


Translation of the original instructions

Shrinking tank Floor model (ST100)



 **Before starting work, read these instructions!**

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1 General information

1.1 Subject of these instructions

The shrinking tank described here was manufactured and placed on the market by:

ERME AG / SWISS VACUUM SOLUTIONS

Contact data (see Legal notice page 2)

1.2 Target group

In addition to the operator, the target groups for these operating instructions include:

- Operating personnel — operation and cleaning instructions.
- Maintenance personnel — troubleshooting and maintenance instructions.
- Specialists who are tasked by the machine operator with performing tests and maintenance work.

1.3 Information about these instructions

1.3.1 Information about the content

These operating instructions contain important information about handling the machine during installation, commissioning, operation, maintenance and servicing as well as disassembly and disposal.

Compliance with all specified warning messages and instructions is a prerequisite for safely, correctly and efficiently working on and with the machine.

Observing the above information helps to prevent dangers, reduce repair costs and downtimes and increase the reliability and service life of the machine.

In addition, the local accident prevention regulations and general safety regulations applicable at the site where the machine is operated must also be observed.

Carefully read through the operating instructions before starting all work. They are part of the product and must be stored at a location where they are always accessible to the personnel.

In addition to these operating instructions, the instructions for the installed components provided by the respective supplier are located in the overall documentation. See chapter **Additional sources of information** [► 11].

- 1 Observe the information — in particular, the warning messages — contained therein.

1.3.2 Instructions for use

Instructions and system reactions

The work steps to be carried out by the operating personnel are described consecutively. The order of the steps must be observed. The system reactions to the respective operational steps are marked by an arrow.

Example:

- ✓ Requirement
- 1 Work step 1
- ⇒ Reaction to work step 1

Lists

Lists without a mandatory order are displayed as a list with a preceding bullet point.

Example:

- Item 1
 - Item 1, sub-item A
- Item 2

Lists with a mandatory order are displayed as a list with a preceding number.

Example:

1. First
2. Second

References to chapters/pages

References to specific chapters in which procedures and instructions are described are illustrated as active links.







Example: (see [chapter A \[▶ 7\]](#))

1.3.3 Used symbols

Pictograms

The warning messages used in these operating instructions are also provided with pictograms to clarify the type of the possible hazard.

The following pictograms are used:



Symbol	Meaning
	General warning message
	Danger due to electricity
	Danger due to hot surfaces
	Risk of crushing
	Observe the operating instructions
	General information and helpful tips on handling

1.3.4 Structure of the warning messages

The warning messages in these operating instructions are introduced by the signal words DANGER, WARNING, CAUTION and NOTICE that express the extent of the hazard. A warning symbol also indicates the nature of the hazard.

The following warning messages are used in these operating instructions:



Risk to life

	 DANGER
	<p>Risk to life!</p> <p>Consequences of non-compliance...</p> <ul style="list-style-type: none"> • Instructions about prevention.

A warning message of this danger level indicates an impending dangerous situation. If the dangerous situation is not prevented, it will result in death or severe, irreversible injuries.

Follow the instructions in this warning message to prevent the risk of death or severe personal injuries.



Risk of injury

	 WARNING
	<p>Risk of injury!</p> <p>Consequences of non-compliance...</p> <ul style="list-style-type: none"> • Instructions about prevention.

A warning message of this danger level indicates a potentially dangerous situation. If the dangerous situation is not prevented, it may result in death or serious injuries.

Follow the instructions in this warning message to prevent the possible risk of death or serious personal injuries.


Personal injuries

	 CAUTION
	<p>Personal injuries due to...</p> <p>Consequences of non-compliance...</p> <ul style="list-style-type: none"> • Instructions about prevention.

A warning message of this danger level indicates a potentially dangerous situation. If the dangerous situation is not prevented, it may result in light or moderate injuries.

Follow the instructions in this warning message to prevent personal injuries.


Material damage

	NOTICE
	<p>Material damage due to...</p> <p>Consequences of non-compliance...</p> <ul style="list-style-type: none"> • Instructions about prevention.

A warning message of this danger level indicates possible material damage. If the situation is not prevented, it may result in material damage.

Follow the instructions in this warning message to prevent material damage.

Tips and suggestions

	NOTE
	<p>Message text...</p> <p>Consequences</p>

1.4 Additional sources of information

In addition to the instructions contained in these machine operating instructions, the information contained in the sources of information specified below must also be taken into consideration:

- Information about the signage on the machine
- Operating instructions for the assemblies and purchased parts that are in use
- Instructions from the operator
- Safety data sheets for auxiliary and operating materials
- Local accident prevention regulations and regional regulations at the machine operating site
- Data sheets for installed components

1 Observe the information — in particular, the safety instructions — contained therein.

1.5 Limitations of liability

All information and instructions provided in these operating instructions were compiled taking into consideration the applicable standards and regulations, the technological state-of-the-art as well as knowledge and experience acquired over many years.

We reserve the right to make technical modifications in the course of further developing the machine that is the subject of these operating instructions. No claims can be derived from the information, figures and descriptions provided in these operating instructions.

The manufacturer assumes no liability for damage and malfunctions due to:

- Non-compliance with these operating instructions
- Unintended use
- Personnel who are not sufficiently trained or trained at all
- Use of impermissible equipment
- Faulty connection
- Non-use of original spare parts and accessories
- Technical modifications and conversions unless they have been coordinated with the manufacturer
- Non-performance of the required maintenance work
- Performance of welding work on the machine

The manufacturer is liable for any faults or failures on our part, not including further claims arising within the context of the warranty obligations specified in the contract. Claims for compensation, regardless of the legal grounds, will be excluded.

1.6 Copyright protection

This documentation is protected by copyright.

We reserve all rights, including the rights of photomechanical reproduction, duplication and the distribution through special procedures (for example, data processing, data carriers and data networks), also in part, as well as the right to make content-related and technical modifications.

1.7 Warranty provisions

According to the Purchase Agreement, the company ERME AG provides the corresponding warranty from the delivery date of the machine.

The warranty extends to the material and manufacturing defects, which occur during normal load (single-shift operation).

The warranty excludes improper operation, incorrect electrical installations and wear parts.


Our "General Terms and Conditions" apply.

1.8 Customer service

Please keep the following information readily available for all contact with our customer service department:

- Machine type (see type plate on the machine)
- Purchase date (see proof of purchase)

Contact data (see Legal notice page 2)

	NOTE
	<p>We recommend that the operator conclude a maintenance agreement with ERME AG.</p> <p>This ensures that the machine will be regularly maintained by our service personnel and also ensures the supply of necessary wear and spare parts without long delivery times.</p>

1.9 Product monitoring

The company ERME AG monitors its machines up to and after delivery.

Therefore, please provide us with the following information:

- Any accidents that have occurred;
- Problems that have occurred when using the machine;
- Malfunctions that occur during specific operational situations;
- Experiences that could be important for other users.

Contact data (see Legal notice page 2)

2 Safety

2.1 General information

This chapter provides important information about all safety aspects to ensure the optimum protection of personnel as well as safe and smooth operation.

Non-compliance with the safety instructions and handling instructions specified in these operating instructions may result in significant hazards.

- 1 Make sure to observe the warning messages and instructions specified in the operating instructions.

2.2 Intended use

The shrinking tank is only intended for shrinking vacuum-packaged products in the hot water bath. The machine must not be used in electrostatic discharge-protected (ESD) units.

The machine may only be used within the technical specifications and under the operating conditions defined by the manufacturer.

Any other use beyond this scope is not considered as the intended use.

The permissible values specified in the "Technical data [► 24]" section must be observed.

2.2.1 Foreseeable misuse

Any use for purposes other than that specified above is not intended.

The operator solely bears the risk of unintended use or misuse.

Misuse occurs, for example, if

- The machine is not used for its intended purpose.
- The information provided in these operating instructions is not strictly observed.
- Modifications are made to the machine.
- The machine is used in a potentially explosive area.
- The machine is used in electrostatic discharge-protected (ESD) departments.
- Aggressive, combustible liquids, such as petroleum, benzol, benzene, (explosive vapours!) as well as infectious substances, living beings and material whose processing violates laws or social standards are packaged.

2.3 Basic safety instructions

The machine is built according to the current directives, the technological state-of-the-art and the established safety rules and regulations.

Hazards and adverse effects may, however, occur when operating the machine:

- To life and limb of the user or third parties
- To life and limb of the maintenance personnel
- To the machine itself
- To other equipment

Knowledge of the safety and user instructions set out in these instructions provides the basis for safe handling and smooth operation of the machine.

Set up the machine where it is out of the reach of children.

Regularly clean the machine.

Only have the service and repair work performed by the ERME customer service department or an authorised dealer.

2.4 Special dangers / residual risks

2.4.1 Danger due to electrical current

There is a risk of death when making contact with lines or components that carry current.

- Do not use the machine if electrical lines, plugs or the insulating housing are damaged. Perform checks according to the intervals for recurring tests/inspections specified in the operating instructions.
- Work on electrical equipment must only be carried out by qualified electricians or personnel under the guidance and supervision of a qualified electrician in accordance with electrical engineering regulations.
- Defects identified on the electrical components/equipment must be corrected immediately. If there is an acute danger up until that point, the machine, component or equipment must not be used in a defective condition.
- Machine parts on which inspection, maintenance and repair work are performed — if required — must be de-energised. First check that parts that have been disconnected from the power are free of voltage, then earth and short circuit them and isolate adjacent live parts.
- If work is required on live parts, involve a second person who can disconnect the main power switch in case of an emergency. Block off the work area with a red and white security chain and a warning sign. Only use insulated tools.

2.4.2 Risk of scalding

There is a risk of scalding by hot water or water vapour when the machine is operating.

- Avoid contact with hot water and vapour.

2.5 Emissions

2.5.1 Noise emission

Refer to the technical data for the machine's noise emission (see "Technical data [▶ 24]").

To evaluate the overall noise level at the machine's operating site, observe the local noise control regulations and measure the noise if necessary.

2.6 The operator's responsibility

When using the machine in the commercial sector, the operator is subject to the legal obligations on occupational safety.

In addition to the occupational safety instructions provided in these operating instructions, the safety, accident prevention and environmental protection regulations applicable for the location where the machine is operated must be observed.

The operator must

- obtain information about the applicable occupational safety regulations and carry out a risk assessment to identify additional dangers, which arise due to the special working conditions at the machine's operating site. This assessment must be implemented in the form of operating instructions for the machine.
- check during the entire operating time of the machine whether the operating instructions prepared by the operator correspond with the current status of the regulations, and adapt them as necessary.
- secure dangerous areas that are created between the machine and other equipment provided by the customer.
- clearly regulate and define the responsibilities for installation, operation, maintenance and cleaning.
- define the machine operator's responsibility and authorise it to reject instructions from third parties that are detrimental to safety.
- ensure that all personnel who handle the machine have read and understood the operating instructions.
In addition, it must also train the personnel at regular intervals and notify them of the dangers.
- ensure that these operating instructions and all other applicable regulations are readily available to the operating and maintenance personnel.
- regularly check that the personnel are working in a safe manner while remaining aware of the dangers in compliance with these operating instructions.
- provide the personnel with the required personal protective equipment.
- ensure that hearing protection is worn if the permissible noise level (85 dB(A)) is exceeded at the operating site.

The operator is also responsible for ensuring that the machine is in perfect working order. The following therefore applies:

- The operator must ensure that the cleaning and maintenance intervals defined in these operating instructions are observed.
- The operator must have all safety equipment regularly checked for proper functioning and completeness.

2.7 Personnel requirements

2.7.1 Personnel qualifications

Improper handling can result in significant personal injuries and material damages.

- Have all activities performed by appropriately qualified personnel only.

The following qualifications for various areas of activities are specified in these operating instructions:

Instructed person

- The instructed person has been trained using instructions provided by the operator about the work assigned to him/her and the possible hazards in case of improper behaviour.

Specialised personnel

- The specialised personnel can, as a result of his/her technical training, knowledge and experiences as well as knowledge of the relevant regulations, perform the work to which he/she has been assigned and independently identify and avoid possible hazards.

Qualified electrician

- can, as a result of his/her technical training, knowledge and experience as well as knowledge of the relevant standards and regulations, perform work on electrical machines and independently identify and avoid possible hazards.

The qualified electrician is trained for the particular operation site where he/she works and knows the relevant standards and regulations.

Only persons who can be expected to reliably perform their work are permitted to work as operating personnel. Persons whose responsiveness is impaired, e.g. by drugs, alcohol or medicines, are not permitted.

Personnel who are yet to be trained, taught, instructed or are undergoing general training may only work on the machine under constant supervision of an experienced person.

i	NOTE
	Observe the age and occupational-specific regulations that apply at the operating site when selecting personnel.


2.7.2 Unauthorised personnel

Unauthorised personnel who do not fulfil the described requirements are not aware of the dangers in the work area.

- Keep unauthorised personnel away from the work area.
- In case of doubt, address the personnel and direct them out of the work area.
- Stop working as long as unauthorised personnel are in the work area.

2.7.3 Instruction

The personnel must be regularly instructed by the operator.





	NOTE
	For better tracking, document the performance of the training programs and have the participants confirm their participation with their signature.

2.8 Personal protective equipment

Personal protective equipment must be worn when performing work in order to minimise health risks.



- When performing the work, always wear the protective equipment necessary for the respective work.
- Immediately replace worn or defective protective equipment.
- Observe the signs in the work area concerning the use of personal protective equipment.

Wear the following protective equipment for all work:

	Close-fitting protective work clothing with low tear strength.
	Work gloves to protect against injuries.
	Protective footwear with steel caps and puncture and oil-resistant safety soles.
	Safety goggles for protecting the eyes against flying parts and fluids.

Special protective equipment is also required when performing specific types of work. This is indicated separately in the individual chapters.

Also wear the following protective equipment for special work:

	Helmet to protect the head against falling objects.
	Hearing protection in environments with noise emissions > 80 dB(A).

2.9 Safety equipment on the machine

Missing or non-functioning safety equipment can result in severe injuries.

- Only operate the machine if all the safety equipment is fitted and functional.
- Prior to starting work, check whether the safety equipment is functional and installed correctly.
- Never disable the safety equipment.
- Make sure that the safety equipment is always freely accessible.

The machine was manufactured in accordance with the legal regulations that apply in the European Union.

The machine, however, may pose dangers if it is not operated correctly or in a proper condition. Dangerous areas that cannot be eliminated by design are fitted with safety equipment and, where necessary, marked by warning signs on the machine and by corresponding safety instructions in the operating instructions.

The machine is equipped with the following safety equipment:

- Warning signs
- The heating system is switched off if there is not enough water.

2.10 Signage on the machine

Stickers and signs can become dirty or otherwise unrecognisable over time.

- Always keep all safety, warning and operating instructions in an easily readable condition.
- Immediately replace damaged signs or stickers.

The following symbols and signs are located on the machine. They refer to the immediate surroundings where they are attached.

- Type plate



Fig. 1: Type plate



Fig. 2: Warning plate

- Warning sign on the machine rear:
unplug the mains plug before opening the device.



Fig. 3: Risk of crushing

- Warning on the lever assembly (behind the protective cladding):
risk of crushing

2.11 Conversions prohibited

Any conversions and modifications on the machine, in particular, removing or manipulating the safety equipment are prohibited.

The manufacturer no longer assumes any liability or provides any warranty if unauthorised conversions or modifications are made to the machine.

The electromagnetic behaviour of the machine can be adversely affected by additions or modifications of any kind. Therefore, do not make any changes or additions to the machine without consulting or the written consent of the manufacturer.

Opening the housing is prohibited.

2.12 Spare parts

Risk of injury due to incorrect or faulty spare parts.

Incorrect or faulty spare parts can result in damage to and malfunctions or total failure of the machine and endanger safety.

- Only use original spare parts or spare parts approved by the manufacturer.

The manufacturer assumes no liability for damages resulting from the use of spare or wear parts that have not been approved by the manufacturer.

2.13 Auxiliary and operating materials

Risk of injury due to impermissible auxiliary and operating materials.

Impermissible auxiliary and operating materials can result in damage to and malfunctions or total failure of the machine and endanger safety.

- Only use auxiliary and operating materials that have been specified and approved by the manufacturer.

The manufacturer assumes no liability for damage resulting from the use of auxiliary and operating materials that have not been approved by the manufacturer.

2.14 Accident prevention measures

2.14.1 Preventative measures

- 1 Always be prepared for accidents or fires.
- 2 Keep first aid equipment (first aid kit, blankets, etc.) and fire extinguishers readily available.
- 3 Familiarise personnel with accident signaling, first aid and rescue equipment.
- 4 Keep the access roads clear for the rescue vehicles.

2.14.2 Response measures in case of accidents

- 1 Immediately shut down the machine.
- 2 Initiate first aid measures.
- 3 Rescue people from the danger zone.
- 4 Notify the responsible personnel at the operation site.
- 5 Alert the emergency services.
- 6 Clear the access roads for the rescue vehicles.

2.15 Environmental protection

The incorrect handling of environmentally hazardous substances, in particular incorrect disposal, can cause significant damage to the environment.

- Observe the **disposal instructions** [▶ 43].
- If environmentally hazardous substances are accidentally released into the environment, take suitable measures immediately. In case of doubt, notify the responsible local authorities of the damage.

3 Technical data

3.1 Machine data

Model	ST100	Unit
Machine dimensions (width x depth x height)	700 x 670 x 1450	mm
Lifting carriage contact surface (width x depth)	600 x 400	mm
Total weight when empty	110	kg
Filling quantity	100	l
Immersion depth	250	mm
Working height	840	mm
Power supply	400	V
	Three-phase	
Frequency	50	Hz
Nominal power (with heating)	9.5	kW
Mains fuse	16	A
Noise emission	<60	db(A)

3.2 Ambient conditions

Information	Value	Unit
Operating ambient temperature range	+10 ... +30	°C
Max. operating humidity (non-condensing)	80	%
Max. altitude above sea level	2000	m

3.3 Type plate



The type plate is located on the rear of the machine and contains the following information:

- Manufacturer address
- CE label
- Model designation
- Year of manufacture
- Mains connection
- Power
- Current
- Serial no.

Fig. 4: Type plate

4 Structure and function

4.1 Functional description

The shrinking tank is only intended for shrinking vacuum-packaged products in the hot water bath. The machine must not be used in electrostatic discharge-protected (ESD) units.

The products sealed in vacuum bags are set down on an immersion grate. Afterwards, the immersion grate is lowered into hot water. The hot water shrinks the foil material. The foil wraps around the packaged product.

4.2 Machine overview

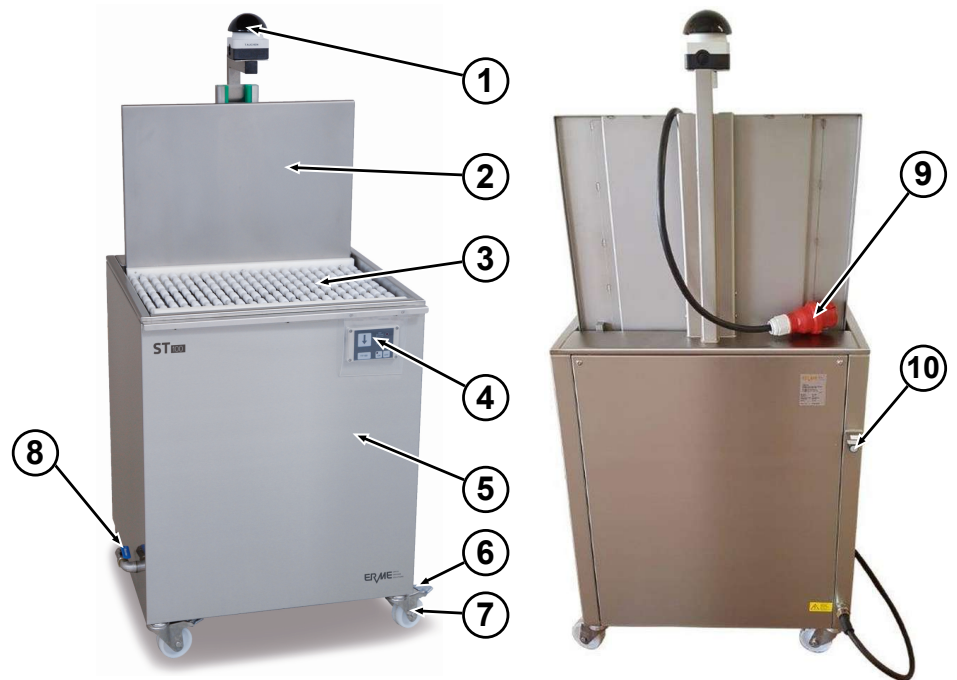


Fig. 5: Machine front and rear

1 "Immerse" button	2 Lid
3 Immersion grate	4 Control panel
5 Machine housing	6 Locking brake
7 Transport rollers	8 Shut-off valve
9 Mains plug	10 Temperature setting knob

4.3 Control panel

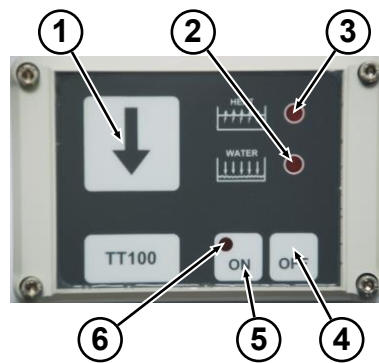






Fig. 6: Controller CP-E5

Item	Controller	Function
1	"Immersion" button	Lowers the immersion grate.
2	"Low water level" indicator	Lights up when the heating system is switched on.
3	"Heating" indicator	Lights up when the water level is too low.
4	"OFF" button	Switches the machine controller off.
5	"ON" button	Switches the machine controller on.
6	"ON" indicator	Lights up when the controller is switched on.

5 Transport

5.1 Safety instructions

	 WARNING
	<p>Danger due to falling loads!</p> <p>Falling parts or parts that are moving in an uncontrolled manner can result in serious injuries.</p> <ul style="list-style-type: none"> • Do not walk under or in front of moving loads.

	 WARNING
	<p>Risk of injury!</p> <p>There is a risk of injury when lifting heavy loads.</p> <ul style="list-style-type: none"> • Heavy loads must only be lifted with several people or suitable lifting equipment.

- Observe the information about the designated lifting points.
- Do not lift the unit on protruding machine parts or on eyelets of fitted components. Check that the lifting equipment is securely attached.
- Only use approved lifting gear and fastening equipment with sufficient load-bearing capacity.
- Do not use any damaged ropes and/or belts.
- Do not attach rope and straps on sharp edges and corners. Do not knot or twist them.

Eccentric centre of gravity

Packages may have an eccentric centre of gravity. If the package is fastened incorrectly, it may tilt and cause life-threatening injuries.

- Observe the markings on the packages.
- Attach the crane hook so that it is located at the centre of the gravity.

Incorrect transport

Improper transportation may result in considerable material damage.

- Prior to each transport, make sure that the machine is correctly packaged.
- Do not tilt the machine during transport and only transport the machine horizontally.
- When unloading delivered packages and when transporting them on the premises, proceed with caution and observe the symbols and instructions on the packaging.
- Do not remove the packaging until shortly before installation.

5.2 Personnel qualifications

Transport, packaging and storage may only be carried out by personnel who

- are authorised to do so due to their training and qualifications.
- are tasked to do so by the machine operator.

5.3 Transport inspection

After receiving the machine:

- 1 Refer to the order papers for the scope of machine delivery and compare them with the delivery note.
- 2 Check that the delivery is complete using the delivery note.
- 3 Check the delivery for visible damage.
- 4 Report an incomplete or damaged delivery to the dealer/supplier immediately.

5.4 Packaging

The used packaging materials are recyclable. Dispose of packaging materials that are no longer necessary according to the local applicable regulations.

6 Installation

6.1 Safety instructions



⚠ DANGER

Danger due to electrical current.

There is a risk of death when making contact with lines or components that carry current.

- Work on electrical equipment must only be carried out by qualified electricians or personnel under the guidance and supervision of a qualified electrician in accordance with electrical engineering regulations.

6.2 Electrical connection

Observe the following instructions when establishing the electrical connection to ensure safe and smooth machine operation:

- Check that the existing mains voltage matches the voltage specified on the type plate. This data must match to ensure that the machine is not damaged.
- Refer to the **Technical data** [▶ 24] chapter for the fuse necessary for operating the machine.
- Make sure that the power cable is not damaged and not routed over sharp edges.
- The connection cable must not be tightly stretched, kinked, crushed or knotted or come into contact with hot surfaces.
- The electrical safety of the machine is only ensured if it is connected to a protective conductor system (residual current circuit breaker with a trip current of 30 mA) that has been installed in accordance with the applicable regulations. The machine must not be powered from a socket without a protective conductor. In case of doubt, the installation must be checked by a qualified electrician. The manufacturer accepts no responsibility for damage caused by a missing or disconnected protective conductor.
- Install the connection cable so that it does not create a tripping hazard.
- Prior to the initial commissioning, have the machine's direction of rotation checked and if necessary, adjusted by a qualified electrician.

Since the immersion tank is supplied as an alternating current model, it must be ensured that the machine's direction of rotation is correct. If the direction or rotation is not correct, the immersion tank may have a long after-run period under load (i.e. the grate moves back into the water after submersion). If the direction of rotation is incorrect, the direction of rotation can be changed by switching the two power cables in the mains plug (reversing the polarity).

- 1 Plug in the mains plug (1) into the socket.



Fig. 7: Electrical connection

7 Control/operation

7.1 Safety instructions

Before operating the machine, make sure that

- the connection cable is routed so that it does not create a tripping hazard.
- the locking brakes on the transport rollers are closed.
- the function was checked.

7.2 Requirements for the installation site

The following requirements for the installation site must be met in order to ensure safe and smooth machine operation:

- Operate the machine on a solid level surface. The clearance to the walls and other objects must be at least 30 cm.
- The power socket must be easily accessible so that the mains connection can be quickly disconnected.
- The machine must not be operated or stored outside.
- When selecting the installation site, take the space requirements for the connections into consideration.
- The machine may only be operated if the locking brakes on the transport rollers are closed (pressed down).
- The machine must be set up in a well-ventilated room or equipped with a suitable extractor hood, which extracts the released water vapour and discharges it out of the room via a hose line so that the operator's health is not impaired.

7.3 Preparing the machine

Before using the machine, it must be filled with water.

Fill water into the machine from above

- 1 Close the shut-off valve.
- 2 Using a hose, fill the machine with water up to the maximum fill level (approx. 15 cm under the bath edge).

Filling water into the machine via the shut-off valve

- 3 Connect the water hose to the shut-off valve.
- 4 Open the shut-off valve.
- 5 Fill the machine with water up to the maximum fill level (approx. 15 cm under the bath edge).
- 6 Close the shut-off valve.



NOTE

- Make sure that the maximum filling capacity is not exceeded.
- Before the shrinking procedure, the heating phase can be shortened by filling water or hot water.

7.4 Operating the machine



⚠ WARNING

Risk of scalding!

There is a risk of scalding by hot water and water vapour when the machine is operating.

- Avoid contact with hot water and vapour.
- Water may leak during the immersion procedure. Make sure that no one remains in the danger zone.

1 Preparing the machine (see chapter [Preparing the machine](#) [▶ 34]).

2 Press the "ON" button.

- ⇒ The "ON" indicator lights up.
- ⇒ The "Low water level" indicator briefly lights up. This serves to test the indicator.
- ⇒ The "Heating" indicator lights up.
- ⇒ The water is heated to the water temperature (approx. 94 to 97°C) necessary for the shrinking procedure.
- ⇒ The "Heating" indicator goes out.



NOTE

- If the water temperature is below a specific value, the heating system is switched on again and the "Heating" indicator lights up. As a result, the operation must not be interrupted.

3 Place the product on the immersion grate.

4 Press the "Immersion" button on the control panel or press the "Immersion" button.

- ⇒ The immersion grate is lowered into the hot water.

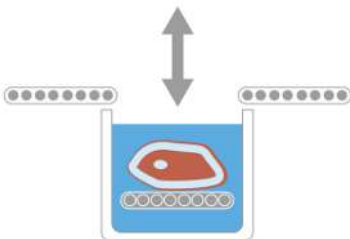


Fig. 8: Lowering the product



WARNING

Risk of scalding!

The shrunk vacuum packaging is very hot.

- When removing the vacuum packaging, wear protective gloves or let the vacuum packaging cool down.



Fig. 9: Finished product (example figure)

5 After the immersion grate is completely moved out of the water bath, remove the shrunk vacuum packaging.



NOTE

- If the vacuum bag is not ideally shrunk, adjust the temperature setting, see **Adjusting the temperature setting** [▶ 36].

6 Press the "OFF" button to switch off the machine.

⇒ The "ON" indicator goes out.



NOTE

- Regularly check the water level and if necessary, replenish the water, see chapter **Preparing the machine** [▶ 34].

7.5 Adjusting the temperature setting



Fig. 10: Temperature setting adjustment wheel

If the vacuum bag is not ideally shrunk, the water temperature may be too high or too low for the shrink bag being used.

The pre-set temperature can be changed in a range of $\pm 10^{\circ}\text{C}$ using the adjustment wheel at the machine's rear.




- 1 Turn the adjustment wheel clockwise to increase the target temperature.
- 2 Turn the adjustment wheel anti-clockwise to lower the target temperature.

7.6 Activities after use

- 1 Let the machine cool down.
- 2 To prevent the formation of germs, drain the water.
- 3 Clean the machine (see chapter **Cleaning the machine** [▶ 40]).

8 Troubleshooting

8.1 Safety instructions

	<p style="text-align: center;">⚠ DANGER</p> <p>Danger due to electrical current.</p> <p>There is a risk of death when making contact with lines or components that carry current.</p> <ul style="list-style-type: none">• Work on electrical equipment must only be carried out by a qualified electrician in accordance with electrical engineering regulations.
	<p style="text-align: center;">⚠ WARNING</p> <p>Risk of scalding!</p> <p>There is a risk of scalding by hot water and water vapour when the machine is operating.</p> <ul style="list-style-type: none">• Avoid contact with hot water and vapour.• Let hot components cool down before starting work.
	<p style="text-align: center;">NOTICE</p> <p>Material damage due to incorrect troubleshooting.</p> <p>If pending faults are ignored or not correctly rectified, it can result in damage to the machine.</p> <ul style="list-style-type: none">• In case of active faults, shut down the machine.• Properly rectify the fault or have it rectified by appropriate specialists.

8.2 Instructions on troubleshooting


i	NOTE
	<p>If the measures listed here do not rectify the fault, contact the customer service department of the company ERME AG.</p> <p>See chapter "Customer service [▶ 12]".</p>


8.3 Localising faults

Problem	Possible causes	Remedy
The "ON" indicator does not light up.	<ul style="list-style-type: none"> – Controller is not switched on. – Circuit breaker in the power distribution unit has tripped. 	<ul style="list-style-type: none"> – Switch on controller. – Switch the circuit breaker back on.
The machine cannot be switched off or back on immediately.	<ul style="list-style-type: none"> – No water is filled in the machine or the water level is too low. 	<ul style="list-style-type: none"> – Fill water into the machine.
Poor quality	<ul style="list-style-type: none"> – The temperature setting is not suitable for the vacuum bag being used 	<ul style="list-style-type: none"> – For information on adjusting the temperature setting, see Adjusting the temperature setting [▶ 36].
The immersion grate does not remain in the top position after the shrinking procedure is complete.	<ul style="list-style-type: none"> – The direction of rotation does not match the motor. 	<ul style="list-style-type: none"> – Have the direction of rotation changed by a qualified electrician.
Vacuum bag is under the immersion grate.		<ul style="list-style-type: none"> – Loosen the retaining screw at the machine's rear, fold up the immersion grate and remove the vacuum bag.

9 Cleaning

9.1 Safety instructions

	⚠ WARNING
	<p>Risk of scalding!</p> <p>There is a risk of scalding by hot water and water vapour when the machine is operating.</p> <ul style="list-style-type: none">• Avoid contact with hot water and vapour.• Let hot components cool down before starting work.

	NOTICE
	<p>Possible material damage during cleaning.</p> <p>Incorrect cleaning can result in material damage to the machine.</p> <ul style="list-style-type: none">• Do not clean the machine with a high-pressure or powerful water jet.

9.2 Personnel qualifications


The machine may only be cleaned by personnel who

- have received the corresponding training.
- are tasked to do so by the machine operator.

9.3 Cleaning the machine

Proceed as follows for cleaning:

- 1 Unplug the mains plug.
- 2 Let the surfaces to be cleaned cool down.
- 3 Remove the coarse dirt and then wipe down with neutral, food-safe cleaning agents and a soft cloth.

	NOTE
	<ul style="list-style-type: none">• Do not use aggressive cleaning agents when cleaning the machine.• If you detect damage, notify the responsible personnel.

Decalcifying the machine

The heating rods and the immersion tub must be decalcified at regular intervals. To do this, use a standard decalcifier. After decalcifying, clean the immersion tub thoroughly with clear water.



10 Maintenance

10.1 Regular maintenance work

The machine is maintenance-free.

11 Decommissioning and disposal

11.1 Safety instructions

	<p style="text-align: center;">⚠ DANGER</p> <p>Risk of death due to electrical current and other energies.</p> <p>Decommissioning/disassembling the machine may result in severe injuries or death if the power supply is not switched off or due to stored energies.</p> <ul style="list-style-type: none">• Prior to disassembling the machine, disconnect it from any external power supplies.• Depressurise all devices that are under pressure.• Dissipate any other residual energies.
	<p style="text-align: center;">⚠ WARNING</p> <p>Risk of injury due to improper machine disassembly.</p> <p>Improperly disassembling the machine may result in serious injuries.</p> <ul style="list-style-type: none">• The machine must only be disassembled and dismantled by appropriately trained specialists in compliance with the local safety regulations.• Prior to starting work, ensure sufficient space for disassembly.• Make sure the work area is orderly and clean. Loose components and tools that are stacked on each other or lying around are potential sources of accidents.• Correctly disassemble the components.• Secure the components so that they do not fall down or over.

11.2 Personnel qualifications

The machine may only be decommissioned and disposed of by personnel who

- are authorised to do so due to their training and qualifications.
- are tasked to do so by the machine operator.

11.3 Decommissioning

11.3.1 Temporary decommissioning

- 1 Completely drain the water.
- 2 Switch off the machine and unplug the mains plug.
- 3 If the machine must be decommissioned for a longer period of time, apply anti-corrosion measures and regularly check the anti-corrosion agent.

11.3.2 Final decommissioning / disassembly

- 1 Perform the work steps set out in the "Temporary decommissioning" section.
- 2 Disconnect the machine from any external power supplies.
- 3 Remove all connection hoses/pipes.
- 4 Properly dispose of material, components, lubricating and auxiliary materials.

11.4 Disposal

Perform the following steps to ensure proper disposal after disassembly:

- Separate metals and plastics and take them to authorised scrapping or recycling facilities.
- Dispose of problematic substances that can no longer be reused, such as lubricants and cleaning agents or electrical components, according to the local applicable regulations.



NOTICE

Environmental damage due to improper disposal!

Incorrect disposal may result in environmental damage.

- Observe the manufacturer's specifications for the lubricants and auxiliary materials to ensure environmentally-friendly disposal.

12 Declaration of Conformity

in accordance to the Machinery Directive 2006/42/EC, Annex II 1A

Name of the manufacturer

ERME AG
SWISS VACUUM SOLUTIONS

Manufacturer address

Grossmattstrasse 25
CH - 8964 Rudolfstetten

Product

We declare that the product:

Shrinking tank

Type

Floor model (ST100)

Relevant EU directives

complies with the relevant regulations:

EC Directive as amended by 2006/42/EC
EMC Directive as amended by 2014/30/EU

Applied harmonised standards:

DIN EN ISO 12100: 03/2011:

Safety of machinery — General principles for design — Risk assessment and risk reduction

DIN EN 60204-1: 06/2007:

Safety of machinery — Electrical equipment of machines — Part 1: General requirements

EN ISO 14159:

Safety of machinery — Hygiene requirements for the design of machinery

Authorised representative for the compilation of technical documents:

ERME AG

Technical documentation is available.

The operating instructions for the machine are available.

- In the original version
- In the national language of the user

It is assumed that the product will only be operated in accordance with its intended use. Refer to the technical documentation for information about the intended use.

Rudolfstetten, 1 October 2017

Signature



Thomas Meyer