



Translation of the original instructions

RÜHLE - Injector

Type: IR 29



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Changes reserved

1 Safety Instructions

!!! Observe the safety instructions during the installation, operation, cleaning and maintenance of the Rühle Injector!



Hazard potentially causing irreversible injuries if disregarded.



Warning, potentially causing serious injuries if disregarded.



Note



Work on electrical equipment of the machine may only be carried out by qualified technicians!



Always disconnect machine from the mains during this process!

1.1 Safety instructions

!!! A **supervisor** (responsible person) must be appointed for the machine!

This person must:

- a) Completely read and understand these operating instructions before transport, commissioning, setup, operation, cleaning, decommissioning, care / maintenance as well as dismantling / disposal!
- b) Prepare work instructions for the intended and safe transport, commissioning, setup, operation, cleaning, decommissioning, care / maintenance as well as dismantling / disposal!
- c) Make sure that the qualified workers have completely read and understood the respective work instructions according to section 1.1b!
- d) Proper functioning of the protective devices must be checked at least once a year by a Rühle service technician!

e) Provide personal protective equipment!

All life cycles phases:



Wear foot protection!



Wear hand protection!



Wear protective clothing!

Cleaning; care / maintenance; dismantling:



Wear eye protection!



Use light breathing mask!

!!! The **operator** must operate the machine according to the intended use and strictly observe all points listed in the "Operation" work instructions prepared by the supervisor.

!!! Before putting the machine into operation for the first time and on each working day, the **operator** must check the functionality of the following safety devices:

- a) Visual check for changes or damages on all machine sides and accessible machine parts, e.g. the curing needles. The machine must be shut down in the event of any damages or changes!
- b) Check the safety switches as follows:
 - Close curing compartment door with "Outlet" reach-protection as well as the "Inlet" reach-protection.
 - Start the machine. - Turn the main switch to "0 - Off". - If the machine has not switched off, it must be shut down immediately!
 - Start the machine. - Lift the "Inlet" reach protection by 20 mm. - If the machine does not switched off, it must be shut

down immediately!

- Start the machine. - Lift the "Outlet" reach protection by 20 mm. - If the machine does not switched off, it must be shut down immediately!

c) Error messages of the control system must be heeded!

!!! To **shut down** the machine the main switch must be turned to "0" - OFF" and the power plug pulled from the outlet! The machine must be secured against further use!

!!! The **supervisor** must arrange for the repair of the non-functional safety device by a Rühle service technician. Until the corresponding parts have been repaired, the supervisor must ensure that the machine or parts of the machine are under no circumstances put into operation!

!!! The **cleaning personnel** must observe the work procedures from the "Cleaning" work instructions prepared by the supervisor.

!!! The **maintenance personnel** may only carry out work specified as "Regular care", unless any other authorisation has been issued in writing by the manufacturer of the machine. The maintenance personnel must observe the work procedures from the "Maintenance" work instructions prepared by the supervisor.

The power plug must be disconnected for maintenance work!

!!! The machine may not be modified.

!!! Only Rühle spare parts and accessories may be used.

!!! The operating instructions as well as all other technical documents included must be supplied completely when reselling the machine.

1.2 Remaining risk of accidents

!!! All life cycles phases



Error messages of the operating system must be heeded!
Non-compliance is strictly prohibited!

There is a risk of injury when touching or handling curing needles or softer blades!

The safety notes of the manufacturers must be observed when handling curing, cleaning or disinfecting agents!

!!! Stability



The machine is top-heavy; this represents an increased risk of tipping over when moving it!

Clear all obstacles before moving the machines!

The castors must always be locked with the locking devices except when moving the machine!

!!! Maintenance



The machine must be disconnected from the mains when performing maintenance work!

The protective covers (control box) may be removed only while performing maintenance!



The machine must not be operated if the pump has no filter basket!

1.3 Intended Use

The Injector may only be used for the injection of pickle into fish and meat products. The max. room temperature may be 12 °C for reasons of food hygiene!

This machine may not be operated by persons under the age of 18!



Claims of any type because of damages due to non-intended use are ruled out!

Misuse:

- Any use other than the one listed above is strictly prohibited and is considered misuse!
- Operating the machine in explosion hazard areas is prohibited!
- Handling / processing products and materials not belonging to food products is prohibited!
- The loading ramp may only be loaded with max. 30 kg!

2 Installation instructions

Installation and commissioning of the Injector may only be carried out in the presence of a Rühle service technician or by persons authorised by Rühle.

Rühle GmbH Lebensmitteltechnik shall not be liable for any damage resulting from non-compliance with these operating instructions.

2.1 Machine transport and setup

Please refer to the short instructions supplied with the machine regarding transport and setup of the Injector.



The machine and machine parts must be transported by 2 persons (1x operator of floor conveyor / 1x transport supervision).

The power supply line must not be damaged by driving over or pinching it!

The machine must be decommissioned until a damaged power supply line has been repaired!



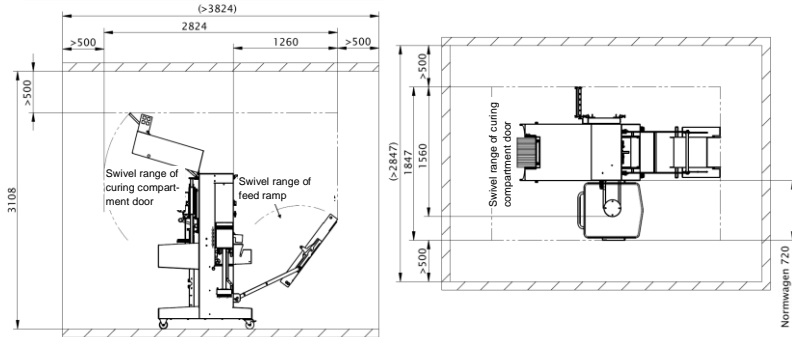
There is an increased risk of tipping over during transport and movement!

To prevent this, do not drive over any objects such as hoses or cables, etc. and watch out for protruding edges or persons in the environment!



The brakes at the two steering rollers on the outlet side must always be locked except during transport!
Make sure the machine is stable!

2.2 Workplace description



The work area around the machine, plus a container on the outlet and pump side, is at least 0.5 m on all sides; for maintenance work it is at least 1 m; if used as passage way, it is at least 1.2 m.

2.3 Connecting the machine

The machine is connected to a three-phase current outlet; its data (voltage, amperage) must agree with the specifications on the type plate of the machine.



The machine must be decommissioned until a damaged power supply line has been repaired!

The power supply line must be regularly checked!

Check the correct rotational direction of the machine by starting it. A message appears on the display in case of incorrect rotating field.



- In such a case, an electrician must change the direction of rotation inside the mains plug.
- The power supply to the machine must be fuse-protected with 16 A secured with an AC/DC sensitive ground-fault circuit interrupter (type B).

3 Operating instructions

Please refer to the short instructions supplied with your machine for the operation of your Injector.



Follow also the safety instructions in Chapter 1.1!

In its respective life cycle phases (transport, commissioning, setup, operation, cleaning, decommissioning, care / maintenance, dismantling / disposal) this machine is designed for 1-person operation!

When using this machine, no other person may be present near the machine!

The following is strictly prohibited and anyone disregarding this prohibition acts gross negligently when:



- lifting the lamella of the reach-protection on the outlet side and reaching into the curing chamber during operation; the same applies the inlet side!
- operating the machine without protective enclosure!
- operating the machine without perforated basket on the pickle mixer / the intake!
- manipulating the protective devices of the machine or deactivating them!

Working on the machine without the protective enclosure installed is only permitted to a Rühle service technician during the service phase!



The operator must make sure that

- no persons, who do not know the hazards of the machine or cannot anticipate them, are about in the area of the machine!



The control panel may only be operated by touching it with the fingers. Using any objects (e.g. blade) is prohibited!

4 Cleaning instructions

The Injector IR 29 has been designed to allow for complete cleaning both of the pickle carrying system and all parts that come into contact with the food product.

4.1 Safety instructions

- Follow also the safety instructions in Chapter 1.1!
- The cleaning staff must notify the supervisor immediately of any defects on the machine!
- The cleaning staff must use the specified cleaning agents and disinfectants!
- Germ reduction is achieved only by correct cleaning and subsequent disinfection!
- Appropriate material (e.g. brushes, rags, ...) is required and must be provided for the proper procedures of the above!
- Cleaning products and disinfectants approved for the food product area and suitable against contamination (e.g. protein, lime-scale, ...) must be used!
- The cleaning agents and disinfectants must be prepared to a solution as described in the product data sheet of the manufacturer!
- Personal protective equipment must be worn!

**Cleaning with high-pressure cleaners**

is permitted only for:

- all external surfaces (all outside stainless steel surfaces + machine bases),
- reach-protection (inlet),
- reach-protection (outlet),
- curing chamber door,
- softer,
- needle bar,
- transport belt
- filter

The control panel must be cleaned manually and may not be exposed to a water jet!

All other parts and surfaces may be cleaned only with normal water pressure!

4.2 *Cleaning agents and disinfectants*

The following cleaning agents and disinfectants must be used:

Cleaning agents:	Alkaline cleaning:	P3 - topax 19, P3 - topax 66
	Acidic cleaning:	P3 - topax 56
Disinfectants:		P3 - topax 91, P3 - topax 99
Supplier:		Henkel Hygiene GmbH Bonner Str. 117 D-40589 Düsseldorf Tel.: +49 211-9893-0

Or:

Cleaning agents:	Alkaline cleaning:	Somplex F fat solvent
	Acidic cleaning:	Somplex foam, acidic
Disinfectants:		Tego 2000, Tego IMC
Supplier:		Th. Goldschmidt AG Goldschmidtstr. 100 D-45116 Essen Tel. +49 201-1730-1

4.3 *Cleaning procedure*

Please refer to the short instructions supplied with your machine for carrying out the cleaning procedure.

Before starting with internal cleaning, remove coarse soiling and product residues from the curing chamber under the hood.

Preparation for outside cleaning:

- To ensure optimum cleaning, some components of the machine must be removed!
- Open the curing chamber door!
- Remove the cleaning plate!
 - 1) Hook the cleaning plate into the holder of the tool magazine provided!
- Remove the transport belt!
 - 1) Hook the transport belt into the holder of the tool magazine provided!

- 2) If necessary, the rod mesh belt can be separated from the belt frame and cleaned individually!
 - 3) Fold the loading ramp to the cleaning position after removing the transport belt!
- Remove the softer if so equipped!
 - 1) Hook the softer into the holder of the tool magazine provided!
 - Remove the filter!
 - 1) Hook the filter into the holder of the tool magazine provided!

5 Service: Care, maintenance, repair

Any work related in any way with service may be carried out only by Rühle service technicians and by persons authorised by Rühle in writing. In this regard, a distinction is made between regular care and maintenance and repair. The respective qualification certificate must be issued explicitly for the corresponding work.



Follow also the safety instructions in Chapter 1.1!



Notify and obtain permission from Rühle customer service if welding or cutting work is required on the machine!



Make sure when working on the electrical equipment of the machine that

- this is only done by qualified personnel!
- the machine is always disconnected from power!
- a waiting time of at least 10 minutes is observed after switching off the machine to allow the capacitor of the frequency converter to discharge to a safe voltage level!

5.1 Regular care

Regular care of the machine must be carried out at least once per week. This prevents malfunctions and signs of wear.

Any abnormalities detected during regular care must be reported to the supervisor! He must immediately initiate correction or maintenance or notify Rühle Service!

Care schedule:

- a) Disassemble the machine according to the cleaning instructions. Check for any parts moving with difficulty, material abrasion or other signs of wear and tear!
- b) Check softer blades for wear and tear, damage or broken blades!
- c) Check curing needles for wear, damages and clear passage!
- d) Check the needle system for leakage integrity!
- e) Inspection of all safety switches as outlined in Chapter 1.1 Safety Instructions!
- f) Check the steering rollers and locking devices for damages and proper function!
- g) Visually check for changes or damages on all machine sides and accessible machine parts, e.g. needle bar. The machine must be shut down in the event of any damages or changes!

5.2 Regular maintenance

Regular maintenance of the machine must be carried out every 2000 hours of operation but at least once per year.

Maintenance schedule:

- a) Inspect the safety devices as outlined in Chapter 1.1 Safety Instructions!
- b) Read the error memory (frequency converter)!
- c) Replacement of the needle seals in the needle register!
- d) Check curing needles for wear, damages and clear passage!

- e) Check softer blades for wear and tear, damage or broken blades!
- f) Resharpening of the softer blades!
- g) Inspect the hoses (piping and needle system)!
- h) Check the function of the pressure transmitter!
- i) Fill all lubricating nipples and moving parts in the machine compartment with grease!
- j) Test run with open machine (caution: moving parts)!
- k) Check the switching mechanism!
- l) Check the belt frame for distortion!
- m) Check the belt tension for distortion
- n) Check the setting for the top position of the pump by the lifting unit!

5.3 Repair and spare parts

As a damaged part on a machine is usually damaged due to causes unrelated to the part, always carry out a fault diagnosis.

For this reason, contact our Service Hotline at +49 7748-523-11 for spare parts or technical faults. Please keep the machine type and number ready.

6 Disposal

1. The following component contains oil or lubricant:
 - Beam drive and pump driveAll gear units / motors are equipped with oil draining screws. Subsequently, dispose of the oil properly!
2. In addition, the lubricating oil and grease must be removed correctly from all lubricated parts after which it must be disposed of!
3. All other materials must be sorted and disposed of at a recycling facility!

7 Technical documentation

7.1 Technical data

Connection voltage:	400 V, 50/60 Hz, 3-phase AC / N / PE
Power consumption:	6.1 kW
Full-load current:	12.6 A
Back-up fuse max.:	16 A
Protection class:	IP54
Ambient temperature:	+2 to 40 °C
Dimensions, W x H x D:	2824 x 2608 x 1847 mm
Machine weight:	410 kg
Transport weight:	max.: 500 kg
Output max.:	3000 kg/h
Speed:	Off: 0 strokes/min Slow: 30 strokes/min Fast: 60 strokes/min
Feed:	20 / 30 / 40 mm/stroke
Needle rows:	2 rows (1x 14 and 1x 15 needles)
Clear opening dimension, W x H:	360 x 280 mm
Width of transport rake:	345 mm
Injection volume:	3% - 70%
Operating pressure max.:	4.2 bar

Emission sound

pressure level:	$L_{pA} = 78 \text{ dB(A)}$
Measured according to:	DIN EN ISO 11201 accuracy class 2

Measured: while idling without product; at maximum speed

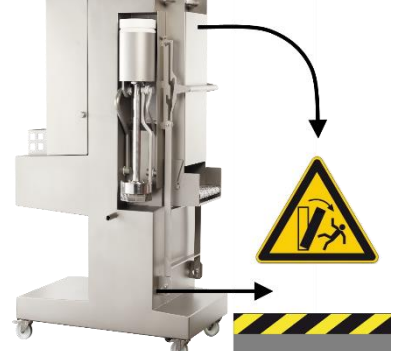
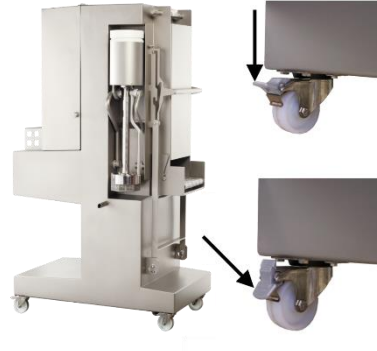
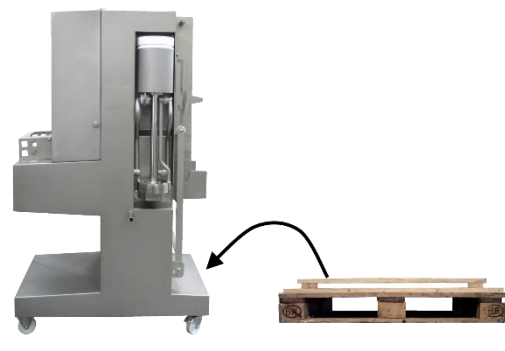
The data on the type plate principally applies; it is located next to the power supply line on the machine. In case of deviations contact the manufacturer for a written confirmation of the data!



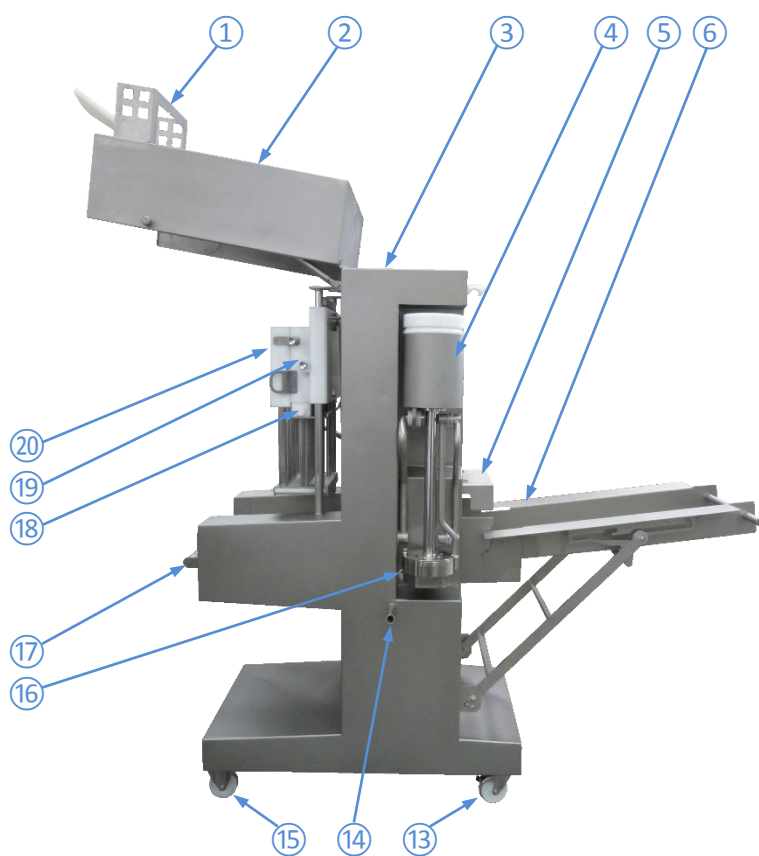
Quick installation guide

RÜHLE
Echte Originale.

I • Installing the machine

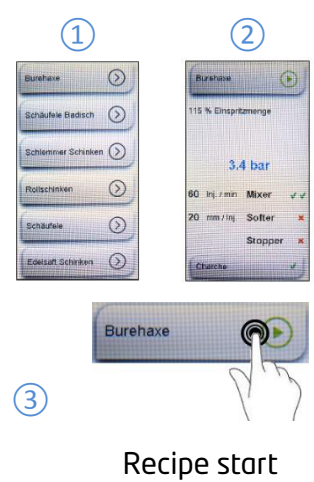


II • Operation



- 1) Access protection, outlet
- 2) Curing compartment door
- 3) Frame
- 4) Centrifugal pump
- 5) Access protection, inlet
- 6) Feed ramp
- 7) Switch
- 8) Control panel (Mini-IPC)
- 9) Main switch
- 10) Cleaning plate
- 11) Filter
- 12) Type plate
- 13) Steering castor with brake
- 14) Brine return pipe
- 15) Steering castor without brake
- 16) Pickle mixer
- 17) Conveyor belt
- 18) Needle register
- 19) Spring magazine
- 20) Softer

III • Recipe start / Recipe selection



Recipe selection

Confirm selection

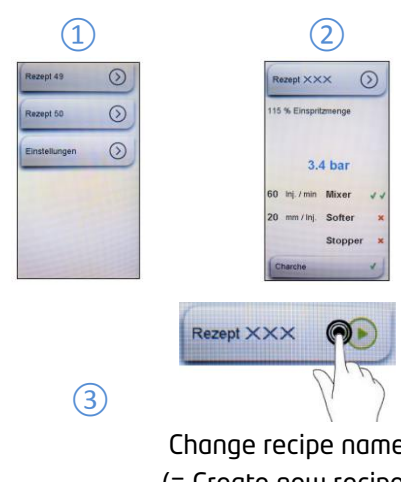
Back

IV • Programming recipe



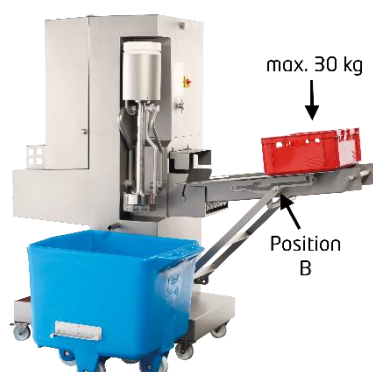
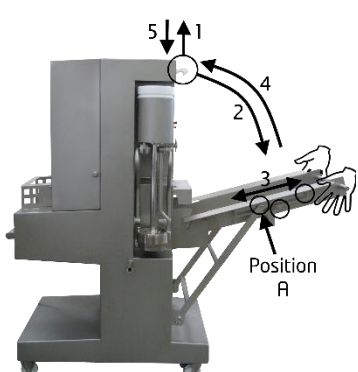
- 1) Recipe start (press 1 sec.)
Change recipe name (press 2 sec.)
- 2) View info text (press 1 sec.)
Specify info text (press 2 sec.)
- 3) Injection pressure (press 2 sec.)
- 4) Stroke per min. (press 2 sec.)
- 5) Mixer setting (press 2 sec.)
- 6) Feed per stroke (press 2 sec.)
- 7) Softer setting (press 2 sec.)
- 8) Stopper setting (press 2 sec.)
- 9) Specify batch text (press 1 sec.)
Batch setting (press 2 sec.)

V • Create new recipe



Change recipe name
(= Create new recipe)

⑥ • Feed ramp



④ • Centrifugal pump



16 • Pickle mixer



0	Stop
I	Soft Mix
II	Hard Mix

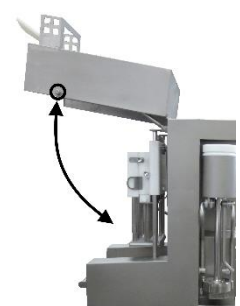
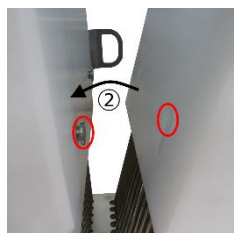
20 • Softer installation and removal

1 • Access protection

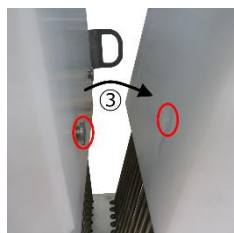
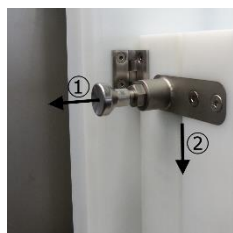
5 • Access protection

2 • Curing chamber door

Installation:

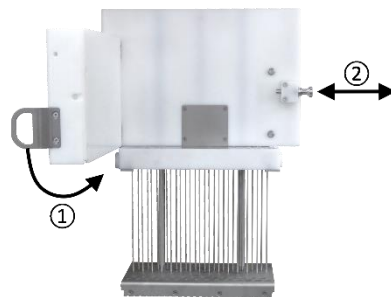
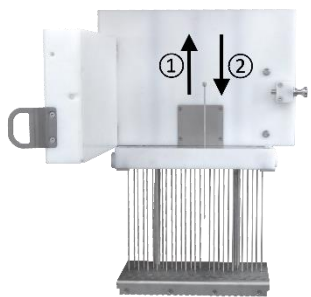
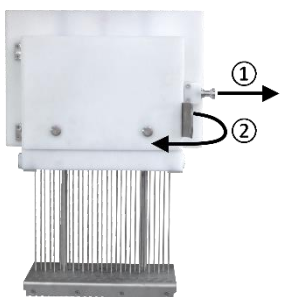


Removal:



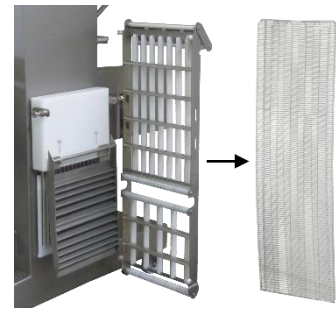
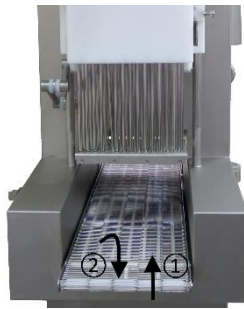
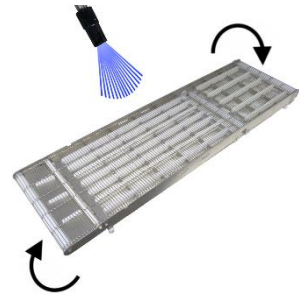
18 • Needle change

VI • Needle beam



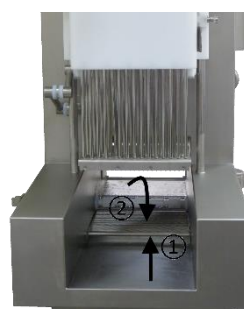
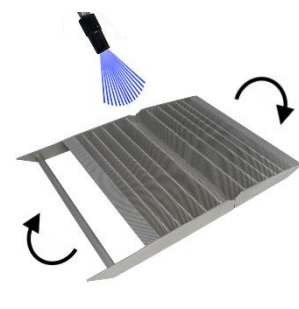
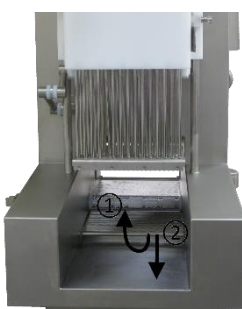
17 • Conveyor belt

VII • Belt removal



11 • Filter

VIII • Tool magazine



IX • Cleaning

