

Translation of the original instructions

Vacuum packaging machines Tray sealer machines Floor models (TS240, TS340)



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

ERME AG SWISS VACUUM SOLUTIONS

Grossmattstrasse 25
CH-8964 Rudolfstetten

T +41 (0)56 633 74 18
F +41 (0)56 633 75 18

erme.ch
info@erme.ch

Revision status: 1.0
Date of issue: März 2019

This manual is protected by copyright and is exclusively for internal purposes. Transfer of this manual to third parties, reproductions in any manner and form – in full or in part – as well as exploitation and/or communication of content without written permission from the manufacturer, except for internal purposes, is prohibited.

Table of contents

1	General information.....	6
1.1	Target group.....	6
1.2	Information about these instructions.....	7
1.2.1	Information about the content.....	7
1.2.2	Instructions for use.....	7
1.2.3	Used symbols.....	9
1.2.4	Structure of the warning messages.....	11
1.3	Additional sources of information.....	13
1.4	Limitations of liability.....	13
1.5	Copyright protection.....	14
1.6	Warranty provisions.....	14
1.7	Customer service.....	14
1.8	Product monitoring.....	14
2	Safety.....	15
2.1	General information.....	15
2.2	Intended use.....	15
2.2.1	Foreseeable misuse.....	16
2.3	Basic safety instructions.....	16
2.4	Special dangers / residual risks.....	17
2.4.1	Danger due to electrical current.....	17
2.4.2	Danger due to hot surfaces.....	17
2.4.3	Danger due to pressurised components.....	18
2.4.4	Danger due to oxygen-displacing gases.....	18
2.4.5	Danger of pulling in and crushing.....	18
2.5	Noise emission.....	19
2.6	The operator's responsibility.....	19
2.7	Personnel requirements.....	20
2.7.1	Personnel qualifications.....	20
2.7.2	Unauthorised personnel.....	21
2.7.3	Instruction.....	21
2.8	Personal protective equipment.....	22
2.9	Safety equipment on the machine.....	22
2.10	Signage on the machine.....	23
2.11	Conversions prohibited.....	24
2.12	Spare parts.....	24
2.13	Auxiliary and operating materials.....	24
2.14	Accident prevention measures.....	25
2.14.1	Preventative measures.....	25
2.14.2	Response measures in case of accidents.....	25
3	Technical data.....	26

3.1	Machine data	26
3.2	Ambient conditions.....	26
3.3	Food gas.....	26
3.4	Type plate.....	27
4	Structure and function	28
4.1	Functional description.....	28
4.2	Machine overview.....	29
4.3	Operating modes.....	29
4.4	Control panel.....	30
4.5	Digital thermostat.....	30
4.6	Description of the user interface.....	31
4.6.1	Structure of the screen display.....	31
4.6.2	Description of the menu pages	32
4.7	Options	42
5	Transport.....	43
5.1	Safety instructions.....	43
5.2	Personnel qualifications	44
5.3	Transport inspection	44
5.4	Packaging.....	44
6	Installation	45
6.1	Safety instructions.....	45
6.2	Electrical connection.....	46
6.3	Compressed air connection.....	47
6.4	Connection for inert gas (option).....	47
6.5	Venting the compressor (with installed compressor).....	48
7	Control/operation	49
7.1	Safety instructions.....	49
7.2	Requirements for the installation site.....	49
7.3	Information about packaged goods.....	50
7.3.1	Instructions on storage times.....	50
7.3.2	Packaging liquids.....	51
7.4	Insert film reel.....	51
7.5	Operating cycle, vacuum packaging mode with protective atmosphere.....	52
7.6	Operating cycle, packaging mode with thermal sealing	52
7.7	Preparing the machine for injection of inert gas	53
7.8	Switching on the unit.....	54
7.9	Switching off the unit.....	54
7.10	Shut-down in an emergency.....	54
7.11	Switching on again after an emergency.....	54

7.12	Preparing the machine	55
7.13	Set sealing temperature.....	55
7.14	Starting the vacuuming process.....	56
7.15	Activities after use.....	56
8	Troubleshooting.....	57
8.1	Safety instructions	57
8.2	Personnel qualifications	58
8.3	Instructions on troubleshooting.....	58
8.4	Fault displays	58
8.5	Compressor troubleshooting.....	60
9	Cleaning	61
9.1	Safety instructions	61
9.2	Personnel qualifications	62
9.3	Cleaning the machine	62
10	Maintenance	63
10.1	Safety instructions	63
10.2	Personnel qualifications	64
10.3	Maintenance overview	64
10.4	Service vacuum pump	65
10.5	Service compressor.....	65
11	Decommissioning and disposal	66
11.1	Safety instructions	66
11.2	Personnel qualifications	67
11.3	Decommissioning.....	67
11.3.1	Temporary decommissioning.....	67
11.3.2	Final decommissioning / disassembly.....	67
11.4	Disposal.....	68
12	Declaration of Conformity.....	69

1 General information

1.1 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 operator with performing tests and maintenance work.

1.2 Information about these instructions

1.2.1 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.

i	NOTE
	<ul style="list-style-type: none"> ▶ Observe the information — in particular, the warning messages — contained therein.

1.2.2 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 \[▶ 7\]](#))




1.2.3 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:




General symbols

Symbol	Meaning
	General information and helpful tips on handling
	Special information on working safely
	Information about possible material damage


Warning symbols

Symbol	Meaning
	General warning message
	Danger due to electricity
	Danger due to hot surfaces
	Danger of pulling in
	Danger of hand injuries!
	Risk of crushing!

Mandatory signs

Symbol	Meaning
	Observe the operating instructions
	Wear protective gloves
	Wear foot protection

Prohibition signs


Symbol	Meaning
	Do not remove protective facilities

1.2.4 Structure of the warning messages

The warning messages in these operating instructions are introduced by signal words that express the extent of the hazard.


The warning symbol also indicates the nature of the hazard.

The following warning messages are used in these operating instructions:

	⚠ DANGER
	<p>Risk to life!</p> <p>Consequences of non-compliance...</p> <p>▶ Information about avoidance</p>


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

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

	⚠ WARNING
	<p>Risk of injury!</p> <p>Consequences of non-compliance...</p> <p>▶ Information about avoidance</p>

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.

	⚠ CAUTION
	<p>Personal injuries due to...</p> <p>Consequences of non-compliance...</p> <p>▶ Information about avoidance</p>


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.

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

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.

	SAFETY INSTRUCTIONS
	<p>Working safely during...!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none"> ▶ Information on working safely

This notice contains important information and information on working safely during the following activity steps. Follow the instructions in this notice to avoid accidents and injuries.

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

A notice identifies additional information that is important for further processing or which makes the described work step easier.

1.3 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

i	NOTE
	<p>► Observe the information — in particular, the safety instructions — contained therein.</p>

1.4 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.

1.5 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.

1.6 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.

1.7 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)

i	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>

1.8 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.

In addition to the general safety instructions provided in this chapter, further safety instructions that are relevant to the corresponding chapter are listed in each activity chapter.

Hazards that can occur in a specific activity step are described prior to the activity step.

Knowledge of the safety and user instructions set out in these operating instructions provides the basis for safe handling and trouble-free operation of this machine.

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

	SAFETY INSTRUCTIONS
	<ul style="list-style-type: none">▶ Always observe the warnings and instructions listed here.▶ Always store the operating instructions at the operating location of the machine.▶ The operating instructions must be freely accessible to operators and maintenance personnel at all times.

2.2 Intended use

The machine is exclusively intended for vacuum sealing food containers.

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** [▶ 26]" 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.

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.

Regularly clean the machine.

Only have 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 Danger due to hot surfaces

Hot surfaces can cause serious injuries.

The machine reaches high temperatures during operation.

- Take safety precautions against fires, burns and overheating.
- Wear personal protective equipment.
- After stopping operation, let the machine sufficiently cool down.

2.4.3 Danger due to pressurised components

Serious injuries may occur due to components under high pressure.

- Prior to maintenance and repair work, depressurise all machine components that are under pressure (take the pressure accumulator into consideration here).
- Regularly check the pressurised components.
- Regularly replace hose lines during preventative maintenance, even if no damage is detected.
- Observe the warning messages and instructions specified in the operating instructions.
- Wear personal protective equipment when working on the machine.

2.4.4 Danger due to oxygen-displacing gases

Risk of suffocation due to high inert gas concentrations.

Higher concentrations of inert gas can result in suffocation, since they displace the atmospheric oxygen.

- Only operate the machine at a well-ventilated location.
If necessary, install a device for monitoring the ambient air.
- Keep the air slots and openings free and clean.
- Make sure that the inert gas equipment is regularly checked for leaks.
- To ensure safe handling, observe the safety data sheet for the inert gas.

2.4.5 Danger of pulling in and crushing

There is a danger of pulling in and crushing due to moving mechanical parts.

- Observe the warning signs.
- Never reach into moving parts.
- Do not remove any protective facilities.

2.5 Noise emission

Refer to the technical data for the machine's noise emission (see "Technical data [► 26]").

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.

Skilled 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 electricians

- 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.

The machine may be used by persons with limited physical, sensory or mental capabilities or with insufficient experience if they are supervised or have been instructed in its safe use and have understood the associated dangers.

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.

i	<i>NOTE</i>
	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.
- Observe the signs in the work area concerning the use of personal protective equipment.
- Adhere to the safety requirements defined by the owner.

Wear the following protective equipment for special work:



Protective footwear with steel caps and puncture-resistant safety soles.



Work gloves to protect against injuries.

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
- Safety and pressure relief valves
- The motors are protected with motor protection switches.
- Protective covers
- EMERGENCY STOP button on the control panel

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.



Fig. 1: Signage

1 CE sign	2 Observe the operating instructions
3 Avoid intaking flour and liquid products. Do not package hot dishes. Check the oil level and appearance each month! CHANGE THE OIL FREQUENTLY	4 Check the compressor oil level frequently and refill as required
5 DO NOT REMOVE PROTECTION	6 Wear protective gloves
7 DANGEROUS TEMPERATURE	8 VOLTAGE
9 ATTENTION, BLADES	10 ATTENTION, RISK OF CRUSHING HANDS
11 Labelling gas 1 and gas 2	

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.

3 Technical data

3.1 Machine data

Model	TS-240	TS-340 Unit
Standard tool/tray format	1-fold 204 x 147	2-fold 204 x 147 mm
Tray depth	8 / 14 / 25 / 32 / 47 / 60 / 85	8 / 14 / 25 / 32 / 47 / 60 / 85 mm
Machine dimensions (width x depth x height)	435 x 730 x 650	450 x 800 x 1290 mm
Total weight	60	125 kg
Power supply	230	230 V
Frequency	50	50 Hz
Suction power of vacuum pump	6	20 m ³ /h
Final pressure	1/99.9	1/99.9 mbar/%
Max. film reel width	250	340 mm
Max. film reel diameter	210	220 mm
Power consumption	1.2	2.2 kW
Mains fuse	10	10 A
Noise emission	<70	<70 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 Food gas

Three types of pure food gas with the following properties can be used:

- Nitrogen (N₂):
Does not mix with the product and therefore does not affect its taste.
- Carbon dioxide (CO₂):
Mixes with the product and extends the product's shelf life.
- Oxygen (O₂):
Used to maintain the natural colouring of the product

These gases can be mixed with one another depending on the type of product to be preserved.

**NOTE**

For an optimal result, contact the manufacturers of these gases.

3.4 Type plate

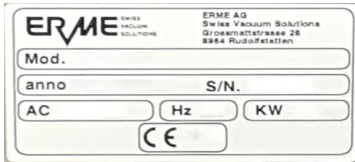


Fig. 2: Type plate

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

- Manufacturer address
- Model designation
- Year of manufacture
- Serial no.
- Input voltage
- Frequency
- Power
- CE label

4 Structure and function

4.1 Functional description

The machine is exclusively intended for vacuum sealing food containers.

The mould box with the positioned container is inserted up to the centre of the bell. The film required for the packaging process is unwound from a film reel and guided through the machine.

At the start of the device cycle, the bell closes the chamber and the pump generates a vacuum by pumping the air out of the chamber and the tray with the food to be preserved. An inert gas is then injected. The tray with the food to be packaged is sealed. If the machine is equipped accordingly, the film is stamped at the edge of the tray. The air now flows into the chamber again and returns the atmospheric pressure to the value of the exterior environment (atmosphere).

4.2 Machine overview



Fig. 3: Machine front

1 Control panel	2 Film reel
3 Film reel holder	4 Tool
5 Drawer	6 Machine housing
7 Transport rollers	

4.3 Operating modes

The machine can be operated in the following operating modes:

- Vacuum packaging mode with protective atmosphere
- Packaging mode with thermal sealing (sealing only)

4.4 Control panel

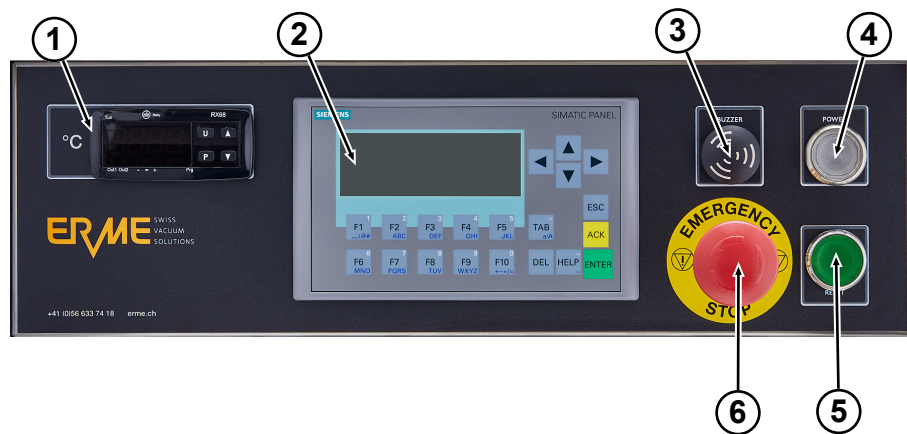


Fig. 4: Control panel

1 Digital thermostat	2 PLC control system
3 Buzzer button	4 Main switch 0/1
5 Reset button	6 EMERGENCY STOP button

The control panel is used to display the various phases of the operating cycle and the respective progress. In the event of failure or malfunctions, the corresponding error message is output via the display along with the cause of the malfunction.

4.5 Digital thermostat

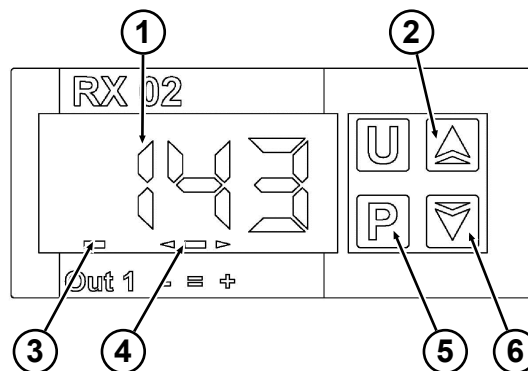


Fig. 5: Digital thermostat

1 Display	2 "UP" button Used to increase the temperature value
3 LED temperature indicator Lights up when the temperature of the sealing plate is lower than the set temperature.	4 LED temperature indicator Lights up when the temperature of the sealing plate corresponds to the set temperature.
5 "P" button Used to select and save temperature values.	6 "Down" button Used to reduce the temperature value.

4.6 Description of the user interface

4.6.1 Structure of the screen display

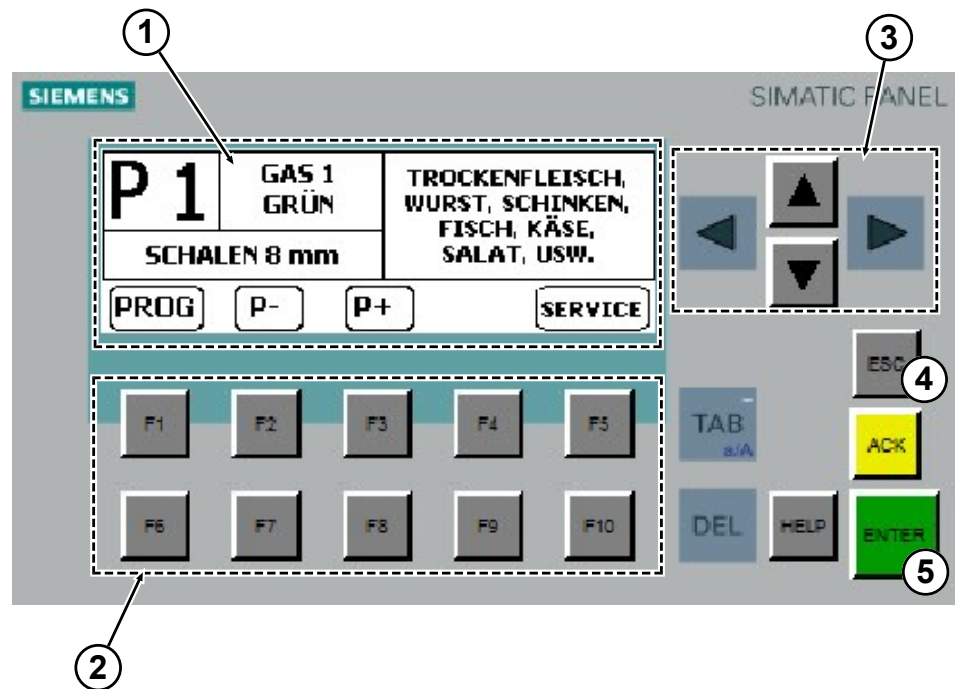


Fig. 6: Subdivision of the display area

No.	Element	Function
1	Display	Display with visualisation area for the content of the current page
2	Function buttons "F1" – "F10"	Function buttons for screen selection; input of alphanumerical characters
3	Buttons for cursor positioning	Buttons for positioning the cursor to change parameter values
4	"Esc" button	Button for cancelling value input
5	"Enter" button	Button for confirming the input values

4.6.2 Description of the menu pages

4.6.2.1 Programs

4.6.2.1.1 General

The machine is configured with 8 programs, P1 to P8.

Programs P1, P2, P3, P4, P5, P6 and P8 are used to edit the significant parameters that influence the packaging.

Program P7 is used for tray sealing.

i	NOTE
	Vacuum packaging in a modified atmosphere is not permitted with program P7.

The following parameter value abbreviations are used:

VAC	Percentage value that determines the volume of air to be extracted from the suction chamber
GAS	Percentage value that determines the volume of inert gas to be supplied to the suction chamber to compensate for the volume of air previously removed during the suction phase
SAL	Time (in seconds) required to seal the tray with the film

4.6.2.1.2 Program list

P1	GAS 1	DRIED MEAT, SAUSAGE, HAM, FISH, CHEESE, SALAD, ETC.
	GREEN	
TRAYS 8 mm		
P2	GAS 1	DRIED MEAT, SAUSAGE, HAM, FISH, CHEESE, SALAD, ETC.
	GREEN	
TRAYS 8 – 25 mm		
P3	GAS 1	DRIED MEAT, SAUSAGE, HAM, FISH, CHEESE, SALAD, ETC.
	GREEN	
TRAYS 32 – 85 mm		
P4	GAS 2	FRESH MEAT
	BLUE	
TRAYS 8 – 25 mm		
P5	GAS 2	FRESH MEAT
	BLUE	
TRAYS 32 – 85 mm		
P6	GAS 1	LIQUID PRODUCTS
	GREEN	
TRAYS 32 – 85 mm		
P7		SEALING ONLY
P8	GAS 2	SPECIAL PROGRAM
	BLUE	

4.6.2.1.3 Selecting a program and changing parameters

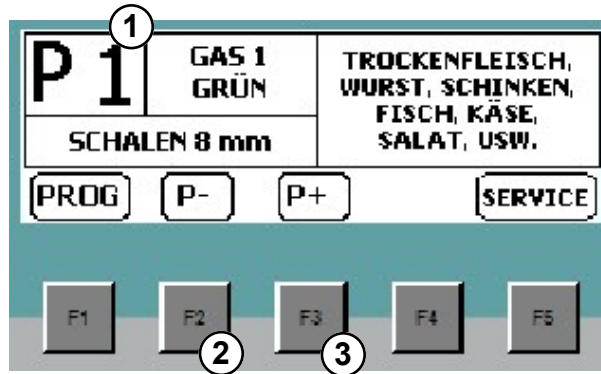


Fig. 7: Select program




No.	Element	Function
1	Display field	Displays the number of the active program
2	 button	On actuation, the system switches to the next highest active program
3	 button	On actuation, the system switches to the previously active program



Fig. 8: Change program parameters

No.	Element	Function
4	 button	After selecting the desired program, press button "F1" to access the program parameters

4.6.2.2 Screen "Set vacuum value"

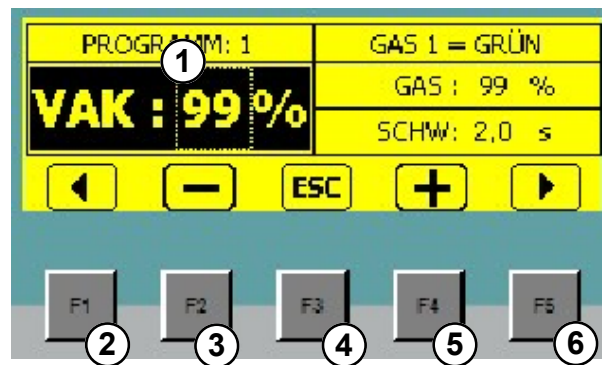







Fig. 9: Set vacuum value

No.	Element	Function
1	Display field "VAC" ("VAK"):	Displays the percentage of the maximum permissible vacuum. 99% correspond to a pressure value of less than 20 mbar within the suction chamber.
2	 button	On actuation, the previous screen Selecting a program and changing parameters [▶ 34] is opened.
3	 button	On actuation, the vacuum parameter value is reduced by 1%.
4	 button	On actuation, the currently entered parameter value is confirmed. The system switches back to the main page.
5	 button	On actuation, the vacuum parameter value is increased by 1%.
6	 button	The Screen "Set gas pressure" [▶ 36] screen opens on actuation.

4.6.2.3 Screen "Set gas pressure"

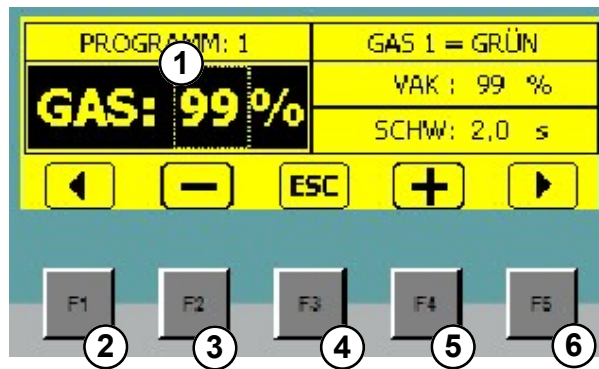







Fig. 10: Set gas pressure

No.	Element	Function
1	"GAS:" display field	Displays the maximum permissible gas percentage. 99% means that the suction chamber is filled with the same pressure as that present in the atmosphere.
2	 button	On actuation, the previous screen Screen "Set vacuum value" [▶ 35] is opened.
3	 button	On actuation, the gas parameter value is reduced by 1%.
4	 button	On actuation, the currently entered parameter value is confirmed. The system switches back to the main page.
5	 button	On actuation, the gas parameter value is increased by 1%.
6	 button	The Screen "Set sealing time" [▶ 38] screen opens on actuation.



NOTE

The gas parameter percentage must be less than or equal to the VAC parameter of the same program!

If the gas parameter percentage in the active program is higher than the value set for the VAC parameter, no packaging cycle may be started. The following message appears on the display.

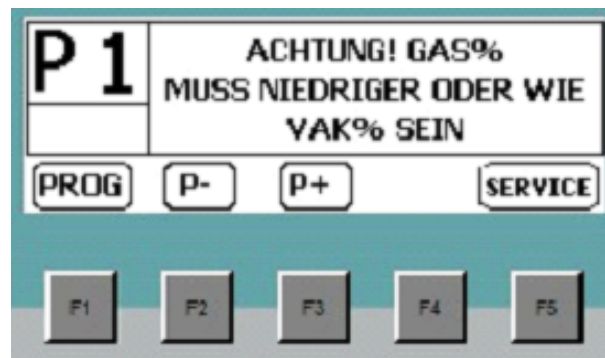



Fig. 6

Fig. 11: Display message



- 1 Press button  to change the program's VAC parameter or GAS parameter.

i	NOTE
	<p>If the gas pressure in the inlet to the machine is not appropriate, the vacuum packaging cycle with modified atmosphere is deactivated. The machine enables packaging with two different gases depending on the active program. The warning message is output according to the type of gas selected in the active program.</p>



Fig. 12: Low gas pressure

The pressure from gas cylinder 1 above the machine is not sufficient:

- 2 Reinststate the gas pressure above the machine or select another program that does not use gas type 1.
- 3 Make sure that the cylinder valve is open.
- 4 Check the quantity of gas in the cylinder.

The pressure from gas cylinder 2 above the machine is not sufficient:

- 5 Reinststate the gas pressure above the machine or select another program that does not use gas type 2.
- 6 Make sure that the cylinder valve is open.
- 7 Check the quantity of gas in the cylinder.

4.6.2.4 Screen "Set sealing time"

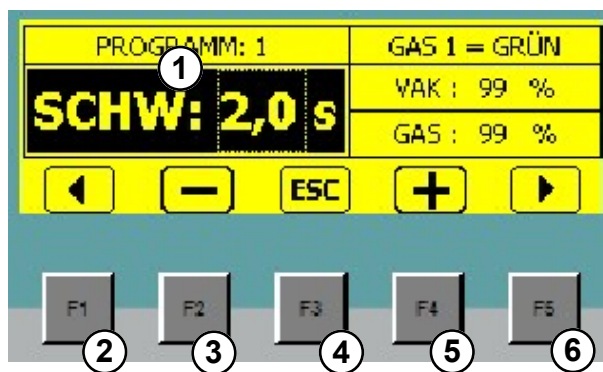







Fig. 13: Set sealing time

No.	Element	Function
1	Display field "SEAL" ("SCHW"):	Displays the sealing time in seconds. The maximum permissible sealing time is 9.9 seconds.
2	 button	On actuation, the previous screen Screen "Set gas pressure" [▶ 36] is opened.
3	 button	On actuation, the sealing time is reduced by 0.1 seconds.
4	 button	On actuation, the currently entered parameter value is confirmed. The system switches back to the main page.
5	 button	On actuation, the sealing time is increased by 0.1 seconds.
6	 button	The Selecting a program and changing parameters [▶ 34] screen opens on actuation.

4.6.2.5 Screen "Status of the cycle phases"

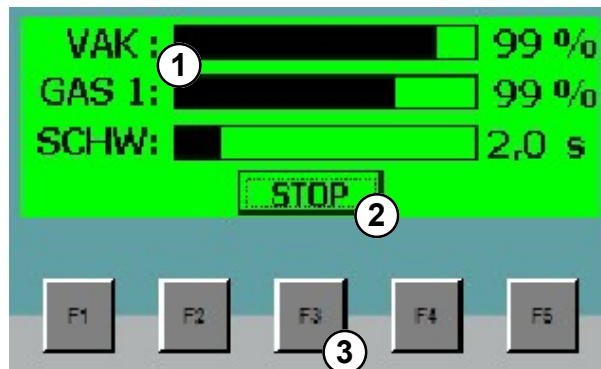



Fig. 14: Status of the cycle phases

No.	Element	Function
1	Display field	Displays the progress and status of the various cycle phases in real time
2	"STOP" button	On actuation, the current operating phase is stopped.
3	 "F3" button	On actuation, the current operating phase is interrupted and the next operating phase is activated.

4.6.2.6 "Wait" screen



Fig. 15: Wait

The "WAIT" ("WARTEN") screen is active during air return into the suction chamber. This phase is activated once the container has been sealed. It is used to equalise the pressure inside the suction chamber with the external pressure.

This screen is only active when packaging in the operating mode "Vacuum packaging mode with protective atmosphere".

4.6.2.7 Screen "Pull out drawer"

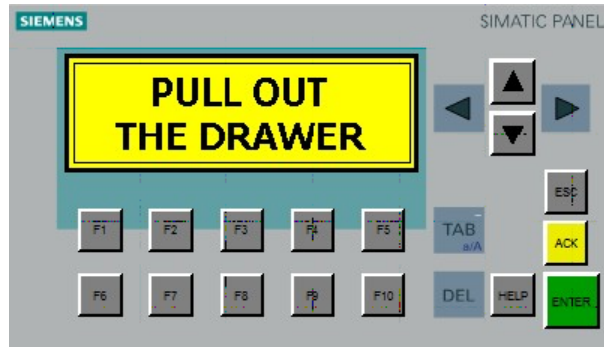


Fig. 16: PULL OUT DRAWER

The screen "PULL OUT DRAWER" ("SCHUBLADE HERAUSZIEHEN") is activated when the packaging cycle is ended. An acoustic signal is additionally output via the signal generator.

The drawer is pulled out completely before the packaged trays are taken out.

The screen remains active for a further 2 seconds when manual removal of the drawer has begun.


4.6.2.8 Screen "Alarm display"



Fig. 17: Alarm display

This screen is displayed if a malfunction occurs.

Eliminate the cause of the displayed malfunction (see [Troubleshooting \[▶ 57\]](#)) and

press the "RESET" button  on the control panel. The display automatically switches to the previous screen.

4.6.2.9 Screen "Alarm display LOW TEMPERATURE"



Fig. 18: Alarm display LOW TEMPERATURE

Each time when the safety circuit is deactivated when switching on the machine or after an alarm, the sealing plate is not supplied with electricity and therefore cools down gradually until the safety circuit is activated again. If the sealing plate temperature measured by the probe is lower than the temperature entered on the temperature regulator, the alarm display appears with the message: "LOW TEMPERATURE" ("NIEDRIGE TEMPERATUR").

The permissible tolerance is +/- 5°C.

4.6.2.10 "Maintenance" screen

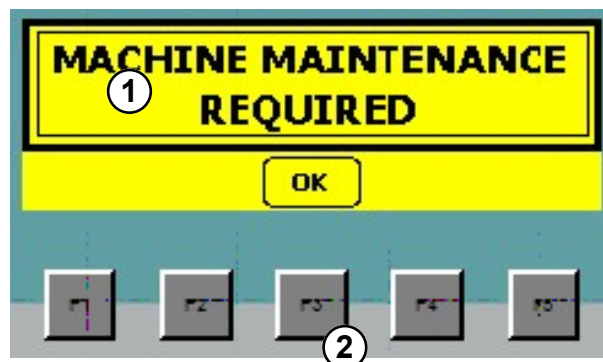



Fig. 19: Machine maintenance


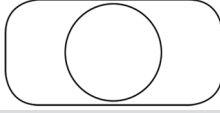

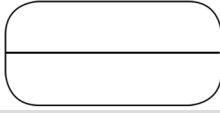
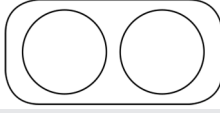
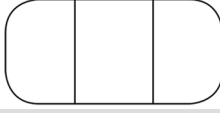
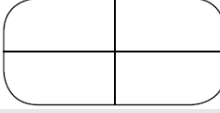
No.	Element	Function
1	Display field "MACHINE MAINTENANCE" ("MASCHINEN WARTUNG")	The machine is equipped with a counter that registers the number of cycles performed and notifies the user when machine maintenance has to be performed. On reaching the set limit value, the corresponding message is displayed on the screen.
2	 button	When this button is pressed, the maintenance message is postponed by one cycle; this means that, when the set limit value is reached, the machine activates the message in each cycle.

We recommend contacting the customer service department to have this necessary maintenance work performed and for subsequent deletion of the maintenance message (see imprint on Page 2).

4.7 Options


The machine can be equipped with the following options:

- TS240: mobile substructure
- Optional tools/tray formats as follows:

Model	TS240	TS340	Fig.
1-fold use	260 x 160 mm	300 x 210 mm	
1-fold use	Ø 160 mm	Ø 210 mm	
2-fold use	120 x 160 mm	148 x 230 mm	
2-fold use	-	240 x 100 mm	
2-fold use	Ø 100 mm	Ø 140 mm	
3-fold use	-	80 x 220 mm	
4-fold use	-	95 x 140 mm	

5 Transport

5.1 Safety instructions

	SAFETY INSTRUCTIONS
	<p>Working safely during transport!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none"> ▶ Adhere to the regulations listed in Chapter Safety during all work on/with the machine. ▶ Refrain from unsafe working methods. Transport work may only be performed by trained specialists. ▶ Perform the work only as per the regulations in these operating instructions. ▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations. ▶ Wear the specified personal protective equipment. ▶ Lift heavy loads only with suitable lifting and fastening equipment at the intended attachment points. ▶ Do not remain or work under suspended loads. ▶ Observe the corresponding national regulations on the transport of goods (paying particular attention to load securing). ▶ Do not use the attachment facilities of individual parts (e.g. transport eyelets) for the transport of other parts. ▶ Make sure that no persons are endangered by the transport.

Special safety instructions:

- Observe the information on the packaging regarding the designated attachment 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 lay ropes or straps over sharp edges or 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 significant 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

	SAFETY INSTRUCTIONS
	<p>Working safely during connection work!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none">▶ Adhere to the regulations listed in Chapter Safety during all work on/with the machine.▶ Refrain from unsafe working methods. Work on the connections may only be performed by trained specialists.▶ Perform the work only as per the regulations in these operating instructions.▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations.▶ Wear the specified personal protective equipment.

Additional warnings:

Danger due to electrical voltage!

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


- 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.

Danger due to pressurised lines and components!

Serious injuries may occur due to pressurised lines and components.

- Have work on the pneumatic system performed exclusively by trained specialists.

6.2 Electrical connection

	⚠ DANGER
	<p>Risk to life!</p> <p>There is a risk of fatal injury in case of contact with live parts.</p> <ul style="list-style-type: none">▶ Work on the electrical connections may only be carried out by trained specialist electricians.▶ Switch off the voltage during all connection work. Only switch on the voltage during commissioning.

During electrical connection, observe the following instructions to ensure safe and fault-free 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 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.
 - 1 Route and connect all electrical lines as per the wiring diagram.
 - 2 Connect the mains plug to the socket.

6.3 Compressed air connection



⚠ WARNING

Risk of injury!

An incorrect compressed air connection can lead to various injuries.

- ▶ Connection work may only be carried out by a corresponding specialist.
- ▶ Route compressed air lines so that they are protected from damage.

When doing this, ensure that no tripping hazard is created and that the lines cannot whip around, causing damage or injury.



Fig. 20: Compressed air connection

Connect the compressed air supply to the compressed air connection (1). On the TS340, the air compressor is integrated.

6.4 Connection for inert gas (option)

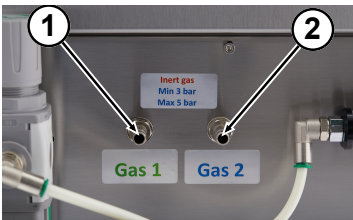


Fig. 21: Inert gas connection

- 1 Connect the inert gas supply to the inert gas connection (1).
- 2 On machines with the option "Double gas inlet": connect a second inert gas supply to the second inert gas connection (2).



Fig. 22: Securing the gas cylinder

- 3 On use of gas cylinders, position them near to the machine and secure them against falling with suitable equipment.

6.5 Venting the compressor (with installed compressor)



Fig. 23: Venting outlet

The machine has an automatic facility for venting the compressor. The outlet is located on the lower side of the device.



⚠ WARNING


Risk of injury in the event of improper connection!

If the vent line is not connected properly, there is a risk of it coming loose under pressure, thus causing injuries and property damage.

- ▶ Make sure that the vent line is fastened sufficiently.

7 Control/operation

7.1 Safety instructions

	SAFETY INSTRUCTIONS
	<p>Working safely during operation!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none">▶ Adhere to the regulations listed in Chapter Safety during all work on/with the machine.▶ Refrain from unsafe working methods. The machine may only be operated by trained operators.▶ Perform the work only as per the regulations in these operating instructions.▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations.▶ Wear the specified personal protective equipment.▶ Operate the machine only if no damage is apparent and when all safety facilities are in perfect condition.

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 must be installed in a well-ventilated, dry room. Direct contact with water or vapour must be avoided.
- The machine may only be operated if the locking brakes on the transport rollers are closed (pressed down).

7.3 Information about packaged goods

7.3.1 Instructions on storage times

The following information is based on experience and may deviate upwards or downwards from various factors, such as age and food, feeding of livestock and refrigeration chain, etc.

The company ERME AG therefore rejects all liability for any resulting damage.

The storage times refers to vacuum-packed, non-frozen products that are stored in a cool location.

Product	Storage times	Comments
Veal	10 - 14 days	
Beef	4 - 6 weeks	Ripening process 2 - 3 weeks
Pork	7 - 10 days	
Poultry	10 - 14 days	Cover sharp bones
Fish	5 - 10 days	Smoked several weeks
Sausage products	7 - 14 days	Depending on product quality
Smoked	Weeks/months	
Pasta	5 - 10 days	Possibly under protective atmosphere
Baked goods	5 - 10 days	Possibly under protective atmosphere
Cheese	Days/weeks	– Depending on product quality – Possibly under protective atmosphere
Fruit, vegetables	7 - 15 days	Possibly blanch
Salads	5 - 10 days	Only partially seal
Liquids	7 - 14 days	Use slanted insert

7.3.2 Packaging liquids

When packaging liquid products, it must be ensured that the vacuuming process is interrupted in good time. This effect is triggered by reducing the atmospheric pressure in the vacuum chamber. Since the liquid surges up, there is a risk of the liquid leaking out of the tray. This will result in material loss and contamination of the vacuum chamber.

7.4 Insert film reel

- ✓ Compressed air is connected and functional.
- ✓ The machine's main switch is switched off.
- ✓ With TS-240: max. reel width 250 mm
- ✓ With TS-340: max. reel width 340 mm

1 Insert the reel into the bracket (1 and 2).

2 Unwind the film so that it points to the operator.

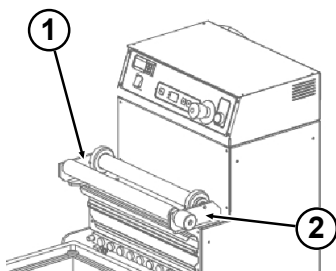


Fig. 24: Insert film reel

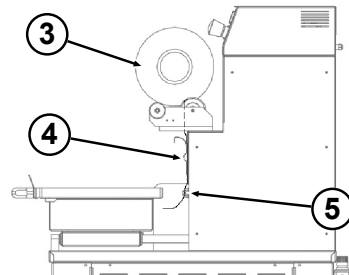


Fig. 25: Draw in film

3 Insert the film (3) centrally between the two film limiters on the film bracket.

4 Unwind the film from the film reel.

5 Pull the film brake (4) forwards and insert the end of the film into the film brake.

6 Make sure that the end of the film touches the lower end of the magnets (5).

7 Make sure that the areas in which the film reel passes over the machine are clean.

8 To clean the film limiter, unscrew and remove the two screws.



NOTE

The machine is equipped with an automatic reel brake system that has been adjusted by the manufacturer. Therefore, the reel brake system cannot be adjusted by the user.

7.5 Operating cycle, vacuum packaging mode with protective atmosphere

The operating cycle in "Vacuum packaging mode with protective atmosphere" operating mode consists of the following 7 phases:

1. Filling the container with the product to be packaged in the machine.
2. Air extraction in the suction chamber until the set pressure value is reached.
3. Supply of the food gas.
4. Sealing phase in which the film seals the container with the product.
5. Return of the air into the suction chamber to achieve a pressure value that is equal to or slightly higher than the external pressure value in the suction chamber.
6. Output of the sealed container with the product.

7.6 Operating cycle, packaging mode with thermal sealing

The operating cycle in "Packaging mode with thermal sealing" operating mode consists of the following 3 phases:

1. Filling the container with the product to be packaged in the machine.
2. Sealing phase in which the film seals the container with the product.
3. Output of the sealed container with the product.

7.7 Preparing the machine for injection of inert gas



⚠ DANGER

There is a risk of fire due to use of the wrong inert gas.

There is a risk of fire when injecting gas with oxygen.

- ▶ By default, only nitrogen or a mixture of nitrogen and carbon dioxide may be used as an inert gas.
- ▶ Oxygenated gases (over 21%) may only be used after taking special safety measures (special vacuum pump, special oil and safety valves).

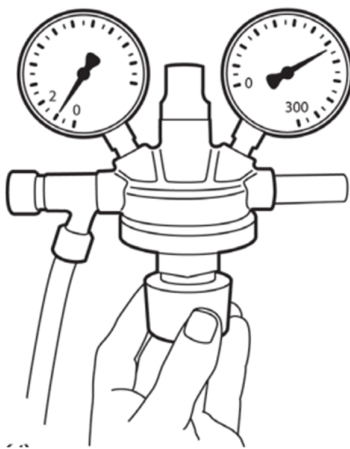


Fig. 26: Valve fitting

- 1 Open the main valve on the gas cylinder.
- 2 Open the knurled screw on the valve fitting (to the left).
The filling pressure of the gas cylinder is displayed on the right pressure gauge.
- 3 Set the gassing pressure to max. 5 bar (displayed on the left pressure gauge).



SAFETY INSTRUCTIONS

- ▶ Food packaged with inert gas must be labelled accordingly.
- ▶ The main tap on the gas cylinder must always be closed when the inert gas is not being injected.

7.8 Switching on the unit

Proceed as follows to switch on the machine:

- 1 Switch on the machine's main switch.
- 2 Switch on the compressed air supply.
 - ⇒ The pressure must be at least 5 bar.
- 3 Switch on the inert gas supply.
 - ⇒ The pressure may be a maximum of 5 bar.
- 4 Press the "RESET" button on the control panel.
 - ⇒ The indicator lamp in the button must light up constantly.
- 5 Check the temperature set for the sealing plate on the digital thermostat on the control panel and set the temperature, see Chapter [Set sealing temperature \[▶ 55\]](#).
- 6 Wait until the control system has booted.
 - ⇒ The start screen is displayed.

7.9 Switching off the unit

Proceed as follows to switch off the machine:

- 1 Make sure that no containers are in the machine.
- 2 Switch off the machine's main switch.
- 3 Switch off the machine's compressed air supply.
- 4 Switch off the inert gas supply.

7.10 Shut-down in an emergency

For shut-down in an emergency:

- 1 Press the EMERGENCY STOP strike button.


7.11 Switching on again after an emergency

Perform the following measures to switch on again after an emergency:

- 1 Rectify the cause of the emergency/have it rectified.
- 2 Release the EMERGENCY STOP button.
- 3 Press the "RESET" button on the control console.
- 4 Check safety facilities.

7.12 Preparing the machine

1 Check the film; insert a new film reel if necessary (Insert film reel [▶ 51]).

	NOTICE
<p>Property damage due to use of incompatible components!</p> <p>If the sealing plate and tool are not compatible with one another, the stamping or cutting blades and the tool may be damaged.</p> <ul style="list-style-type: none"> ▶ Make sure that the sealing plate and the tool are compatible with one another. 	

2 Switch on the machine (see Chapter Switching on the unit [▶ 54]).

7.13 Set sealing temperature

Proceed as follows to set the sealing temperature:

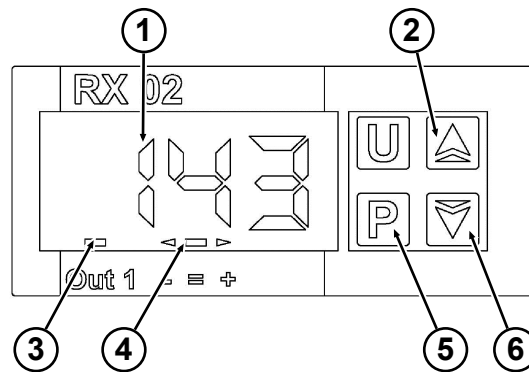


Fig. 27: Digital thermostat

- 1 Press button "P" (5).
 - ⇒ *SP1* is shown on the display (1).
- 2 Use the "▲" (2) and "▼" (6) buttons to set the desired temperature.
 - ⇒ The temperature is shown in °C on the display (1).
- 3 Press button "P" (5) to save the setting.
 - ⇒ The current temperature is shown in °C on the display (1).
 - ⇒ The LED operation indicator lamp (3) lights up until the set temperature is reached.

7.14 Starting the vacuuming process


- 1 Preparing the machine (see Chapter **Preparing the machine** [▶ 55]).
- 2 Preparing the machine for injecting inert gas (see Chapter **Preparing the machine for injection of inert gas** [▶ 53]) if a vacuum is to be applied under inert gas.
- 3 Select the desired program and carry out necessary adjustments (see Chapter **Description of the user interface** [▶ 31]).
- 4 Make sure that the container is suitable for the mould installed in the machine.
- 5 Make sure that the container adheres evenly to the mould seal.
- 6 Make sure that the product does not protrude out of the container at the top.
- 7 Make sure that the edges of the container are clean and dry.
- 8 Do not package warm products in the "Vacuum packaging mode with protective atmosphere" operating mode.
- 9 Do not package any empty containers.
- 10 Slide the drawer manually into the machine until it engages.
- 11 Hold the drawer pushed into the end position until the upper suction chamber has moved down completely.
 - ⇒ When the drawer has reached its end position within the machine, the upper suction chamber lowers and seals the container.
 - ⇒ The packaging cycle begins.

7.15 Activities after use

- 1 Make sure that no trays are on the loading area or in the machine.
- 2 Close the main tap on the inert gas cylinder if the vacuum is generated under inert gas.
- 3 Clean the machine (see Chapter **Cleaning the machine** [▶ 62]).

8 Troubleshooting

8.1 Safety instructions

	SAFETY INSTRUCTIONS
	<p>Working safely during troubleshooting!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none"> ▶ Adhere to the regulations listed in Chapter Safety [▶ 15] during all work on/with the machine. ▶ Refrain from unsafe working methods. Troubleshooting work may only be performed by trained specialists. ▶ Perform the work only as per the regulations in these operating instructions. ▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations. ▶ Wear the specified personal protective equipment.

Additional warnings for troubleshooting:

Danger due to electrical voltage!

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

- 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.
- De-energise the machine, check that zero voltage is present and secure to prevent reactivation.

Danger due to pressurised lines and components!

Serious injuries may occur due to pressurised lines and components.

- Switch off the machine and depressurise any pressurised parts.

Danger due to hot surfaces!

Parts of the machine can become very hot during operation and lead to injuries on contact.

- Observe the warning signs.
- Avoid contact with hot surfaces, or wear protective gloves.
- Let hot components cool down before starting work.



NOTICE

Material damage due to incorrect troubleshooting.

If pending faults are ignored or not correctly rectified, it can result in damage to the machine.

- ▶ In case of active faults, shut down the machine.
- ▶ Properly rectify the malfunction or have it rectified by appropriate specialists.

8.2 Personnel qualifications

Troubleshooting may only be performed by persons who:

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

8.3 Instructions on troubleshooting



NOTE

If the measures listed here do not rectify the fault, contact the customer service department of the company ERME AG.

See chapter "Customer service [▶ 14]".

8.4 Fault displays

The following error messages may be shown on the display:

Error message	Possible causes	Remedy
SAFETY OFF!	The rear flap for exchanging the mould is open.	Close the flap.
	The locking sensor of the rear flap for exchanging the mould is defective or not connected.	Contact the customer service department.
"LOW TEMPERATURE"	The temperature set on the digital thermostat was not reached.	Wait until the temperature displayed on the digital thermostat is the same as the set temperature. If the temperature displayed on the digital thermostat does not increase, contact the customer service department.

Error message	Possible causes	Remedy
"LOW GAS PRESSURE 1!"	The pressure of the food gas 1 that is connected to the machine is less than 1 bar.	<p>Check whether the gas cylinder is open.</p> <p>Check whether the pressure gauge on the gas cylinder is set to a max. pressure of 5 bar.</p> <p>Check whether the cylinder is connected to the machine.</p> <p>Check that the cylinder is not empty.</p>
"RETURN AIR ERROR!"	The fast air return phase has been active for more than 30 seconds.	Contact the customer service department.
"EXTRACTION SYSTEM ERROR!"	The extraction phase has been active for more than 30 seconds.	Press RESET and wait until the drawer returns to the loading position. Repeat the packaging cycle. If the alarm persists, contact the customer service department.
"LOW AIR PRESSURE!"	The compressed air is less than 5 bar.	<p>Check the pressure gauge on the left side of the machine (residue winding motor side); readjust to 6 bar if necessary.</p> <p>Check whether the pressure displayed on the pressure gauge drops to less than 5 bar for more than 2 seconds during the operating cycle.</p> <p>Check whether the compressor supplying the machine is functioning properly.</p>
"ERROR: DRAWER SENSOR!"	The sensor does not detect the container in position during the operating cycle.	Contact the customer service department.
	The sensor that detects the drawer is defective or not connected.	Contact the customer service department.
"VAC SENSOR ERROR!"	The sensor that determines the pressure in the bell is defective or not connected.	Contact the customer service department.
"GAS ERROR!"	The gas inlet phase into the suction chamber has been active for more than 20 seconds.	Check whether the gas cylinder is connected to the machine; make sure that it is not empty. If the problem persists, contact the customer service department.

Error message	Possible causes	Remedy
"LOW GAS PRESSURE 2!"	The pressure of the food gas 2 that is connected to the machine is less than 1 bar.	<p>Check whether the gas cylinder is open.</p> <p>Check whether the pressure gauge on the gas cylinder is set to a max. pressure of 5 bar.</p> <p>Check whether the cylinder is connected to the machine.</p> <p>Check that the cylinder is not empty.</p>



NOTE

In the event of malfunctions that are not listed above, contact the customer service department directly.

8.5 Compressor troubleshooting

The compressor is equipped with an automatic lock in case of heat or voltage overload. If the automatic lock triggers:


- 1 Switch off the machine and allow the compressor to cool down to the ambient temperature.

The compressor is equipped with an automatic lock in case of thermal or electrical overload. If the automatic lock triggers:

- 2 Switch off the machine and allow the compressor to cool down to the ambient temperature.

9 Cleaning

9.1 Safety instructions

	SAFETY INSTRUCTIONS
	<p>Working safely during cleaning!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none"> ▶ Adhere to the regulations listed in Chapter Safety [▶ 15] during all work on/with the machine. ▶ Refrain from using unsafe working methods. ▶ Perform the work only as per the regulations in these operating instructions. ▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations.

Additional warnings for cleaning:

Danger due to hot surfaces!

Parts of the machine can become very hot during operation and lead to injuries on contact.

- Observe the warning signs.
- Avoid contact with hot surfaces, or wear protective gloves.
- 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"> ▶ Make sure that no liquids enter into the suction openings. ▶ 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 to clean the tool and the chamber:

- 1 Switch off the machine (see **Switching off the unit** [▶ 54]).
- 2 Pull out the complete drawer (1) along with the tool (2).
- 3 Remove the tool from the bracket.
- 4 Clean the tool and the chamber.
- 5 Reinsert the tool. Make sure that it is inserted correctly into the intended bracket.

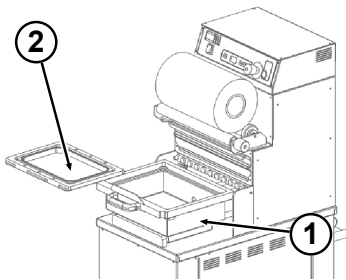


Fig. 28: Pull out the drawer with a tool.




NOTE

- ▶ Do not use aggressive cleaning agents when cleaning the machine.
- ▶ If you detect damage, notify the responsible personnel.

10 Maintenance

10.1 Safety instructions

	SAFETY INSTRUCTIONS
	<p>Working safely during maintenance!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none"> ▶ Adhere to the regulations listed in Chapter Safety [▶ 15] during all work on/with the machine. ▶ Refrain from unsafe working methods. Maintenance work may only be performed by trained specialists. ▶ Perform the work only as per the regulations in these operating instructions. ▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations. ▶ Wear the specified personal protective equipment.

Additional warnings for maintenance:

Danger due to electrical voltage!

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

- 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.
- De-energise the machine, check that zero voltage is present and secure to prevent reactivation.

Danger due to pressurised lines and components!

Serious injuries may occur due to pressurised lines and components.

- Switch off the machine and depressurise any pressurised parts.

Danger due to hot surfaces!

Parts of the machine can become very hot during operation and lead to injuries on contact.

- Observe the warning signs.
- Avoid contact with hot surfaces, or wear protective gloves.
- Let hot components cool down before starting work.



NOTICE

Material damage due to the incorrect performance of the maintenance work.

If maintenance work is not carried out correctly, it can result in damage to the machine.

- ▶ Perform the maintenance work correctly and appropriately.

10.2 Personnel qualifications

Maintenance work on the machine may only be performed by personnel who

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

10.3 Maintenance overview

Perform the following maintenance work on the machine:

Work to be performed	Interval	Additional information
Perform a visual inspection of the machine for: <ul style="list-style-type: none"> – Contamination – Damage 	Before starting up the machine each time	Have the identified defects corrected immediately.
Check the electrical connections and mains cable for damage.	Before starting up the machine each time	Have the identified defects corrected immediately.
Check the pneumatic system for damage	Before starting up the machine each time	Have the identified defects corrected immediately.
Clean the machine.	After each use	See Chapter Cleaning the machine [▶ 62].
Check function of the EMERGENCY STOP button	Before starting up the machine each time	See Chapters Shut-down in an emergency [▶ 54] and Switching on again after an emergency [▶ 54].
Service vacuum pump	Every 200 hours of operation; every 6 months at the latest	See Chapter Service vacuum pump [▶ 65]
Service compressor (optional)	Every 200 hours of operation; every 6 months at the latest	See Chapter Service compressor [▶ 65]

10.4 Service vacuum pump

The machine is equipped with an operating hour counter for the vacuum pump. Change the oil completely every 200 hours of operation or every 6 months at the latest.

i	NOTE
	Depending on machine operation, it may be necessary to change the oil more frequently. Suctioning off impure substances necessitates changing the oil more frequently. If the oil is dark, turbid or emulsified, this is an indication that its quality is affected and its lubricating properties are no longer completely available. Change the oil immediately.
i	NOTE
	Contact the vacuum pump manufacturer or dealer for further maintenance work on the vacuum pump.

10.5 Service compressor

For maintenance work on the compressor

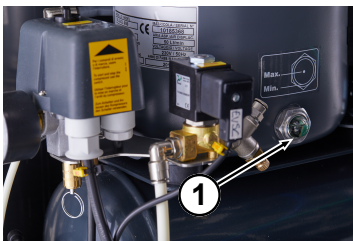



Fig. 29: Compressor

- 1 Switch off the machine. Make sure that the mains voltage is interrupted.
- 2 Release and remove the screws from the safety panel on the right side.
- 3 Remove the safety panel.
- 4 Check the oil level with the sight glass.
- 5 If necessary, refill oil via the cap (1). Make sure that the oil level mark is not exceeded.
Oil: AGIP Betula S32, ROLOIL Sincom 32 or MOBIL Rarus SHC924
- 6 Actuate the safety valve at regular intervals to prevent it from blocking. To do this, pull the valve ring down.

11 Decommissioning and disposal

11.1 Safety instructions

	SAFETY INSTRUCTIONS
	<p>Working safely during maintenance!</p> <p>Perform all work while observing the safety instructions listed in the following:</p> <ul style="list-style-type: none"> ▶ Adhere to the regulations listed in Chapter Safety during all work on/with the machine. ▶ Refrain from unsafe working methods. Decommissioning and disposal work may only be performed by trained specialists. ▶ Perform the work only as per the regulations in these operating instructions. ▶ Adhere to the corresponding national regulations on working safety and the locally valid safety regulations. ▶ Wear the specified personal protective equipment.

Additional warnings for decommissioning and disposal:

Danger due to electrical voltage!

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

- 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.
- De-energise the machine, check that zero voltage is present and secure to prevent reactivation.

Danger due to pressurised lines and components!

Serious injuries may occur due to pressurised lines and components.

- Switch off the machine and depressurise any pressurised parts.

Danger due to hot surfaces!

Parts of the machine can become very hot during operation and lead to injuries on contact.

- Observe the warning signs.
- Avoid contact with hot surfaces, or wear protective gloves.
- Let hot components cool down before starting work.

11.2 Personnel qualifications

The unit 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**

Proceed as follows in case the machine must be temporarily decommissioned:

- 1 Switch off the machine and unplug the mains plug.
- 2 Disconnect the machine from the inert gas supply.
- 3 If the unit 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.


	SAFETY INSTRUCTIONS
	<ul style="list-style-type: none"> ▶ Make sure that the machine is voltage-free; observe residual voltages (e.g. with frequency converter)! ▶ Make sure that the machine is completely depressurised; observe the pressure reservoir!

- 3 Remove all connection hoses/pipes.
- 4 Properly dispose of materials, 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.

	<p data-bbox="970 517 1118 555">NOTICE</p> <p data-bbox="663 591 1262 624">Environmental damage if improperly disposed of!</p> <p data-bbox="663 651 1283 685">Incorrect disposal may result in environmental damage.</p> <ul style="list-style-type: none"><li data-bbox="663 712 1414 784">▶ Observe the manufacturer's specifications for the lubricants and auxiliary materials to ensure environmentally-friendly disposal.
---	--

12 Declaration of Conformity

(Translation of the original 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
Type
We declare that the product:
Vacuum packaging machines
Tray sealer machines (TS240, TS340)

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, 8 January 2018

Signature



Thomas Meyer