



Translation of the original instructions

RÜHLE - Injector

Type: IR 17

Rühle GmbH, Beim Signauer Schachen 10, D-79865 Grafenhausen

Telephone: +49 7748-523-11, Fax: +49 7748-523-8511

www.original-ruehle.de



Table of Contents

| | | |
|-----|--|----|
| 1 | Safety Instructions..... | 3 |
| 1.1 | Safety instructions | 3 |
| 1.2 | Remaining risk of accidents | 5 |
| 1.3 | Intended Use..... | 6 |
| 2 | Installation instructions | 7 |
| 2.1 | Machine transport and setup | 7 |
| 2.2 | Workplace description..... | 8 |
| 2.3 | Connecting the machine | 8 |
| 3 | Operating instructions..... | 9 |
| 4 | Cleaning instructions..... | 9 |
| 4.1 | Safety instructions | 9 |
| 4.2 | Cleaning agents and disinfectants..... | 11 |
| 4.3 | Cleaning procedure..... | 11 |
| 5 | Service: Care, maintenance, repair..... | 12 |
| 5.1 | Regular care | 12 |
| 5.2 | Regular maintenance..... | 13 |
| 5.3 | Repair and spare parts | 13 |
| 6 | Disposal..... | 13 |
| 7 | Technical documentation | 14 |
| 7.1 | Technical data | 14 |
| 7.2 | Electrical circuit diagram | 15 |
| 8 | EC Declaration of Conformity according to Directive 2006/42/EC..... | 16 |

Status: 08/31/2015

Changes reserved

1 Safety Instructions

!!! Observe the Safety Instructions during the installation, operation, cleaning and the maintenance of the Rühle Injector IR 17!



Disregarding of danger that can result in irreversible injuries.



Disregarding of warning that can result in severe injuries.



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 present operating instructions prior to setup, operation, cleaning of maintenance!
- b) Prepare work instructions for the intended and safe operation, cleaning and maintenance of the machine!
- c) Make sure that the operators as well as the cleaning and service personnel have completely read and understood the respective work instructions!
- 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!

!!! 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, 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. 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" access - protection as well as the "Inlet" access-protection.
 - Start the machine - Open the access-protection "Inlet" 20 mm - If the machine does not switch off, it must be shut down immediately!
 - Start the machine - Open the access-protection "Outlet" 20 mm -If the machine does not switch off, it must be shut down immediately!

!!! To **shut down** the machine, the operating mode switch must be set to Stop and the power plug pulled from the outlet! The machine must be secured against further use!

!!! The **supervisor** must arrange 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 of 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 of 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

!!! Risk of injury from coming into contact with curing needles



Damaged curing needles must be replaced!

Lifting the lamella of the access - protection on the outlet side and reaching into the curing chamber during operation is strictly prohibited; the same applies to the inlet side!

Ignoring this prohibition constitutes gross negligence!

Any manipulation and bypassing of the safety devices is strictly prohibited!

!!! Spraying and cleaning agents, disinfectants



Remember to always observe the safety regulations of the manufacturer when using the liquids mentioned!

Situations hazardous or harmful to health may develop when disregarding the safety regulations!

!!! 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 may be removed only while performing maintenance (control cabinet, side cover transport belt).

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

1.3 Intended Use

The injector IR 17 may only be used for curing meat or fish. The meat pieces to be processed may not be frozen, higher than 280 mm and wider than 265 mm. For reasons of food product technology, the room temperature should lie between 3 °C and 12 °C.

This machine may not be operated by persons under the age of 15 years.



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 and processing products and materials not belonging to food products is prohibited!

2 Installation instructions

Installation and commissioning of the machine may only be carried out in the presence of a Rühle service technician or 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 IR 17.



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

The power supply line must be regularly checked!

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!

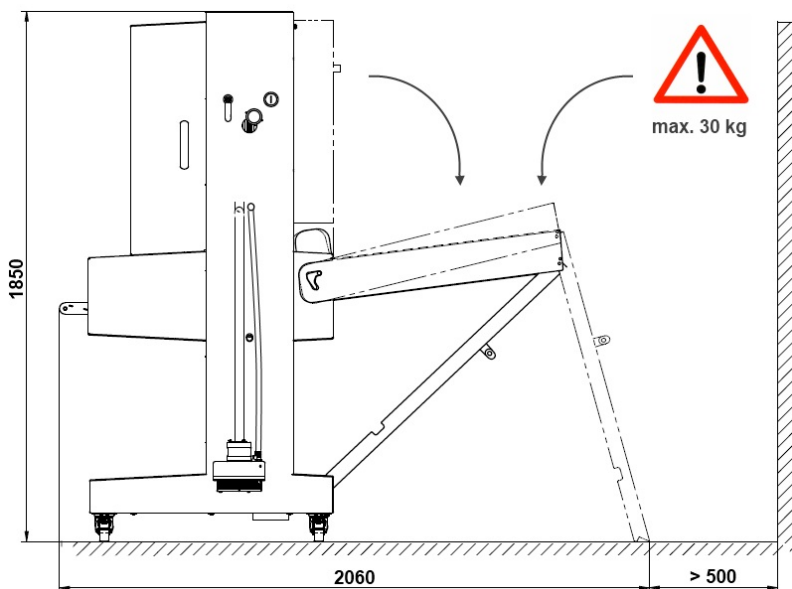
To prevent this, do not drive over any objects such as hoses or cables, etc. and watch out for protruding edges or persons in the environment!

The brakes at the two steering rollers on the operator side must always be locked except during transport!

Make sure the machine is stable!

The loading ramp may only be loaded with max. 30 kg!

2.2 Workplace description



The work area around the machine, plus a container on the outlet and operator 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.

If your country requires a ground fault circuit interruption device as protective measure, a ground fault circuit interruption device (type B), sensitive to any current, must be used.

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!



Lifting the lamella of the reach-protection on the outlet side and reaching into the curing chamber during operation is strictly prohibited; the same applied to the inlet side!!
Ignoring this prohibition constitutes gross negligence!



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!

4 Cleaning instructions

The injector IR 17 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, limescale, ...) 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!
- Protective gloves must be worn when handling curing needles!

**Cleaning with high-pressure cleaners**

is permitted only for:

- the intake,
- the filter,
- the conveyor and
- the curing chamber!



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



Wear safety goggles and personal protective equipment when working with a high-pressure cleaner!

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 99, P3 - topax 66 |
| Supplier: | | Henkel Hygiene GmbH Bonner Str. 117 D-40589 Düsseldorf Telephone: +49 211-9893-0 |

Or:

| | | |
|------------------|--------------------|---|
| Cleaning agents: | Alkaline cleaning: | Simplex fat solvent |
| | Acidic cleaning: | Simplex foam, acidic |
| Disinfectants: | | P3 - topax , P3 - topax 91 |
| Supplier: | | DiverseyLever GmbH Morschheimer Str. 12 D-67292 Kirchheimbolanden Tel. +49 6352-4090 |

4.3 *Cleaning procedure*

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



Inspect all needles for damages or breakage!



To empty the needle register, move it to the upper area and remove a needle.

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!

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 curing needles for blockage, wear and tear or damage.
- c) Check the safety switches of the reach-protection on the inlet and outlet side as outlined in Chapter 1.1 Safety Instructions.
- d) Check the pickle-carrying system, consisting of centrifugal pump, piping and needle register, for leaks.
- e) Perform a visual inspection of the entire machine surface for damages or changes.
- f) Check the steering rollers and locking devices for damages and proper function.

5.2 Regular maintenance

Regular maintenance of the machine must be carried out at least once per year.

Maintenance schedule:

- a) Replacement of the needle seals in the needle register.
- b) Inspection of the shaft seal and bearings of the centrifugal pump.
- c) Inspection of the safety switches as outlined in Chapter 1.1 Safety Instructions.
- d) Check the sliding guides of all hinge joints of the pickle-carrying system for wear.
- e) Check for leakage integrity of the centrifugal pump, piping and needle register.
- f) Control run with open machine.

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 geared motor for the beam drive contains oil which must be correctly disposed of.
2. 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 / Π / PE |
| Power consumption: | 6.1 kW |
| Full-load current: | 11 A |
| Weight: | 225 kg |
| Ambient temperature: | +2 to 40 °C |
| Dimensions, W x H x D: | Min. 915 x 1850 x 855 mm Max. 2060 x 1850 x 1215 mm |
| Injection volume: | 5 - 60% |
| Injection pressure: | 0.5 - 4.2 bar |
| Output: | 1500 kg/h |
| Needles: | 17 needles, in 2 rows |
| Speed: | Slow: 21 strokes/min Fast: 42 strokes/min Feed: 28 mm/stroke |
| Belt width: | 250 mm |
| Vertical clearance: | 280 mm |
| Emissions sound pressure level: | 78 dB(A) averaged, when idling accuracy class 2, as per EN ISO 3744: 2010 |
| Measuring instrument: | Brüel & Kjær Type 2240 |

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

If your country requires a ground fault circuit interruption device as protective measure, a ground fault circuit interruption device (type B), sensitive to any current, must be used.

7.2 *Electrical circuit diagram*

The electrical circuit diagram of your machine is located in the electrical control cabinet and must be supplied when reselling the machine.

8 EC Declaration of Conformity according to Directive 2006/42/EC

| The manufacturer herewith declares | | that the following product | |
|------------------------------------|---|----------------------------|----------|
| Name, | Rühle GmbH | Type: | IR 17 |
| Legal form: | Lebensmitteltechnik | | |
| Address: | Beim Signauer Schachen 10 D - 79865 Grafenhausen | Designation: | Injector |
| | | From series no. | 0001 |

complies with all relevant provisions of the directive indicated above, including any changes to it that are valid at the time of the declaration.

The product complies with all relevant provisions of the following additional EU Directives and standards, including any changes to these that are valid at the time of the declaration:

- DIN EN 1672-2: 2009-07 Food processing machines - General principles of design - Part 2: Hygiene requirements
- DIN EN 60204-1: 2007-06 Safety of machines - Electrical equipment of machines
+ A1: 2009-10 - Part 1: General requirements
- DIN EN 13534: 2011-02 Food processing machines - Curing injection machines
- Safety and hygiene requirements
- EC 1935/2004 Provision about materials and objects intended to coming into contact with food products.

Appointed department:

Name, legal form: DGUV Test Testing
and Certifying Agency
Foodstuff Department
Dynamostraße 7-11
D-68165 Mannheim

Address:

Identification
number: 0556

Reason for the involvement of the appointed department:

Type testing

Signed by:

Place of issue: D-79865
Grafenhausen

Date of issue: 15/09/2011

Function of the
signing person in the
company: Management

Name of the signing
person: Mr. Claus Rühle

Person authorised for the documentation:

Name: Jürgen Stegerer

Address: Rühle GmbH
Beim Signauer Schachen 10
D-79865 Grafenhausen

Signature: