



**Mechanical engineering
Scalding, slaughtering and
stunning systems**



**Scalding- and
dehairing machine
CAT 157M20**

Instruction manual

| | | |
|----------|--|-----------|
| 1 | GENERAL NOTICES..... | 4 |
| 1.1 | USING THE OPERATING INSTRUCTIONS | 4 |
| 1.2 | STRUCTURE OF SAFETY NOTICES..... | 4 |
| 2 | LEGAL | 5 |
| 2.1 | LEGAL NOTICES | 5 |
| 2.1.1 | <i>Claims under guarantee</i> | <i>5</i> |
| 2.1.2 | <i>Exclusion of liability.....</i> | <i>6</i> |
| 2.1.3 | <i>Warranty claims.....</i> | <i>6</i> |
| 2.2 | OPERATIONAL NOTICES..... | 6 |
| 2.2.1 | <i>Proper usage</i> | <i>6</i> |
| 2.3 | PERSONAL QUALIFICATIONS..... | 7 |
| 2.4 | REQUIREMENTS AT THE WORKPLACE | 8 |
| 3 | SAFETY | 9 |
| 3.1 | PERSONAL PROTECTIVE EQUIPMENT | 9 |
| 3.2 | NOTICE ON PARTICULAR HAZARDS..... | 11 |
| 3.2.1 | <i>Electrical current</i> | <i>11</i> |
| 3.2.2 | <i>Pneumatics/Hydraulics</i> | <i>11</i> |
| 3.2.3 | <i>Noise</i> | <i>11</i> |
| 3.2.4 | <i>Oils, fats and other chemical substances</i> | <i>12</i> |
| 3.3 | FUNDAMENTAL DANGERS..... | 12 |
| 3.4 | SAFETY DEVICES | 13 |
| 3.5 | SAFETY NOTICES FOR THE ENTIRE PLANT | 14 |
| 3.6 | SAFETY NOTICES ON MAINTENANCE OF THE MACHINE | 14 |
| 3.6.1 | <i>Safety notices on handling/procedure with thermal oil.....</i> | <i>15</i> |
| 3.7 | WHAT TO DO IN CASE OF DANGER AND ACCIDENT | 15 |
| 3.8 | HAZARDS FROM IMPROPER HANDLING | 17 |
| 4 | TRANSPORTATION | 17 |
| 4.1 | UNPACKING/PACKAGING MATERIAL | 18 |
| 4.2 | INSPECTING AFTER TRANSPORTATION | 18 |
| 4.2 | ENVIRONMENTAL PROTECTION..... | 19 |
| 4.3 | WEIGHT IN TRANSIT | 19 |
| 5 | INSTALLATION | 19 |
| 5.1 | ELECTRICAL CONNECTION | 20 |
| 5.2 | COMING INTO SERVICE | 20 |
| 5.2.1 | <i>Starting up again after storage.....</i> | <i>21</i> |
| 5.3 | SHUTDOWNS | 21 |
| 5.4 | STORAGE..... | 22 |
| 5.5 | DECOMMISSIONING | 22 |
| 6 | OPERATION | 24 |
| 6.1 | OVERVIEW ILLUSTRATIONS/ITEM DESCRIPTION FOR SCALDING MACHINE | 24 |
| 6.2 | OVERVIEW ILLUSTRATIONS/ITEM DESCRIPTION FOR WALL-MOUNTED CONTROL | 26 |
| 6.3 | NOTICES FOR OPERATION | 27 |
| 6.4 | TURNING ON/OPERATING THE MACHINE | 28 |
| 6.5 | TURNING OFF THE MACHINE | 29 |
| 7 | CLEANING..... | 29 |
| 7.1 | CLEANING WORKS | 30 |
| 8 | MAINTENANCE | 31 |

| | | |
|------------|--|-----------|
| 8.1 | MAINTENANCE TABLE | 32 |
| 8.2 | GENERAL MAINTENANCE NOTICES | 32 |
| 8.3 | DAILY MAINTENANCE WORK | 33 |
| 8.3.1 | <i>Main switch</i> | 33 |
| 8.3.2 | <i>Entire plant</i> | 34 |
| 8.4 | WEEKLY MAINTENANCE WORK | 34 |
| 8.4.1 | <i>Visual inspection</i> | 34 |
| 8.4.2 | <i>Water supply</i> | 34 |
| 8.4.3 | <i>Bearings</i> | 34 |
| 8.5 | MONTHLY MAINTENANCE WORK | 35 |
| 8.6 | HALF-YEARLY MAINTENANCE WORK | 35 |
| 8.6.1 | <i>Chain tension</i> | 35 |
| 8.7 | YEARLY MAINTENANCE WORK | 35 |
| 8.7.1 | <i>Oil level</i> | 35 |
| 8.7.2 | <i>Greasing the bearings</i> | 36 |
| 8.8 | MAINTENANCE WORK AS REQUIRED | 37 |
| 8.8.1 | <i>Replacement of the depilation beaters</i> | 37 |
| 8.8.2 | <i>Re-tensioning the drive chain</i> | 37 |
| 8.8.3 | <i>Changing of oil</i> | 38 |
| 9 | MALFUNCTIONS | 39 |
| 9.1 | <i>CONDUCT DURING MALFUNCTIONS</i> | 40 |
| 10 | TECHNICAL DATA | 41 |
| 11 | SERVICE | 42 |
| 12 | DECLARATION OF COMPLIANCE | 43 |

1 General notices

1.1 Using the operating instructions

The operating instructions are an integral part of the product and contain important notices on operating and services. The operating instructions are directed to all persons, tasked with working at the machine/plant, such as:

- operations, including tooling, rectification of fault while operating, removal of production waste, upkeep, disposal of operating and auxiliary materials,
- servicing (maintenance, inspection, repair) and/or
- transportation.

The operating instructions must be available in a readable condition at the place of implementation of the plant/machine. Please ensure, that those responsible for the plant and its operation, as well as persons working under their own initiative on the machine/plant, have read and understood in full the operating instructions. In the event of any queries or further information, please direct them to Mitchell Engineering Food Equipment.

1.2 Structure of safety notices

The safety notices of these operating instructions are structured as follows:



Relates to a directly dangerous situation, that could lead to death or severe injury, if not averted.



Relates to a potentially dangerous situation, that can lead to death or severe injury, if not averted.



Relates to a potentially dangerous situation, that can lead to minor or slight injury, if not averted.



**Relates to a potentially dangerous situation, that can lead to damage to property or the environment, if not averted.
Provides helpful information about the products.**

2 Legal

2.1 Legal notices

General notices on safety and accident prevention are contained in the regulations for occupational insurance schemes “**Principles of Prevention**” (BGVA1). Complementary to the operating instructions, the following regulations must be observed by staff so engaged:

- General regulations for accident prevention
- Binding rules for environmental protection
- Supervision and reporting requirements for observance of operational specifics (e.g. in regard to organisation of work, work processes, staff engaged, etc.)

In addition, all national provisions for accident prevention, as well as the other generally-recognised safety and occupational health rules and provisions for the operation of machines and plant are to be observed.

! NOTICE

Only expressly authorised and trained staff may operate, maintain or repair the machine. The legally-prescribed minimum age is to be observed. The training of staff should include theoretical information about technology and safety, as well as practical training on the machine.

It must be ensured that the operating staff have read and understood the operating instructions and, if necessary, the additional instructions for optional extras. For staff undergoing training, teaching, instruction or general instruction, at the machine they should be under the constant supervision of an experienced person. The work by staff, while conscious of safety and hazards with observance of the operating instructions, must be regularly checked by the operator. The competence of staff for operating or tooling, maintenance and overhaul must be clearly established.

2.1.1 Claims under guarantee

The conditions of guarantee for the machine/plant are governed by the contracts. In order not to lose claiming under guarantee, all upkeep, maintenance and inspection work according to the maintenance instructions are to be carried out at the intervals given there.

The preconditions for claiming under guarantee are also those prescribed set-up and connection conditions from Mitchell Engineering Food Equipment.

Damage/suspensions of service, which can be traced back to incorrect usage/application, incorrect replacement parts or modification by the customer, does not lead to Mitchell Engineering Food Equipment assuming any liability and the guarantee is void.

2.1.2 Exclusion of liability

Observance of the operating instructions is the basis of the safe operation of the machine/plant and for the achievement of declared product characteristics and performance benchmarks. For personal, property or financial losses arising from non-observance of the operating instructions, Mitchell Engineering Food Equipment assumes no liability. Materials defect liability is in such cases excluded.

2.1.3 Warranty claims

Observance of the operating instructions is the precondition for trouble-free operation and the fulfilment of potential warranty claims. Therefore, please first read the operating instructions, before working with the machine/plant.

2.2 Operational notices



Danger from improper use.

Any usage exceeding that intended and/or otherwise of the machine can lead to dangerous situations.

All users must have read and understood the enclosed operating instructions.

The staff must undergo training at regular intervals.

2.2.1 Proper usage



Danger can arise through incorrect usage.

The basic safety notices of these operating instructions are to be observed in particular.

The additional details for usage in the subcontractors' documentation are valid, insofar as a relationship in the usage of the scalding appliance here described can be established.

The plant serves for the depilation of pigs in the context of slaughter, according to the German Animal Welfare Act (TierSchlV). It complies with the legal requirements in relation to "Accident prevention regulations for abattoirs and slaughterhouses" BGV-C13 of the main association of the above-mentioned occupational insurance schemes.

Specification:

- All normal European pig breeds with a live weight between 10 and approx. 150kg. The provided flow rates and performance data for the scalding plant can vary when handling long-haired pig breeds. Under certain circumstances, during the handling of unusual pig breeds, the functioning of the plant can be restricted.
 - Stunned and bled carcasses according to regulations
 - Mechanical pre-cleaning of the animals before the task is not essential for the operation of the plant, yet can be necessary for heavily soiled animals on hygienic grounds.
-

2.3 Personal qualifications



Danger of injury from insufficient qualifications! Mishandling can lead to several injury to persons and damage to property.

- Particular activities must only be carried out by persons
- named in these operating instructions.
- It remains the responsibility of the operator to instruct and train his staff in the individual task processes.
- The staff must undergo training at regular intervals.
- **familiar with the basic provisions concerning safety at work and accident prevention and trained in the handling of the machine and in possession of an appropriate certificate of competence (TierSchIV). For spheres of validity outside the EU the assigned provisions for business premises are applicable.**

In the operating instructions, the following qualifications for the varying spheres of activity are designated:



Qualified staff

Qualified staff are on grounds of their technical training, knowledge and experience, as well as knowledge of the relevant provisions in a position to carry out the tasks assigned to them and capable of independently recognising and averting potential dangers. In these operating instructions, three distinct types of qualified staff are differentiated:

1. Technically qualified staff (mechanical work)
2. Electrically qualified staff (electro-technical work)
3. Cleaning staff (cleaning)

**Trained person:**

The trained person is instructed during training by the operator concerned about their assigned tasks and the possible dangers from improper usage.

**Instructed staff:**

Instructed staff have been familiarised with the machines' ways of functioning and their possible dangers from instruction by the manufacturer.

2.4 Requirements at the workplace

! NOTICE

Tasks only include those in the sphere of delivery of plant from Mitchell Engineering Food Equipment. Please use these tasks for operational definitions of spheres of work for the entire plant.

The sphere of work includes the following sub-areas and necessary tooling

- Feeds for the carcasses to be processed, including the feeding appliances
- Feeds and Removing Working Parts and Areas
- Scalding plant
- Water supplies and contaminated water drains
- Energy consumption

Those work steps envisaged for slaughter are to be carried out in the direct vicinity, so as to guarantee a direct sequence of those work steps necessary for slaughtering. In this manner, the particular local requirements for the operation of the slaughtering plant by the operator are to be observed on his own authority.

3 **Safety**

General notices on safety and accident prevention are contained in the regulations for occupational insurance schemes “**Principles of Prevention**” (BGVA1). Complementary to the operating instructions, the following regulations must be observed by staff so engaged;

- General regulations for accident prevention,
- Binding rules for environmental protection,
- Supervision and reporting requirements for observance of operational specifics (e.g. in regard to organisation of work, work processes, staff engaged, etc.)

are to be observed.

In addition, all national provisions for accident prevention, as well as the other generally-recognised safety and occupational health rules and provisions for the operation of machines and plant are to be observed.

Those staff engaged with working on the machine/plant must have carefully read and understood the operating instructions, particularly the “Safety” chapter before first starting their work.

! NOTICE

Guarantee and liability claims

Not observing the safety notices in the operating instructions voids any guarantee and liability claim!

3.1 **Personal protective equipment**

While working, the wearing of personal protective equipment is necessary, in order to minimise the health hazards.

- For the respective work, always wear the necessary protective equipment while working.
- In the working area, pay attention to any signs present, concerning personal protective equipment.



Hearing protection

Hearing protection serves to protect from noise. From non-observance there arises the danger that the hearing sensitivity of the ear reduces (reversible hearing damage from prolonged rest), from longer exposures, hardness of hearing arises (irreversible hearing damage).



Protective clothing

For certain work, the staff must wear special protective clothing, in order to protect from varying hazards. If special protective clothing is to be worn at a workplace, then this is to be designated accordingly.

**Protective goggles**

The protective goggles should shield the eyes from dangerous influences, such as strong light, chemicals, dust, splinters, weather conditions, etc.

**Protective headgear**

For all work, for which falling, tipping or rapidly carried away objects, but also swinging or from hitting from the rear, may lead to head injuries, protective headgear must be worn. While in the vicinity or working on the machine, protective headgear is always to be worn.

**Protective gloves**

Protective gloves serve to protect the hands from injuries while working at the plant.

**Non-slip safety shoes**

Safety shoes serve to protect from falling items and slipping on a slippery floor.



Risk of injury from improper clothing! Severe to fatal injuries may be caused from the catching or pulling-in of pieces of clothing and jewellery.

- Staff engaged with working on the machine must have no untied hair or loose clothing.
- There arises a danger of injury. e.g. from the snagging on moving or static items of the plant.
- The wearing of jewellery (rings and chains), wristwatches or similar objects can lead to accidents.
- Tie hair up and wear head coverings.
- Remove jewellery, wristwatches, etc.
- Wear close-fitting clothing.

**Warning against cleaning work clothing with compressed air!**

Cleaning of work clothing with compressed air is forbidden, as from the intense flow of air, injuries may result.



3.2 Notice on particular hazards

3.2.1 Electrical current

- NOTICE!** Work on electrical components should only be carried out by qualified staff.
- DANGER!** For any disturbances to the electrical energy supply, immediately turn off the machine/plant!
- CAUTION!** Machine and plant components, upon which inspection, maintenance and repair work is undertaken - where compulsory - should be made voltage-free. First test the voltage-free components for the absence of voltage, then earth, short-circuit and isolate them, as well as neighbouring components under voltage!
- CAUTION!** The electrical equipment of a machine/plant is to be regularly inspected/checked. Defects, such as loose connections or burnt cables, must be immediately eliminated.
- NOTICE!** Should work on live components be necessary, a second person is to be in attendance, who shall deactivate the main switch in case of emergency. The working area is to be cordoned off with a red and white safety chain and a warning notice. Only use tools that are insulated from currents!
- WARNING!** Connect the feeder cable to the ground while working on high-voltage components after cutting off voltage and short-circuit the components e.g. capacitors with a grounding rod!
-

3.2.2 Pneumatics/Hydraulics

- NOTICE!** Work on pneumatic/hydraulic equipment should only be carried out by qualified specialists.
- CAUTION!** Regularly check all wiring, hoses and connections for tightness and visually recognisable damage!
Immediately eliminate all defects!
- CAUTION!** Depressurise system and pressure lines (compressed air/hydraulics) before commencing repair work, according to the components' descriptions!
- CAUTION!** Lay and assemble compressed air hoses/hydraulic piping in the correct manner! Do not confuse the connections! Fittings, lengths and quality of the hoses must comply with technical requirements.
-

3.2.3 Noise

- CAUTION!** Soundproofing equipment on the machine/plant must be in place and functional during operation.
- NOTICE!** Wear the prescribed personal hearing protection!

3.2.4 Oils, fats and other chemical substances

NOTICE! When dealing with oils, fats and other chemical substances, take note of the safety regulations applicable to the product!

WARNING! Be cautious when dealing with hot operating and auxiliary materials (risk of burning or scalding)!

3.3 Fundamental dangers

Take note of the safety and warning notices described here in the further chapters of these instructions, in order to reduce health hazards and avert dangerous situations.



Warning of dangerous electrical current!



Touching of conductive parts causes a direct danger to life. Damage to the insulation or individual components can mean danger to life.

- Touching of damaged insulation or conductive components
 - Fundamentally, before any intervention in the electrical or mechanical part of the plant, the electrical control is to be turned off from the power supply.
 - Some circuit devices (e.g. lighting for the switch cabinet) are still under current when the main switch has been turned off.
 - If it is necessary on technical grounds to work on conductive components of the electrics, then insulation mats and insulated tools must be used. Such work should only be carried out by at least two electricians. In an emergency, the plant is to be switched to voltage-free (using the main switch).
-



Warning of entanglement hazard!

With any rotational and translational movement of the machine there arises an entanglement hazard. This can lead to severe, irreversible injury.



Danger of crushing

Moving parts can carry a danger of crushing, leading to injuries.

- Working on the machine entails a danger of crushing.
 - When working on the machine, the safety distances against crushing and entrapment are to be observed.
-

3.4 Safety devices

Safety devices ensure the greatest possible safety over all life phases of the machine. Even though work processes become more laborious because of safety devices, these must under no circumstances be deactivated. Safety is only guaranteed by intact and properly installed safety devices.



Danger to life from malfunctioning safety devices!

Severe to fatal injuries from not stopping the machine.

- Safety devices must at every stage be functional.
 - Before starting work, check whether the safety devices are functioning and correctly installed.
-



Danger to life from unintended reconnection. Severe to fatal injuries from unintended reconnection.

Before restarting the machine:

- The cause of the emergency stop must be eliminated.
- Safety devices must be completely and properly assembled.
- All safety devices must be unrestrictedly functional.
- It must be ensured that no persons are in the hazardous area of the machine.

3.5 Safety notices for the entire plant

For scalders with galvanised housings, cleaning and disinfection materials are only to be used, when it can be ensured that metallic surfaces will not be damaged.

Unattended operation of the plant is not permitted. In the event of unusual noises, the plant is to be turned off manually and its cause eliminated.



Danger of scalding from hot water. The working temperature is >60°C. Coming into contact with heated water is to be avoided. In that event, protective gloves are to be used.



Heating up of the scalding plant with insufficient water leads to the plant being destroyed!

3.6 Safety notices on maintenance of the machine



During maintenance there is greater risk of injury.

- Carry out maintenance only when the plant is turned off.

Caution: The main switch is to be set to “OFF” at any interruption to operation.



Work on the electrical installation should only be carried out by qualified electricians.

Before starting work on the electrical installation, the main switch must be turned off and the machine ensured against being reconnected.

Then you may start work on the electrical components!

Opening of the switching cabinet door by those without electro-technical expertise is not permitted.

Touching of defective electrical wires is forbidden! Loose, burnt cabling to be replaced immediately!

After installation or maintenance work, the protective devices must be immediately reinstated!

3.6.1 Safety notices on handling/procedure with thermal oil



Caution: For filling, re-filling or changing of the thermal oil, only oil exclusively for this purpose from the manufacturer, Mitchell Engineering, is to be used. With the use of unsuitable oil, there is a risk of explosion.

- Please ensure sufficient ventilation. Particular dangers from a leaking or split product. Keep away from ignition sources. Do not allow it to enter the environment. Capture and dispose of in accordance with regulations using suitable thickeners (Thickener class I, II or III for traffic areas, class II or III for inland or coastal areas).
- Keep away from ignition and heat sources
- Store only in a water-tight condition in the original container
- Do not store together with oxidising or spontaneously combusting materials
- The usual safety precautions when dealing with chemicals are to be observed
- Keep away from foodstuffs
- Use gloves of a suitable material, protective goggles and working clothes. Remove immediately all contaminated clothing
- Preventive skin protection using skincare ointment. Avoid touching your eyes
- Before breaks and after work wash your hands, as well as no cleaning cloths contaminated with the product being placed in pockets

With proper handling and approved usage, from our experience the product causes no harmful effects when used in accordance with these documents.



Recommended storage temperature: +5 to +30°C

3.7 What to do in case of danger and accident

Preventative measures

- Always be prepared for accidents!
- First Aid facilities (medical kit, plasters, etc.) are to be kept accessible.
- Access for emergency vehicles to be kept clear.

In case of emergency: Handle correctly

- Immediately take the machine out of service using the EMERGENCY STOP.
- If hazards to your own health can be excluded, rescue people from the hazard area.
- Initiate First Aid measures.

III. –Accident plan

| In case of an Accident | |
|---|--|
| Keep Calm | |
| 1. Report the accident  | Phone: 000 WHERE did it happen? WHAT happened? HOW MANY injured persons? WHAT TYPES of injuries? Wait for further inquiries! |
| 2. Provide First Aid  | Secure the accident site Take care of te injured Follow instructions |
| 3. Further Arrangements | Instruct the emergency services Keep away onlookers |

III. - Rescue plan

| Behaviour in case of Fire | |
|--|--|
| Keep Calm | |
| 1. Report the fire   | Activate the fire alarm Phone: 000 WHERE is the fire? WHAT is burning? HOW MUCH is burning? WHICH DANGERS exist? Wait for further inquiries! |
| 2. Seek Shelter  | Take vulnerable people with you Close doors, DO NOT use lifts Follow marked escape routes Follow instructions |
| 3. Attempt to extinguish the fire - if safe to do so | Use fire extinguishers, fire hoses and other means/devices for fire fighting |

! NOTICE

We draw your attention to the necessity of the operator providing all necessary safety signs (e.g. fire extinguishers, First Aid Boxes, etc.), in order to be able to carry out First Aid or extinguishing measures in an accident or a hazardous situation.

FIRST AID measures for accidents involving thermal oil

| | |
|---------------------------|--|
| After inhalation | Expose to fresh air, calling a Doctor if there are symptoms. |
| After contact with skin | Wash with water/soap and rinse thoroughly. Use protective skin ointment. |
| After contact with eyes | Rinse the eyes with eyelids open under flowing water for several minutes and call a Doctor. |
| After swallowing | Seek medical attention. Do not induce vomiting. |
| Notices for medical staff | Chemical description: Mixture of paraffin and naphthene-based hydrocarbons and additives. No organically bound chlorine. |

! NOTICE

Exchange of oil filling is only necessary in the event of a technical fault. Before dealing with thermal oils, request a safety data sheet in relation to EU guideline 2001/EC from the device's manufacturer.

3.8 Hazards from improper handling



| | | |
|---|--|---|
| Danger of scalding from hot water | Improper operation without hand or body protection | Wear protective gloves and if necessary, suitable working clothes, or avoid contact with water. |
| Trapping or shearing of body parts | Operating without prior instruction or with reduced awareness. Failure to observe the safety regulations | Ban on drugs and alcohol in the workplace, knowledge and observance of the safety regulations |
| Fire hazard | From low oil level caused by leaks | Observance of the maintenance schedule and regular checks of the oil level in equalising tank. |

4 Transportation

Danger! Transportation by untrained staff!

Operating the lifting gear by untrained staff can lead to fatal injuries.



- Only trained staff may use the lifting gear.
- Before starting work, check the qualifications of staff.
- In order to make transportation simpler and safer, it is important to have at least one supervisor on-site.

Caution - suspended loads!

Working under suspended loads can lead to severe injuries.



- No members of staff should remain under the hoist
- The operating staff must ensure that staff do not enter the hazard area.

Danger of compression.

From lack of attention, body parts can become compressed.



- Body parts may get caught in the hoisting gear
- When transporting or storing the hoist, observe the safe distances against crushing and snagging.

Damage from improper transportation!

Considerable damage to property may occur from improper transportation.

! NOTICE

In order to make safe transportation and storage, the following is to be observed:

- Proceed with caution during unloading of packages during deliveries, as well as movements on the business premises and observe the symbols on the machine.
- Only use the intended appliances for transporting the machine (forklift pockets, transport lugs, etc.).
- Do not exceed the maximum permitted load capacity of the lifting gear.
- Please consult the illustrations provided on the packaging.
- Interim storage should only be under tarpaulin, indoors, on wooden or similar bases, dry and frost-resistant.
- Store in theft-proof area

4.1 Unpacking/packaging material

When unpacking, please ensure that the packaging item has not been damaged. Violent impact is therefore not permitted.

Dispose of the packaging material used according to local regulations.

4.2 Inspecting after transportation

Immediately check the delivery upon receipt for completeness and damage in transit. If there is externally recognisable damage in transit, proceed as follows:

- Do not accept the delivery or only under reservation.
- Note the scope of damage on the transportation documents or on the carrier's delivery slip.
- Inform the manufacturer immediately.

! NOTICE

Make a complaint about every defect as soon as it becomes known. Damaged goods replacement claims are only valid within the relevant claim period.

4.2 Environmental protection

For the disposal of waste, which

- results from delivery,
- from the structure and the assembly
- of the machine/plant,

all national regulations are to be observed.

4.3 Weight in transit

Weight: approx. 450kg (unladen weight)

4.4 Lifting gear

! NOTICE

Only use appropriate lifting gear for transportation. Please observe the maximum load capacity of the lifting gear.

5 Installation

Warning of dangerous electrical current!

Touching of conductive parts represents a direct danger to life. Damage to the insulation or individual components can mean danger to life.



- Touching of damaged insulation or conductive components
- Fundamentally, before any intervention in the electrical or mechanical part of the plant, the electrical control is to be turned off from the power supply.
- Some circuit devices (e.g. lighting for the switch cabinet) are still under current when the main switch has been turned off.
- If it is necessary on technical grounds to work on conductive components of the electrics, then insulation mats and

Technical experts

Safety equipment:

-  - Skid proof Safety shoes
-  - Safety helmet
-  - Safety gloves



insulated tools must be used. Such work should only be carried out by at least two electricians. In an emergency, the plant is to be switched to voltage-free (using the main switch).

Danger to life from defective installation

From defective installation, severe to fatal injuries may arise.



- Carry out the installation carefully and in accordance with the description
- Take note of the notices in the operating instructions
- Carry out the installation by using the description.

5.1 Electrical connection**Technical experts**

Safety equipment:

-  - Skid proof Safety shoes
-  - Safety helmet
-  - Safety gloves



Installation and connection of the machine should only be performed by electricians under observance of the relevant regulations regarding electrical installation and electrical connection.

5.2 Coming into service

The machine has been checked and tested at the factory. Check the proper electrical assembly according to the regulations applicable to the customer and his locality. Before the machine comes into service, it should be checked whether

- the machine has been cleaned of dirt from the construction stage.

! NOTICE

Coming into service should only occur with those persons familiar with this machine.

For integrated processes, which must work together in the operational process, upon coming into service the operator must have available trained staff for the upstream and downstream working processes.

Technical experts

Safety equipment:

- Skid proof
Safety shoes

- Safety helmet



- Safety gloves



Before coming into service, the machine/plant is to be checked according to the safety regulations in the operating instructions, in particular that all safety and protective devices have been connected and are in a functional state.

All screw connections are to be checked for being firmly secured.

5.2.1 Starting up again after storage

! NOTICE

Should the plant be taken back into operation after a long standstill period, the following rules are to be observed:

- Clean and disinfect the plant
- Carry out maintenance thoroughly
- Check the moving parts (motors, bearings, etc.) for ease of operation
- Plant is integrally available
- Check the electrical connection (only by qualified staff)
- Check state of wear (sealing components, shaft play)
- Ensure that all repair and maintenance work has been carried out and completed.
- Check the oil level in the reservoir (in a cool state, it should only be 2cm above the floor)
- Should the plant be transported, any available transportation locks are to be taken off and the plant's exterior adapted to the possibly changed operational environment. A proper electrical connection is to be ensured. The manufacturer's documentation, as well as the operating instructions are to be adopted correspondingly.

Technical experts

Safety equipment:

- Skid proof
Safety shoes

- Safety helmet



- Safety gloves



5.3 Shutdowns

! NOTICE

- Before lengthy decommissioning, the entire plant is to be completely freed of residual materials - particularly organic matter.

- Disconnection from the supply (current supply, water supply and according to version, compressed air).
- After thorough cleaning, the entire plant is carefully disinfected.
- The plant is to be secured against unauthorised access according to local regulations. Potentially, renewed insurance cover for working with previously decommissioned plant is to be obtained by the owner.

5.4 Storage

! NOTICE

For lengthy decommissioning, the plant should be stored in a dry and frost-free place. Storage out in the open is not permitted.

Above all, the electrical plant should be protected against environmental factors.

Before storage, all bearings should be once more greased or a complete maintenance of the plant carried out.

5.5 Decommissioning

Enquire from the manufacturer about the possibility of the return of old equipment

Should a plant reach the point of final decommissioning, the following points for the decommissioning of the machine are to be noted in particular.

- Disassembly of the machine
- Disposal of waste groups

Execution of decommissioning:

! NOTICE

Technical experts

Safety equipment:

-  - Skid proof Safety shoes
-  - Safety helmet
-  - Safety gloves



This should only be carried out by experts. It must be carried out in accordance with the relevant environmental and refuse disposal laws applicable in the country in question.

Transportation permits, removal reports etc. are to be obtained from the applicable authorities and submitted to them.

During the machine's disassembly, the following components must be dismantled or separated:

| | | |
|----------------------------|--|--|
| Stainless steel | Machine body, rotor shafts, covers, | Disassembly →materials Recovery |
| Galvanised steel | Machine body | Disassembly →materials Recovery |
| Aluminium pressure casting | Rotor shaft housings | Disassembly → Return to manufacturer for reconditioning |
| Thermal oil | On-site filling of approx. 30 Litres in the body | Drain using drain screw →materials Recovery |
| Plastics | Rubber depilation beaters Sealing components | Disassembly →materials Recovery |
| Electrical components | Cables, relays, among other electro-technical components | Disassembly →materials Recovery |

All requirements in accordance with the time of the plant's manufacture. Enquire on your own account at the time of the plant's final decommissioning about the relevant legal set of rules. You can obtain information free of charge from your relevant waste disposal authority.

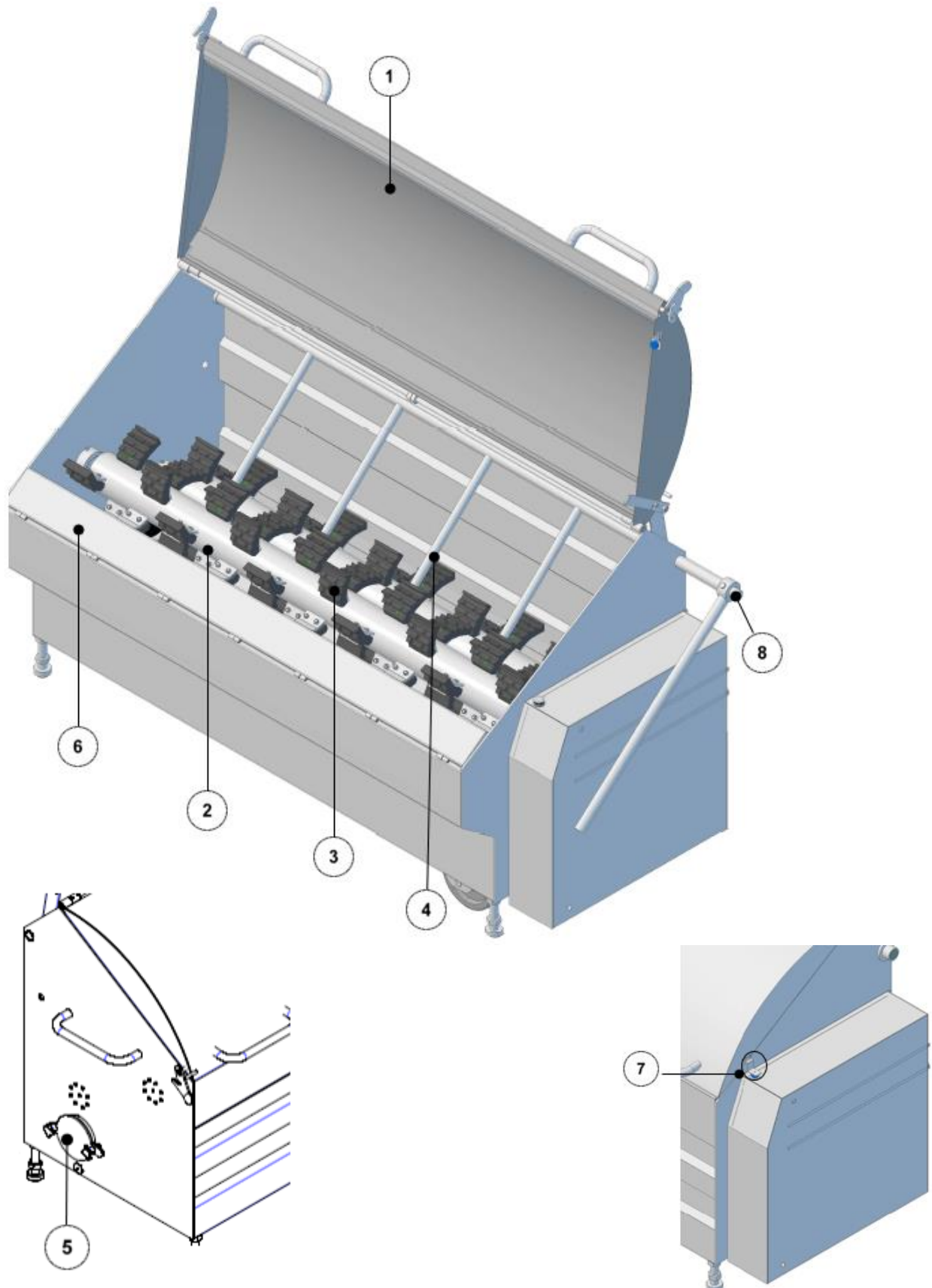
! NOTICE

Rules for disposal outside the EU:

At the time of decommissioning, those classified waste categories and disassembled parts of the entire plant are to be transported and treated according to the relevant country-specific environmental and waste disposal laws or a prescribed disposal be performed.

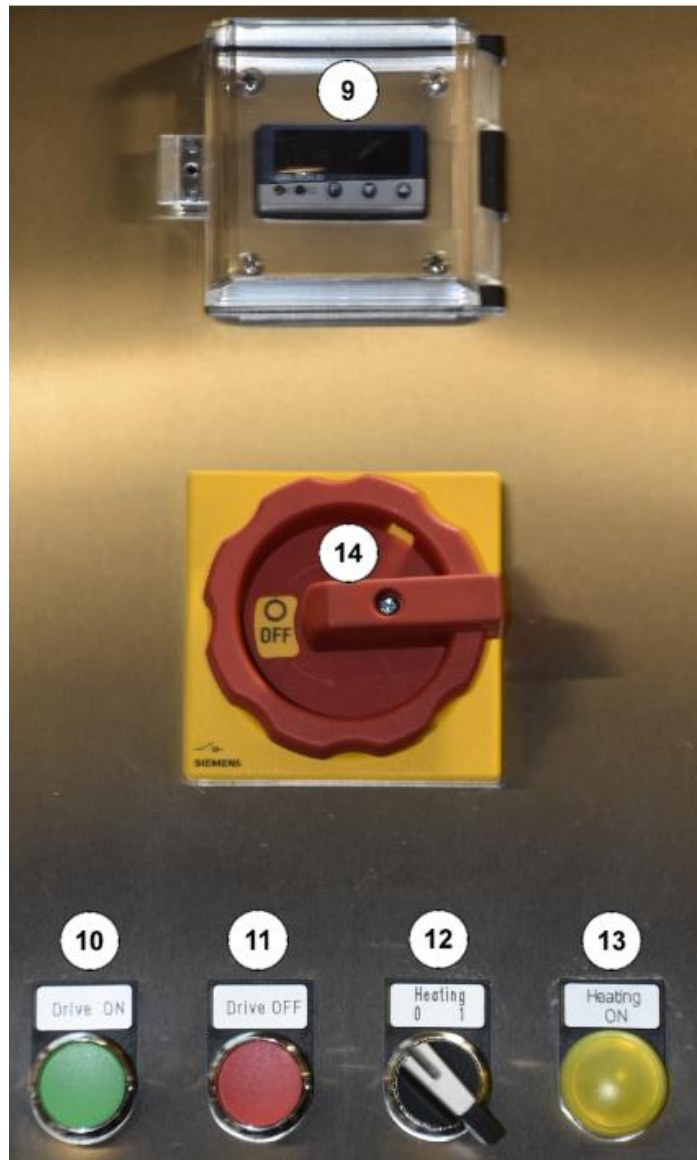
6 Operation

6.1 Overview illustrations/item description for scalding machine



| Position number | Description |
|-----------------|---|
| 1 | Flap cover |
| 2 | Rollers – 2 pieces |
| 3 | Rubber beaters – 112 pieces |
| 4 | Rakes |
| 5 | Water outlet and cleaning aperture (outlet cover) |
| 6 | Hair collector box |
| 7 | Cap switch with magnet (with blue cap) |
| 8 | Lever arm for rake |

6.2 Overview illustrations/item description for wall-mounted control



| Position number | Description |
|-----------------|-----------------------------|
| 9 | Digital thermostat |
| 10 | Machine "ON" |
| 11 | Machine "OFF" |
| 12 | Toggle switch 0-1 "Heating" |
| 13 | Control lamp "Heating ON" |
| 14 | Main switch |

6.3 Notices for operation



DANGER

Danger to life from improper operation!

Improper operation can lead from severe to fatal injury.

- **Danger to life from falling into the machine! During operation, apart from the operator and support staff, no other persons should be in the vicinity of the plant! Before switching on, check whether persons are in or next to the machine to be switched on.**
- The storage of equipment in or on the scalding unit is forbidden!
- Covers and protective devices must be installed and functioning.
- Only eliminate defects upon secured machines.
- Read the operating instructions carefully and operate the machine exactly in accordance with the provisions of the operating instructions.
- Before starting work, ensure that all covers and protective devices are installed and functioning properly.



WARNING

Dangers can emerge from the scalding and depilation machine, if used by untrained staff improperly or if used improperly.



DANGER

The plant serves exclusively for the depilation of pigs in the context of slaughter according to the German Animal Welfare Act (TierSchlV).



WARNING

Warning of entanglement hazard!

With any rotational and translational movement of the machine there arises an entanglement hazard. This can lead to severe, irreversible injuries.



DANGER

By activating the toggle switch “Eject” the ejection rake automatically goes up.

Observe the relevant safety distances and do not put your hands into the running machine. Be aware of loose pieces of clothing (carrier holding the apron, broad sleeves, etc.) There is serious risk of entanglement.

CAUTION

Danger of slipping

Slipping in the area of the machine can lead to injuries.



- From dirt and/or cleaning water on the floor, there is the risk of slipping.
- When working in the area of the machine, always wear safety shoes.

CAUTION

Danger of crushing

Moving parts can carry a danger of crushing, leading to injuries.

- Working on the machine entails a danger of crushing.
- When working on the machine, the safety distances against crushing and entrapment are to be observed.

6.4 Turning on/operating the machine

DANGER



Before undertaking any activity on the plant, the operating staff must ensure that neither persons nor animals are in the plant.


WARNING

Caution: Risk to life for any persons in the plant!

Instructed personnel

Protective gear:

-  - Slip resistant Protective shoes
-  - Safety helmet



- Ensure that the plant is ready for operation. The supporting feet are so aligned, that the plant stands level and all 4 supporting feet guarantee a firm grip of the floor.
- Switch on the main switch ¹⁵ at the plant's control cabinet (option of wall switching cabinet)
- Open the flap cover ¹ upwards
- Fill - if not already done - the plant with water without additives to a water level of approx. 3-5cm over the top edge of the axle tube of the rear depilation axle.
- Turn the switch to "Heating on" ¹⁰ at position I and wait until the water in the plant reaches the desired temperature (62°C).
- Lead to the scalding plant with the heated water with static rotor rollers a correctly stunned and bled animal. For this purpose use a suitable lifting tool.
- Position the animal in the middle of the depilation rollers
- Close the flap cover ¹ and turn the green power button to "on" ¹⁴.
- After the expiry of the preset time (approx. 3-4 mins), the depilation procedure is automatically stopped.
- Open the flap cover ¹ and wait for a short time until the emerging steam has condensed
- Place a suitable mounting fixture for the carcass for treatment in front of the scalding plant.
- Activate on the opened flap cover the toggle switch for the pneumatic ejection function ¹¹.
- Take the carcass processed in this way for immediate further processing
- If necessary, refill with fresh water and repeat the procedure.

6.5 Turning off the machine

Instructed personnel
Protective gear:
 - Slip resistant Protective shoes
 - Safety helmet



To turn off the scalding and depilation machine, the main switch must first be set to “0”.



III. Main switch

7 Cleaning

Warning of health-harming or irritating substances.

Cleaning materials contain chemicals, which have a health-harming or irritating effect.



- In the use of chemical (acids/alkalines) and, potentially, solvents, the requirements of the chemical's manufacturer must be observed.
- Only such chemicals should be used, that their correct use can cause no corrosive damage. Such substance have a caustic effect (protective clothing, goggles), may produce harmful vapours and reduce the safety of electrical equipment from dissolving their insulating materials.

⇒ **When working with cleaning substances, care should be taken to wear the recommended protective clothing by the cleaning substance manufacturer.**

Danger of slipping

Slipping in the area of the machine can lead to injuries.



- From dirt and/or cleaning water on the floor, there is the risk of slipping.
- When working in the area of the machine, always wear safety shoes.

! NOTICE

Cleaning of the machine should only be undertaken by persons, who have been given thorough instruction on handling the machine.




Cleaning staff must have been made aware by the operating instructions and accordingly trained and instructed.

When cleaning the machine all safety provisions are to be observed.

7.1 Cleaning works

Cleaning personnel

Protective equipment:

-  - Non-slip safety shoes
-  - Safety helmet
-  - Protective clothing

! NOTICE

When cleaning the electrical equipment (command switches, panels, motors, among others) with water, ensure that these are never

cleaned with high-pressure water jets. Defects and breakdowns from improper cleaning with high-pressure equipment of the electrical equipment void all guarantees.

Please check the plant during every cleaning procedure for potential damage. Particularly rubber seals and erosion of the depilation equipment may be quickly checked during cleaning without additional effort.

| Cleaning schedule | Cleaning work | Staff |
|--|---|----------------|
| After each working day. Cleaning occurs immediately after the last usage procedure. | <ul style="list-style-type: none"> • Turn the plant off and disconnect the machine from the power source (Set the main switch to ⑮ “0“, remove the plug from the power supply). With pneumatic equipment, ensure that the compressed air supply has been disconnected. • Open the cleaning flap ⑤ and completely empty the machine. • Rinse out the equipment with sufficient warm water. Use high-pressure cleaning equipment. • Use cleaning or disinfecting substances and ensure that the cleaning solution has a pH value of between 6 and 8. • Rinse off with clean mains water. • After completion of the cleaning works, close the outlet ⑤. • Leave the opened plant to dry out | Cleaning staff |

8 Maintenance

Risk of injury from improperly conducted maintenance work!

Improper maintenance can lead to severe personal injury or damage to property.



- Before the start of work to the machine and its controls, the drives and auxiliary equipment are to be safeguarded from unintended switching-on.
- Before the start of work, ensure there is sufficient room to do so.
- Pay attention to order and cleanliness at the installation site! Loosely piled or distributed components and tools are causes of accidents.
- Maintenance of the machine should only be undertaken by persons, who have been given thorough instruction on handling the machine.

Danger of slipping

Slipping in the area of the machine can lead to injuries.



- From dirt and/or cleaning water on the floor, there is the risk of slipping.
- When working in the area of the machine, always wear safety shoes.

NOTICE! No modifications of the switching devices or the control or regulating devices should be undertaken. The plant's functional ability may be reduced. Any resultant claims for damage and liability will not be assumed by Mitchell Engineering Food Equipment.

Please note the following notices for protection of the environment during maintenance work:

- Remove any excess or emerging grease from the lubrication points and dispose of in accordance with the relevant local regulations.
- Dispose of accumulating packaging materials in the proper manner.

8.1 Maintenance table

| Maintenance cycle | Further information | |
|-------------------|---------------------|-------------------------|
| Daily | 8.3.1 | Main switch |
| | 8.3.2 | Entire plant |
| Weekly | 8.4.1 | Visual inspection |
| | 8.4.2 | Water supply |
| | 8.4.3 | Bearing positions |
| Monthly | 8.5 | Depilation rollers |
| Half-yearly | 8.6.1 | Gear boxes, roller body |
| | 8.6.2 | Drive chain |
| Annually | 8.7.1 | Oil equalising tank |
| | 8.7.2 | Greasing of bearings |
| As required | 8.8.1 | Depilation beaters |
| | 8.8.2 | Drive chain |
| | 8.8.3 | Changing of oil |

8.2 General maintenance notices

! NOTICE

As with all technical equipment, this plant also suffers from wear and tear.

In order to keep this as low as possible, it is necessary to undertake the following maintenance work at the prescribed intervals.

All works for completion are essentially divided into several different areas:

- Continuous observation of functioning during operation
- Maintenance work brought about by regular maintenance scheduling
- Maintenance caused by wear and tear
- Works to be carried out by the manufacturer

All maintenance works serves for the safe operation of the plant. You must therefore carry out the manufacturer's instructions very carefully!

WARNING

Maintenance work, such as repair and overhauls, including cleaning, must be carried out with the machine at a standstill.

All maintenance scheduling relates to a single-shift operation of the plant with an assumed throughput of 100 scalding cycles per month. From increased operational times, the throughput of unusual breeds or other wear and tear increasing factors, the maintenance schedule may in part be considerably shortened. For this reason, staff engaged in maintenance must continually satisfy

themselves with great attention and independently of the proper condition of the equipment. All maintenance work is to be documented in a service logbook by the operator. Undocumented maintenance work shall be assumed as not carried out in the event of a claim (loss of guarantee).

Among the maintenance work belongs:

- The activities stated in the table for the entire plant, which result from the functional units of the individual components. These are contained in a maintenance plan, as well as the instructions of the relevant subcontractors of plant components. The manufacturer's documentation in connection with the chronological maintenance plan together provide the maintenance instructions. Maintenance can only be carried out by qualified staff members. The maintenance instructions are to be complemented by the operating staff on grounds of their own observations. Modified maintenance intervals and empirical values are to be documented and relayed to the manufacturer.

8.3 Daily maintenance work

8.3.1 Main switch

Instructed personnel

Protective gear:

-  - Slip resistant Protective shoes
-  - Safety helmet



Carry out functional test


For any defects, replace the main switch (electricians)



III. Main switch

8.3.2 Entire plant

Instructed personnel


Protective gear:
 - Slip resistant Protective shoes
 - Safety helmet

Inspection of the sealing materials

- **Sealing of the outlet flap (round)**
Bottom of front side. Open with two knurled screws without needing any tools.
- **Rubber coating, adjustable feet**
Rubber cups underneath the 4 adjustable feet. Access via the trolleys.

8.4 Weekly maintenance work

8.4.1 Visual inspection

Technical experts


Safety equipment:
 - Skid proof Safety shoes
 - Safety helmet
 - Safety gloves

Carry out a visual inspection

- Immediately replace damaged parts

8.4.2 Water supply

Technical experts


Safety equipment:
 - Skid proof Safety shoes
 - Safety helmet
 - Safety gloves

Check water supply for water-tightness

- Check the water supply for leaks, if necessary replace damaged parts
- Check water hose for water-tightness

8.4.3 Bearings

Technical experts


Safety equipment:
 - Skid proof Safety shoes
 - Safety helmet
 - Safety gloves

Check bearings

- Acoustic check of bearings.
- For unusual running sounds, check the bearings and if defective, immediately replace the bearings

8.5 Monthly maintenance work



Check the bearing clearance on the depilation rollers

- The bearing shafts of the depilation beaters are provided with permanently lubricated bearings. From the permanent effect of the hot scalding water, as well as potentially fat-dissolving substances, a regular greasing of the bearings is envisaged. According to the frequency of use and quality of the water, the lifetimes of the shaft bearings can vary greatly. The prescribed monthly inspection may be adjusted according to the operator's judgement from consistent handling according to the empirical values.

Proceed as follows:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected.
- Open the cleaning flap ⁵ and completely empty the machine.
- Check the forward shaft, in which, when at a standstill, you grasp with both hands at the right-hand side in the vicinity of the bearings and check the bearing clearance. The bearing should demonstrate no clearance during this.
- Repeat the procedure with the left-hand shaft side.
- Repeat then the inspection procedure for the second depilation shaft.
- Inspect, as far as visually possible, the bearing area for oil or grease leaks. For any visible traces of oil or bearing grease, the sealing rings are damaged and are to be replaced with the bearings.

8.6 Half-yearly maintenance work

8.6.1 Chain tension



Inspecting the chain tension

Proceed as follows:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected
- According to the plant's version (left-hand or right-hand sided operating unit), the drive unit is situated on the front side of the machine to the exterior in the protective housing.
- Check the wear and tear condition of the chain and the sprockets. Chain tension is sufficient, if the chain can be pressed down with two fingers in the middle between the sprockets to a maximum of 1cm.

8.7 Yearly maintenance work

8.7.1 Oil level

WARNING

Technical experts

Safety equipment:

-  - Skid proof Safety shoes
-  - Safety helmet
-  - Safety gloves



Check the oil level in the equalising tank

Caution: The plant must never be connected to the electricity supply without sufficient amounts of oil. Please ensure a continuously constant level of oil as described below.

The plant's oil level will be performed by the manufacturer on a one-off basis. In regular operation of the plant, no oil is used. For that reason, it is necessary to undertake an inspection of the oil level at least once a year. If outside or during the maintenance schedule a loss of oil is observed, then this always indicates

a defect in the plant. The machine is to be immediately brought to a standstill and disconnected from the energy supply. The cause of the loss of oil is to be established and eliminated before the next coming into service.

Proceed as follows:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected. The plant must have completely cooled down.
- Open the cleaning flap ^⑤ and completely empty the machine.
- Open the two socket crews (M8) at the protective housing and swing open the front cover (hinge function).
- Open the screw caps of the equalising tank (no tools necessary).
- Take a clean rod of metal or plastic and dip it vertically without any further movement into the tank, until this hits the bottom.
- Remove the rod from the tank and measure the height of the oil. There is sufficient oil in the system, if the height at the dip stick is 2cm.
- Close the tank cover and the side wall of the protective housing with its screws.

8.7.2 Greasing the bearings

Technical experts

Safety equipment:

-  - Skid proof Safety shoes
-  - Safety helmet
-  - Safety gloves



Greasing the bearings at the depilation rollers

The necessity to grease the bearings can be considerably hastened by any additives in the scalding water. The bearing clearance is therefore to be carefully observed. According to necessity, the maintenance schedule is to be adjusted.

Proceed as follows:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected
- Open the cleaning flap ^⑤ and completely empty the machine.
- At both of the shaft ends, there are situated, left and right respectively, on the outer case of the shaft, a lubrication hole. These are permanently closed with a socket screw of M6 size.
- Open the first screw and replace it for the time of the greasing procedure with a lubrication nipple (e.g. lubrication nipple H1 M6x1 exactly according to DIN 71412)

- Press approx. 2-3 strokes of grease into the lubrication point
 - Remove the lubrication nipple and close the lubrication point again with the available M6 socket screw
 - Repeat the process for both shafts. It may be advisable, when lubricating the rear shaft, to lock this in place by means of the lifting mechanism into the upper maintenance position.
-

8.8 Maintenance work as required

8.8.1 Replacement of the depilation beaters



If the depilation performance decreases or mechanical damage has been established on the depilation beaters, these are to be replaced immediately. The exchange of individual depilation beaters is possible. Preferably these should, however, be replaced as a set. Differing friction coefficients of depilation beaters with different wear and tear patterns may lead to operating malfunctions.

Proceed as follows:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected.
 - Open the cleaning flap ^⑤ and completely empty the machine.
 - For the fastening of the depilation beaters, upon the so-called depilation rollers, 56 beating tabs are provided per roller. These have respectively 2 clearance holes. The depilation beaters are fastened by means of 2x M8 threaded bolts in addition to 2x M8 stop nuts to the tabs. Fastening is performed by turning to the right.
 - Please only use the threaded bolts and stop nuts of VA quality delivered by the manufacturer.
-

8.8.2 Re-tensioning the drive chain



Proceed as follows:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected
- According to the plant's version (left-hand or right-hand sided operating unit), the drive unit is situated on the front side of the machine to the exterior of the operating unit.
- Open the two socket crews (M8) at the protective housing of the operating unit and swing open the front cover (hinge function).
- Check the wear and tear condition of the chain and the sprockets. Chain tension is sufficient, if the chain can be pressed down with two fingers in the middle between the sprockets to a maximum of 1cm.
- Loosen by means of the size 19 open-end spanner the four flange screws of the motor drive

- unit. Pay attention so that the screws are not taken out, only loosened.
- Press the motor drive unit so far to the left or right, until the desired tension is achieved. Simultaneously tighten the loosened nuts again.
 - Then check the chain tension at the tightened nuts.
-

8.8.3 Changing of oil



Technical experts

Safety equipment:

-  - Skid proof Safety shoes
-  - Safety helmet
-  - Safety gloves



Operation of the plant without sufficient oil level always leads to disruption to the plant and means considerable danger for the operating staff.

The necessity for renewed oil filling, or the topping-up of the thermal oil always presupposes previous damage - Only top up with the same oil.

Potential previous damage is to be eliminated before every filling or new filling of thermal oil in an expert fashion.

The relevant safety regulations in dealing with thermal oil can be seen from the safety data sheet in accordance with EC Directive 2001/58 EG. If required, these may be obtained from the manufacturer.

The execution of repairs to the plant body, as well as a change of oil brought about by damage is only intended to be by the manufacturer. Consultation with the manufacturer is recommended.

Proceed with topping-up in the following way:

- Turn the plant off and disconnect the machine from the power source. With pneumatic equipment, ensure that the compressed air supply has been disconnected. The plant must have completely cooled down.
- Open the cleaning flap ^⑤ and completely empty the machine. Open the two socket crews (M8) at the protective housing and swing open the front cover (hinge function).
- Open the screw cap of the equalising tank (no tools required)
- Take a clean rod of metal or plastic and dip it vertically without any further movement into the tank, until this hits the bottom.
- Remove the rod from the tank and measure the height of the oil. There is insufficient oil in the system, if the height at the dip stick is less than 2cm.
- Fill the thermal oil up to the level for when the plant is cold, approx. 2cm above the container bottom.
- Close the tank cover and the side wall of the control box with its screws.



Overfilling of the oil level is to be avoided most strenuously. The visually almost empty level of the plant when cold fills during the plant's operation by the normal expansion of the oil from being heated. In this manner the empty space in the tank is almost completely taken up. Improper over-filling can lead to damage of the scalding plant

9 Malfunctions

Warning of dangerous electrical current!

Touching of conductive parts represents a direct danger to life. Damage to the insulation or individual components can mean danger to life.



- Touching of damaged insulation or conductive components
 - Fundamentally, before any intervention in the electrical or mechanical part of the plant, the electrical control is to be turned off from the power supply.
 - Some circuit devices are still under current when the main switch has been turned off.
- If it is necessary on technical grounds to work on conductive components of the electrics, then insulation mats and insulated tools must be used. Such work should only be carried out by at least two electricians. In an emergency, the plant is to be switched to voltage-free (using the main switch).

Warning of security devices not being implemented!

Security devices disconnected



- when eliminating defects must be re-mounted to their assigned place after the elimination of the defect, as otherwise severe to fatal injuries may result from this carelessness.

Risk of injury from improper clothing!

Improper elimination of defects can lead to severe personal injury or damage to property.



- Before the start of work, ensure there is sufficient room to do so.
- Pay attention to order and cleanliness at the installation site! Loosely piled or distributed components and tools are causes of accidents.

⇒ **Operating malfunctions should only be dealt with by persons, who have been very closely instructed in dealing with the machine.**

Danger of slipping

Slipping in the area of the machine can lead to injuries.



- From dirt and/or cleaning water on the floor, there is the risk of slipping.
- When working in the area of the machine, always wear safety shoes.

Danger of crushing

Moving parts can carry a danger of crushing, leading to injuries.



- Working on the machine entails a danger of crushing.
 - When working on the machine, the safety distances against crushing and entrapment are to be observed
-

Warning of danger of collision!

Slight injuries to the head area



- From a lack of attention arises the danger of a collision with protruding parts.
 - Always wear a protective helmet.
 - No modifications of the switching devices or the control or regulating devices should be undertaken. The plant's functional ability may be reduced
 - Any resultant claims for damage and liability will not be assumed by Mitchell Engineering Food Equipment.
-

9.1 Conduct during malfunctions

Fundamentally, this applies:

1. For malfunctions which represent an immediate danger to persons or property, activate the EMERGENCY STOP without delay.
2. Establish the cause of the malfunction.
3. Inform the managers at the site.

10 Technical data

| CAT 157M20 | |
|--------------------------|--|
| Surface area | approx. 2,100 x 870mm |
| Effective width | approx. 1,800mm (inner dimension) |
| Electrical connection | 15.7 kW CEKON plug connector IEC60309 32A 3P+N+PE, 6h fuse protection 3x20A (internal) |
| External fuse protection | 3x32A FI switch 300mA |
| Protection class | IP55 |
| Motor output | 2.2kW |
| Heating capacity | 12kW |
| Dead/operational weight | approx. 475kg |
| Filling volume | approx. 200 litres |
| Maximum carcass weight | 200kg |
| Number of rubber beaters | Per roller 40 pieces (total of 80 pieces) |

11 Service

| Mitchell Engineering Food Equipment | |
|-------------------------------------|-----------------------------|
| Street | 23 Storie St, Clontarf |
| Area | Queensland, Australia, 4019 |
| Telephone | 1800 669 006 |
| Fax | +617 3283 4482 |
| Email | info@mefe.com.au |
| Internet | www.mefe.com.au |

For telephone enquiries the Service technical department is to be requested.

The above address/telephone number/fax number also applies for the ordering of replacement parts.

! NOTICE

From the use of non-original replacement parts and non-original accessories, all guarantee and liability claims are voided against Mitchell Engineering Food Equipment.

12 Declaration of compliance

Declaration of EU compliance

In the sense of EU Machinery Directive 2006/42/EC

We hereby declare that the

Scalding and depilation machine

Type designation _____

Under the sole responsibility of the

Mitchell Engineering Food Equipment Pty Ltd

D-73491 Neuler

has been developed, constructed and manufactured.

The plant complies with the safety requirements on the basis of the relevant standards of EC Directive 2006/42/EC

Modifications to the plant may only be carried out after consultation with the **MEFE** company, otherwise the above declaration loses its validity.

Those requirements described in the operating instructions for the proper operation of the plant must be observed.

Details of the plant:

The scope of delivery consist of a stand-alone functioning unit. Operation consists of cooperation between upstream and downstream plant groups with stand-alone process control.

Standards applying:

EC Directives:

RL 2006/42/EC - Machinery Directive

2014/30/EU:2014-02-26; EMCD:2014-02-26; EMC:2014-02-26- Electromagnetic compatibility

DIN EN ISO – Standards:

DIN EN ISO 12100:2011-03 Safety of machinery - Principles for Risk Assessment

DIN EN ISO 13857 Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs

DIN EN 349 Minimum gaps to avoid crushing of parts of the human body

DIN EN ISO 13850:2016-05 Safety of machinery; Emergency stop function, principles for design

DIN EN ISO 13857:2008-06 Safety distances to prevent hazard zones being reached by lower limbs

DIN EN ISO 14120:2016-05 Movable guards

DIN EN ISO 13849-1:2016-06 Safety of machinery - Safety-related parts of control systems (ISO 13849-1)

DIN EN ISO 4414:2011-04 Safety of machinery - General rules and safety requirements for systems and their components - Pneumatic fluid power

DIN EN ISO 12100-1, 12100-2 Safety of machinery; General principles for design

DIN EN ISO 14122-1, 14122-2, 14122-3 Safety of machinery

DIN EN 60204-1:2014-10; VDE 0113-1:2014-10 Safety of machinery; electrical equipment of machines (VDE 0113 Part 1)

Accident prevention regulations

VBG19 – Meat machines

Documentation:

The complete technical documents for the machines are available from the MEFE company.

The plant's operating instructions are available in German.

14 Manufacturer reference

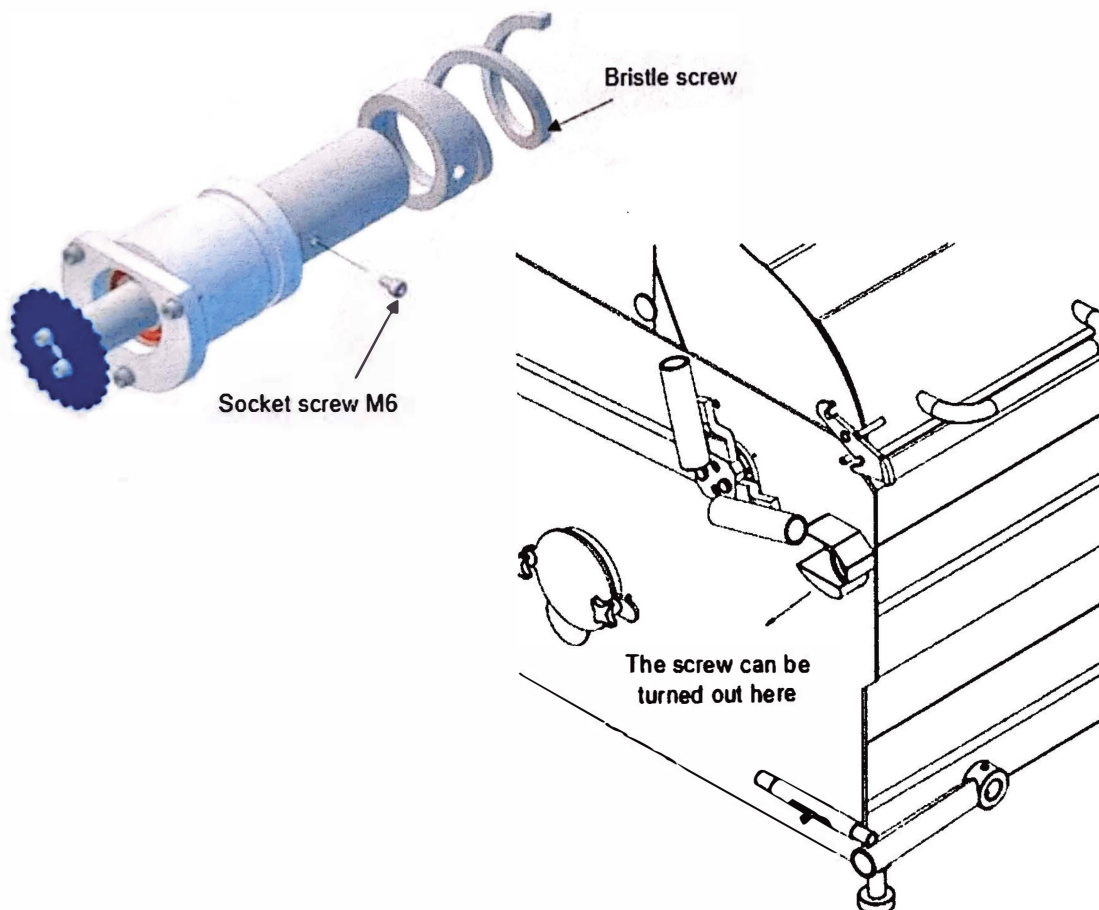
Do not scald or dehair woolly pigs/mangalitsa pigs on machines with a bristle auger. The long hairs block the auger spiral and can lead to deformation.

If you still want to slaughter woolly pigs, the auger spiral must be unscrewed from the machine. By loosening the hexagon socket screws M6, the spiral can be detached from the drive shaft and then unscrewed.

After finishing the scalding and dehairing processes with woolly pigs, put the auger back into the machine and retighten the hexagon socket screw M6 with an Allen key.

We as the manufacturer cannot monitor the observance of these instructions and the conditions and methods during operation, use and maintenance of our scalding and dehairing machines.

Therefore, we, the company Mitchell Engineering, do not accept any responsibility or liability for damage or costs resulting from or in any way connected with improper operation and incorrect use and maintenance.





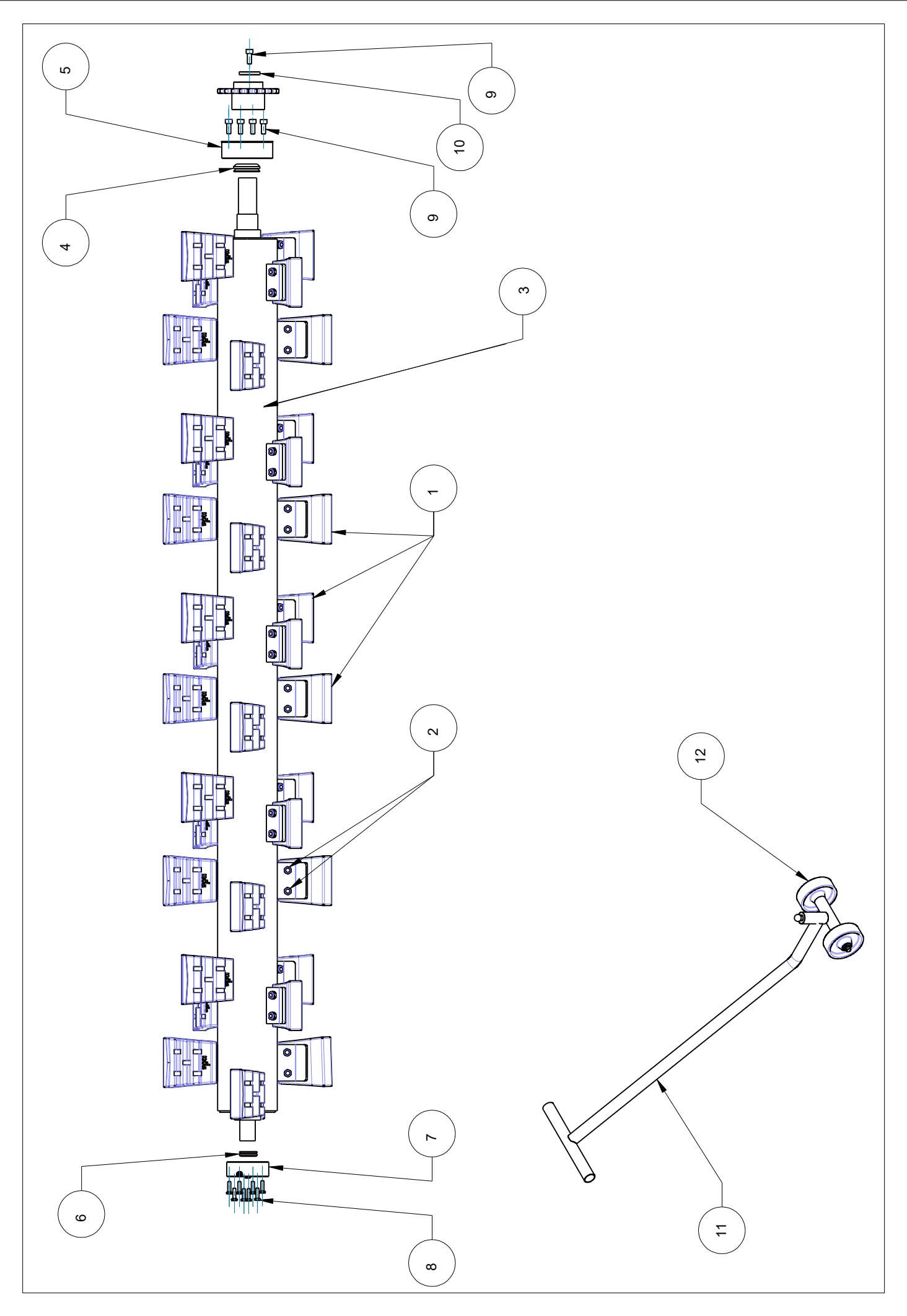
**Mechanical engineering
Scalding, slaughtering and
stunning systems**



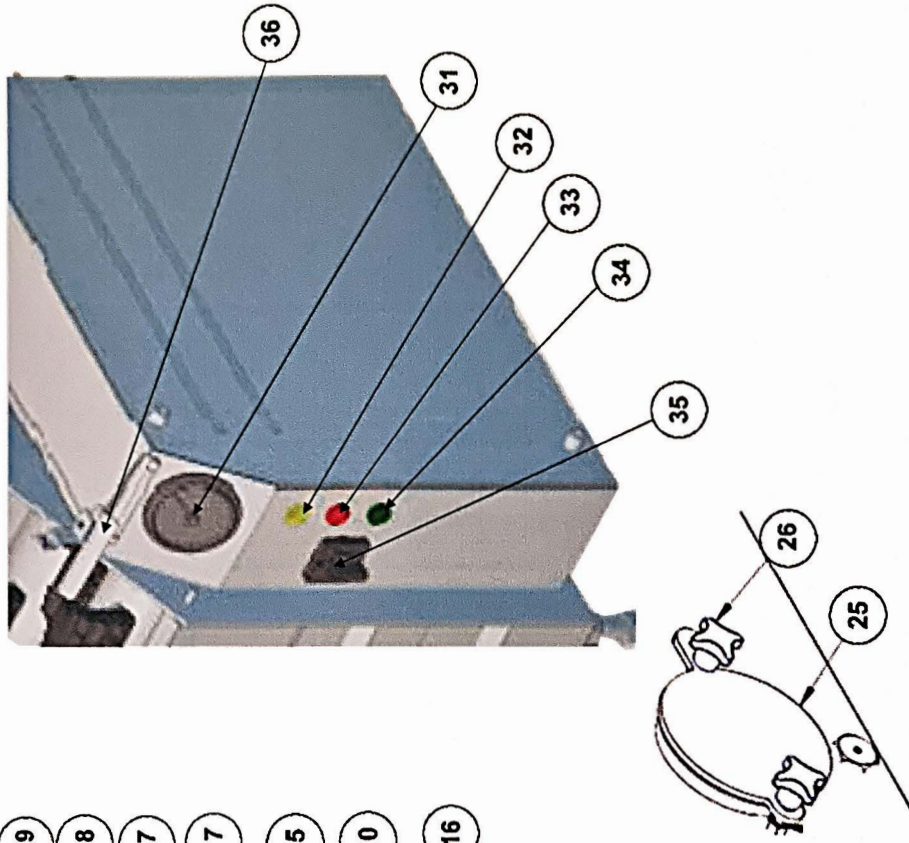
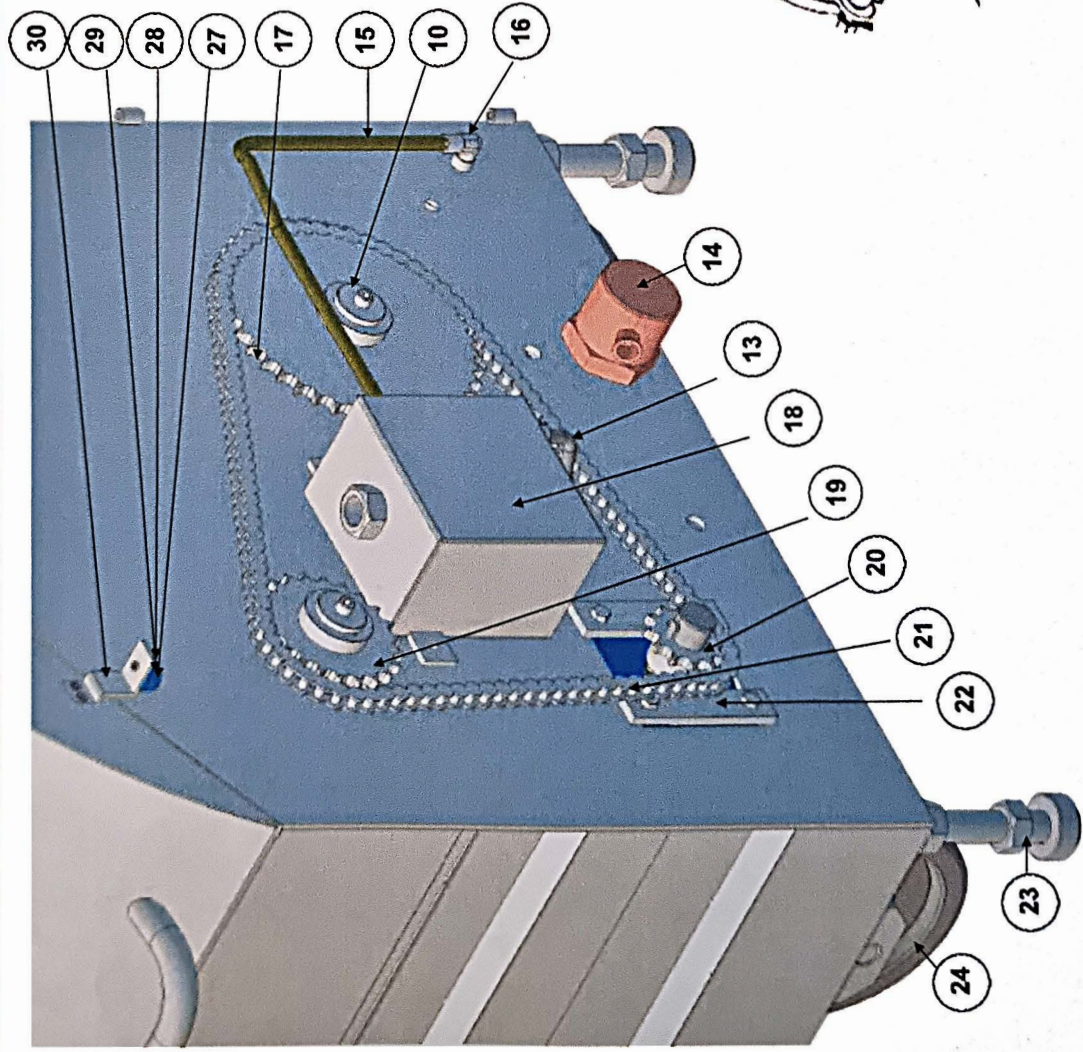
Length inside 1800mm

Length inside 1900mm

Spare Parts



Ersatzteile – Spare parts



Ersatzteile – Spare Parts

Innenlänge – Lenght inside 1800 mm

| Position | Anzahl Quantity | Bezeichnung | Description | Art.-Nr. Item no. |
|----------|--------------------|--|--|----------------------|
| 1 | 80 | Gummischläger | Scraper Paddles | 6805 |
| 2 | 160 | Stopmutter | Locknut for scraper paddles | 6815 |
| 3 | 2 | Walze V2A D=115 mm Walze V2A D=140 mm | Roller V2A D=115 mm Roller V2A D=140 mm | 6596 6597 |
| 4 | 2 | V-Ring 40 | V-Ring 40 | 6180 |
| 5 | 2 | Edelstahlager | Stainless steel bearing | 6160 |
| 6 | 2 | V-Ring 30 | V-Ring 30 | 6175 |
| 7 | 2 | Alu-Lager 8-Loch | Alu-bearing 8 holes | 6110 |
| 8 | 8 | Sechskantschraube M6x20 DIN 933 | Hexagon screw M6x20 DIN 933 | 6108 |
| 9 | 5 | Zylinderschraube M8x20 DIN 912 | Cylinder screw M8x20 DIN 912 | 5913 |
| 10 | 2 | Scheibe für Kettenradfixierung | Safty washer | 5912 |
| 11 | 1 | Transportwagen | Trolley | 6600 |
| 12 | 2 | PVC-Rad 100 | PVC-wheel 100 | 6410 |
| 13 | 1 | Ölleitung kurz | Oil circuit short | 6520 |
| 14 | 1 | Heizkörper 12 kW | Heating 12 kW | 5325 |
| 15 | 1 | Ölleitung lang | Oil circuit long | 6525 |
| 16 | 1 | Ermetowinkel | Ermeto bracket | 6505 |
| 17 | 1 | Antriebsrad Z42 | Drive wheel Z42 | 5910 |
| 18 | 1 | Tank für Type MR/ML | Tank typ MR/ML | 6490 |
| 19 | 1 | Antriebsrad Z22 | Drive wheel Z22 | 5915 |

| Position | Anzahl Quantity | Bezeichnung | Description | Art.-Nr. Item no. |
|----------|--------------------|--------------------------------------|--------------------------|----------------------|
| 20 | 1 | Motorritzel | Motor bevel | 5920 |
| 21 | 1 | Antriebskette | Drive chain | 5925 |
| 22 | 2 | Motorlasche V2A | Motor clip V2A | 6310 |
| 23 | 4 | Brühmaschinenfuß V2A mit Einleggummi | Feet V2A with rubber | 6395 |
| 24 | 2 | Vollgummirad 200 | Solid rubber wheel | 6420 |
| 25 | 1 | Ablaufdeckel V2A | Outlet cover V2A | 6355 |
| 25 | 1 | Ablaufdichtung | Overflow seal | 6360 |
| 26 | 2 | Sterngriff | Star grip | 6365 |
| 27 | 1 | Winkel für Deckelmagnet | Bracket for cover magnet | 5217 |
| 28 | 1 | Magnet für Deckelschalter | Magnet for cap switch | 5215 |
| 29 | 1 | Endschalterhülse | Limit switch for cover | 5220 |
| 30 | 1 | Deckelschalter | Cap switch | 5205 |
| 31 | 1 | Thermostat | Thermostat | 5261 |
| 32 | 1 | Kontrolllampe „gelb“ | Control lamp „yellow“ | 5141 |
| 33 | 1 | Drucktaster „rot“ | Button „red“ | 5126 |
| 34 | 1 | Drucktaster „grün“ | Button „green!“ | 5111 |
| 35 | 1 | Hauptschalter 0-1 | Main switch 0-1 | 5245 |
| 36 | 1 | Schutzdeckel | Protective cover | 6470 |

Ersatzteile – Spare Parts

Innenlänge – Lenght inside 1900 mm

| Position | Anzahl Quantity | Bezeichnung | Description | Art.-Nr. Item no. |
|----------|--------------------|---------------------------------|------------------------------|----------------------|
| 1 | 88 | Gummischläger | Scraper Paddles | 6805 |
| 2 | 176 | Stopmutter | Locknut for scraper paddles | 6815 |
| 3 | 2 | Walze V2A D=115 mm rechts | Roller V2A D=115 mm right | 6603 |
| | | Walze V2A D=115 mm links | Roller V2A D=115 mm left | 6604 |
| | | Walze V2A D=140 mm rechts | Roller V2A D=140 mm right | 6601 |
| | | Walze V2A D=140 mm links | Roller V2A D=140 mm left | 6602 |
| 4 | 2 | V-Ring 40 | V-Ring 40 | 6180 |
| 5 | 2 | Edelstahlager | Stainless steel bearing | 6160 |
| 6 | 2 | V-Ring 30 | V-Ring 30 | 6175 |
| 7 | 2 | Alu-Lager 8-Loch | Alu-bearing 8 holes | 6110 |
| 8 | 8 | Sechskantschraube M6x20 DIN 933 | Hexagon screw M6x20 DIN 933 | 6108 |
| 9 | 5 | Zylinderschraube M8x20 DIN 912 | Cylinder screw M8x20 DIN 912 | 5913 |
| 10 | 2 | Scheibe für Kettenradfixierung | Safety washer | 5912 |
| 11 | 1 | Transportwagen | Trolley | 6600 |
| 12 | 2 | PVC-Rad 100 | PVC-wheel 100 | 6410 |
| 13 | 1 | Ölleitung kurz | Oil circuit short | 6520 |
| 14 | 1 | Heizkörper 12 kW | Heating 12 kW | 5325 |
| 15 | 1 | Ölleitung lang | Oil circuit long | 6525 |
| 16 | 1 | Ermetowinkel | Ermeto bracket | 6505 |
| 17 | 1 | Antriebsrad Z42 | Drive wheel Z42 | 5910 |
| 18 | 1 | Tank für Type MR/ML | Tank typ MR/ML | 6490 |

| Position | Anzahl Quantity | Bezeichnung | Description | Art.-Nr. Item no. |
|----------|--------------------|---|--------------------------|----------------------|
| 19 | 1 | Antriebsrad Z22 | Drive wheel Z22 | 5915 |
| 20 | 1 | Motorritzel | Motor bevel | 5920 |
| 21 | 1 | Antriebskette | Drive chain | 5925 |
| 22 | 2 | Motorlasche V2A | Motor clip V2A | 6310 |
| 23 | 4 | Brühmaschinenfuß V2A mit Einleggummi | Feet V2A with rubber | 6395 |
| 24 | 2 | Vollgummirad 200 | Solid rubber wheel | 6420 |
| 25 | 1 | Ablaufdeckel V2A | Outlet cover V2A | 6355 |
| 25 | 1 | Ablaufdichtung | Overflow seal | 6360 |
| 26 | 2 | Sterngriff | Star grip | 6365 |
| 27 | 1 | Winkel für Deckelmagnet | Bracket for cover magnet | 5217 |
| 28 | 1 | Magnet für Deckelschalter | Magnet for cap switch | 5215 |
| 29 | 1 | Endschalterhülse | Limit switch for cover | 5220 |
| 30 | 1 | Deckelschalter | Cap switch | 5205 |
| 31 | 1 | Thermostat | Thermostat | 5261 |
| 32 | 1 | Kontrolllampe „gelb“ | Control lamp „yellow“ | 5141 |
| 33 | 1 | Drucktaster „rot“ | Button „red“ | 5126 |
| 34 | 1 | Drucktaster „grün“ | Button „green!“ | 5111 |
| 35 | 1 | Hauptschalter 0-1 | Main switch | 5245 |
| 36 | 1 | Schutzdeckel | Protective cover | 6470 |

