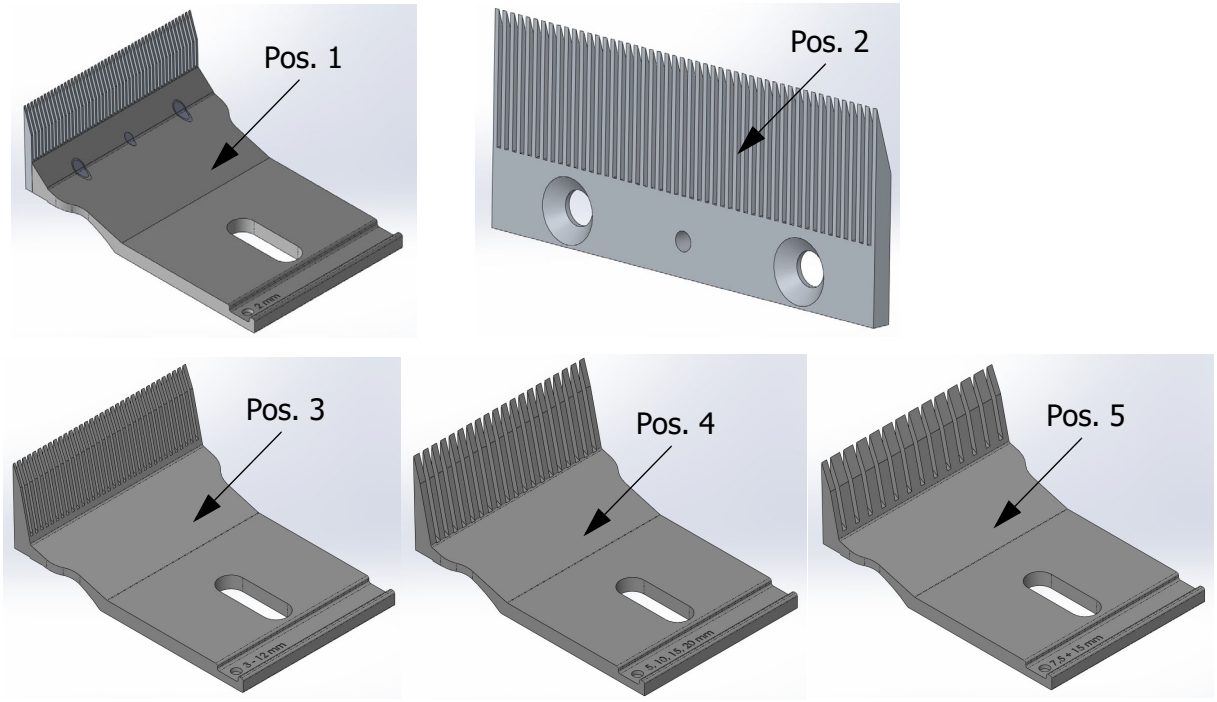


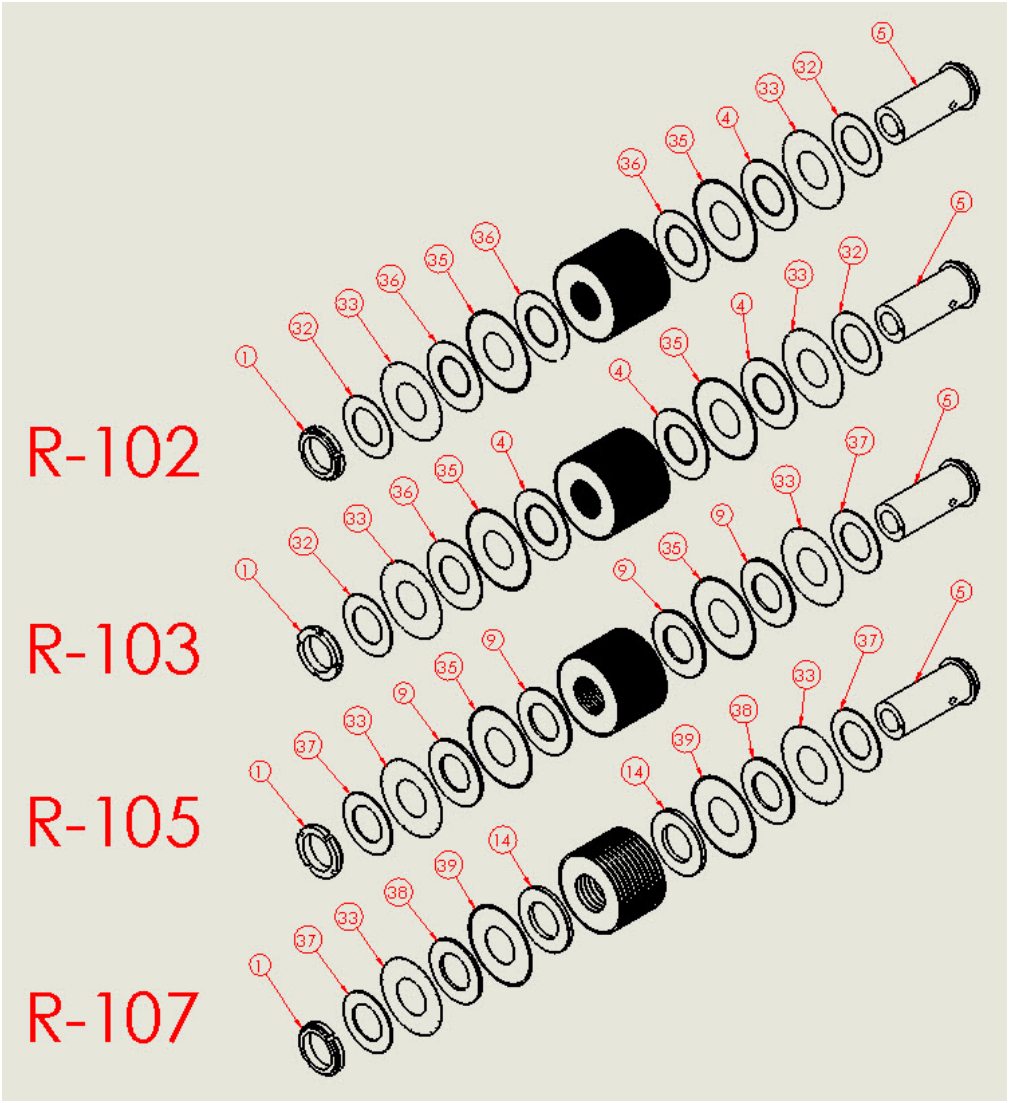
Figure 23: Overview spare parts scrapers

12.2.12. List of spare parts scrapers

Item	Part number	Designation	Quantity
1	731641	Scraper 2mm KUJ V	1
2	731643	Front panel for 2mm scraper KUJ V	1
3	98673	Scraper 3 & 6mm round blank KUJ V	1
4	96501	Scraper 5,10,15 & 20mm round blank KUJ V	1
5	99241	Scraper 7,5 & 15mm round blank KUJ V	1

Parts list 5: List of spare parts scrapers

12.2.13. Spare parts overview - round knife cylinders R-102 to R-107



Drawing 1: Spare parts overview - round knife cylinders R-102 to R-107

12.2.14. Spare parts list - round knife cylinders R-102 to R-107

Item	Part number	Designation	Quantity
R-102	**98633**	**Round knife cylinder 2 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
4	33376	Spacer for round knife	1
5	33344	Hollow shaft	1
32	98629	Spacer for round knife	2
33	95800	Round plates, slotted	2
35	92173	Round knife blade	49
36	45659	Spacer for round knife	49

Parts list 6: Spare parts list - round knife cylinders R-102 to R-107

Item	Part number	Designation	Quantity
R-103	**98631**	**Round knife cylinder 3 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
4	33376	Spacer for round knife	33
5	33344	Hollow shaft	1
32	98629	Spacer for round knife	2
33	95800	Round plates, slotted	2
35	92173	Round knife blade	33
36	45659	Spacer for round knife	1
R-105	**97105**	**Round knife cylinder 5 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
5	33344	Hollow shaft	1
9	33368	Spacer for round knife	20
33	95800	Round plates, slotted	2
35	92173	Round knife blade	19
37	98581	Spacer for round knife	2
R-107	**98637**	**Round knife cylinder 7.5 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
5	33344	Hollow shaft	1
14	33384	Spacer for round knife	12
33	95800	Round plates, slotted	2
37	98581	Spacer for round knife	2
38	99239	Spacer for round knife	2
39	98653	Round knife blade	13

Parts list 6: Spare parts list - round knife cylinders R-102 to R-107

12.2.15. Spare parts overview - round knife cylinders R-110 to R-120

Drawing 2: Spare parts overview - round knife cylinders R-110 to R-120

12.2.16. Spare parts list - round knife cylinders R-110 to R-120

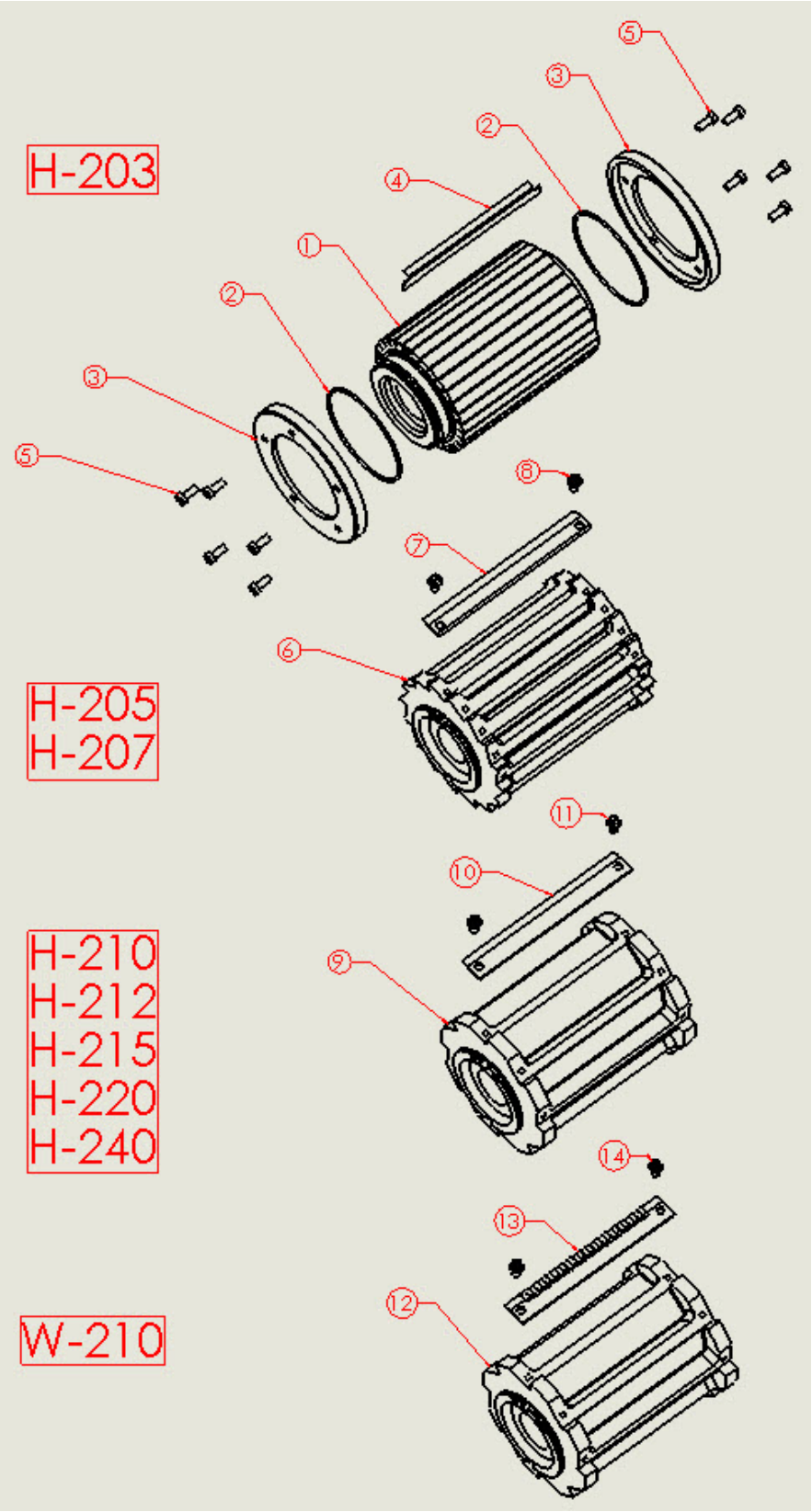
Item	Part number	Designation	Quantity
R-110	**99301**	**Round knife cylinder 10 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
5	33344	Hollow shaft	1
19	33392	Spacer for round knife	9
33	95800	Round plates, slotted	2
37	98581	Spacer for round knife	2
39	98653	Round knife blade	10
40	98635	Spacer for round knife	2

Parts list 7: Spare parts list - round knife cylinders R-110 to R-120

Item	Part number	Designation	Quantity
R-112	**99789**	**Round knife cylinder 12 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
5	33344	Hollow shaft	1
33	95800	Round plates, slotted	2
37	735898	Spacer for round knife	2
39	98653	Round knife blade	9
41	99791	Spacer for round knife	2
42	47238	Spacer for round knife	8
R-115	**99251**	**Round knife cylinder 15 mm round plates KUJ V**	
1	33328	Slotted nut for round knife cylinder KUJ V	1
5	33344	Hollow shaft	1
24	33400	Spacer for round knife	6
33	95800	Round plates, slotted	2
37	98581	Spacer for round knife	2
39	98653	Round knife blade	7
43	99257	Spacer for round knife	2
R-120	**98651**	**Round knife cylinder 20 mm round plates KUJ V**	
26	33320	Slotted nut for round knife cylinder KUJ V	1
29	33424	Spacer for round knife	2
30	33432	Spacer for round knife	3
31	33352	Hollow shaft	1
34	98665	Round plates, slotted	2
44	730535	Spacer for round knife	2
45	98657	Round knife blade	6

Parts list 7: Spare parts list - round knife cylinders R-110 to R-120

12.2.17. Spare parts overview - chopping knife cylinders H-203 to W-210



Drawing 3: Spare parts overview - chopping knife cylinders H-203 to W-210

12.2.18. Spare parts list - chopping knife cylinders H-203 to W-210

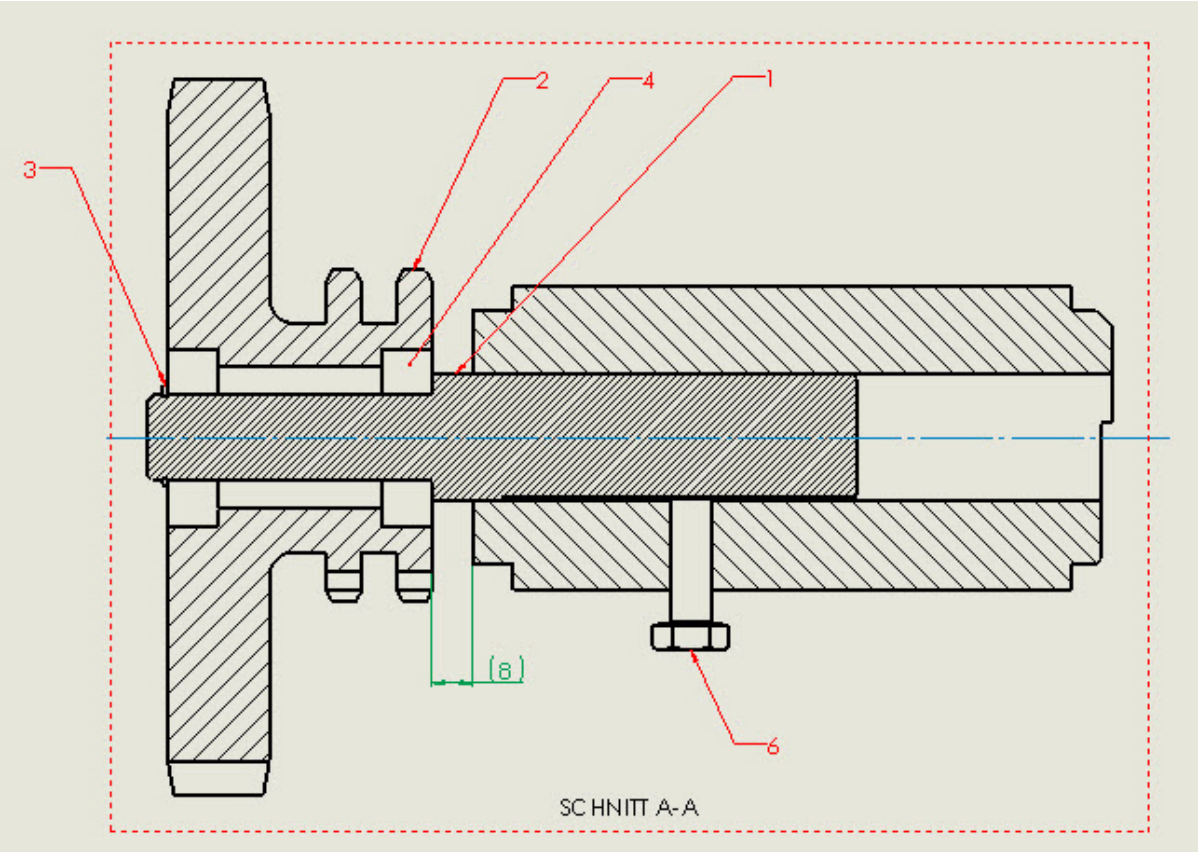
Item	Part number	Designation	Quantity
H-203	**35672**	**Assembly: Chopping knife cylinder 3 mm KUJ V**	
1	84449	Chopping knife cylinder 3 mm blank KUJ V	1
2	19448	Rubber seal	2
3	19464	Cover	2
4	35616	Chopping knife blade	30
5	11248	Pan head screw	10
H-205	**97160**	**Assembly: Chopping knife cylinder 5 mm KUJ V**	
6	99275	Chopping knife cylinder 5 mm blank KUJ V	1
7	33416	Chopping knife blade	16
8	11248	Pan head screw	32
H-207	**97164**	**Assembly: Chopping knife cylinder 7.5 mm KUJ V**	
6	98675	Chopping knife cylinder 7.5 mm blank KUJ V	1
7	33416	Chopping knife blade	13
8	11248	Pan head screw	26
H-210	**98663**	**Assembly: Chopping knife cylinder 10 mm KUJ V**	
9	98614	Chopping knife cylinder 10 mm blank KUJ V	1
10	33408	Chopping knife blade	8
11	11248	Pan head screw	16
H-212	**99799**	**Assembly: Chopping knife cylinder 12 mm KUJ V**	
9	99572	Chopping knife cylinder 12 mm blank KUJ V	1
10	33408	Chopping knife blade	7
11	11248	Pan head screw	14
H-215	**99267**	**Assembly: Chopping knife cylinder 15 mm KUJ V**	
9	99269	Chopping knife cylinder 15 mm blank KUJ V	1
10	33408	Chopping knife blade	6
11	11248	Pan head screw	12
H-220	**98679**	**Assembly: Chopping knife cylinder 20 mm KUJ V**	
9	98677	Chopping knife cylinder 20 mm blank KUJ V	1
10	33408	Chopping knife blade	4
11	11248	Pan head screw	8

Parts list 8: Spare parts overview - chopping knife cylinders H-203 to W-210

Item	Part number	Designation	Quantity
H-240	**730575**	**Assembly: Chopping knife cylinder 40 mm KUJ V**	
9	730573	Chopping knife cylinder 40 mm blank KUJ V	1
10	33408	Chopping knife blade	2
11	11248	Pan head screw	4
W-210	**731303**	**Assembly: Chopping knife cylinder, wave cut 10 mm KUJ V**	
12	731305	Chopping knife cylinder 10 mm blank KUJ	1
13	75247	Chopping knife blade, wave cut	8
14	11248	Pan head screw	16

Parts list 8: Spare parts overview - chopping knife cylinders H-203 to W-210

12.2.19. Spare parts overview - chains and gear stage



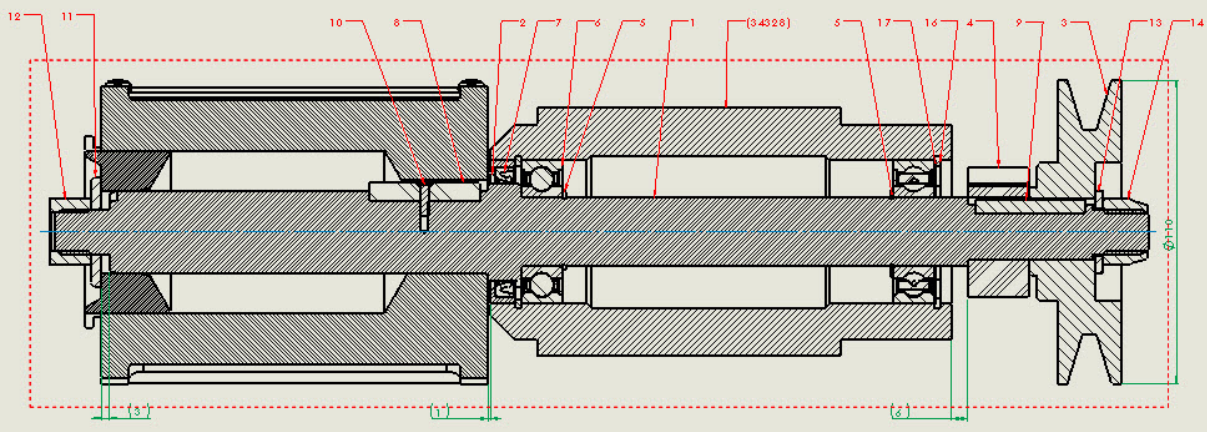
Drawing 4: Spare parts overview - chains and gear stage

12.2.20. Spare parts list - chains and gear stage

Item	Part number	Designation	Quantity
1	34616	Shaft for small gear	1
2	34136	Plastic gear wheel	1
3	36392	Retaining ring	1
4	36384	Ball bearing 17x35x10 6003 2RSR	2
6	8488	Hexagon screw	1

Parts list 9: Spare parts list - chains and gear stage

12.2.21. Spare parts overview - chopping knife shaft



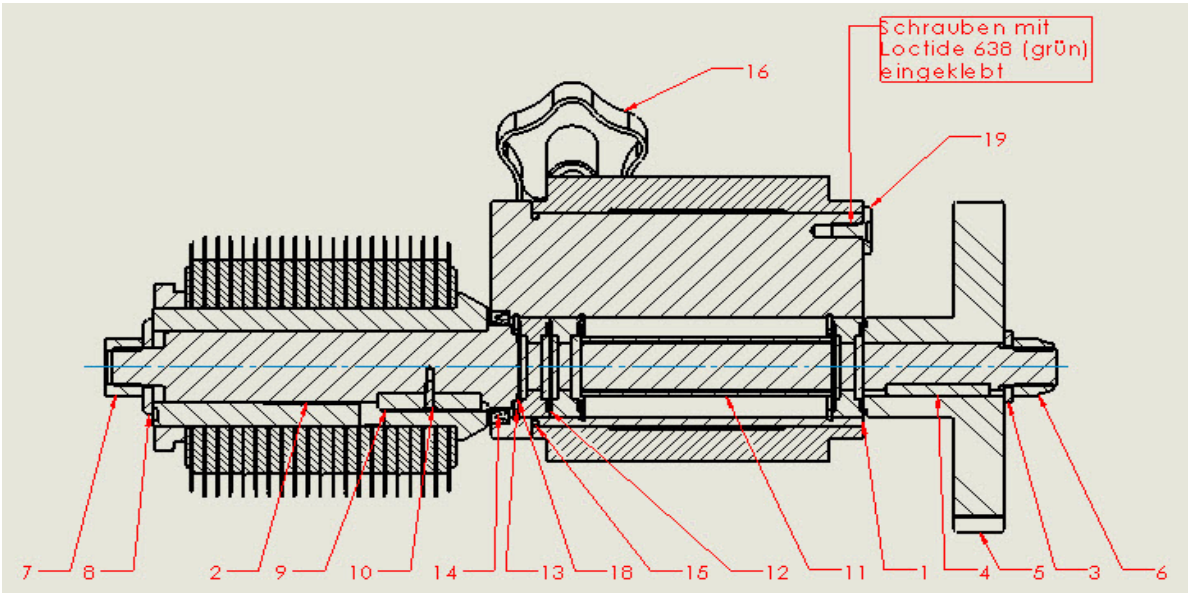
Drawing 5: Spare parts overview - chopping knife shaft

12.2.22. Spare parts list - chopping knife shaft

Item	Part number	Designation	Quantity
1	34496	Shaft for transverse knife	1
2	35896	Bushing for shaft sealing ring	1
3	34200	Belt pulley	1
4	34144	Pinion for chopping knife cylinder	1
5	8784	Retaining ring A25 DIN 471	2
17	36344	Deep-groove ball bearing	2
7	36352	Shaft sealing ring	1
8	36360	Feather key	1
18	36424	Feather key	1
10	8640	Slotted countersunk screw	1
11	34480	Washer	1
12	5888	Hexagon nut	1
13	23272	Washer	1
14	11840	Hexagon nut	1
15	10608	Lubricating nipple	1
16	36336	Retaining ring	2
17	45541	Ball-bearing washer	1

Parts list 10: Spare parts list - chopping knife shaft

12.2.23. Spare parts overview - round knife cylinder



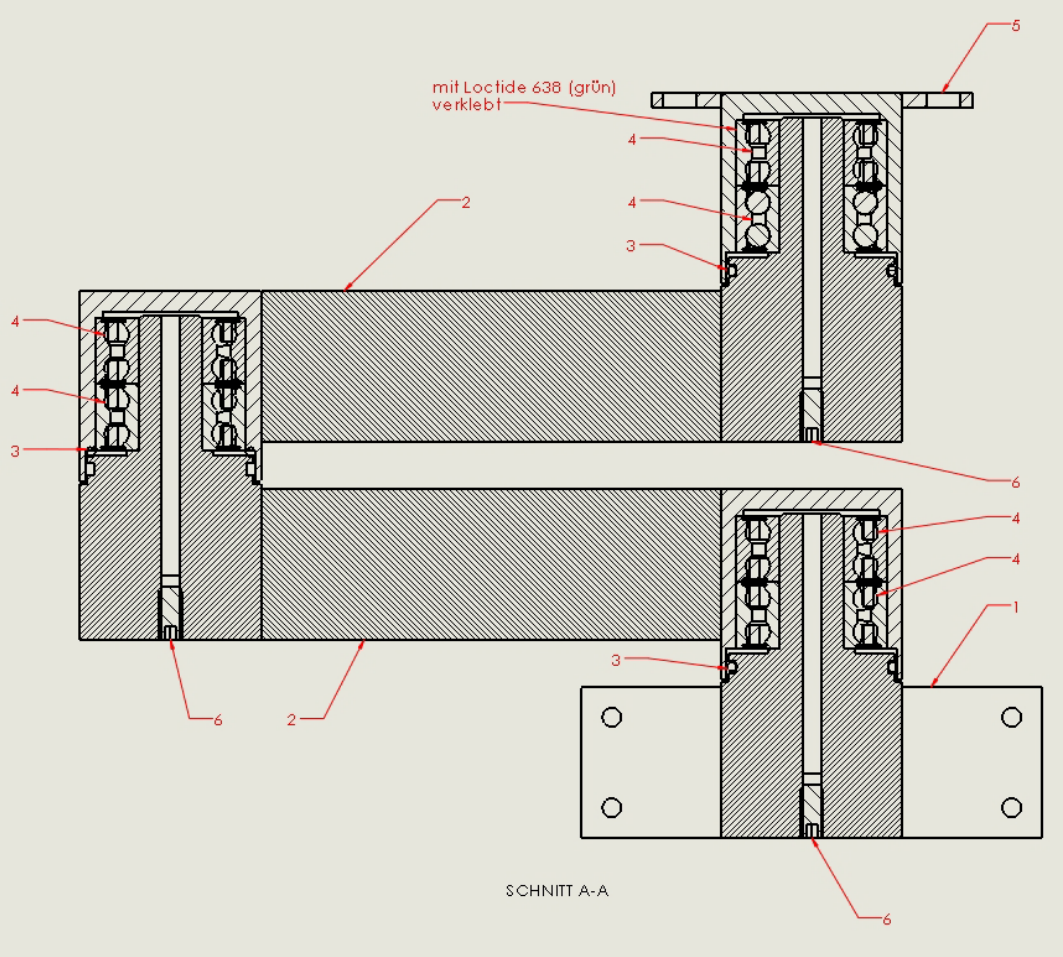
Drawing 6: Spare parts overview - round knife cylinder

12.2.24. Spare parts list - round knife cylinder

Item	Part number	Designation	Quantity
1	34632	Eccentric bushing	1
2	34472	Shaft for round knife	1
3	23272	Washer	1
4	36424	Feather key	1
5	34152	Pinion for round knife shaft	1
6	11840	Hexagon nut	1
7	5888	Hexagon nut	1
8	34480	Washer	1
9	36360	Feather key	1
10	8640	Slotted countersunk screw	1
11	34456	Spacer	1
12	36448	Deep-groove ball bearing	3
13	12160	Retaining ring	3
14	36352	Shaft sealing ring	1
15	36440	O-ring	1
16	36792	Adjusting screw (assembly)	1
17	10608	Lubricating nipple	1
18	45538	Ball-bearing washer	1
19	46880	Flat head screw	3

Parts list 11: Spare parts list - round knife cylinder

12.2.25. Spare parts overview - link, complete



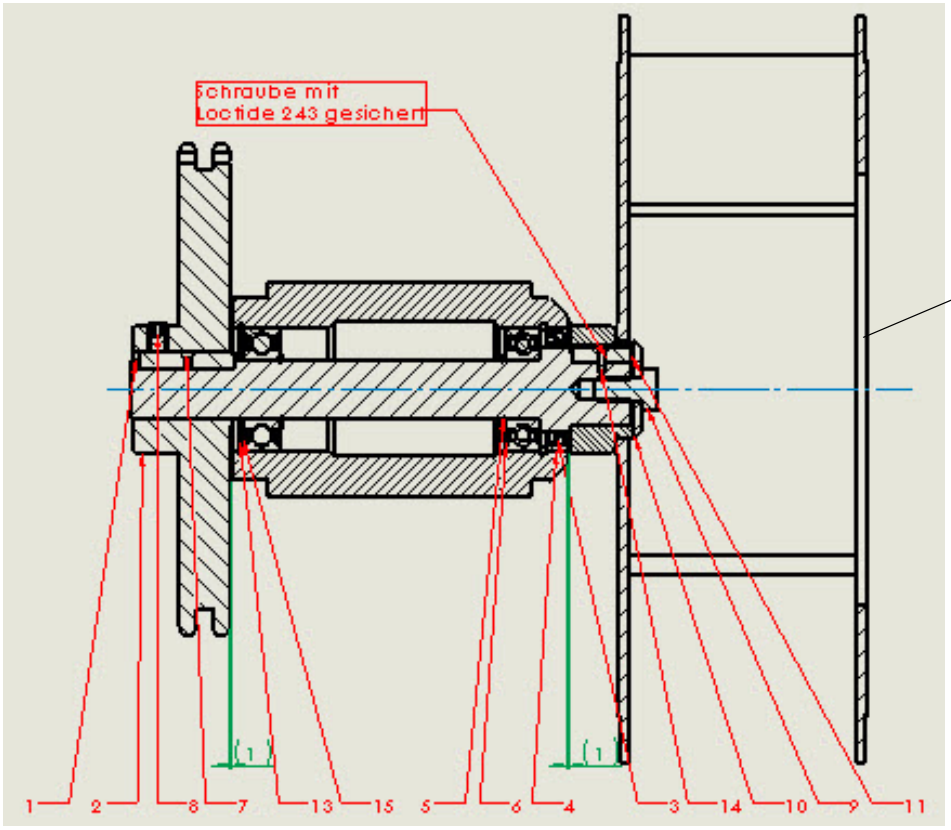
Drawing 7: Spare parts overview - link, complete

12.2.26. Spare parts list - link, complete

Item	Part number	Designation	Quantity
1	740211	Joint support (assembly)	1
2	740209	Joint hinge (assembly)	2
3	36472	O-ring	3
4	982643	Angular ball bearing	6
5	740215	Upper joint support (assembly)	1
6	8480	Threaded pin	3

Parts list 12: Spare parts list - link, complete

12.2.27. Spare parts overview - rotor drive



Drawing 8: Spare parts overview - rotor drive

12.2.28. Spare parts list - rotor drive

Item	Part number	Designation	Quantity
1	34488	Shaft for rotor	1
2	34160	Chain wheel	1
3	36352	Shaft sealing ring	1
4	35896	Bushing for shaft sealing ring	1
5	8784	Retaining ring	2
6	36344	Deep-groove ball bearing	2
7	36360	Feather key	1
8	26608	Headless pin	2
9	981482	Hexagon screw	1
10	36280	Disc	1
11	981480	Feather key	1
12	10608	Lubricating nipple	1
13	36336	Retaining ring	2
14	46771	Sunk screw	1

Parts list 13: Spare parts list - rotor drive

Item	Part number	Designation	Quantity
15	45541	Ball-bearing washer	1
16	34920	Rotor	1
	75250	Alternatively: Rotor blue	1

Parts list 13: Spare parts list - rotor drive

12.3. Electrical spare parts

12.3.1. Position of electrical spare parts

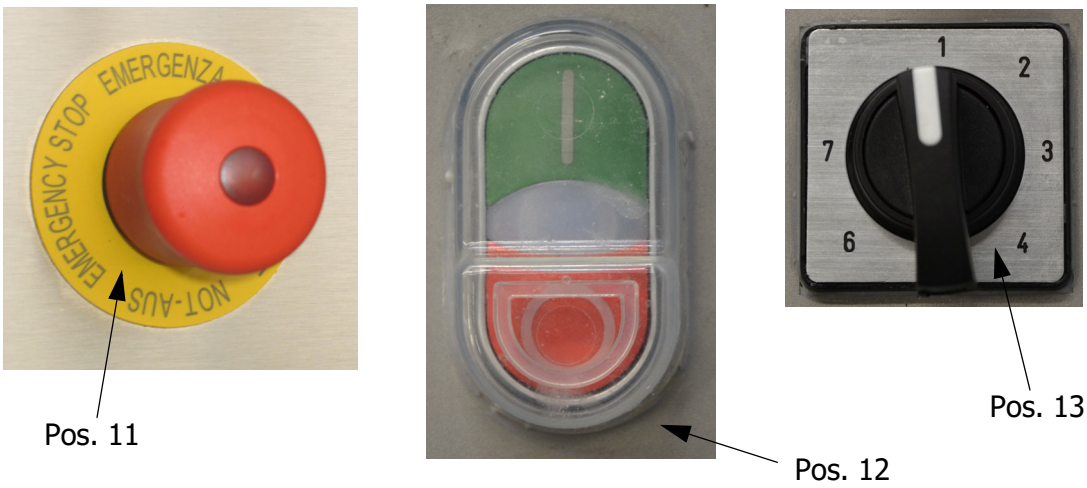


Figure 24: Position of electrical spare parts

12.3.2. Electrical spare parts list

Item	Part number	Designation	Quantity
1	88982	Motor	1
2	86733	Sensor 3m	1
3	944	Magnet	1
4	74210	Frequency converter	1
5	74212	Filter	1
6	8976	Fuse, glass fusible insert	2
7	86935	Contactor	1
8	86740	Base for coupling relay	1
9	87275	Coupling relay	1
10	86537	Safety relay / Emergency Stop relay	1
11	65728	Mounting adapter	1
	65490	Actuating attachment for Emergency Stop, illuminated	1
	65729	Contact element, make contact	1
	65730	Contact element, break contact	2
	66162	LED element, red	1
	65489	Emergency Stop sign	1

Item	Part number	Designation	Quantity
12	65728	Mounting adapter	1
	65817	Actuating attachment	1
	65729	Contact element, make contact	1
	65730	Contact element, break contact	1
	65818	Silicone membrane, transparent	1
13	9528	Actuating attachment	1
	47321	Cam switch	1
	44645	Sign 1-7	1

Parts list 14: Electrical spare parts list

Notice

Additional electrical spare parts are specified in the circuit diagram of the machine.

13. Disposal

13.1. Disposing of machine parts

We recommend that you have us disassemble and dispose of the machine properly.

We do not accept any responsibility for any personal injury or material damage caused by the re-use of individual machine parts.

If you wish to dispose of the machine yourself, it must be put into a condition in which it is no longer fit for the purpose for which it was designed.

Sort the component parts on the basis of:

- Electronics
- Metals
- Plastics
- Fluids
- Special waste

14. Appendix

- Acceptance certificate
- Handover declaration for instruction manual
- Request for instruction manual
- Declaration of conformity
- Safety inspections
- Schedule of repairs completed

Acceptance certificate

The service personnel commissioned and/or authorised by the manufacturer issues a certificate to the operator indicating that the machine has been installed in compliance with the specifications outlined in the instruction manual and applicable safety regulations.

Before being declared fit for use, the machine was tested to ensure that all of its safety devices were in full working order.

A comprehensive test run was completed under the operating conditions prevailing on the site of use. The test run was completed successfully in compliance with all relevant information in the instruction manual.

Instructions compliant with the information contained in the instruction manual have been issued to the operator and/or an authorised employee in respect of familiarisation with the following points:

- The intended use of the machine.
- Prevailing residual risks.
- Reference to general safety regulations.
- Our recommendations as regards protective overalls for employees.
- Demonstration of the safety devices on the machine.
- Machine set-up.
- How to use the machine correctly.
- Faults, what causes them and how to deal with them.
- Machine cleaning and service/maintenance, along with recommended detergents.
- In his/her role as the supervising employee, the authorised employee was made aware of his/her obligations as regards the instruction and training of other employees (including in respect of the instruction manual, i.e. the fact that it must be made and kept available at all times to personnel charged with working on the machine).
- Duty to supplement the information from the instructions received by careful reading of the instruction manual.

The acceptance test was carried out on:

Date _____

Time of day _____

Signature
(manufacturer's authorised representative) _____

Handover declaration for instruction manual

I hereby confirm receipt of the instruction manual for the following machine at the time of its handover and acceptance-testing.

Designation	Dicing, julienne and slicing machine KUJ V
Machine number	
Operator	
Contact	
Address	
City, postcode	
Country	
Tel.	
Fax	
Date on delivery note	
Date of handover	
Signature (operator or operator's authorised representative)	

Manufacturer

Kronen GmbH
Römerstraße 2a
D-77694 Kehl am Rhein
Germany
Tel.: +49 (0) 7854 9646-0
Fax: +49 (0) 7854 9646-500

Dealer

Address	
City, postcode	
Country	
Tel.	
Fax	

The machine and its accompanying instruction manual have been handed over to the operator.

Date	
Signature (manufacturer's authorised representative)	

Request for instruction manual

Kronen GmbH
Römerstraße 2a
D-77694 Kehl am Rhein
Germany
Tel.: +49 (0) 7854 9646-0
Fax: +49 (0) 7854 9646-500

Dear Sir/Madam
Please send me a copy of the following instruction manual at your earliest convenience.

Designation: Dicing, julienne and slicing machine KUJ V

Machine number: _____

Version: _____

			Number (units)
Required language (please tick as appropriate):	German (D)	☐	_____
	English (GB)	☐	_____
	Français (F)	☐	_____

A new manual is required for the following reason:

Illegibility, soiling ☐

Sale of machine ☐

Company stamp

Date _____

Signature
(operator or operator's authorised representative) _____

EU-Declaration of conformity

In compliance with the Machinery Directive (2006/42/EC), Annex II A
In compliance with the Electromagnetic Compatibility Directive (2014/30/EU)

The manufacturer	Kronen GmbH Römerstraße 2a D-77694 Kehl am Rhein Germany Tel.: +49 (0) 7854 9646-0 Fax: +49 (0) 7854 9646-500

hereby declares that the following machine:

Designation:	Dicing, julienne and slicing machine KUJ V
Part number:	88282
Machine number:	

meets the requirements of the Directives cited above.
The following harmonised standards have been applied:

- EN 1672-2:2005 + A1:2009 - Food machines - General design principles- Part 2: Hygiene requirements
- EN 1678:1998+A1:2010 - Food machines - Vegetable cutting machines - Safety and hygiene requirements
- EN 13871:2005+A1:2010 - Food machines - Dicing machines - Safety and hygiene requirements
- EN 60204-1:2006 - Safety of machines - Electrical Equipment of machines - Part 1: General requirements
- EN ISO 12100:2010 - Safety of machines - General design principles - Risk assessment and reduction
- EN ISO 13849-1:2008 - Safety of machines - Safety-related parts of controllers - Part 1: General design principles
- EN ISO 13850:2008 - Safety of machines - Emergency stop design principles
- EN ISO 14120:2015 Safety of machinery - Separating safety equipment - General requirements for the design and construction of permanent and movable separating safety equipment

Original versions of the instruction manual associated with the machine and applicable technical documentation have been supplied. Modifying the machine without our prior approval and written permission will invalidate this declaration of conformity.

Place:	Kehl am Rhein, Germany
Date:	02. May 2019
Signature:	
Position in company:	Eric Lefebvre, Technical Director, Kronen GmbH

Declaration of Conformity

for materials made of plastic that come into contact with foods.

The manufacturer	KRONEN GmbH Römerstrasse 2a 77694 Kehl am Rhein, Germany

hereby confirms for the materials and objects of the machine

Designation:	Dicing, julienne and slicing machine KUJ V
Part number:	88282

that can come into contact with foods during intended use, conformity with the general requirements

- of the Food and Feed Code,
- of Directive (EC) No. 1935/2004 of 27 October 2004 on materials and objects that are intended to come into contact with foods
- of Ordinance (EU) no. 2023/2006 of 22 December 2006 on good manufacturing practice
- of EU Directive (EC) 10/2011 of 14/01/2011 on materials and objects made of plastic that are intended to come into contact with foods, together with their current amendments.

The following materials in machines of KRONEN GmbH come into contact with foods:

polyethylene (PE)	polytetrafluorethylene (PTFE)
polyurethane (PU)	polycarbonate (PC)
polyoxymethylene (POM)	fluorocarbon elastomer (FKM)
polyamide (PA)	

Specification for intended use or limitations:

- see ☞ chapter Intended use
- see ☞ chapter Technical data

The total migration and the specific migrations are within the statutory limit when used in accordance with specifications. The inspection in accordance with art. 17 and 18 of Ordinance (EU) no. 10/2011 in conjunction with Annex V.

Place:	Kehl am Rhein, Germany
Date:	02 May 2019
Signature:	
Position in company:	Eric Lefebvre, Technical Manager of KRONEN GmbH

Safety inspection

Date	Brief description of mechanical and electrical defects identified and rectified	Signature (operator or operator's authorised representative)

Schedule of repairs completed

Date	Brief description of mechanical and electrical work completed	Signature (operator or operator's authorised representative)

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