

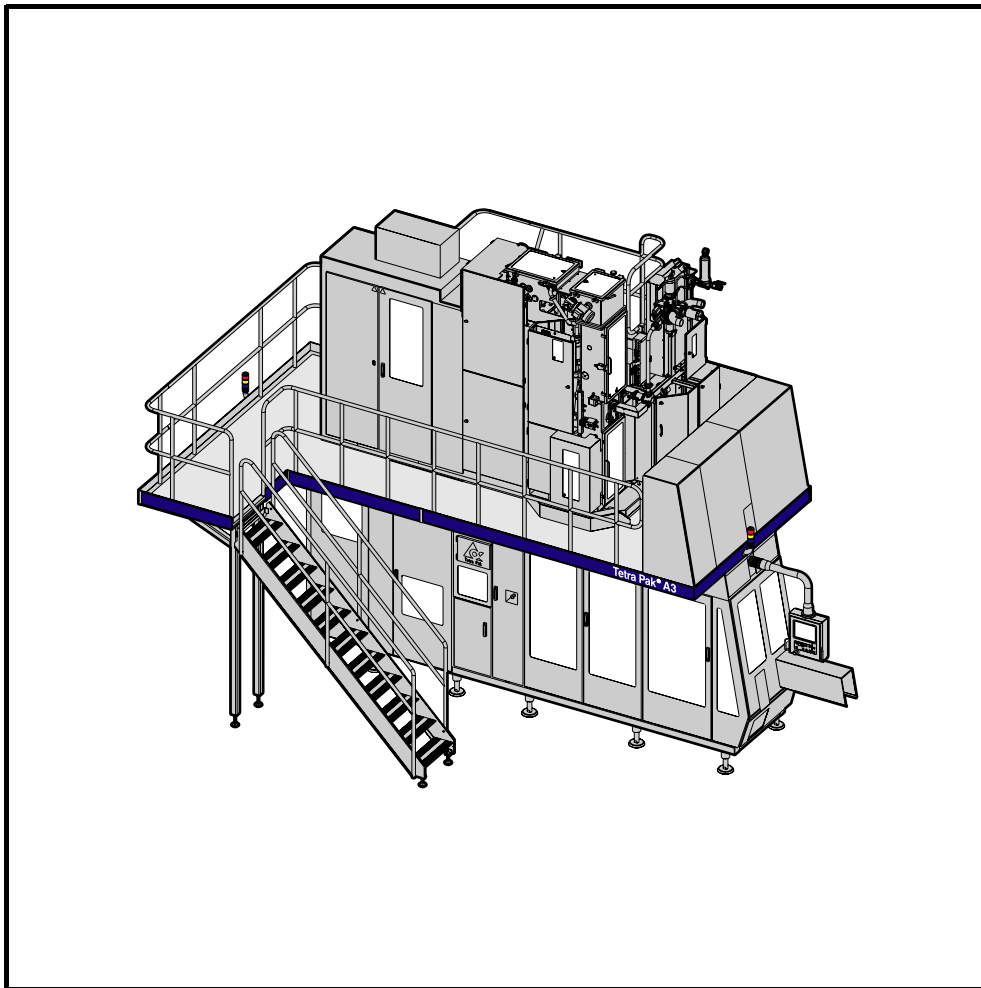
OM

Operation Manual

Tetra Pak A3/Flex

648575-0100

TechPub_2614345_0105 - OM_81809_0110fro.fm



WARNING


Read and follow all safety precaution instructions throughout this manual and on safety signs attached to this equipment.
Failure to follow all safety precaution instructions could result in death or serious injury.



Doc. No. OM-81809-0110

Copyright © 2007 Tetra Pak Group

All rights reserved. No part of this document may be reproduced or copied in any form or by any means without written permission from Tetra Pak Packaging Solutions S.p.A..

 **Tetra Pak** and all Tetra Pak products are trademarks belonging to the Tetra Pak Group.

The content of this manual is in accordance with the design and construction of the machine or equipment at the time of publishing. Tetra Pak reserves the right to introduce design modifications without prior notice.

The English version of this document is the original language version.

This document was produced by:

Tetra Pak Packaging Solutions S.p.A.
Via Delfini 1
41100 Modena
Italy

Additional copies can be ordered from Tetra Pak. When ordering additional copies, always provide the document number.

Doc. No. OM-81809-0110

Issue 2007-06

This manual is valid for:

Series No./ Machine No.

Sign.

OM

Operation Manual

Tetra Pak A3/Flex
648575-0100

- i Introduction
- ii Safety Precautions
- 1 General Description
- 2 Control Panels
- 3 Preparation
- 4 Start
- 5 Checks
- 6 Supply of Materials
- 7 Conversion
- 8 Stop
- 9 Care and Cleaning
- 10 Sterilization Liquid
- 11 Technical Data

Machine or equipment configurations that this manual is valid for are described on the next page.

Doc. No. OM-81809-0110

Issue 2007-06

 **Tetra Pak**

Tetra Pak Packaging Solutions S.p.A.

Valid for:

Name	Drawing Specification and Development Step	Additional Information
Tetra Pak A3/Flex	648575-0100	Optional Equipment: HI - Headspace by Injection 2636960-0200

i Introduction

TechPub_2614345_0105 - OM_81809_0110intro.fm

About the Introduction Chapter

This chapter contains basic information about this manual and the related Tetra Pak equipment.

Abbreviations and Terminology	i - 5
Manual Information	i - 6
Delivered Manuals	i - 6
Page Layout	i - 7
Page Numbering	i - 8
Typographical Conventions	i - 8
Symbols	i - 8
Machine Introduction	i - 9
Intended Use of the Equipment	i - 9
Manufacturer	i - 9
Support and Feedback	i - 9
Identification	i - 10
CE Classification	i - 10
Machine Plate	i - 10
Orientation	i - 11
Hygiene	i - 12
Packaging Material	i - 12
Steam Barrier in the Product Valve	i - 12
How to Use This Operation Manual	i - 13
Purpose of the Operation Manual	i - 13
The Operation Manual and the Operator Work Flow	i - 13
Before Operating the Machine	i - 14
To Operate the Machine	i - 14

This page intentionally left blank

TechPub_2614345_0105 - OM_81809_0110intro.fm

Abbreviations and Terminology

Abbreviation/ Terminology	Meaning	Translation
ASU	Automatic Splicing Unit	
B	Base (package shape)	
CIP	Cleaning In Place	
DE	Distribution Equipment	
DIMC	Direct Injection Moulded Concept	
ECM	Engineering Change Management	
EM	Electrical Manual	
HI	Headspace by gas Injection	
ICU	Integrated Cleaning Unit	
IH	Induction Heating	
LED	Light Emitting Diode	
LH	Left Hand	
LS	Longitudinal Seal(ing)	
min	Minimum	
max	Maximum	
MKC	Mandatory Kit Corrective	
MKS	Mandatory Kit Human and Product Safety	
MM	Maintenance Manual	
OK	Optional Kit	
OE	Optional Equipment	
OM	Operation Manual	
PE	Polyethylene	
PM	Packaging Material	
RH	Right Hand	
RK	Rebuilding Kit	
RM	Rebuilding Manual	
S	Slim (package shape)	
SA	Strip Applicator	
SPC	Spare Parts Catalogue	
Sq	Square (package shape)	
TBA	Tetra Brik Aseptic	
TMCC	Tetra Pak Multi-purpose Compact Controller	
TPOP	Tetra Pak Operator Panel	
TS	Transversal Sealing	
UK	Upgrade Kit	

Manual Information

Tetra Pak recommends reading all delivered manuals carefully. Make sure that the delivered manuals are available to personnel who operate or maintain the equipment.

It is important to keep this manual for the lifetime of the equipment and to pass the manual on to any subsequent holder or user.

Tetra Pak will not be held responsible for any damage to the equipment caused by not following the instructions given in this manual.

Delivered Manuals

Manuals delivered with this equipment:

- Conversion Manual (CM) provides technicians with information on converting the equipment between different production modes.
- Electrical Manual (EM) provides technicians with information about the equipment's electrical system.
- Installation Manual (IM) provides technicians with information required to safely install the equipment.
- Maintenance Manual (MM) provides technicians with information on maintaining the equipment.
- Operation Manual (OM) provides the operator with information on handling and operating the equipment before, during, and after production.
- Spare Parts Catalogue (SPC) provides the information necessary to order spare parts from Tetra Pak
- Technical Manual (TeM) provides technicians with:
 - information required to safely install the equipment
 - information on maintaining the equipment
 - information about the machine's/equipment's electrical system
 - information necessary to order spare parts from Tetra Pak.

Page Layout

Every main page in a manual contains a header and a footer. The page header contains the chapter name (1) and the section name (2). The page footer contains the page number (3), and the document number (4). See also the Page Numbering section.



- 1 Chapter name
- 2 Section name
- 3 Page number
- 4 Document number

TechPub_2614345_0105 - OM_81809_0110intro.fm

Page Numbering

A page number has three parts:

- chapter number (1)
- consecutive page number (2) within the chapter
- total number of pages (3) in the chapter.

4 - 11 (18)
 ↑ ↑ ↑
1 2 3

- 1 Chapter number
- 2 Consecutive page number
- 3 Total number of pages





Typographical Conventions

Controls on the operator panel, emergency stop devices, and program steps are printed in CAPITAL LETTERS.

Cross-references are underlined.

Symbols

Symbols used in illustrations.

	A pointer arrow indicates the position of an object.
	A zoom arrow indicates that an object view is enlarged. The arrow points towards the enlarged view of the object.
	A rotation movement arrow indicates rotational movement of an object. The arrow points in the direction of rotation.
	A straight movement arrow indicates movement of an object. The arrow points in the direction of movement.

Machine Introduction

Intended Use of the Equipment

The intended use of this Tetra Pak equipment is to pack liquid food products.

All other use is prohibited. Tetra Pak will not be held responsible for injury or damage if the equipment is used for any other purpose.

Manufacturer

This Tetra Pak equipment has been manufactured by

Tetra Pak Packaging Solutions S.p.A.

Via Delfini 1

41100 Modena

Italy

Support and Feedback

If you encounter problems when operating this equipment or have other inquiries, comments, or suggestions for improvement, contact Tetra Pak.

Identification

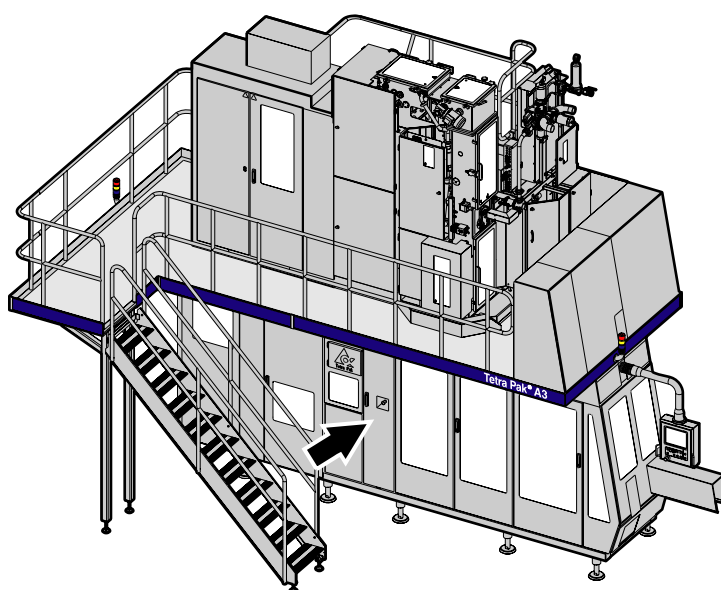
CE Classification

This equipment complies with the basic health and safety regulations of the European Economic Area (EEA).

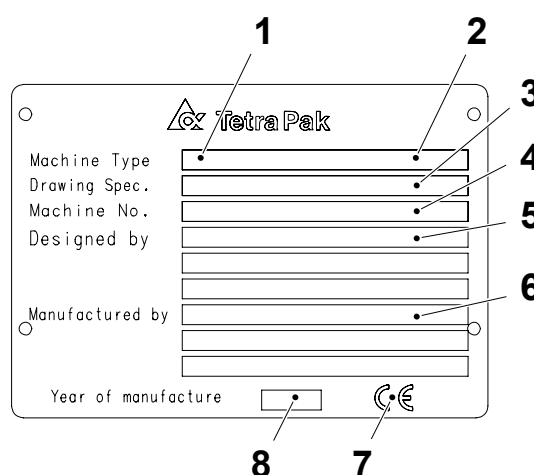
Machine Plate

The illustration below shows an example of the machine plate and its location on the equipment. The machine plate carries data needed when contacting Tetra Pak concerning this specific equipment.

Make sure that the equipment data in the front pages of this manual corresponds to the machine plate data and the machine specification.



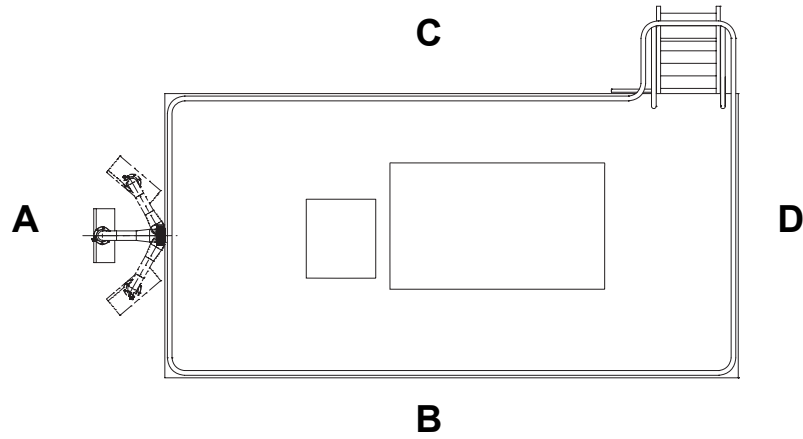
- 1 Machine type
- 2 Volume
- 3 Drawing specifications
- 4 Machine serial number
- 5 Designed by
- 6 Manufactured by
- 7 CE mark
- 8 Year of manufacture



TechPub_2614345_0105 - OM_81809_0110intro.fm

Orientation

The illustration below shows the orientation of the equipment. This orientation information will be used throughout this manual. The arrows indicate the flow of material.



- A Front
- B Right-hand side
- C Left-hand side
- D Back

Hygiene

Packaging Material

Avoid microbiological contamination of the packaging material:

- Always protect your packaging material against contamination.
- Always keep the doors to the filling room (area) closed. To prevent contamination via air streams, never open a window when the machine is in production.
- Never clean the floors or the machine in the filling room (area) when the machine is in production.
- Compressed air used for cleaning purposes is to be used only for cleaning filters and should only be used outside of the filling room (area) or in the final folder compartment of the filling machine.
- Prepare the splicing of the packaging material as late as possible.
- Disinfect your hands before touching anything that may come into contact with the product. Use code H disinfectant. See the Technical Data chapter of the Maintenance Manual.
- Keep your hands clean.
- Always wear some type of hair protection (cap or hairnet) and clean clothes (preferably white).
- Do not wear a watch, ring, necklace, earrings, or any other exposed jewellery.

Steam Barrier in the Product Valve

The filling machine's product valve employs a steam barrier to separate the product supply line from the filling machine. The steam barrier allows the machine and the product supply line to be independently sterilised to commercial sterility conditions.

- Never disengage the steam barrier, and never interrupt the steam supply when the filling machine or the product supply line is being brought to the pre-sterilization phase, or when the machine is already in the production phase.
- If any maintenance activity requires disengagement of the steam barrier or the interruption of the steam supply to the machine, make sure that the product supply line is idle and empty of product.

How to Use This Operation Manual

Purpose of the Operation Manual

The Operation Manual provides the operator of this machine with information on the handling and operating of the machine before, during, and after production.

The Operation Manual and the Operator Work Flow

The chapters of this Operation Manual can be divided into two groups structured to reflect the order of the operator's work flow. The two groups contain:

- Chapters that provide general information to support and prepare the operator before operating the machine.
- Chapters that describe the actions needed during the operation and care of the machine.

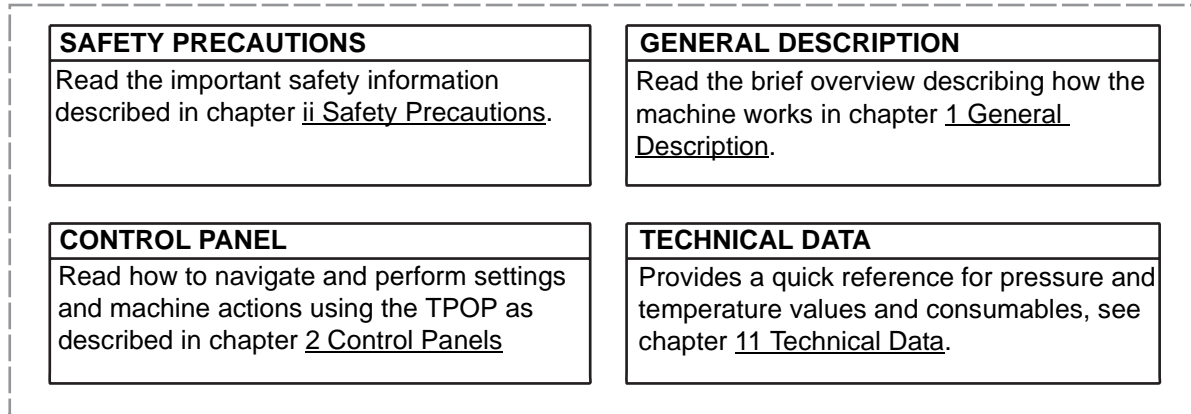
The following page illustrates the two groups of the Operation Manual chapters and how they are used to instruct the operator through the sequence of work flow activities.

(Cont'd)

(Cont'd)

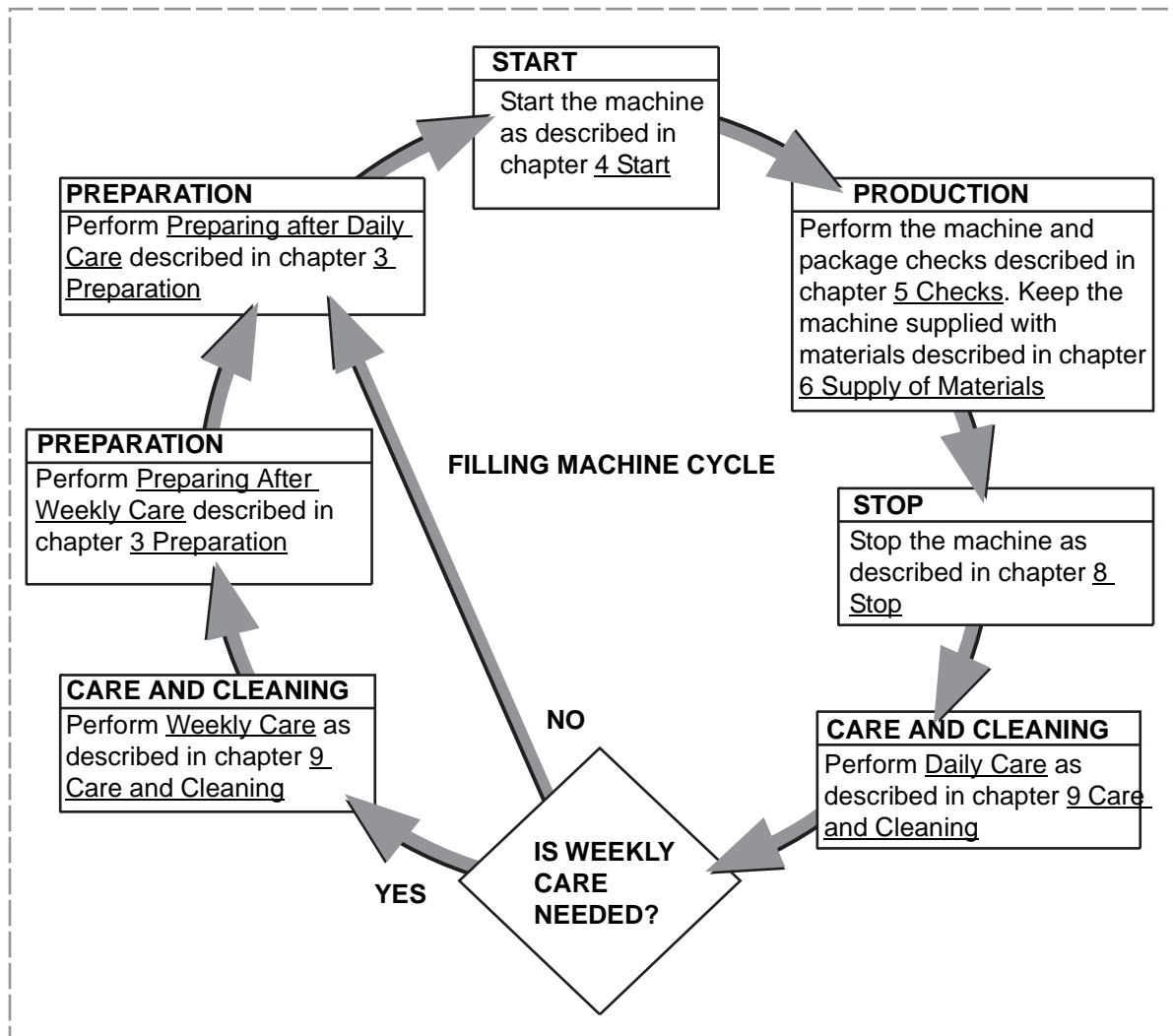
Before Operating the Machine

Before operating the machine the operator must be familiar with the content of the following chapters.



To Operate the Machine

To operate the machine the following chapters provide the operator with work instructions that follow the sequence of machine's cycle.



TechPub_2614345_0105 - OM_81809_0110intro.fm

ii Safety Precautions

TechPub_2614345_0105 - OM_81809_0110sp.fm

Safety Precaution Instructions



WARNING

Read all safety precaution instructions throughout this manual and on safety signs attached to this equipment.

Failure to follow all safety precaution instructions could result in death or serious injury.

Definition of Lockout Procedure

A lockout procedure is a procedure to put each necessary energy isolating device in its safe position to prevent the energisation of the equipment, such as when a maintenance procedure should be carried out.

A lockout is the use of a device, for example, a padlock, to make sure that an energy isolating device cannot be operated.

An energy isolating device is a mechanical device that physically prevents transmission or release of energy, such as a power supply disconnecter.

Safety Messages Description	ii - 5
Personnel Requirements	ii - 6
Skilled Person	ii - 6
Instructed Person	ii - 6
Safety Signs	ii - 7
Locations of Safety Signs	ii - 9
HI Equipment (OE)	ii - 18
Protective Devices	ii - 20
Emergency Stop	ii - 20
Emergency Stop Push-Buttons	ii - 21
Safeguards	ii - 22
Warning Lamp	ii - 24
Audible Alarm	ii - 24
Personal Protection	ii - 25
Noise Hazard	ii - 25
Entanglement Hazard	ii - 25
Hazardous Substances	ii - 26
Disposal of Chemical Substances	ii - 27
Hydrogen Peroxide (H₂O₂)	ii - 28
Emergency Procedures	ii - 28
Personal Protective Equipment	ii - 29
Handling of Hydrogen Peroxide	ii - 30
Storage of Hydrogen Peroxide	ii - 31
Disposal of Hydrogen Peroxide	ii - 32
Supply Systems	ii - 33
Power Supply	ii - 33
Residual Voltage	ii - 33
Electrical Cabinet	ii - 34

Socket Outlet ii - 35

Air Supply ii - 36

Steam Supply ii - 37

Water Supply ii - 38

Equipment for Lifting and Moving Loads ii - 39




TechPub_2614345_0105 - OM_81809_0110sp.fm

Safety Messages Description

A safety message is always accompanied by a safety alert symbol and a signal word.

The safety alert symbol is used to alert about potential personal injury hazards. To avoid hazards, obey all safety messages that follow this symbol.

The following safety alert symbols and signal words are used in this manual to inform the user of hazards.

 DANGER	Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury .
 CAUTION	Caution indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury . It may also be used to alert against unsafe practices.
CAUTION	Caution without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage .

Personnel Requirements

Note! Personnel includes all persons working on or near this equipment.

Only skilled or instructed persons are allowed to work with this equipment.

Skilled Person

A skilled person must have relevant education and experience to enable him or her to identify hazards, analyse risks, and avoid hazards which electricity, machinery, chemicals, other energies, and supply systems on this equipment can create.

Skilled persons must meet local regulations, such as certifications and qualifications for working with these energies and systems.

Instructed Person

An instructed person must be adequately advised or supervised by a skilled person. The skilled person enables the instructed person to identify hazards, analyse risks, and avoid hazards which electricity, machinery, chemicals, other energies, and supply systems on this equipment can create.

Safety Signs






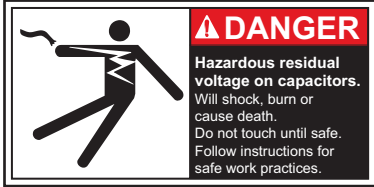


WARNING

Damaged or missing safety signs increase the risk of death or serious injury.

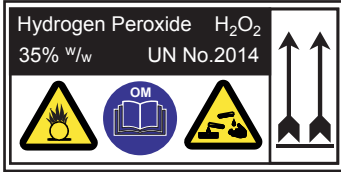
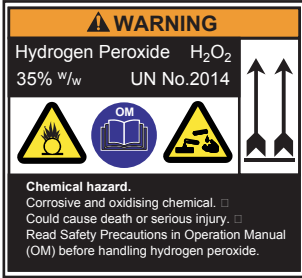





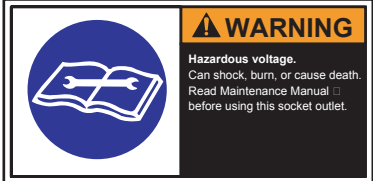

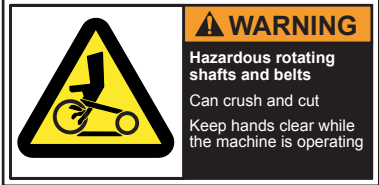
Replace all missing or damaged safety signs immediately.

Safety signs are attached to the equipment. The table below lists all the signs that are used, and illustrations show their locations on the equipment. Each position number refers to two variants of a safety sign in the table, but only one is used on the equipment.

- Make sure that each safety sign is legible and in its correct position after installation and maintenance.
- Replace all missing or damaged safety signs immediately.

Pos.	ISO sign	ANSI sign
1	 <p>Moving part can crush and cut. Do not operate with guard removed. Follow lockout procedure before maintenance.</p>	
2	 <p>Hazardous voltage. Will shock, burn, or cause death. Follow lockout procedure before maintenance.</p>	
3	 <p>Hazardous residual voltage on capacitors. Will shock, burn or cause death. Do not touch until safe. Follow instructions for safe work practices.</p>	
4	 <p>Chemical burn hazard. Wear personal protective equipment.</p>	

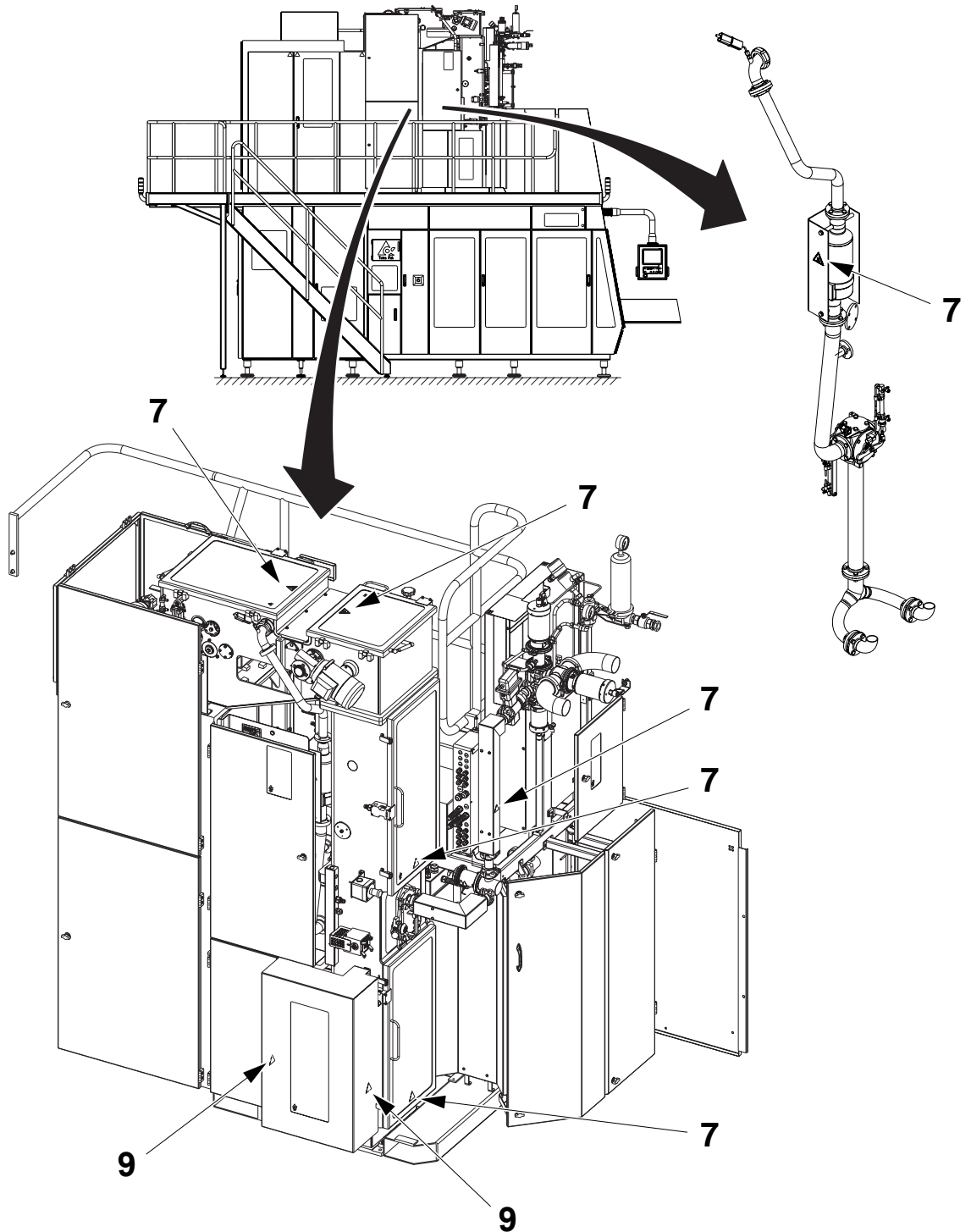
TechPub_2614345_0105 - OM_81809_0110sp.fm

Pos.	ISO sign	ANSI sign
5		 <p>Chemical hazard. Corrosive and oxidising chemical. □ Could cause death or serious injury. □ Read Safety Precautions in Operation Manual (OM) before handling hydrogen peroxide.</p>
6		 <p>Risk of eye injury. Wear eye protection.</p>
7		 <p>Hot surface. Do not touch. Follow lockout procedure before maintenance.</p>
8		 <p>Hazardous voltage. Can shock, burn, or cause death. Read Maintenance Manual (MM) before using this socket outlet.</p>
9		 <p>Hazardous rotating shafts and belts. Can crush and cut. Keep hands clear while the machine is operating.</p>

TechPub_2614345_0105 - OM_81809_0110sp.fm

Locations of Safety Signs

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

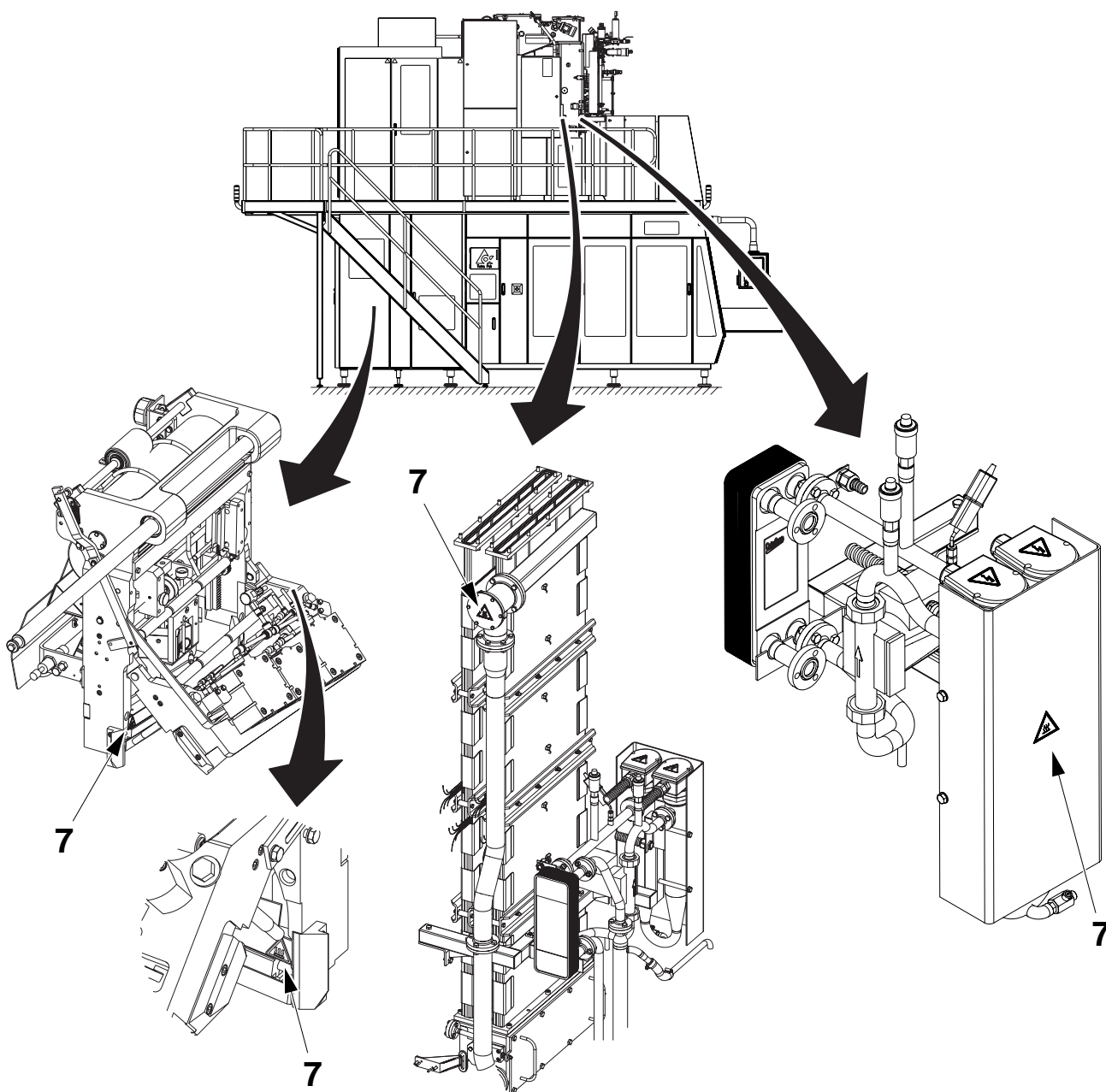


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

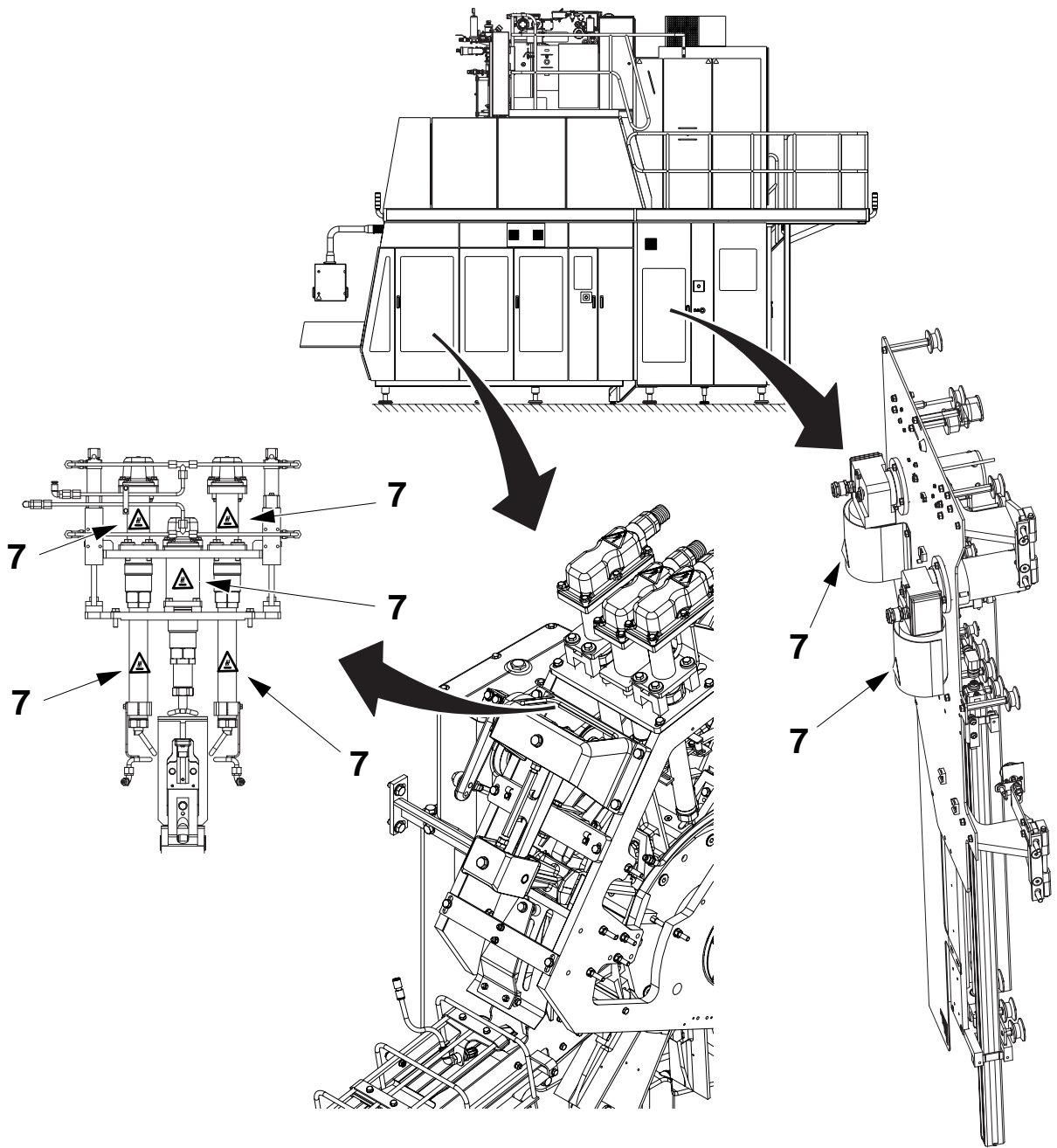


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

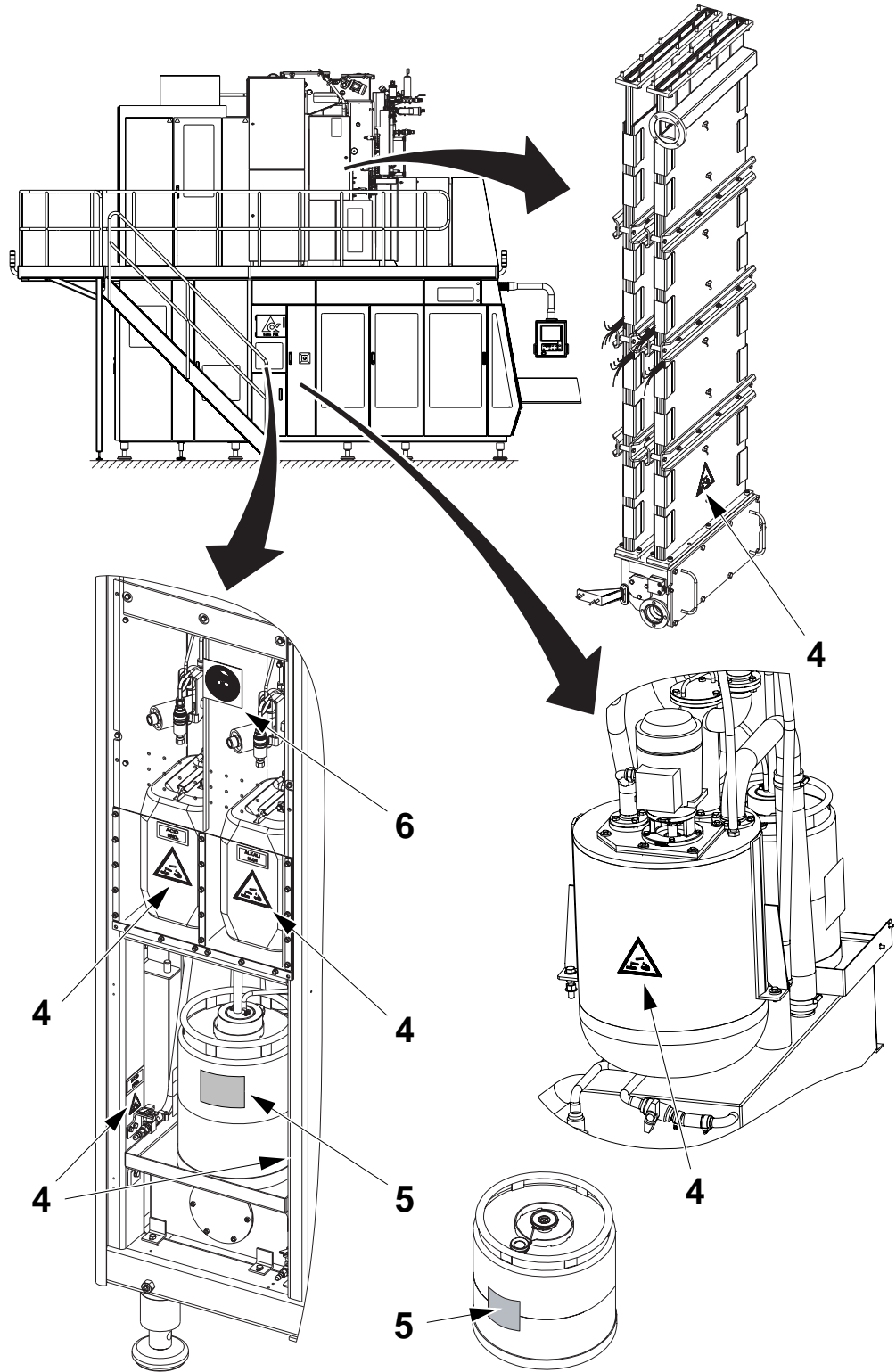


(Cont'd)

TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

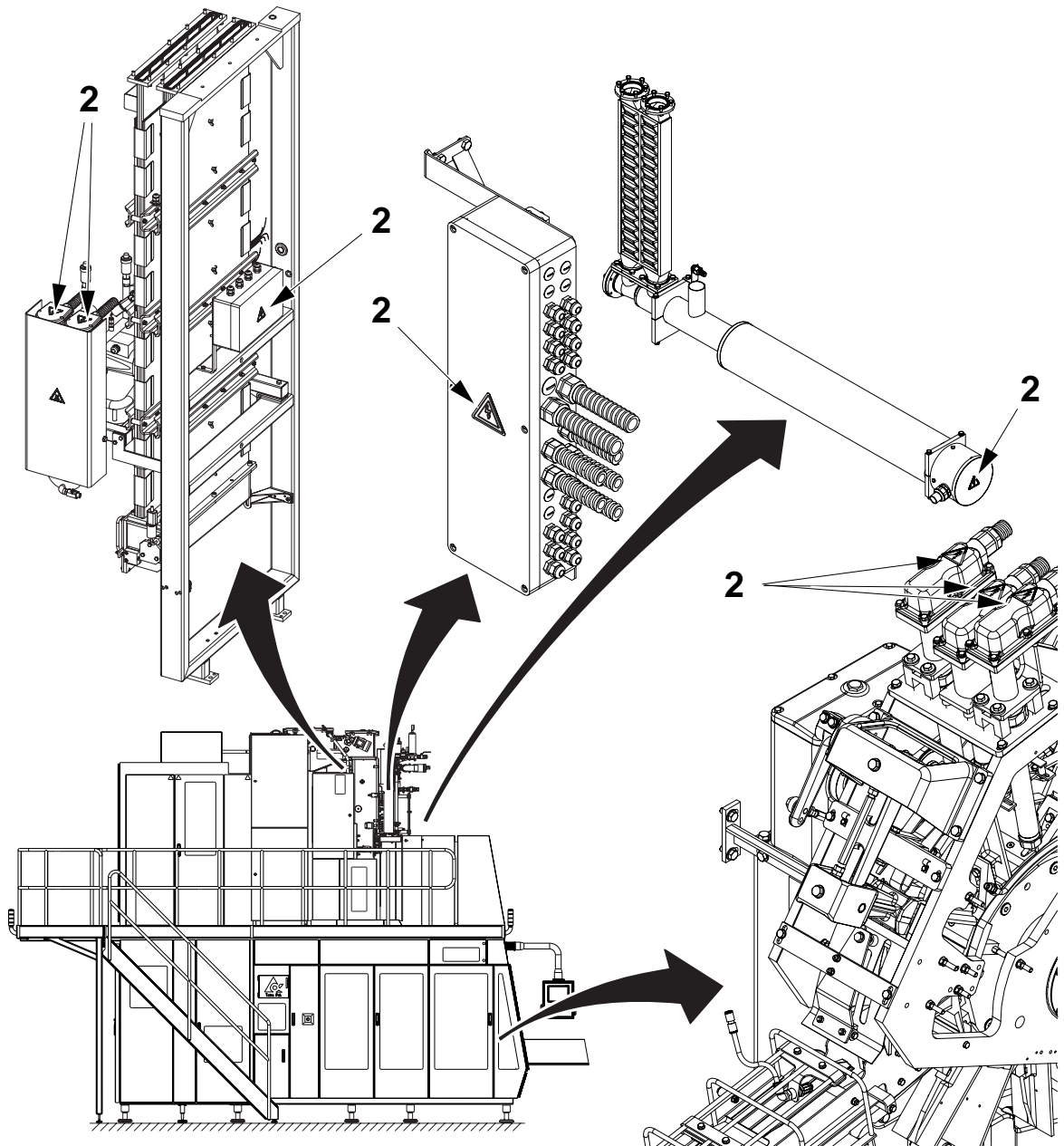


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

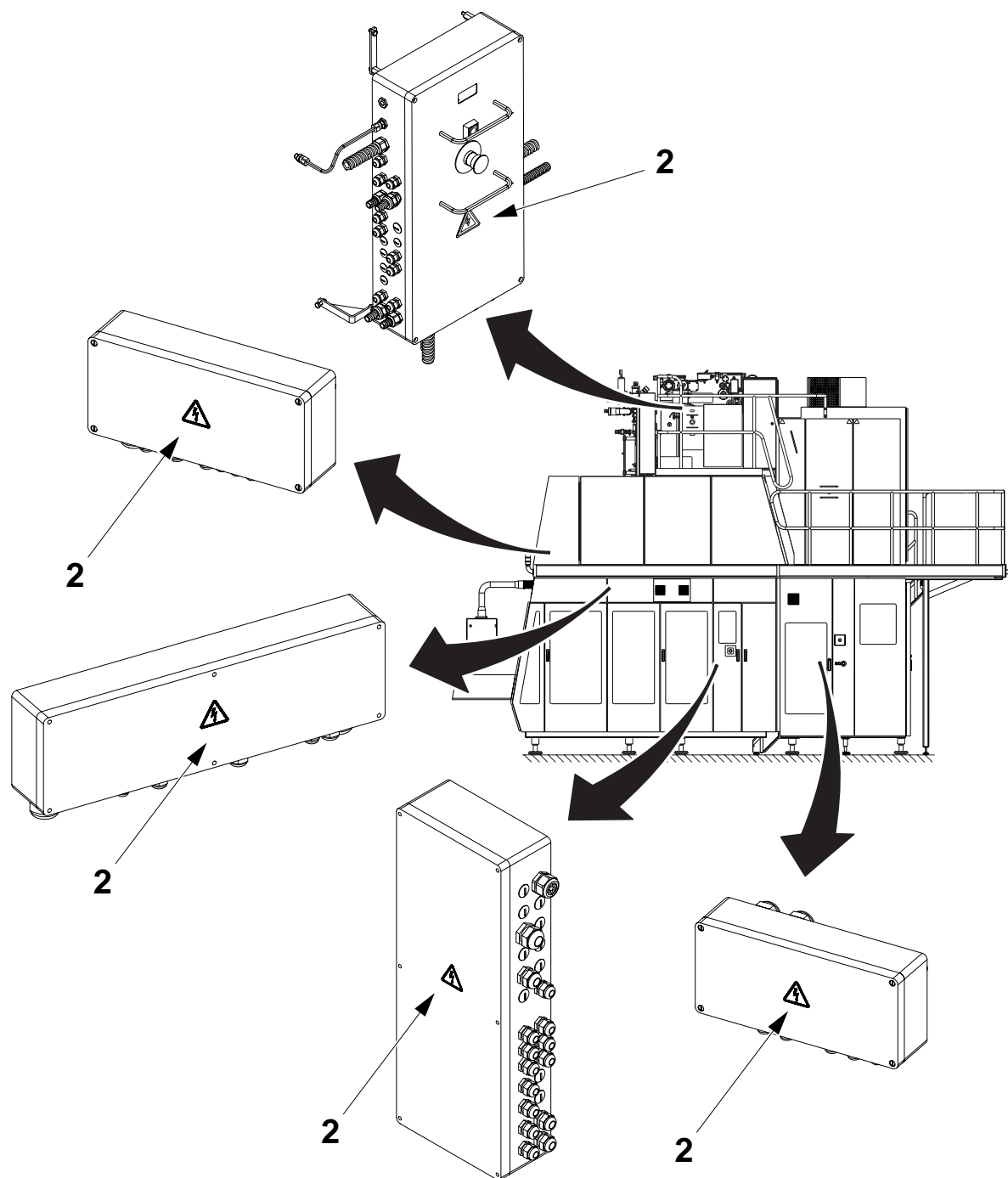


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

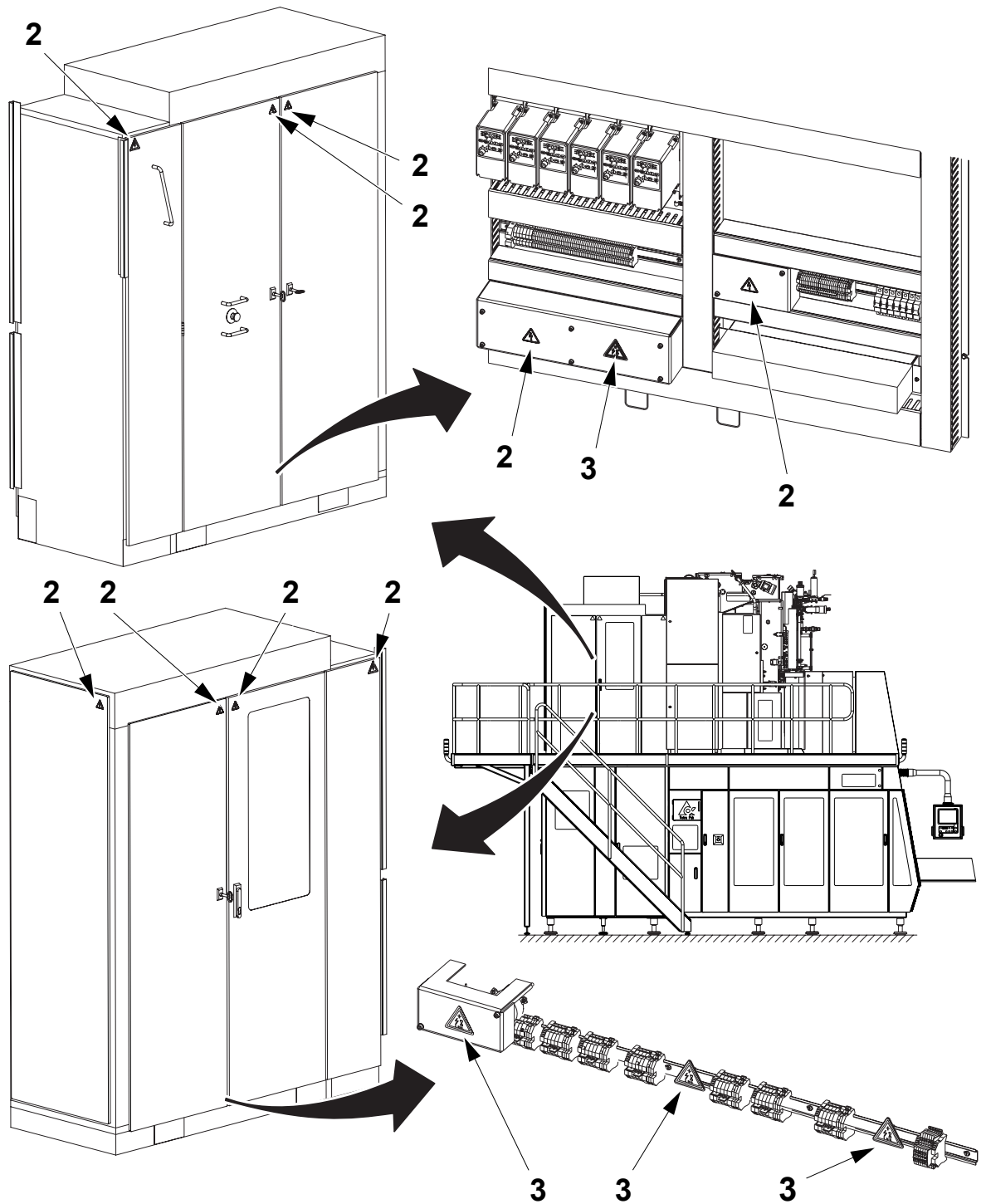


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

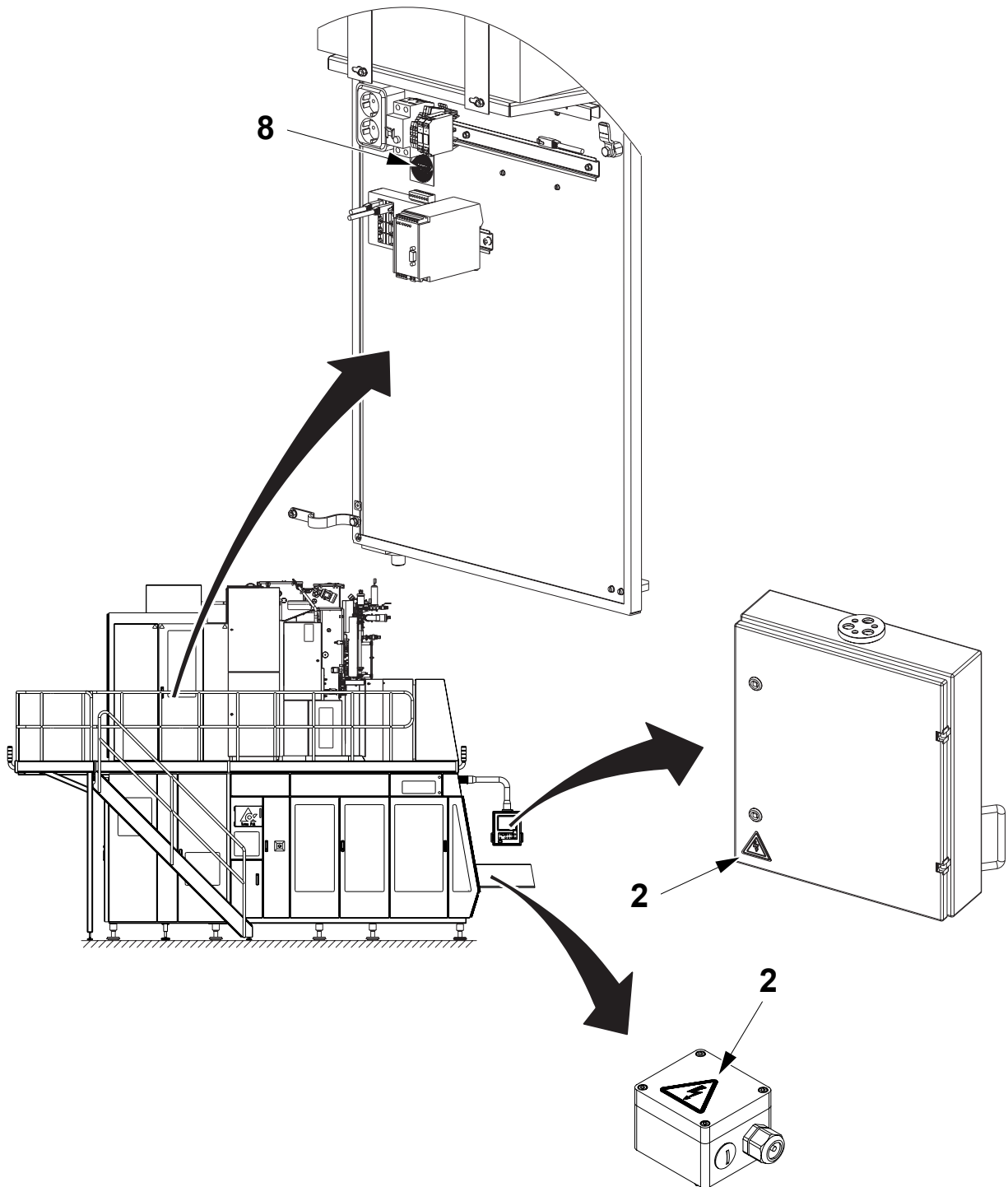


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

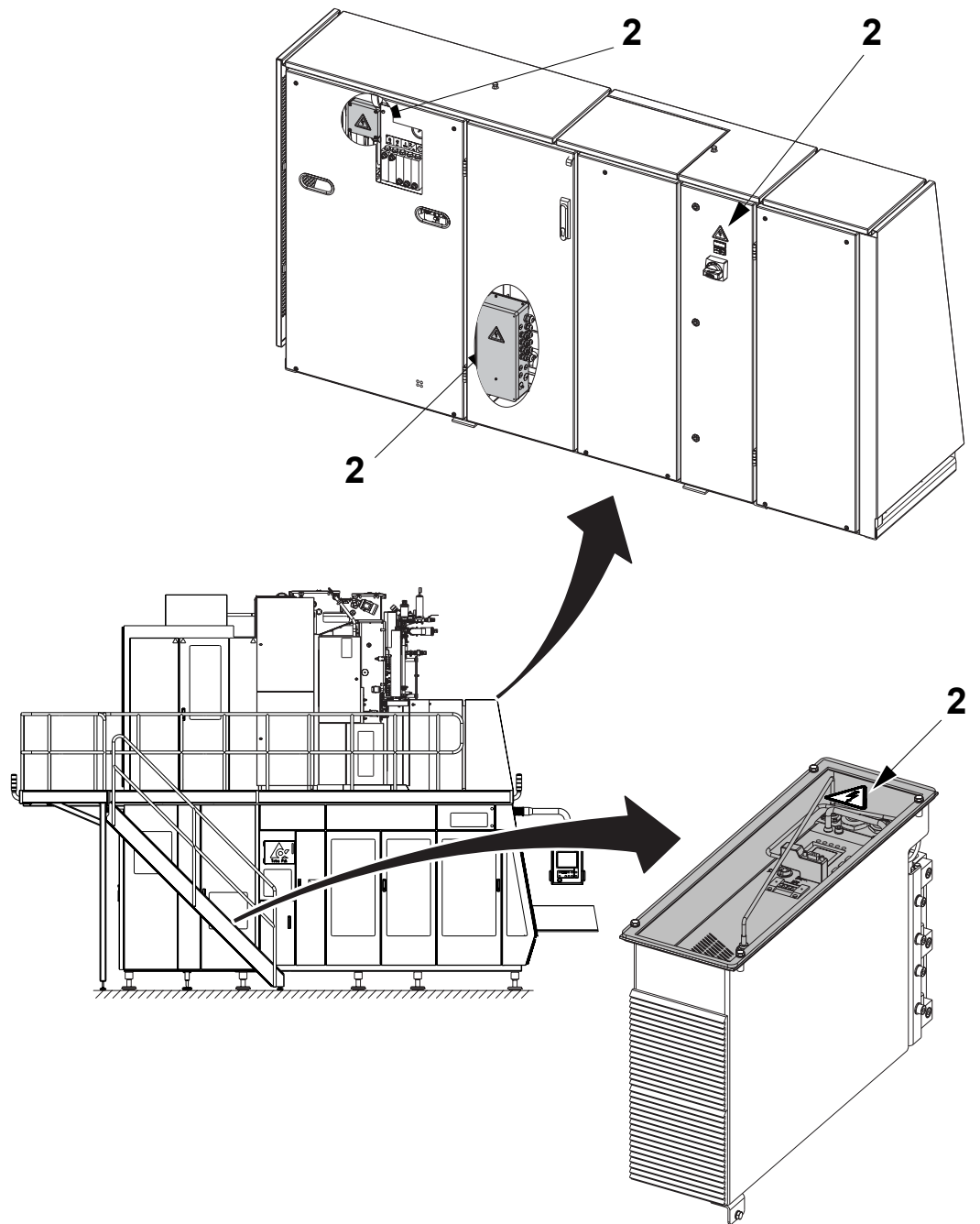


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.



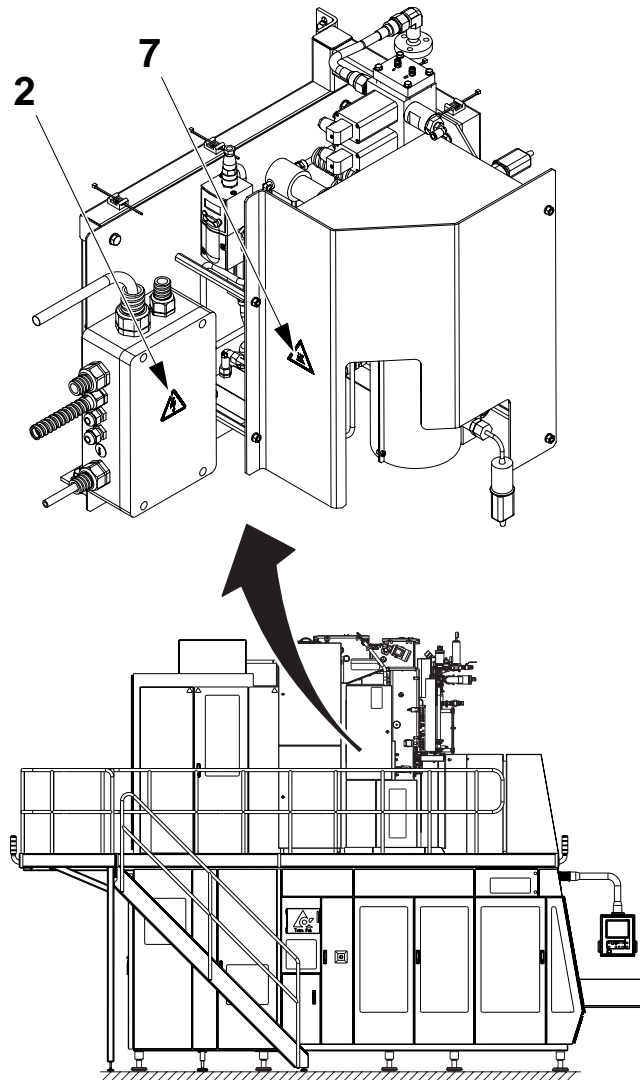
TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

HI Equipment (OE)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.

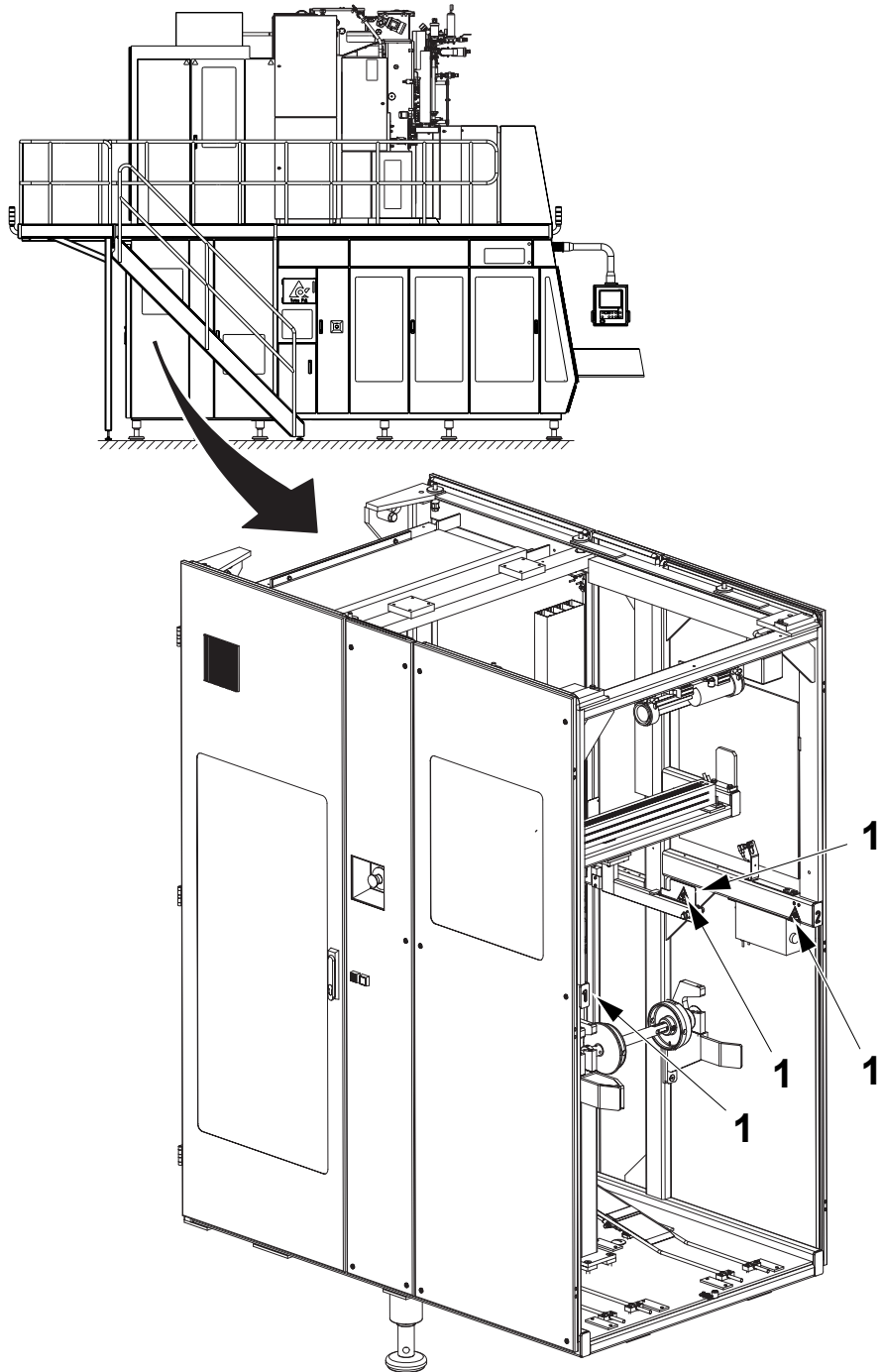


TechPub_2614345_0105 - OM_81809_0110sp.fm

(Cont'd)

(Cont'd)

The illustration shows where the safety signs are located. The position numbers refer to the table in the Safety Signs section.



TechPub_2614345_0105 - OM_81809_0110sp.fm

Protective Devices



WARNING

Hazardous zones.

Hazardous zones are safeguarded and provided with protective devices. Do not inch or run this equipment if any protective device is inoperative.

Change inoperative components of the safety system immediately.



WARNING

Hazardous voltage.

Hazardous voltage remains on this equipment after activating an EMERGENCY STOP or an interlocking device.

Emergency Stop

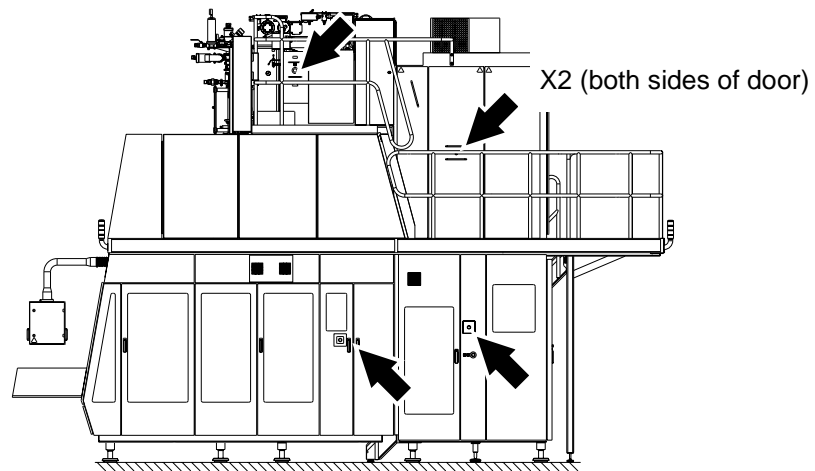
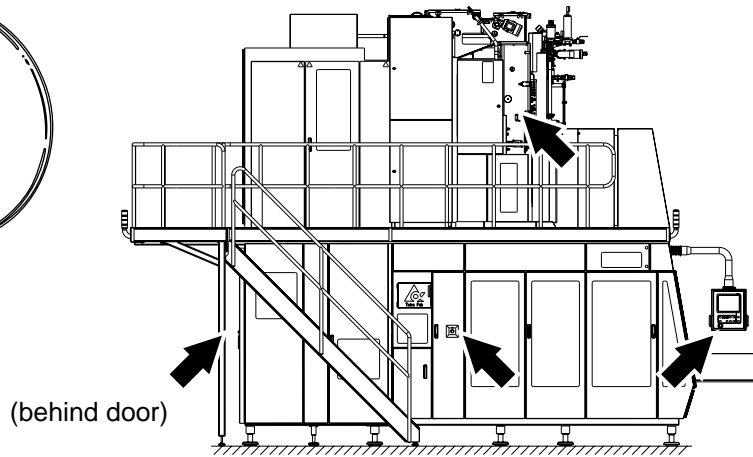
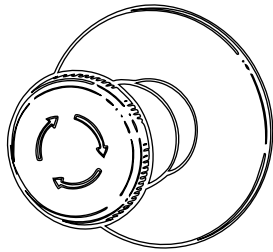
Emergency stop devices are used to stop this equipment immediately in an hazardous situation. Learn the positions of all emergency stop devices and how to use them.

Instructions for a normal production stop are included in the Stop chapter of the Operation Manual.

Emergency Stop Push-Buttons

Push one of the EMERGENCY STOP push-buttons to stop this equipment immediately.

The location of each EMERGENCY STOP push-button is shown by an arrow.



Safeguards



WARNING

Moving machinery.

Never defeat or bypass the interlocking devices.

Movable guards, for example, doors and covers leading to hazardous zones, are fitted with interlocking devices where required. These devices are usually electric safety switches that are parts of the safety system and must never be defeated, bypassed, or otherwise made inoperative.



CAUTION

Burn hazard.

Parts of this equipment may be hot after operation.

After installation and maintenance, and before this equipment is inched or run, check that all safeguards are in place and that they operate correctly.

CAUTION

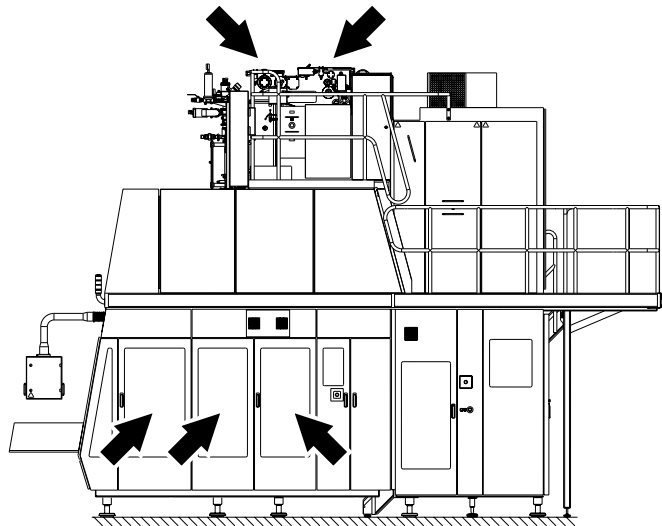
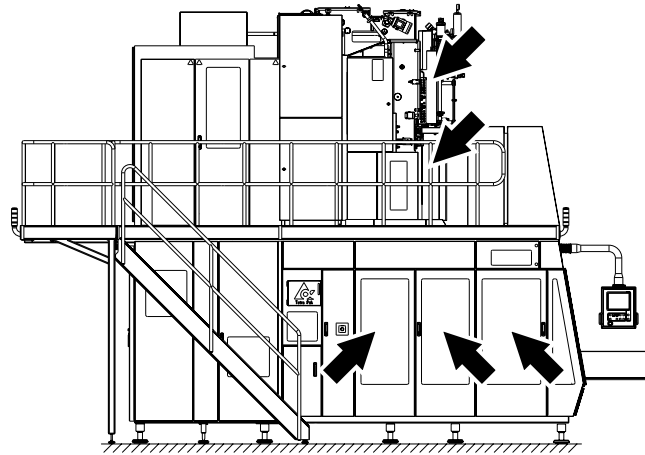
Equipment damage.

Never stop this equipment by opening an interlocking guard.

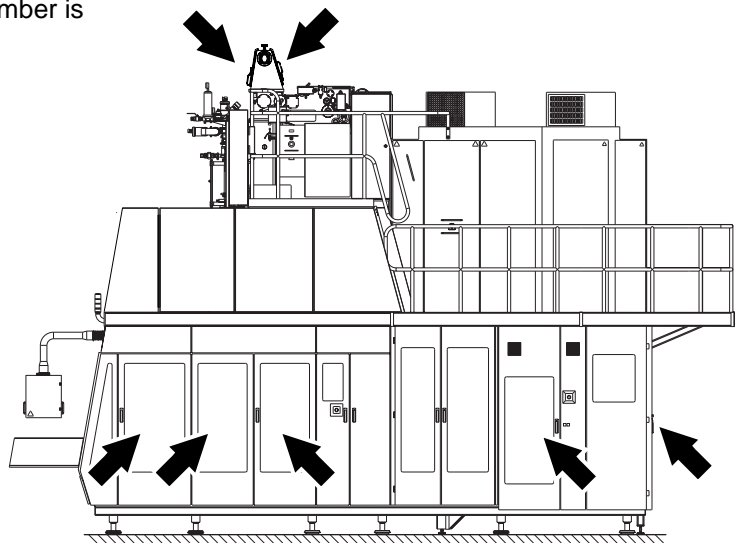
(Cont'd)

(Cont'd)

The location of each interlocking guard is shown by an arrow.



A3/Flex with upper drying chamber is shown



TechPub_2614345_0105 - OM_81809_0110sp.fm

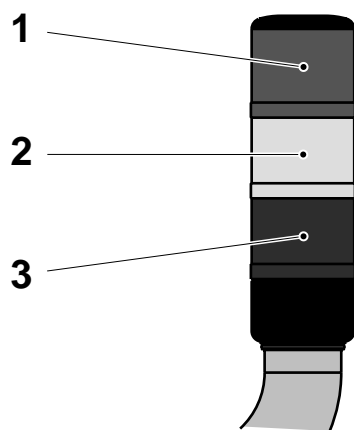
Warning Lamp

A warning lamp is a column of warning lights:

- A red light (1) indicates a hazardous condition. This is a situation that requires immediate action.
- A yellow light (2) indicates an abnormal or impending critical condition. This is a condition calling for action by the operator.
- A blue light (3) indicates that operator action is required.

Audible Alarm

The audible alarm produces a warning signal every time this equipment is about to start. The warning signal sounds for approximately three seconds prior to starting to alert personnel.



- 1 Red light
- 2 Yellow light
- 3 Blue light

Personal Protection

This section applies to all personnel at all times when this equipment is in operation. For special personal protection required when handling hazardous substances, see the [Hazardous Substances](#) section.

Noise Hazard



CAUTION

Hazardous noise.

Risk of impaired hearing. Hearing protection is recommended whenever this equipment is in operation.

Entanglement Hazard



WARNING

Risk of entanglement.

Do not wear jewellery or loose clothing when working on or near this equipment. Long hair may not be loose.

Hazardous Substances

WARNING

Contact with chemicals can cause death, serious injury, or illness.

Always read and follow the instructions in the safety data sheet supplied by the manufacturer or local supplier, when handling chemicals.

Make sure that

- the safety data sheet is available
- the showers work
- an eyewash device, movable or wall-mounted, is available and operational
- additional washing facilities are nearby

Note! Learn the locations of all washing facilities in order to act immediately in case of an accident



Disposal of Chemical Substances

Always read and follow the disposal instructions in the safety data sheet supplied by the manufacturer or local supplier.

It is strongly recommended that used chemical containers are

- disposed of according to the instructions immediately after use
- not used as disposal containers for other chemicals in order to avoid uncontrolled chemical reactions within the container

Hydrogen Peroxide (H₂O₂)



WARNING

Corrosive chemical.

Wear personal protective equipment.

In both liquid and gas states, hydrogen peroxide may cause irritation or damage if it comes into contact with skin, mucous membranes, eyes, or clothes. Call for medical attention immediately if there is an accident.

Liquid hydrogen peroxide in concentrations of less than 1% is generally considered harmless to humans.

Consult the instructions on the label of the tank or container.

Emergency Procedures

If there is an accident involving hydrogen peroxide, rinse the affected area as soon as possible with large amounts of water.

If hydrogen peroxide is swallowed

- do not attempt to cause vomiting
- drink large amounts of lukewarm water to dilute the peroxide
- call for medical attention immediately

If splashes or vapour from hydrogen peroxide come in contact with the eyes

- wash the eyes thoroughly with lukewarm water for 15 minutes (keep eyelids wide apart)
- call for medical attention immediately

If hydrogen peroxide comes into contact with skin or clothes

- rinse immediately with plenty of water
- call for medical attention immediately if skin burns appear
- thoroughly wash the clothes before wearing them again

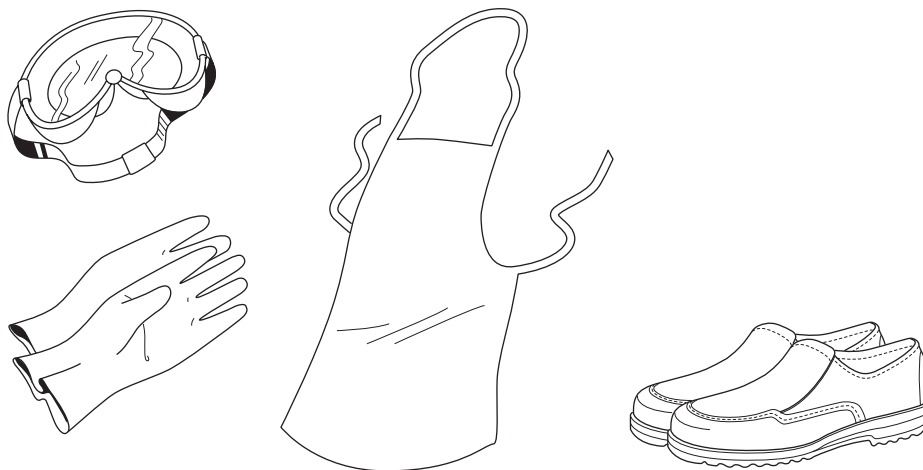
If irritation or pain is experienced due to having **inhaled** hydrogen peroxide vapour

- leave the affected area and get some fresh air
- call for medical attention if the symptoms get worse

Personal Protective Equipment

The personal protective equipment for hydrogen peroxide is

- protective goggles (TP No. 90303-11)
- protective gloves made of neoprene (TP No. 90303-12)
- protective apron (TP No. 90303-13)
- protective shoes made of PVC, PE plastic, or rubber



Handling of Hydrogen Peroxide

WARNING

Sudden and violent chemical reaction.

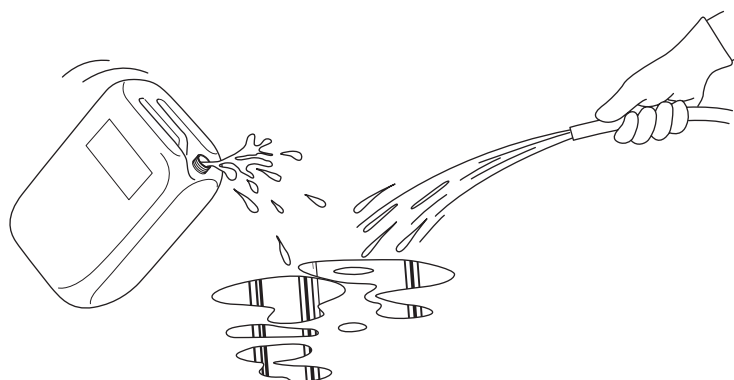
Avoid any contamination of hydrogen peroxide.

Hydrogen peroxide reacts suddenly and violently with many compounds or if it is contaminated. The reaction is a violent decomposition liberating oxygen and heat, with a big increase in volume due to the oxygen produced by the peroxide decomposition.

Never pour surplus hydrogen peroxide back into the original container if it contains fresh hydrogen peroxide. There is a risk of explosion when hydrogen peroxide is in a closed container.

Ensure that equipment used for handling and diluting hydrogen peroxide is clean before it comes in contact with hydrogen peroxide. Pumps or other equipment used for handling hydrogen peroxide must be **used for this purpose only** and must be manufactured from appropriate materials, such as stainless steel 316 L, glass, polyethylene, or teflon. After use, make sure that all peroxide residue is rinsed away.

If hydrogen peroxide is spilled, dilute it with large amounts of water. Dispose of the diluted hydrogen peroxide according to local regulations.



WARNING

Self-ignition.

Never wipe up hydrogen peroxide with materials such as rags or paper as these may self-ignite several hours after contact. If there is a fire, spray with large quantities of water.

Storage of Hydrogen Peroxide

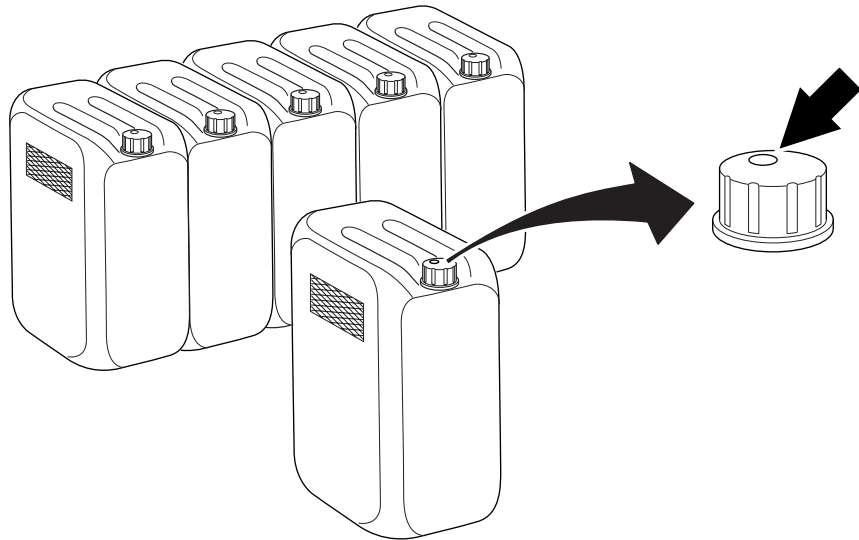


Containers may explode if not properly ventilated.

Keep the container upright and fitted with its proper ventilation cap. If there is a fire, cool all containers by spraying them with large quantities of water.

Hydrogen peroxide decomposes much faster with increasing temperature. There is a risk of explosion at high temperatures, since the ventilation cap cannot release the gases produced quickly enough.

Hydrogen peroxide **must** be stored in the **original container** delivered by the supplier. Keep the container upright and fitted with its proper ventilation cap, which allows oxygen to escape. Otherwise, there can be an explosion if decomposition of the peroxide occurs violently.



Make sure that the container is always properly closed.

(Cont'd)

(Cont'd)

Commercial food-grade hydrogen peroxide has been stabilized to inhibit the catalytic decomposition effects of metals and other impurities, but it can decompose into oxygen and water if it is exposed to heat or contaminated.

Make sure that the area used for storage of hydrogen peroxide is

- cool, clean, and well ventilated
- shielded from direct sunlight
- kept free from combustible materials

Disposal of Hydrogen Peroxide

Always read and follow the disposal instructions in the safety data sheet supplied by the manufacturer or local supplier.

Supply Systems

Power Supply



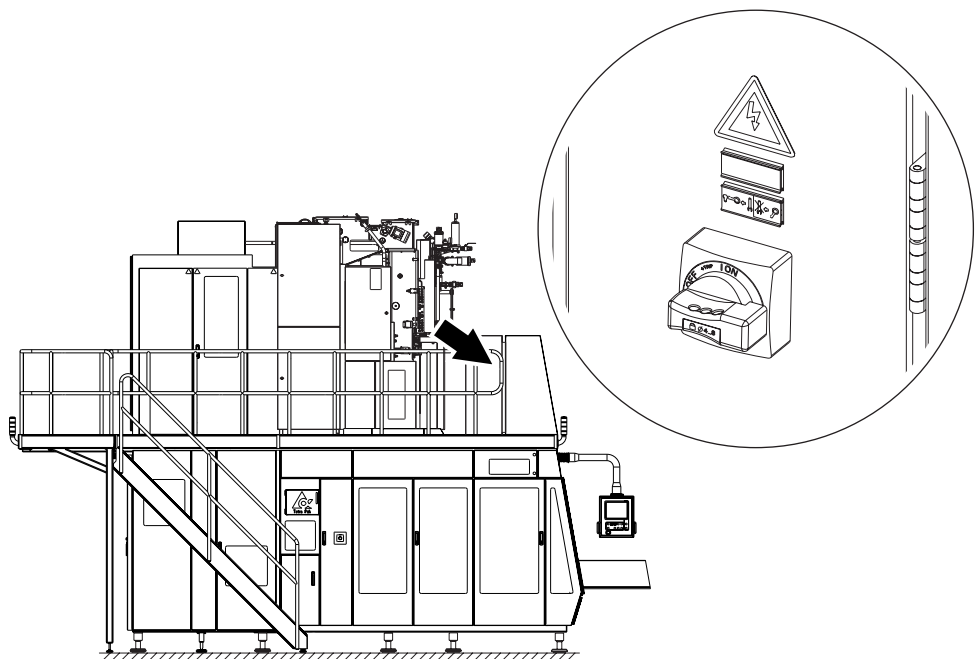
Hazardous voltage and moving machinery.

The power supply disconnecter must be turned off and secured with a lock before any maintenance.

Note! The key to the lock must be removed by the technician and retained in his/her possession until all work is completed.

Certain maintenance procedures may require power supply systems to be on. These exceptions are clearly stated in the Maintenance Manual.

The illustrations show the power supply disconnecter and its location.



Residual Voltage



Hazardous voltage.

Do not touch any terminals immediately after the power supply disconnecter is turned off. Ensure that no residual voltage remains on the capacitors before touching. Wait five minutes. Failure to observe this information will cause death or serious injury.

After the power supply disconnecter is turned off, residual voltage remains in the capacitor circuits.

Electrical Cabinet



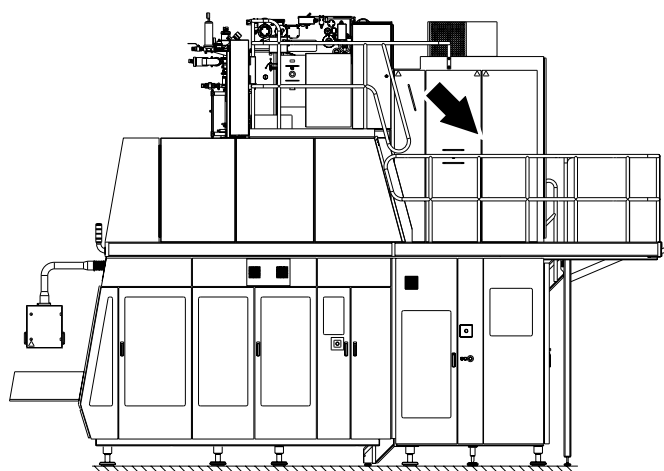
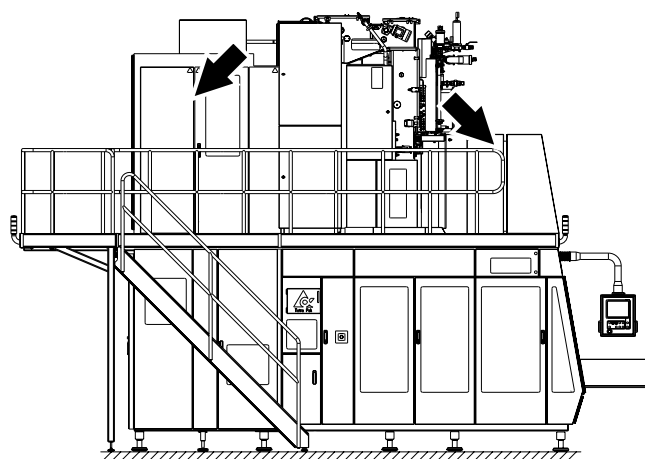
Hazardous voltage.

Will shock, burn, or cause death. The power supply disconnecter must be turned off and secured with a lock before maintenance inside the electrical cabinet.

Note! The key to the lock must be removed by the technician and retained in his/her possession until all work is completed.

Make sure that the electrical cabinet doors are closed after working inside the electrical cabinet. Doors with lock must be locked.

The location of each electrical cabinet is shown by an arrow.



Socket Outlet

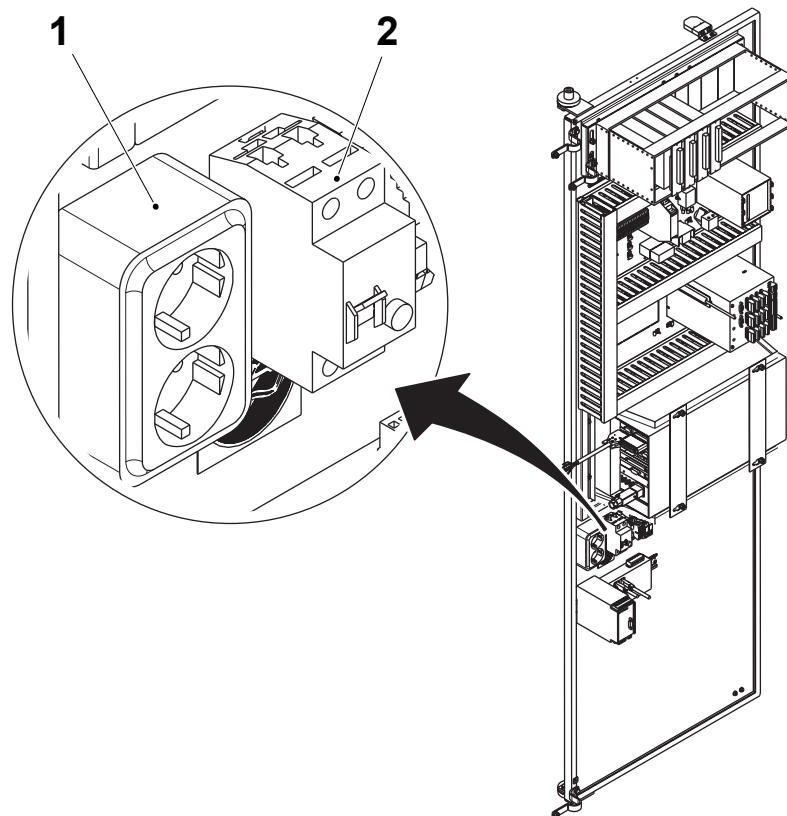
WARNING

Hazardous voltage.

Can shock, burn, or cause death. Read the Maintenance Manual before using this socket outlet.

The socket outlet (1) is connected to a residual current device (2) to protect users against electrical shock if there is an earth fault in the connected equipment. The residual current device shall be tested each time before the socket outlet is being used. See the MM for test procedure.

The illustrations show the socket outlet, the residual current device, and their location.



- 1 Socket outlet
- 2 Residual current device

Air Supply

WARNING

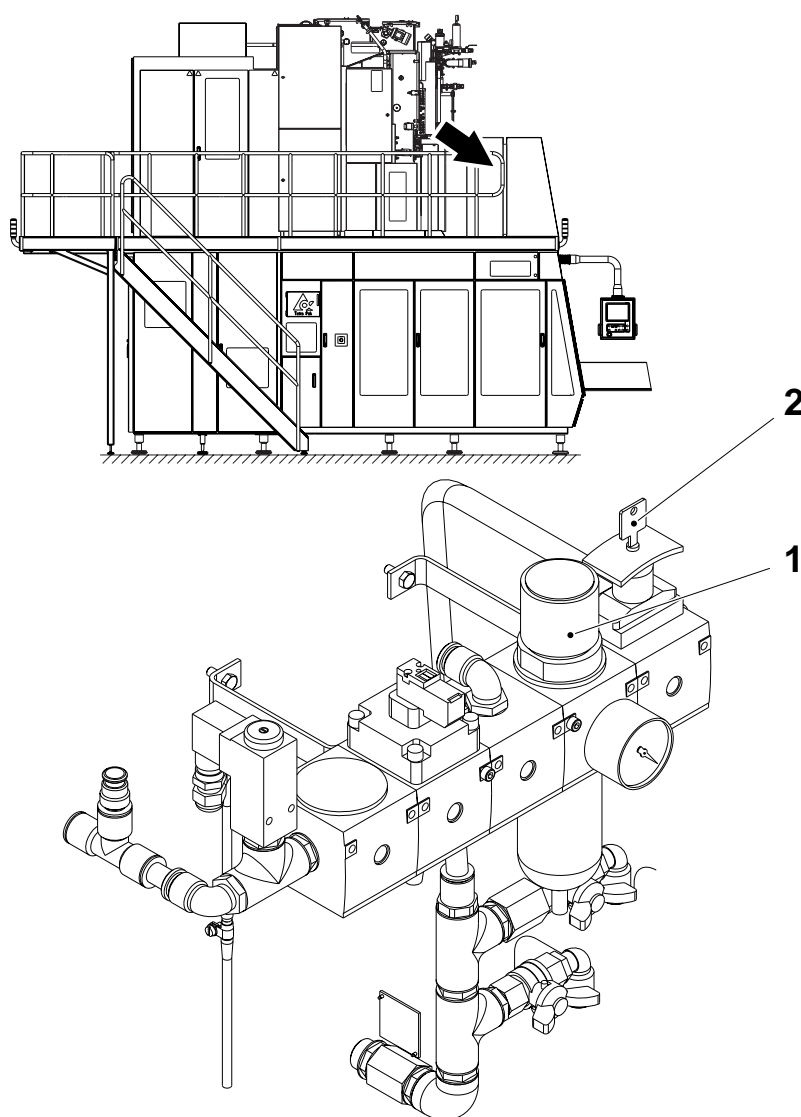
Compressed air and moving machinery.

Close the main air valve and lock it before any maintenance.

Note! The key to the lock must be removed by the technician and retained in his/her possession until all work is completed.

Certain maintenance procedures may require air supply systems to be on. These exceptions are clearly stated in the Maintenance Manual.

The illustrations show the main air valve (1), the lock (2), and their location.



- 1 Main air valve
- 2 Padlock

Steam Supply

WARNING

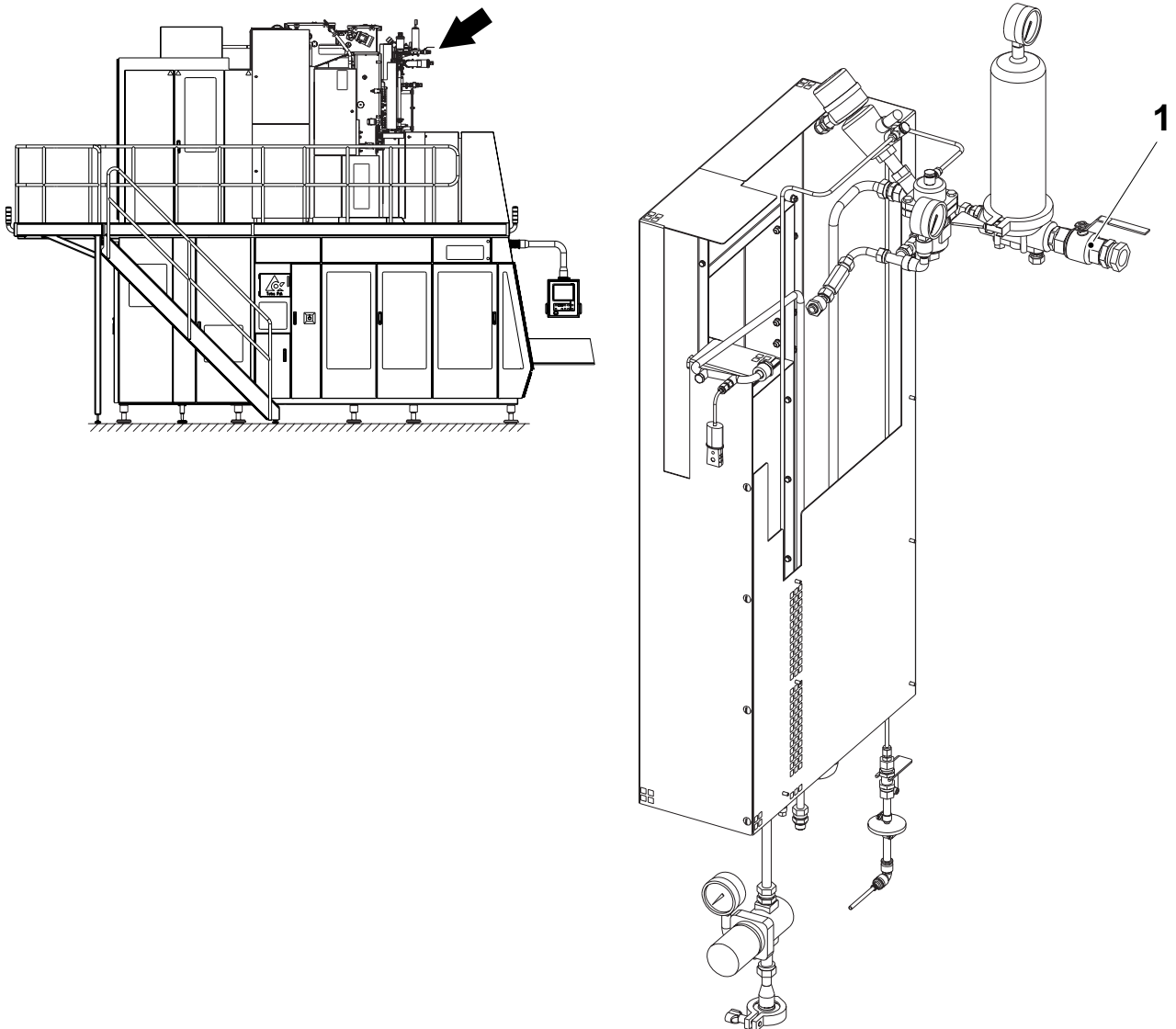
Hot steam can cause scalds.

Pressurized steam can be discharged unexpectedly. Close the steam supply valve and lock it, depressurize and vent all steam safely before any maintenance on parts with steam, such as pipes and valves.

Note! The key to the lock must be removed by the technician and retained in his/her possession until all work is completed.

Certain maintenance procedures may require steam supply systems to be on. These exceptions are clearly stated in the Maintenance Manual.

The illustrations show the steam supply valve (1), and its location.



1 Steam supply valve

Water Supply



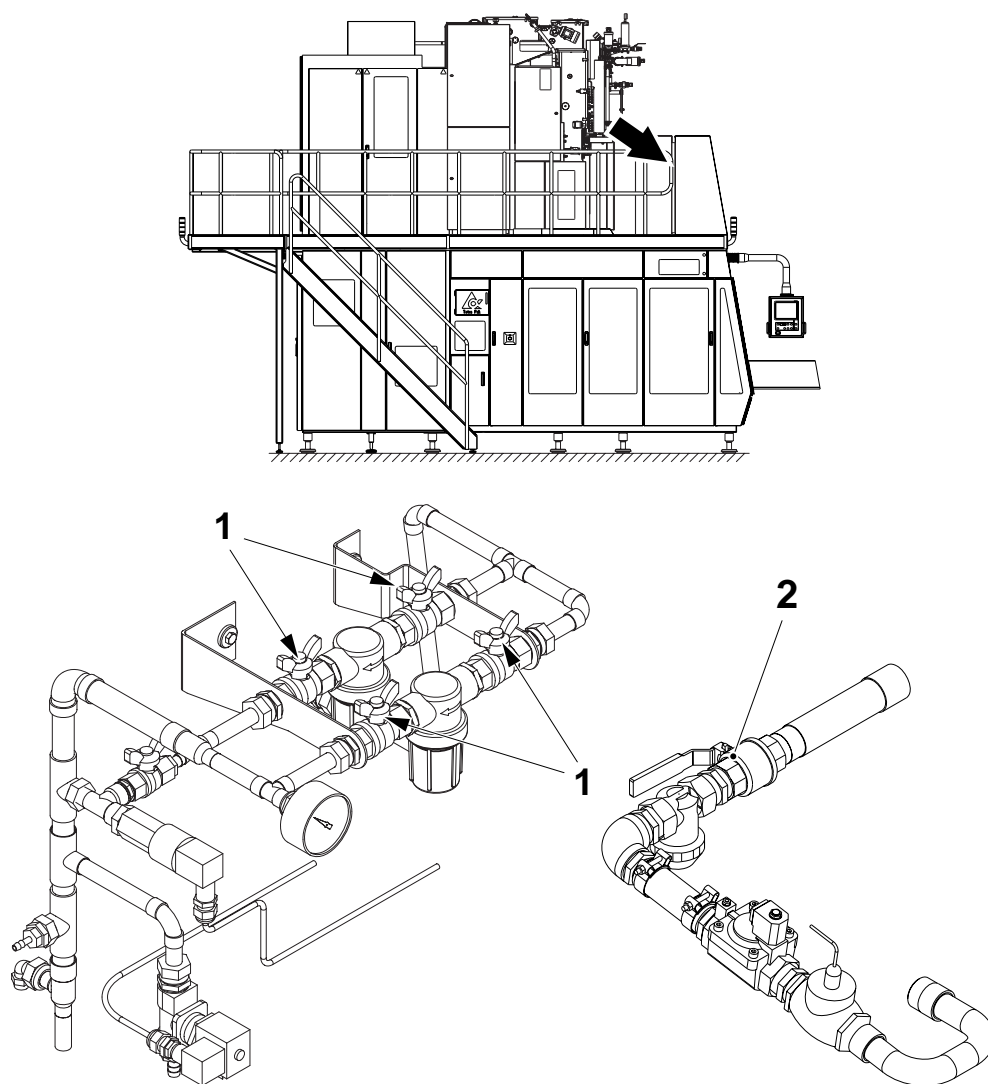
CAUTION

Water under pressure.

Close the water supply valves before any maintenance.

Certain maintenance procedures may require water supply systems to be on. These exceptions are clearly stated in the Maintenance Manual.

The illustrations show the water supply valves (1) and (2), and their location.



- 1 Water supply valve
- 2 Hot water supply valve

Equipment for Lifting and Moving Loads



WARNING

Risk of crushing injury.

Make sure that the capacity of the lifting equipment is adequate and that the equipment itself is in proper working order.

If lifting tackle must be joined to make up the necessary lengths, make sure that the joints are secure and have the same lifting capacity as the rest of the lifting tackle.

Always engage safety clips fitted to lifting hooks to prevent the lifting tackle from slipping off.

Use ropes or poles to steady and manoeuvre suspended loads. Do **not** use hands or feet.

Make sure that the route and destination are free from obstacles before moving a suspended load. It must always be possible to quickly and safely lower the load to the floor in an emergency.

When depositing loads, keep lifting tackle in place until the stability of the load has been substantiated.

This page intentionally left blank

TechPub_2614345_0105 - OM_81809_0110sp.fm

1 General Description

This chapter describes the main parts of the machine and the terminology.



CAUTION

Risk of personal injury or damage to the equipment.

To ensure maximum safety, always read this section and the Safety Precautions carefully before doing any work on the equipment or making any adjustments.

Functional Description	1 - 5
Main Groups of the Equipment	1 - 10
Filling Machine, LH Side	1 - 10
Service Unit	1 - 11
Upper Valve Panel, Machine Body LH Side	1 - 12
Valve Panel, ASU LH Side	1 - 12
Valve Panel, Superstructure LH Side	1 - 13
Electrical Cabinet, Filling Machine LH Side.	1 - 14
Valve Panel, Superstructure Front Side.	1 - 14
HI - Headspace by Injection (OE), Superstructure Front Side.	1 - 15
Filling Machine, RH Side	1 - 16
Filling Machine, RH Side Rear, No Covers.	1 - 17
Lower Valve Panel, Machine Body RH Side.	1 - 18
Control Panel	1 - 19
Machine Symbols	1 - 20
Valve Panels, Symbols	1 - 20
Service Unit, Symbols	1 - 21
Electrical Cabinet, Symbols	1 - 22
ASU, Symbols.	1 - 22
Packaging Material Web Path.	1 - 23

This page intentionally left blank

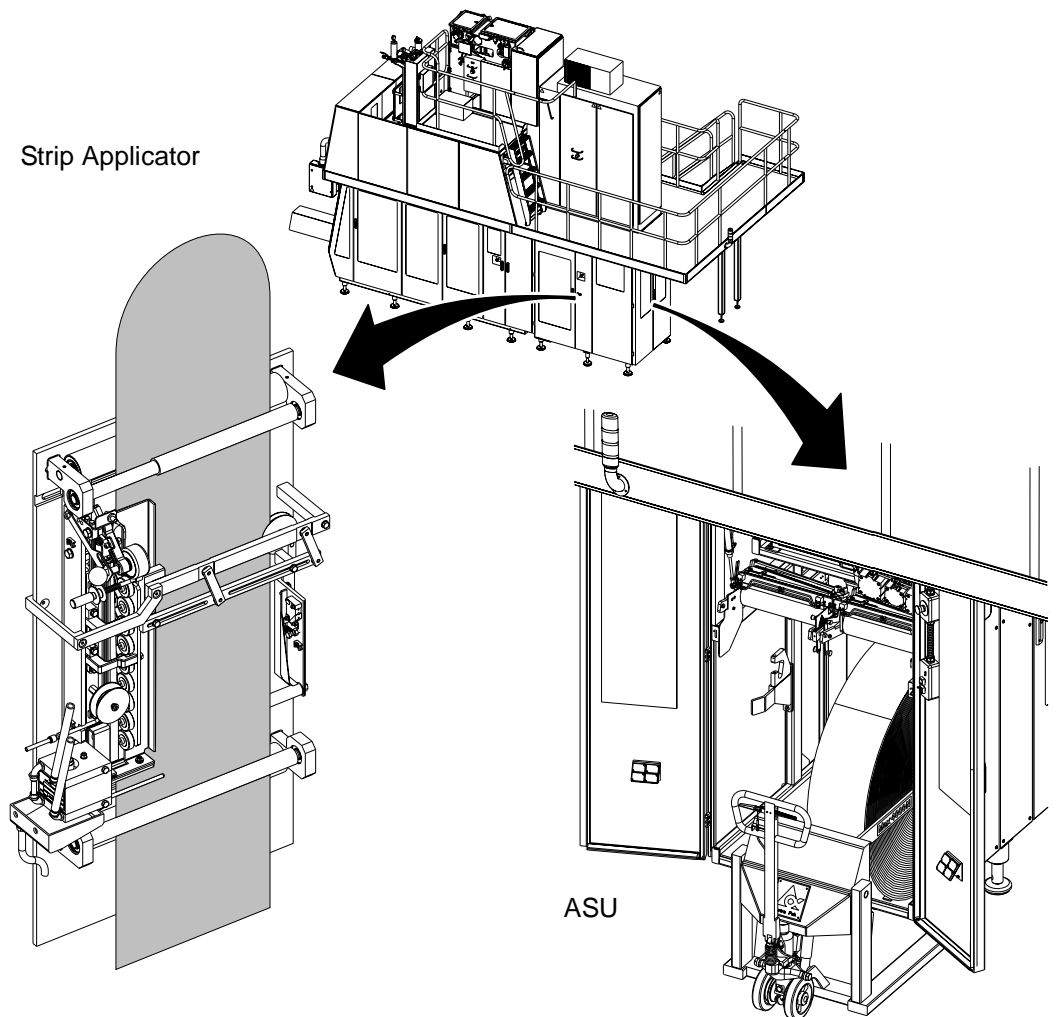
TechPub_2614345_0105 - 04_OM81809_10en.fm

Functional Description

The filling machine is used to package liquid food products such as milk, juices or wine. To create the filled packages the filling machine needs a supply of packaging material.

Reels of packaging material are loaded into the ASU (Automatic Splicing Unit) at the rear of the filling machine. The packaging material reel is then threaded through the ASU and along a route through the machine referred to as the packaging material web path.

After the ASU, the first part of the machine to be threaded with the packaging material is the strip applicator. The strip applicator is used to apply a special strip of polyethylene to one edge of the packaging material. To keep the supply and movement of the packaging material constant whilst the strip is being applied, the packaging material is threaded through a series of “dancing” rollers. The strip will be used later to seal the two edges of the packaging material together.

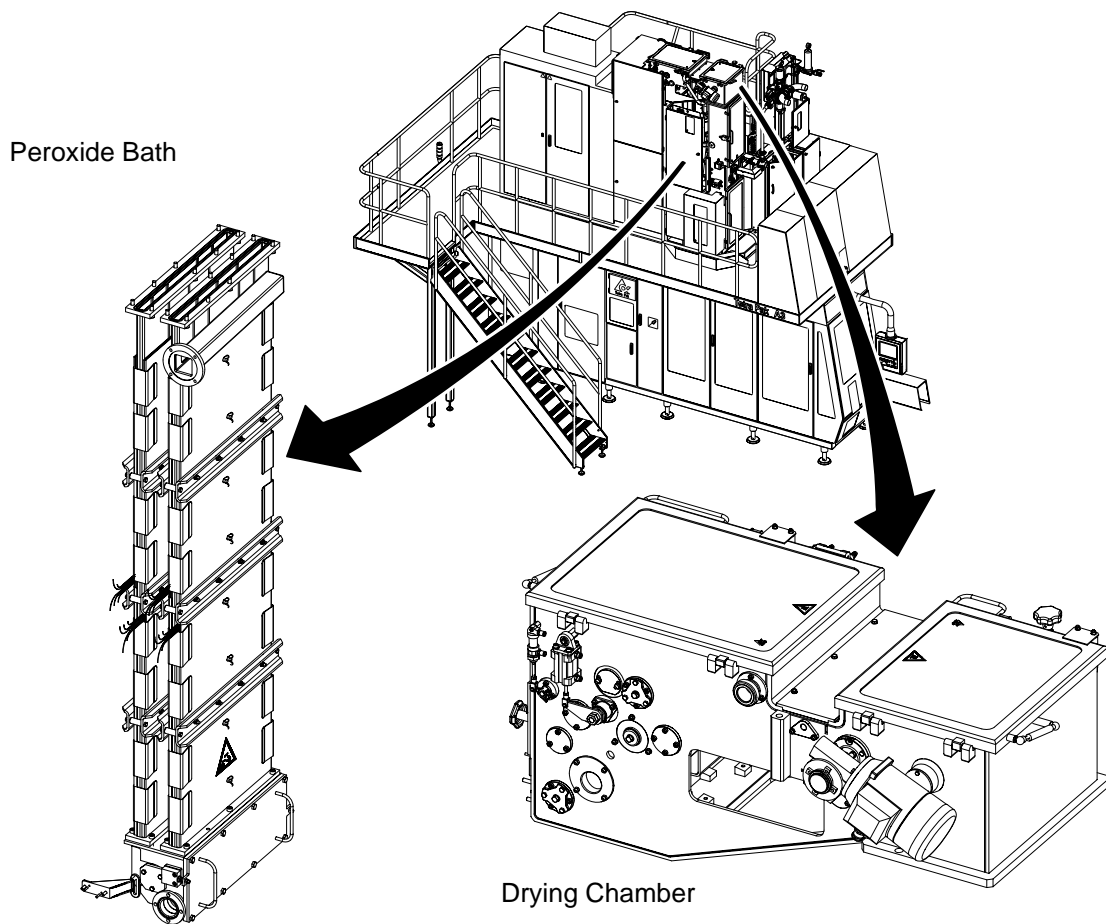


(Cont'd)

(Cont'd)

The packaging material is then fed up through an opening in the filling machine platform, around a bending roller and then enters the peroxide bath. The peroxide bath contains a quantity of diluted peroxide which is heated by electric heating elements attached to the outside of the bath. The peroxide sterilizes the packaging material and eliminates any bacteria that could contaminate the product. As the packaging material exits the peroxide bath, it passes between a pair of rubber coated rollers which squeeze the packaging material to remove any residual peroxide.

The packaging material then enters the drying chamber and passes through the air knife. The air knife is a narrow enclosure where extremely hot and clean air is blown down the surfaces of the packaging material. This removes any remaining traces of the peroxide from the surface of the packaging material.



TechPub_2614345_0105 - 04_OM81809_10en.fm

(Cont'd)

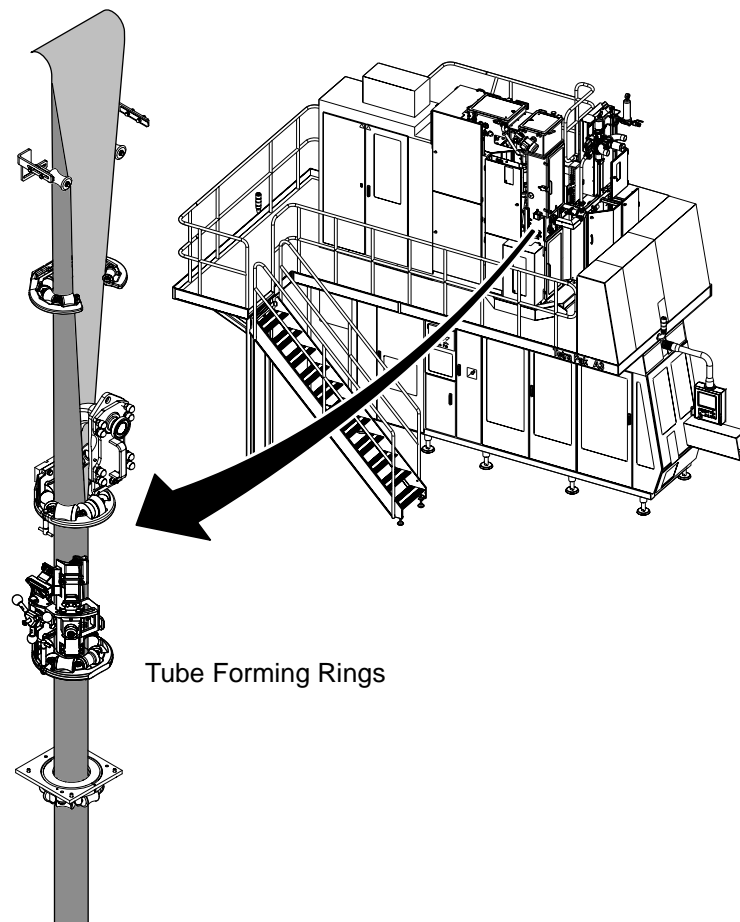
(Cont'd)

The packaging material is now ready to be formed and filled with product.

The forming section of the filling machine consists of a series of “forming rings” positioned at intervals inside the aseptic tower. The forming rings use rollers to progressively form the packaging material into a tube shape. As the packaging material forms a near complete tube in shape, the polyethylene strip is heated and pressed onto the other edge of the packaging material to seal the tube.

The packaging material tube is filled with product by means of a filling pipe. The filling pipe is divided into two parts, the upper filling pipe is fitted inside the aseptic chamber and positioned inside the last two forming rings and continues down into the roof of jaw system compartment below. The lower part of the filling pipe is fitted to the upper filling pipe by a locking pin in the jaw system compartment.

The filling pipe fills the sealed tube with product and the volume of product in the tube is maintained at a constant level to ensure each package is filled with the correct amount of product.



(Cont'd)

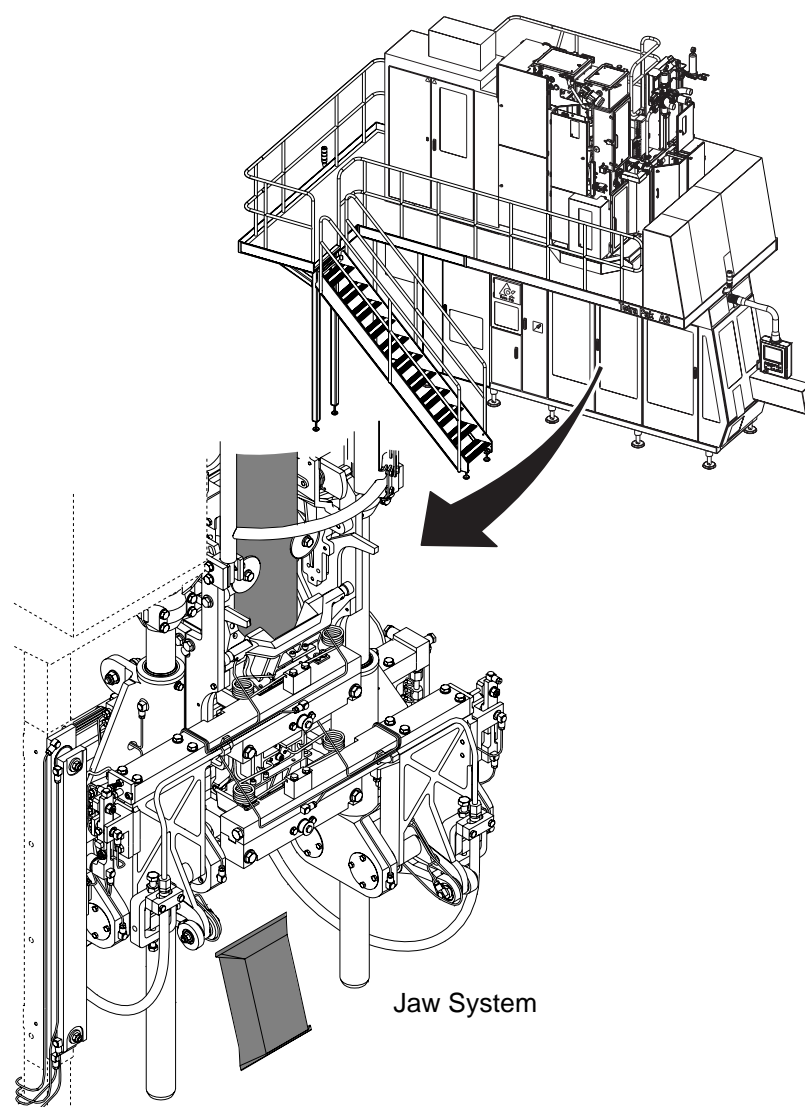
(Cont'd)

The packaging material tube then passes down into the jaw system.

The jaw system is the principal component of the filling machine, as the jaw system drives the movement of all the other filling machine components. When the packaging material tube enters the jaw system compartment, the bar code printed on the packaging material is read by two photocell units.

The jaw system needs to cut the packaging material at a specific point along the packaging material tube. This point is in the centre of the section of the packaging material where the printed design of an individual package ends and a new printed design begins.

Reading the barcode helps the filling machine to understand where the packaging material tube is positioned at that particular moment. With this knowledge the jaw system then cuts off and seals an individual package.



TechPub_2614345_0105 - 04_OM81809_10en.fm

(Cont'd)

(Cont'd)

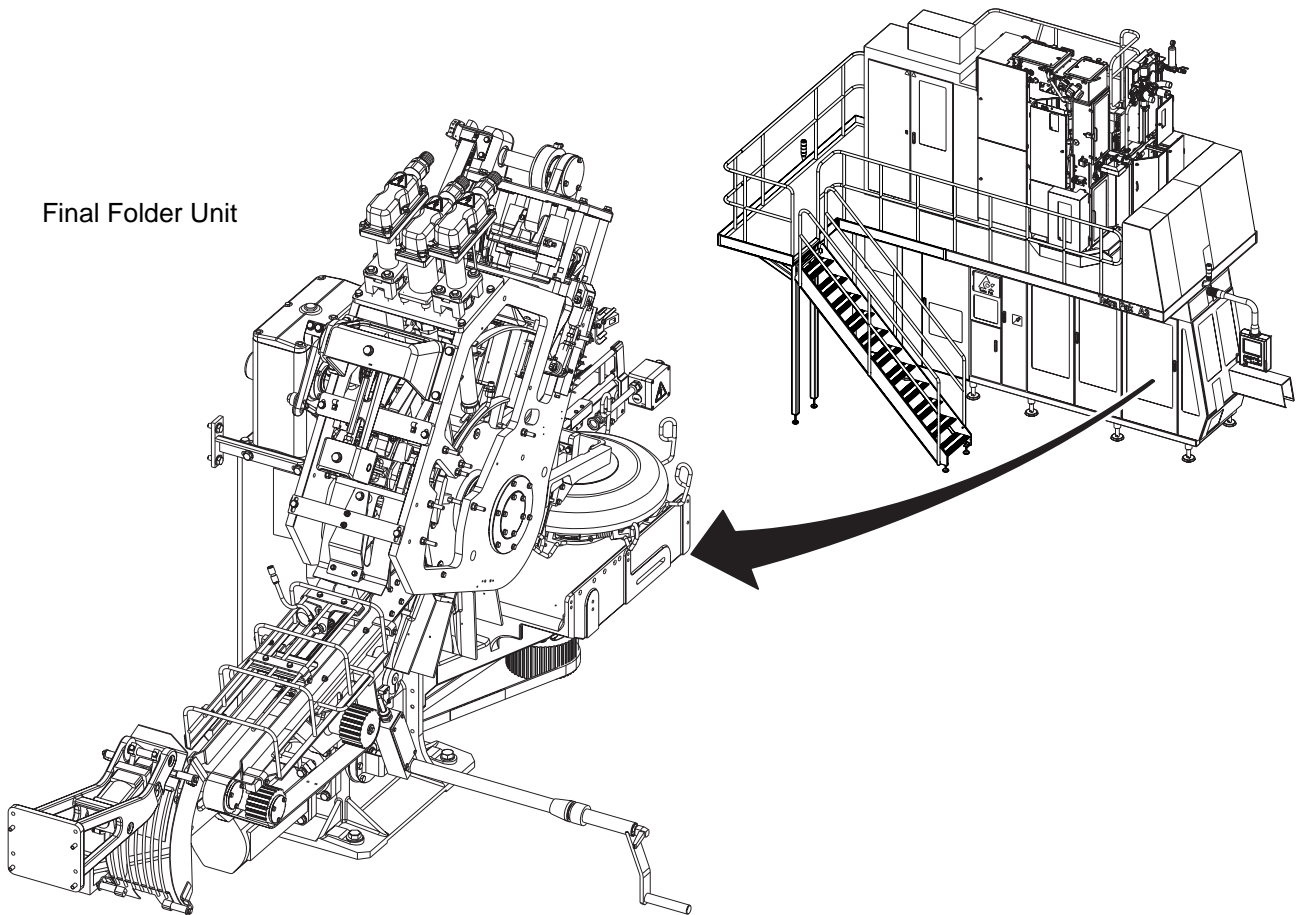
The last component of the filling machine is the final folder unit.

Once the individual package has been cut from the packaging material tube it slides down a drop chute and is carried along a short conveyor to the final folder unit. The final folder is where the package is pressed into shape.

As the package moves through the final folder, folding flaps press the package along predefined creases on the packaging material which forms the package into shape. At the same time, folding bars bend the corners (or flaps) of the package which are then heated with extremely hot air projected at spots on the corners. The hot air melts the polyethylene outer coating of the packaging material and the corners are then pressed and sealed respectively to the bottom and to the sides of the package.

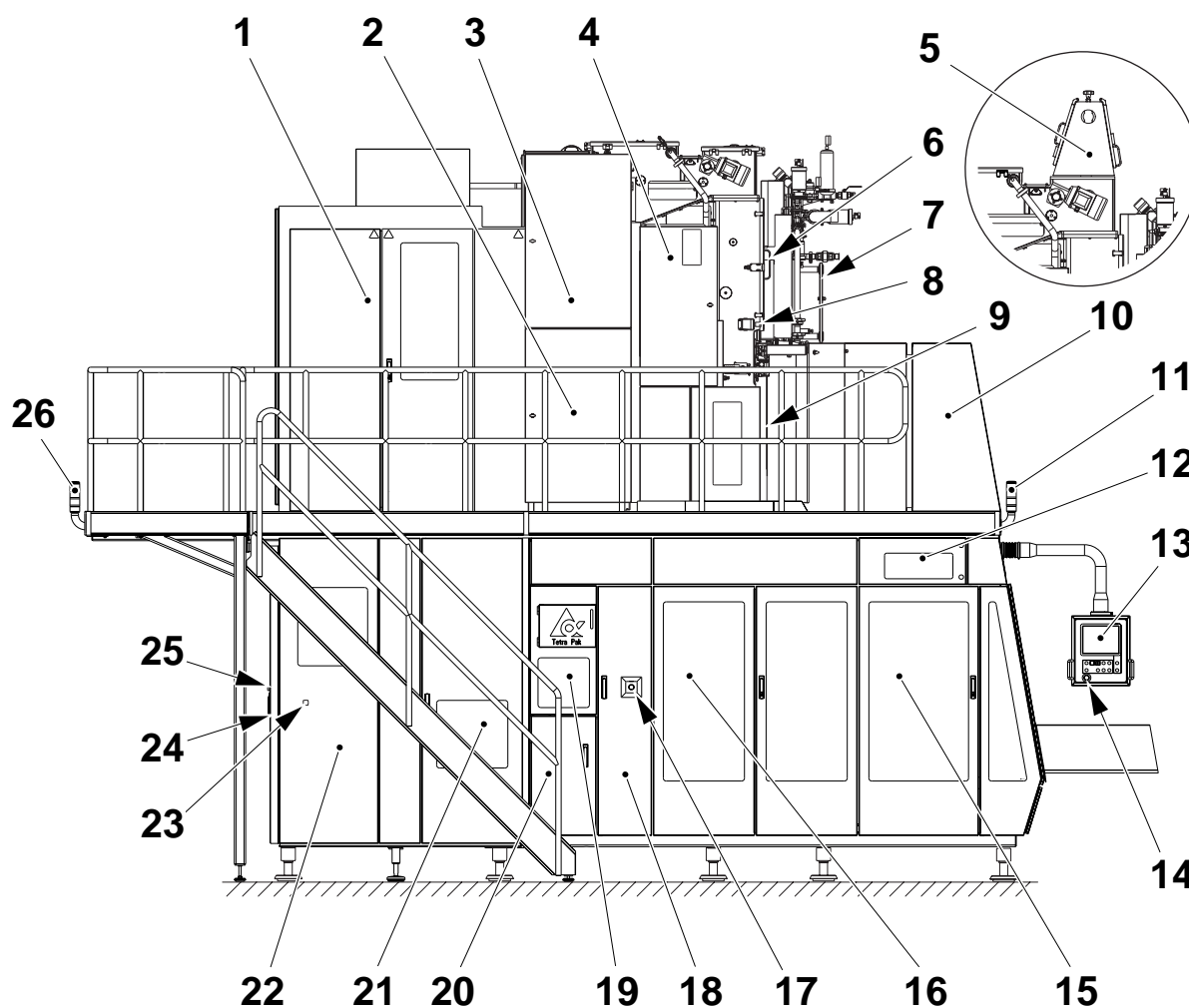
The package exits the final folder unit, is carried along a conveyor and exits the filling machine.

Final Folder Unit



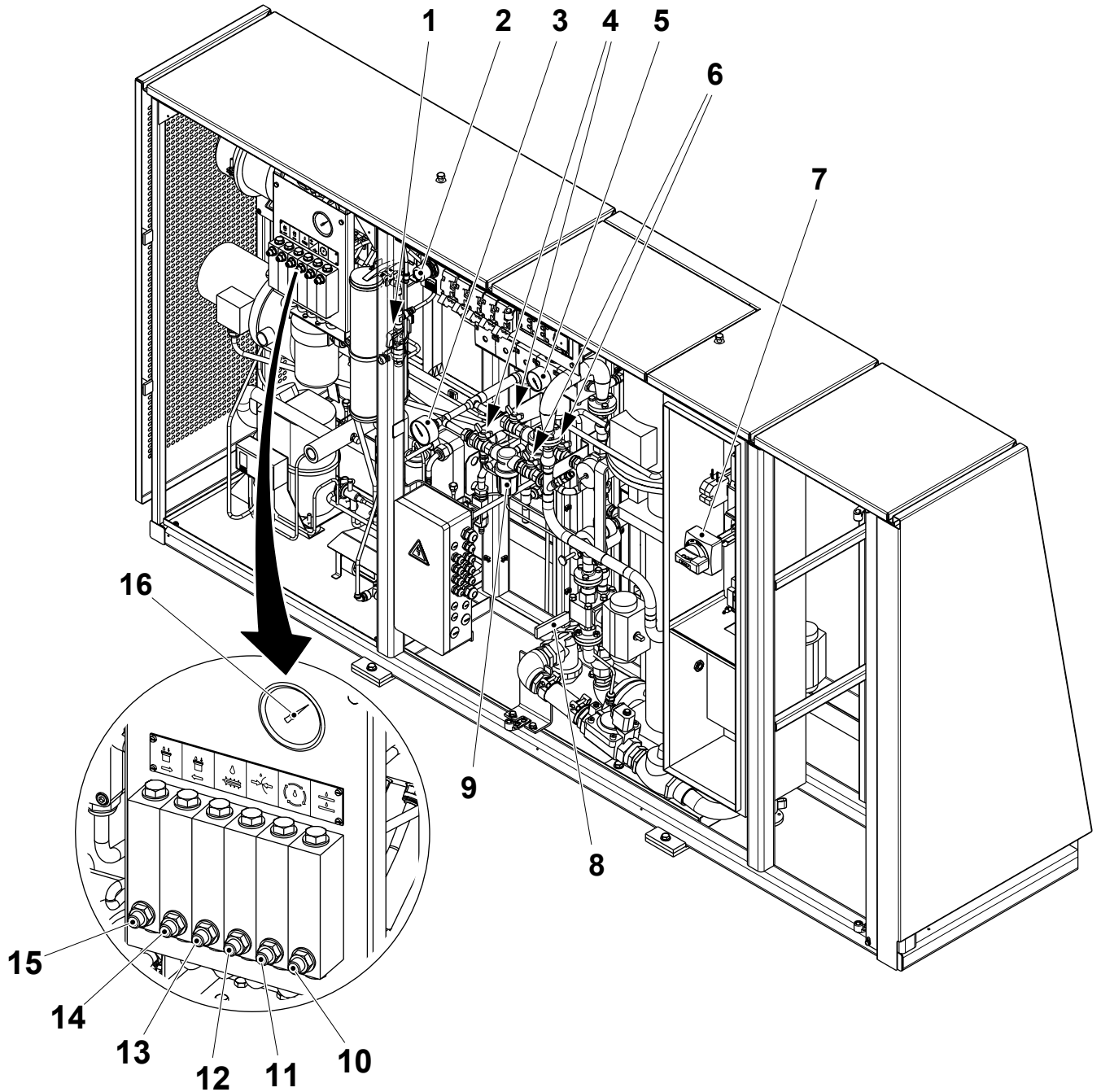
Main Groups of the Equipment

Filling Machine, LH Side



- | | |
|--|--|
| 1 Electrical cabinet, filling machine | 15 Final folder |
| 2 Lower peroxide bath door | 16 Jaw system |
| 3 Upper peroxide bath door | 17 EMERGENCY STOP button |
| 4 Valve panel, superstructure | 18 Central lubrication system and hydraulic unit |
| 5 Upper section (TBA 1890 S/TBA 2000 S Only) | 19 ICU chemical containers and refilling system |
| 6 Upper aseptic chamber door | 20 Hydrogen peroxide container |
| 7 Valve panel, filling system | 21 Valve panel, ASU |
| 8 EMERGENCY STOP button | 22 ASU (Automatic Splicing Unit) |
| 9 Lower, aseptic chamber door | 23 ARL (Automatic reel loading) button |
| 10 Service unit | 24 Behind ASU door: |
| 11 Warning beacon | - EMERGENCY STOP button |
| 12 Upper valve panel, machine body | - MATERIAL LOCKING button |
| 13 TPOP panel | - PACKAGING MATERIAL HOLDER button |
| 14 EMERGENCY STOP button | 25 MANUAL WEB SPLICE button |
| | 26 Warning beacon |

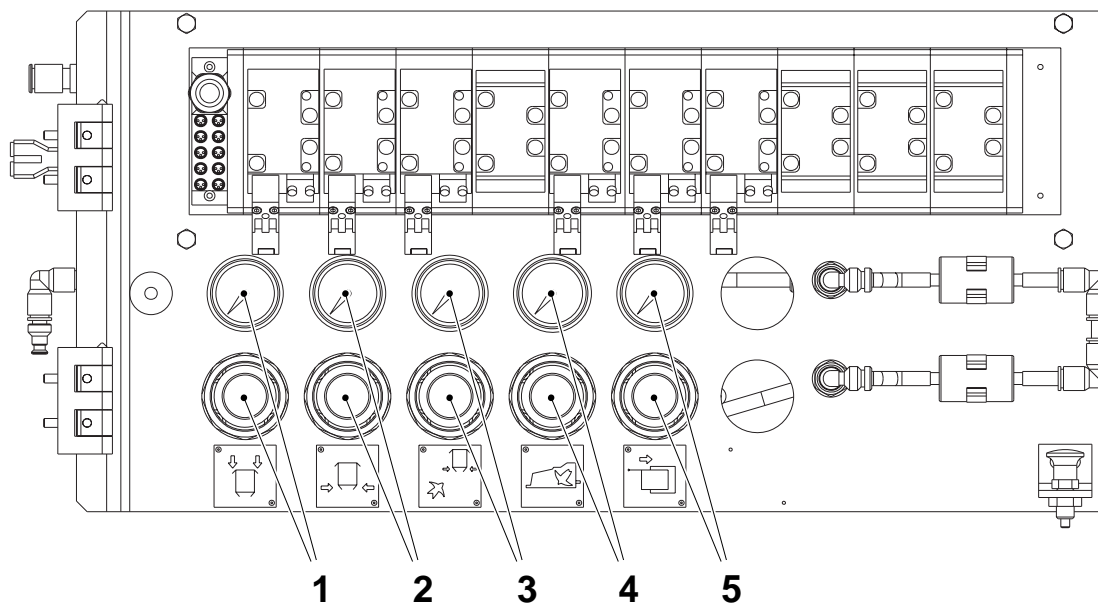
Service Unit



TechPub_2614345_0105 - 04_OM81809_10en.fm

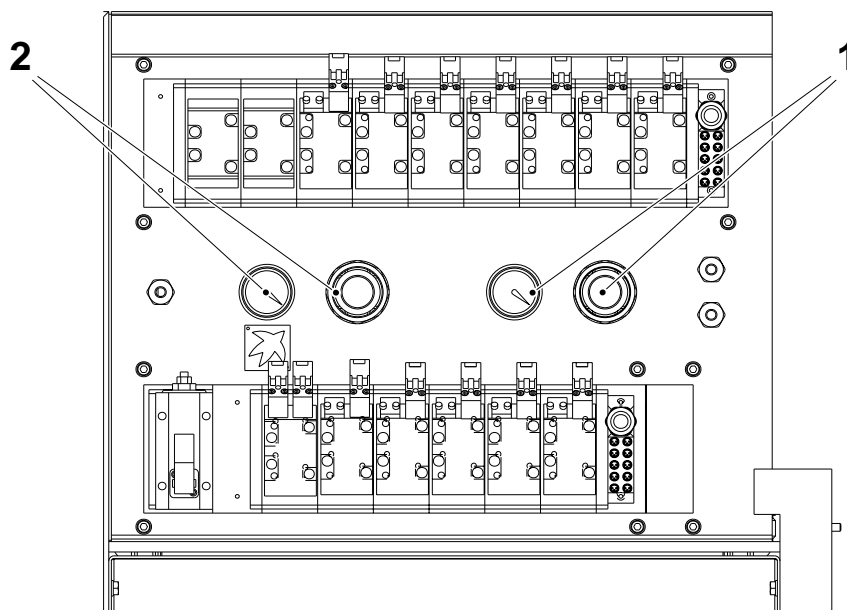
- | | |
|--|---|
| 1 Cooling water refilling valve | 9 Filter, mains water supply |
| 2 Foaming pressure regulator external cleaning | 10 Cooling water flow meter, hydraulic system |
| 3 Mains water pressure gauge | 11 De-ionizing circuit flowmeter |
| 4 Mains water supply valve(s) | 12 Cooling water flow meter, LS transformer |
| 5 Air pressure gauge | 13 Cooling water flow meter, final folder |
| 6 Mains water supply valve (s) | 14 Cooling water flow meter, jaw system, TS left |
| 7 Mains power switch | 15 Cooling water flow meter, jaw system, TS right |
| 8 External cleaning handle | 16 Cooling water pressure gauge |

Upper Valve Panel, Machine Body LH Side



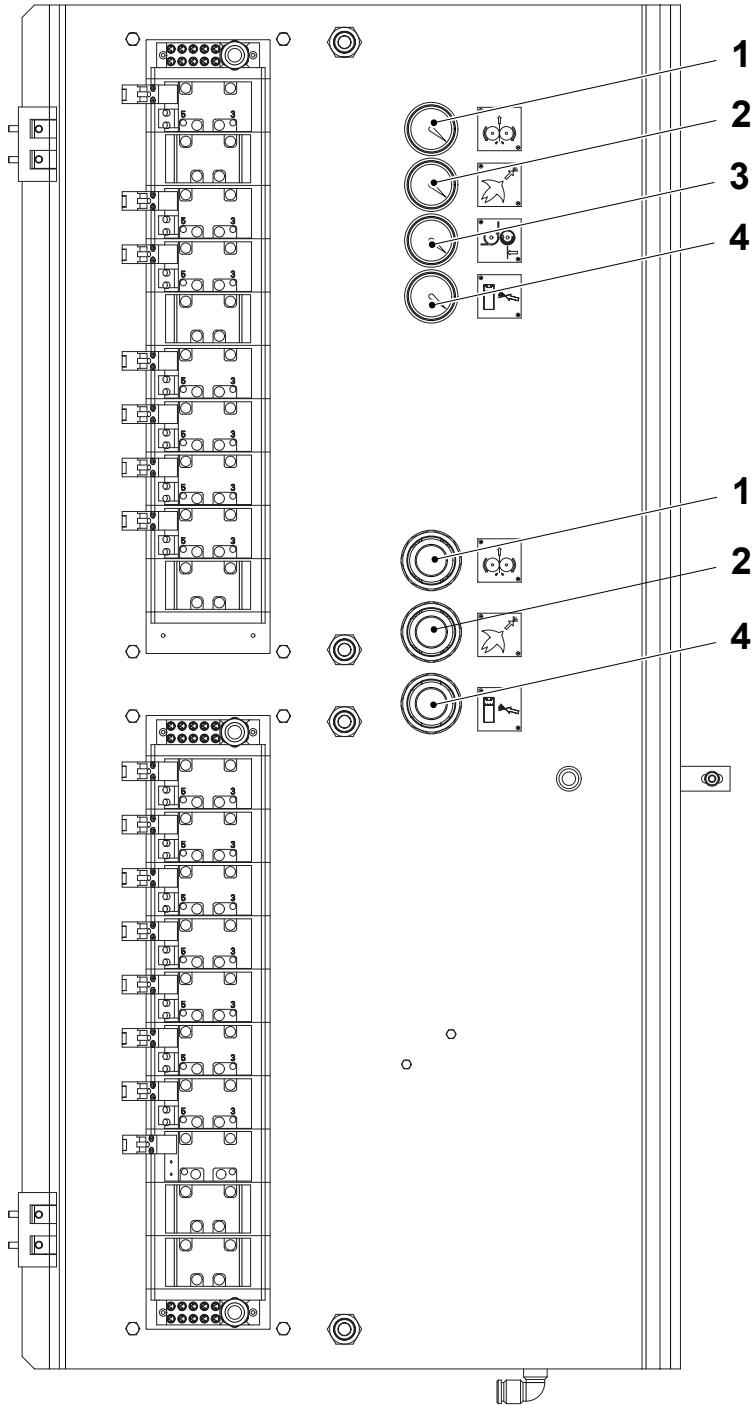
- 1 Air pressure gauge and regulator, flap heating top left and right
- 2 Air pressure gauge and regulator, flap heating bottom left and right
- 3 Air pressure gauge and regulator, flap blowing
- 4 Overpressure gauge and regulator, final folder
- 5 Air pressure gauge and regulator, waste conveyor front guard

Valve Panel, ASU LH Side



- 1 Air pressure gauge and regulator, web tension
- 2 Air pressure gauge and regulator, main air ASU

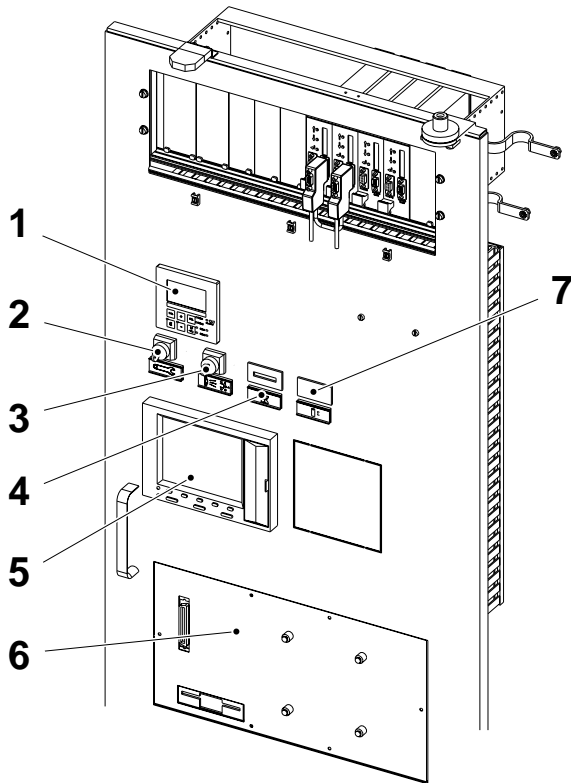
Valve Panel, Superstructure LH Side



- 1 Air pressure gauge and regulator, calender rollers
- 2 Air pressure gauge and regulator, peroxide spray
- 3 Air pressure gauge, pendulum roller
- 4 Air pressure gauge and regulator, HI peroxide spray (OE)

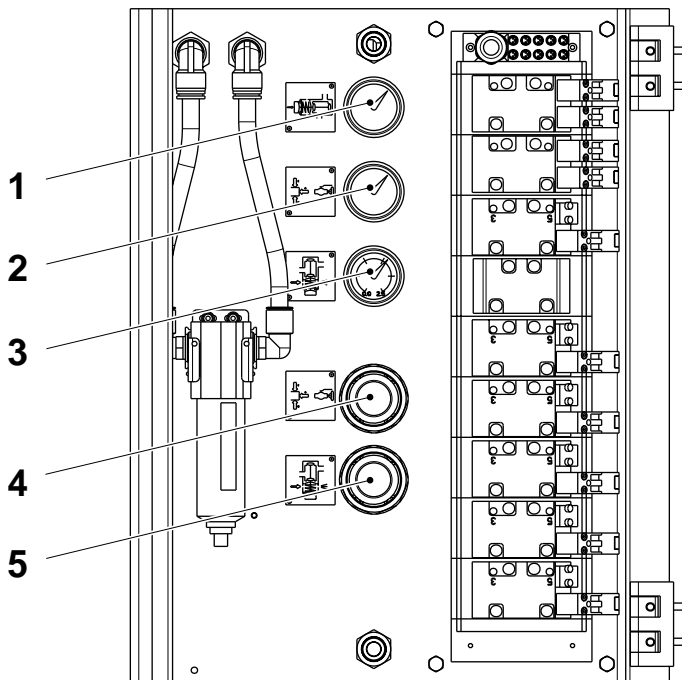
TechPub_2614345_0105 - 04_OM81809_10en.fm

Electrical Cabinet, Filling Machine LH Side



- 1 Conductivity meter
- 2 Service switch
- 3 Cleaning steam barrier space switch
- 4 Time recorder
- 5 Recorder
- 6 Flex box
- 7 Package counter

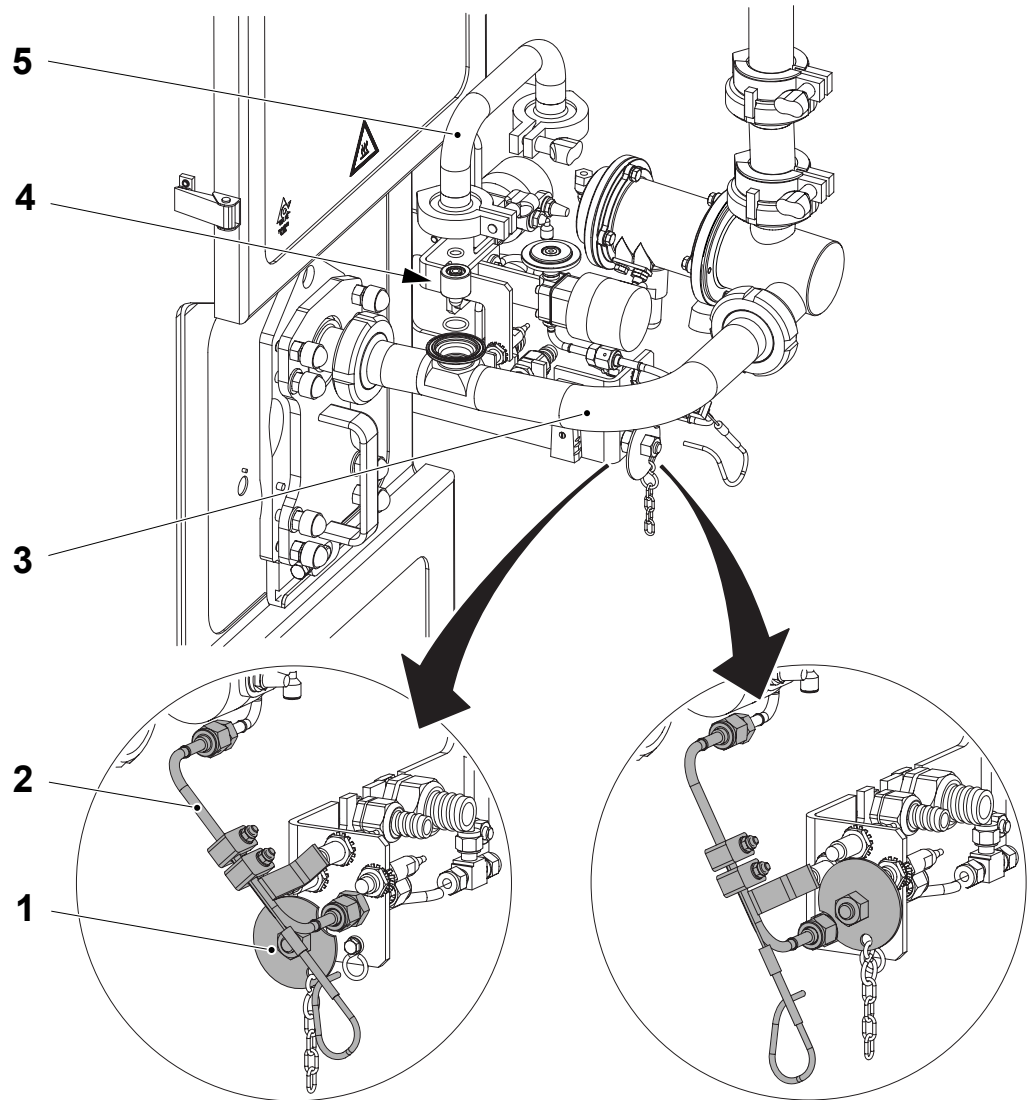
Valve Panel, Superstructure Front Side



- 1 Gauge, regulating valve cooling
- 2 Gauge, temperature control steam barrier
- 3 Gauge, regulating valve anti-condensation
- 4 Air pressure regulator, temperature control steam barrier
- 5 Air pressure regulator, regulating valve anti-condensation

TechPub_2614345_0105 - 04_OM81809_10en.fm

HI - Headspace by Injection (OE), Superstructure Front Side



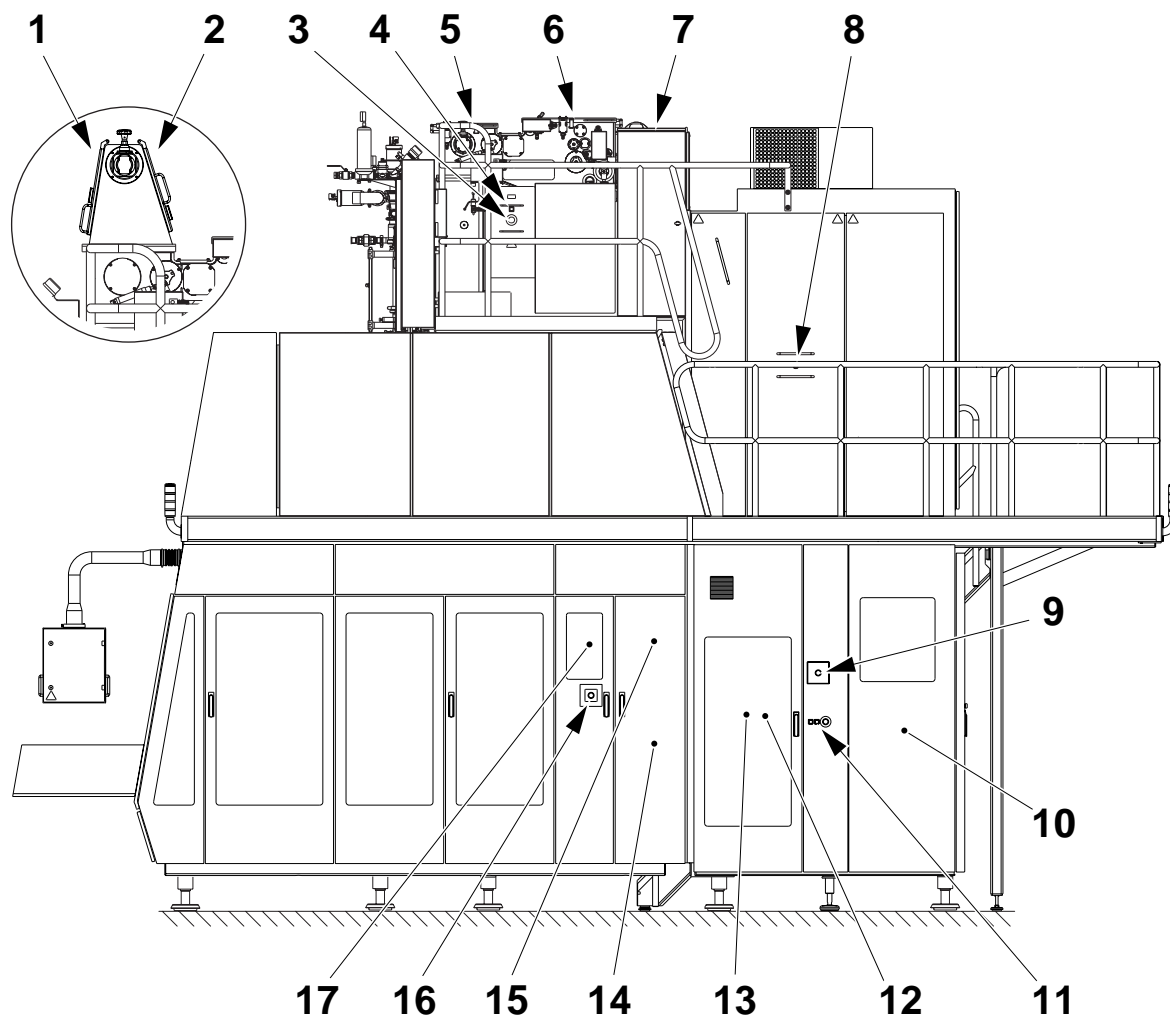
CLEANING position

PRODUCTION position

- 1 Cap
- 2 Swing pipe
- 3 HI product pipe
- 4 Nozzle
- 5 Transition pipe

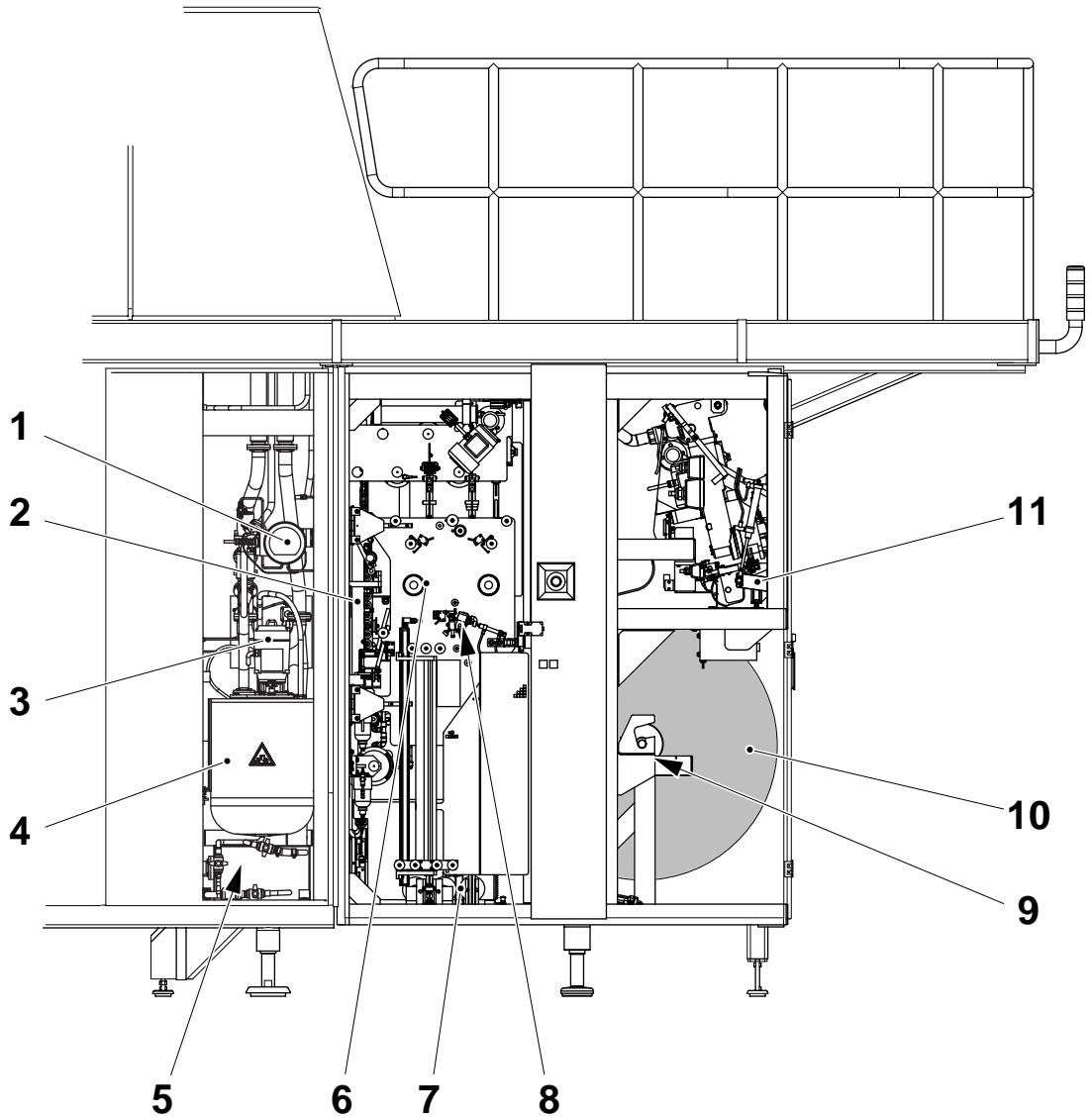
TechPub_2614345_0105 - 04_OM81809_10en.fm

Filling Machine, RH Side



- | | |
|---|--|
| 1 Upper section front door (TBA 1890 S/
TBA 2000 S Only) | 9 EMERGENCY STOP button |
| 2 Upper section rear door (TBA 1890 S/TBA
2000 S Only) | 10 Packaging material carriage |
| 3 EMERGENCY STOP button | 11 MANUAL STRIP SPLICE button/SHORT
STOP button |
| 4 SHORT STOP button | 12 Strip applicator |
| 5 Top front aseptic chamber door | 13 Rope, magazine roller |
| 6 Top rear aseptic chamber door | 14 Hydrogen peroxide tank and dilution tank |
| 7 Top cover | 15 Hydrogen peroxide concentration meter |
| 8 EMERGENCY STOP button (X2 Both
sides of the door) | 16 EMERGENCY STOP button |
| | 17 Lower valve panel, machine body |

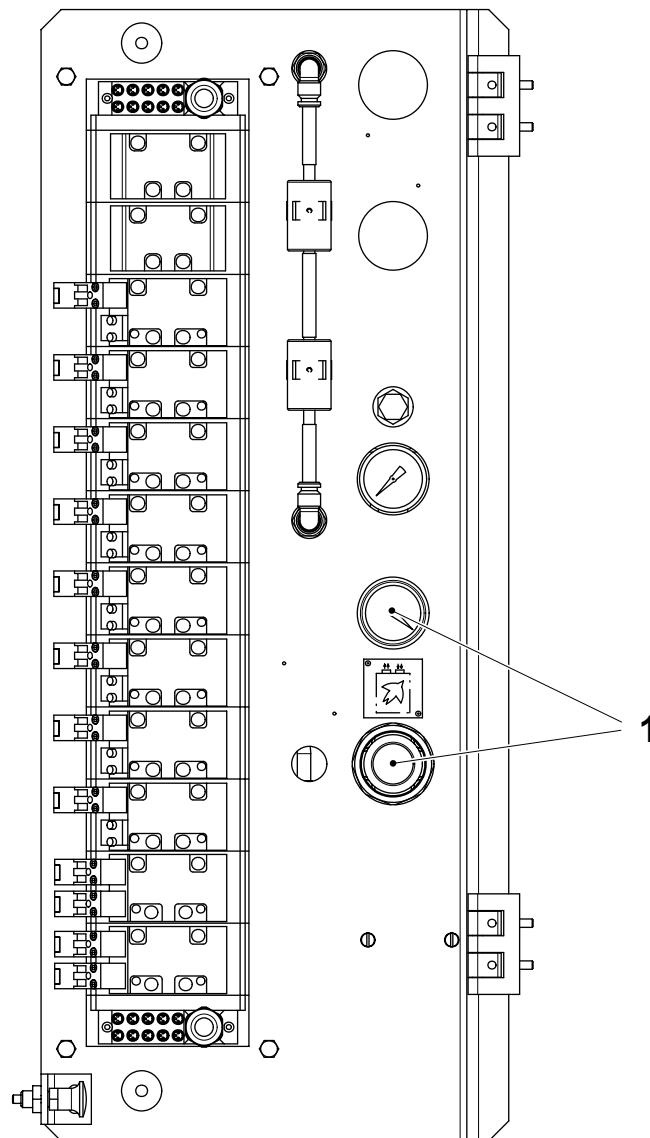
Filling Machine, RH Side Rear, No Covers



TechPub_2614345_0105 - 04_OM81809_10en.fm

- | | |
|---|-----------------------------------|
| 1 Hydrogen peroxide concentration meter | 6 Strip magazine |
| 2 Strip applicator (SA) | 7 Packaging material web magazine |
| 3 Hydrogen peroxide pump | 8 Strip splice |
| 4 Hydrogen peroxide tank | 9 Packaging material reel holder |
| 5 Dilution tank and draining valves | 10 Packaging material reel |
| | 11 Packaging material web splice |

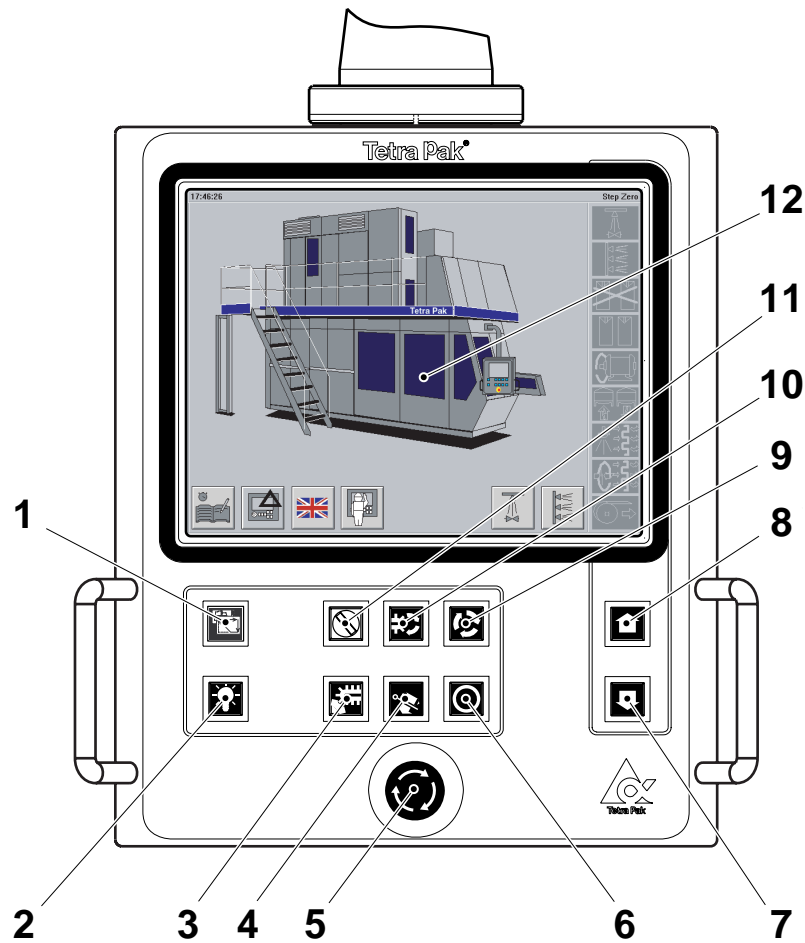
Lower Valve Panel, Machine Body RH Side



1 Air pressure gauge and regulator, design correction photocells

TechPub_2614345_0105 - 04_OM81809_10en.fm

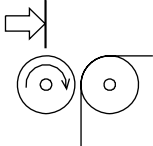
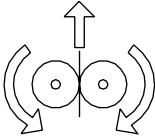
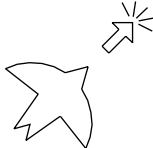
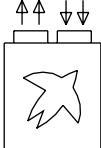
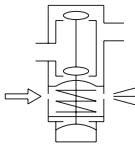
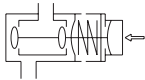
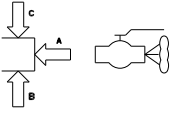
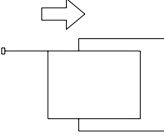
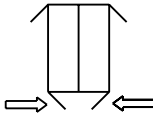
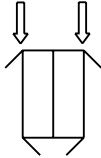
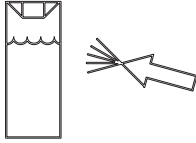
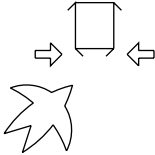
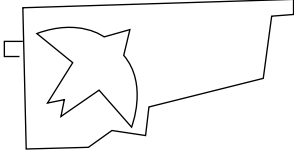
Control Panel



- | | |
|---|--|
| <p>1 TPOP RESET
- flashing light = restart the TPOP
- constant light = warm-up mode.</p> <p>2 LAMP TEST</p> <p>3 MANUAL FLUSHING
final folder and jaw system</p> <p>4 PACKAGE EJECTOR</p> <p>5 EMERGENCY STOP</p> <p>6 SHORT STOP</p> <p>7 PROGRAM DOWN</p> | <p>8 PROGRAM UP</p> <p>9 JAW SYSTEM INCHING
flashes when inching is possible</p> <p>10 FINAL FOLDER INCHING
flashes when inching is possible</p> <p>11 SELECTOR SWITCH
- RH Position: high speed inching RH jaw pair
opened in short stop
- LH position: low speed inching
LH jaw pair opened in short stop.</p> <p>12 TPOP display (see chapter 2 Control Panels)</p> |
|---|--|

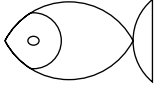
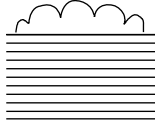
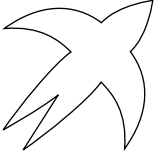
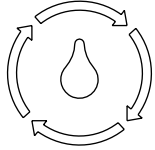
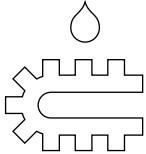
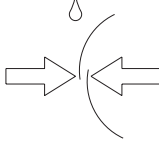
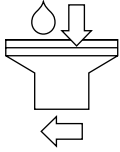
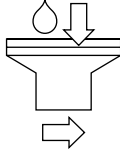
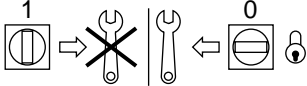
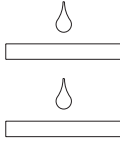
Machine Symbols

Valve Panels, Symbols

	<p>Pendulum rollers</p>		<p>Calender rollers</p>
	<p>Air pressure, peroxide spray</p>		<p>Air pressure, design correction photocells</p>
	<p>Regulating valve anti-condensation</p>		<p>Regulating valve cooling</p>
	<p>Temperature control steam barrier</p>		<p>Air pressure, waste conveyor front guard</p>
	<p>Flap sealing bottom left and right</p>		<p>Flap sealing top left and right</p>
	<p>HI, peroxide spray (OE)</p>		<p>Flap blowing</p>
	<p>Overpressure final folder</p>		

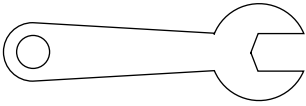
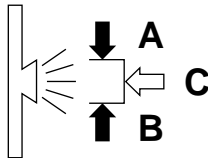

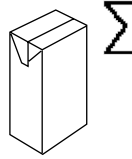
TechPub_2614345_0105 - 04_OM81809_10en.fm

Service Unit, Symbols


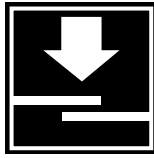
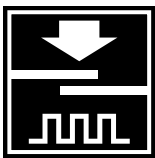
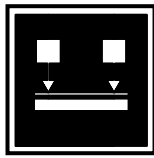

 <p>Cold water (blue)</p>	 <p>Foaming</p>
 <p>Air</p>	 <p>De-ionizing circuit</p>
 <p>Cold water flow, final folder</p>	 <p>Cold water flow, IH- LS transformer</p>
 <p>Cold water flow, TS left</p>	 <p>Cold water flow, TS right</p>
 <p>Main switch (on/off)</p>	 <p>Cold water flow, hydraulic cooler</p>

TechPub_2614345_0105 - 04_OM81809_10en.fm

Electrical Cabinet, Symbols

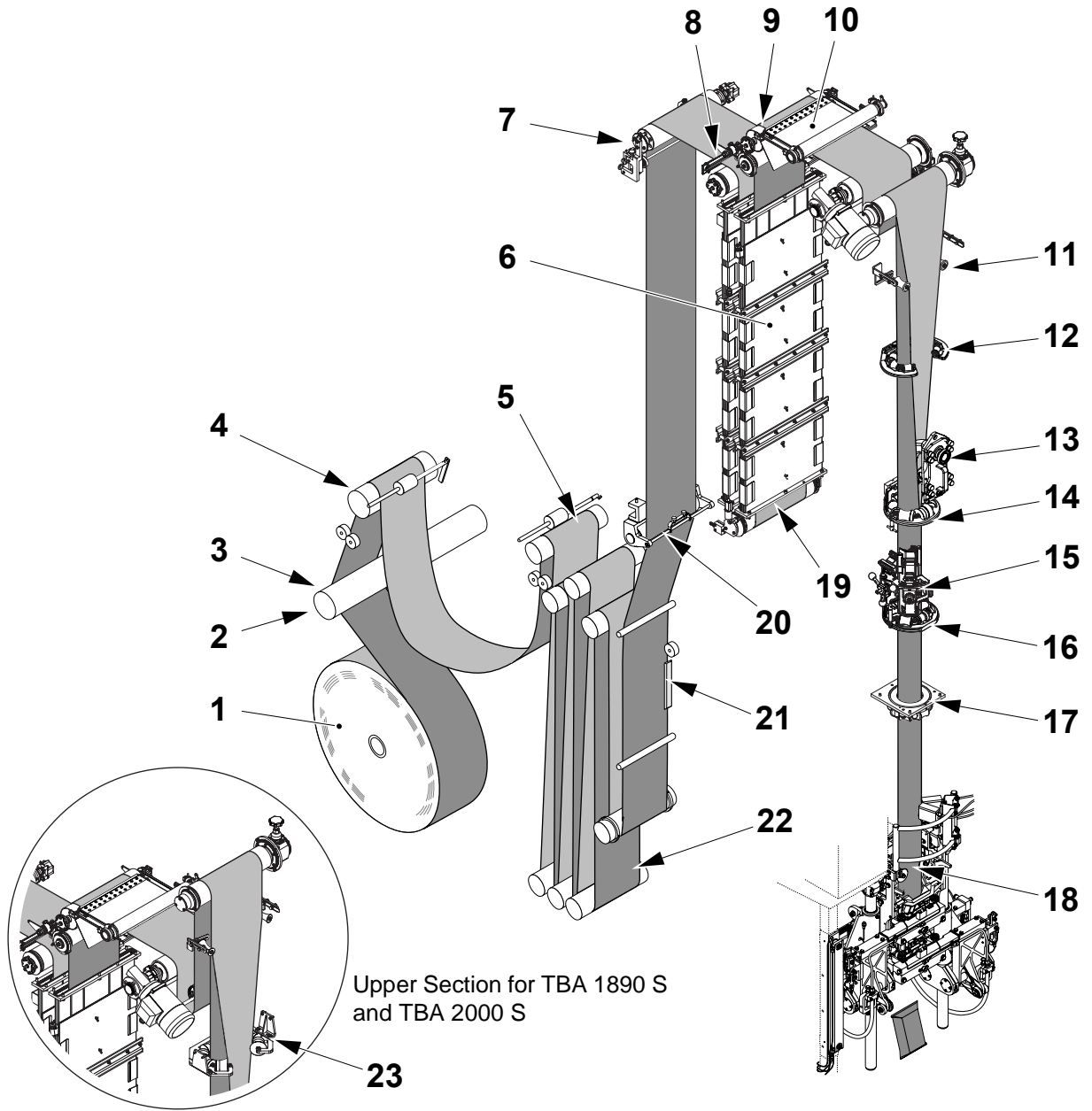
 <p>Service switch</p>	 <p>Cleaning steam barrier space</p>
 <p>Hour counter</p>	 <p>Package counter</p>

ASU, Symbols

 <p>Short stop</p>	 <p>Manual web splice</p>
 <p>Manual strip splice</p>	 <p>Material locking</p>
 <p>Packaging material holder</p>	

TechPub_2614345_0105 - 04_OM81809_10en.fm

Packaging Material Web Path



- | | | |
|------------------------------|------------------------------|--|
| 1 Packaging material reel | 9 Crank handle peroxide bath | 17 Seal, aseptic chamber |
| 2 Material holder | 10 Air knife | 18 Photocells, design correction |
| 3 Movable splicing device | 11 Edge rollers | 19 Bath roller |
| 4 Drive unit, rear | 12 Forming ring | 20 Material lock |
| 5 Drive unit, front | 13 Filling pipe | 21 Strip applicator |
| 6 Hydrogen peroxide bath | 14 Upper forming ring | 22 Web magazine |
| 7 Bending roller | 15 LS inductor | 23 Upper support rollers (TBA
1890 S/TBA 2000 S Only) |
| 8 Inlet seal, drying chamber | 16 Lower forming ring | |

TechPub_2614345_0105 - 04_OM81809_10en.fm

This page intentionally left blank

TechPub_2614345_0105 - 04_OM81809_10en.fm

2 Control Panels

TechPub_2614345_0105 - 05_OM81809_10en.fm

This chapter describes how to navigate through the TPOP, what to do when alarms occur and how to make machine settings.

CAUTION

Risk of damage to the equipment.

This chapter contains instructions for making machine settings. These settings must only be performed by a TPOP trained operator.

Description	2 - 9
TPOP Main Window	2 - 9
Navigation	2 - 10
Selecting the Cause of an Event	2 - 12
Most Frequently Used Event Codes	2 - 12
Navigating and Inputting Data to the Operator Sheet	2 - 13
Common Buttons and Icons	2 - 17
Common Symbols	2 - 17
Changing Values	2 - 18
Resetting a System Communication Fault	2 - 18
Production Program Steps	2 - 19
Before and During Production	2 - 19
After Production	2 - 19
Cleaning Program Steps	2 - 20
During Cleaning CIP	2 - 20
After Cleaning CIP	2 - 20
Cleaning CIP	2 - 21
External Cleaning	2 - 23
System Settings	2 - 25
Language Setting	2 - 25
Time Setting	2 - 26
Production Shift Setting	2 - 28
Alarm System	2 - 29

Alarm Group Buttons 2 - 29

General Information. 2 - 30

Alarm Colour Codes 2 - 30

Alarm Handling 2 - 31

Collect System 2 - 32

**Conditions for a Manually Registered Event or
Input of Other Data. 2 - 32**

Preparation Phase 2 - 32

Production Phase 2 - 32

Generic Tasks. 2 - 32

Operator Sheet for Preparation Start 2 - 33

Operator Sheet After Tight Tube. 2 - 33

Delay in the Preparation Phase 2 - 33

Jump to Step Zero During the Preparation Phase . . 2 - 36

Operator Sheet for Production Start 2 - 37

Manual Recording of a Production Stop Cause 2 - 37

Check or Change a Production Stop Cause 2 - 40

**Jump to Step ZERO During the PRODUCTION
Phase 2 - 43**

**Jump to Step VENTING During the PRODUCTION
Phase 2 - 44**

Record Package Waste for Quality Checks. 2 - 44

Record Maintenance Time 2 - 46

Copying Recorded Data 2 - 48

Manoeuvre System 2 - 49

Manoeuvre System Buttons 2 - 49

TechPub_2614345_0105 - 05_OM81809_10en.fm

Filling System Window	2 - 50
Start Flow	2 - 50
Product Level and Flow Graph	2 - 51
HI Nozzle Selection (OE)	2 - 52
HI Pressure and Flow (OE)	2 - 53
HI Temperature Monitor (OE)	2 - 54
Temperature Overview Window	2 - 55
Service Unit Right Window	2 - 56
Cooling Circulation Water Temperature	2 - 56
Service Unit Left Window	2 - 58
Lights Enable/Disable	2 - 58
Manual Lubrication	2 - 59
Design Correction Window	2 - 59
Design Correction Offset	2 - 60
Folding Flap Position	2 - 61
Jaw Unit Window	2 - 64
Inch to Position	2 - 65
Transversal Sealing	2 - 66
Change Inductor	2 - 66
Superstructure Window	2 - 68
Longitudinal Sealing	2 - 69
Pendulum Roller	2 - 69
ASU Window	2 - 71
Packaging Material Splice Temperature	2 - 71
Splice Design Position	2 - 72
Immediate Splice Enabled	2 - 73
SA Magazine Window	2 - 74
Pulse Time Strip Splice	2 - 75

Power Setting Strip Applicator	2 - 75
Peroxide System Window	2 - 77
Peroxide Concentration Monitor	2 - 78
Peroxide Tank Level	2 - 79
Peroxide Cooling	2 - 80
Sterile Air System Window	2 - 81
Superheater Temperature	2 - 82
Separator Air Flow	2 - 82
Top Aseptic Chamber Temperature	2 - 83
Air Knife Temperature	2 - 84
Aseptic Chamber Air Pressure	2 - 84
Steam Temperature	2 - 85
Heat Sterilization Temperature	2 - 86
Final Folder Unit Window	2 - 87
Flap Heating Elements	2 - 87
External Conveyor Speed	2 - 89
Final Folder Synchronisation	2 - 90
Flap Heater Nozzles Position	2 - 91
Package Monitoring Window	2 - 92
Package Counters	2 - 94
Waste Counters	2 - 94
Packages per Tray/Unit	2 - 95
Production Overview Window	2 - 96
Parameter Storage Window	2 - 97
Load Parameters	2 - 98
Production Recorder Window	2 - 101
Line Overview and Status	2 - 102
Integrated Cleaning Unit Window	2 - 103

**Cleaning Liquid Temperature, Conductivity and
Flow** 2 - 104

ICU Overview window 2 - 105

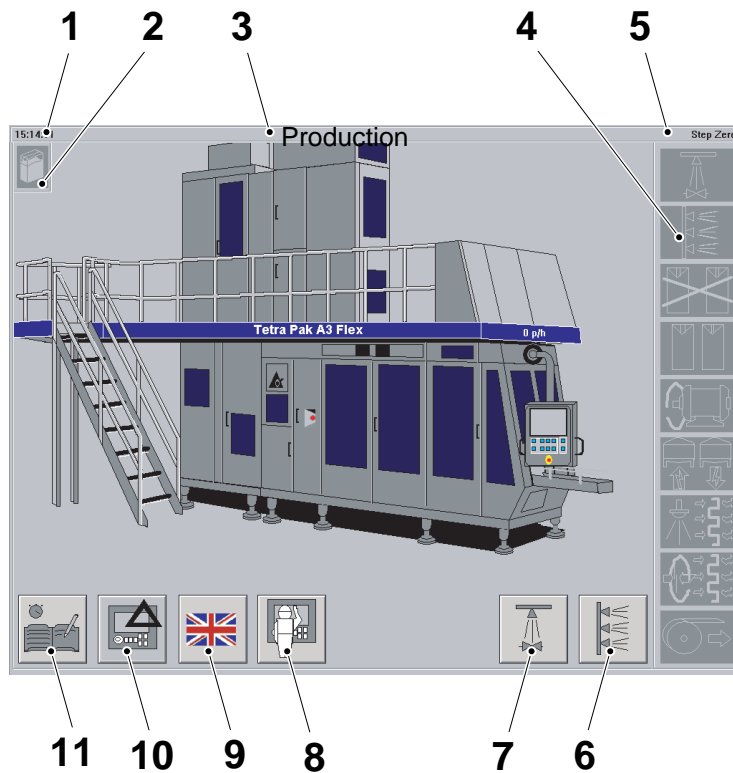
TechPub_2614345_0105 - 05_OM81809_10en.fm

This page intentionally left blank

TechPub_2614345_0105 - 05_OM81809_10en.fm

Description

The TPOP display is a touch sensitive screen. Touching buttons and icons allows the operator to manage and communicate with the filling machine control system.



TPOP Main Window

The TPOP main window displays the buttons and icons used identify the status of the machine and to access the different sections of the filling machine control system.

- 1 Current time
- 2 HI status icon (OE)
Icon coloured white: HI activated
Icon coloured grey: HI not activated
- 3 Alarm group (if any activated) and phase information
- 4 Program step icons
- 5 Program step name
- 6 EXTERNAL CLEANING button
- 7 CIP button
- 8 MANOEUVRE SYSTEM button
- 9 SYSTEM SETTING button
- 10 ALARM SYSTEM button
- 11 COLLECT SYSTEM button

Navigation

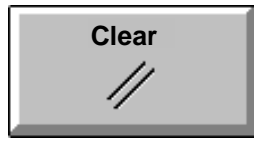
This section describes the commonly used buttons, icons and procedures used to navigate through the TPOP windows.



Touch the OK button to record a data entry and close the active window.



Touch the CANCEL button to close an active window without recording any data.

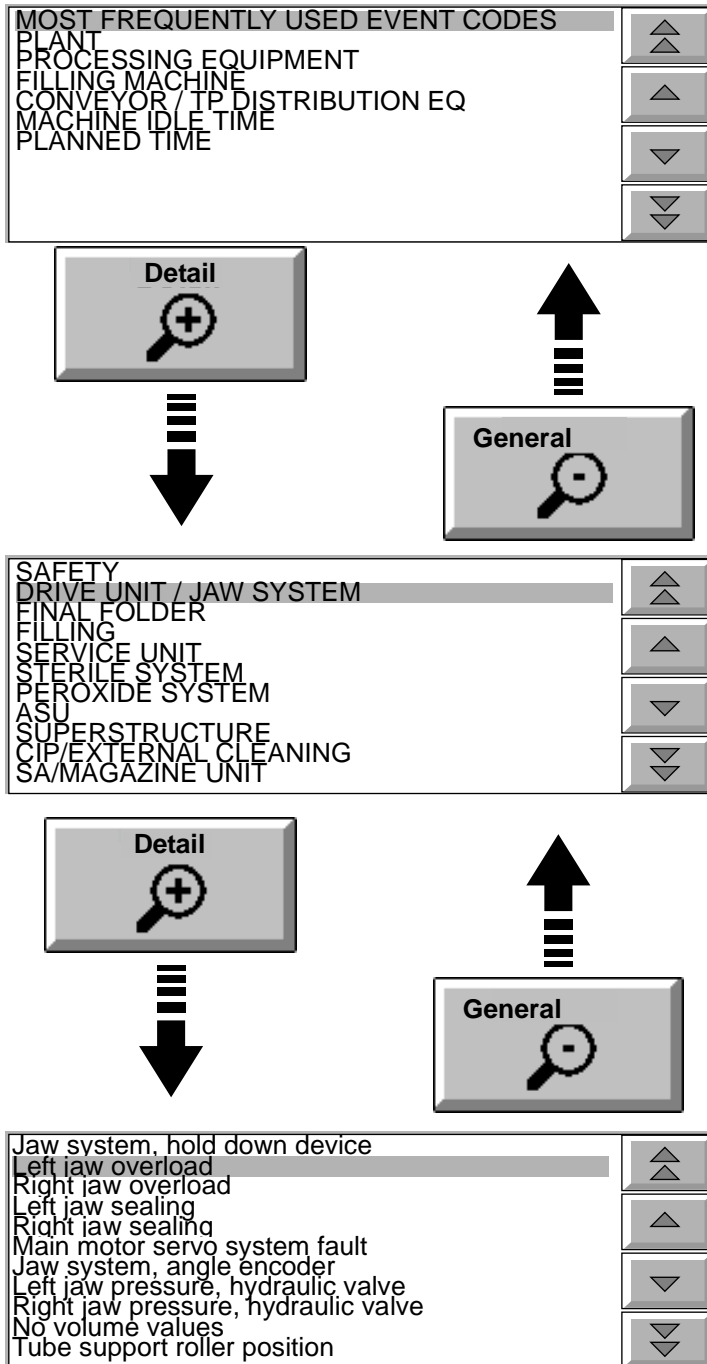


If an entry number is incorrect, touch the CLEAR button and enter the correct number.

TechPub_2614345_0105 - 05_OM81809_10en.fm



Touch the EXIT button to close an active window.



Selecting the Cause of an Event

When the selection of a specific cause is needed, it is possible to allocate the cause of the event at different levels of detail.

The first window lists the main level of causes.

To find the specific cause, use the arrows to select its main group, and then touch the DETAIL button. Repeat until the specific cause is found.

To move back one level, touch the GENERAL button.

Most Frequently Used Event Codes

Every time a specific cause is selected, the MOST FREQUENTLY USED EVENT CODE list is updated.

Note! Specific cause selection can be also made by pressing the alarm group button and selecting the alarm symbol.

TechPub_2614345_0105 - 05_OM81809_10en.fm

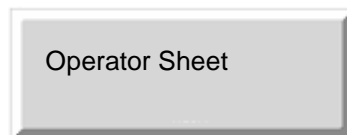


Navigating and Inputting Data to the Operator Sheet

1

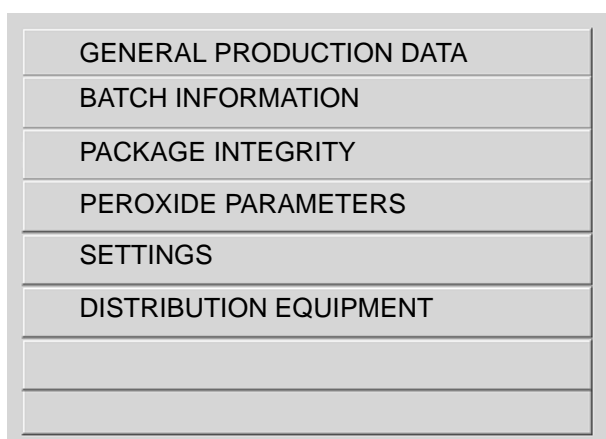
The operator sheet allows the operator to store information to the machine's COLLECT SYSTEM. The operator sheet menu is divided into system, group and detailed levels.

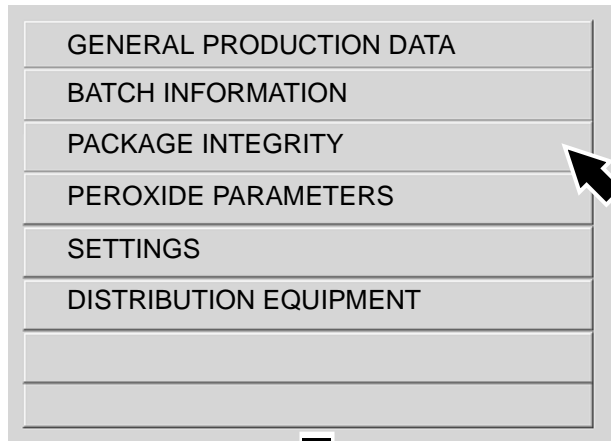
When the manual input of data to the operator sheet is needed, touch the COLLECT SYSTEM button.



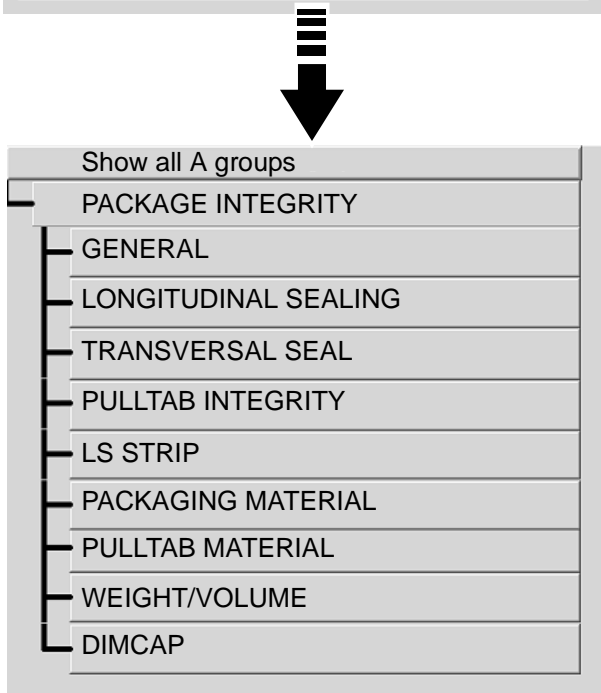
2

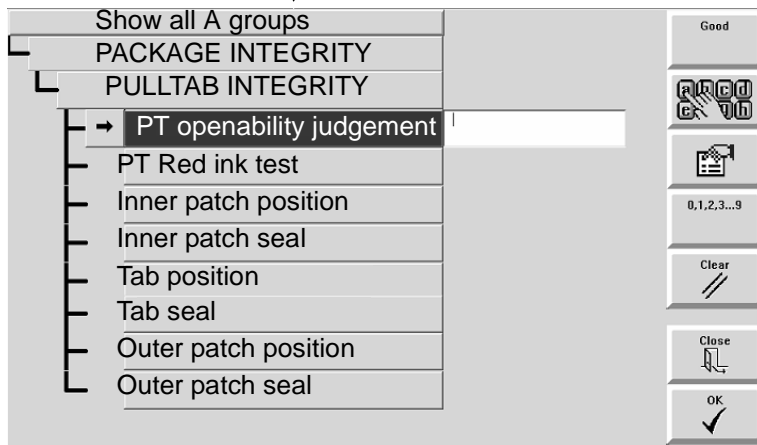
Touch the OPERATOR SHEET button to display the SYSTEM LEVEL.





3
Touch a SYSTEM LEVEL button to display the GROUP LEVEL.





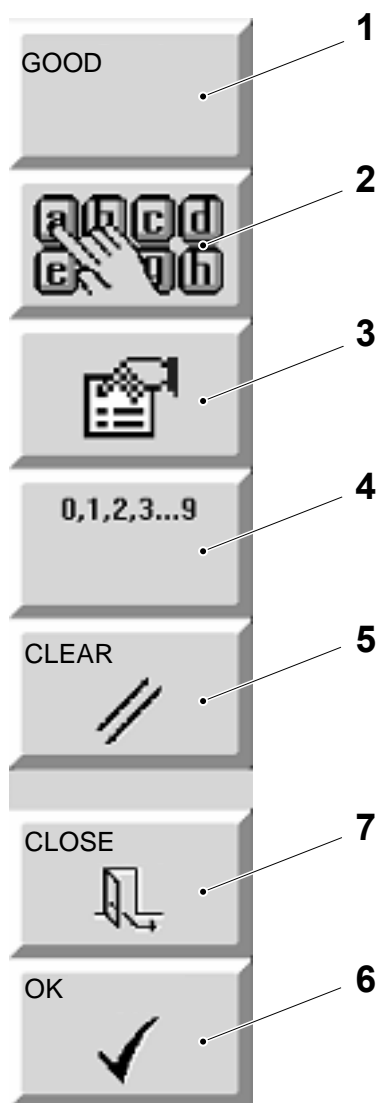
4

Touch a GROUP LEVEL button to display the DETAIL LEVEL.

Touch the required DETAIL LEVEL.

Note! To move back to the SYSTEM LEVEL, touch the SHOW ALL A GROUPS button.

TechPub_2614345_0105 - 05_OM81809_10en.fm



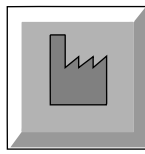
5

To input data perform one of the following:

- touch the button (1) to input a predefined text
- touch the button (2) to input text using a keyboard
- touch the button (3) to input one of the last nine memorised operator inputs
- touch the button (4) to input a value using a numerical keyboard.

Touch the CLEAR button (5) to remove an entry or touch the OK button (6) to log the entry.

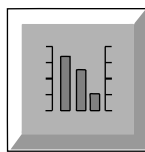
Touch the CLOSE button (7).



Factory button



Inductor icon

Temperature monitor or
Temperature regulator icon

Trend button

Common Buttons and Icons

- **FACTORY** button - touch and hold for at least three seconds to reset values to the factory setting. The button changes to white to indicate that the value has been reset.

Note! Some settings have more than one factory value (such as the setting for the tab sealing pad heater that changes with the hole type). For these settings, the factory button only provides an approximate value.

- **INDUCTOR** icon - touch to display the current value(s) for the inductor
- **TEMPERATURE MONITOR** or **TEMPERATURE REGULATOR** icon - touch to display the current value(s) for the monitor or regulator
- **TREND** button - touch to display statistical information.



Lower Limit



Output



Process



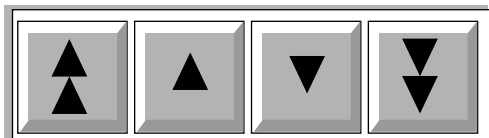
Set point



Upper limit

Common Symbols

- **LOWER LIMIT** - temperatures below this value activate an alarm
- **OUTPUT** - percentage of time the heater is on
- **PROCESS** - current value
- **SET POINT** - value that has been set for the particular function
- **UPPER LIMIT** - temperatures above this value activate an alarm.



Changing Values

If a dialogue window has arrow keys, the values can be changed in increments of 10 with the double-arrow keys or in increments of 1 with the single-arrow keys.

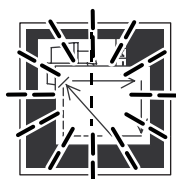
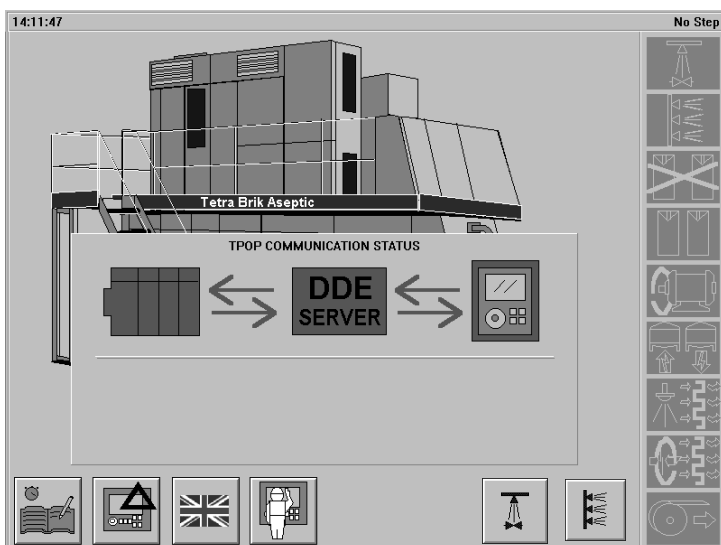
Note! After a single-arrow key has been continuously touched for 10 increments of 1, the values will change by 10 instead of 1.

Resetting a System Communication Fault

If a communication fault occurs, a dialogue window is displayed on the TPOP display and the TPOP RESET button flashes to show that an error has occurred.

Press the TPOP RESET button to reset the TPOP.

Note! If the communication fault remains, call a technician to check the communication cables between the PLC and the flexbox.



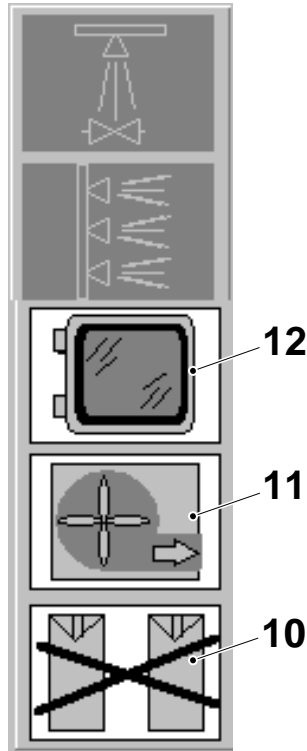
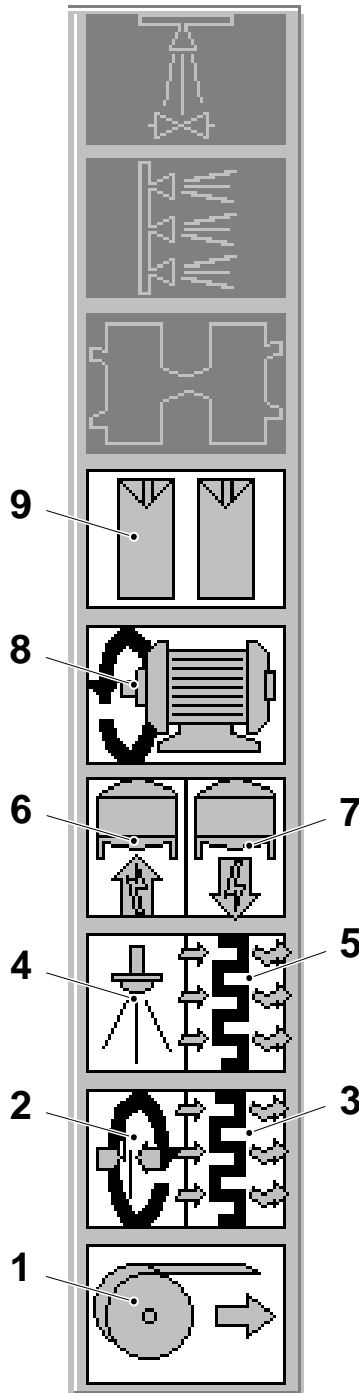
TechPub_2614345_0105 - 05_OM81809_10en.fm

Production Program Steps

This section describes the program steps displayed on the TPOP to indicate the machine status before, during and after PRODUCTION.

Before and During PRODUCTION

After PRODUCTION

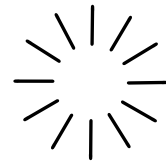


Before and During Production

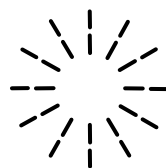
- 1 No light = STEP ZERO
Light = PREPARATION
- 2 TIGHT TUBE
- 3 HEAT STERILIZATION
- 4 SPRAYING
- 5 DRYING
- 6 SIGNAL TO STERILIZER
- 7 SIGNAL FROM STERILIZER
- 8 MOTOR START
- 9 PRODUCTION

After Production

- 10 PRODUCTION ENDED
- 11 VENTING ASEPTIC CHAMBER
- 12 DOORS ASEPTIC CHAMBER



A fixed light indicates the current program step.

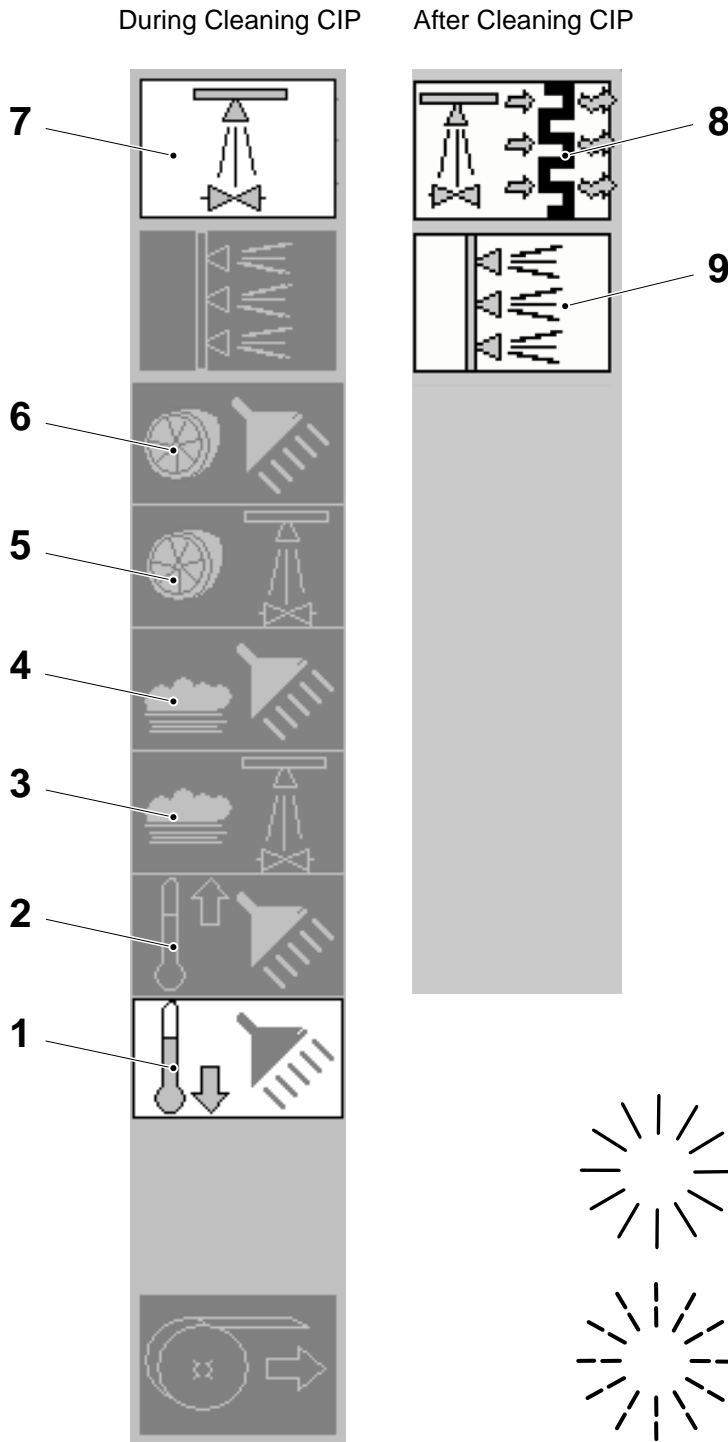


A flashing light indicates the machine is ready to begin a program step.

TechPub_2614345_0105 - 05_OM81809_10en.fm

Cleaning Program Steps

This section describes the program steps displayed by the TPOP to indicate the machine status during and after CIP.



During Cleaning CIP

- 1 COLD WATER RINSE
- 2 HOT WATER RINSE
- 3 ALKALI CLEANING
- 4 ALKALI RINSE
- 5 ACID CLEANING
- 6 ACID RINSE
- 7 CIP CLEANING

After Cleaning CIP

- 8 CIP DRYING
- 9 EXTERNAL CLEANING

Note! Steps 1 to 4 are performed when ALKALI cleaning is selected.
Steps 1 to 6 are performed when ALKALI AND ACID cleaning is selected.

TechPub_2614345_0105 - 05_OM81809_10en.fm

Cleaning CIP

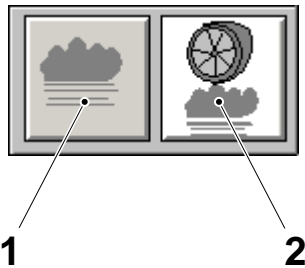
This section describes how to start and stop the cleaning of the product line system with the Internal Cleaning Unit.



1

To clean the product line system with the Internal Cleaning Unit (ICU).

Touch the CIP button.



2

Touch the ALKALI button (1) or ALKALI AND ACID button (2).

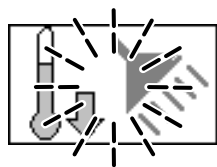
Note! It is recommended to use alkali cleaning after every production run or if production is stopped. Alkali and acid cleaning should be performed at least once a week.

The use of alkali or alkali and acid for cleaning the filling system must be based on local conditions such as type of product, duration of production and the quality of the water used for cleaning.



3

When the PROGRAM UP button begins to flash, press it.

**4**

When the COLD WATER RINSE icon and the PROGRAM UP button begin to flash, press the PROGRAM UP button to start the CIP cleaning.

**5**

To stop the CLEANING CIP program with the internal cleaning unit:

Touch the STOP button (the cleaning cycle is paused and the cleaning circuit is drained).

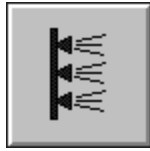
Note! Once the cleaning cycle has been paused, there is a maximum of 50 minutes available to restart the cleaning. Touch the STOP button once more and when the PROGRAM UP button begins to flash, press the PROGRAM UP button to restart the cleaning cycle from the beginning of the last uncompleted cleaning step.

**6**

When the PROGRAM DOWN button begins to flash, press the PROGRAM DOWN button to stop the cleaning.

External Cleaning

This section describes how to start and stop the cleaning of the exposed mechanical parts of the machine.

**1**

To start the EXTERNAL CLEANING program, touch the EXTERNAL CLEANING button.

**2**

When the PROGRAM UP button begins to flash, press it to start the cleaning.



3

To stop the EXTERNAL CLEANING program, touch the STOP button.



4

When the PROGRAM DOWN button begins to flash, press it to stop the EXTERNAL CLEANING.

System Settings

This section describes how to set the language used by the TPOP, the time on the TPOP and the Production Shift Setting.



Language Setting

1

Touch the SYSTEM SETTING button.



2

Touch the required language button and wait for a few seconds.

Note! If the TPOP RESET button starts flashing, do not press it.



3

Touch the EXIT button.



Time Setting

1

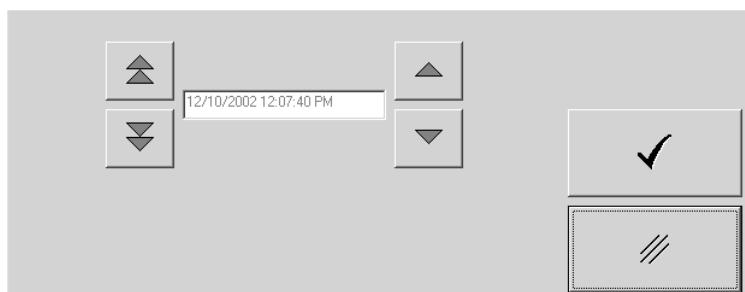
Note! The time setting procedure is only possible in step ZERO and with the PREPARATION and PRODUCTION phases closed.

Touch the SYSTEM SETTING button.



2

Touch the CLOCK button.



3

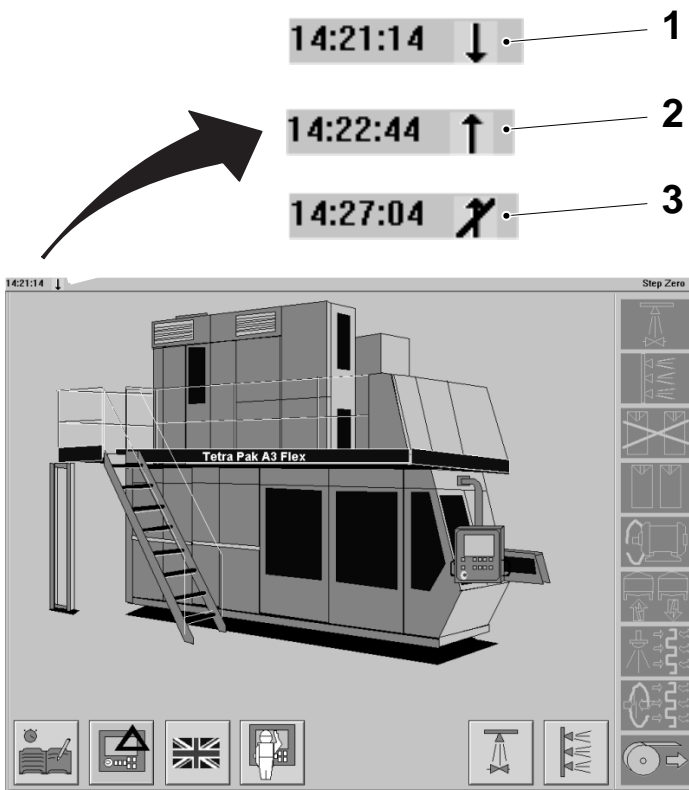
Touch the double ARROW buttons to set the hours and the single ARROW buttons to set the minutes.

It is only possible to change the time by a maximum of plus or minus 3 hours. The date cannot be changed.



4

Touch the OK button.



5

The system time either slows down and is indicated by a downward arrow (1) or speeds up and is indicated by the upward arrow (2) to compensate for the difference between the current time and the new time setting.

Note! The process of time compensation is only allowed in step ZERO and with the PREPARATION and PRODUCTION phases closed. When these conditions are not present the process of time compensation is halted and is indicated by the slash across the arrow (3).

TechPub_2614345_0105 - 05_OM81809_10en_fm



Production Shift Setting

1

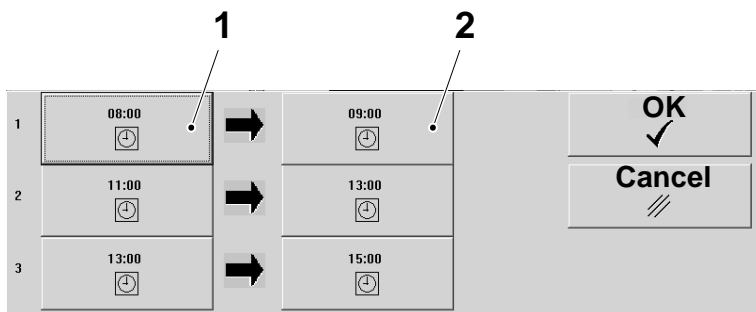
The Production shift setting can only be done in step ZERO and with the PREPARATION and PRODUCTION Phases closed.

Touch the COLLECT SYSTEM button.



2

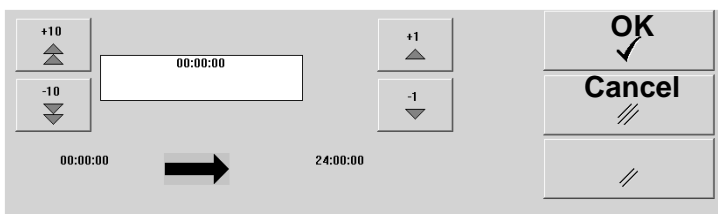
Touch the SHIFT button.



3

Touch the required SHIFT button.

Input a start time (1) and an end time (2) for each shift as required.



4

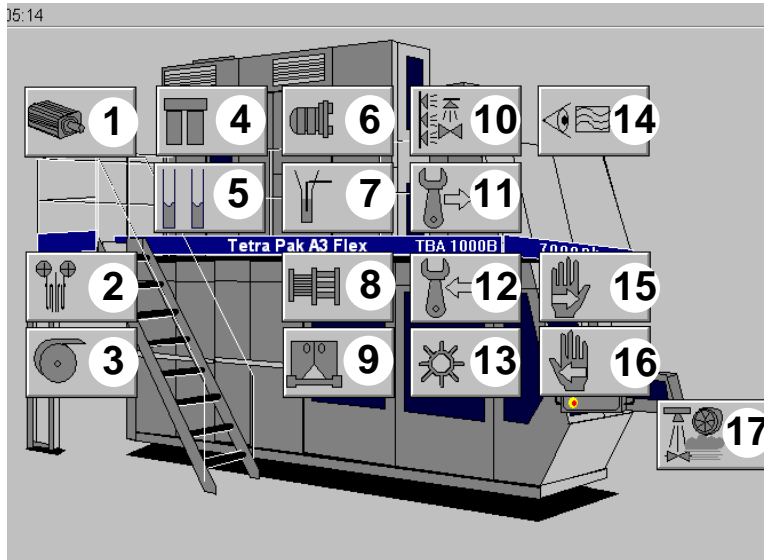
Note! The shift time is preset into 8 hour intervals. Do not overlap the shift times otherwise an error will be displayed.

Set the shift time as required and touch the OK button. Repeat for the other shifts.



Alarm System

This section describes the machine alarms and how to handle alarms with the TPOP.



Alarm Group Buttons

Alarms show where there is a problem on the machine and how to resolve it.

Alarms are divided into groups. When an alarm is activated, an alarm window is displayed with the activated alarm lit up.

If no alarms appear, touch the ALARM SYSTEM button.

The ALARM SYSTEM window is displayed showing the alarm groups. Each button opens the corresponding alarm window.

- | | |
|-------------------------|-------------------------------|
| 1 Servo Motors | 10 External Cleaning and CIP |
| 2 SA/Magazine | 11 Service Unit, right |
| 3 Infeed System | 12 Service Unit, left |
| 4 Superstructure | 13 Final Folder |
| 5 Peroxide System | 14 Sealing Monitoring |
| 6 Sterile System | 15 Safety, RH |
| 7 Filling System | 16 Safety, LH |
| 8 Design Correction | 17 Integrated Cleaning System |
| 9 Drive Unit/Jaw System | |

TechPub_2614345_0105 - 05_OM81809_10en.fm



General Information

When the MULTIPLE ALARM button is displayed, other alarm groups have also been activated. Touch the button to display these groups.

A triangle in the symbol for an alarm group, indicates that an alarm has not been acknowledged.



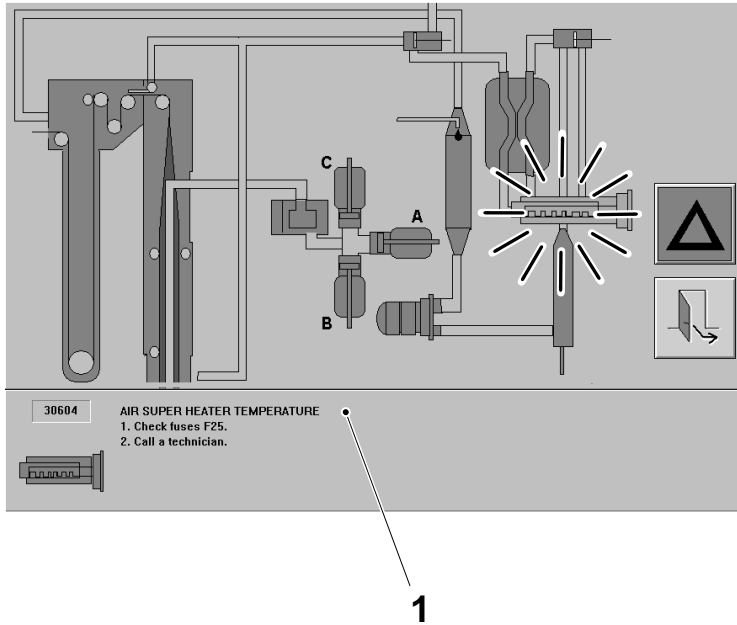
Alarm Colour Codes

The alarms are colour coded:

- RED - hazardous condition
- YELLOW - abnormal condition
- BLUE - information or operator action.

A red or yellow alarm must be acknowledged. There is no need to acknowledge blue alarms they disappear when the cause is corrected.

Note! If the alarm window does not close after pressing the ACKNOWLEDGE button the alarm still exists.



Alarm Handling

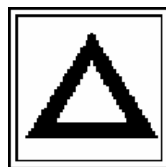
1

When an alarm window opens, the active alarm is lit up. Touch the lit symbol to open the instruction window (1).

Follow the instructions in the order given.

2

Touch the flashing ACKNOWLEDGE button to acknowledge the alarm.



3

Touch the EXIT button to return to the main window.



Collect System

This section describes how to register information to the machine's COLLECT system. The COLLECT system is divided into three main groups; PLANNED MAINTENANCE, OPERATOR SHEET and WASTE. The machine automatically records events for all three categories, but for some events the TPOP prompts the operator to select the reason for an event or input other data to the COLLECT system.



Conditions for a Manually Registered Event or Input of Other Data

The following lists the possible TPOP prompts and the machine phases that require an operator response.

Preparation Phase

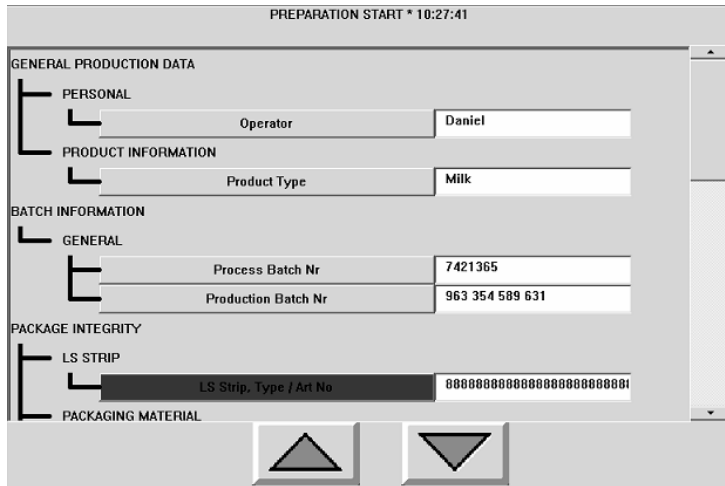
- Operator Sheet for Preparation Start
- Operator Sheet After Tight Tube
- Delay in the Preparation Phase
- Jump to Step Zero During the Preparation Phase.

Production Phase

- Operator Sheet for Production Start
- Manual Recording of a Production Stop Cause
- Check or Change a Production Stop Cause
- Jump to Step ZERO During the PRODUCTION Phase
- Jump to Step VENTING During the PRODUCTION Phase.

Generic Tasks

- Record Package Waste for Quality Checks
- Record Maintenance Time
- Copying Recorded Data.

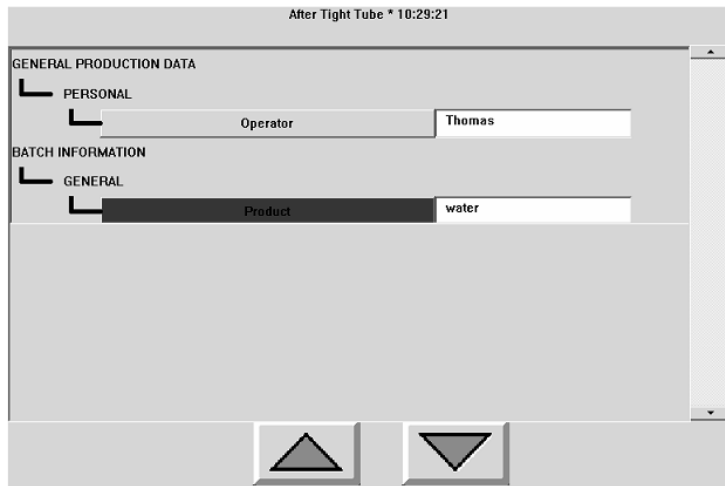


Operator Sheet for Preparation Start

1

Note! The illustration shows an example of an Operator Sheet. The appearance of the Operator Sheet may be different depending on its configuration.

If configured to do so, the OPERATOR SHEET window appears when the machine is in step PREPARATION and prompts the operator to enter information in the fields for PREPARATION START.

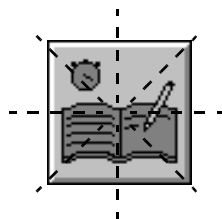


Operator Sheet After Tight Tube

1

Note! The illustration shows an example of an Operator Sheet. The appearance of the Operator Sheet may be different depending on its configuration.

If configured to do so, the OPERATOR SHEET window appears when the machine is in step TIGHT TUBE and prompts the operator to enter information in the fields for AFTER TIGHT TUBE.



Delay in the Preparation Phase

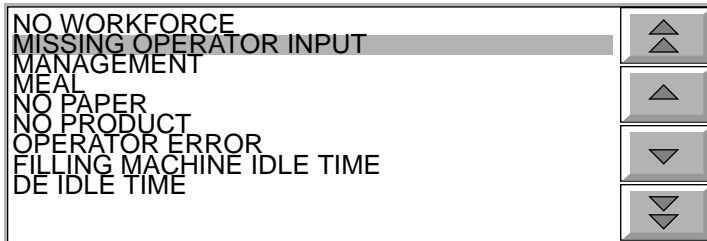
1

If the PREPARATION PHASE is too long (more than 30 minutes), the COLLECT SYSTEM button starts to flash 5 minutes after the PRODUCTION phase has started.

Touch the COLLECT SYSTEM button.

TechPub_2614345_0105 - 05_OM81809_10en.fm

Why so much pre-production delay?



2

The TPOP prompts the question:

Why so much pre-production delay?

Select the correct cause for the event, see [Selecting the Cause of an Event](#) on page 2-12 for details.

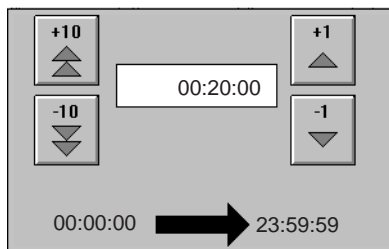
If no answer is given within 10 minutes, a MISSING OPERATOR INPUT will be automatically assigned as the stop reason.



3

The CLOCK button shows the extra PREPARATION time. The system allows the extra PREPARATION time to be divided and allocated to different causes.

Touch the CLOCK button.



4

Enter the amount of time to be allocated to the selected cause.



5

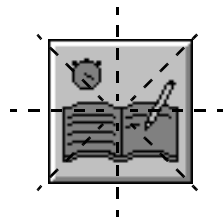
Touch the OK button to accept the entry and return to the previous window.

**6**

The CLOCK button shows the amount of time which has been allocated to the selected cause.

**7**

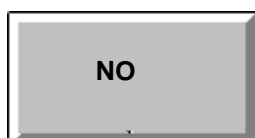
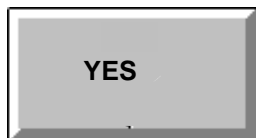
Touch the OK button to record the data entered and return to the main window.

**8**

If the extra PREPARATION time is not fully allocated, the COLLECT SYSTEM button continues to flash.

Touch the COLLECT SYSTEM button and repeat the procedure to fully allocate the remaining extra PREPARATION time.

Do you want to continue the Preparation Phase?



Jump to Step Zero During the Preparation Phase

When the machine steps down to ZERO during the PREPARATION PHASE the TPOP prompts the following question:

Do you want to continue the PREPARATION phase?

- If the answer is YES the TPOP keeps the PREPARATION phase open. After 10 minutes in step ZERO the TPOP prompts the same question again. If the answer is YES again, the system allows an additional 10 minutes in step ZERO then closes the PREPARATION phase automatically
- If the answer is NO the TPOP closes the PREPARATION phase
- If no answer is given within 20 minutes the PREPARATION phase closes automatically.

First Production Start * 10:30:26

GENERAL PRODUCTION DATA

PERSONAL

Team Leader

PACKAGE INTEGRITY

PULLTAB INTEGRITY

PT Openability judgement

WEIGHT/VOLUME

Weight right Good

PEROXIDE PARAMETERS

PEROXIDE

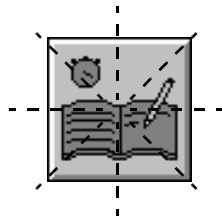
Check during production shift 1 %

Operator Sheet for Production Start

1

Note! The illustration shows an example of an Operator Sheet. The appearance of the Operator Sheet may be different depending on its configuration.

If configured to do so, the OPERATOR SHEET window appears when the machine is in step PRODUCTION and prompts the operator to enter information in the fields for PRODUCTION START.



Manual Recording of a Production Stop Cause

1

During PRODUCTION phase, the machine may stop due to:

- conveyor congestion
- manual MOTOR START interruption
- manual SHORT STOP
- manual EMERGENCY STOP
- step out from PRODUCTION (Step up or Step down)
- manual filling off
- opening of a door.

The COLLECT SYSTEM button starts to flash.

Touch the COLLECT SYSTEM button.

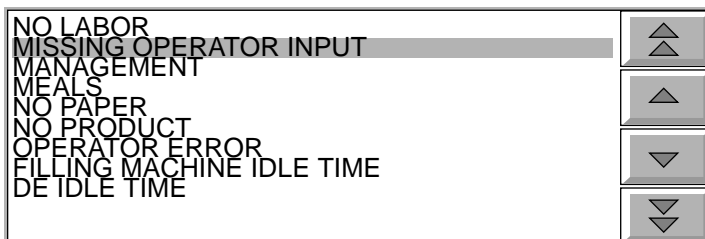
2

The TPOP prompts one of the following questions:

- Reason for conveyor congestion?
- Why did you interrupt Motor Start?
- Why did you press Short Stop?
- Why did you press Emergency Stop?
- Why did you Step out from Production?
- Why did you open the door?
- Why did you turn off the filling?

Note! The TPOP prompts the question “Why did you interrupt MOTOR START?” only at the first manual MOTOR START interruption after the PREPARATION phase.

Note! If the automatic catch of the distribution equipment stop function is enabled, the TPOP button will flash after a conveyor congestion only if a distribution equipment stop has not been detected.

**3**

Answer by selecting the correct cause for the event, see [Selecting the Cause of an Event](#) on page 2-12 for details.

If no answer is given within 10 minutes after the restart, a MISSING OPERATOR INPUT will be assigned automatically as a stop reason.

Note! If the stop is due to a CONVEYOR CONGESTION, and no cause is manually selected within 10 minutes after the restart, a GENERIC CONVEYOR CONGESTION will be assigned automatically as a stop reason.

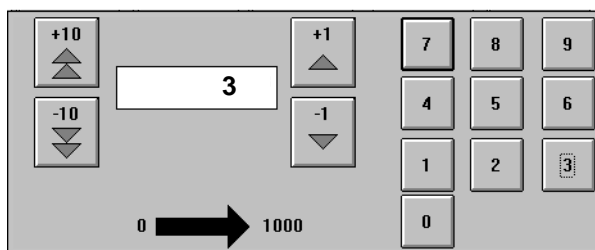
**4**

The CLOCK symbol displays the total time taken for the stop.

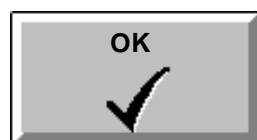
**5**

When there is manual waste, touch the WASTE NUMBER button.

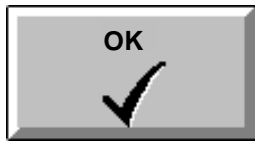
Note! Manual waste means packages removed by the operator.

**6**

Use the ARROW buttons or the numeric key pad to enter the number of packages taken.

**7**

Touch the OK button to accept the entry and return to the previous window.

**8**

Touch the OK button to record the stop cause, the waste and return to the main window.

**Check or Change a
Production Stop Cause****1**

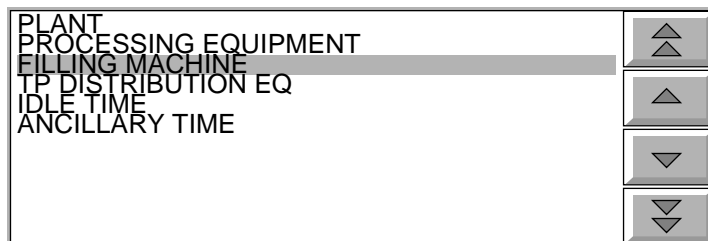
During a production stop, it is possible to check or change production stop causes which have been automatically assigned by the system.

Touch the COLLECT SYSTEM button.

Note! This button is only available during the stop and during the first 10 minutes after the restart.

**2**

Touch the SEESTOP button to check if the recorded stop cause is correct.

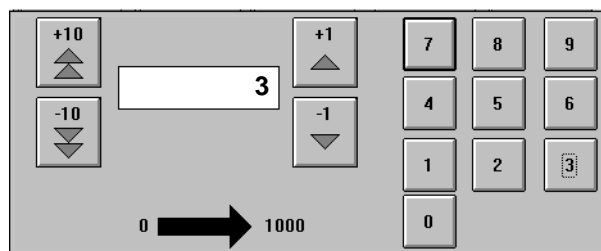
**3**

If the cause is not correct, select the correct cause in the scroll lists, see [Selecting the Cause of an Event](#) on page 2-12 for details.

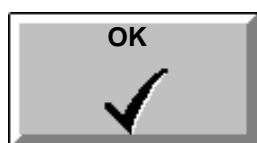
**4**

When there is a manual waste, touch the WASTE NUMBER button.

Note! Manual waste means packages removed by the operator.

**5**

Use the ARROW buttons or the numeric key pad to enter the number of packages taken.

**6**

Touch the OK button to accept the entered data for package numbers and return to the previous window.

**7**

Touch the OK button to record the entered data and return to the main window.

Is this the end of Planned Production or is there a Breakdown?

END OF PLANNED PRODUCTION

BREAKDOWN

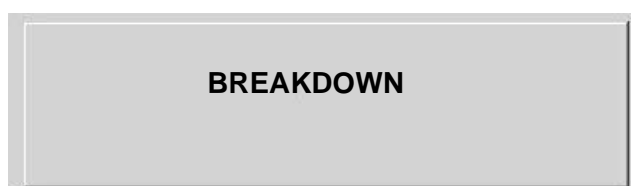
Jump to Step ZERO During the PRODUCTION Phase

When the machine steps to ZERO during the PRODUCTION phase the TPOP prompts the following question:

Is this the end of Planned Production or is there a Breakdown?

- If the answer is YES the TPOP closes the PRODUCTION phase
- If the answer is NO the TPOP keeps the PRODUCTION phase open and the period of time until the next PRODUCTION is recorded as a PRODUCTION stop. If the machine remains in step ZERO, the question appears again 10 minutes after the first prompt. If the answer is NO again, the system allows an additional 10 minutes in step ZERO, then closes the PRODUCTION phase automatically
- If no answer is given within 20 minutes, the PRODUCTION phase closes automatically.

Is this the end of Planned Production or is there a Breakdown?



Jump to Step VENTING During the PRODUCTION Phase

When the machine steps to VENTING during the PRODUCTION phase the TPOP prompts a question.

Is this the end of Planned Production or is there a Breakdown?

- If the answer is YES the TPOP closes the PRODUCTION phase
- If the answer is NO the TPOP keeps the PRODUCTION phase open and the period of time until the next PRODUCTION is recorded as PRODUCTION stop
- If no answer is given within 4 minutes the TPOP assigns as default YES.



Record Package Waste for Quality Checks

1

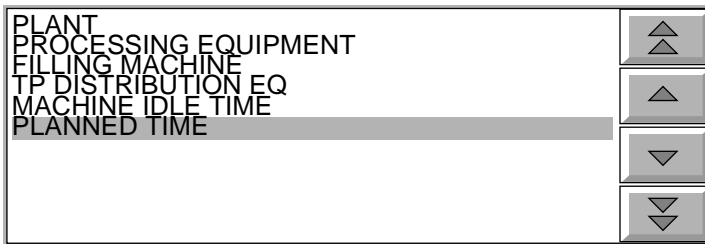
Note! Remember to record the number of packages taken whenever packages are collected for quality checks.

Touch the COLLECT SYSTEM button.

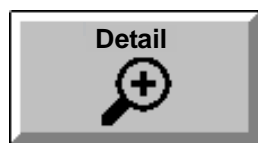


2

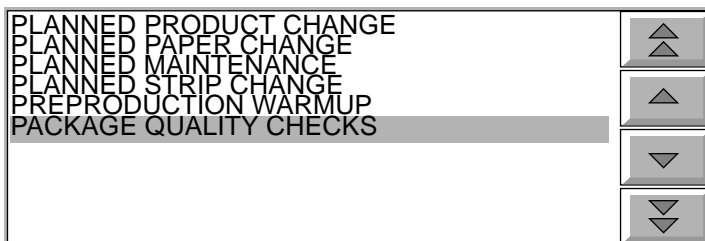
Touch the WASTE button.



3
Use the arrow keys to select the PLANNED TIME.



4
Touch the DETAIL button.

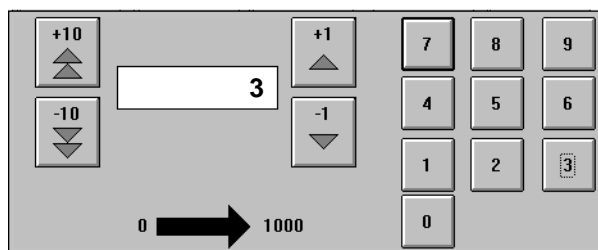


5
Use the arrow keys to select PACKAGE QUALITY CHECKS.



6
Touch the WASTE NUMBER button.

TechPub_2614345_0105 - 05_OM81809_10en.fm

**7**

Use the ARROW buttons or the numeric key pad to enter the number of packages taken.

**8**

Touch the OK button to accept the entry for package numbers and return to the previous window.

**9**

Touch the OK button to record the data and return to the main window.

**Record Maintenance Time****1**

Touch the COLLECT SYSTEM button.



2

Touch the PLANNED MAINTENANCE button.

Note! This button is only available in step ZERO, and with the PREPARATION and PRODUCTION phases closed.



3

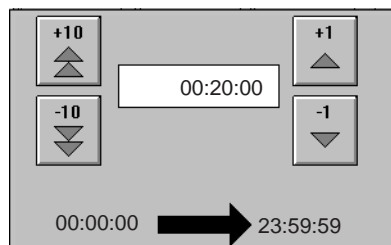
Select the correct item, see Selecting the Cause of an Event for details.

TechPub_2614345_0105 - 05_OM81809_10en.fm



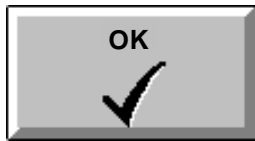
4

Touch the CLOCK button.

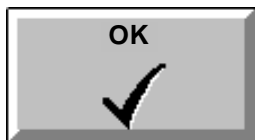


5

Use the ARROW buttons or the numeric key pad to enter the time used.

**6**

Touch the OK button to accept the time entry and return to the previous window.

**7**

Touch the OK button to record the data entry and return to the main window.

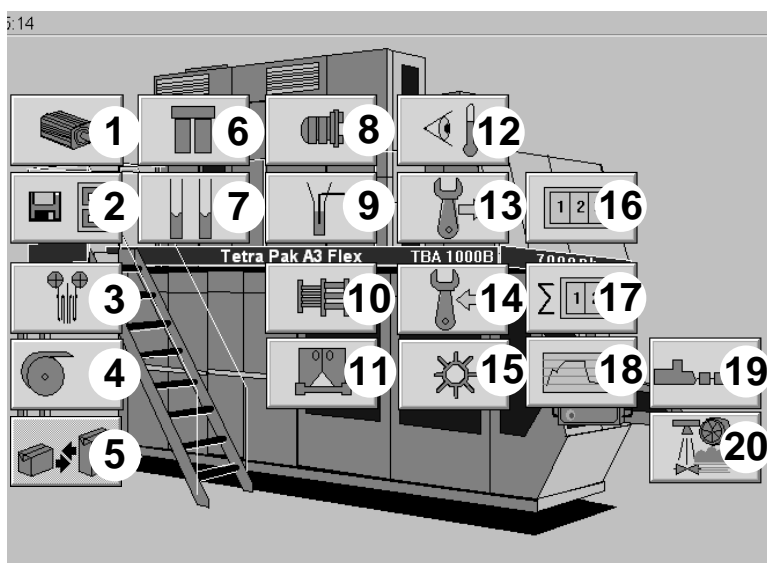
**Copying Recorded Data**

The COPYLOG button is used to copy data from the TPOP flexbox to a floppy disk.

To analyse the data collected by the system, the data must be copied to an office PC and analysed utilising the appropriate software.

Manoeuvre System

This section describes how to use the TPOP to make machine settings, view the number of packages wasted, reset counters and to set the number of packages per tray/unit.



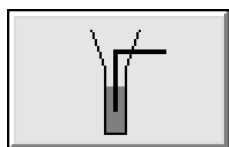
Manoeuvre System Buttons

Touch the MANOEUVRE SYSTEM button to view the buttons corresponding to the various manoeuvre functions.

Touch a MANOEUVRE button to open the associated manoeuvre window.

Note! The following pages provide instructions on how to perform typical actions within the MANOEUVRE windows. The actions performed use a common logic which is repeatable in all MANOEUVRE windows.

- | | |
|----------------------|--|
| 1 Servo Motors | 12 Temperature Overview |
| 2 Parameters Storage | 13 Service Unit, right |
| 3 SA/Magazine | 14 Service Unit, left |
| 4 ASU | 15 Final Folder Unit |
| 5 Volume Change | 16 Package Monitoring |
| 6 Superstructure | 17 Production Overview by
Volume - total produced
and total time |
| 7 Peroxide System | 18 Production Recorder |
| 8 Sterile Air System | 19 Line Overview and Status |
| 9 Filling System | 20 Integrated Cleaning Unit |
| 10 Design Correction | |
| 11 Jaw Unit | |



Filling System Window

1

Touch the FILLING SYSTEM button.

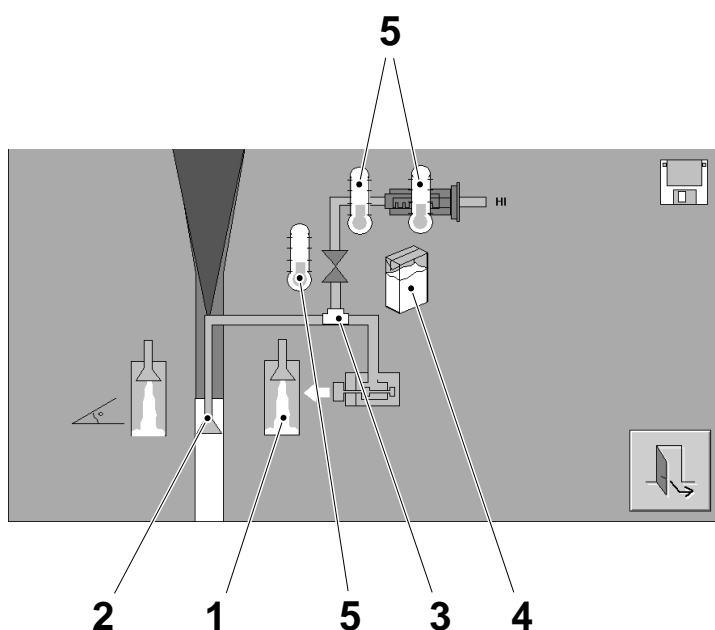
2

The FILLING SYSTEM window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

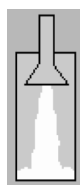
- START FLOW (1)
- PRODUCT LEVEL AND FLOW GRAPH (2)
- HI NOZZLE SELECTION (OE) (3)
- HI PRESSURE AND FLOW (OE) (4)
- HI TEMPERATURE MONITOR (OE) (5)

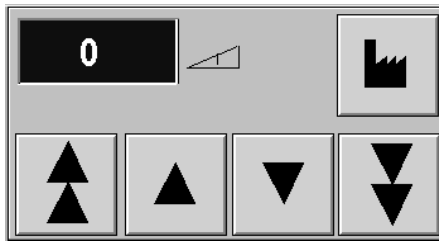


Start Flow

3

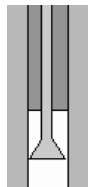
Touch the START FLOW icon.



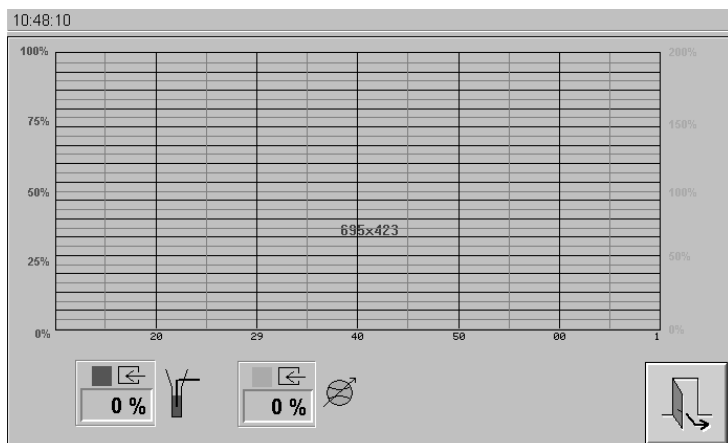
**4**

The START FLOW regulator is displayed.

Use the ARROW buttons to set the value or touch the FACTORY button to reset the value to the factory default setting.

**Product Level and Flow Graph****5**

Touch the TUBE icon.

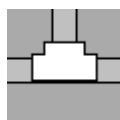


6

The PRODUCT LEVEL METER window is displayed.

The graph displays the following information:

- the BLUE line represents the product level rate
- the YELLOW line represents the product flow rate (100% is the nominal machine flow rate).



HI Nozzle Selection (OE)

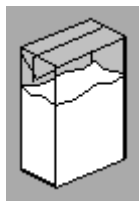
7

Touch the HI NOZZLE SELECTION icon.

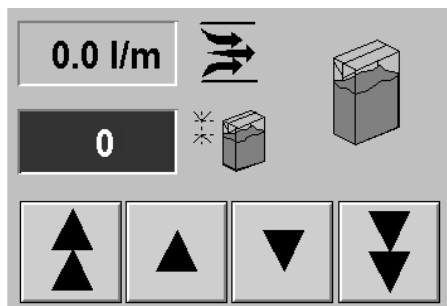
**8**

The HI NOZZLE SELECTION regulator is displayed.

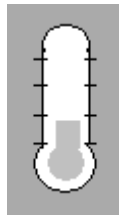
Touch the NOZZLE button which corresponds to the size of nozzle fitted in the nozzle unit on the product pipe.

**HI Pressure and Flow (OE)****9**

Touch the HI PRESSURE AND FLOW icon.

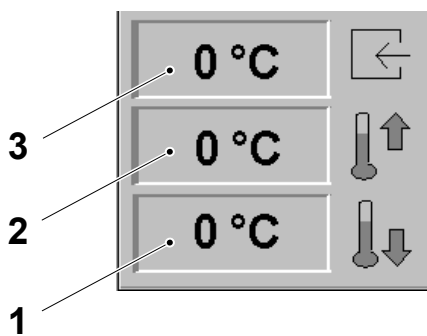
**10**

Use the ARROW buttons to increase or decrease the headspace in each package.



**HI Temperature Monitor (OE)
11**

Touch one of the HI TEMPERATURE MONITOR icons.



12

The HI TEMPERATURE monitor is displayed. The monitors display the following information:

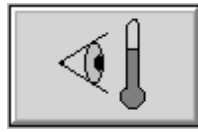
- the minimum temperature (1)
- the maximum temperature (2)
- the current temperature (3).

TechPub_2614345_0105 - 05_OM81809_10en.fm



13

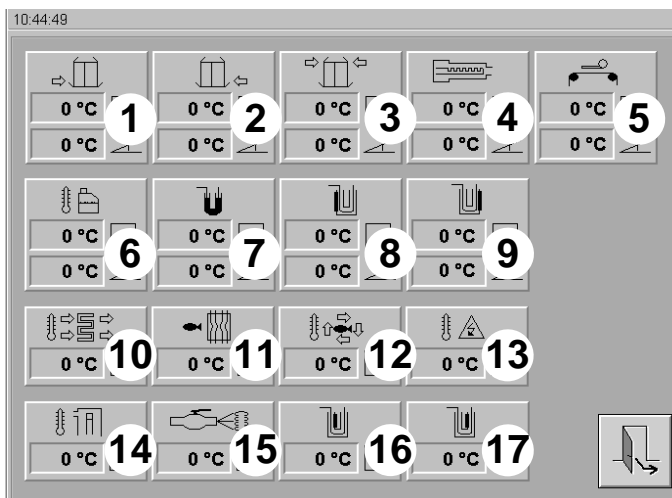
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Temperature Overview Window

1

Touch the TEMPERATURE OVERVIEW button.



2

The TEMPERATURE OVERVIEW window is displayed.

To change a value, touch a button and the corresponding regulator window is displayed.

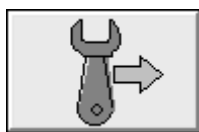
Note! Values from temperature regulators can be changed; values from temperature monitors cannot be changed.

- | | |
|--------------------------------|---------------------------------|
| 1 Top left flap heater | 10 Pre-sterilization |
| 2 Top right flap heater | 11 Water heat exchanger |
| 3 Bottom flaps heater | 12 Cooling water |
| 4 Air super heater | 13 Electrical cabinet |
| 5 Air knife | 14 Aseptic chamber |
| 6 Peroxide tank | 15 Steam |
| 7 Peroxide bath | 16 Bath internal heater, inlet |
| 8 Bath external heater, inlet | 17 Bath internal heater, outlet |
| 9 Bath external heater, outlet | |



3

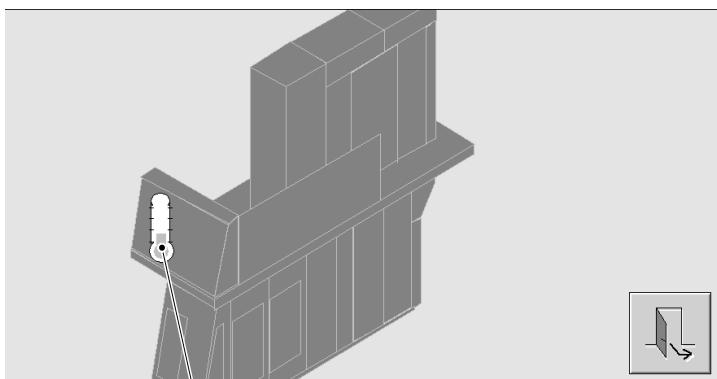
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Service Unit Right Window

1

Touch the SERVICE UNIT RIGHT button.



1

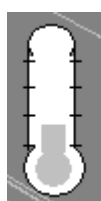
2

The SERVICE UNIT RIGHT window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there is the following selectable icon:

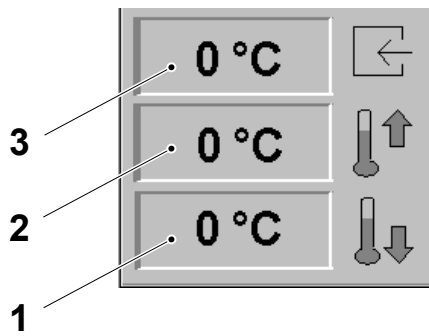
- COOLING CIRCULATION WATER TEMPERATURE (1).



Cooling Circulation Water Temperature

3

Touch the COOLING CIRCULATION WATER TEMPERATURE icon.

**4**

The COOLING CIRCULATION WATER TEMPERATURE monitor is displayed. The monitors display the following information:

- the minimum temperature (1)
- the maximum temperature (2)
- the current temperature (3).

**5**

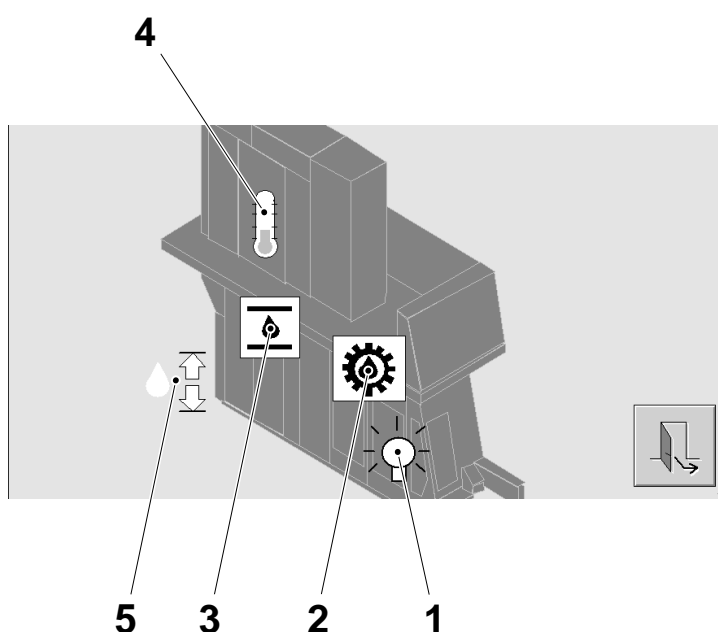
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Service Unit Left Window

1

Touch the SERVICE UNIT LEFT button.



2

The SERVICE UNIT LEFT window is displayed.

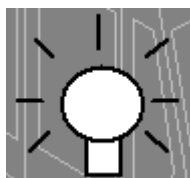
All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

- LIGHTS ON/OFF (1)
- MANUAL LUBRICATION (2)
- HYDRAULIC SERVICE (3)
- ELECTRICAL CABINET TEMPERATURE (4)
- HYDRAULIC OIL LEVEL (5).

Note! Items not described are intended for service purposes only and are detailed in the machines MM.

TechPub_2614345_0105 - 05_OM81809_10en.fm



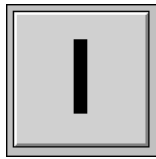
Lights Enable/Disable

3

Touch the LIGHTS ON/OFF icon.

**Manual Lubrication****4**

Touch the MANUAL LUBRICATION icon.

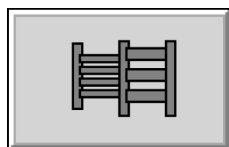
**5**

The MANUAL LUBRICATION button is displayed.

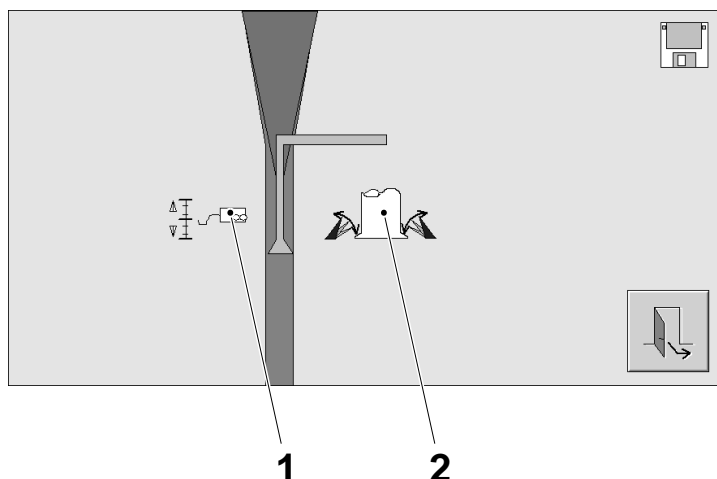
Touch the MANUAL LUBRICATION button to start the manual lubrication cycle.

**6**

Touch the EXIT button to return to the MANOEUVRE SYSTEM window.

**Design Correction Window****1**

Touch the DESIGN CORRECTION button.



2

The DESIGN CORRECTION window is displayed.

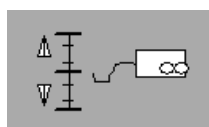
Note! The FOLDING FLAP POSITION icon is only available for machines running with the “Design with Jaw” option enabled.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

- DESIGN CORRECTION OFFSET (1)
- FOLDING FLAP POSITION (2).

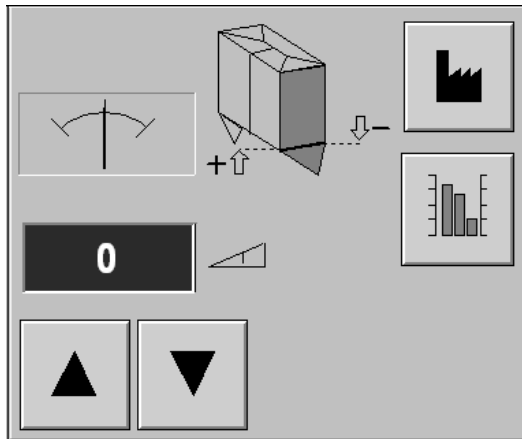
TechPub_2614345_0105 - 05_OM81809_10en.fm



Design Correction Offset

3

Touch the DESIGN CORRECTION OFFSET icon.

**4**

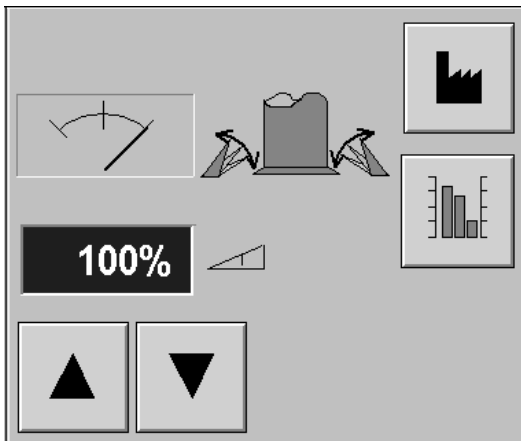
The DESIGN CORRECTION OFFSET regulator is displayed.

Use the ARROW buttons to align the package design by changing the DESIGN CORRECTION OFFSET value.

Folding Flap Position**5**

Touch the FOLDING FLAP POSITION icon.

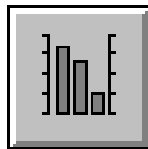




6

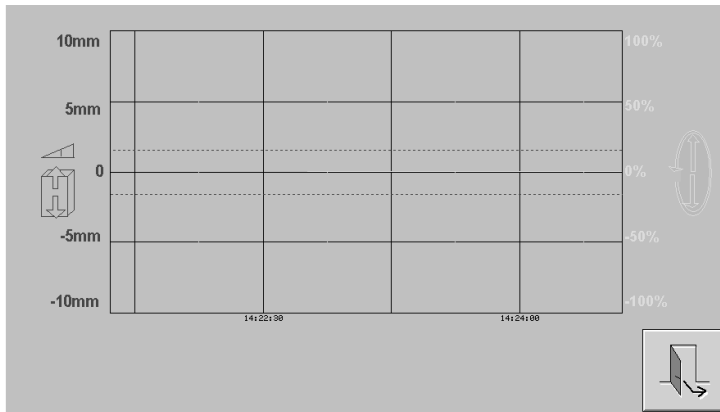
The FOLDING FLAP POSITION regulator is displayed.

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.



7

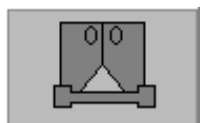
Touch the TREND button.

**8**

A real time graph appears showing the adjustments made to the stroke profile by the design control system.

**9**

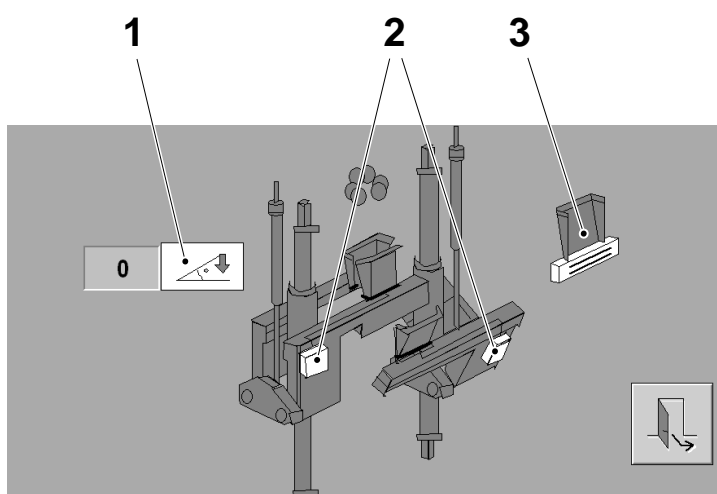
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Jaw Unit Window

1

Touch the JAW UNIT button.



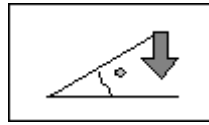
2

The JAW UNIT window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

- INCH TO POSITION (1)
- TRANSVERSAL SEALING (2)
- CHANGE INDUCTOR (3).

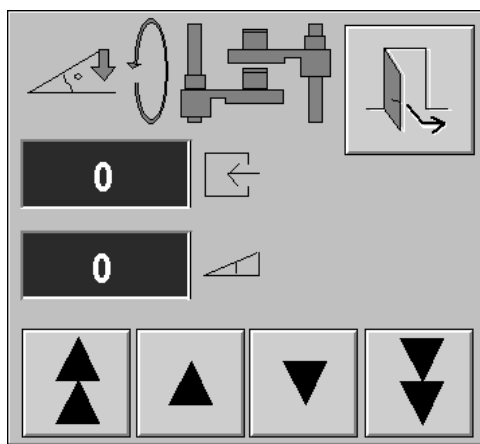


Inch to Position

3

Touch the INCH TO POSITION icon.

Note! The INCH TO POSITION function is only available in step ZERO.



4

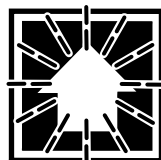
The INCH TO POSITION regulator is displayed.

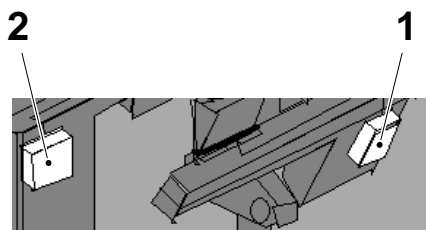
Use the ARROW buttons to set the desired degree position.

5

Press the PROGRAM UP button.

The jaw system moves to the chosen degree position.

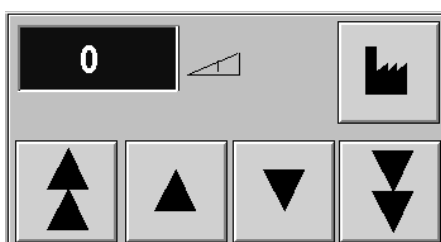




Transversal Sealing

6

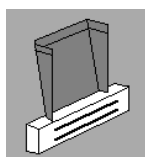
Touch the TS POWER icon (1) to access the regulator window for the RH TS IH generator or touch the TS POWER icon (2) to access the regulator window for the LH TS IH generator.



7

The TS POWER regulator is displayed.

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.

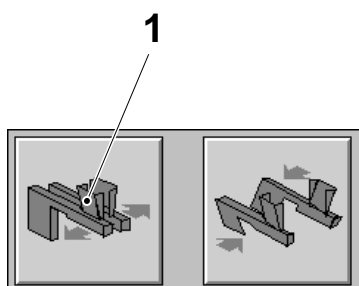


Change Inductor

8

Touch the CHANGE INDUCTOR icon.

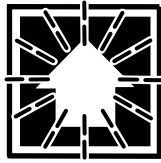
Note! The CHANGE INDUCTOR icon is only available during step PRODUCTION.



9

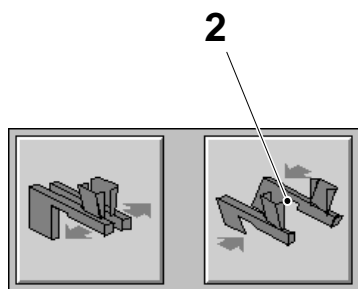
The CHANGE INDUCTOR buttons are displayed.

Touch the OPEN button (1).

**10**

When the PROGRAM UP button begins to flash, press it.

The lower jaw pair open.

**11**

When the inductor has been changed and all necessary work has been completed, touch the CLOSE button (2).

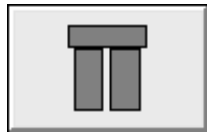
**12**

When the PROGRAM UP button begins to flash, press it.

The lower jaw pair return to the PRODUCTION position.

**13**

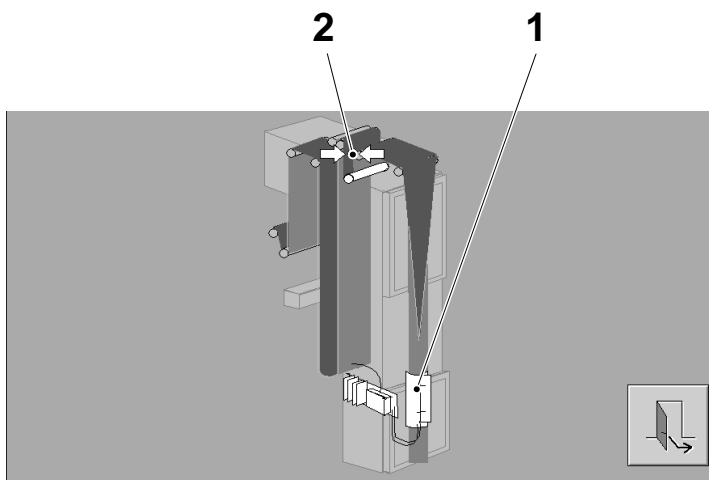
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Superstructure Window

1

Touch the SUPERSTRUCTURE button.



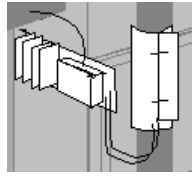
2

The SUPERSTRUCTURE window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

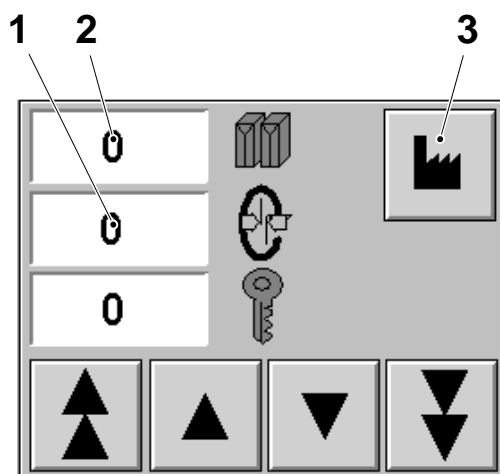
- LONGITUDINAL SEALING (1)
- PENDULUM ROLLER (2).



Longitudinal Sealing

3

Touch the LONGITUDINAL SEALING icon.



4

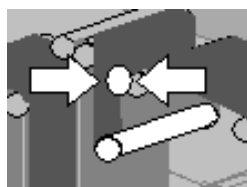
The LONGITUDINAL SEALING regulator is displayed.

The following setting parameters are available:

- POWER DURING TIGHT TUBE (1)
- POWER DURING PRODUCTION (2).

To set a parameter, touch the parameter value displayed. The background colour of the selected value changes to blue.

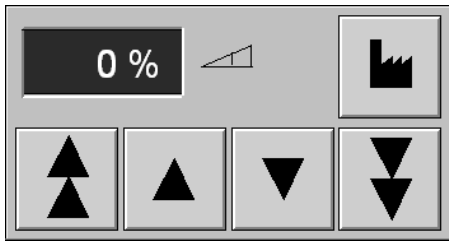
Use the ARROW buttons to set the value or touch the FACTORY button (3) to reset the values to the factory default setting.



Pendulum Roller

5

Touch the PENDULUM ROLLER icon.

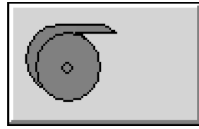
**6**

The PENDULUM ROLLER regulator is displayed.

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.

**7**

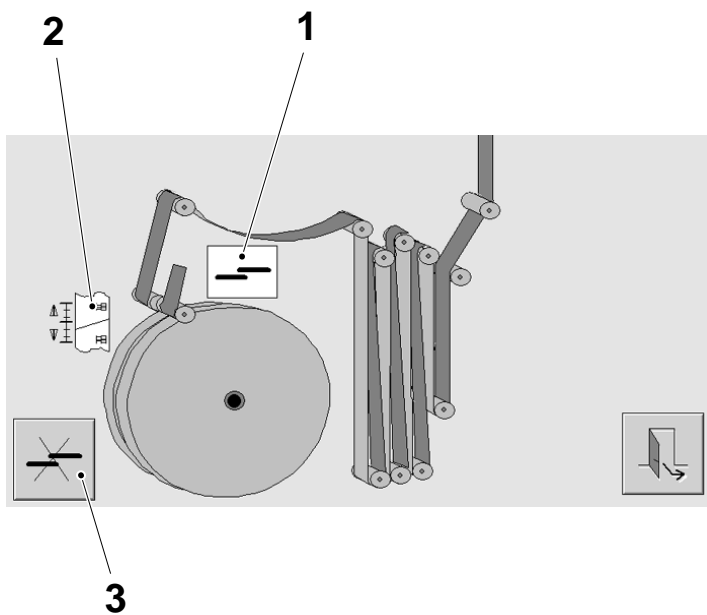
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



ASU Window

1

Touch the ASU button.



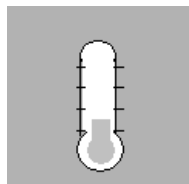
2

The ASU window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

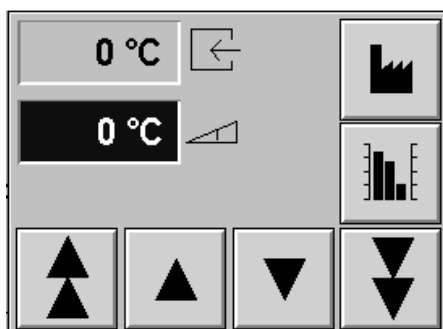
- PACKAGING MATERIAL SPLICE TEMPERATURE (1)
- SPLICE DESIGN POSITION ASU (2)
- IMMEDIATE SPLICE ENABLED (3).



Packaging Material Splice Temperature

3

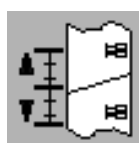
Touch the PACKAGING MATERIAL SPLICE TEMPERATURE icon.



4

The PACKAGING MATERIAL SPLICE TEMPERATURE regulator is displayed.

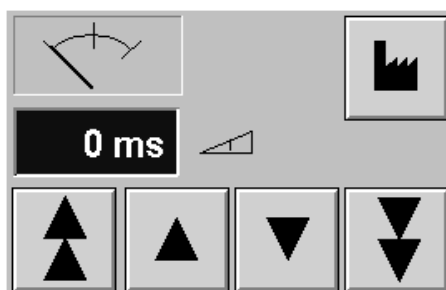
Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.



Splice Design Position

5

Touch the SPLICE DESIGN POSITION icon.



6

SPLICE DESIGN POSITION regulator is displayed.

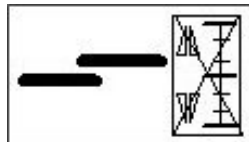
Note! Larger values increase the space between each bar code. Smaller values decrease the space between each bar code.

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.

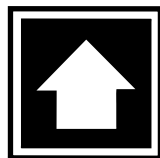
**Immediate Splice Enabled****7**

When there is an urgent need to perform a packaging material splice because of an alarm condition, use the IMMEDIATE SPLICE ENABLED function.

This allows the possibility to perform an splice immediately and disregarding the packaging material position (out of design).

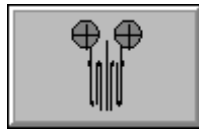
**8**

Touch the IMMEDIATE SPLICE ENABLED button to enable the IMMEDIATE SPLICE ENABLED function.

**9**

To cancel the function, press the PROGRAM UP button or press 0 in the ON/OFF button.

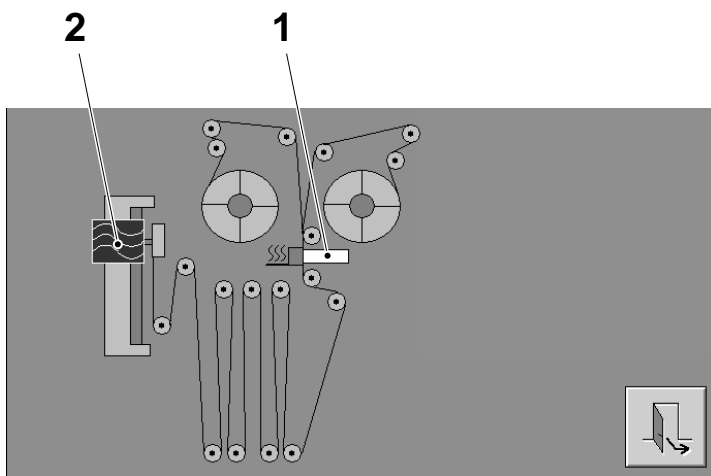




SA Magazine Window

1

Touch the SA MAGAZINE button.



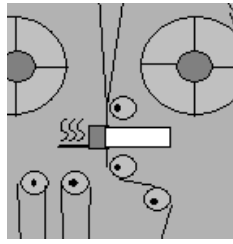
2

The SA MAGAZINE window is displayed.

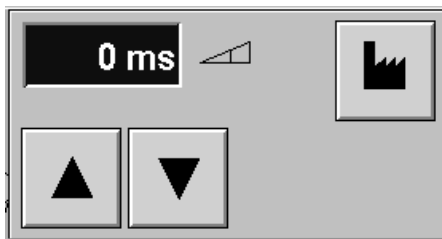
All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

- PULSE TIME STRIP SPLICE (1)
- POWER SETTING STRIP APPLICATOR (2).

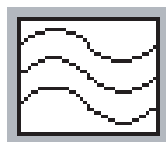
**Pulse Time Strip Splice****3**

Touch the PULSE TIME STRIP SPLICE icon.

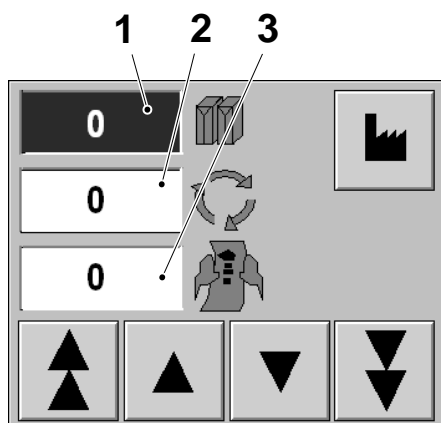
**4**

The PULSE TIME STRIP SPLICE regulator is displayed.

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.

**Power Setting Strip Applicator****5**

Touch the POWER SETTING STRIP APPLICATOR icon.



6

The POWER SETTING STRIP APPLICATOR regulator is displayed.

Touch either:

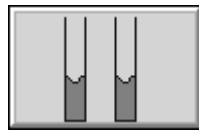
- POWER DURING PRODUCTION (1)
- POWER DURING TIGHT TUBE (2)
- POWER DURING PACKAGING MATERIAL SPLICE (3).

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default values.



7

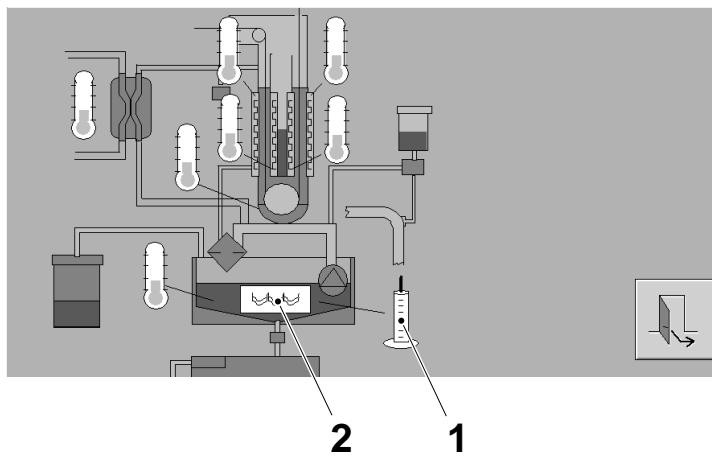
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Peroxide System Window

1

Touch the PEROXIDE SYSTEM button.



2

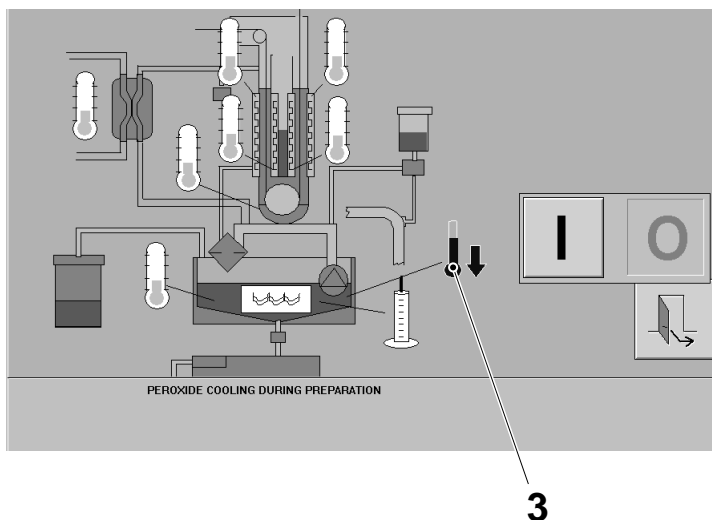
The PEROXIDE SYSTEM window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

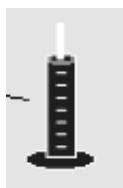
In this window there are the following selectable icons:

- PEROXIDE CONCENTRATION MONITOR (1)
- PEROXIDE TANK LEVEL (2)
- PEROXIDE COOLING (3).

Note! The Peroxide cooling function is only available during PREPARATION.

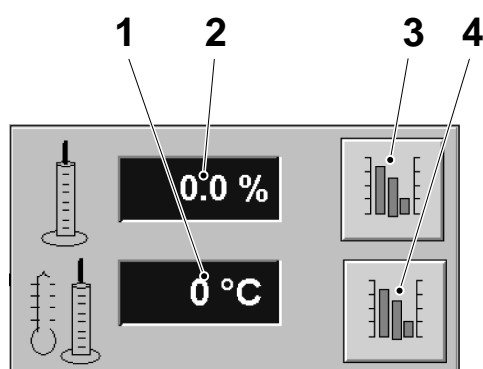


3



Peroxide Concentration Monitor 3

Touch the PEROXIDE CONCENTRATION MONITOR icon.



4

The PEROXIDE MONITOR regulator is displayed.

The values (1) and (2) indicate:

- hydrogen peroxide concentration
- hydrogen peroxide temperature (measured inside the peroxide concentration meter).

The data is shown in real time only for the first 10 minutes when the filling machine is in step PREPARATION or from step HEAT STERILIZATION to step PRODUCTION.

Touch the TREND button (3) to display the graph of the hydrogen peroxide concentration during the last 8 hours of PRODUCTION.

Touch the TREND button (4) to display the graph of the hydrogen peroxide temperature during the last hour.

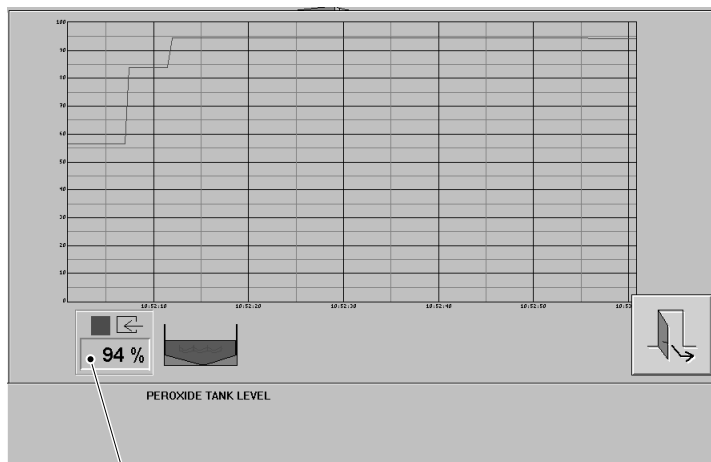
Note! The graphs may show blocks of missing information due to the conditions mentioned above.



Peroxide Tank Level

5

Touch the PEROXIDE TANK LEVEL icon.



6

A graph appears showing the level of hydrogen peroxide in the tank as a function of time.

The box (1) shows the instantaneous peroxide level value.

1

**Peroxide Cooling****7**

Touch the PEROXIDE COOLING icon.

**8**

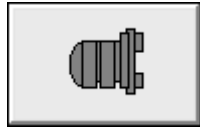
The ON/OFF buttons are displayed.

Touch the ON button to start the cooling procedure for the peroxide in the tank.

The cooling process stops automatically when the peroxide reaches a temperature of 60° C or after 10 minutes.

**9**

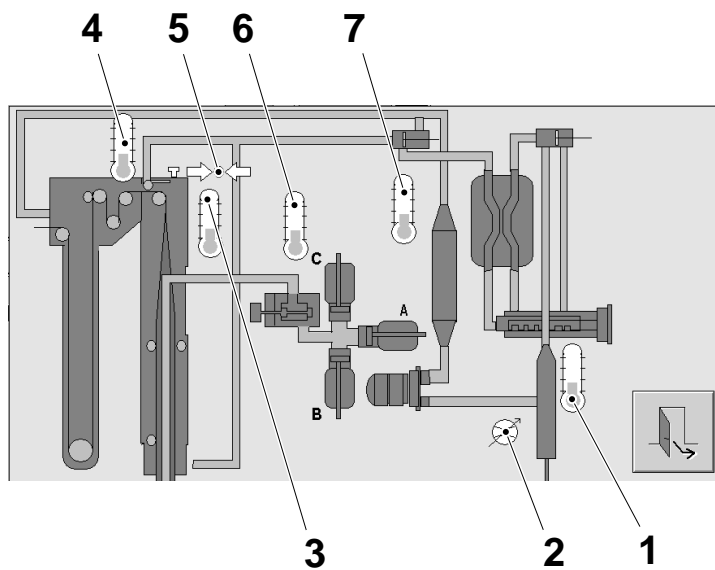
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Sterile Air System Window

1

Touch the STERILE AIR SYSTEM button.



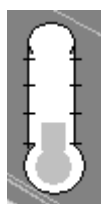
2

The STERILE AIR SYSTEM window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

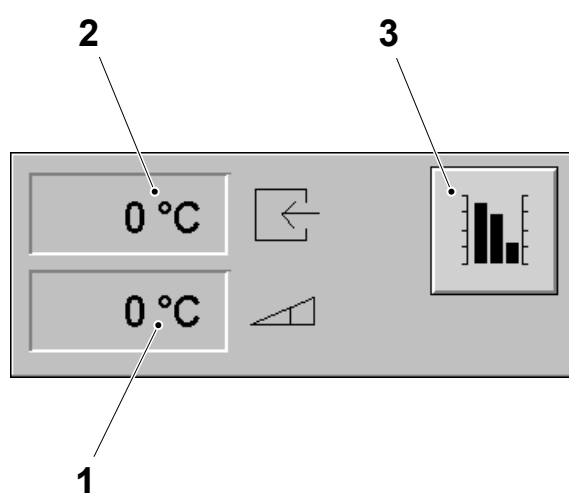
- SUPERHEATER TEMPERATURE (1)
- SEPARATOR AIR FLOW (2)
- TOP ASEPTIC CHAMBER TEMPERATURE (3)
- AIR KNIFE TEMPERATURE (4)
- ASEPTIC CHAMBER AIR PRESSURE (5)
- STEAM TEMPERATURE (6)
- HEAT STERILIZATION TEMPERATURE (7).



Superheater Temperature

3

Touch the SUPERHEATER TEMPERATURE icon.



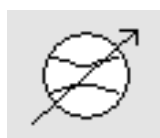
4

The SUPERHEATER TEMPERATURE monitor is displayed. The monitor displays the following information:

- the set point temperature (1)
- the actual temperature (2).

Touching the TREND button (3) displays a graph showing the temperature in real time.

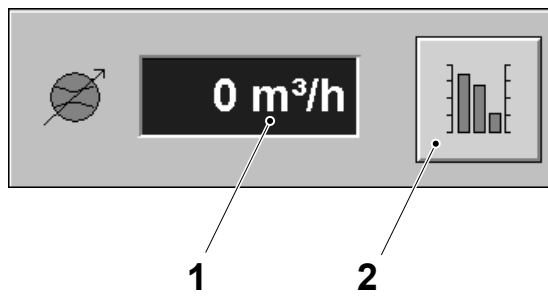
TechPub_2614345_0105 - 05_OM81809_10en.fm



Separator Air Flow

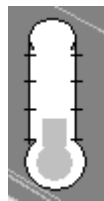
5

Touch the SEPARATOR AIR FLOW icon.

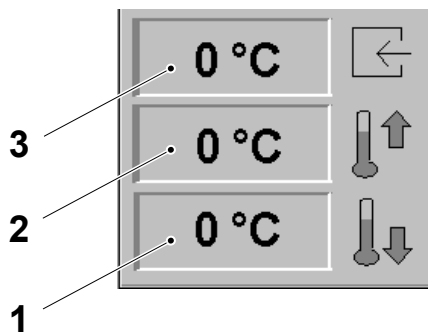
**6**

The SEPARATOR AIR FLOW monitor is displayed. The monitor displays the air flow in m³/h (1).

Touching the TREND button (2) displays a graph showing the air flow in real time.

**Top Aseptic Chamber Temperature 7**

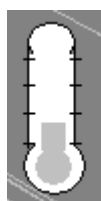
Touch the TOP ASEPTIC CHAMBER TEMPERATURE icon.

**8**

The TOP ASEPTIC CHAMBER TEMPERATURE monitor is displayed.

The monitor displays the following information:

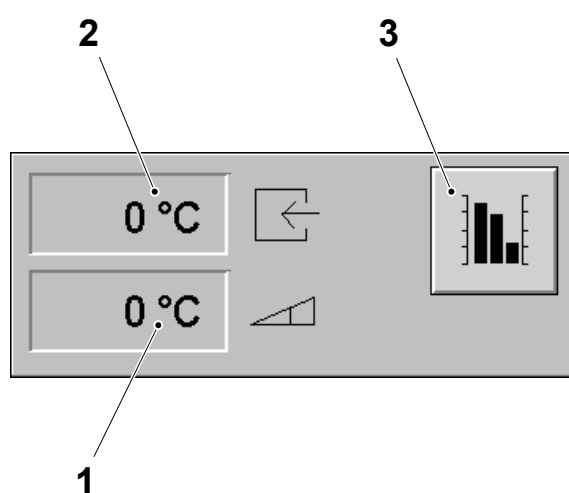
- lower temperature limit (2)
- upper temperature limit (3)
- current temperature (1).



Air Knife Temperature

9

Touch the AIR KNIFE TEMPERATURE icon.



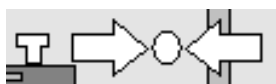
10

The AIR KNIFE TEMPERATURE monitor is displayed. The monitor displays the following information:

- the set point temperature (1)
- the actual temperature (2).

Touching the TREND button (3) displays a graph showing the temperature in real time.

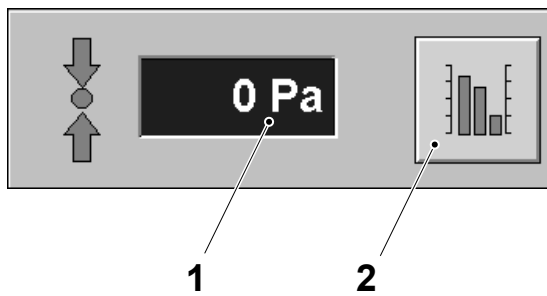
TechPub_2614345_0105 - 05_OM81809_10en.fm



Aseptic Chamber Air Pressure

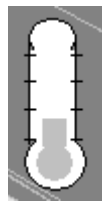
11

Touch the ASEPTIC CHAMBER AIR PRESSURE icon.

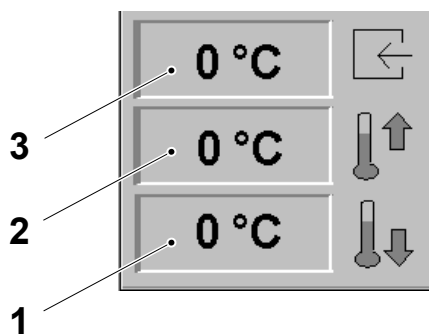
**12**

The ASEPTIC CHAMBER AIR PRESSURE monitor is displayed. The monitor displays the set point of the aseptic chamber air pressure in Pa (1).

Touching the TREND button (2) displays a graph showing the air pressure in real time.

**Steam Temperature****13**

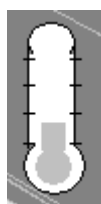
Touch the STEAM TEMPERATURE icon.

**14**

The STEAM TEMPERATURE monitor is displayed.

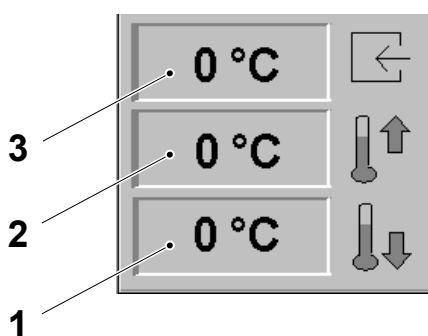
The monitor displays the following information:

- lower temperature limit (2)
- upper temperature limit (3)
- current temperature (1).



Heat Sterilization Temperature 15

Touch the HEAT STERILIZATION TEMPERATURE icon.



16

The HEAT STERILIZATION TEMPERATURE monitor is displayed.

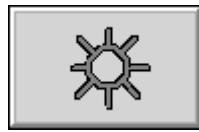
The monitor displays the following information:

- lower temperature limit (2)
- upper temperature limit (3)
- current temperature (1).



17

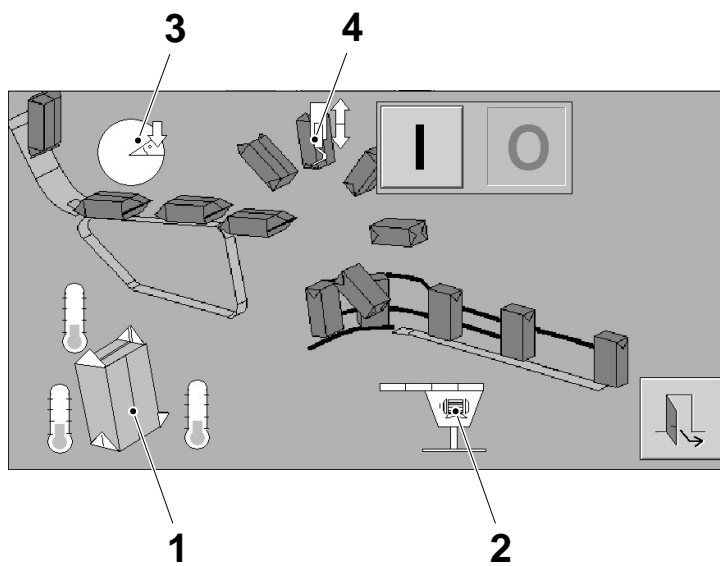
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Final Folder Unit Window

1

Touch the FINAL FOLDER button.



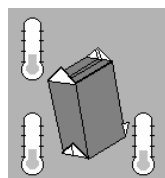
2

The FINAL FOLDER window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

- FLAP HEATING ELEMENTS (1)
- EXTERNAL CONVEYOR SPEED (2)
- FINAL FOLDER SYNCHRONIZATION (QUICKCHANGE) (3).
- FLAP HEATER NOZZLES POSITION (QUICKCHANGE) (4).

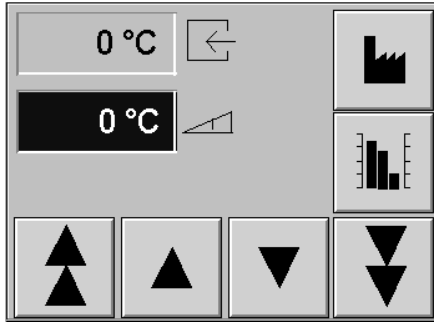


Flap Heating Elements

3

Note! Some temperatures can be changed, others are only monitors and cannot be changed.

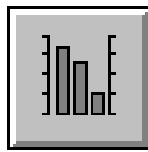
Touch one of the FLAP HEATING ELEMENT icons.



4

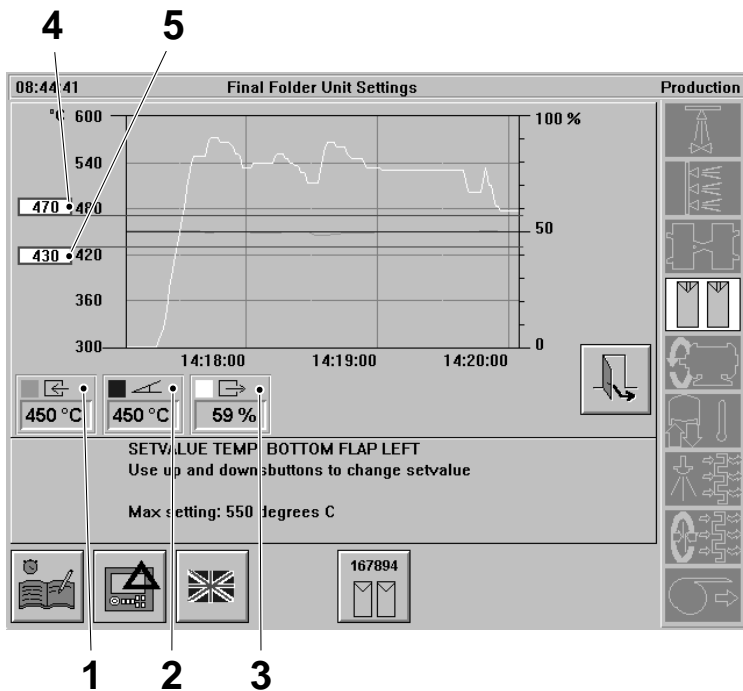
The FLAP HEATING ELEMENT regulator is displayed.

Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.



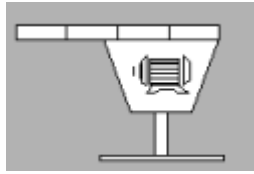
5

Touch the TREND button.

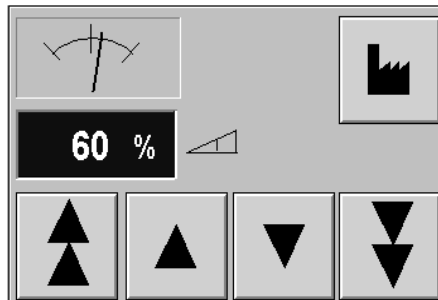


6

A real-time graph appears showing the set value (1), actual value (2), and the percentage of heat being used to reach the set temperature (3). The two horizontal lines (4) and (5) are preset temperature alarm limits.

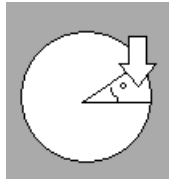
**External Conveyor Speed****7**

Touch the EXTERNAL CONVEYOR SPEED icon.

**8**

The EXTERNAL CONVEYOR SPEED regulator is displayed.

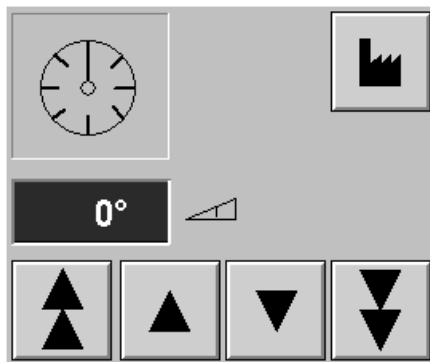
Use the ARROW buttons to set the value, or touch the FACTORY button to reset the factory default value.



Final Folder Synchronisation

9

Touch the FINAL FOLDER SYNCHRONISATION icon.

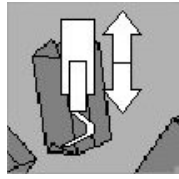


10

The FINAL FOLDER SYNCHRONISATION regulator is displayed.

Use the ARROW buttons (4) to advance or reverse the position of the final folder wheel in order to synchronise the final folder with the packages arriving on the conveyor.

Touch the FACTORY button (5) to reset the value to the factory default setting.



Flap Heater Nozzles Position 11

Note! Make sure that the Machine Body doors are closed.

Touch the FLAP HEATER NOZZLES POSITION button.



12

The ON/OFF buttons are displayed.

Touch the ON button to change the flap heater nozzles position.

Note! The flap heater nozzles return to their PRODUCTION position when the machine is restarted.



13

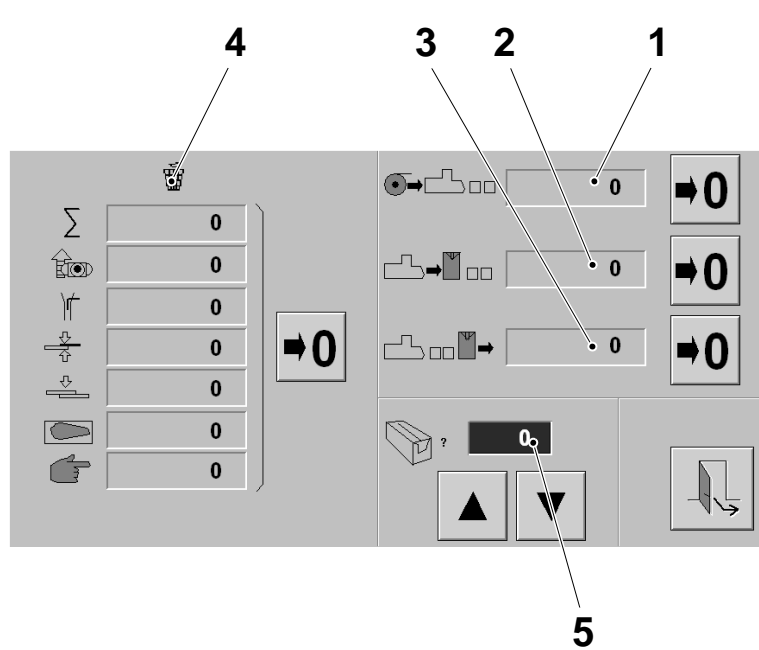
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Package Monitoring Window

1

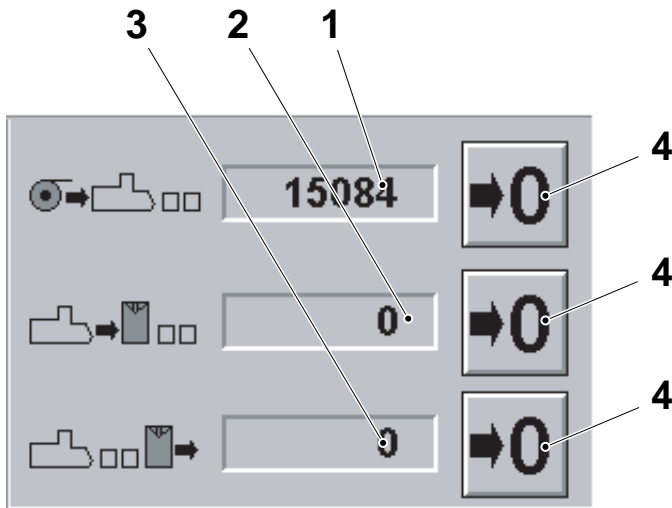
Touch the PACKAGE MONITORING button.

**2**

The PACKAGE MONITORING window is displayed.

In this window the following package counters are displayed:

- INCOMING PACKAGE COUNTER (1)
- EXITING PACKAGE COUNTER (2)
- LAST POINT DE PACKAGE COUNTER (3)
- WASTE COUNTERS (4)
- PACKAGES PER TRAY/UNIT COUNTER (5).



- 1 Packages into the filling machine
- 2 Packages out of the final folder
- 3 Packages out from the last counting point
- 4 Reset button

Package Counters

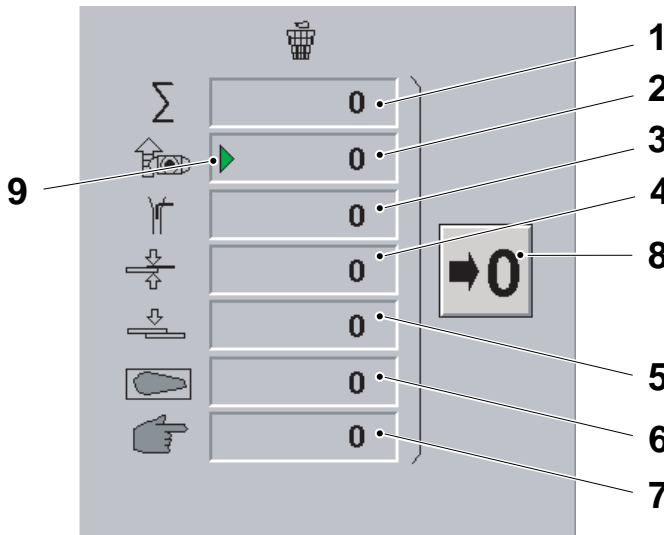
3

The counter (1) displays the incoming packages into the filling machine.

The counter (2) displays the number of packages exiting from the final folder.

The counter (3) displays the number of packages passing the last counting point photocell on the packaging line or coming out from the cardboard packer according to the configuration.

The counters can be reset by touching the corresponding RESET button (4) for 2 seconds.



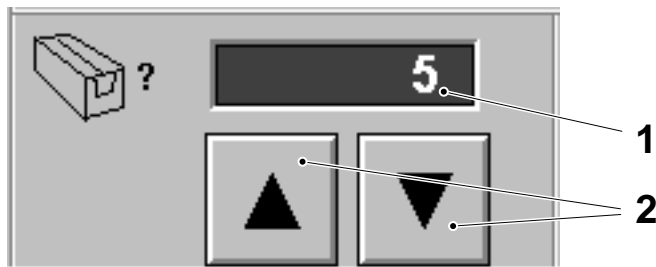
- | | |
|----------------------------------|---------------------------|
| 1 Total waste | 5 Waste paper splice |
| 2 Waste design correction system | 6 Tab waste |
| 3 Waste filling system | 7 Manual waste |
| 4 Waste strip applicator splice | 8 Reset button |
| | 9 Latest reason for waste |

Waste Counters

4

The waste counters can be observed to identify which part of the machine is causing waste.

The counters can be reset by touching the RESET button (8) for two seconds.



- 1 Packages per unit in the last point distribution machine
- 2 Increase and Decrease button

Packages per Tray/Unit

5

The counter (1) displays the number of packages per tray/unit. Touch the buttons (2) to change the value.

Note! The value (1) has a range of 1 to 200 packages.

Note! This setting is not available if the cardboard packer is the last counting point configured.



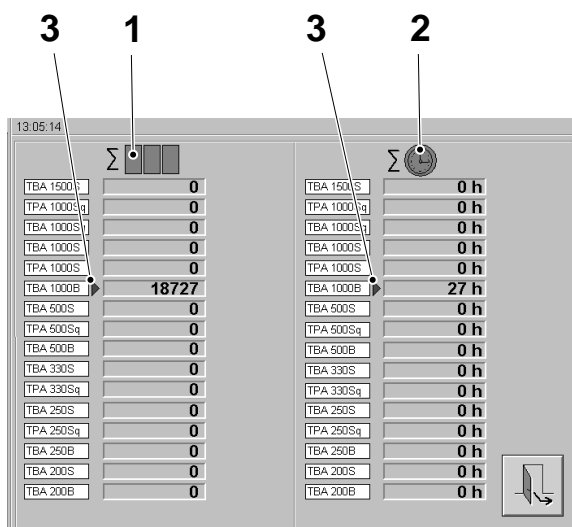
6

Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Production Overview Window 1

Touch the PRODUCTION OVERVIEW button.



2

The PRODUCTION OVERVIEW window is displayed.

The window displays the total production quantities (1) and the total time (2).

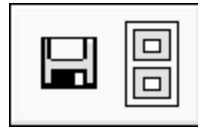
The green arrows (3) indicate the volume currently being produced.

TechPub_2614345_0105 - 05_OM81809_10en.fm



3

Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



Parameter Storage Window

1

Touch the PARAMETER STORAGE button.



- 1 Flap top left
- 2 Flap top right
- 3 Flaps bottom
- 4 Strip splice power
- 5 SA power
- 6 LS power during tight tube
- 7 LS power during production
- 8 Filling start flow
- 9 TS left
- 10 Paper splice temperature
- 11 TS right
- 12 Parameter set name
- 13 Load
- 14 Save

2

The PARAMETERS window is displayed.

It is possible to save parameter settings in sets. The stored parameter sets can be loaded for different types of packaging material or sealing strip.

The PARAMETERS window displays all of the parameters which can be saved in a parameter set.

A total of ten parameter sets can be saved and loaded.

Note! The current parameter set name is only displayed if none of the parameters has been altered since the parameter set was loaded or the last save operation.

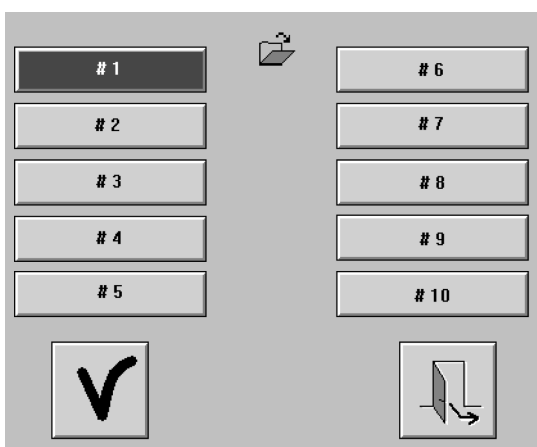


Load Parameters

3

To load a parameter set perform the following:

Touch the LOAD button.

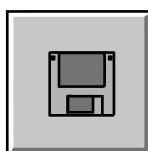


4

The LOAD window is displayed.

Select a parameter set to load and touch the OK button for few seconds.

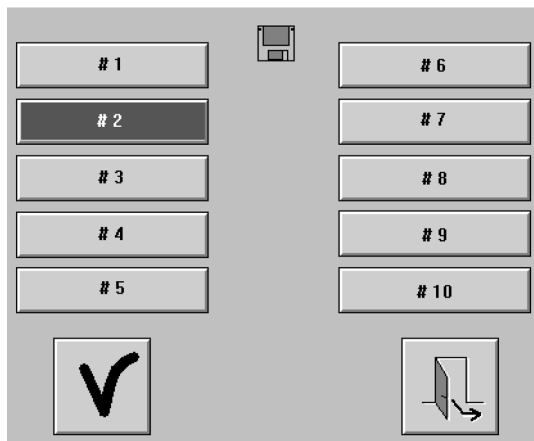
TechPub_2614345_0105 - 05_OM81809_10en.fm



5

To save a parameter set perform the following:

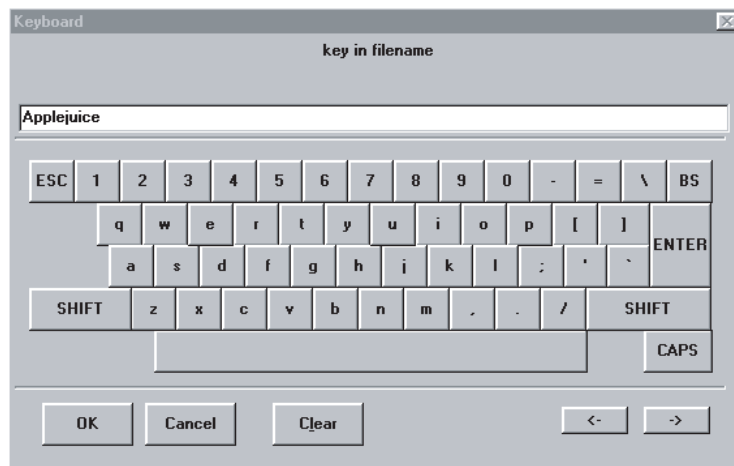
Touch the SAVE button.

**6**

The SAVE window is displayed.

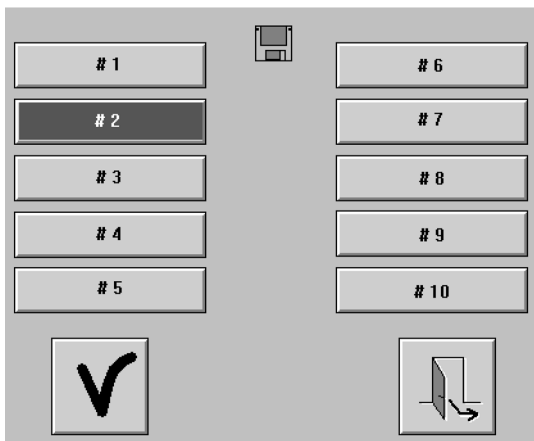
Select a folder not currently being used to save the parameter set.

Touch the FOLDER button for a few seconds.

**7**

The keyboard is displayed.

Type the name of the parameter set and touch the ENTER button.



8

Touch the OK button.

The parameter set is now saved.



9

Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



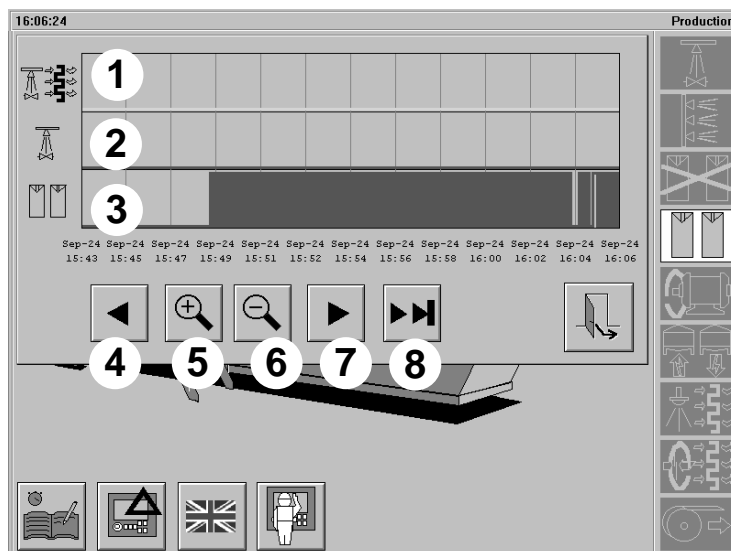
Production Recorder Window

1

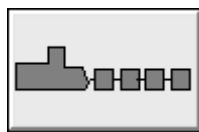
Touch the PRODUCTION RECORDER button.

2

The PRODUCTION DATA window is displayed.



- 1 CIP drying
- 2 CIP
- 3 Production
- 4 Backwards
- 5 Zoom in
- 6 Zoom out
- 7 Forward
- 8 Set end of diagram to actual time



Line Overview and Status

1

The LINE OVERVIEW AND STATUS window gives the status of the configured distribution equipment.

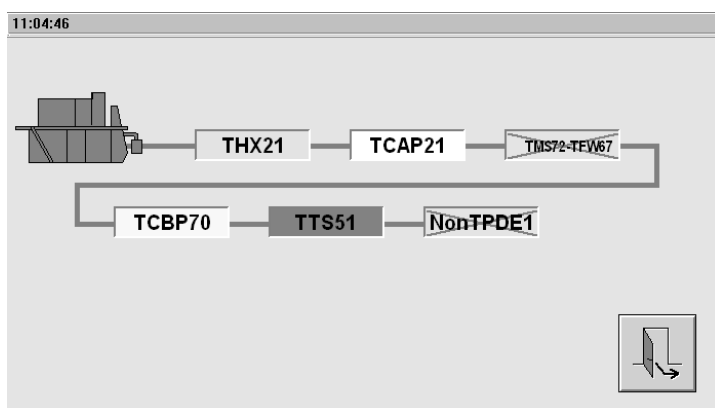
Note! The LINE CONFIGURATION button is available only if LINE SUPERVISION has been switched ON.

Touch the LINE CONFIGURATION AND STATUS button.

2

The LINE CONFIGURATION AND STATUS window is displayed. The colours of the distribution equipment are:

- YELLOW - Alarm
- WHITE - Preparation
- GREEN - Production
- GREY - OFF
- CROSS - No data communication with distribution equipment.



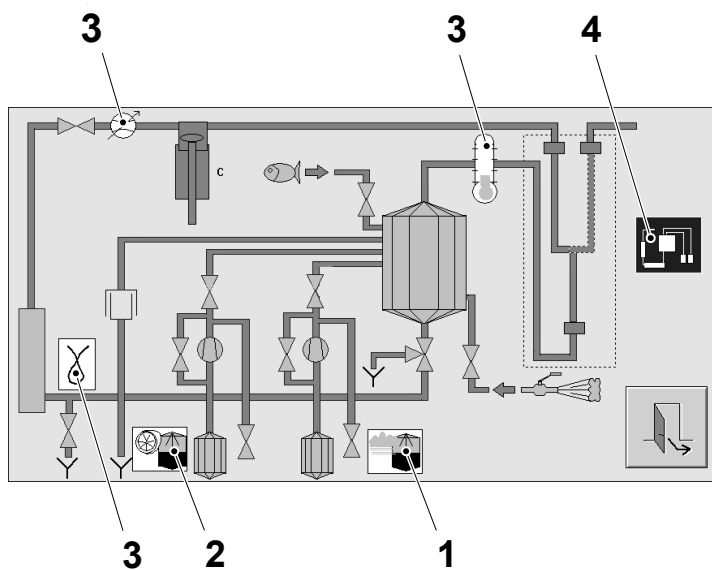
Note! Communication with DE is active only from the PREPARATION phase until one hour after the end of the PRODUCTION phase. The TPOP configuration may display the line overview window automatically in the case of an alarm.



Integrated Cleaning Unit Window

1

Touch the INTEGRATED CLEANING UNIT button.



2

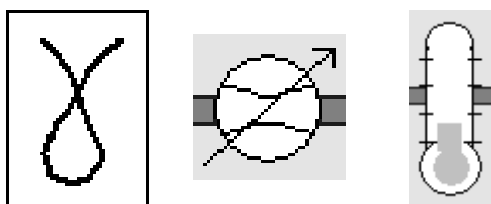
The INTEGRATED CLEANING UNIT window is displayed.

All selectable icons are white. When an icon is selected the colour of the icon changes to blue.

In this window there are the following selectable icons:

- ALKALI REFILLING (1)
- ACID REFILLING (2)
- CLEANING LIQUID TEMPERATURE, CONDUCTIVITY AND FLOW (3)
- ICU OVERVIEW (4).

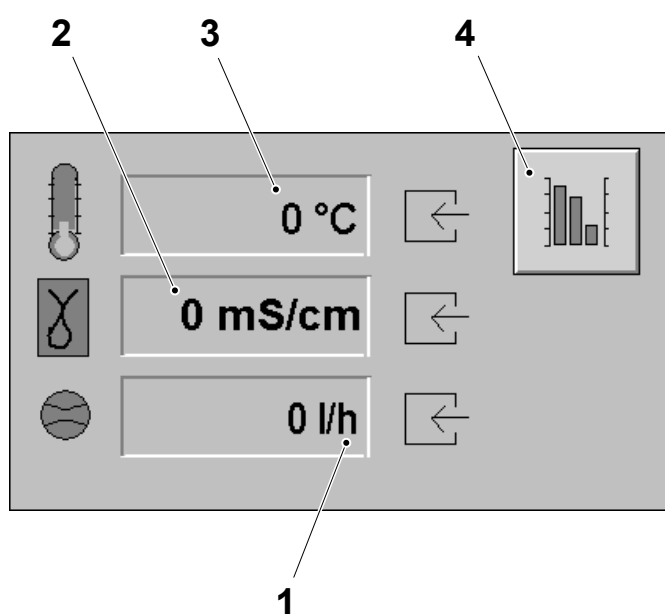
Note! For alkali and acid refilling follow the procedure [ICU - Refill Containers](#) on page [9-63](#).



Cleaning Liquid Temperature, Conductivity and Flow

3

Touch one of the three icons for CLEANING LIQUID TEMPERATURE, CONDUCTIVITY AND FLOW.



4

The CLEANING LIQUID TEMPERATURE, CONDUCTIVITY AND FLOW monitor is displayed.

The monitor displays the following information:

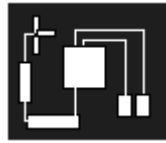
- the current flow (1)
- the current conductivity (2)
- the current temperature (3)

Touching the TREND button (4) displays a graph showing the three parameters in real time.



5

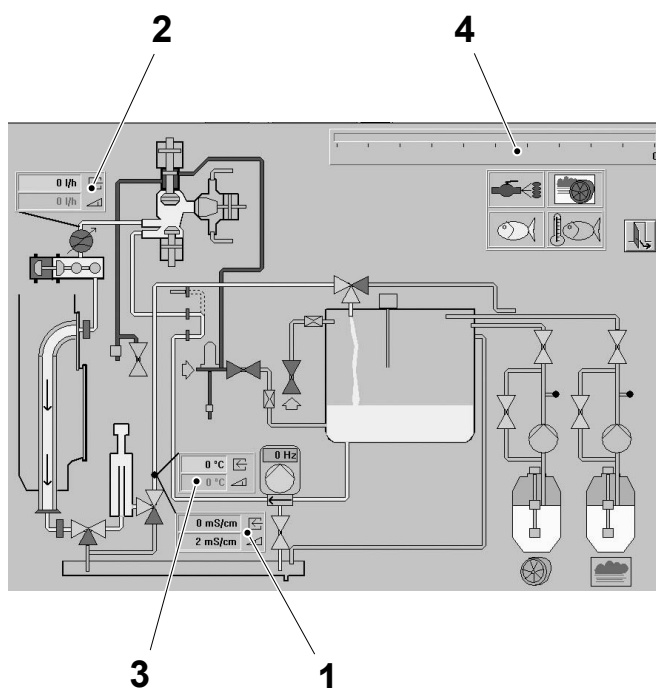
Touch the EXIT button to return to the MANOEUVRE SYSTEM window.



ICU Overview window

6

Touch the ICU OVERVIEW icon.



7

The ICU OVERVIEW window is displayed.

The window displays an overview of the ICU cleaning circuit. A series of colours are used to represent the active elements used in the ICU process and to indicate the status of the mechanical valves and pumps. During the ICU cycle the information displayed is animated to reflect the actual status of the cleaning circuit.

The window displays the process and current values for:

- cleaning fluid conductivity (1)
- cleaning fluid flow (2)
- cleaning fluid temperature (3).

If displayed, the time bar (4) indicates the remaining time of the current ICU process.



8

Touch the EXIT button to return to the MANOEUVRE SYSTEM window.

This page intentionally left blank

TechPub_2614345_0105 - 05_OM81809_10en.fm

3 Preparation

This chapter describes how to prepare the machine for PRODUCTION after Care and Cleaning has been performed.

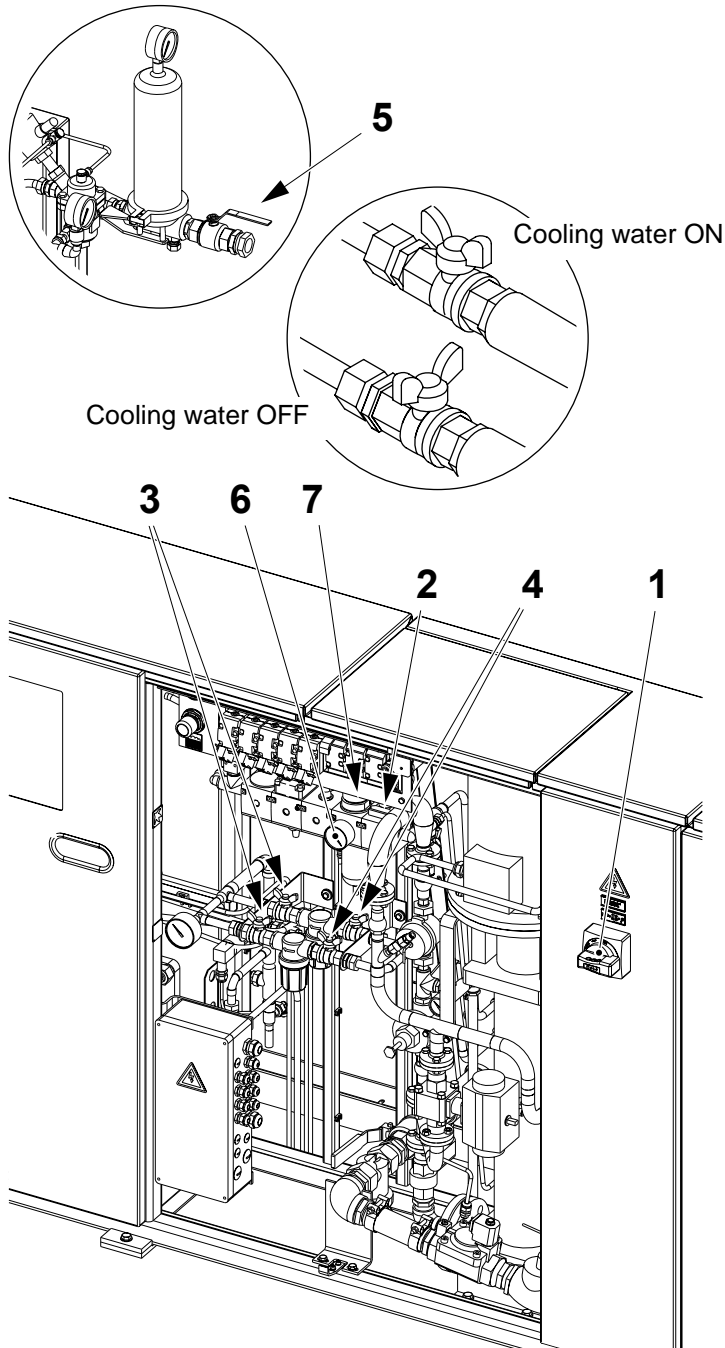
Preparing After Weekly Care	3 - 5
Loading the Packaging Material Reel	3 - 7
Loading the Packaging Material (ARL)	3 - 11
Threading Inside ASU Compartment	3 - 14
Threading Inside the Strip Applicator Compartment	3 - 18
Threading up to the Hydrogen Peroxide Bath	3 - 26
Threading Through the Crease Wheel (OK)	3 - 27
Threading Through the Hydrogen Peroxide Bath ...	3 - 30
Prepare the Strip Supplies for Production	3 - 34
Preparing after Daily Care	3 - 36
Recorder	3 - 40
Paper Recorders (OE)	3 - 40
Load Chart Paper	3 - 42
Change Ink Wheel	3 - 44
HI Enabled (OE)	3 - 46
HI Bypassed (OE)	3 - 47
Valid for Standard Machines	3 - 56
Valid for Machines with Upper Section	3 - 56
LS Strip	3 - 60

This page intentionally left blank

TechPub_2614345_0105 - 06_OM81809_10en.fm

Preparing After Weekly Care

Note! If only Daily Care has been performed, start with [Preparing after Daily Care](#) on page 3-36.



1

If the machine has been shut down:

- Turn ON the main power switch (1)
- Turn ON the air supply (2)
- Turn ON the cooling water supply (3) or (4), depending on which filter is in use
- Turn ON the steam (5).

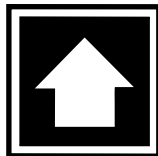
Check that the pressure gauge (6) shows 5.5 to 6 bar. To adjust the pressure, lift and rotate the valve (7).



2

Make sure all covers and doors on the machine are closed and reset any alarms TPOP display.

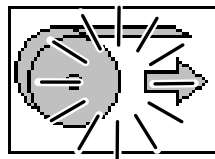
If an alarm reappears, take the appropriate action or call a technician.

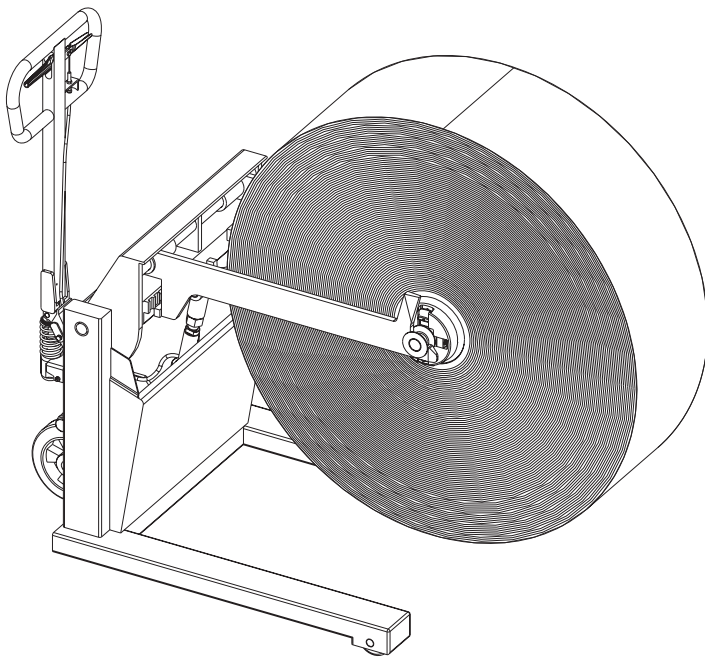


3

Press the PROGRAM UP button.

The PREPARATION symbol lights.



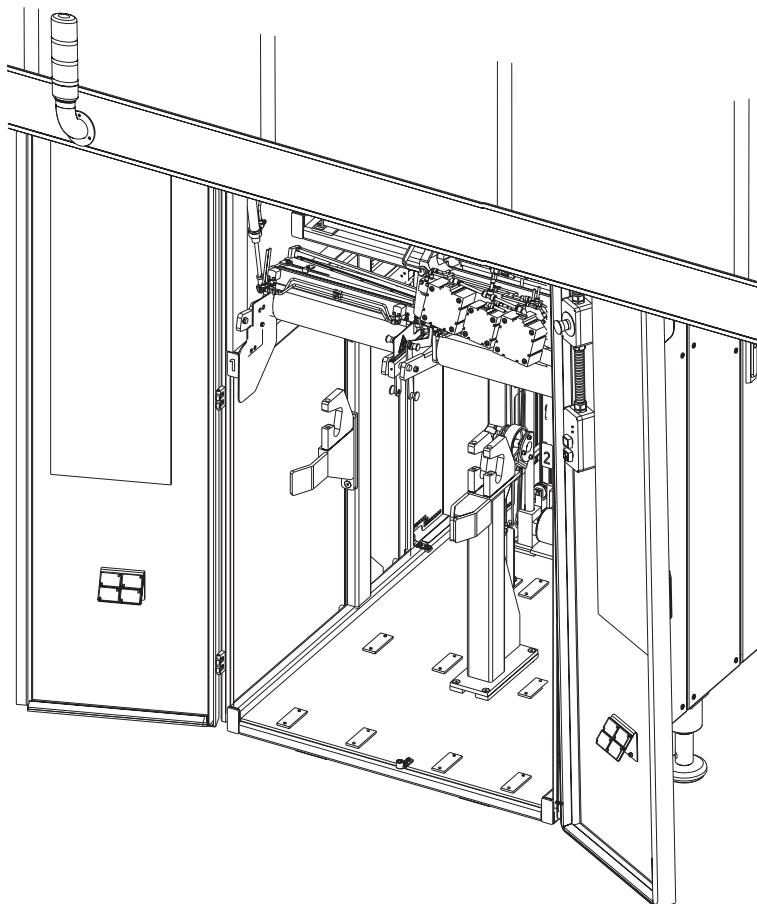


Loading the Packaging Material Reel

4

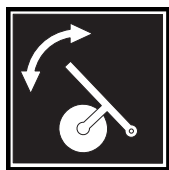
Note! For machines equipped with ARL (Automatic Reel Loading) continue with item 6 on page 3-40.

Prepare the packaging material reel and place it on the trolley, see the Reel Handling section in chapter 6 Supply of Materials.



4a

Open the ASU doors.



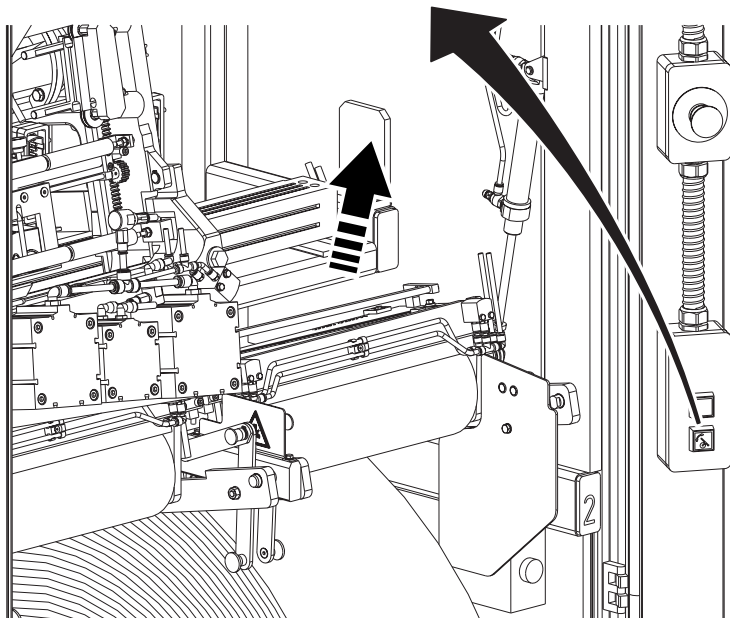
! WARNING

Moving parts can crush and cut.

4b

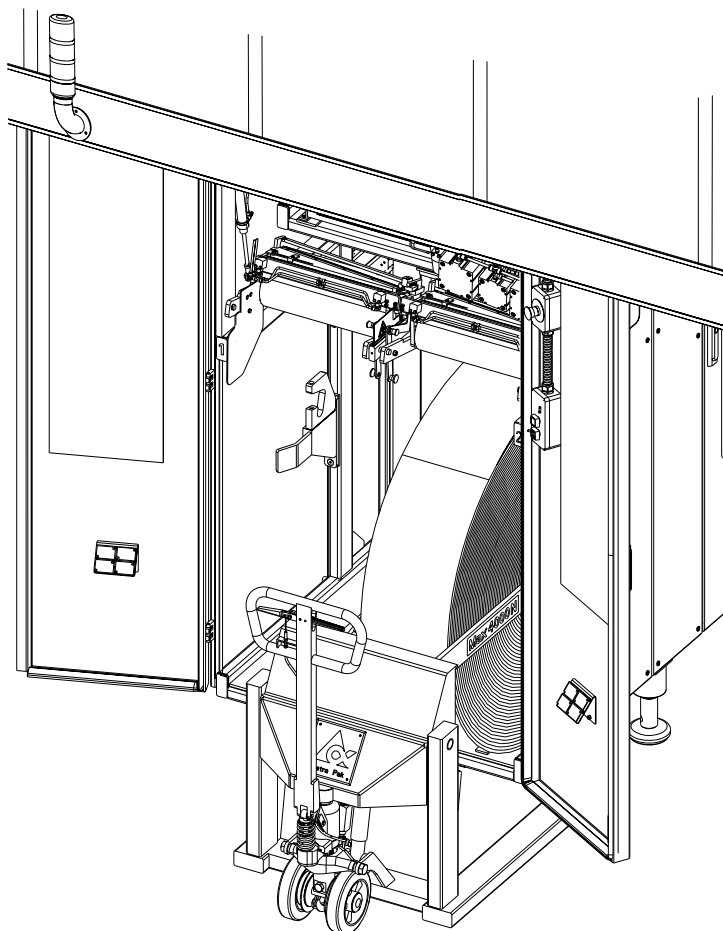
Press the PACKAGING MATERIAL HOLDER button.

The packaging material holder next to the splice unit lifts to allow enough space to insert the new reel.



4c

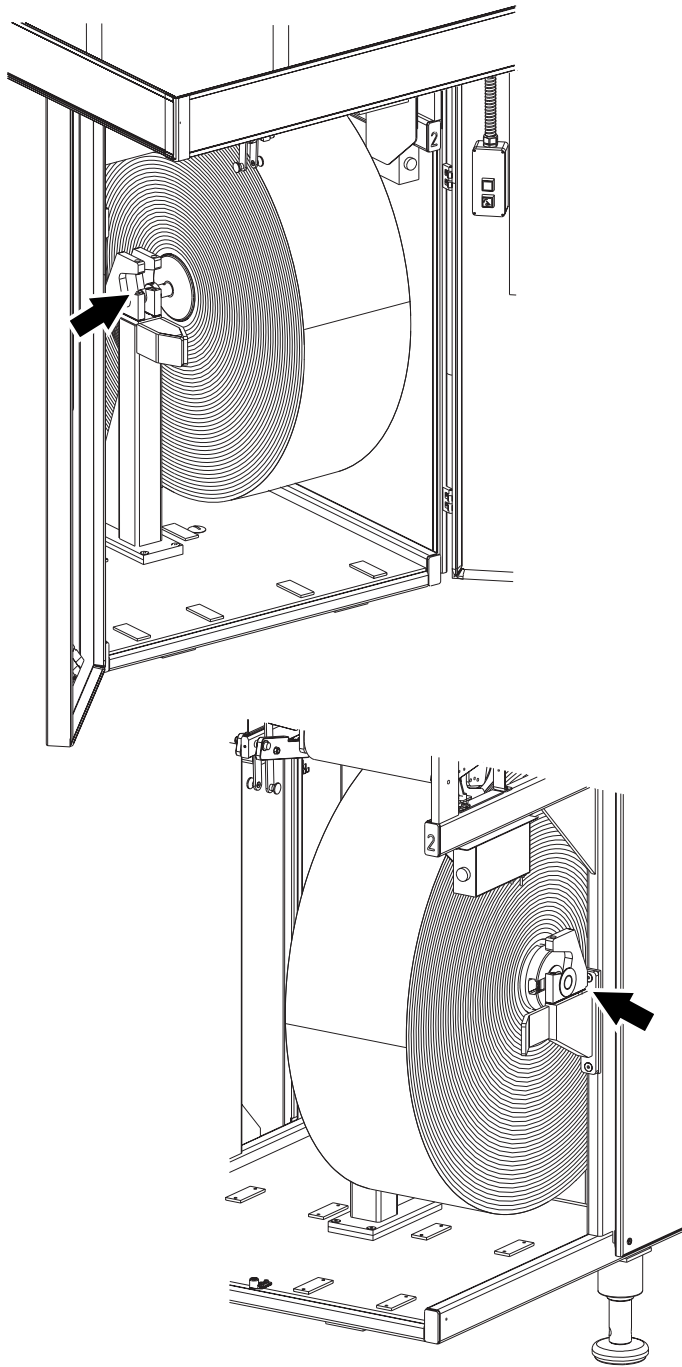
Load the reel of packaging material into the ASU.



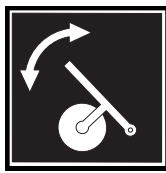
TechPub_2614345_0105 - 06_OM81809_10en.fm

4d

Make sure the packaging material reel is aligned correctly on the bobbin holders.



TechPub_2614345_0105 - 06_OM81809_10en.fm



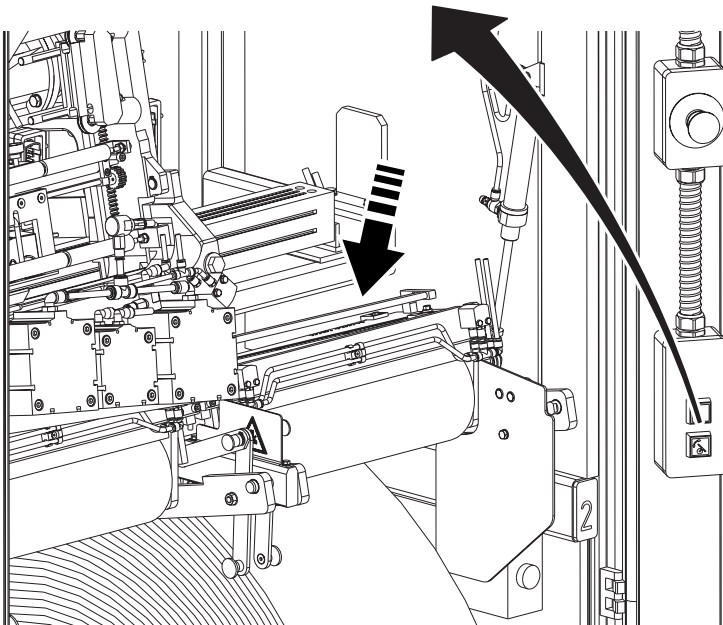
! WARNING

Moving parts can crush and cut.

4e

Press the PACKAGING MATERIAL HOLDER button.

The packaging material holder above the reel lowers.



! WARNING

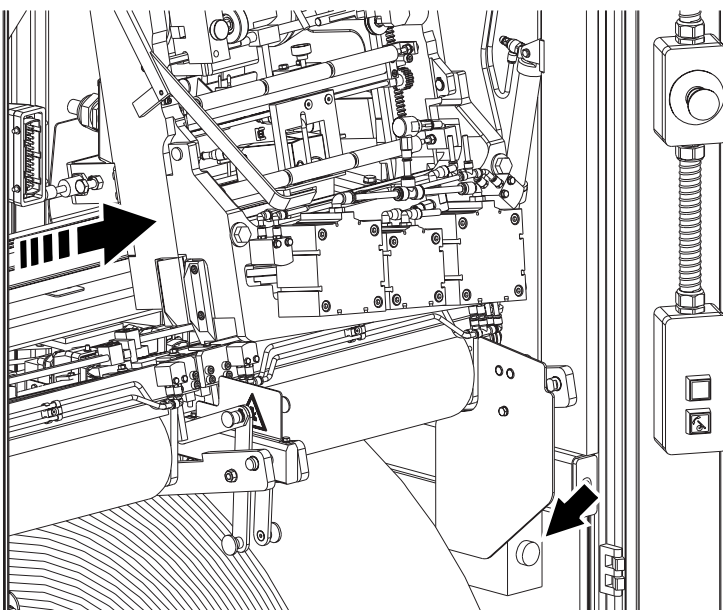
Risk of personal injury.

Make sure the splicing unit is fully vented before attempting to move it.

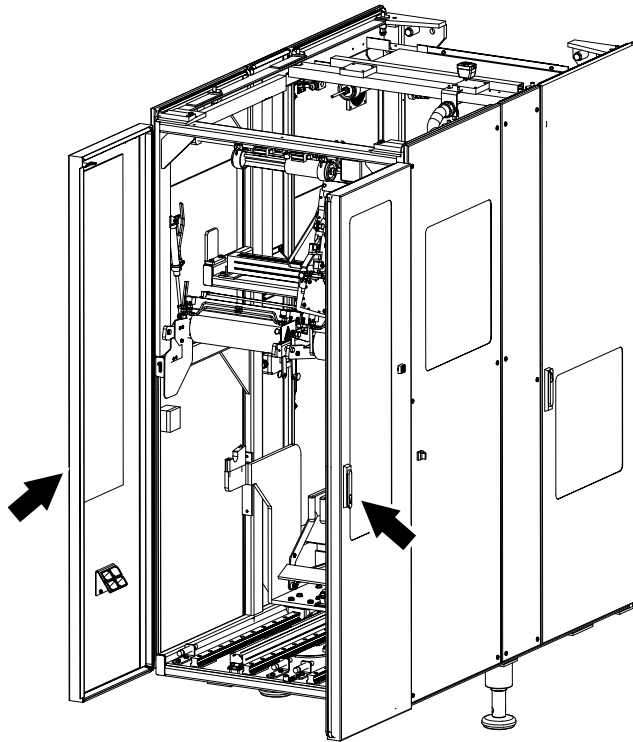
4f

Press and hold the CYLINDER VENTING, SPLICE UNIT button until all the air has been vented from the splicing unit.

Push and slide the splicing unit over the reel.



TechPub_2614345_0105 - 06_OM81809_10en.fm



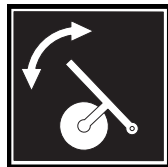
Loading the Packaging Material (ARL)

5

Note! For machines not equipped with ARL (Automatic Reel Loading) continue with item 6 on page 3-14.

Open the ASU doors.

TechPub_2614345_0105 - 06_OM81809_10en.fm



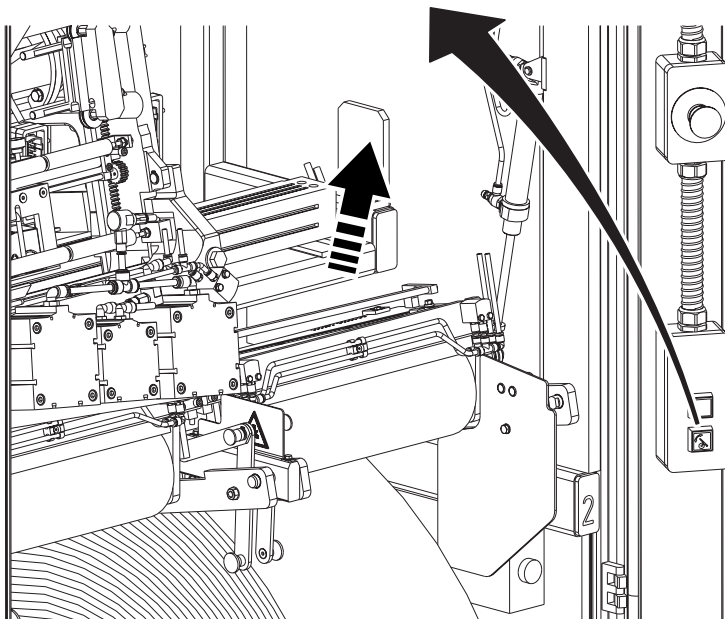
! WARNING

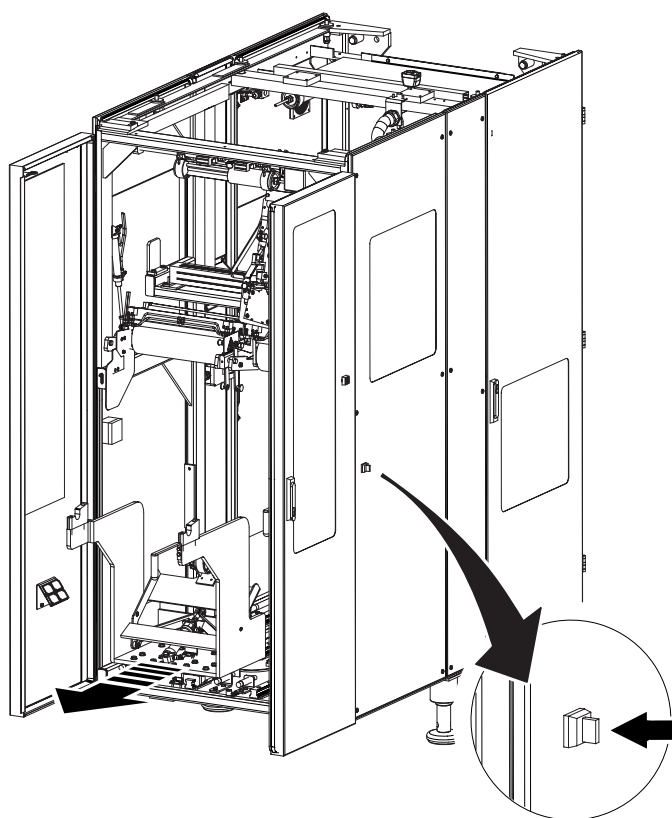
Moving parts can crush and cut.

5a

Press the PACKAGING MATERIAL HOLDER button.

The packaging material holder next to the splice unit lifts to allow enough space to insert the new reel.





! WARNING

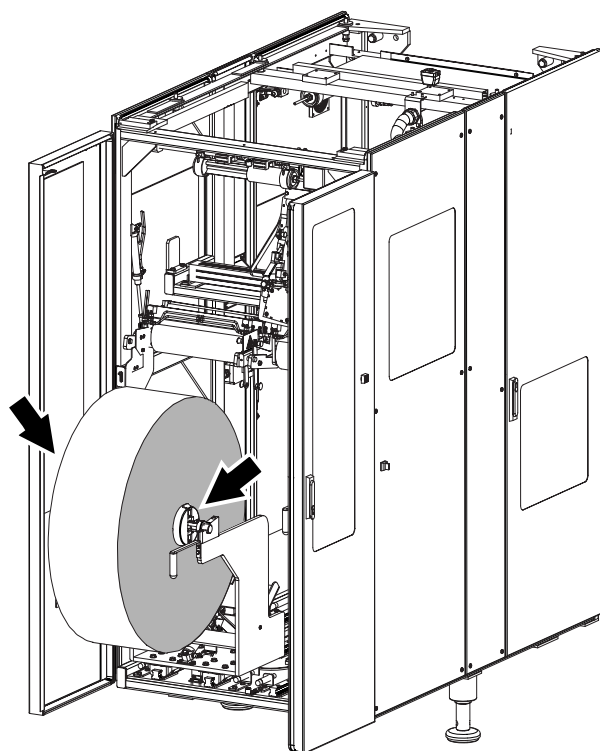
Moving parts can crush and cut.

5b

Note! The RH side button activates the LH carriage and vice versa.

Turn the **AUTOMATIC REEL LOADING** switch.

A pneumatic cylinder pushes the loading carriage out of the ASU.

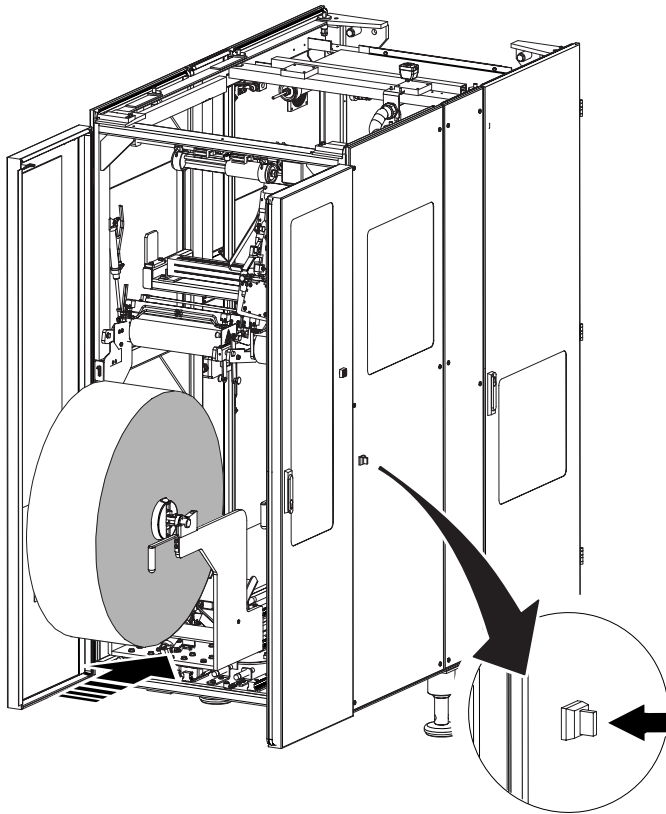


5c

Load the reel of packaging material on the carriage.

Make sure the packaging material reel is aligned correctly on the bobbin holders.

Cut approximately two turns of packaging material from the reel.



5d

! WARNING

Moving parts can crush and cut.
Note! The RH side button activates the LH carriage and vice versa.

Turn the AUTOMATIC REEL LOADING switch.

The loading carriage returns inside the ASU.

TechPub_2614345_0105 - 06_OM81809_10en.fm



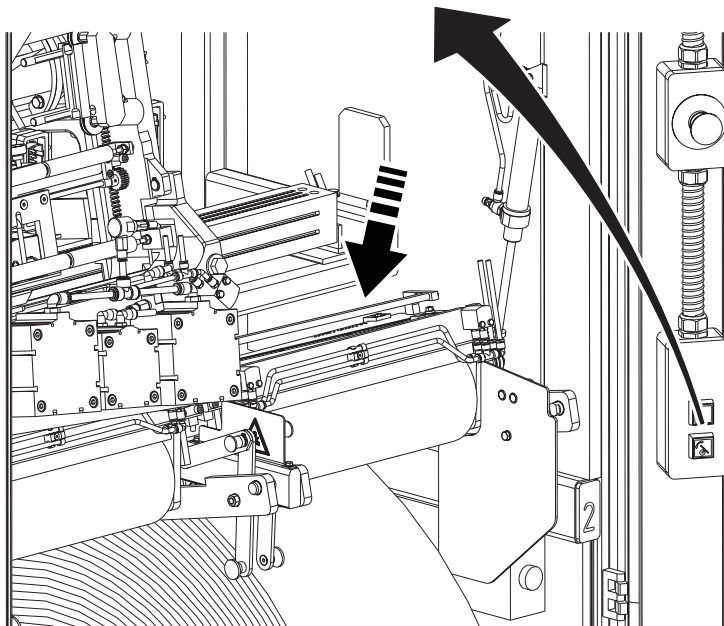
! WARNING

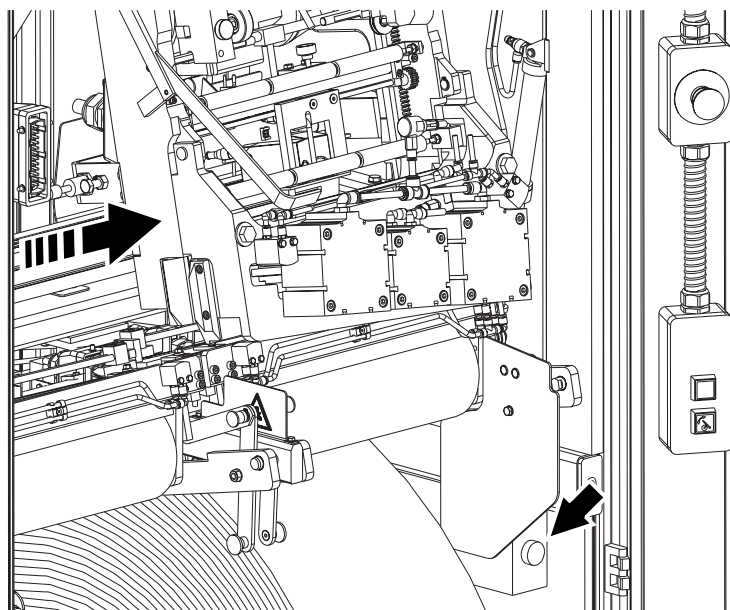
Moving parts can crush and cut.

5e

Press the PACKAGING MATERIAL HOLDER button.

The packaging material holder above the reel lowers.





! WARNING

Risk of personal injury.

Make sure the splicing unit is fully vented before attempting to move it.

5f

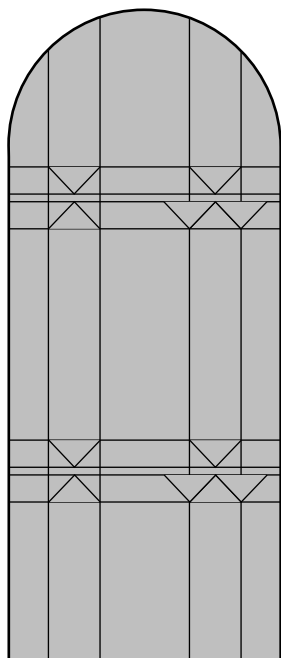
Press and hold the **CYLINDER VENTING, SPLICE UNIT** button until all the air has been vented from the splicing unit.

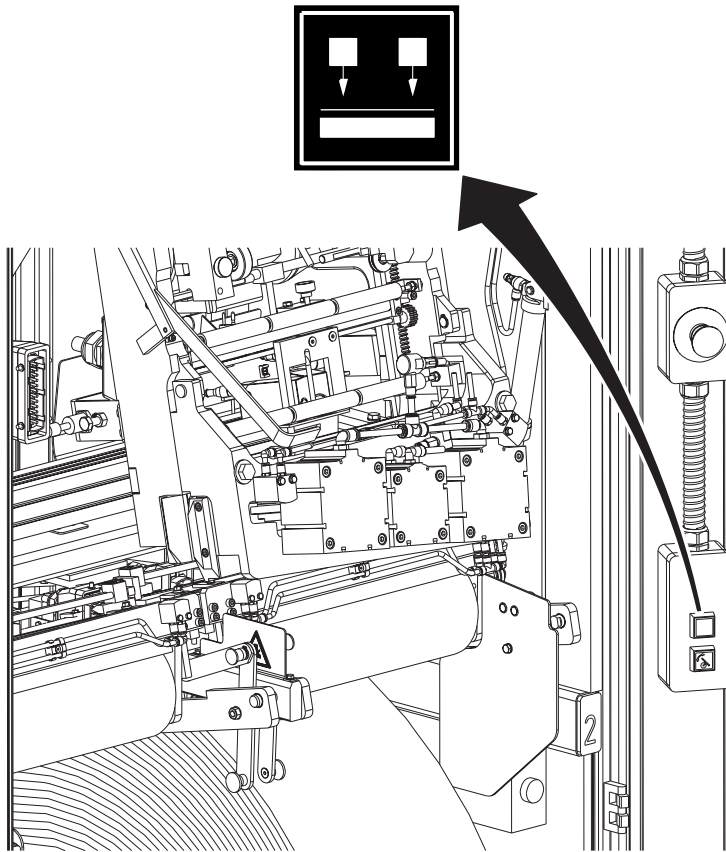
Push and slide the splicing unit over the reel.

Threading Inside ASU Compartment

6

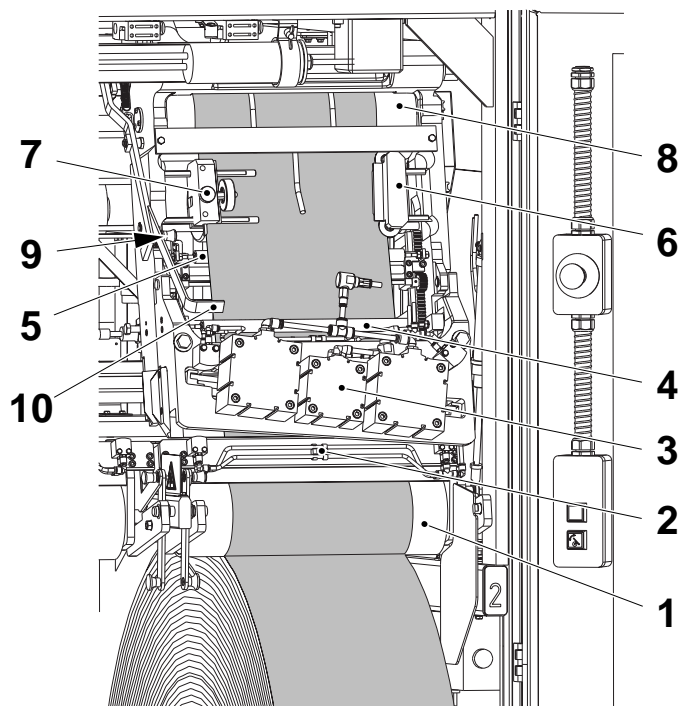
Cut the end of the packaging material as shown, avoiding crease lines on the tip.



**6a**

Press the MATERIAL LOCKING button for at least 5 seconds to release the material holder allowing the packaging material through the cutting table.

Note! After 1 minute the material holder locks automatically.



6b

Note! Valid for all volumes except TBA 1890 S and TBA 2000 S. For TBA 1890 S and TBA 2000 S continue with the next item 6c.

Thread the packaging material:

- around the bending roller (1)
- through the packaging material holder (2)
- through the splice unit (3)
- under the roller (4)
- over the roller (5)
- through the web guides (6) and (7)
- over the driven bending roller (8).

Pull out the knob (9) to release the handle (10). Lift up the handle (10) to move the counter pressure roller off the driven bending roller (8). Fit the knob (9) to secure the handle (10) in the upper position.

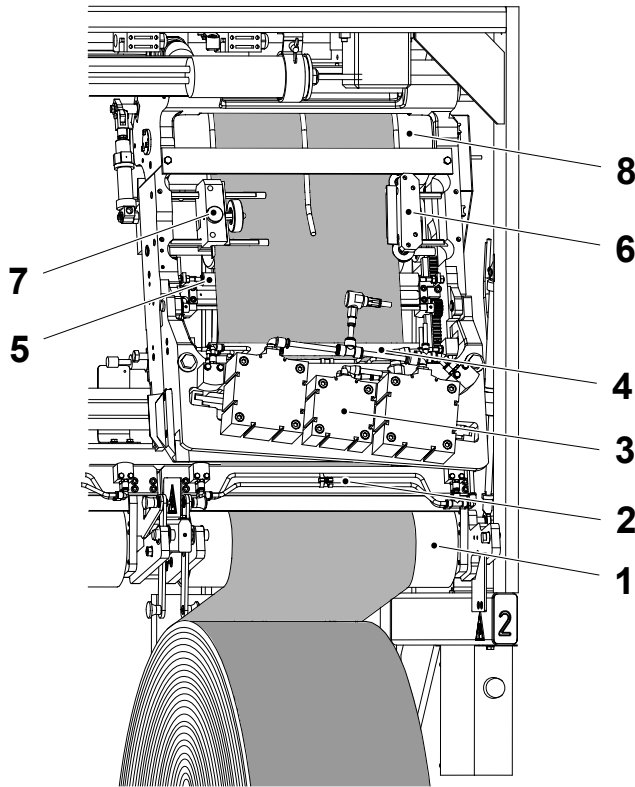
Feed the packaging material between the driven bending roller (8) and the counter pressure roller.

Pull out the knob (9) to release the handle (10). Lower the handle (10) to engage the counter pressure roller of the driven bending roller (8). Fit the knob (9) to secure the handle (10) in position.

Close the ASU doors, the packaging material will be fed automatically into the ASU loop.

Allow the packaging material to be fed for approximately 10 seconds and then open the ASU doors to stop feeding the packaging material.

TechPub_2614345_0105 - 06_OM81809_10en.fm

**6c**

Note! Valid for TBA 1890 S and TBA 2000 S only. All other volumes continue with item 7.

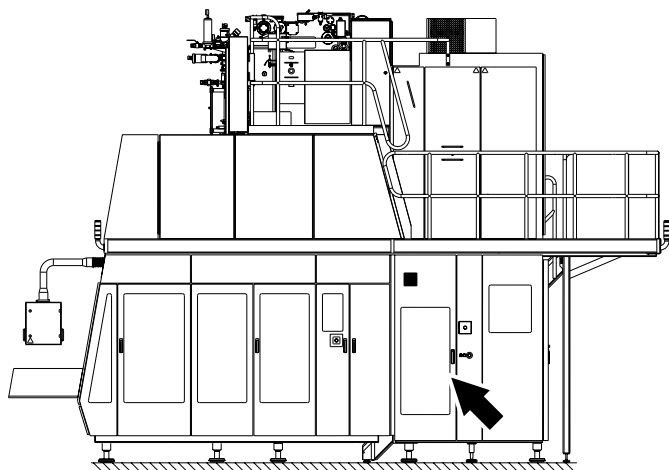
Thread the packaging material:

- around the bending roller (1)
- through the packaging material holder (2)
- through the splice unit (3)
- under the roller (4)
- over the roller (5)
- through the web guides (6) and (7)
- over the driven bending roller (8).

Feed the packaging material between the driven bending roller (8) and the counter pressure roller.

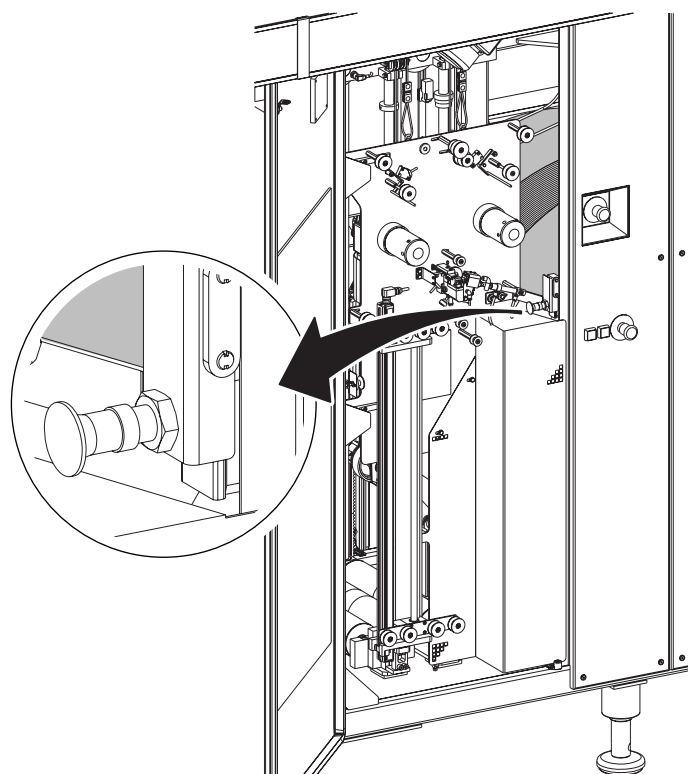
Close the ASU doors, the packaging material will be fed automatically into the ASU loop.

Allow the packaging material to be fed for approximately 10 seconds and then open the ASU doors to stop feeding the packaging material.



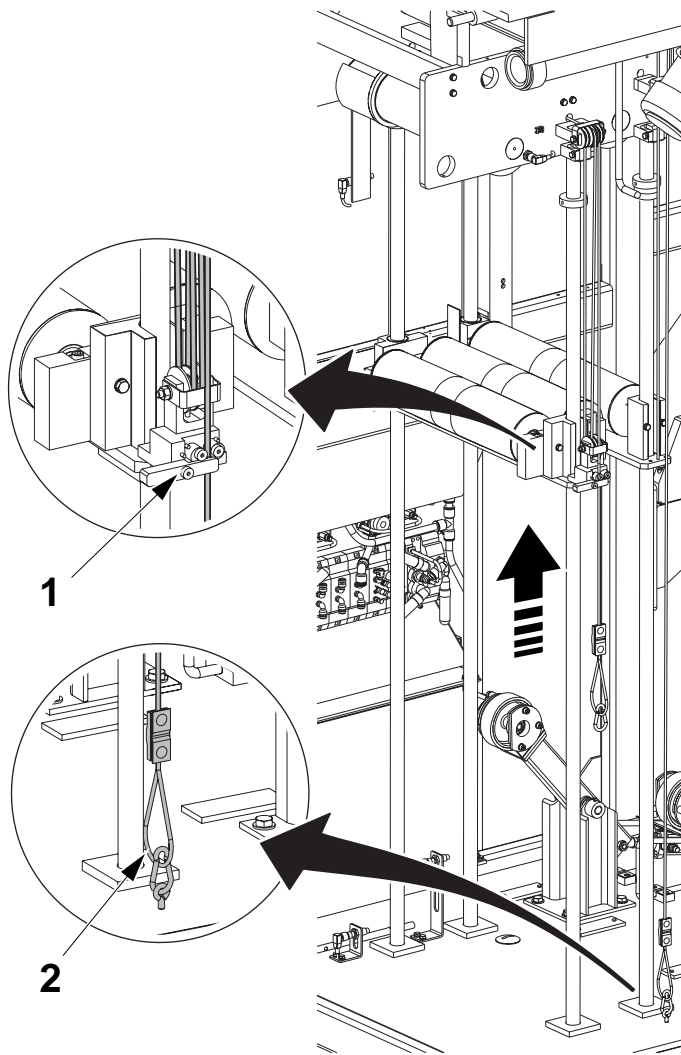
Threading Inside the Strip Applicator Compartment 7

Open the door to the Strip Applicator unit.



7a

Release the catch and open the Strip Applicator frame.



! WARNING

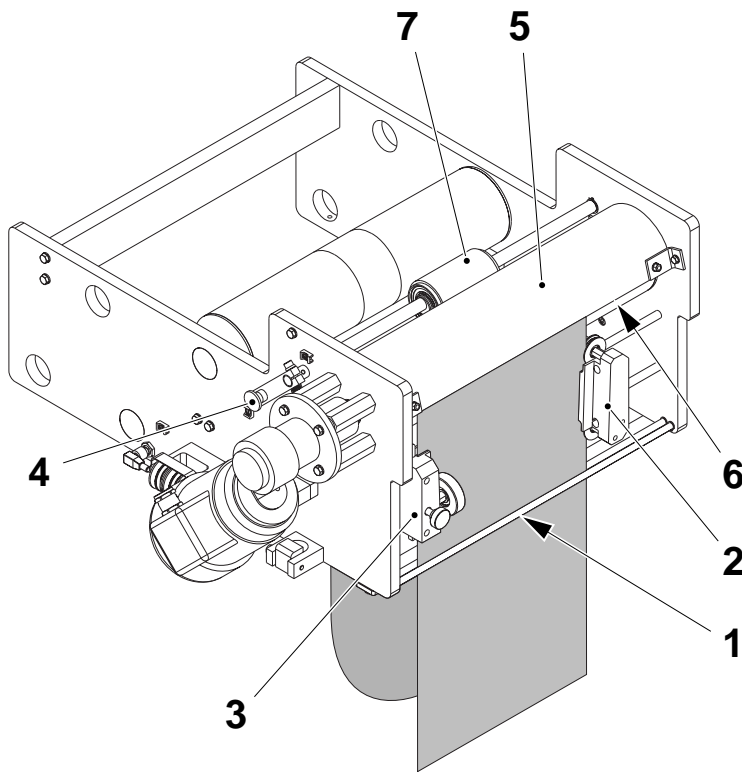
Risk of personal injury.

Make sure that the ropes are securely fastened.

7b

Lift the magazine rollers by means of the ropes and pulleys and lock the magazine rollers as follows:

- use the locking device (1) to secure the twin magazine rollers in the upper position.
- attach the hook (2) connected to the rope for the single magazine roller to the loop fitted in the magazine floor to secure the single magazine roller in the upper position.

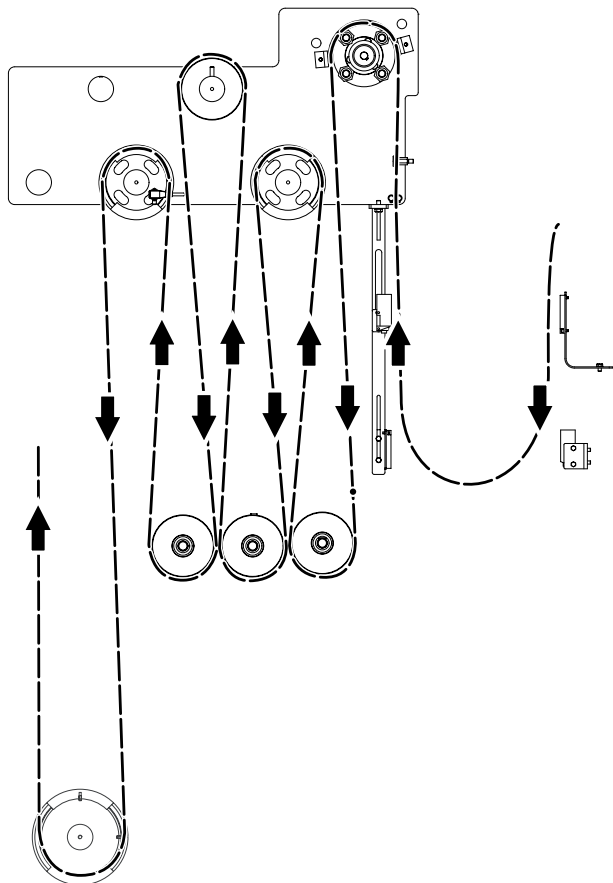


7c

Feed the packaging material between the two shafts (1) and through the web guides (2) and (3).

Lift the handle (4) and feed the packaging material under the guide plate (5), between the bending roller (6) and the counter pressure roller (7).

Release the handle (4).



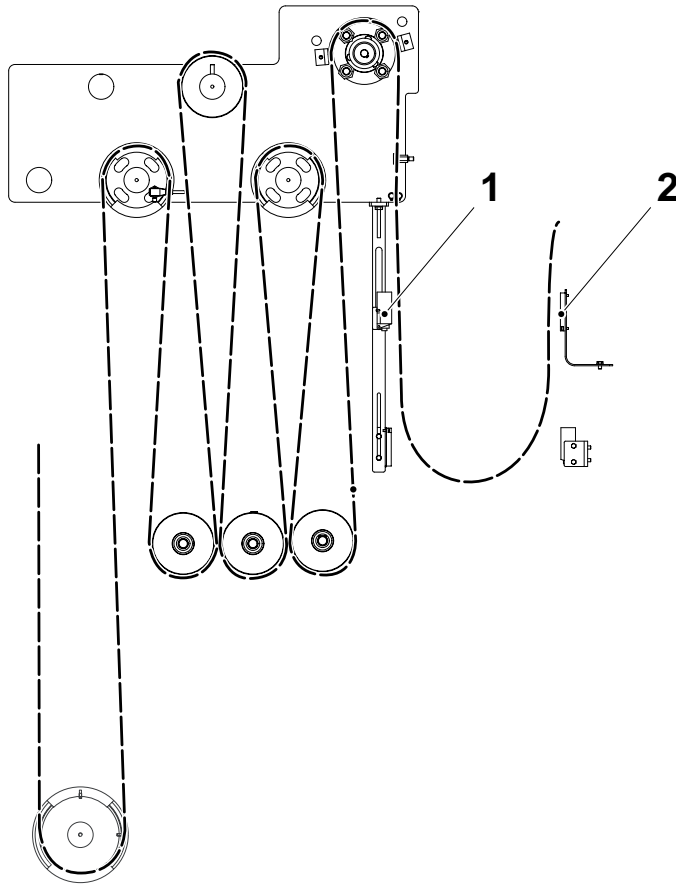
7d

Thread the packaging material around the magazine rollers as indicated in the illustration.

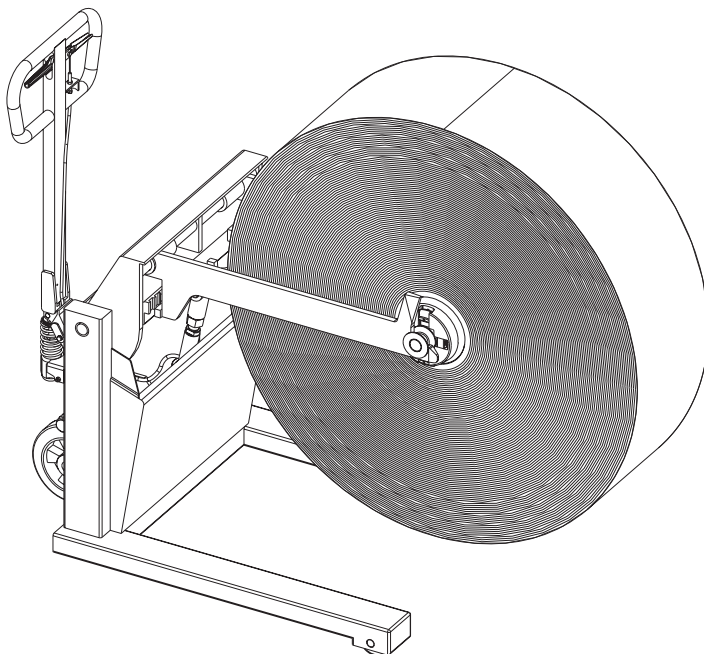
If more packaging material is needed, close the strip applicator frame and reset the alarm on the TPOP.

Close the ASU doors to feed more packaging material into the ASU loop. Allow the packaging material to be fed for approximately 10 seconds and then open the ASU doors to stop feeding the packaging material.

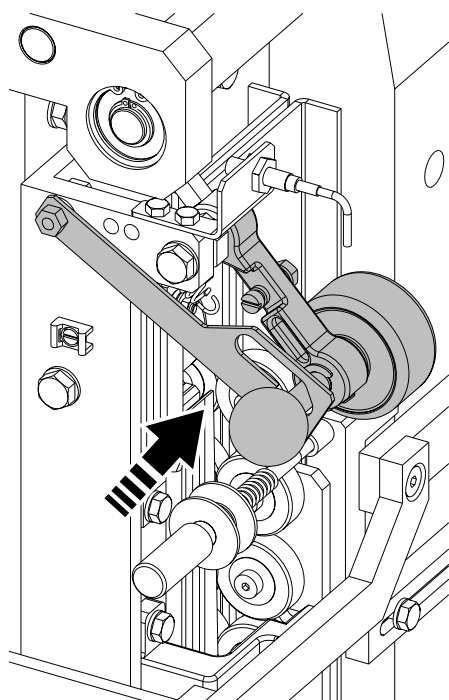
TechPub_2614345_0105 - 06_OM81809_10en.fm

**7e**

Make sure the loop of the packaging material covers the photocell (1) and the reflector (2).

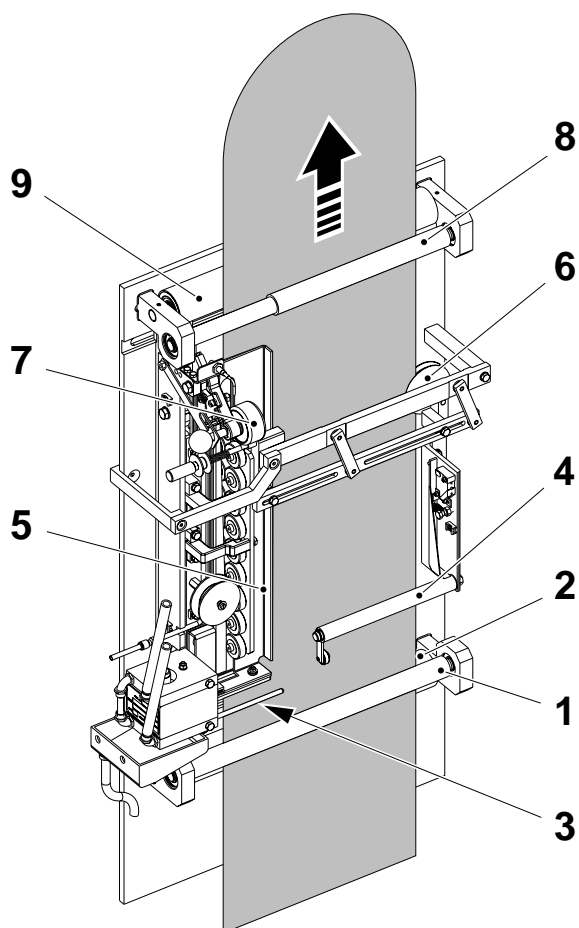
**7f**

Load the second reel of packaging material into the ASU and prepare it for splicing, see chapter 6 Supply of Materials.



8

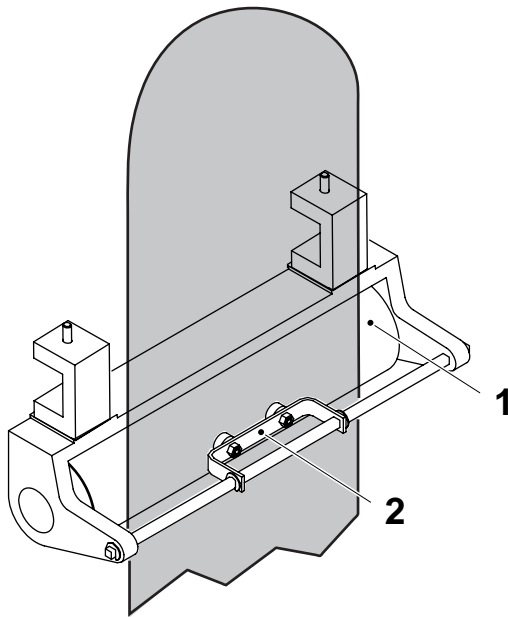
Pull the pressure roller away from its operating position and lock it in this position.



8a

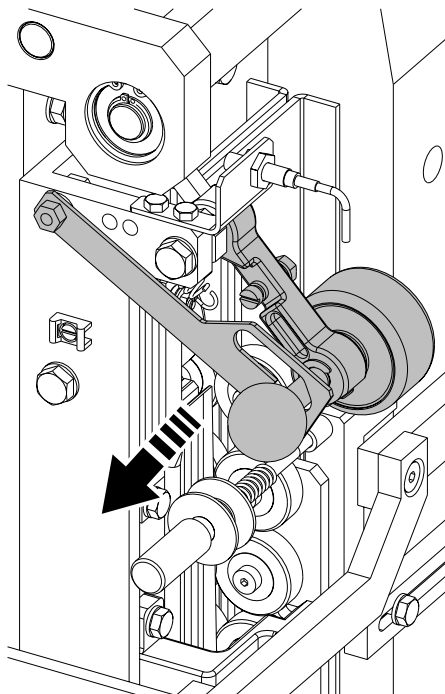
Feed the packaging material:

- between the shaft (1) and the roller (2)
- between the guide fingers (3)
- between the splice detector (4)
- through the SA inductor (5)
- through the edge guide wheel (6)
- between the pressure rollers (7)
- between the shaft (8) and the roller (9).

**8b**

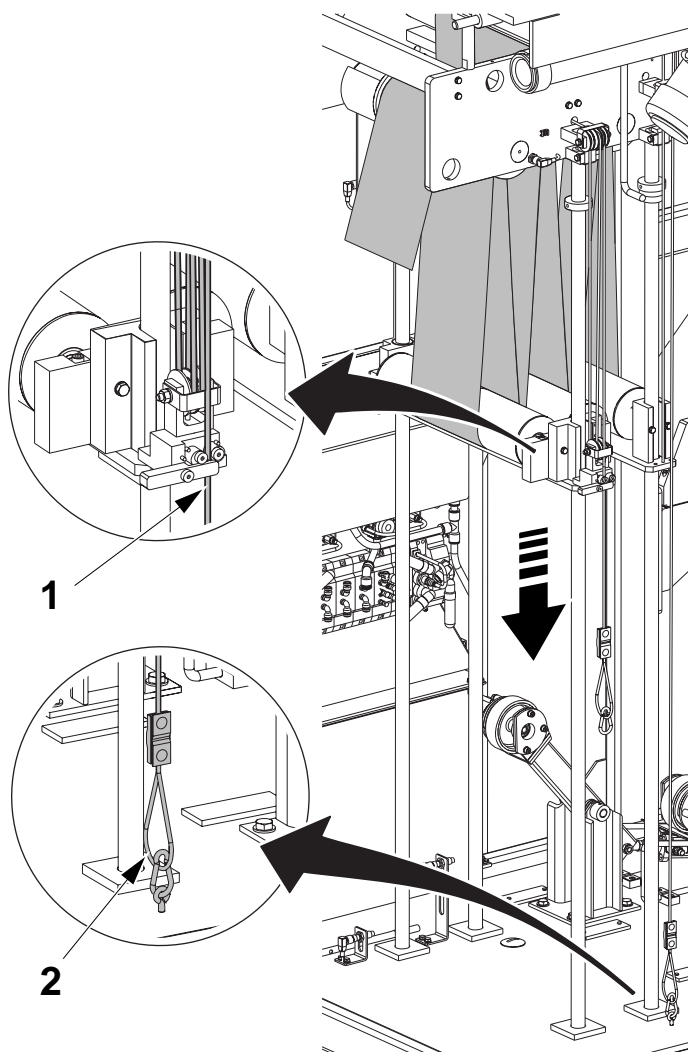
Thread approximately 1 meter of packaging material up through the platform floor and passed the bending roller (1).

Lock it in place by means of the material lock (2).

**8c**

Release the catch to return the pressure roller to its operating position.

Note! The pressure roller will be damaged if left in the operating position and the machine is not used for a long time.



! CAUTION

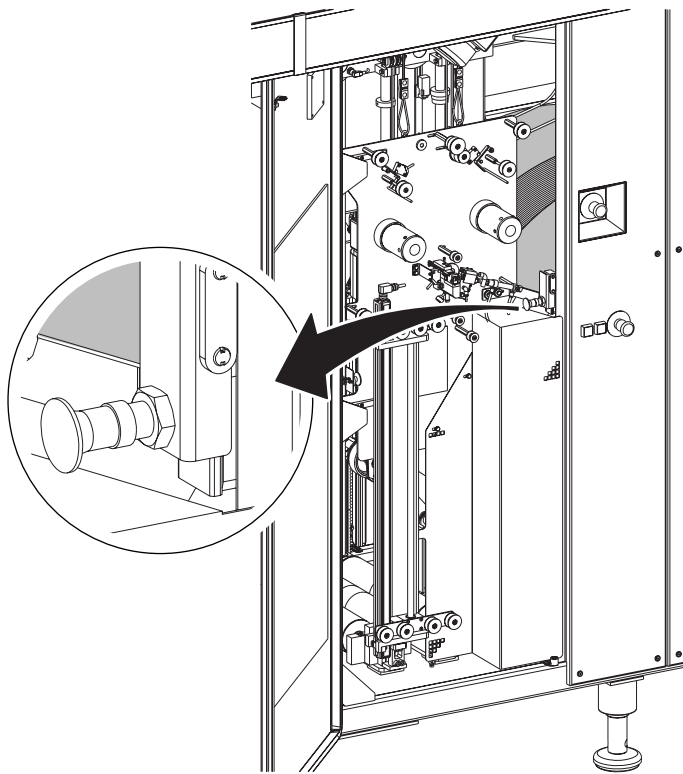
Risk of personal injury.

Make sure the rollers of the ASU magazine are in the lower position if it is necessary to cut the packaging material web. Failure to do so will result in the rollers dropping suddenly if the ropes are disengaged from the locking devices.

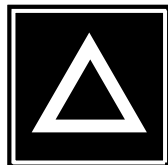
9

Make sure that the packaging material is correctly positioned over the rollers.

Release the ropes (1) and (2) and slowly lower the magazine rollers.

**9a**

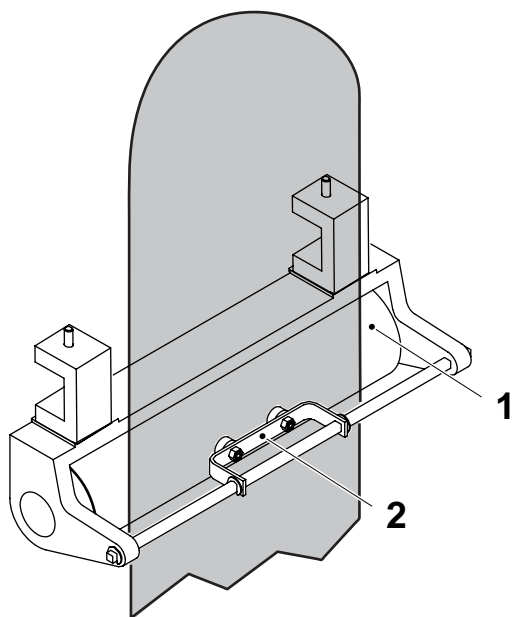
Close the strip applicator frame making sure the catch locks into place.

**10**

Close the ASU doors.

Make sure all covers and doors on the machine are closed and reset any alarms TPOP display.

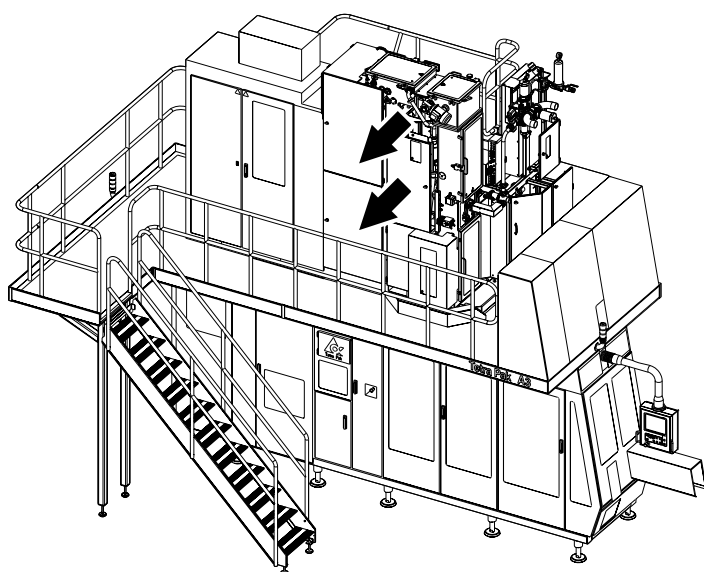
If an alarm reappears, take the appropriate action or call a technician.



10a

Thread approximately 1 meter of packaging material up through the platform floor and passed the bending roller (1).

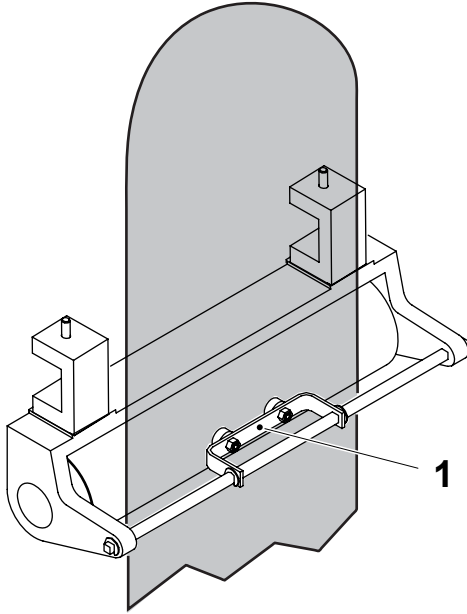
Lock it in place by means of the material lock (2).



Threading up to the Hydrogen Peroxide Bath

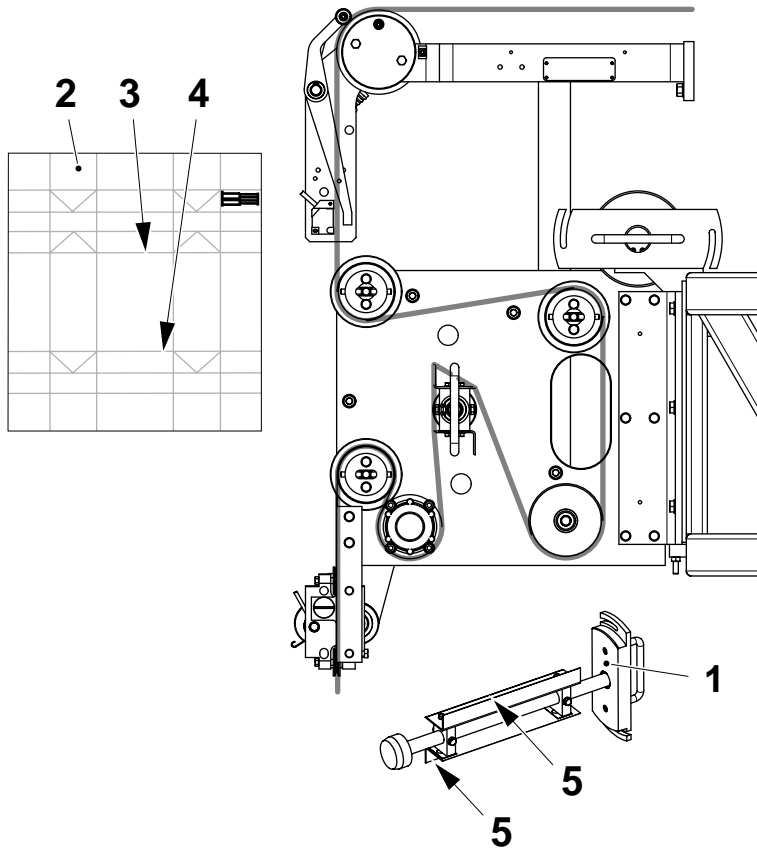
11

Open the two doors on the superstructure.



11 a

Release the material lock (1) and pull up the packaging material.



11 b

Threading Through the Crease Wheel (OK)

If the crease wheel is not to be used proceed to item 11 c.

Note! Make sure that the crease wheel (1) is in its position.

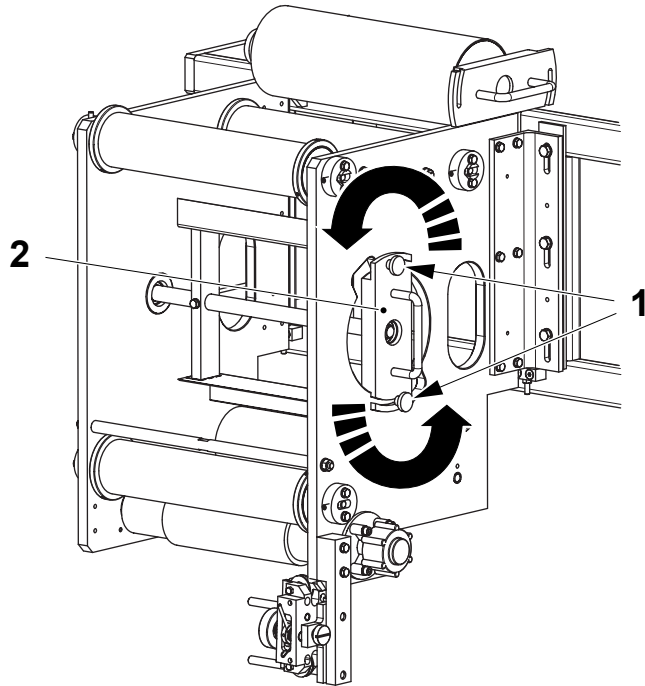
Release the material lock and pull up the packaging material.

Thread the packaging material through the crease wheel unit as shown.

Make sure that the top crease (3) and the bottom crease (4) of the packaging material (2) matches the crease bars (5) of the crease wheel (1).

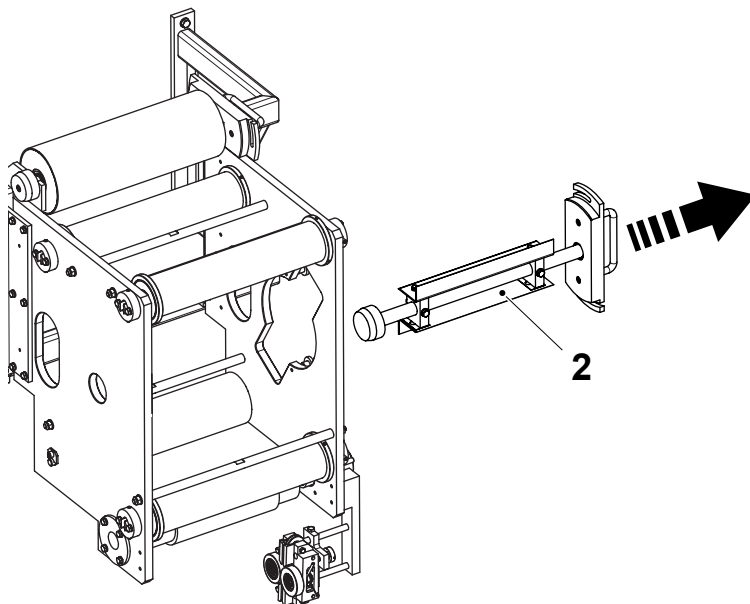
Proceed to item 11 f.

TechPub_2614345_0105 - 06_OM81809_10en.fm



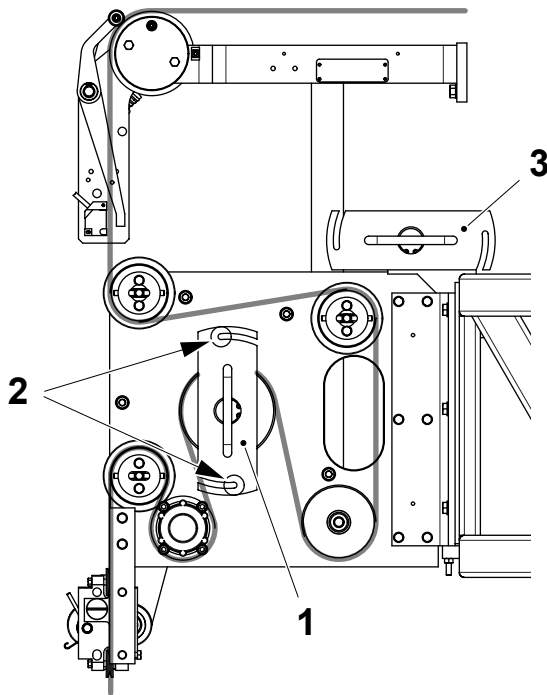
11c

Loosen the knobs (1) and turn the crease wheel (2) counter clockwise.



11d

Pull out the crease wheel (2).

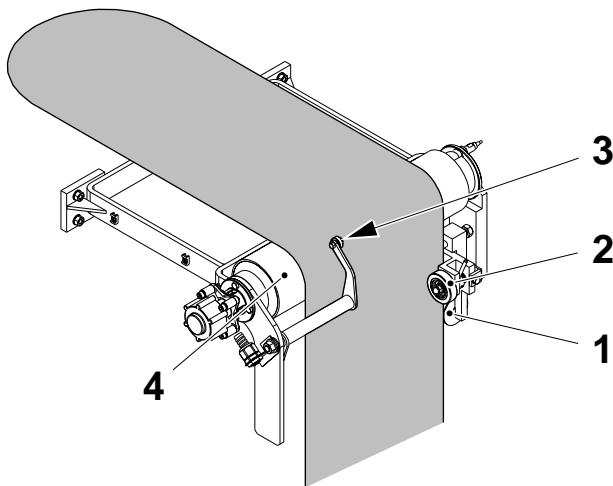
**11 e**

Fit the bending roller (1) in position, and turn it clockwise. Tighten the knobs (2).

Place the crease wheel (3) in rest position.

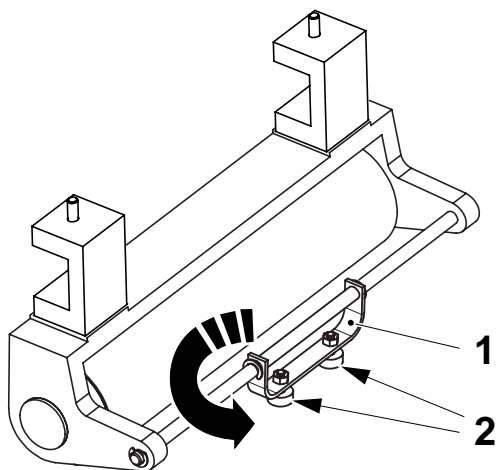
Release the material lock and pull up the packaging material.

Thread the packaging material through the crease wheel unit as shown.

**11 f**

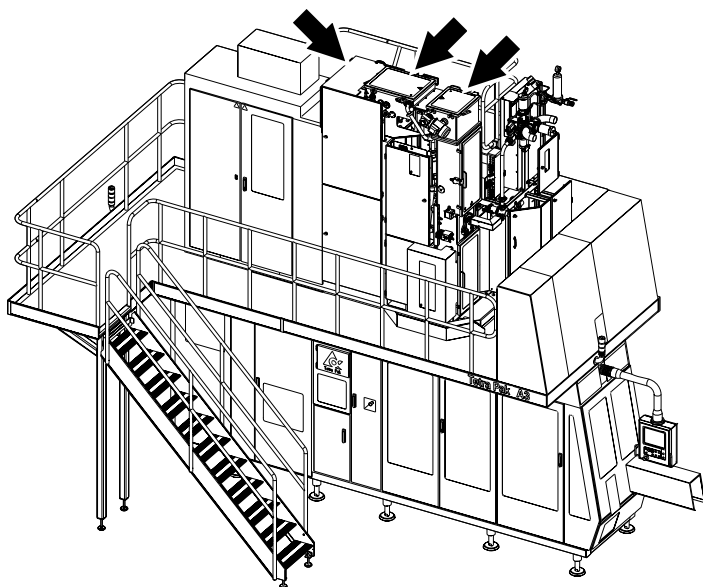
Feed the packaging material past the roller (1), between the rollers (2), and under the counter roller (3).

Pull one metre of packaging material over the bending roller (4).



11g

Swing up the lock (1) to make sure the packaging material does not touch the dampers (2) while running.



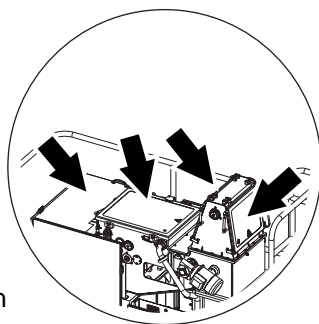
WARNING

Hydrogen Peroxide.
Follow the Safety Precautions.

Threading Through the Hydrogen Peroxide Bath 12

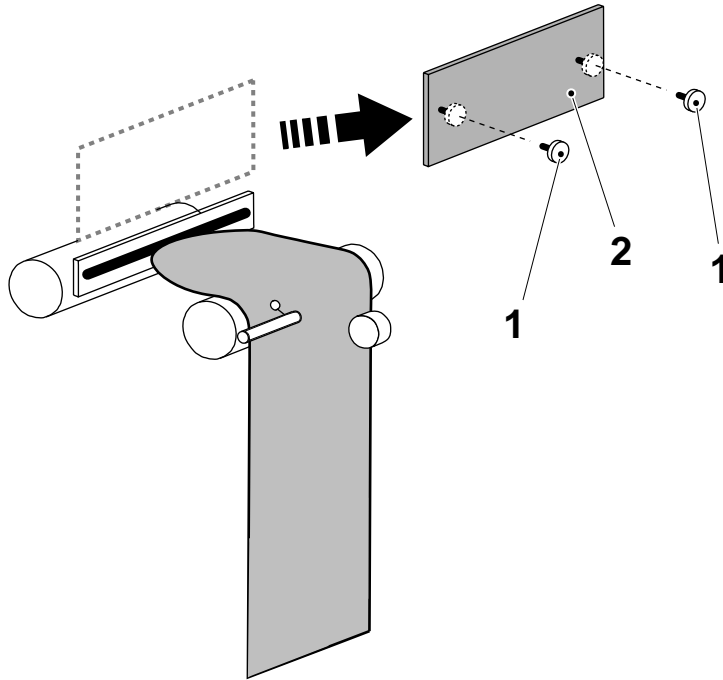
Open the top cover, the top front aseptic chamber door and the top rear aseptic chamber door.

Note! In machines equipped with the extra upper section, open the upper section doors, the rear aseptic chamber door and the top cover.



Drying chamber with upper section

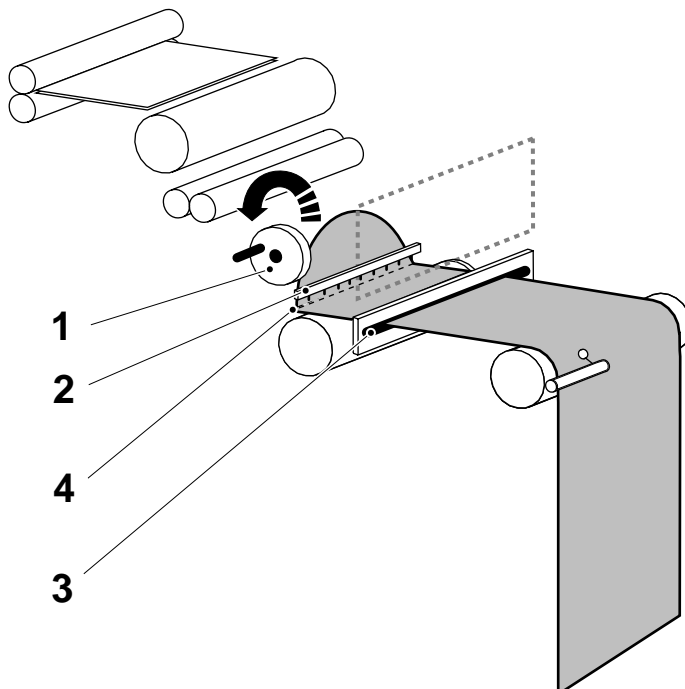
TechPub_2614345_0105 - 06_OM81809_10en.fm

**12a**

Loosen the handles (1) together, untightening them equally.

Remove the hatch (2) and store it in a safe place.

TechPub_2614345_0105 - 06_OM81809_10en.fm

**WARNING**

The pins on the carrier are sharp. Wear protective gloves.

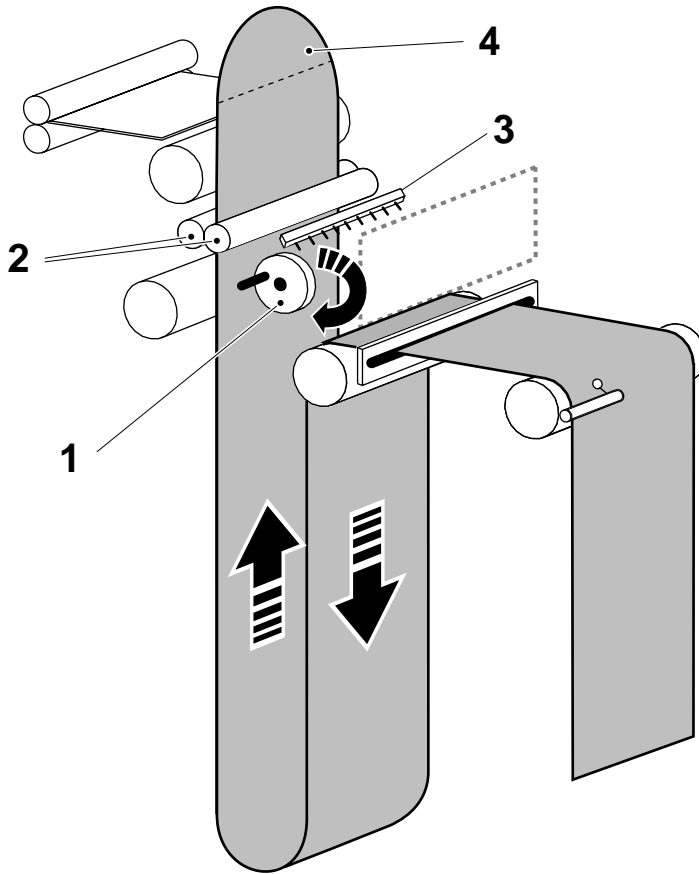
12b

Slowly crank the handle (1) anti-clockwise until the carrier (2) on the chain stops.

Feed the packaging material through the rubber slot (3).

Fold the packaging material along a crease line (4).

Press the pins of the carrier (2) through the packaging material, then wrap the end of the packaging material around the carrier (2).



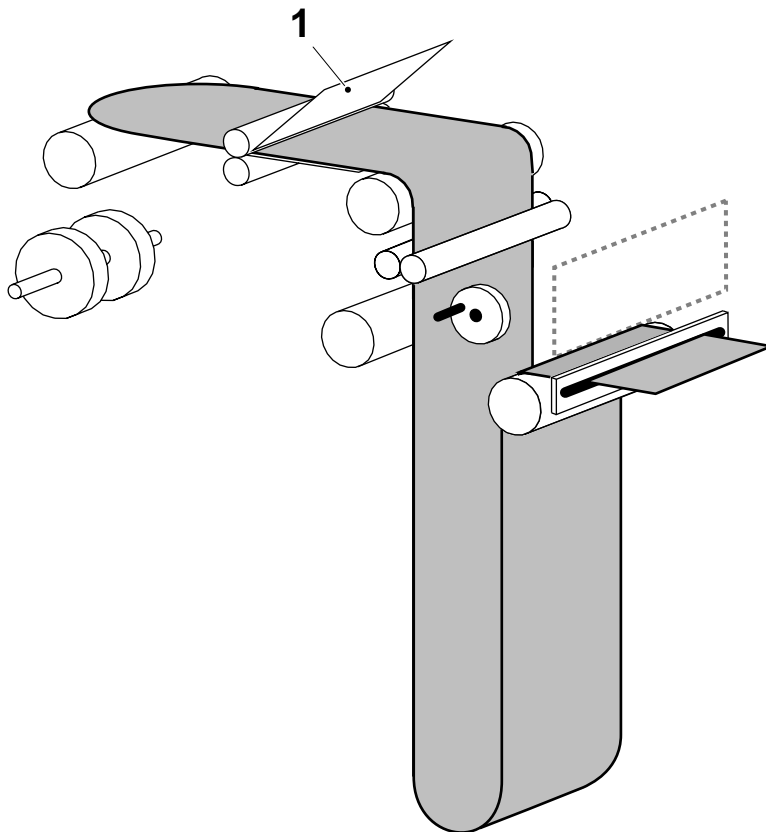
12c

Crank the handle (1) clockwise to pull the packaging material through the peroxide bath and up through the calendar rollers (2).

Remove the packaging material from the carrier (3).

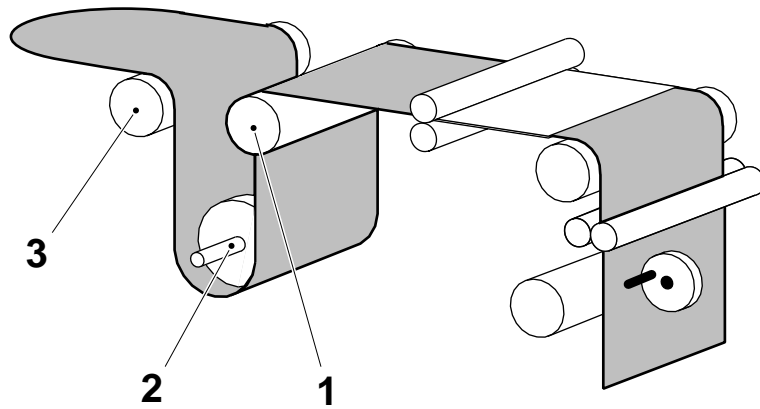
Crank the handle (1) clockwise until the carrier (3) is safely out of the way of the packaging material.

Pull up approximately one and a half metres of packaging material, and cut the end again (4).

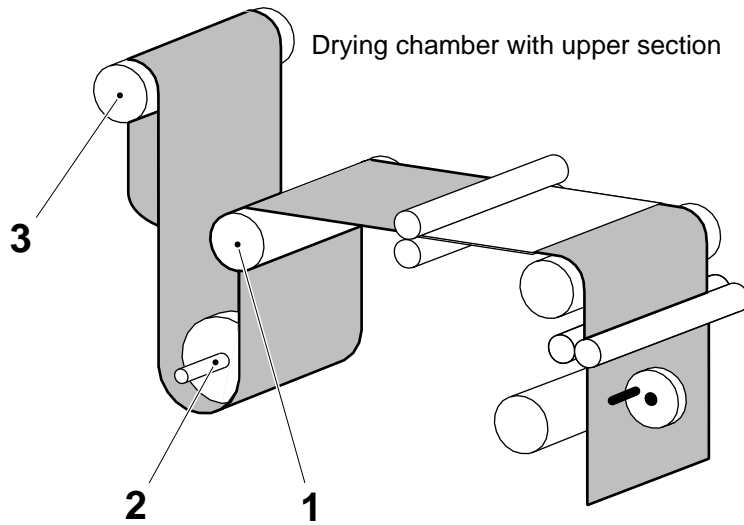


12d

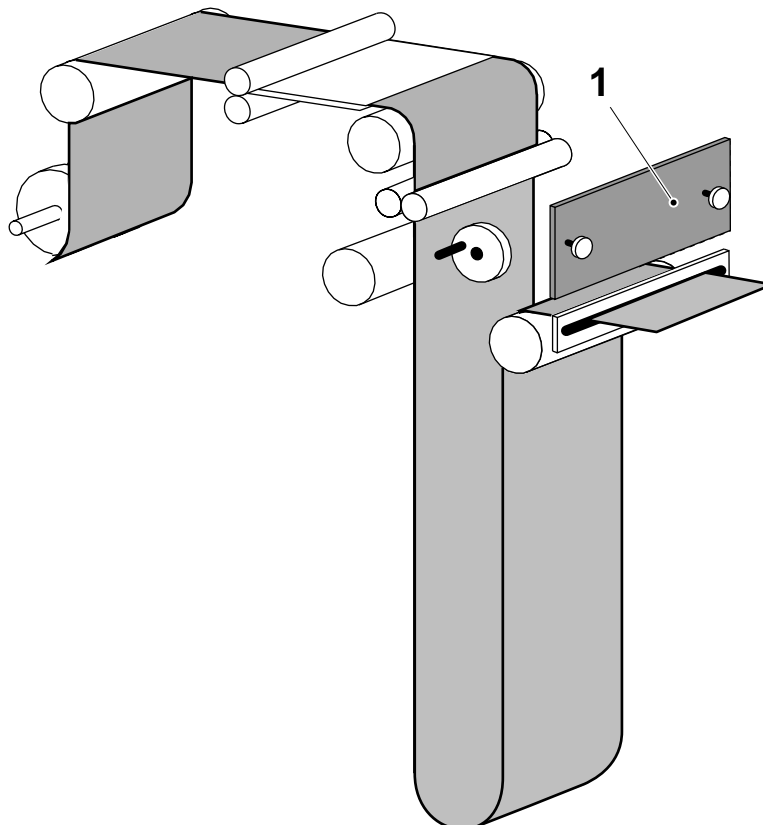
Feed the packaging material through the air knife (1).

**12e**

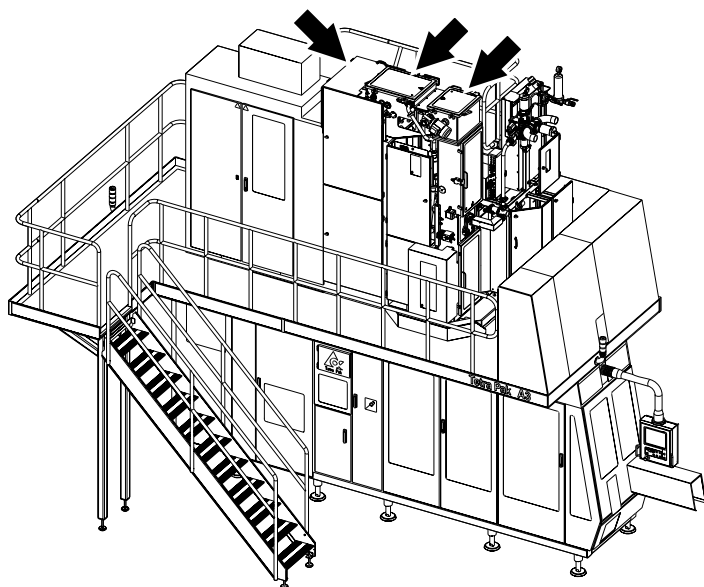
Thread the packaging material over the roller (1), under the pendulum roller (2) and over the roller (3).



Drying chamber with upper section

**12f**

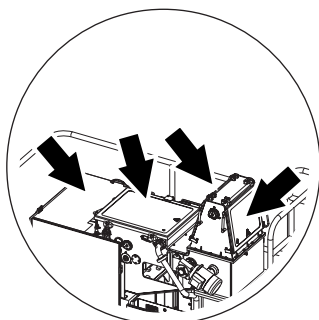
Fit the hatch (1) and tighten the handles equally.



12g

Close the top cover, the top front aseptic chamber door and the top rear aseptic chamber door.

Note! In machines equipped with the extra upper section, close the upper section doors, the rear aseptic chamber door and the top cover.



Drying chamber with upper section

CAUTION

Hygiene.

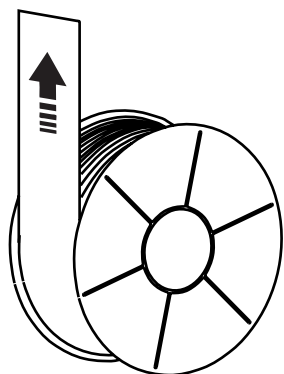
Before handling clean parts, disinfect your hands/gloves with cleaning compound code H.

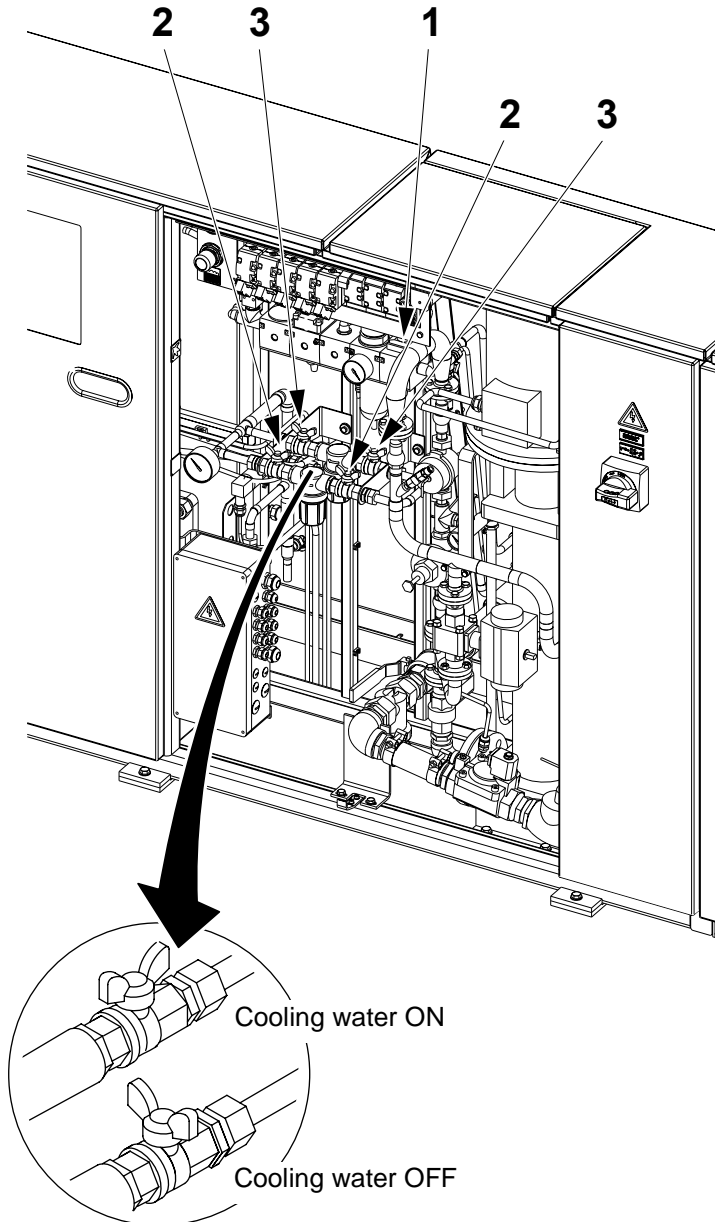
Prepare the Strip Supplies for Production

13

Prepare the strip applicator for PRODUCTION. See the LS Strip Thread section in chapter 6 Supply of Materials.

Note! For cleaning compound code information, see chapter 11 Technical Data.





14

Preparing After Weekly Care is now finished.

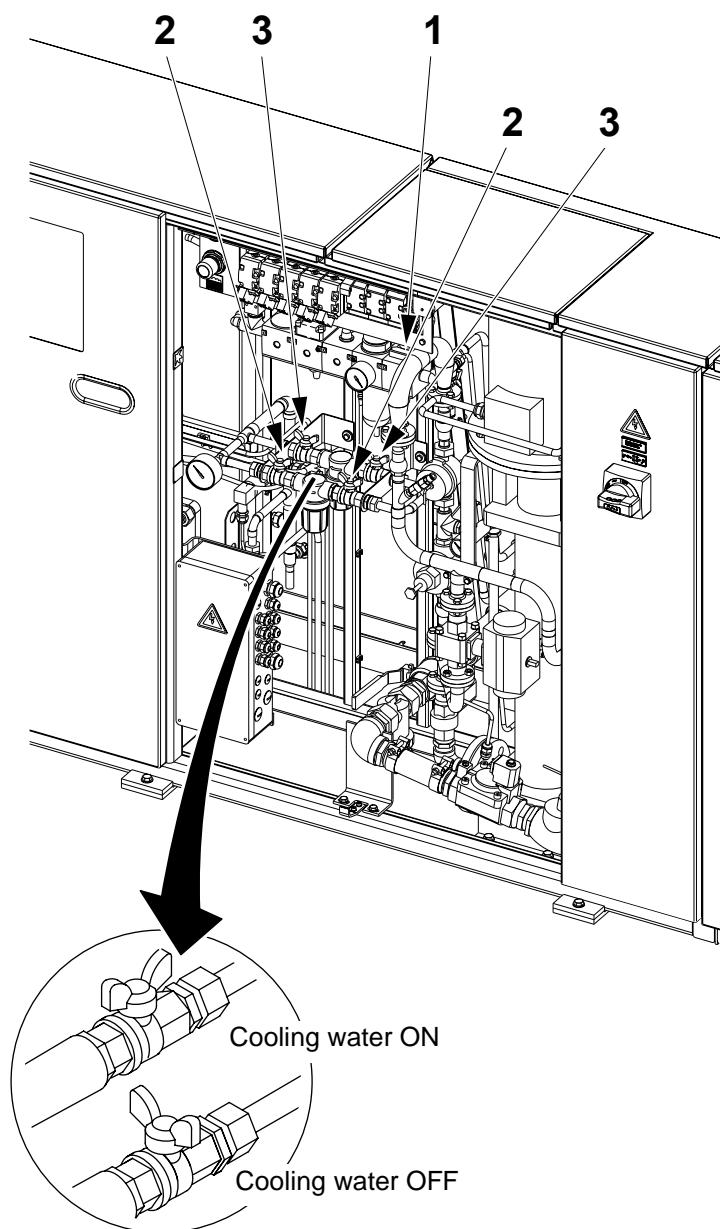
If PRODUCTION is scheduled, continue according to Preparing after Daily Care.

If PRODUCTION is not scheduled:

- Press the PROGRAM DOWN button to step down to STEP ZERO
- Turn OFF the air supply (1)
- Turn OFF the cooling water supply (2) or (3) depending on which filter is in use.

Preparing after Daily Care

Note! If Weekly Care has been performed, start with Preparing After Weekly Care on page 3-5.

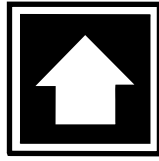


1

Note! If Preparing after Weekly Care has just been carried out, continue with item 2.

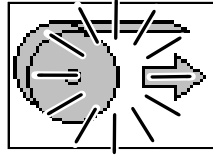
Otherwise:

- Turn ON the air supply (1)
- Turn ON the cooling water supply (2) or (3) depending on which filter is in use.

**2**

On the TPOP, press the PROGRAM UP button.

The machine steps to PREPARATION and the PREPARATION icon stops flashing.

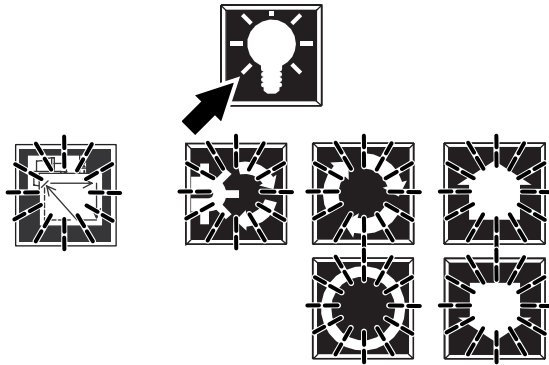
**3**

If the OPERATOR SHEET window appears on the TPOP, enter the necessary information. See chapter [2 Control Panels](#) on page [2-13](#).

PREPARATION START * 10:27:41

GENERAL PRODUCTION DATA	
PERSONAL	Operator: Daniel
PRODUCT INFORMATION	Product Type: Milk
BATCH INFORMATION	
GENERAL	Process Batch Nr: 7421365
	Production Batch Nr: 963 354 589 631
PACKAGE INTEGRITY	
LS STRIP	LS Strip, Type / Art No: 00000000000000000000000000000000
PACKAGING MATERIAL	

▲ ▼

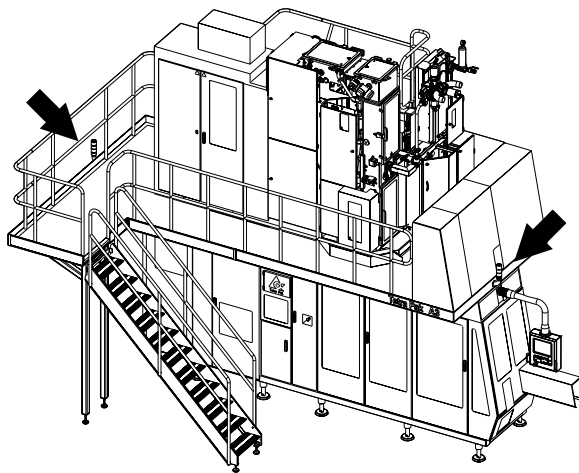


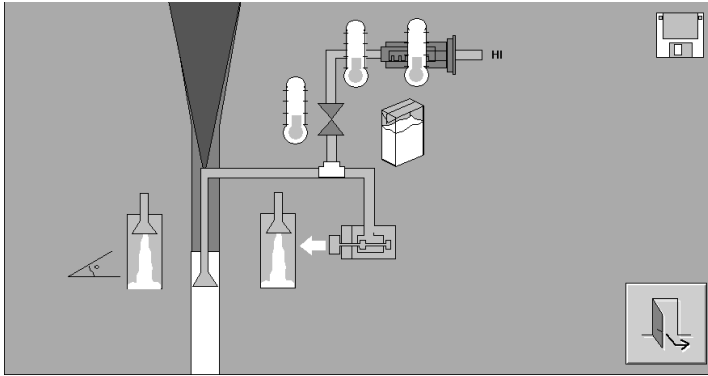
4

On the TPOP, press the LAMP TEST button and check that:

- all the buttons on the control panel are lit
- the alarm beacons are lit.

Call a technician to replace any faulty lamp before starting PRODUCTION.

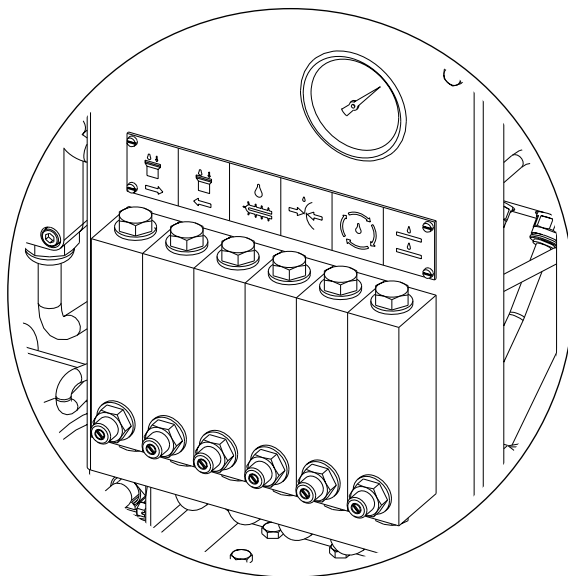


**4a**

On the TPOP, select the correct nozzle size according to the nozzle fitted into the HI product pipe.

Follow the instructions in chapter [2](#) Control Panels starting on page [2-50](#).

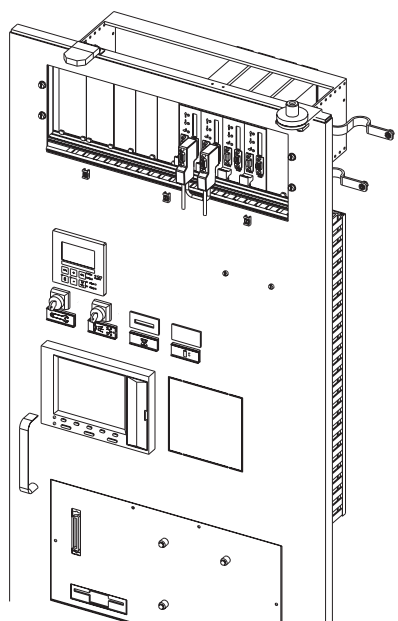
TechPub_2614345_0105 - 06_OM81809_10en.fm

**5**

Check that the flow rate of the cooling circuits in the service unit are correct.

See the [Setting Values](#) section in chapter [11](#) Technical Data for the correct flow rates.

Call a technician if adjustments are needed.



Recorder

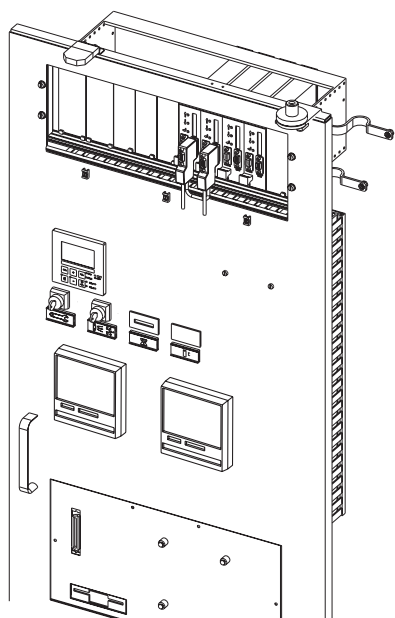
6

Note! If the filling machine is equipped with paper recorders (OE) go to item 7.

Every time the machine is started for **PRODUCTION**, it is suggested to input the following information:

- Machine serial number
- Batch data.

See the JUMO manual for more details.



Paper Recorders (OE)

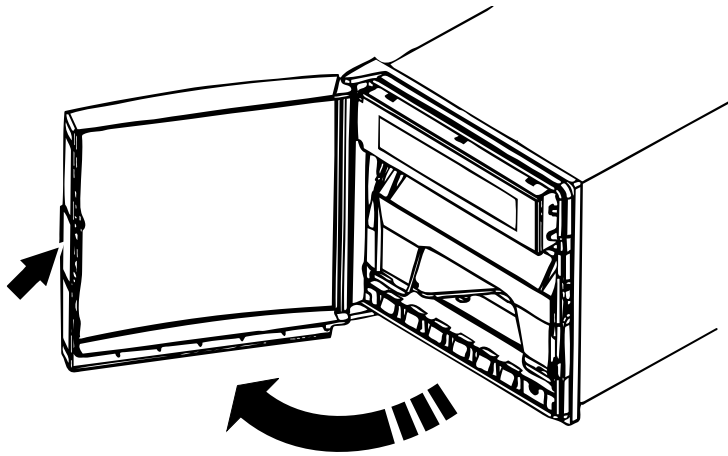
7

Make sure that there is enough chart paper in the process recorder (for at least one day of production) and in the cleaning recorder. If required, load the recorder with new paper, see item 8.

Check that both recorders print properly. If required, change the ink wheel, see item 9.

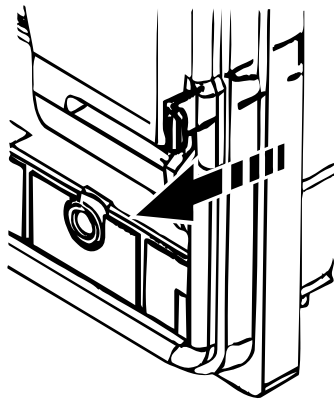
For the process recorder, every time the machine is started for **PRODUCTION**, it is suggested to write the following on the dotted lines provided on the paper:

- Machine serial number
- Machine type.



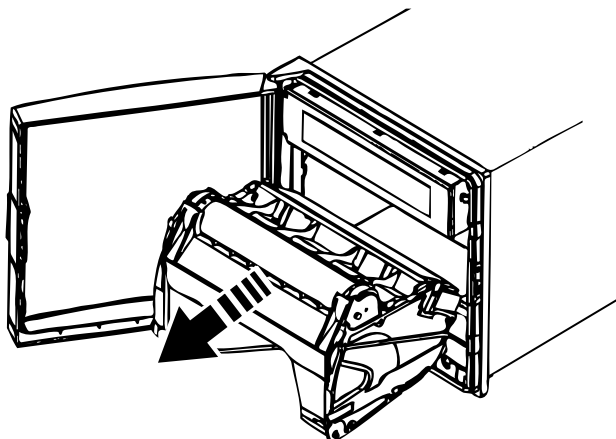
7a

Pull down the button and open the front cover.

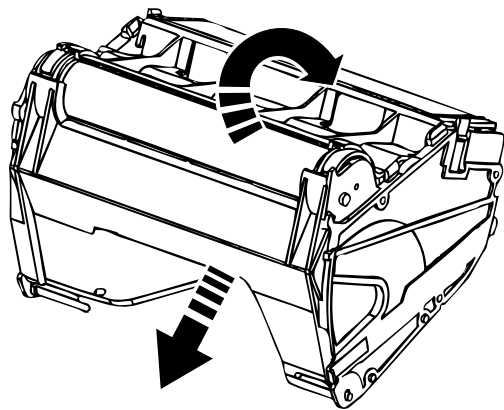


7b

Pull the pin and pull out the chart cassette.



TechPub_2614345_0105 - 06_OM81809_10en.fm



Load Chart Paper

8

Open the chart cassette and remove the old chart. If required, clean the cassette with a damp cotton cloth.

Note! See chapter 11 Technical Data for the correct fanfold type.

8a

Place the fanfold chart in the upper compartment (1) with the folds in the vertical plane.

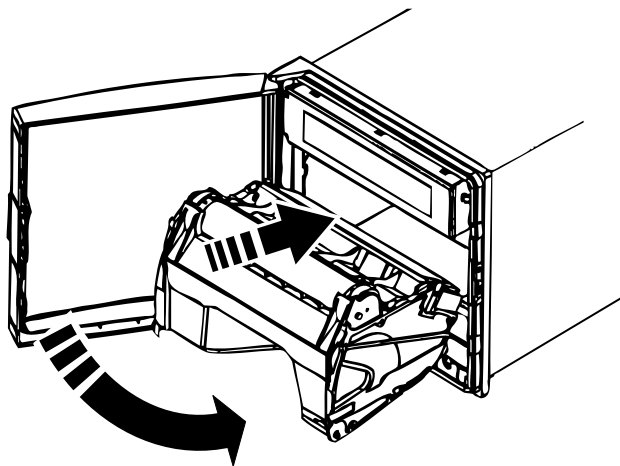
The slots of the fanfold must be on the RH side, and the graph side on the top.

Pull four folds into the compartment (2) and close the covers of the chart cassette.



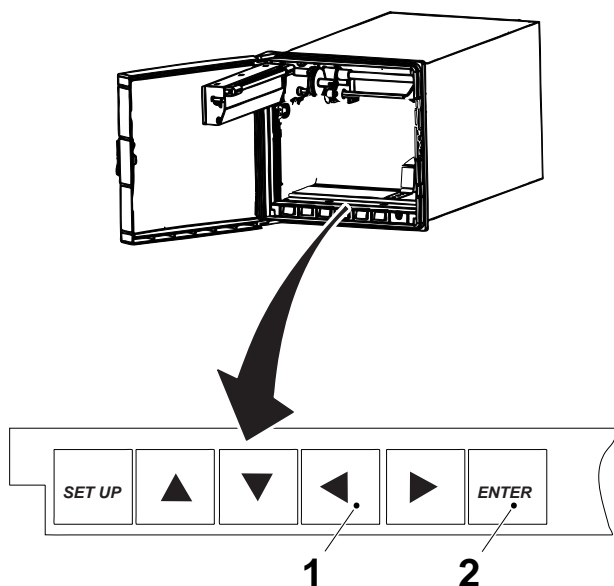
8b

Insert the chart cassette and close the cover.

**8c**

To reset the paper length counter:

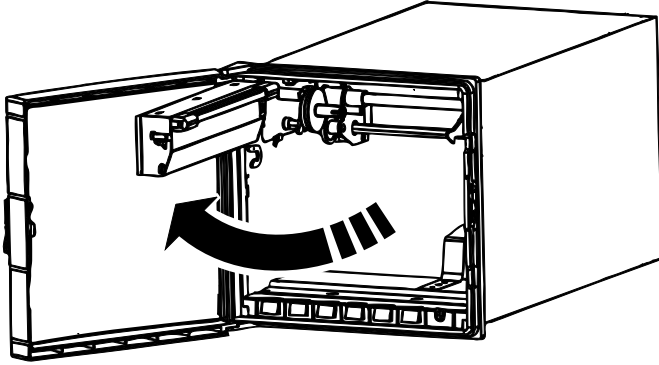
- Press and hold for 1-2 seconds the left ARROW button (1) to access the QUICK ACTION menu.
- Keep pressing the left ARROW button (1) until PAPLG=1800 is displayed.
- Press ENTER (2) to reset the counter.
- Press the left ARROW button (1) until normal display mode.



Change Ink Wheel

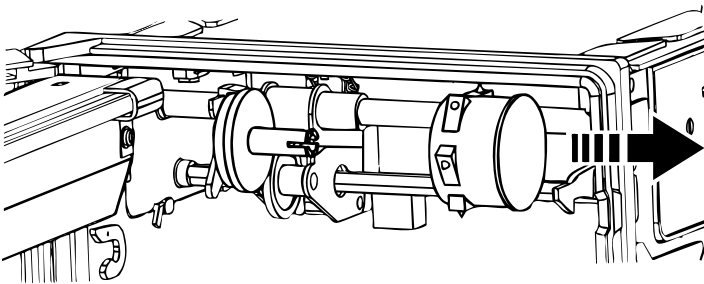
9

Open the display.



9a

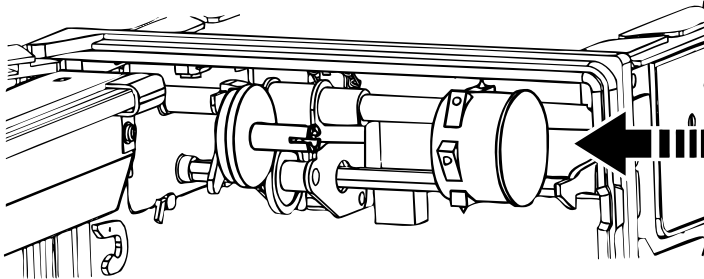
Pull off the old ink wheel.



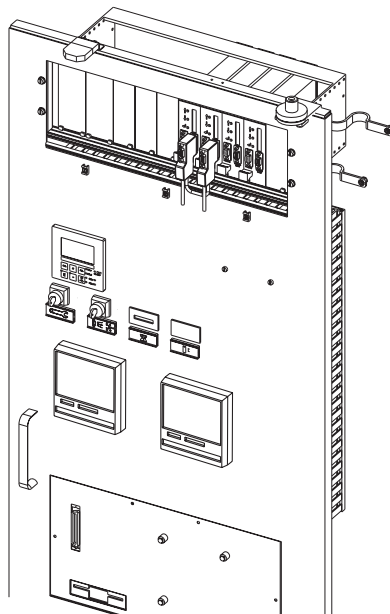
9b

Fit the new ink wheel. Rotate it anti-clockwise until the ratchet engages.

Note! See chapter [11 Technical Data](#) for the correct ink wheel type.

**9c**

Close the display, insert the chart cassette and close the front cover.



CAUTION

Hygiene.

Before handling clean parts, disinfect your hands/gloves with cleaning compound code H.

HI Enabled (OE)

10

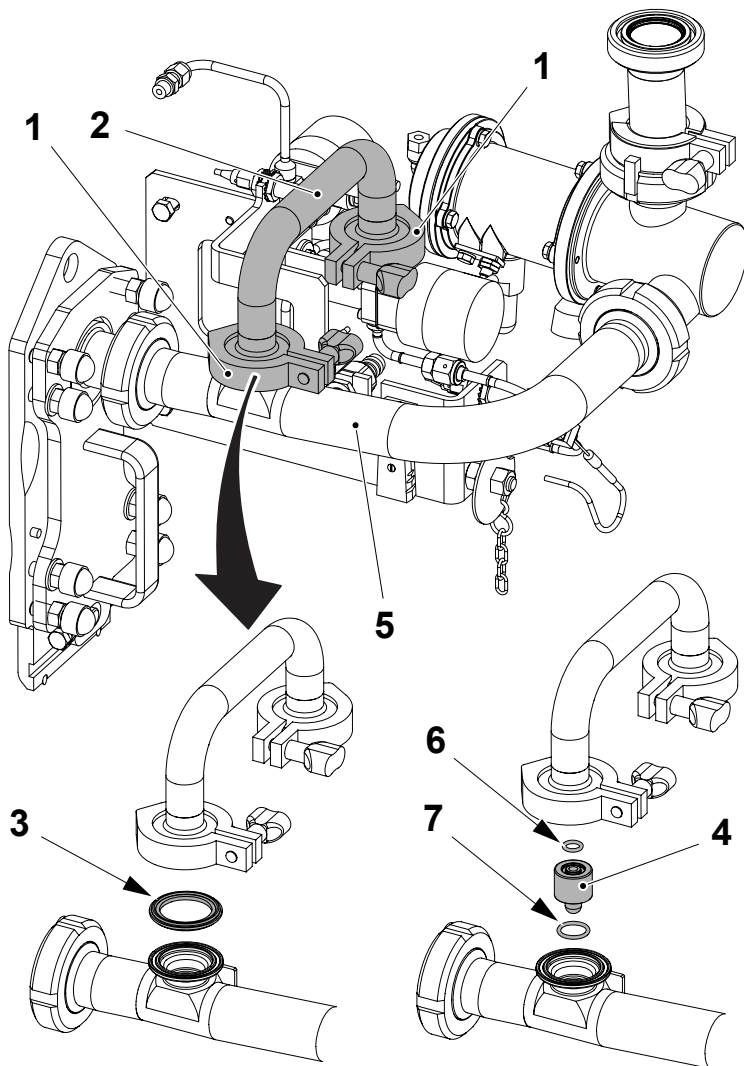
Note! If HI is not to be used for this PRODUCTION run continue with item 10a on page 3-47.

Note! The following volumes must run always with HI enabled: TPA 200 Sq, TPA 250 Sq, TPA 330 Sq, TPA 500 Sq, TPA 750 Sq, TPA 1000 Sq, TBA 1890 S and TBA 2000 S.

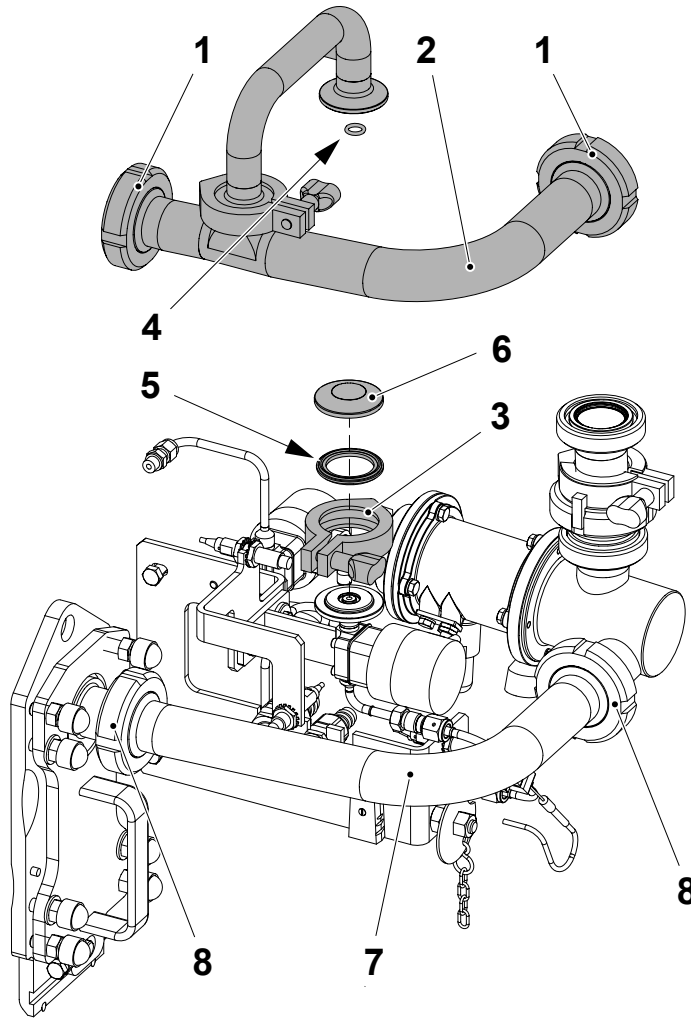
Loosen the pipe clamps (1) and remove the pipe (2) and the gasket (3).

Fetch the nozzle (4) from its storage container and fit it in the product pipe (5) with its O-rings (6) and (7).

Fit the pipe (2) by tightening the pipe clamps (1).



TechPub_2614345_0105 - 06_OM81809_10en.fm



HI Bypassed (OE) 10a

Note! If HI is being used with this PRODUCTION run continue with item 11.

Note! The product pipe gaskets must be changed every time the product pipe (2) or (7) is removed.

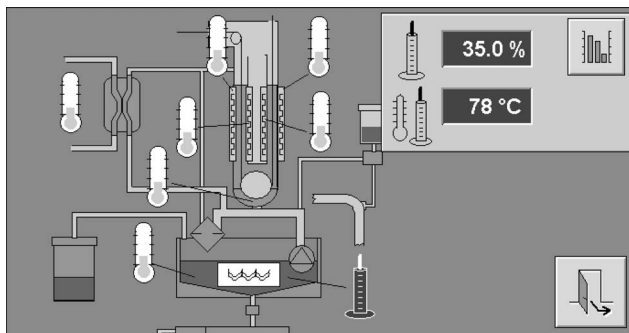
Loosen the pipe connections (1) at either end of the HI product pipe (2) and remove the clamp (3).

Remove the HI product pipe (2) and store the O-ring (4) for later use.

Fit the gasket (5), the cap (6) and secure them by tightening the clamp (3).

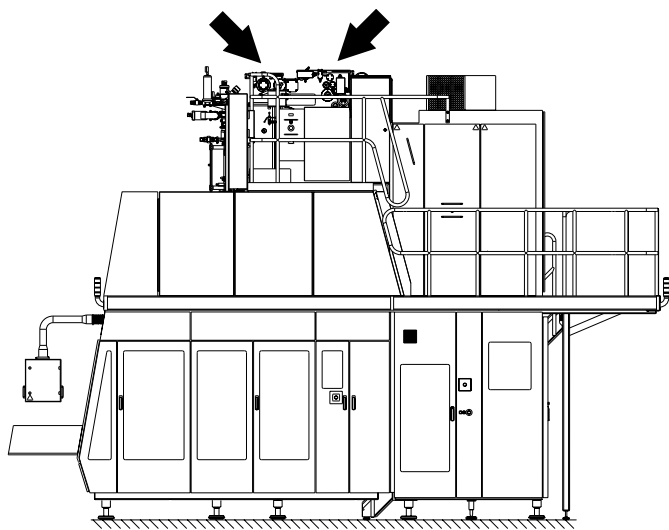
Fit the standard product pipe (7) and tighten the pipe connections (8).

TechPub_2614345_0105 - 06_OM81809_10en.fm



11

Check the peroxide concentration. See chapter 2 Control Panels on page 2-77.



WARNING

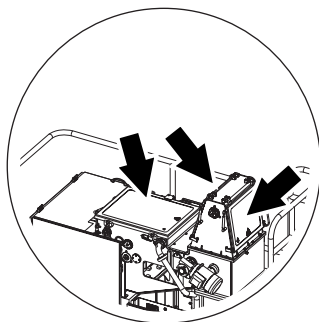
Hydrogen Peroxide.
Follow the Safety Precautions.

12

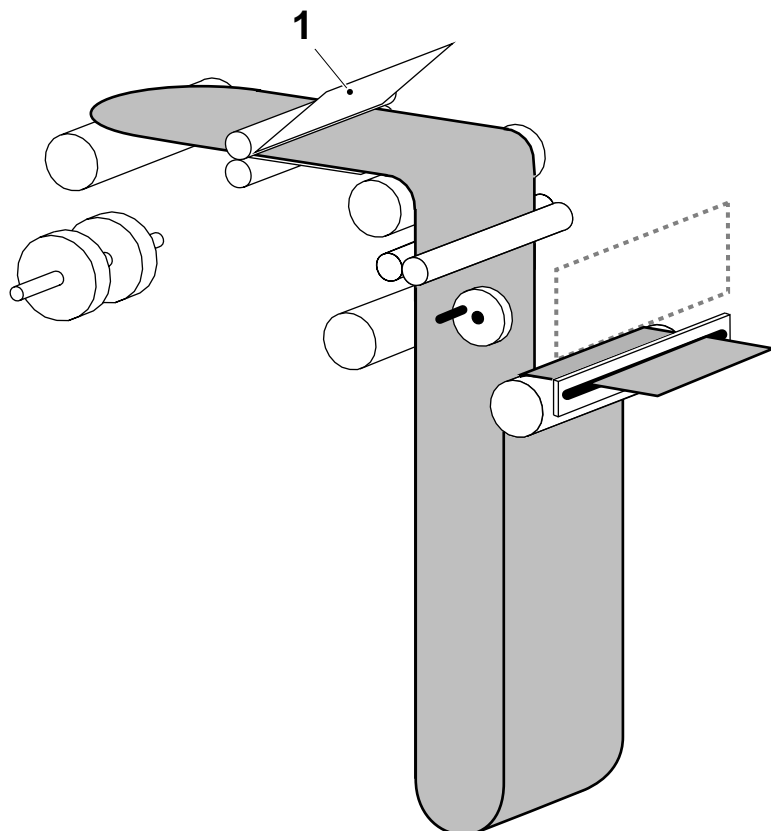
Note! If Preparing after Weekly Care has been carried out, continue with item 14.

Open the top front and rear drying chamber doors.

Note! In machines equipped with the extra upper section, open the upper section doors and the rear aseptic chamber door.



Drying chamber with upper section

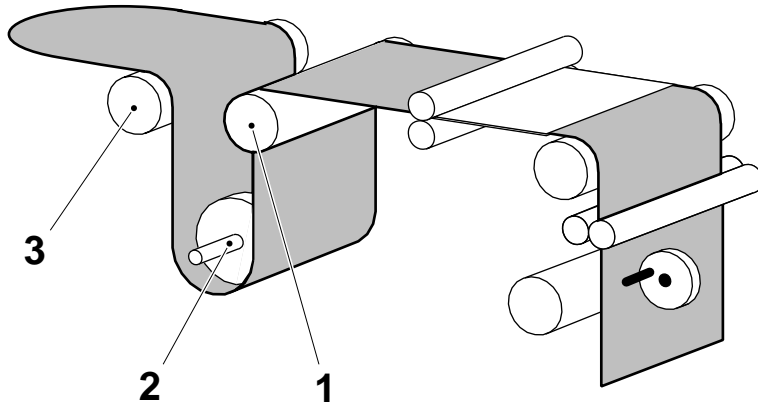


12a

Shape the end of the packaging material as shown.

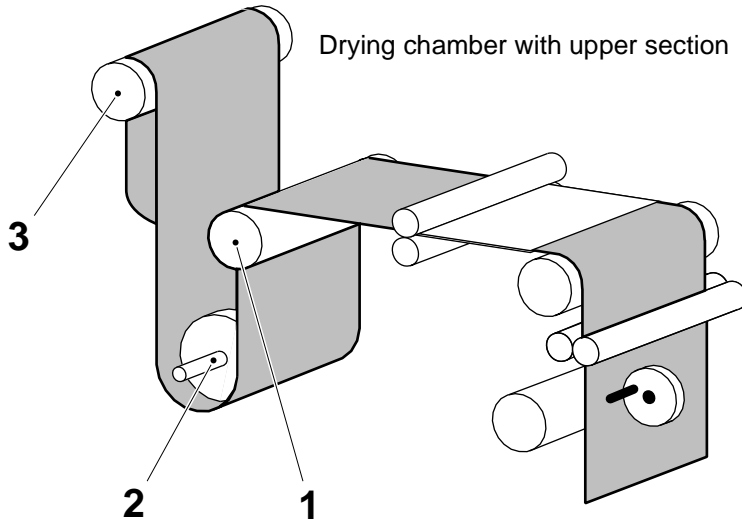
Feed the packaging material through the air knife (1).

TechPub_2614345_0105 - 06_OM81809_10en.fm



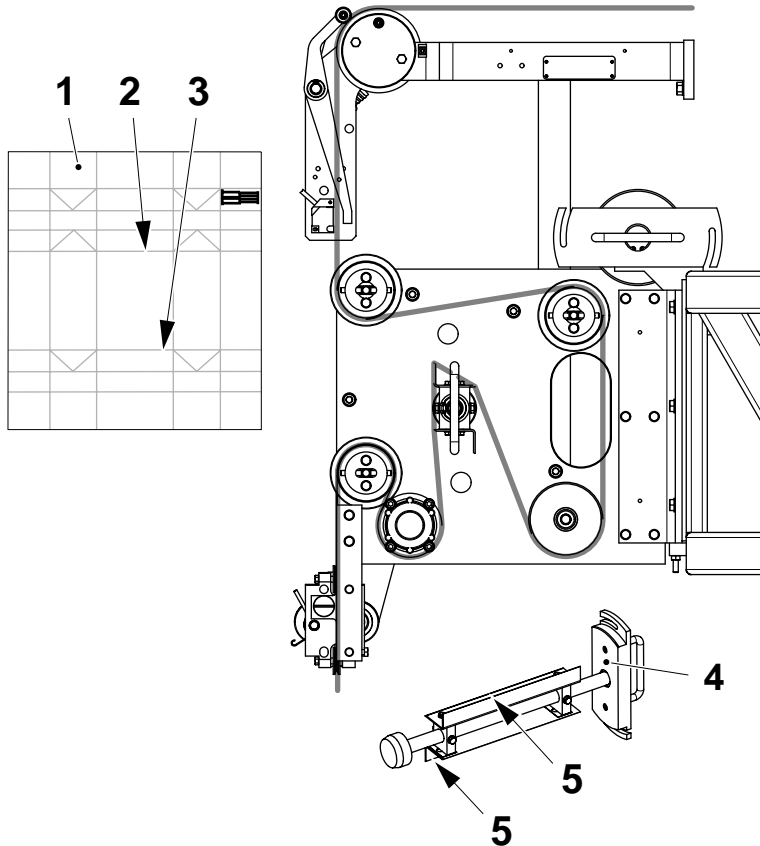
12b

Thread the packaging material over the roller (1), under the roller (2) and over the roller (3).



Drying chamber with upper section

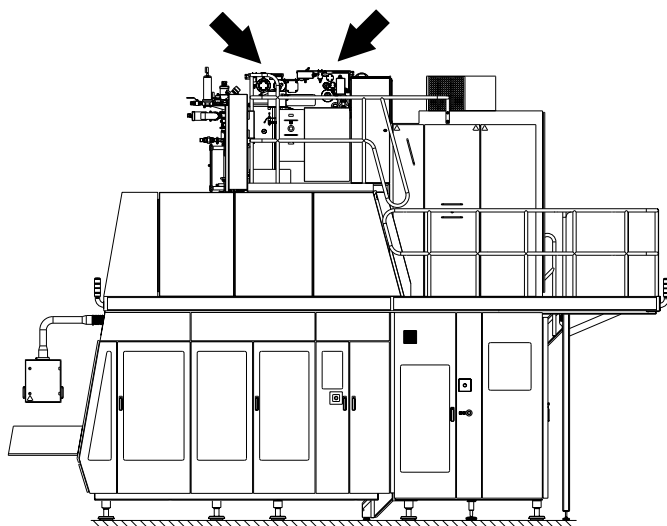
TechPub_2614345_0105 - 06_OM81809_10en.fm



12c

Note! Valid for machine equipped with Crease Wheel only.

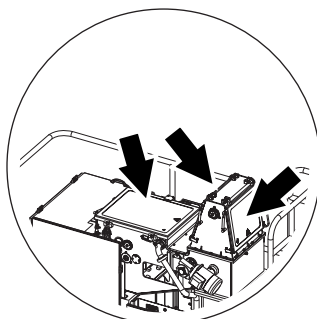
Make sure that the top crease (2) and the bottom crease (3) of the packaging material (1) matches the crease bars (5) of the crease wheel (4).



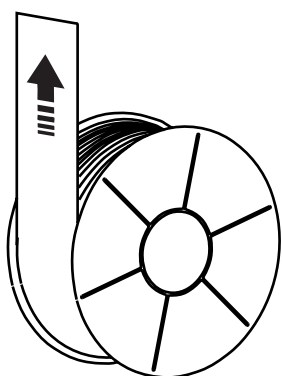
12d

Close the top front and rear drying chamber doors.

Note! In machines equipped with the extra upper section, close the upper section doors and the rear aseptic chamber door.



Drying chamber with upper section



CAUTION

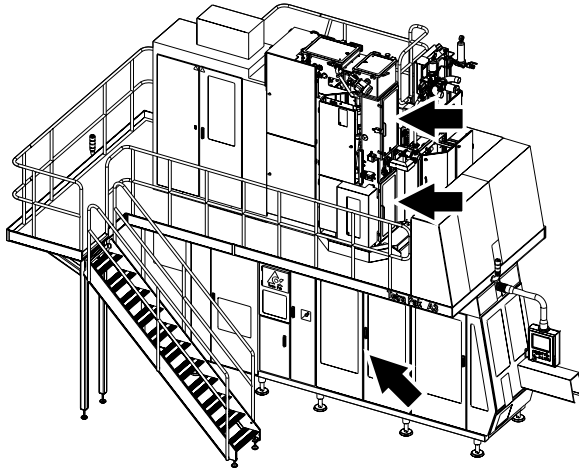
Hygiene.

Before handling clean parts, disinfect your hands/gloves with cleaning compound code **H**.

13

Prepare the strip applicator for **PRODUCTION**. See the LS Strip Thread section in chapter 6 Supply of Materials.

Note! For cleaning compound code information, see chapter 11 Technical Data.

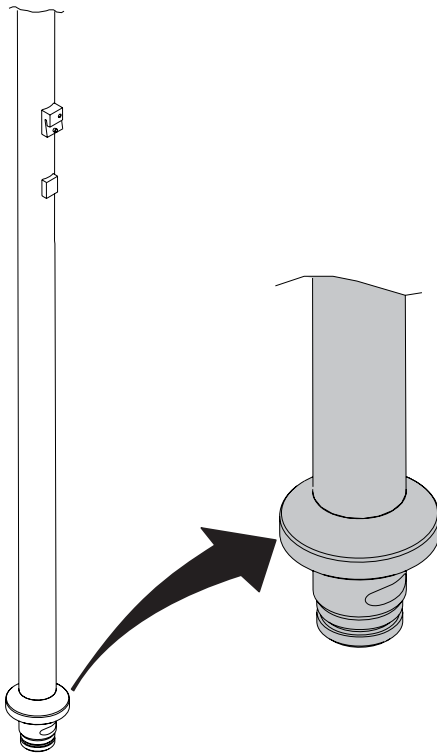
**WARNING****Hydrogen Peroxide.**

Follow the Safety Precautions.

14

Open the upper aseptic chamber door, the lower aseptic chamber door and the jaw system doors.

TechPub_2614345_0105 - 06_OM81809_10en.fm

**CAUTION****Risk of serious production fault.**

Make sure all visible product residue has been removed from the pipe.

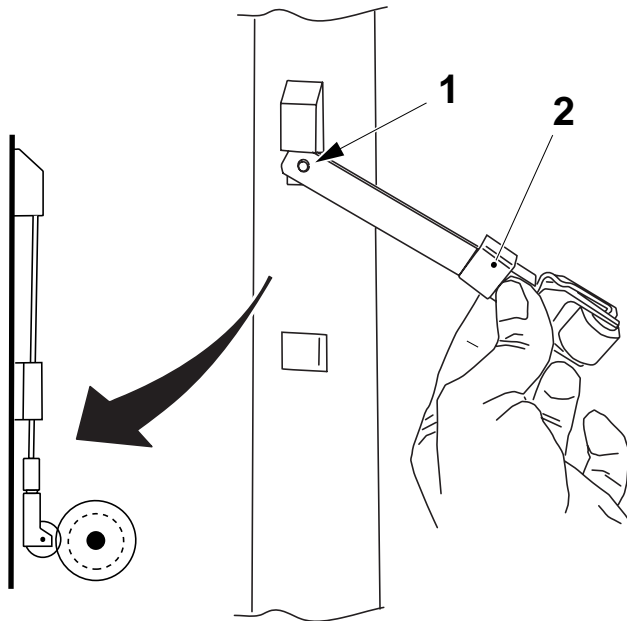
14a

Check that all product residue has been removed from the lower part (area shown shaded) of the upper filling pipe.

Use a sponge or brush with water and cleaning compound code **D**.

Rinse with drinking water.

Note! For cleaning compound code information, see chapter 11 Technical Data.



CAUTION

Hygiene.

Before handling clean parts, disinfect your hands/gloves with cleaning compound code **H**.

14b

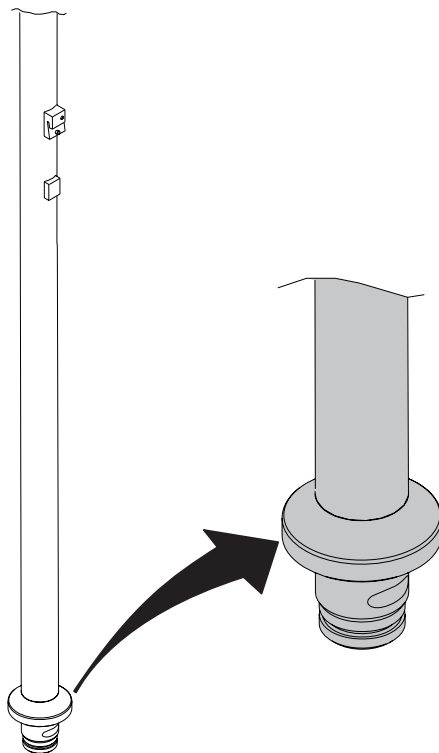
Fetch the pressure roller from its storage container.

Fit the pressure roller on the pin (1).

Check that the slot in the hood (2) is towards the filling pipe.

Lock the pressure roller onto the filling pipe with the hood (2).

Note! For cleaning compound code information, see chapter 11 Technical Data.



CAUTION

Risk of serious production fault.

Make sure all visible product residue has been removed from the pipe.

14c

Spray a small quantity of disinfectant code **G3**, on the filling pipe covering entirely the flange and the area indicated by the shading in the illustration.

Note! For cleaning compound code information, see chapter 11 Technical Data.

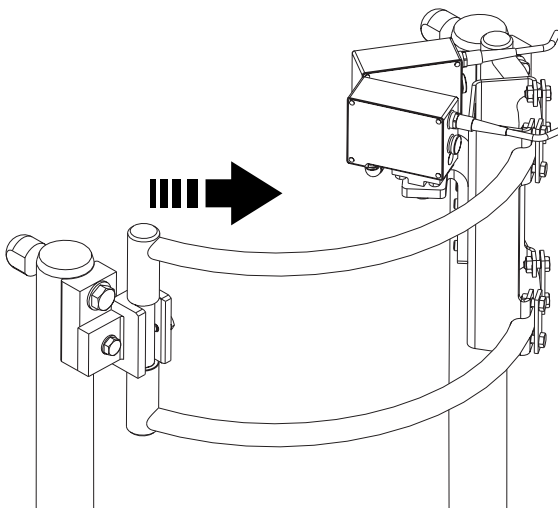
CAUTION**Hygiene.**

Before handling clean parts, disinfect hand/gloves with cleaning compound code **H**. Do not rinse the lower filling pipe with water. Allow the lower filling pipe to drip dry.

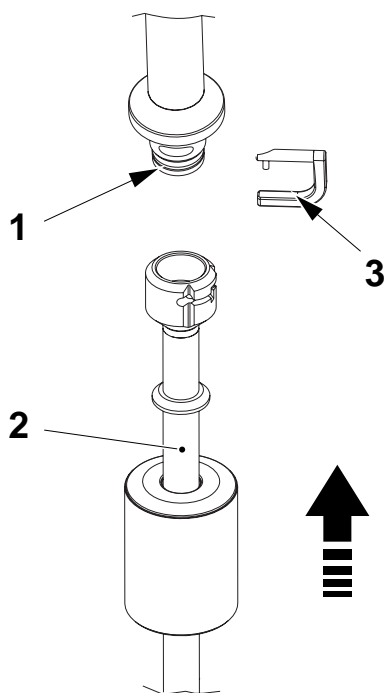
14d

Fetch the lower filling pipe from its storage container.

Note! For cleaning compound code information, see chapter [11 Technical Data](#).

**14e**

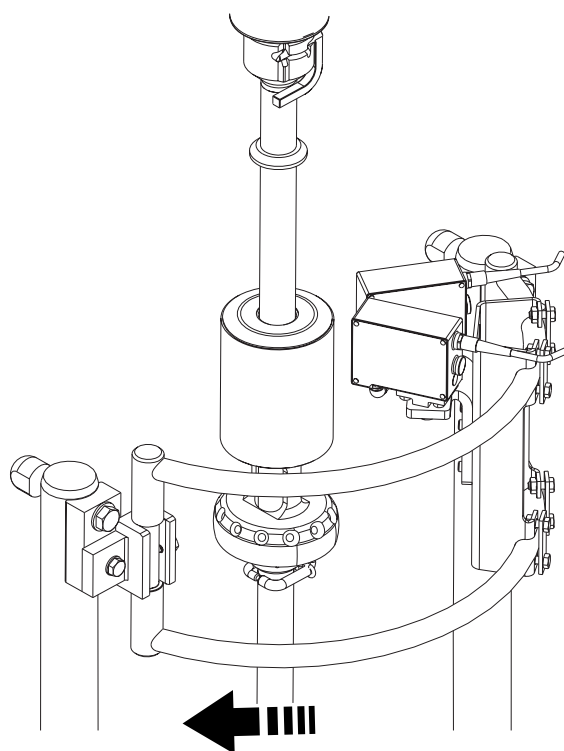
Swing the bow clamp outwards.



14f

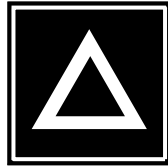
Fit the O-ring (1).

Fit the lower filling pipe (2) by means of the locking pin (3).



14g

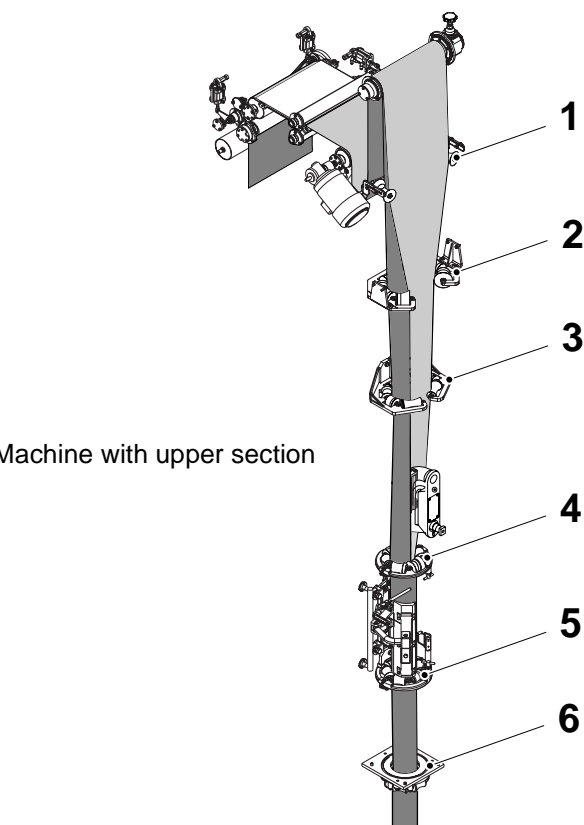
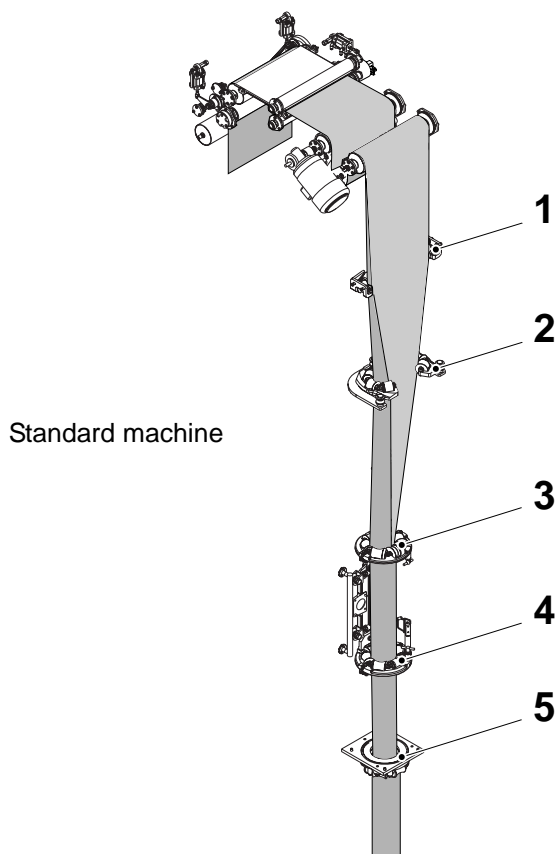
Push the bow clamp inwards.



15

Reset any alarms TPOP display.

If an alarm reappears, take the appropriate action or call a technician.



16

Valid for Standard Machines

Pull the packaging material down through:

- the edge rollers (1)
- the forming ring (2)
- the upper forming ring (3)
- the lower forming ring (4)
- the seal (5).

Pull the packaging material down to the jaw system.

Check that the jaws grip the packaging material. If required pull down more packaging material.

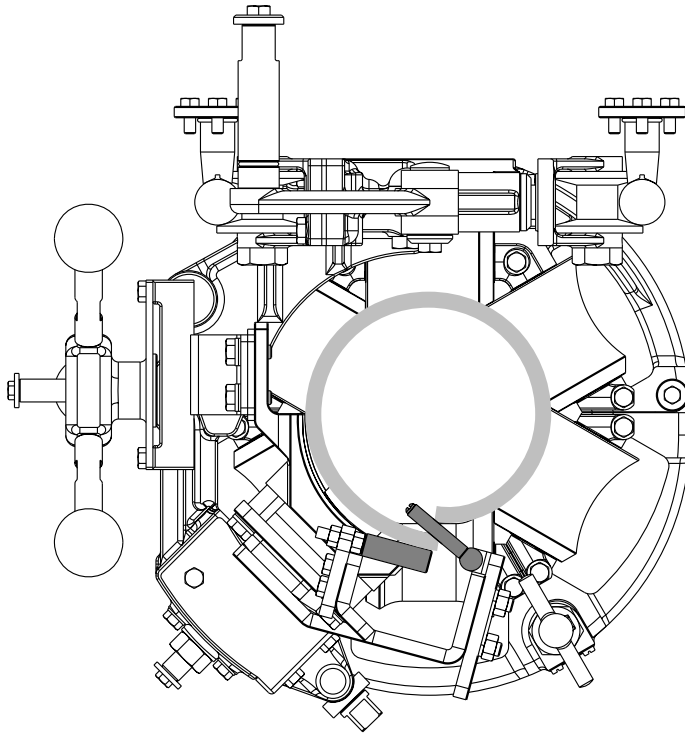
Valid for Machines with Upper Section

Pull the packaging material down through:

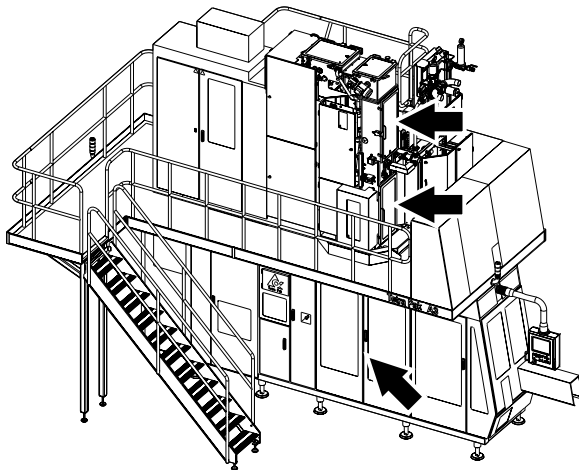
- the edge rollers (1)
- the upper support rollers (2)
- the forming ring (3)
- the upper forming ring (4)
- the lower forming ring (5)
- the seal (6)

Pull the packaging material down to the jaw system.

Check that the jaws grip the packaging material. If required pull down more packaging material.

**16a**

Check that the packaging material is correctly positioned, as shown, on each side of the LS inductor rollers.

**16b**

Close the upper aseptic chamber door, the lower aseptic chamber door and the jaw system doors.

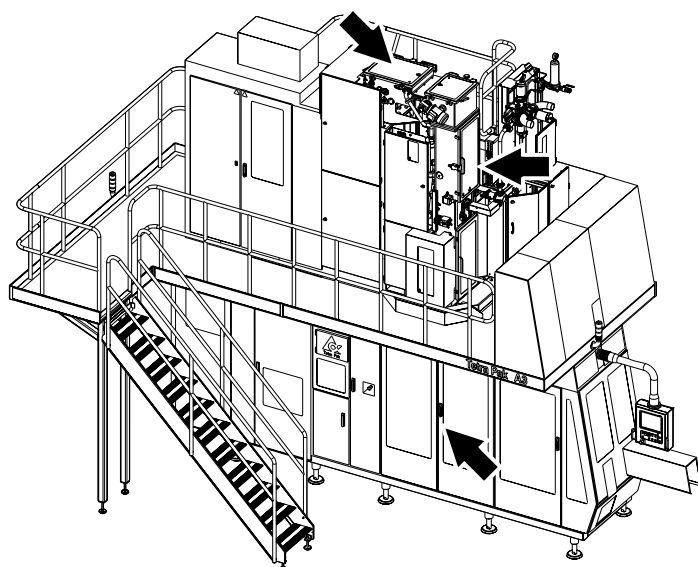


16c

On the control panel, turn the SELECTOR switch to the LH position (slow inching).

Press the INCHING button when it begins to flash.

The packaging material is pulled through the filling machine.

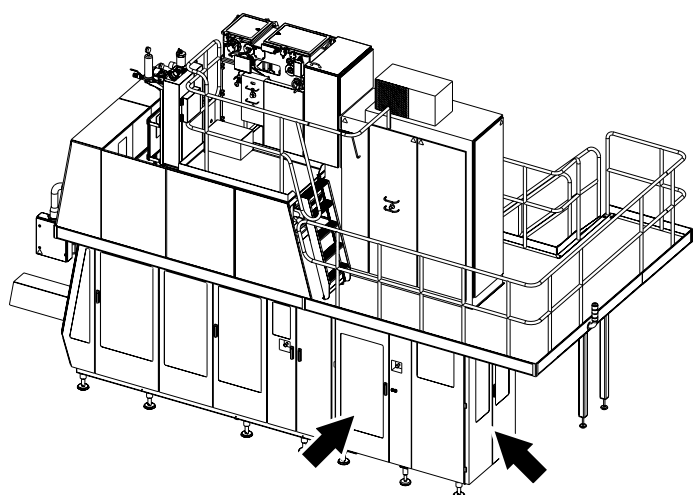


17

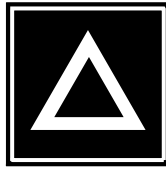
Check that the packaging material is properly positioned on all the filling machine bending rollers and that the packaging material passes correctly through the following areas:

- ASU
- Strip applicator
- Drying unit
- Aseptic chamber
- Jaw system.

Correct the position of the packaging material if required.

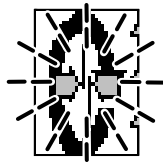


TechPub_2614345_0105 - 06_OM81809_10en.fm

**18**

Close all covers and doors on the machine and reset the alarms on the TPOP display.

If an alarm is present, take the appropriate measures or call a technician.

**18a**

Note! Valid for all Volumes except TBA 1890 S/TBA 2000 S QC, TPA 750 Sq/TPA 1000 Sq QC and TBA 500 S

When the TIGHT TUBE symbol and the PROGRAM UP button start to flash, press the PROGRAM UP button until the motor starts.

An audible warning signal sounds and the machine inches forward without stopping until the material tube is sealed with the LS strip.

Note! Valid for TBA 1890 S/TBA 2000 S QC, TPA 750 Sq/TPA 1000 Sq QC and TBA 500 S only

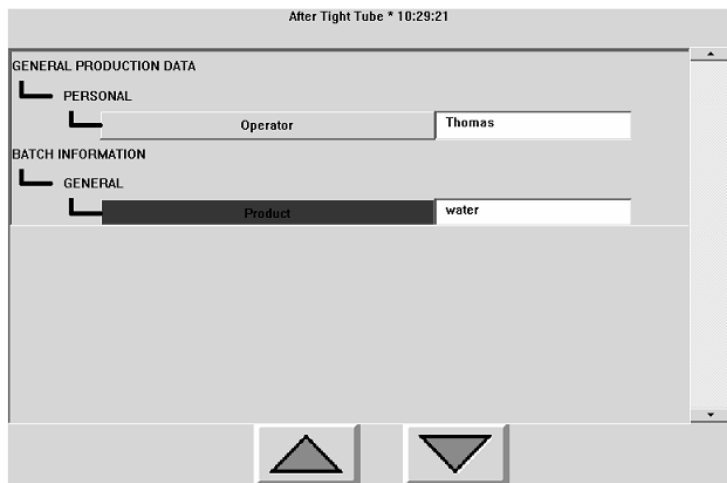
When the TIGHT TUBE symbol and the PROGRAM UP button starts to flash, press the PROGRAM UP button.

The PROGRAM UP button stops to flash, waiting for the correct machine temperatures.

When the temperatures are reached, the PROGRAM UP button starts to flash again.

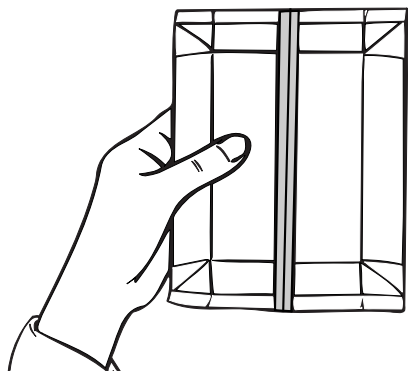
Press the PROGRAM UP button until the motor starts.

An audible warning signal sounds and the machine inches forward without stopping until the material tube is sealed with the LS strip.



19

If the OPERATOR SHEET window appears on the TPOP, enter the necessary information. See chapter 2 Control Panels on page 2-13.

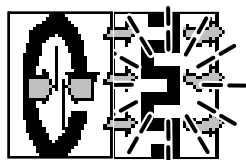


LS Strip

20

Pick out the last package inched out from the machine. Check according to the Package Checks section that:

- the LS strip is correctly positioned and properly sealed.

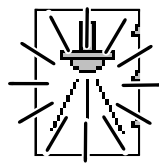


21

When the material tube has been sealed, the HEAT STERILIZATION symbol and the PROGRAM UP button begin to flash.

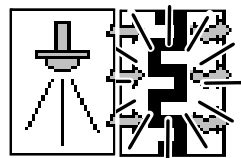
**21 a**

Press the PROGRAM UP button and the HEAT STERILIZATION starts.

**21 b**

When the preheating temperature has been reached, the SPRAYING symbol and the PROGRAM UP button begin to flash.

The SPRAYING sequence starts automatically after 10 seconds.

**21 c**

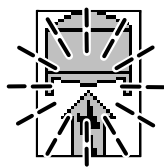
After the spraying sequence the DRYING symbol remains lit and the drying sequence starts automatically.

Note! If a small arrow appears on the screen the sterilization has failed. The machine program automatically steps down to step ZERO when the drying time is finished.

The drying sequence takes 15 minutes. A time bar displays the time remaining.

Note! After the step DRYING and up to step PRODUCTION ENDED, the program steps VENTING, ASEPTIC CHAMBER DOORS, ASEPTIC CHAMBER are executed automatically when the machine program is stepped down.

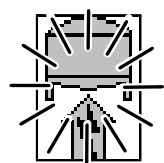




21 d

When the drying sequence is completed, the SIGNAL TO STERILIZER symbol and the PROGRAM UP button begin to flash.

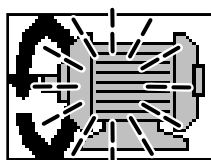
Press the PROGRAM UP button.



21 e

The symbol SIGNAL TO STERILIZER remains lit.

Note! If there is a connection between the filling machine and the sterilizer equipment, a request is sent for the product.



Note! If during stops or PRODUCTION the aseptic chamber doors are opened, or the tube opens or bursts the machine must be cleaned and sterilized before PRODUCTION can restart.

21 f

Production can start when the MOTOR START symbol and PROGRAM UP button begin to flash.

Proceed according to chapter 4 Start.

4 Start

This chapter describes how to start the machine for PRODUCTION after Preparing after Daily Care.

To start the machine after a stop, see the Stop section.

**CAUTION****Hazardous noise.**

Risk of impaired hearing. Hearing protection is recommended whenever this equipment is in operation.

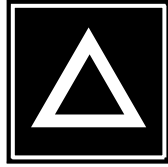
Starting Production 4 - 5

TechPub_2614345_0105 - 07_OM81809_10en.fm

This page intentionally left blank

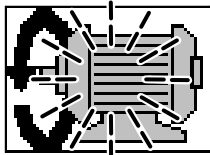
TechPub_2614345_0105 - 07_OM81809_10en.fm

Starting Production

**1**

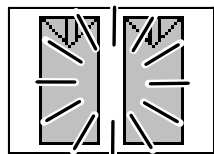
Make sure all covers and doors on the machine are closed and reset any alarms on the TPOP.

If an alarm is present, take the appropriate action or call a technician.

**2**

The machine is ready to start when the MOTOR START symbol is flashing.

Press the PROGRAM UP button. Keep the PROGRAM UP button pressed until the MOTOR START symbol remains lit and the warning signal stops.

**3**

When the printed design on the tube is in the correct position, the PRODUCTION symbol lights up and the machine automatically lets the packages through the final folder.

First Production Start * 10:30:26

GENERAL PRODUCTION DATA

PERSONAL

Team Leader

PACKAGE INTEGRITY

PULLTAB INTEGRITY

PT Openability judgement

WEIGHT/VOLUME

Weight right Good

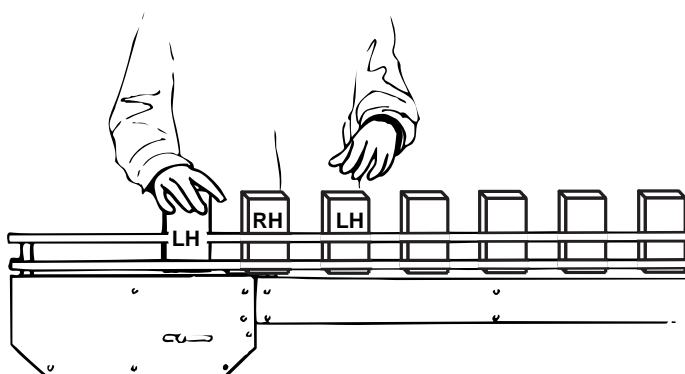
PEROXIDE PARAMETERS

PEROXIDE

Check during production shift 1 %

4

If the OPERATOR SHEET window appears on the TPOP, enter the necessary information. See chapter [2 Control Panels](#) on page [2-13](#).

**5**

Follow the first packages through the final folder and remove the first two packages discharged from the machine.

6

Carry out the checks according to the [Package Checks](#) section in chapter [5 Checks](#).



Note! Remember to register the number of packages taken for the checks. See chapter [2 Control Panels](#).

5 Checks

This chapter describes the checks to perform when the machine is in step PRODUCTION.

**CAUTION****Hazardous noise.**

Risk of impaired hearing. Hearing protection is recommended whenever this equipment is in operation.

Machine Checks	5 - 5
Paper Recorder, Production (OE)	5 - 10
Package Checks	5 - 11
Package Utilisation and Recommendations	5 - 11
Package Selection	5 - 12
Package Identification	5 - 12
Checking Scheme	5 - 13
Checking Scheme Table	5 - 14
Flowchart of the Production Quality Checks	5 - 15
Flowchart of the Production Quality Checks	5 - 16
Package Terms	5 - 17
Production Quality Checks	5 - 18
Date Printing	5 - 18
Weight	5 - 18
TS - Rough Check	5 - 19
TS - Accurate Check	5 - 19
Shape and Design	5 - 24
Flap Sealing	5 - 25
Crease Lines	5 - 26
LS Overlap	5 - 28
Surfaces	5 - 29
LS Strip Application	5 - 30

This page intentionally left blank

TechPub_2614345_0105 - 08_OM81809_10en.fm

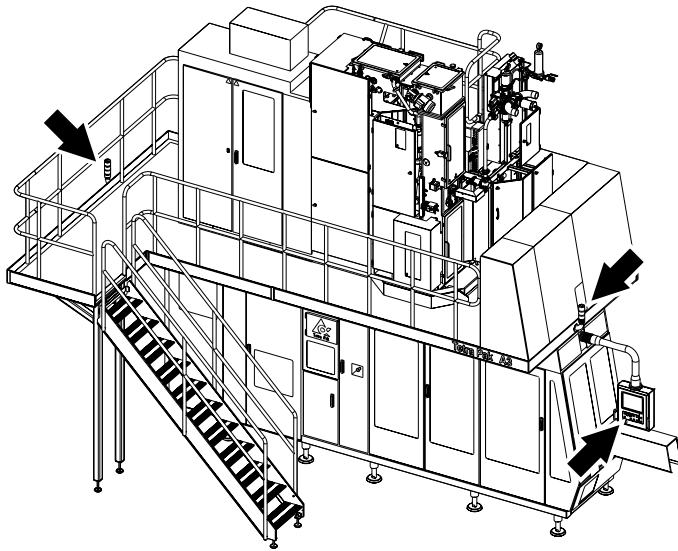
Machine Checks

This section describes the checks to perform on the filling machine during PRODUCTION.

CAUTION

Risk of damage to the equipment.

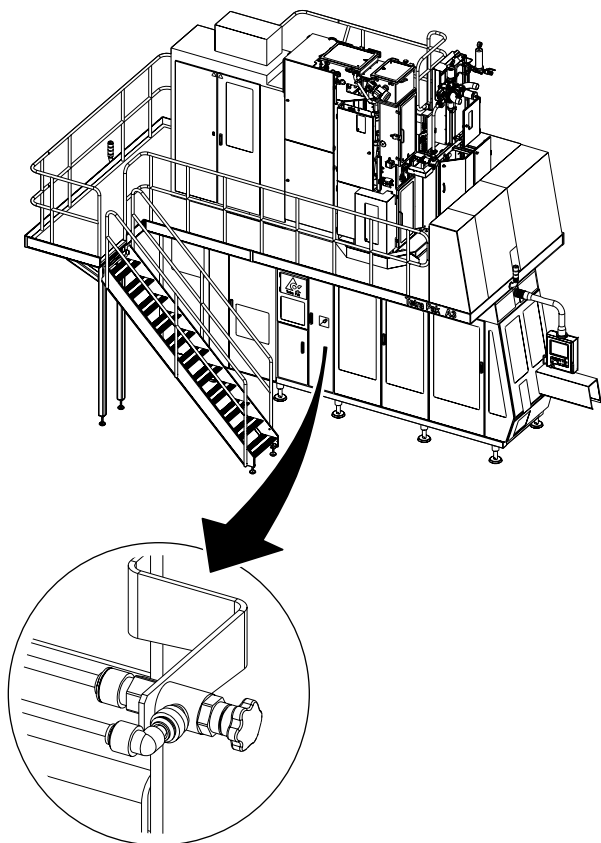
Do not leave the machine unattended during PRODUCTION.



1

Check the warning beacons.

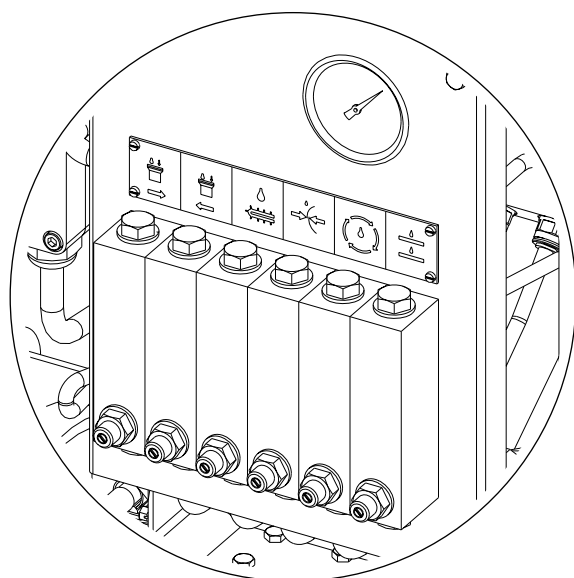
When the beacons are flashing, check the TPOP and take the appropriate action.

**2**

Check that the tube flushing flow is normal.

Note! A high flow rate may cause reading errors by the photocells. A low flow rate may cause forming problems.

Open the hydraulic unit door and adjust the flow of water with the knob.

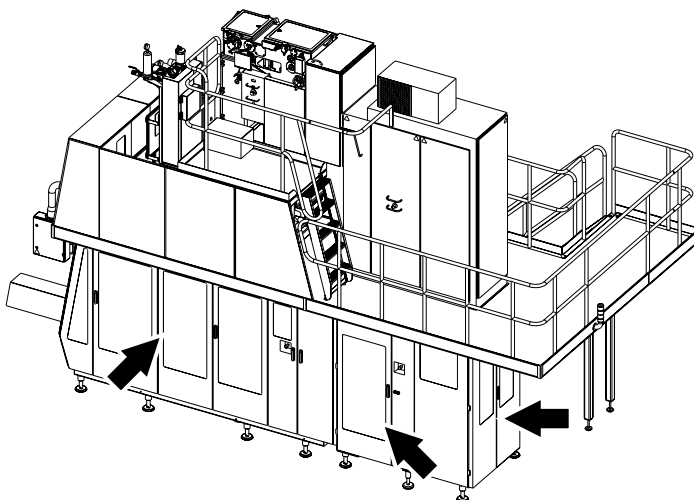
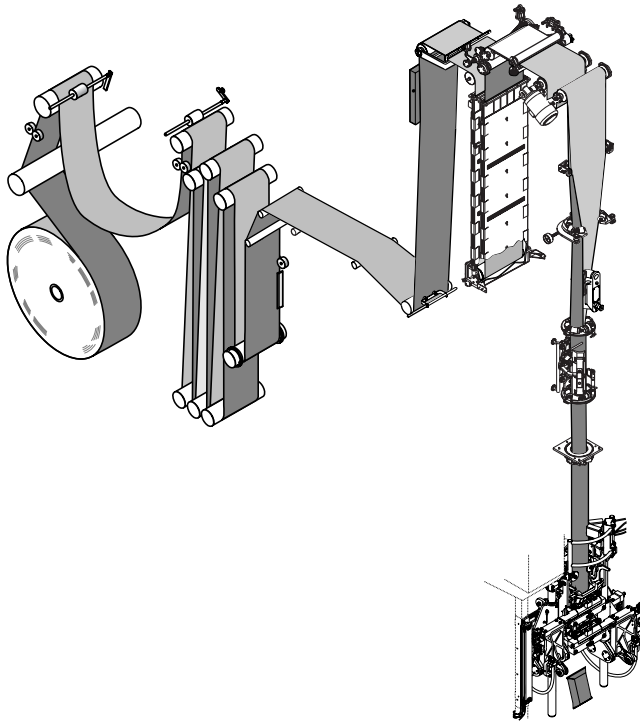
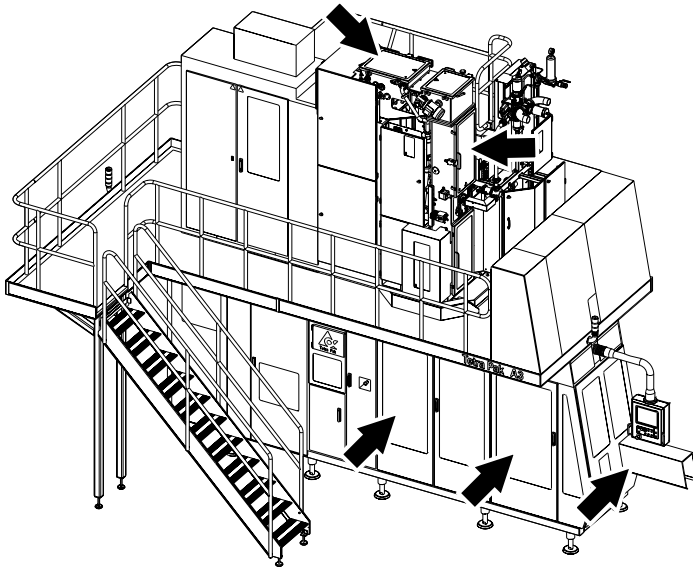
**3**

Check that the flow rate of the cooling circuits in the service unit are correct.

Check that all pressure gauges indicate the correct pressure setting.

See the Technical data section for the correct flow rates and pressure settings.

Call a technician if adjustments are needed.

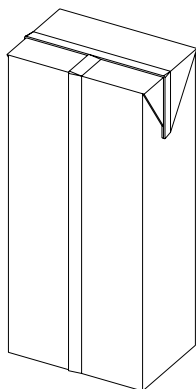
**4**

Make sure that the packaging material moves through the machine properly.
Make sure that all the strip supplies function correctly.

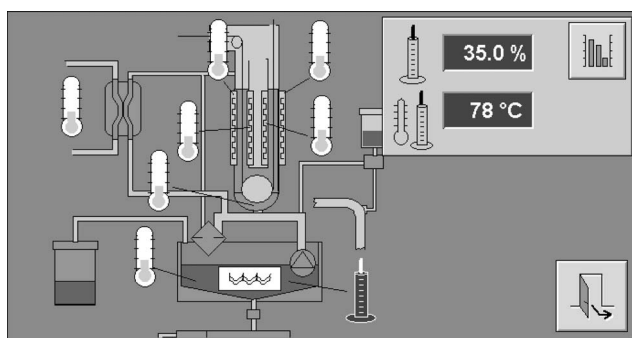
Make sure that the packages move through the jaw system, final folder area and outfeed correctly.

Refer to the threading diagram and make checks at the positions shown by the arrows:

- the ASU
- the LH side of the jaw system and final folder area
- the aseptic chamber
- the RH side of the jaw system and final folder area
- the outfeed.

**5**

Check the forming and shape of the packages. See the Package checks section.

**WARNING**

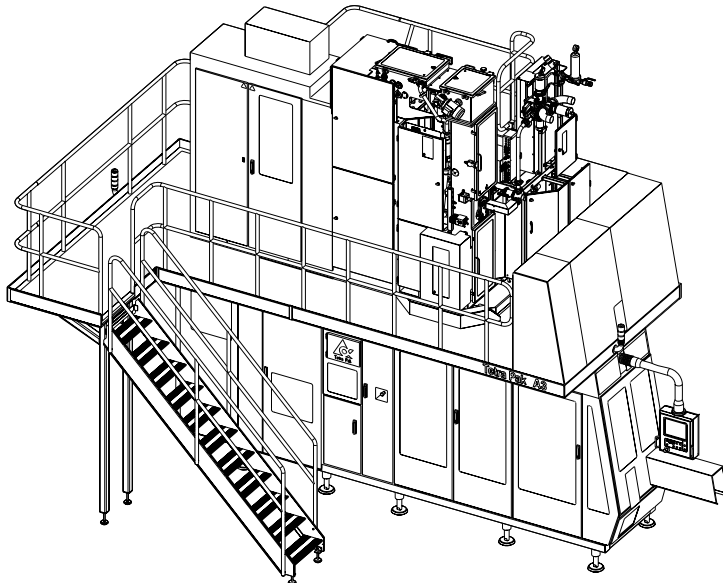
Hydrogen Peroxide.

Follow the Safety Precautions.

6

Check the hydrogen peroxide concentration at least every eight hours of operation. See Peroxide System Window on page 2-77 of chapter 2 Control Panels.

Note! At least every 40 hours of operation check the hydrogen peroxide concentration manually as instructed in chapter 10 Sterilization Liquid.



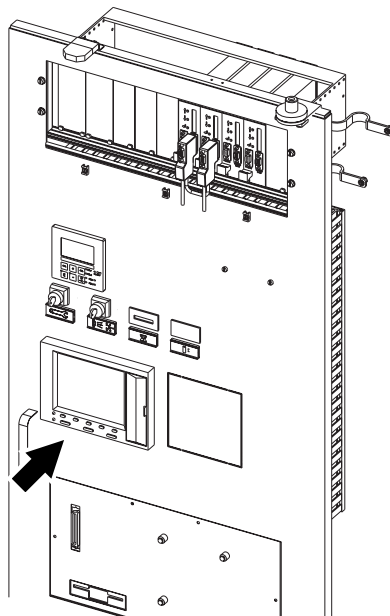
7

Check that all doors are closed. The doors of the electrical cabinet must be closed to ensure sufficient cooling.

Check that all safety covers and guards are fitted.

Make sure the platform, the stairs, and the area around the machine are clean and free from loose objects.

TechPub_2614345_0105 - 08_OM81809_10en.fm

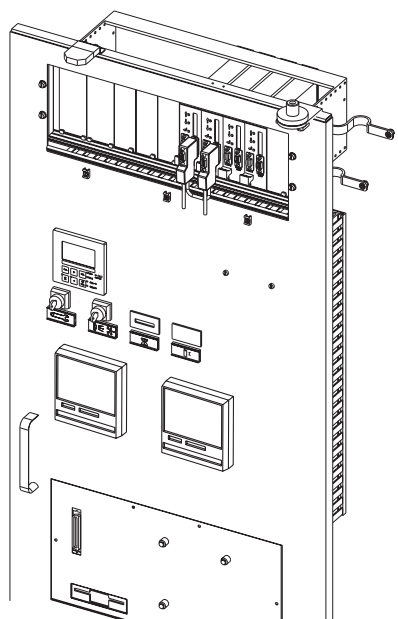


8

Note! If the filling machine is equipped with paper recorders (OE) go to item 9.

Check on the Production data recorder screen that the recorder is recording all of the channels.

If not, call a technician.



Paper Recorder, Production (OE)

9

Check that the process recorder prints properly on all of the channels. If not, call a technician.

Process recorder channels are as follows:

Ch	Colour	Function
DI 1	Purple	Sterile parameter 1
DI 2	Red	Sterile parameter 2
DI 3	Green	Main motor operating
DI 4	Black	Filling machine in production
AN 1	Blue	Hydrogen peroxide temperature
AN 2	Brown	Air knife temperature
AN 3	Black	Sterile air temperature
AN4	Red	Hydrogen peroxide concentration
AN5	-	Not used
AN6	Green	HI air temperature (OE)

Package Checks

This section describes the checks to perform on the packages during PRODUCTION.

CAUTION

Package Checks and corrective actions will affect the Quality of the PRODUCTION.

Use these checking methods as the minimum requirement. If there is any doubt about the integrity of the packages, pick out more packages for further checking.

Whenever a fault cannot be eliminated call a technician.

Package Utilisation and Recommendations

To waste the minimum quantity of packages and to perform the checks in the optimum amount of time, proceed as follows:

Take **3** packages from the conveyor.

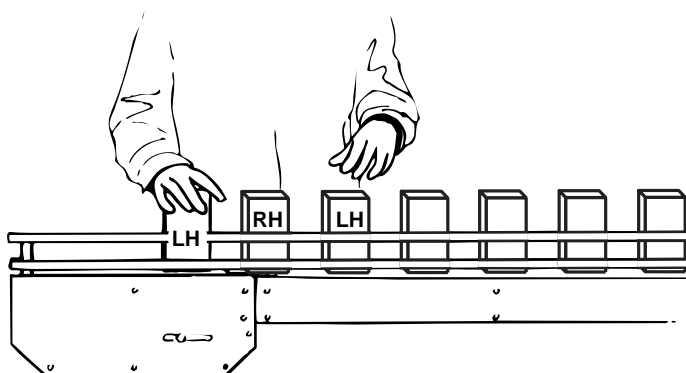
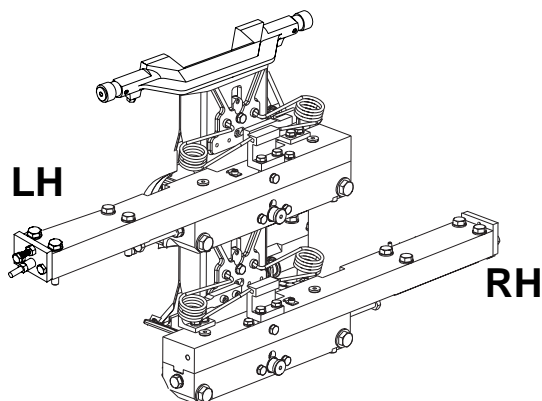
Following the instructions in Package Selection on page 5-12 and the instructions in Package Identification on page 5-12.

Note! Use the same 2 packages to perform all the checks that require 2 packages, the third package is used only for the LS/SA check. Only take 1 package for the check performed after a LS strip splice.

Perform the package checks according to the Checking Scheme on 5-13.

Use the Flowchart of the Production Quality Checks on page 5-15 to determine what actions (if any) are needed after each package check.

Carefully read the section Package Terms on page 5-17 to become fully acquainted with the terminology used to describe the different components and characteristics of the package.



Package Selection

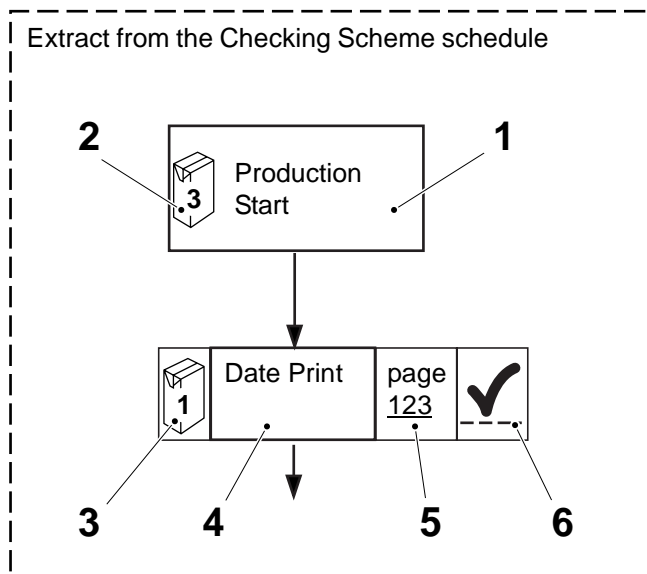
To take the 3 packages from the conveyor, proceed as follows:

- a) When the jaw system is running, visually identify a package made in the RH jaw.
- b) Follow this package as it moves through the infeed unit, the final folder, the discharger unit, and out of the machine.
- c) Remove the package made in the RH jaw, also remove the package made before the RH package and the package made after the RH package.

Package Identification

To prevent confusion, clearly mark the package made in the RH jaw with the letters **RH** using an indelible pen. Mark the other packages made in the LH jaw with the letters **LH**.

Remember to register the number of packages taken for the checks. See chapter [2 Control Panels](#).



Checking Scheme

Perform the package checks in the sequence described in the Checking Scheme Table.

The Checking Scheme Table explains:

- the events which it is recommended that the package checks are performed immediately after, e.g. Production Start (1)
- the number of packages needed according to which event has prompted the package checks (2)
- the number of packages on which to perform the individual checks (3)
- the check to be performed (4)
- the page number of the check instructions (5)
- to mark the check box when the check has been completed (6).

Note! The **Checking Scheme Table** can be photocopied and used as template during PRODUCTION.

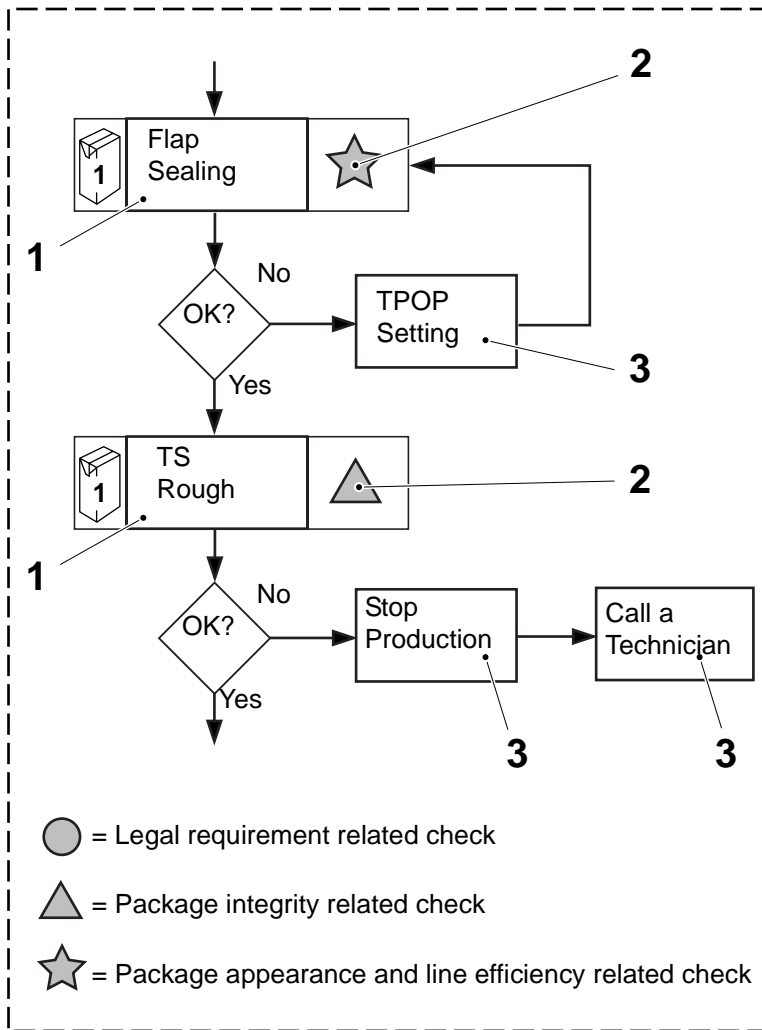
Checking Scheme Table

Recommended Events for Package Checking			
3	Production Start	3	After every Packaging Material Splice*
1	After every LS Strip Splice		
1	Date Print	page 5-18	--
2	Weight	page 5-18	--
2	TS Rough	page 5-19	--
2	TS Accurate	page 5-19	--
1	Shape & Design	page 5-24	--
1	Flap Sealing	page 5-25	--
1	Crease Lines	page 5-26	--
1	Overlap	page 5-28	--
1	Surfaces	page 5-29	--
1	LS/SA	page 5-30	--

* Intended for every packaging material reel.

TechPub_2614345_0105 - 08_OM81809_10en.fm

Extract from Flowchart of operator quality checks



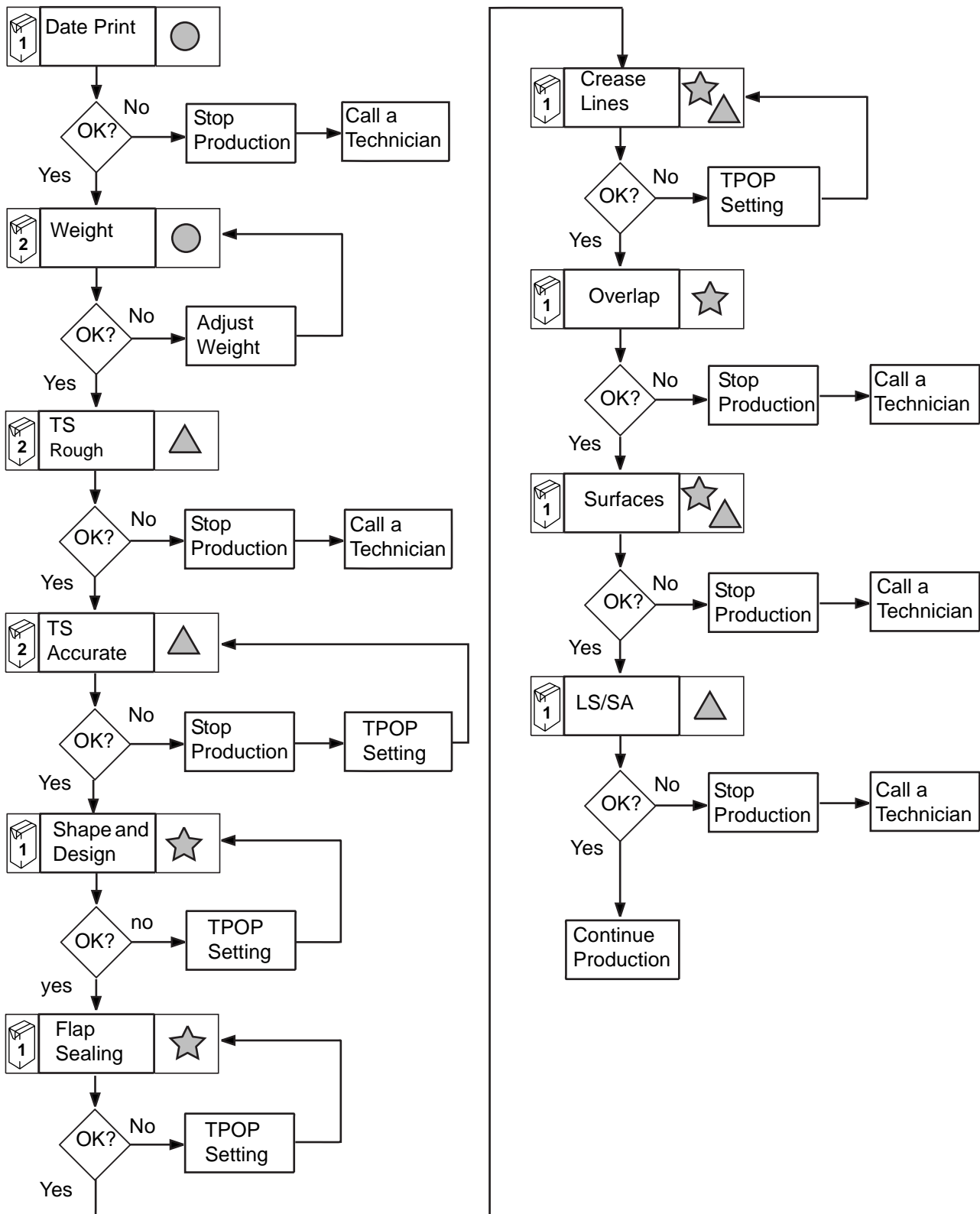
Flowchart of the Production Quality Checks

The Flowchart of Production Quality Checks displays:

- the checks to be performed in the sequence described in the checking scheme table (1)
- the type of check (2)
- the necessary actions (if any) to be taken depending on the result of the completed check (3).

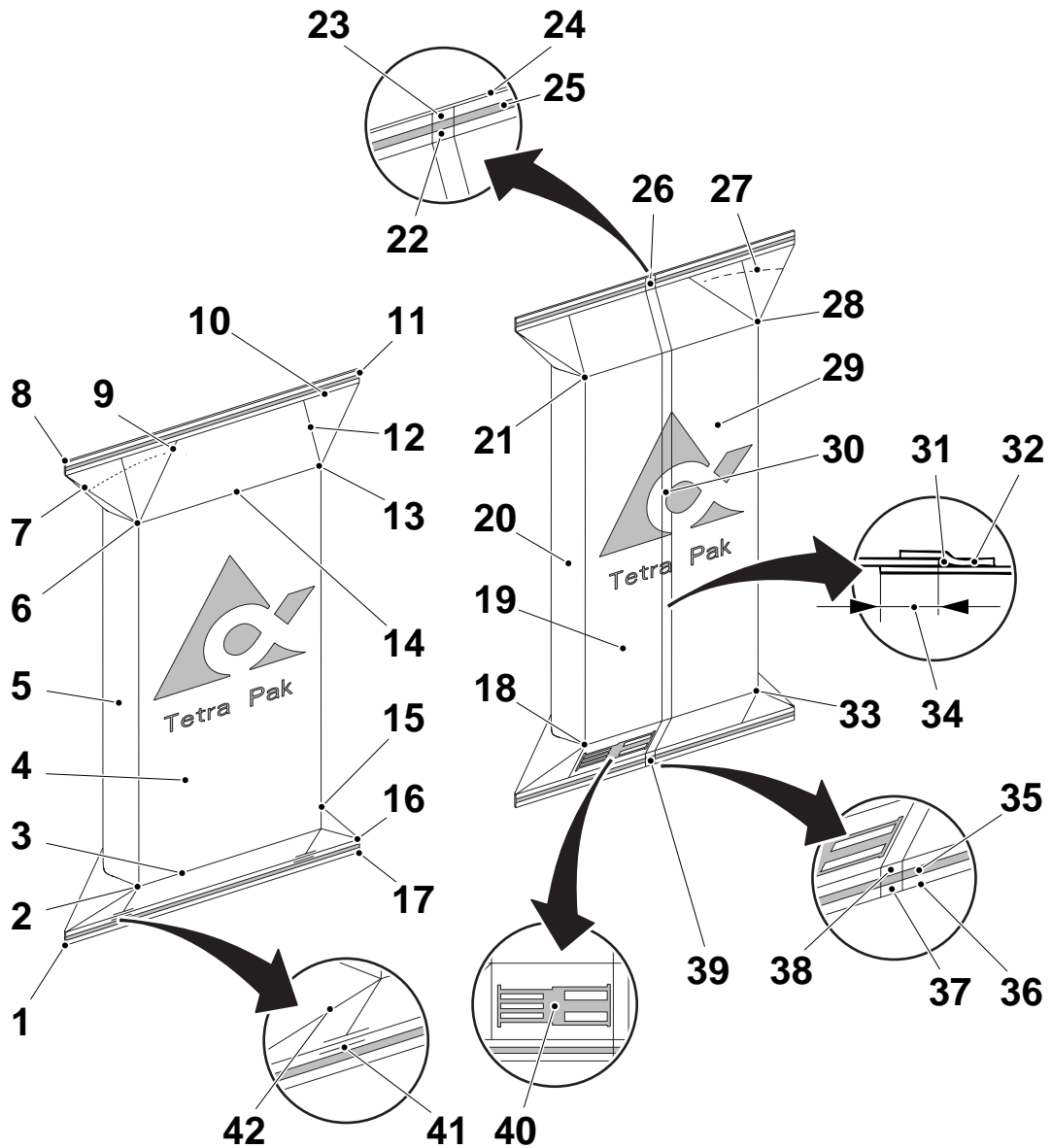
TechPub_2614345_0105 - 08_OM81809_10en.fm

Flowchart of the Production Quality Checks



TechPub_2614345_0105 - 08_OM81809_10en.fm

Package Terms



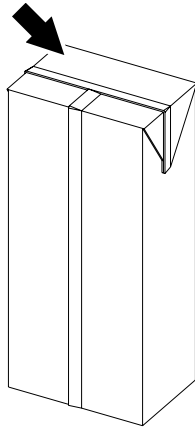
TechPub_2614345_0105 - 08_OM81809_10en.fm

- | | | | |
|----------------------------------|-----------------------------------|----------------------------------|----------------------------|
| 1 Bottom left fin corner | 11 Top right fin corner | 21 Top rear right corner | 33 Bottom rear left corner |
| 2 Bottom front left corner | 12 Longitudinal crease | 22 Top inner cross | 34 LS strip |
| 3 Bottom crease | 13 Top front right corner | 23 Top outer cross | 35 Bottom transversal seal |
| 4 Front side of package/ panel 3 | 14 Top crease | 24 Top cutting line | 36 Bottom cutting line |
| 5 Left side of package/ panel 2 | 15 Bottom front right corner | 25 Top transversal seal | 37 Bottom outer cross |
| 6 Top front left corner | 16 Bottom fin crease | 26 Top cross | 38 Bottom inner cross |
| 7 Top flap creases | 17 Bottom right fin corner | 27 Perforation | 39 Bottom cross |
| 8 Top left fin corner | 18 Bottom rear right corner | 28 Top rear left corner | 40 Register code |
| 9 Spout crease | 19 Rear side of package/ panel 5 | 29 Rear side of package/ panel 1 | 41 Double creases |
| 10 Top fin crease | 20 Right side of package/ panel 4 | 30 Longitudinal seal (LS) | 42 Bottom flap crease |
| | | 31 Air gap | |
| | | 32 LS overlap | |

Production Quality Checks

Tools needed:

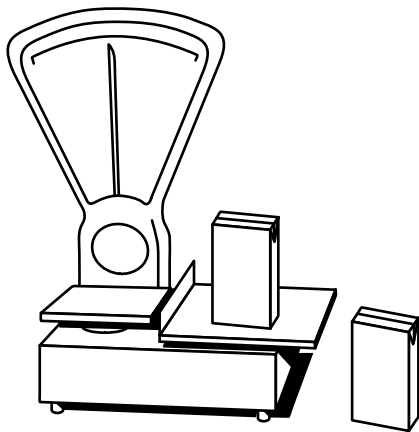
- scissors
- stretch pliers, TP No. 78073-0100
- a clean work bench in a well illuminated area.



Date Printing

Check the date and code printing.

If necessary stop the filling machine and adjust the date printing according to the instructions supplied with the printer.



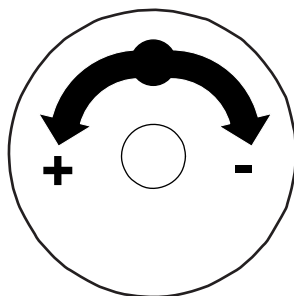
Weight

Note! If the weight of the packages produced with HI (OE) are equal but not the designated weight, follow the instructions in the Filling System Window section in chapter 2 Control Panels to adjust the HI pressure and flow.

Weigh the packages and record their weights and weight deviations.

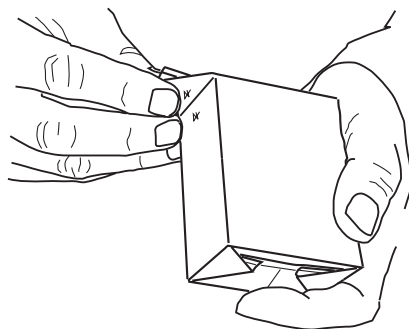
To adjust the package weight, turn the knob behind the central lubrication system door (LH side of the machine):

- **plus**, increases the package weight
- **minus**, decreases the package weight.



This can be done during PRODUCTION.

After setting, pick out new packages and check them.

**TS - Rough Check**

Unfold the flaps.

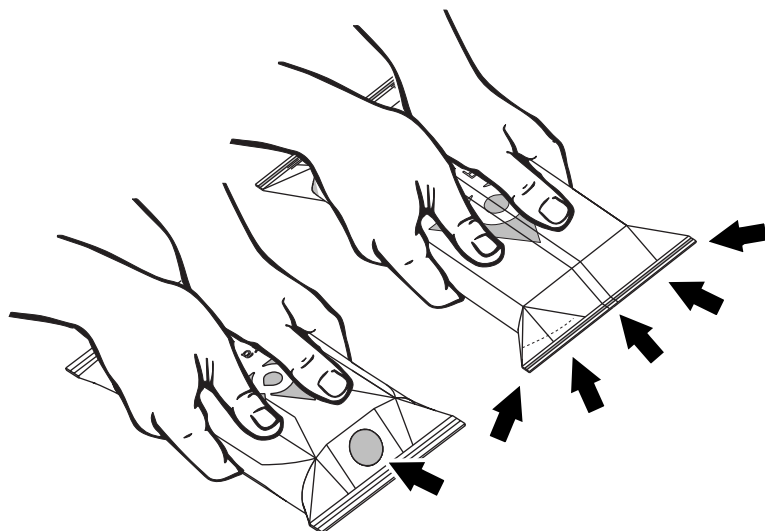
Check the integrity of the top and bottom transversal seal by gently squeezing the packages by hand.

Critical points are:

- the corners
- the intersections between the LS creases and the TS
- the crosses where the TS and the LS meet.

If any product leakage is found stop the machine and call a technician.

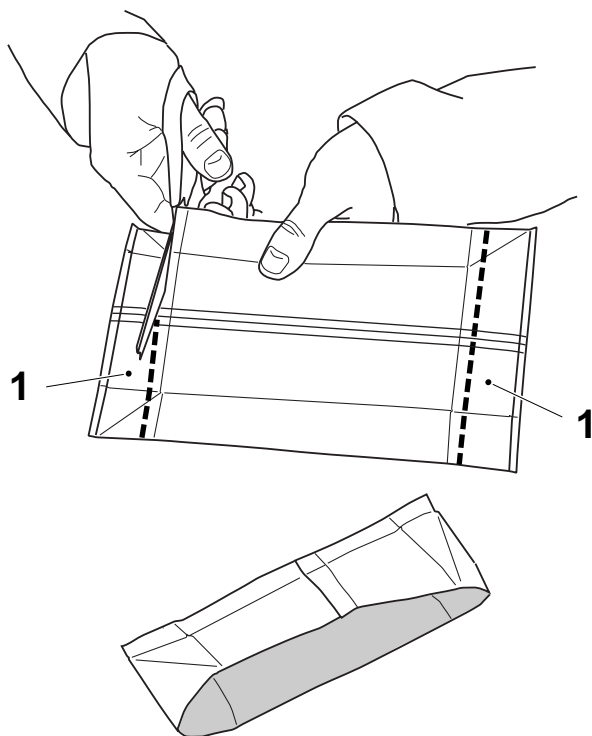
Note! If there is leakage from between the pre-laminated hole and the package, call a technician.

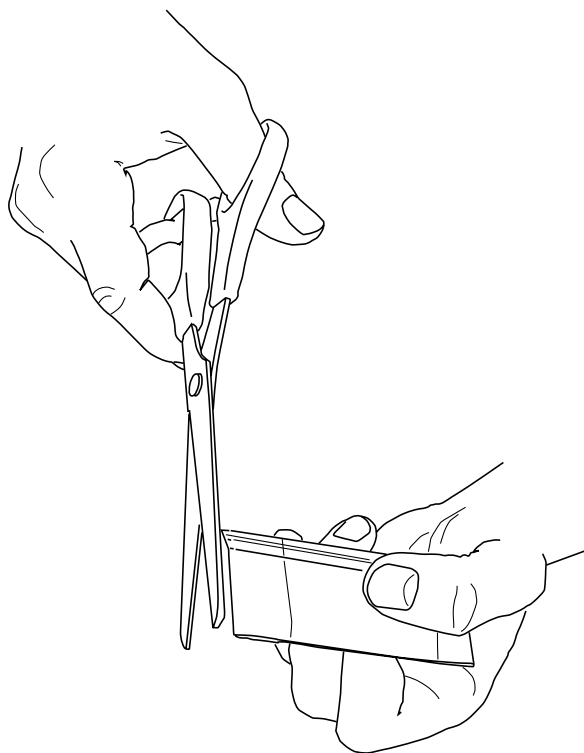
**TS - Accurate Check**

1

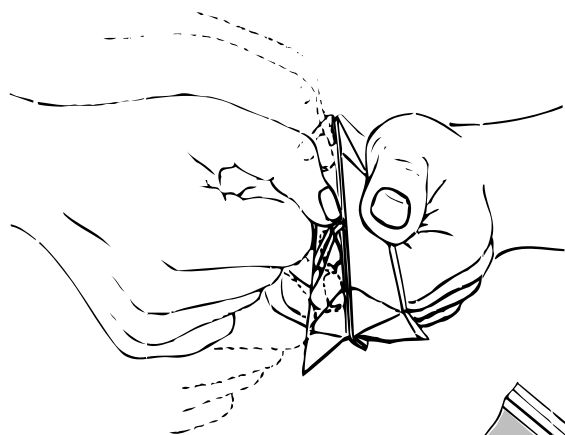
Cut a sample strip (1) of about 25 mm in width from the top and bottom transversal seals.

Wash the samples and dry them, with compressed air from the filling machine.



**2**

Cut off no more than 1 mm from each side of the package at a 90° angle to the TS.

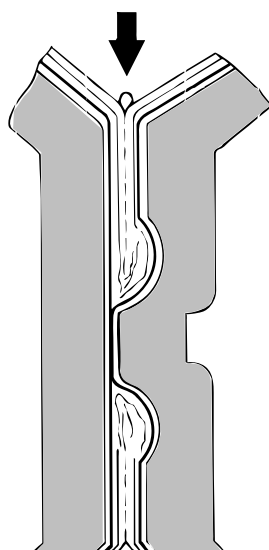
**3**

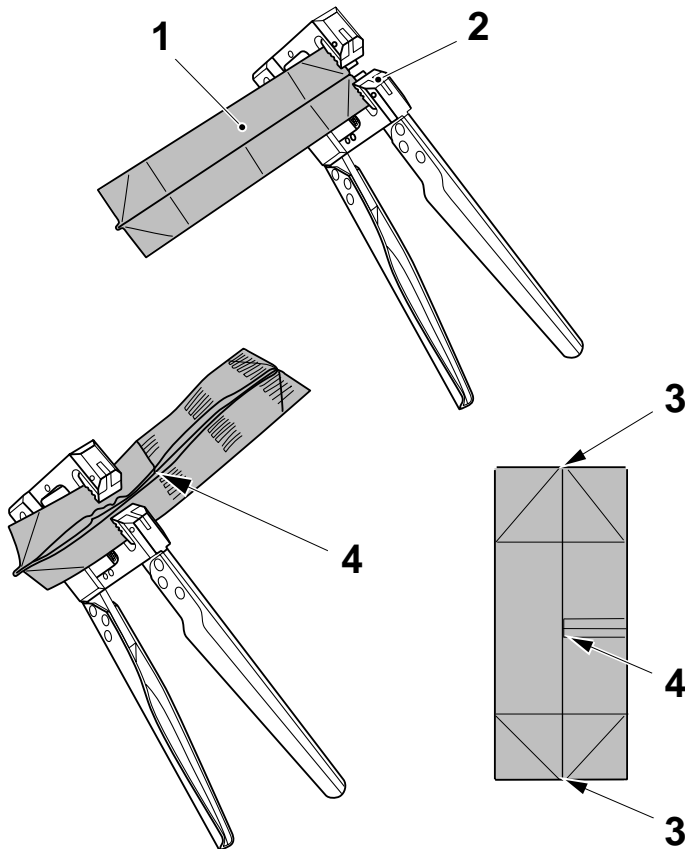
Bend the TS. The sealing is defective if there are lumps or ridges in the sealing area.

This may be caused by too much heat or high pressure on the jaws during sealing.

If the pressure is too high call a technician.

To adjust the temperature and correct the TS sealing, follow the instructions in Jaw Unit Window on page 2-64 of chapter 2 Control Panels.





4

Insert the edges of the sample (1) into the gripping jaws (2) of the stretch pliers.

Gently squeeze the handles to stretch the seal.

Stretching slowly makes evaluation easier.

Observe that the seal area stretches and breaks.

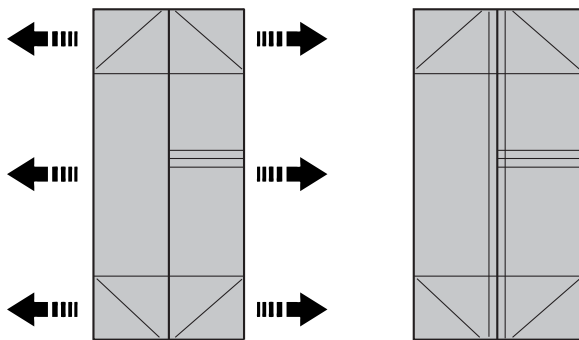
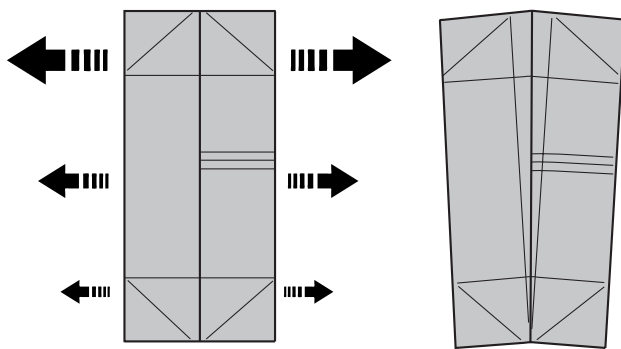
Continue stretching along the sample (1) until it has completely opened.

The TS must be stretched and evaluated along the entire seal.

Note! Move the pliers from side to side often to avoid pulling only at one end.

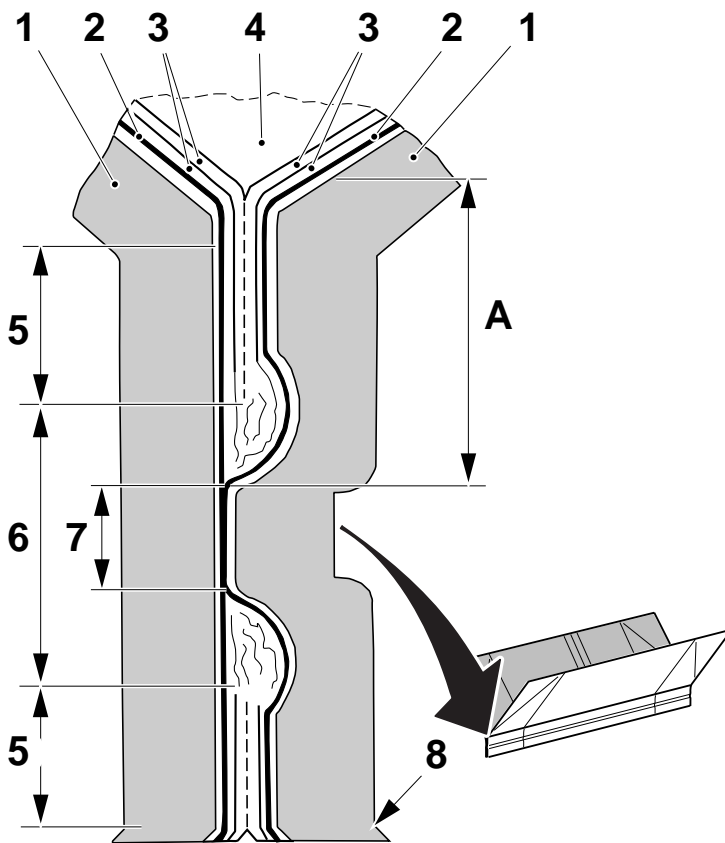
Pay special attention to the TS corners (3) and where the TS and the LS meet (TS/LS cross) (4).

X WRONG



✓ CORRECT

TechPub_2614345_0105 - 08_OM81809_10en.fm

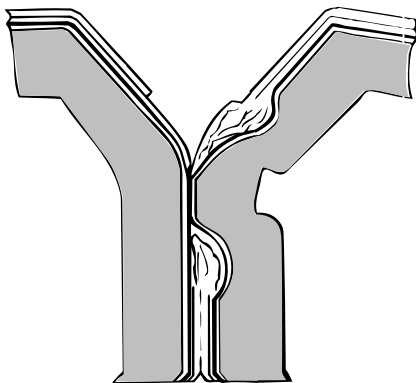


5

Stretch the TS along the entire length of the seal with the stretch pliers and evaluate the seal.

It is mainly the sealing on the product side of area A that is important.

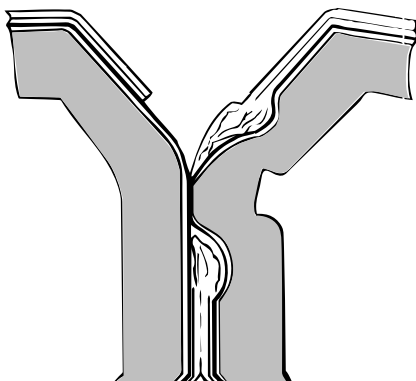
- 1 Paper board
- 2 Aluminium foil
- 3 Polyethylene (double layer)
- 4 Filling product
- 5 Blocked area
- 6 Sealed area
- 7 Ridge
- 8 Cutting line



6

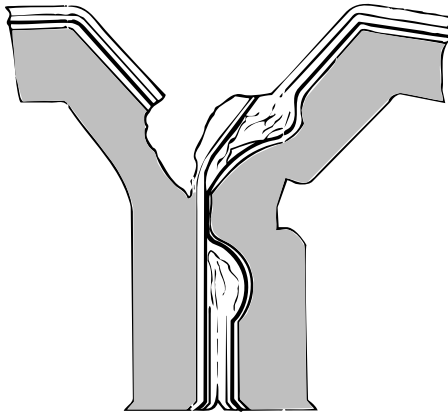
Check the TS sealing.

The sealing is acceptable if:
The seal remains intact but a delamination between the two inner coatings takes place.



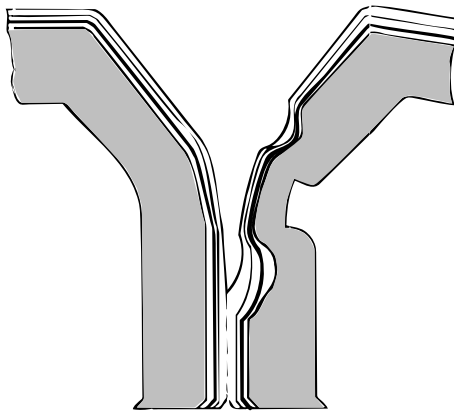
7

The sealing is acceptable if:
The seal remains intact when the joint is pulled apart, but the Al-foil comes off on one of the sides presenting a shiny metal surface.

**8**

The sealing is acceptable if:

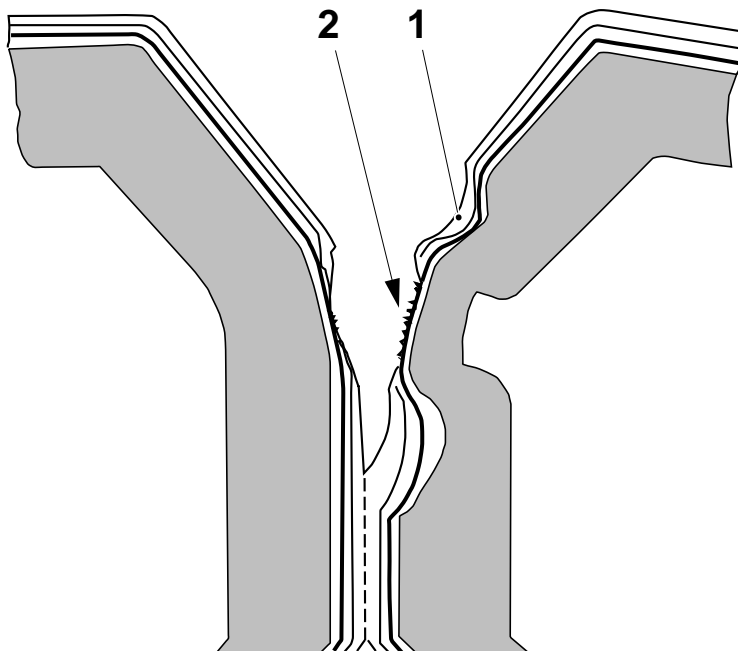
The seal remains intact but a rupture takes place in the layer of paper board.

**9**

The sealing is defective if:

The seal is so weak that the two PE layers separate without rupturing.

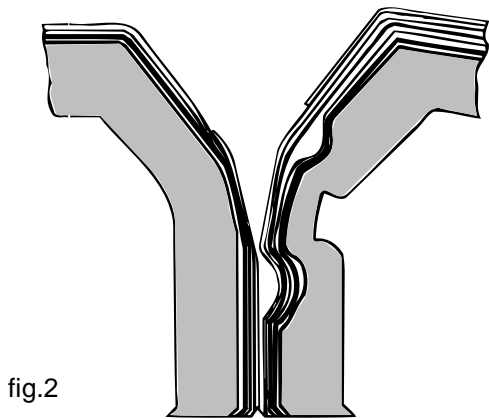
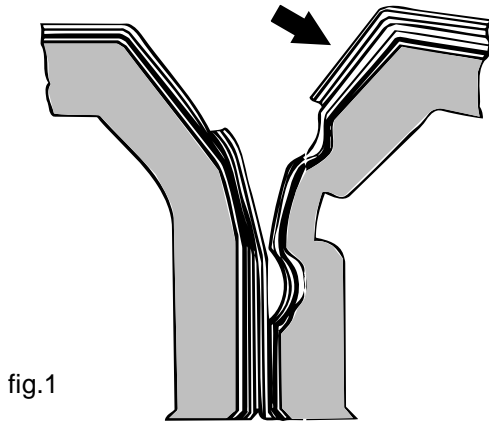
Adjust the temperature to correct the TS sealing, follow the instructions in Jaw Unit Window on page 2-64 of chapter 2 Control Panels.

**10**

The TS is defective if:

The seal is so overheated that the two PE layers (1) disappear from the sealing area because they have melted away and the aluminium foil (2) shows micro-cracks and cuts.

Adjust the temperature to correct the TS sealing, follow the instructions in Jaw Unit Window on page 2-64 of chapter 2 Control Panels.



11

Check the TS sealing in the cross area.

Note! The evaluation of the **TS** also applies to the evaluation of the cross.

The strip (shown by the arrow) can be regarded as additional layers coating the Al-foil.

The sealing is acceptable if:

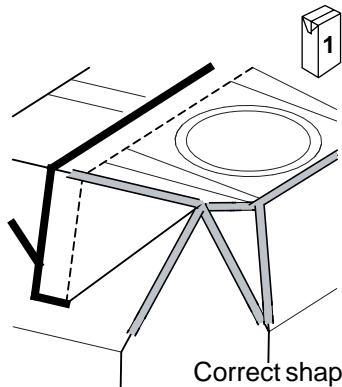
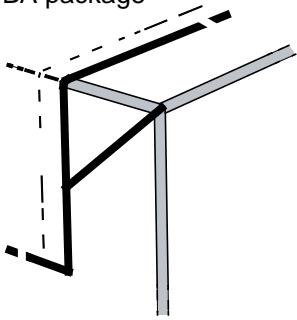
a rupture occurs in any of the layers (fig.1).

The sealing is defective if:

there is **no** rupture (fig.2). This may be caused by too low a sealing temperature.

Adjust the temperature to correct the TS sealing, follow the instructions in Jaw Unit Window on page 2-64 of chapter 2 Control Panels

Correct shape TBA package



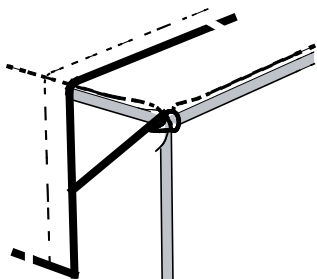
Shape and Design

1

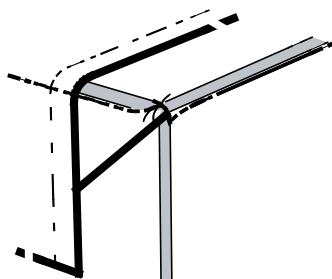
Check the shape of the package.

Check that the preformed creases in the packaging material are correctly aligned along the edges of the package.

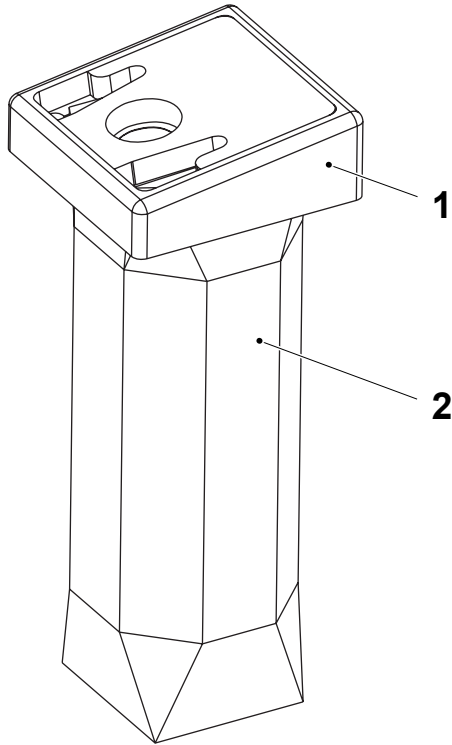
To adjust the package creases follow the instructions in the Design Correction Window on page 2-59 of chapter 2 Control Panels



Low crease position



High crease position



2

Pre-laminated Holes

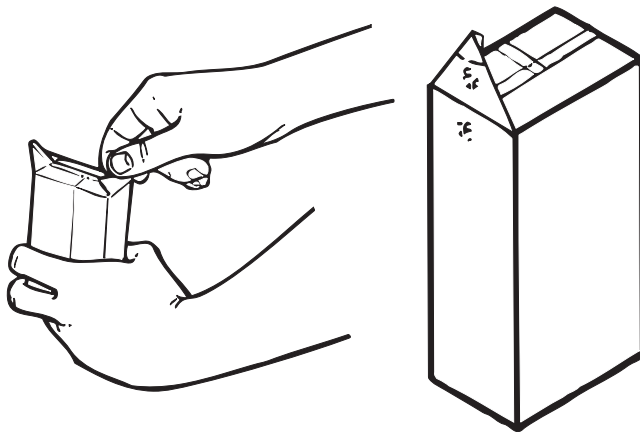
Put the template (1) on the package (2) with the template hole over the pre-laminated hole on the package.

The package is approved if the pre-laminated hole is located within the hole diameter of the template.

Package	Template
TPA 1000 Sq	2579622-0000
TPA 750 Sq	
TBA 1000 Sq	2506887-0000
TBA 500 Sq	
TPA 500 Sq	2579624-0000
TPA 330 Sq	1497948-0000
TBA 200 Sq	1548365-0000
TBA 250 Sq	

Note! See the Technical data section for the correct templates numbers.

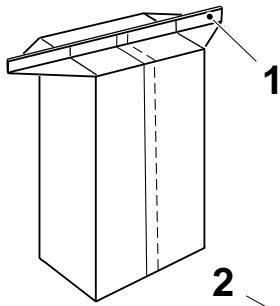
TechPub_2614345_0105 - 08_OM81809_10en.fm



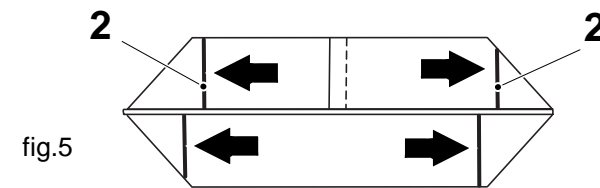
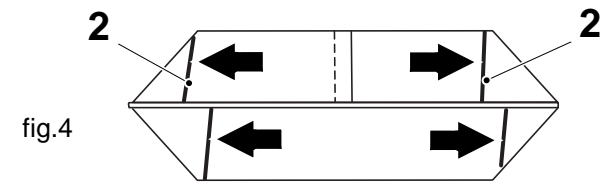
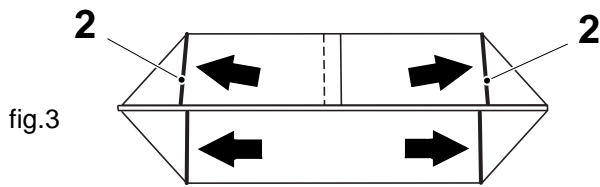
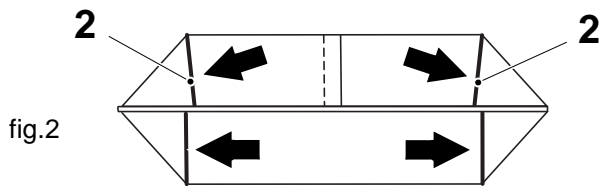
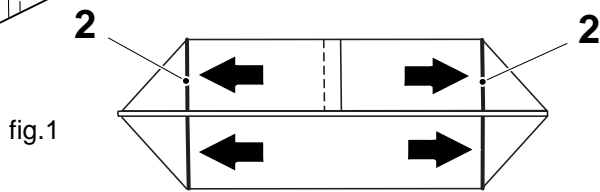
Flap Sealing

Unfold the flaps and check that they are properly sealed.

To adjust the flap sealing follow the instructions in the Final Folder Unit Window on page 2-87. of chapter 2 Control Panels.



Bottom view of package



Crease Lines

1

Lift the package top fin (1).

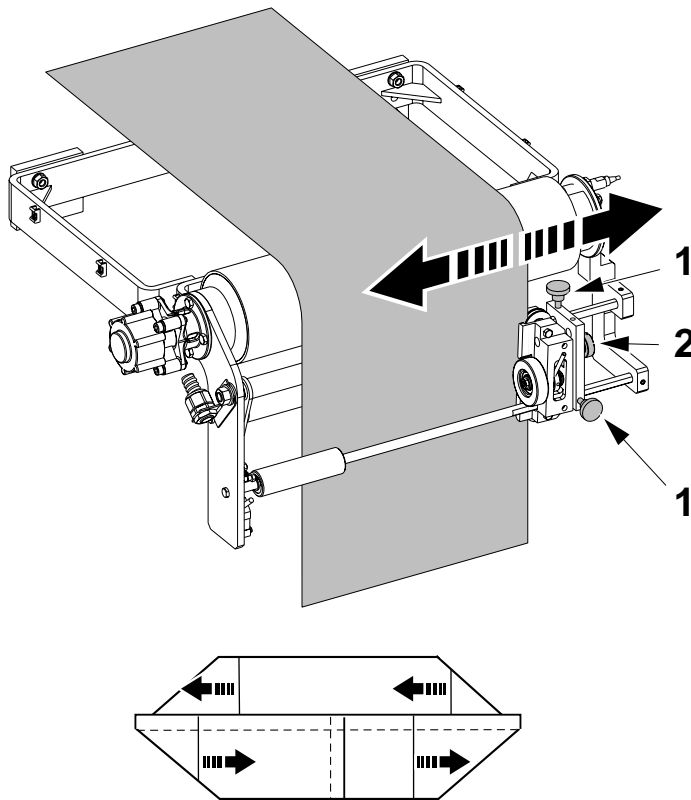
Check the position of the preformed crease lines (2).

The position is acceptable if:

the creases are opposite one another (fig.1) either parallel (fig.2) or at an angle (fig.3).

The position is not acceptable if:

the preformed crease lines are not opposite one another (fig.4 and fig.5).

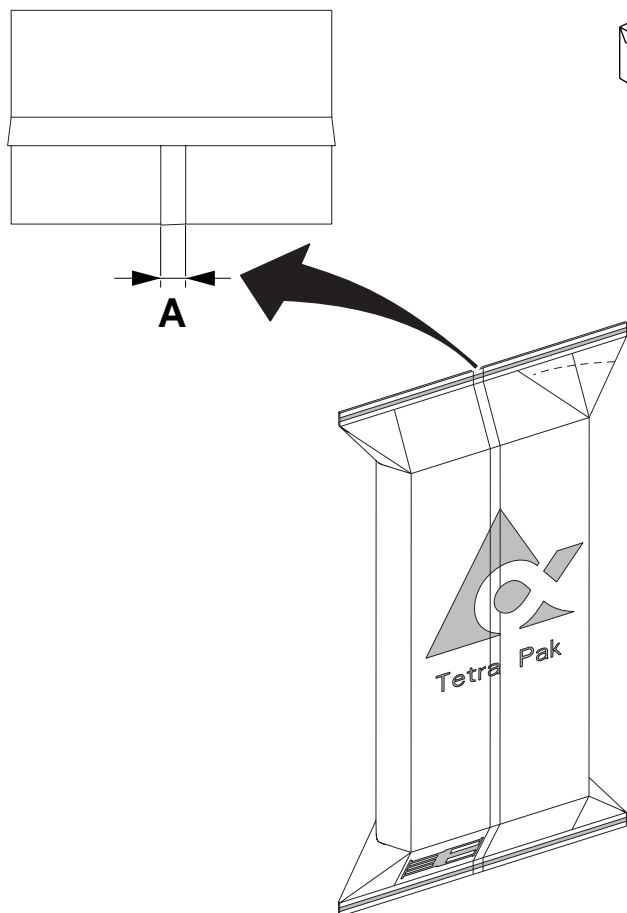
**2**

To adjust the position of the preformed crease lines, loosen the knobs (1) and turn the knob (2) clockwise to adjust the position of the paper guide. This rotates the packaging material tube and moves the creases in the direction shown.

Turn the knob (2) anti-clockwise to move the crease lines in the opposite direction.

Note! Remember to tighten the knobs (1) when the adjustment is completed.

After adjustment, pick out new packages and check them. Check the longitudinal sealing according to item 1 on page 5-30.

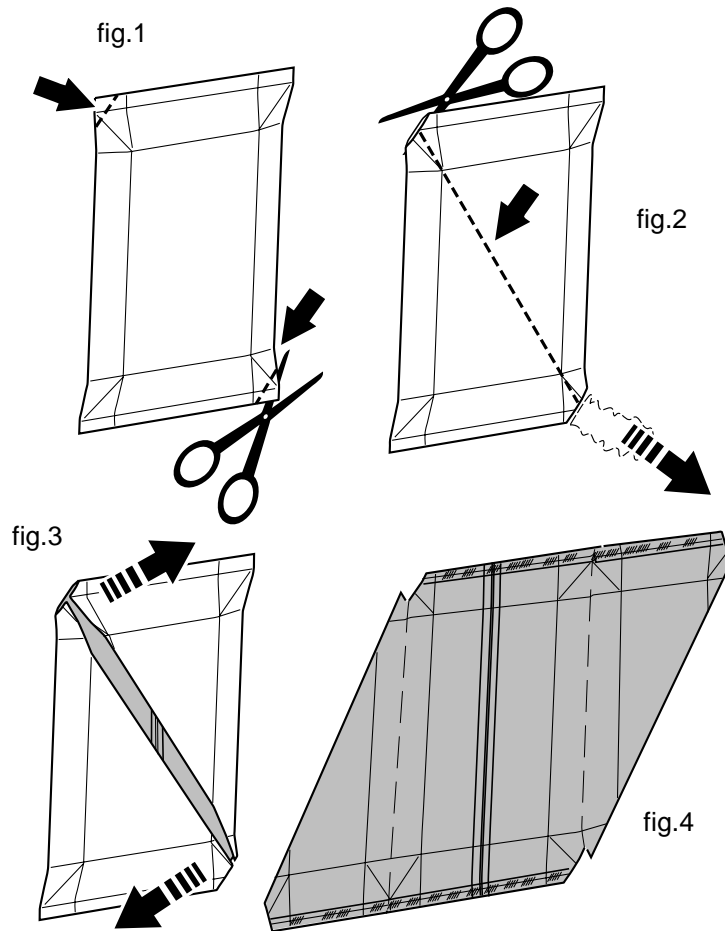


LS Overlap

Check the width of the overlap (distance A).

Package	Distance A
TBA 200 M	6.0 ± 1.0 mm
TBA 200 S	4.0 ± 1.0 mm
TBA 200 B	8.0 ± 1.0 mm
TBA 200 Sq	8.0 ± 1.0 mm
TBA 250 Sq	8.0 ± 1.0 mm
TPA 200 Sq	5.0 ± 1.0 mm
TPA 250 Sq	5.0 ± 1.0 mm
TBA 250 B	8.0 ± 1.0 mm
TBA 250 S	6.0 ± 1.0 mm
TBA 330 S	8.0 ± 1.0 mm
TPA 330 Sq	6.0 ± 1.0 mm
TPA 500 Sq	7.0 ± 1.0 mm
TBA 500 S	7.0 ± 1.0 mm
TBA 500 B	8.0 ± 1.0 mm
TBA 500 Sq	6.0 ± 1.0 mm
TBA 1000 B	8.0 ± 1.0 mm
TBA 1000 S	8.0 ± 1.0 mm
TBA 1000 Sq	6.0 ± 1.0 mm
TPA 1000 Sq	7.0 ± 1.0 mm
TBA 1500 S	8.0 ± 1.0 mm
TBA 1890 S	8.0 ± 1.0 mm
TBA 2000 S	8.0 ± 1.0 mm

TechPub_2614345_0105 - 08_OM81809_10en.fm



Surfaces

Cut two opposite corners (fig.1) and empty the content of the package.

Cut transversally the front panel of the package, from the lower cut corner to the opposite one (fig.2 and 3).

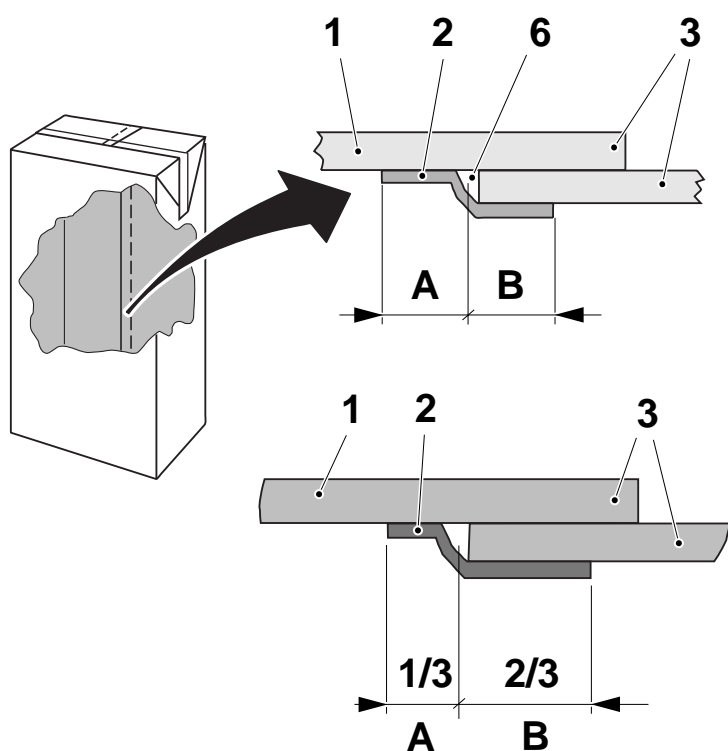
Split the TS apart and open the package (fig.4).

Rinse and dry the package with compressed air from the filling machine.

Check the outside and inside surfaces of the package for scratches or other possible defects that can be detected with the fingernail.

Inside deep scratches might cause package integrity problems.

If there are any defects, call a technician.



LS Strip Application

1

Note! The Longitudinal Sealing side (LS) is the side of the strip (2) where the packaging material (1) is single. The Strip Applicator side (SA) is the side of the strip where the packaging material (3) is double.

Note! For the MPM strip type, the strip must be positioned 2/3 on the SA side and 1/3 on the LS side.

Check that the strip sealed on the SA side (excluding the air gap) is more than half the width of the strip.

Check for blisters or bubbles (4) along the heated zone of the LS strip (2). The presence of blisters (4) in the LS side (A) of the strip (2) indicates too much sealing temperature for the LS induction heater.

Presence of blisters in the SA side (B) of the strip indicates too much sealing temperature for the strip applicator induction heater.

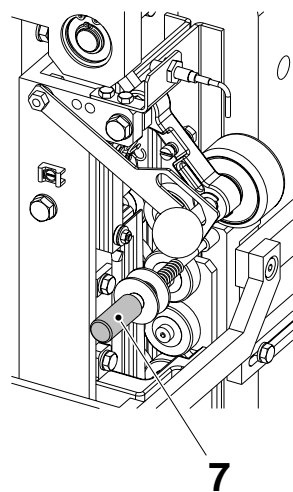
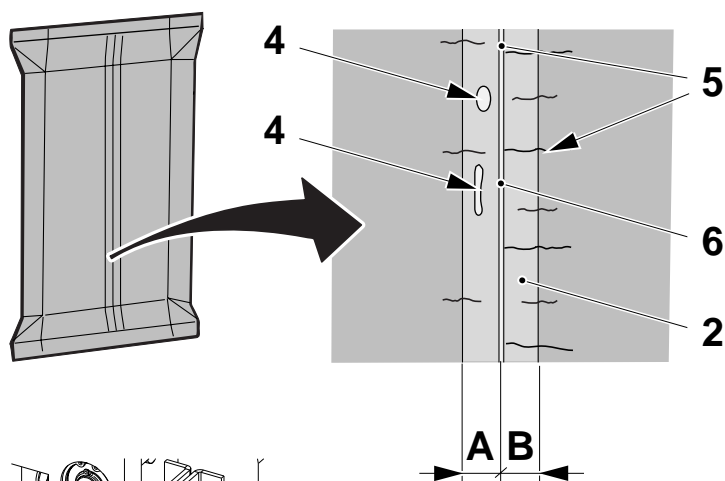
On the LS strip (2) there are some small heating lines (5) visible mainly on the SA side.

Note! Stop the machine in SHORT STOP before adjusting the strip position.

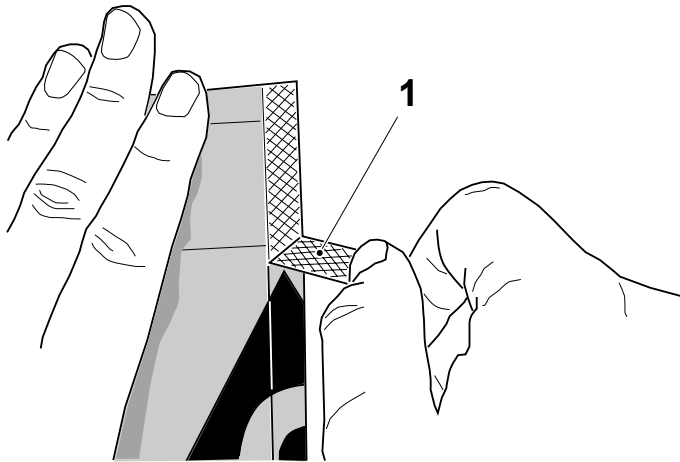
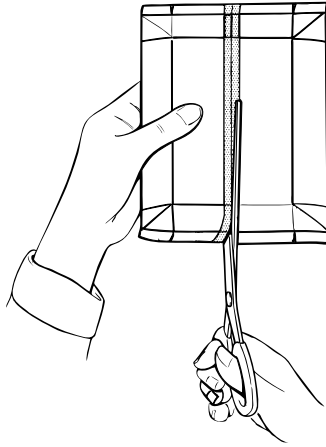
If required, adjust the position of the strip by means of the knob (7) on the strip roller.

Call a technician if the setting of the LS or SA inductors must be changed.

Note! The air channel (6) must be visible.



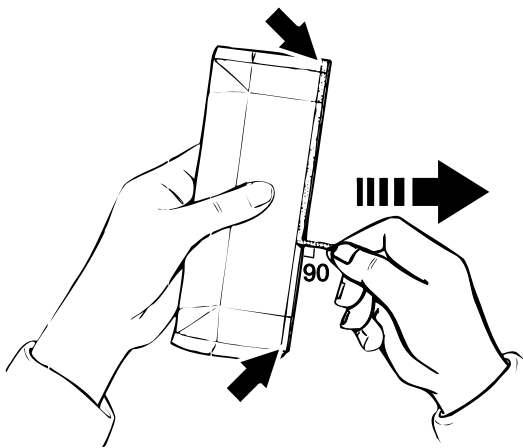
TechPub_2614345_0105 - 08_OM81809_10en.fm

**2**

Check that there are no blisters in the Al-foil.

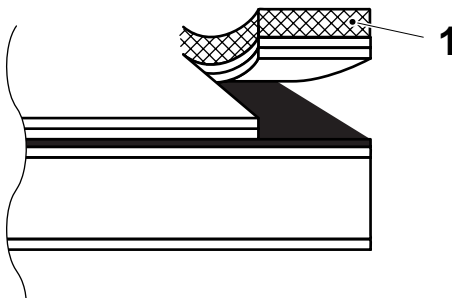
Cut through the middle of the LS strip, along the inner edge of the packaging material.

Pull off the outer layer of packaging material (1) where it is double, to check the overlap. A good overlap gives stability to the package. If there is any defect, corrective actions should be taken.

**3**

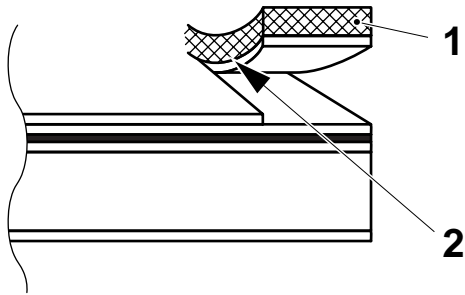
Check the strip sealing by slowly pulling approximately 20 mm of the strip outwards at an angle of 90°. Pull **extremely** slowly over the creases. Take hold again and pull another 20 mm. Continue along the whole edge. Pull on both sides (SA and LS).

Note! If any of the layers come off, cut the strip and start pulling again.

**4**

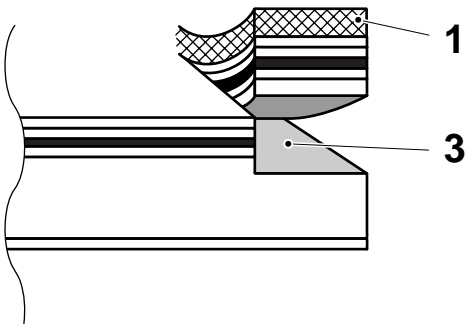
Check the strip sealing.

The sealing is acceptable if:
both inner coatings come off with the strip (1), leaving the Al-foil bare.



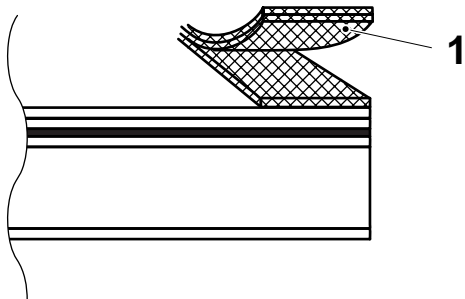
5

The sealing is acceptable if:
one of the two inner coatings comes off with the strip (1), leaving a ruptured edge (2) along the seal.



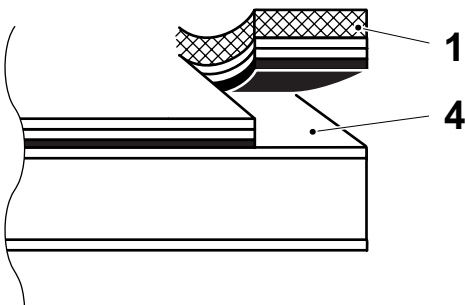
6

The sealing is acceptable if:
all the inner layers including the Al-foil come off with the strip (1), although possibly leaving paper board fibres (3).



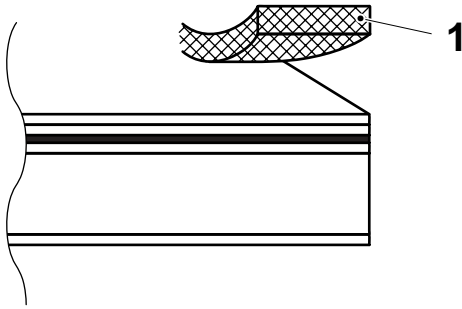
7

The sealing is acceptable if:
the strip separates (delaminates) when it is pulled off.



8

The sealing is acceptable if:
all the inner layers including the Al-foil come off with the strip (1), even possibly leaving part of the inner PE layer (4) on both sides.

**9**

The sealing is defective if:

the strip (1) comes off leaving the inner coatings of the packaging unaffected. In this case, stop **PRODUCTION** and call a technician for specific settings.

This page intentionally left blank

TechPub_2614345_0105 - 08_OM81809_10en.fm

6 Supply of Materials

This chapter describes how to load and prepare a new reel of packaging material and how to thread and splice the strips.



CAUTION

Hazardous noise.

Risk of impaired hearing. Hearing protection is recommended whenever this equipment is in operation.

Strip Supplies	6 - 5
LS Strip Thread	6 - 5
Strip Reel Replacement	6 - 8
Fitting a New Reel on the RH Reel Holder	6 - 8
Fitting a New Reel on the LH Reel Holder	6 - 8
LS Strip Break	6 - 10
Manual LS Strip Splice	6 - 10
Packaging Material Supplies	6 - 12
Reel Handling	6 - 12
Reel Handling with Jumbo Reel Truck TP No. 797090-0401	6 - 15
Splicing Preparation (without ARL)	6 - 17
Splicing Preparation with ARL	6 - 22
Manual Web Splice	6 - 24
Interrupted Web Splice	6 - 24
Packaging Material Broken or Splice Failure (ASU Loop Empty)	6 - 25
Immediate Splice Enabled	6 - 26

This page intentionally left blank

TechPub_2614345_0105 - 09_OM81809_10en.fm

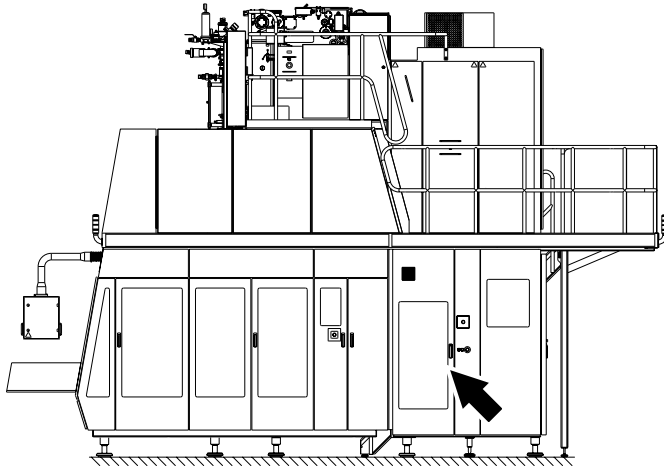
Strip Supplies

CAUTION

Hygiene.

Before touching the strip(s), disinfect hands/gloves.

Note! To avoid unnecessary PRODUCTION stops, always make sure that the strip reels are prepared and the strips are threaded.

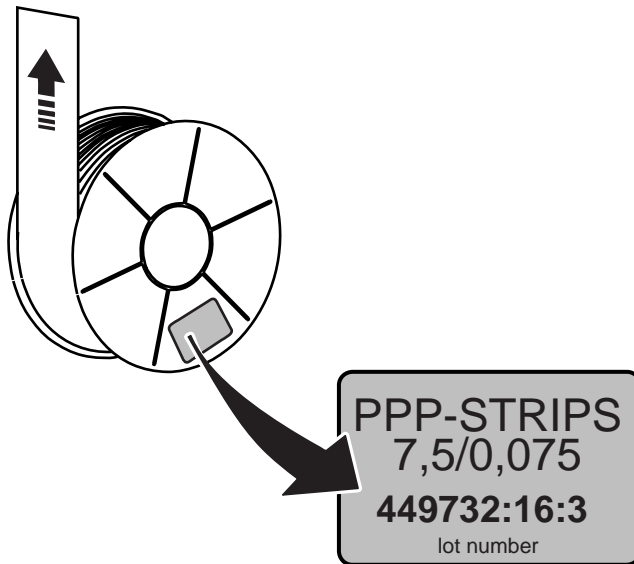


LS Strip Thread

1

Open the Strip applicator door.

TechPub_2614345_0105 - 09_OM81809_10en.fm



CAUTION

Hygiene.

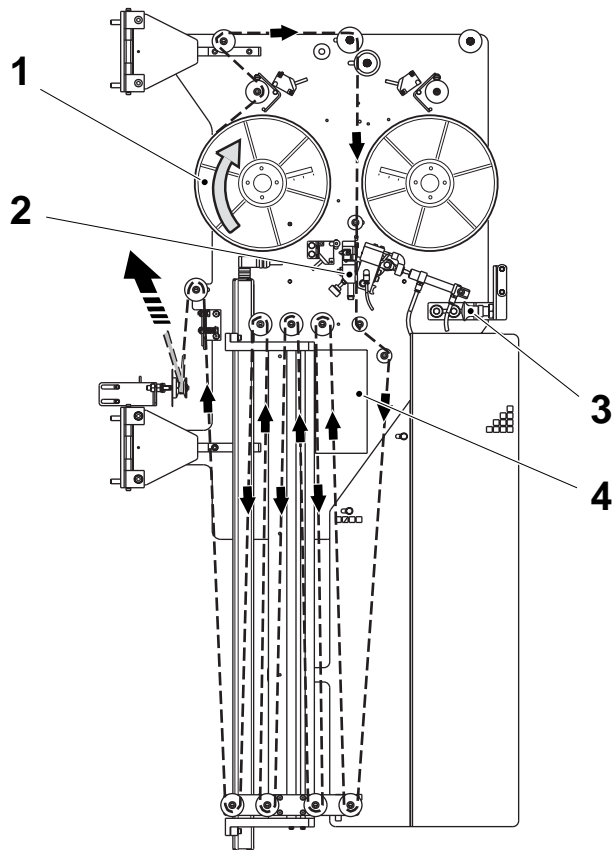
Before handling clean parts, disinfect your hands/gloves with cleaning compound code **H**.

2

Remove the protective wrapping from the strip reel. Make a note of the strip type and the lot number indicated on the strip reel tag.

Note! The unique lot number allocated to each strip reel and printed on the strip reel tag provides traceability for the production batch. If a problem with the strip is detected the lot number must be quoted in any communication with Tetra Pak.

Note! For cleaning compound code information, see chapter [11 Technical Data](#).



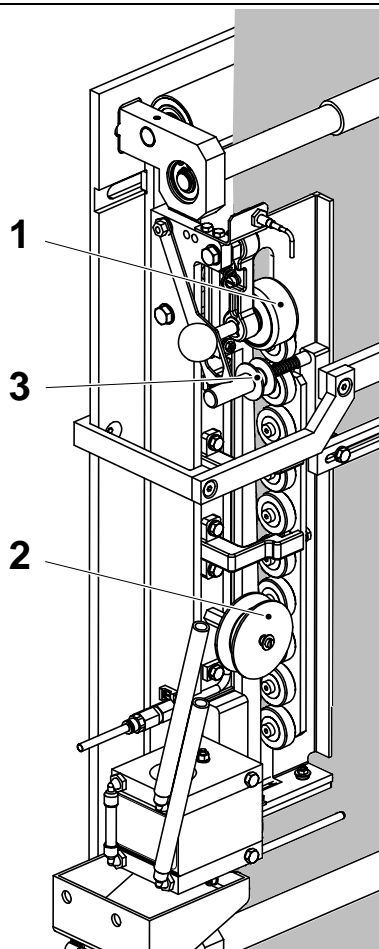
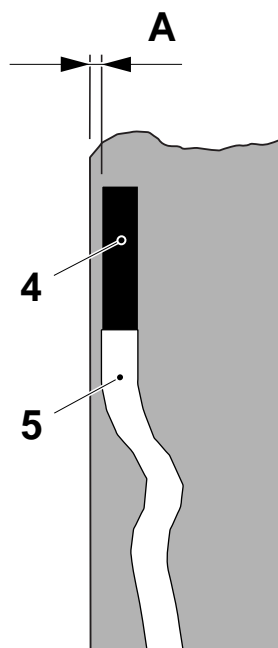
3

Fit the strip reel (1) on the left-hand reel holder. This reel is used in PRODUCTION.

Thread the strip around the rollers, through the splicing head (2), and through the magazine, as shown in the adhesive sign (4). Avoid twisting the strip.

Pull the knob (3) and open the strip magazine frame.

A = 2 ±1 mm



4

Pull the pressure roller (1) away from the packaging material.

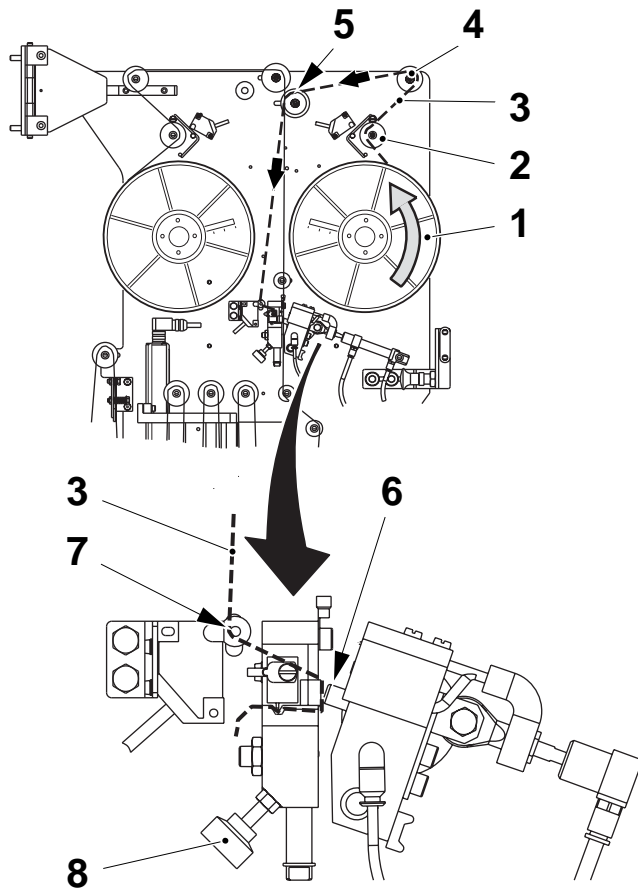
Thread the strip under the roller (2), over the roller (3) and under the pressure roller (1).

Attach a piece of adhesive tape (4) to the end of the strip (5), not wider than the strip.

Attach the tape at distance A from the edge of the packaging material.

Close the strip magazine frame.

Note! Make sure that the strip magazine frame locks correctly.

**5**

Fit a strip reel (1) on the right-hand reel holder. This reel is now prepared for splicing.

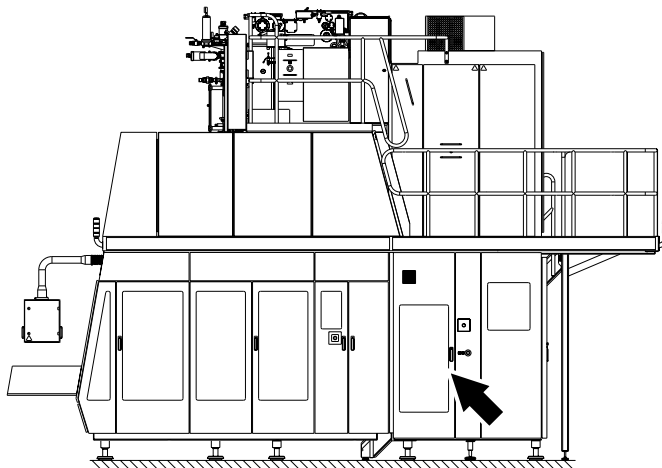
Thread the strip (3) around the rollers (2) and (4), then over the **larger** diameter of the roller (5). Avoid twisting the strip.

Pull the slide knob (8) down to open the splicing head.

Feed the strip around the finger (7) and through the channel (6).

Check the strip is aligned correctly, close the slide and cut off any excess strip.

Rewind the strip reel slightly to tension the strip up to free the STRIP PREPARED sensor (LED off).

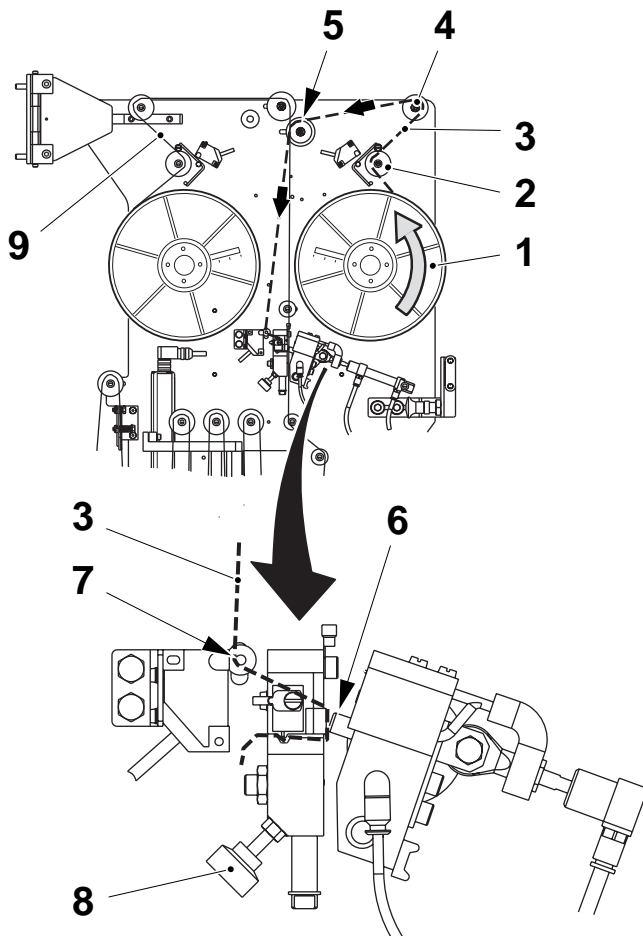
**6**

Close the ASU door and reset the alarms on the TPOP display.

Press the ALARM RESET on the TPOP display.

The Strip Applicator is now prepared for an automatic strip splice.

Note! Make sure the strip applicator applies the strip correctly, without wrapping it around the pressure roller.



Strip Reel Replacement

1

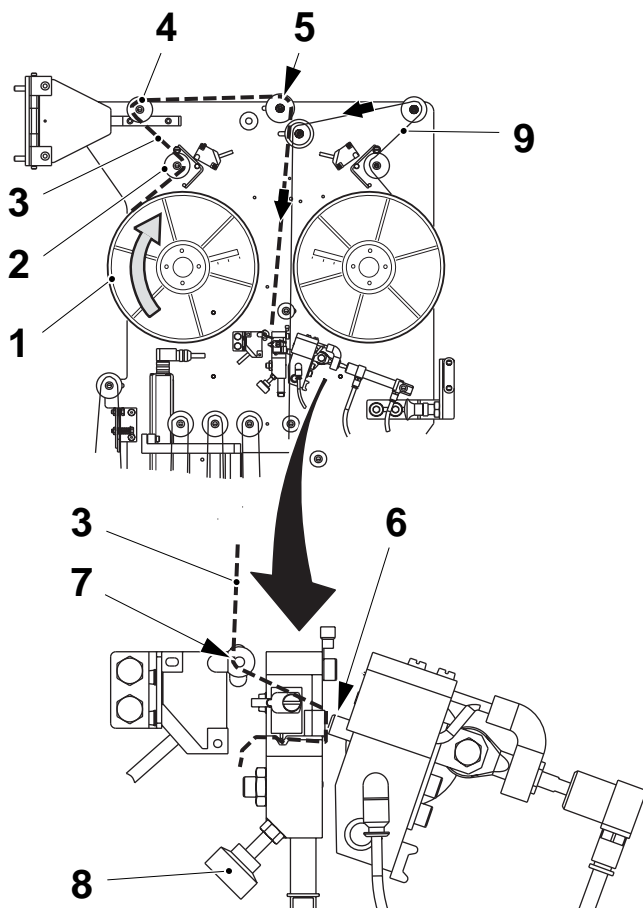
Fitting a New Reel on the RH Reel Holder

While the strip (9) is running, fit a new strip reel (1) on the RH reel holder. Thread the strip (3) around the rollers (2) and (4), then over the **larger** diameter of the roller (5). Avoid twisting the strip.

Pull the slide knob (8) down to open the splicing head.

Feed the strip around the finger (7) and through the channel (6). Check the strip is aligned correctly, close the slide and cut off any excess strip.

Rewind the strip reel slightly to tension the strip.



2

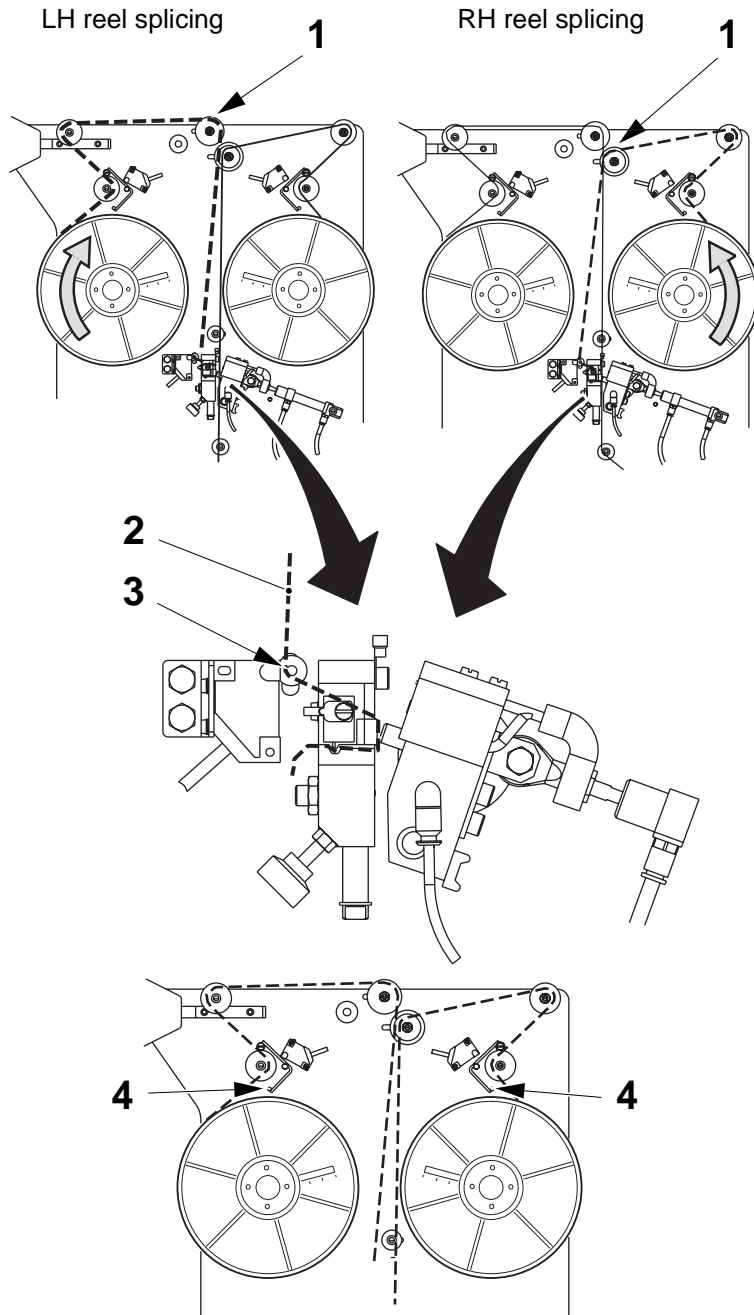
Fitting a New Reel on the LH Reel Holder

While the strip (9) is running, fit a new strip reel (1) on the LH reel holder. Thread the strip (3) around the rollers (2) and (4), then over the **larger** diameter of the roller (5). Avoid twisting the strip.

Pull the slide knob (8) down to open the splicing head.

Feed the strip around the finger (7) and through the channel (6). Check the strip is aligned correctly, close the slide and cut off any excess strip.

Rewind the strip reel slightly to tension the strip.



3

When the prepared reel is spliced, the LS strip (2) is pulled and jumps onto the smaller diameter of the roller (1).

This moves the finger (3) and activate the sensor that create a request of a new splice on the TPOP display.

Make sure both end-of-reel detectors (4) are below the strip.

4

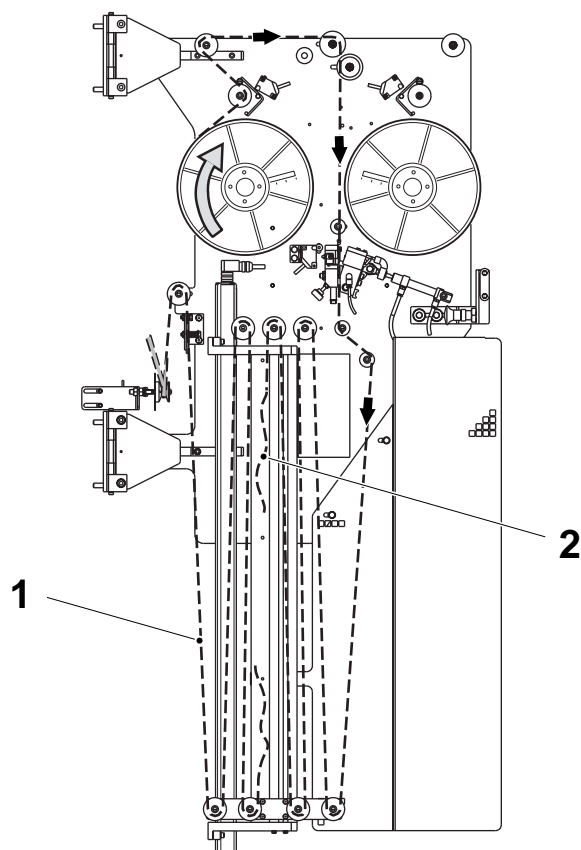
Some packages are discarded after the splice.

Carry out the checks according to the Package Checks section in chapter 5 Checks.

Note! Register the number of packages taken for the checks, see Record Package Waste for Quality Checks in chapter 2 Control Panels.



TechPub_2614345_0105 - 09_OM81809_10en.fm

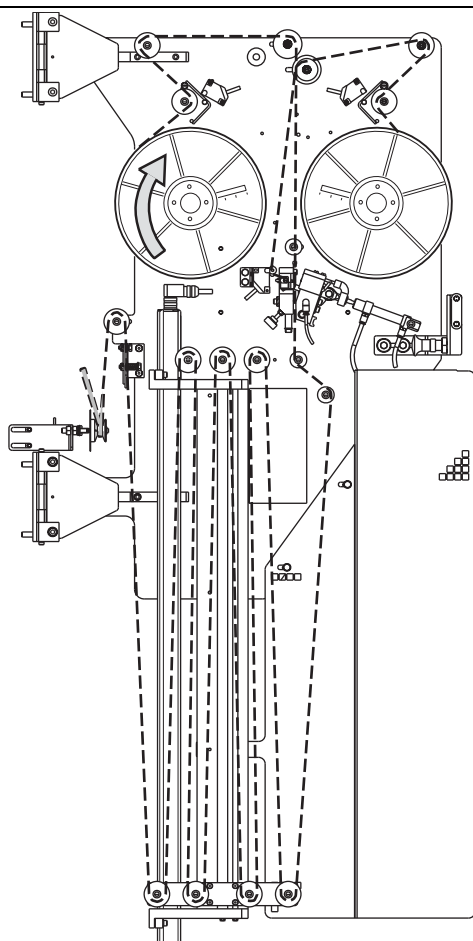


LS Strip Break

1

Note! Do not repair the LS strip with an adhesive tape.

In case of LS strip break, remove the piece of broken strip (1) and thread again the strip (2) through the magazine, see [LS Strip Thread](#).

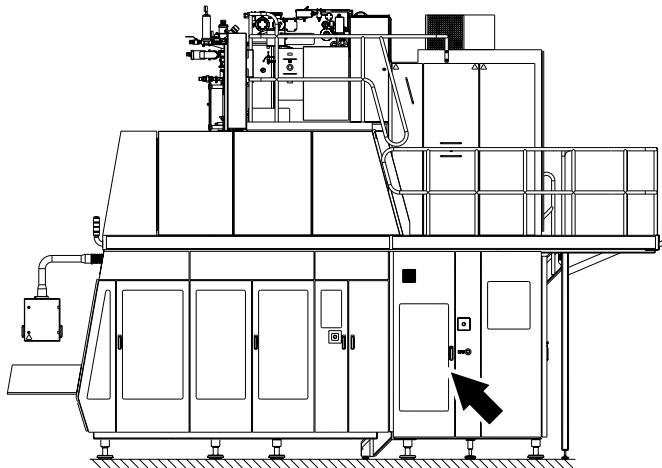


Manual LS Strip Splice

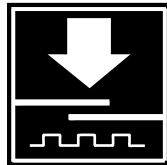
1

In some cases it may be necessary to perform a strip splice manually. Perform as follow:

Make sure both reels of LS strip are threaded.

**2**

Make sure the door of the LS strip magazine is closed.

**3**

Press the MANUAL STRIP SPLICE button.

4

The packages with the strip splice are discarded automatically.

Carry out the checks according to the Package Checks section in chapter 5 Checks.



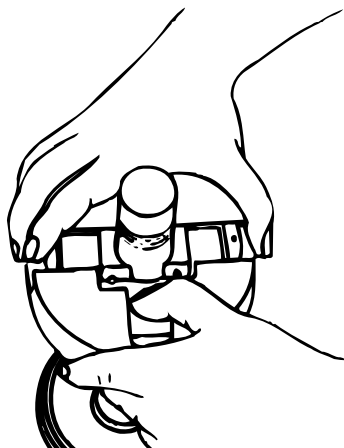
Note! Register the number of packages taken for the checks, see Record Package Waste for Quality Checks in chapter 2 Control Panels.

Packaging Material Supplies

CAUTION

Hygiene.

The packaging material must never touch the floor.
Before touching the packaging material, disinfect hands/gloves.

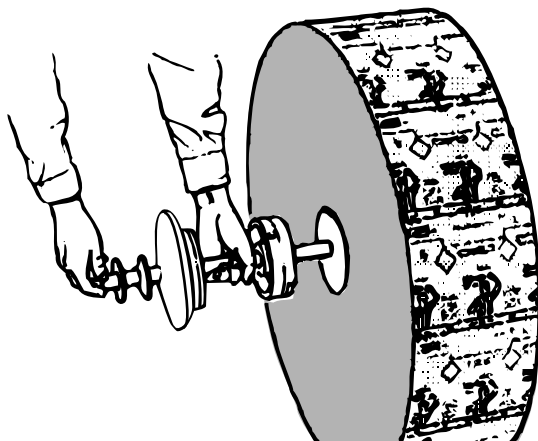


Reel Handling

1

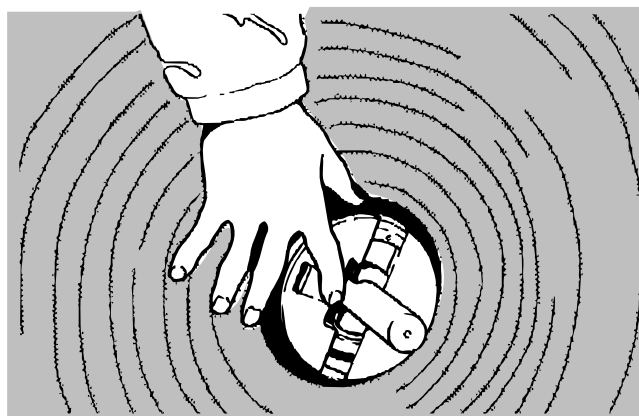
Pull out the reel holder catch slightly while pushing in the spring-loaded lugs.

When the lugs lock, release the reel holder catch.



2

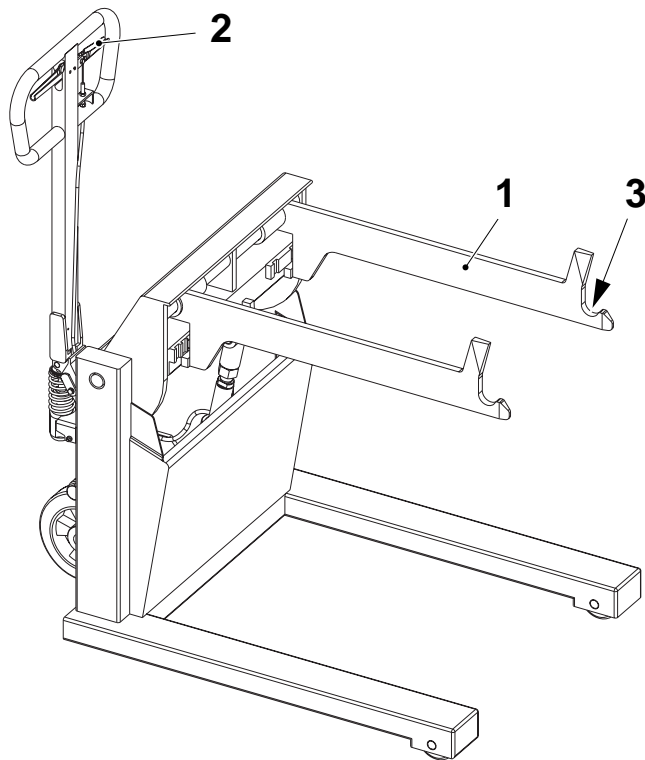
Insert the reel holder into the core.



3

Pull out the reel holder catch to release the spring-loaded lugs.

Note! Check that the lugs have expanded to lock the reel holder to the reel.



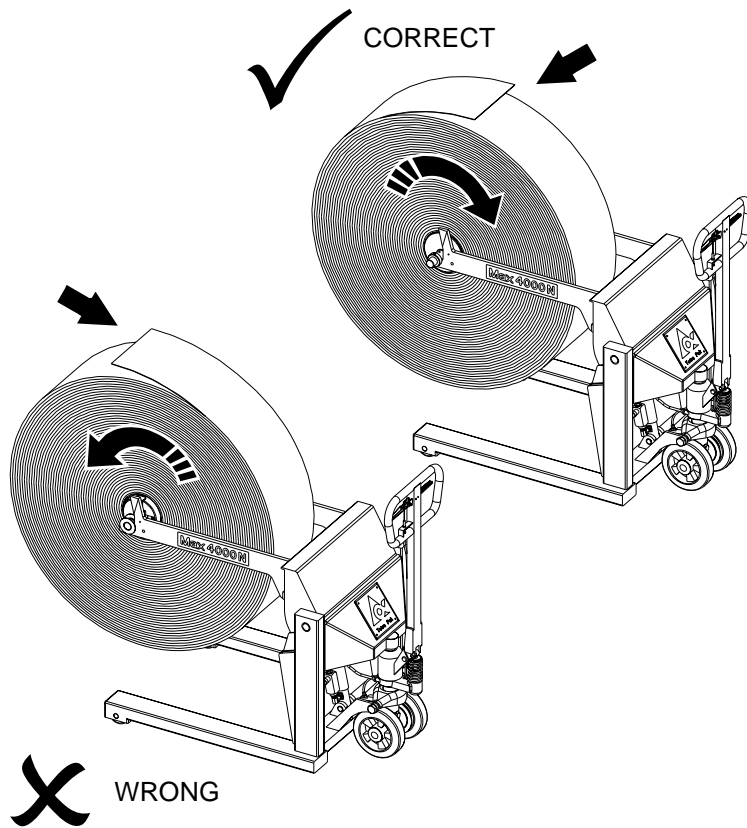
4

Adjust the trolley arms (1) to the correct width for the packaging material.

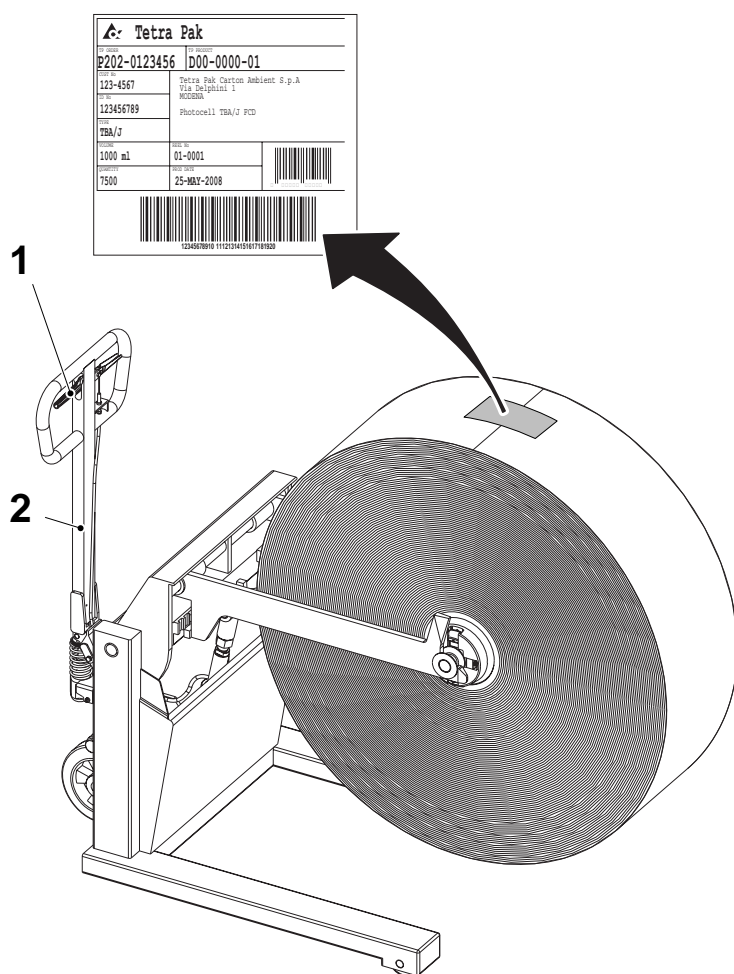
Position the reel so that the end of the packaging material is on top, and it will unwind towards the machine.

Squeeze the lever (2) to release the brake and move the trolley up to the reel. Position the trolley so that the spindle of the reel holder is above the yoke (3) of the trolley.

Note! Make sure the packaging material reel will be lifted onto the trolley with the correct direction of rotation as indicated in the illustration. Be careful not to damage the sides of the reel. A scratch can make a cut on the LS of the packages.



TechPub_2614345_0105 - 09_OM81809_10en.fm



5

Push the lever (1) fully down and pump the main handle (2) to lift the trolley arms.

Remove the plastic wrapping from the reel.

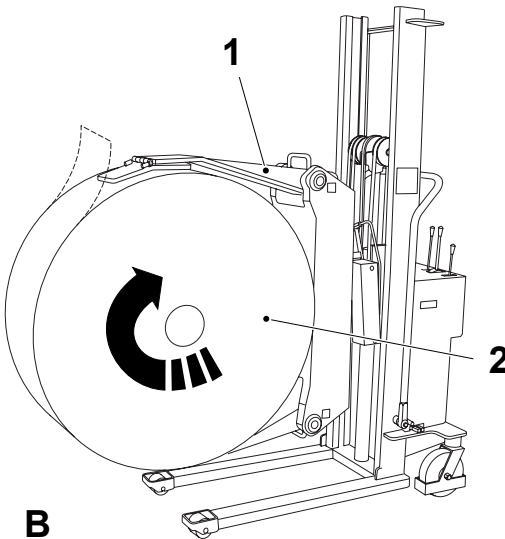
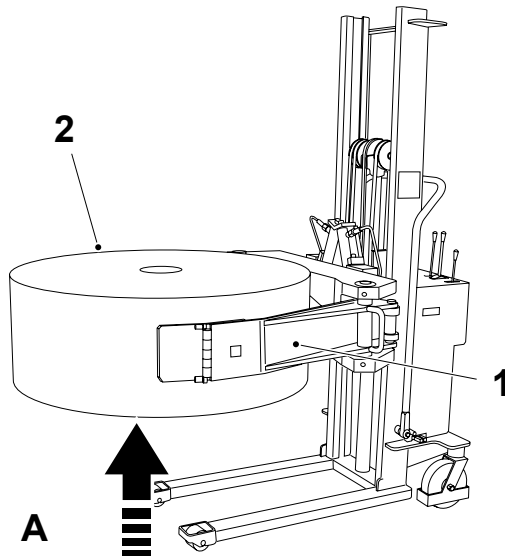
Remove and keep the P-order tag.

Note! The unique P-order and reel numbers allocated to each packaging material reel and printed on the P-order tag provide traceability for the production batch. If a problem with the packaging material is detected these numbers must be quoted in any communication with Tetra Pak.

Cut approximately two turns of packaging material from the reel.

Note! Arrow marks on the side of the reels indicate where there are factory splices. During production, the machine will automatically discard the packages which include a factory splice.

Always check the packages after a factory splice, see the [Package Checks](#) section in chapter [5 Checks](#).



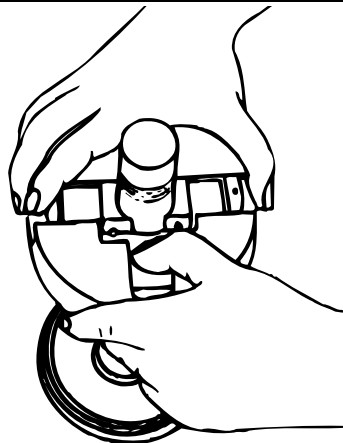
Reel Handling with Jumbo Reel Truck TP No. 797090-0401

1

Rotate the clamps (1) in horizontal position, open them and pick up the jumbo reel (2), as shown in the illustration **A**.

Lift the jumbo reel (2) and rotate the clamps (1) in vertical position, as shown in the illustration **B**.

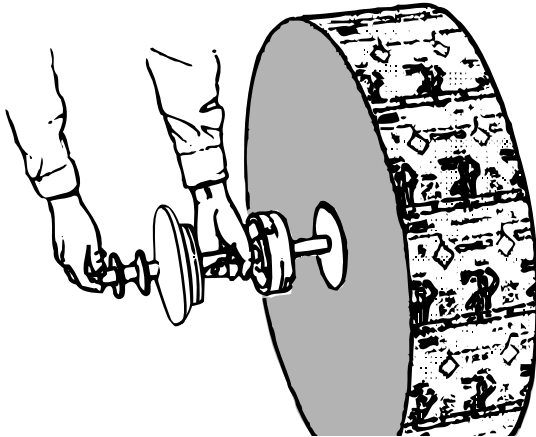
Note! Make sure the packaging material reel will be positioned onto the truck with the correct direction of rotation as indicated in the illustration **B**. Be careful not to damage the sides of the reel. A scratch can make a cut on the LS of the packages.



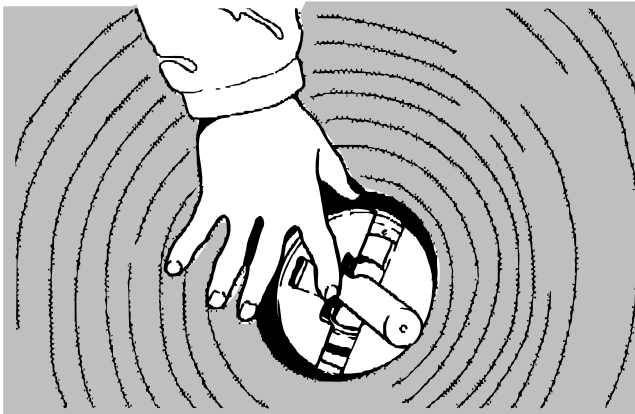
2

Pull out the reel holder catch slightly while pushing in the spring-loaded lugs.

When the lugs lock, release the reel holder catch.

**3**

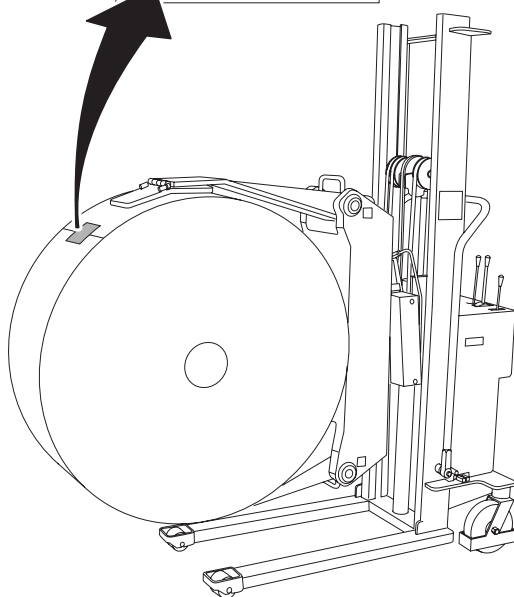
Insert the reel holder into the core.

**4**

Pull out the reel holder catch to release the spring-loaded lugs.

Note! Check that the lugs have expanded to lock the reel holder to the reel.

P202-0123456	D00-0000-01
123-4567 123456789	Tetra Pak Carton Ambient S.p.A. Via Delphinini 1 MOCENA
TBA/J	Phococell TBA/J PCD
1000 ml	01-0001
7500	25-MAY-2008
<small>1234567890 1121214151617181920</small>	

**5**

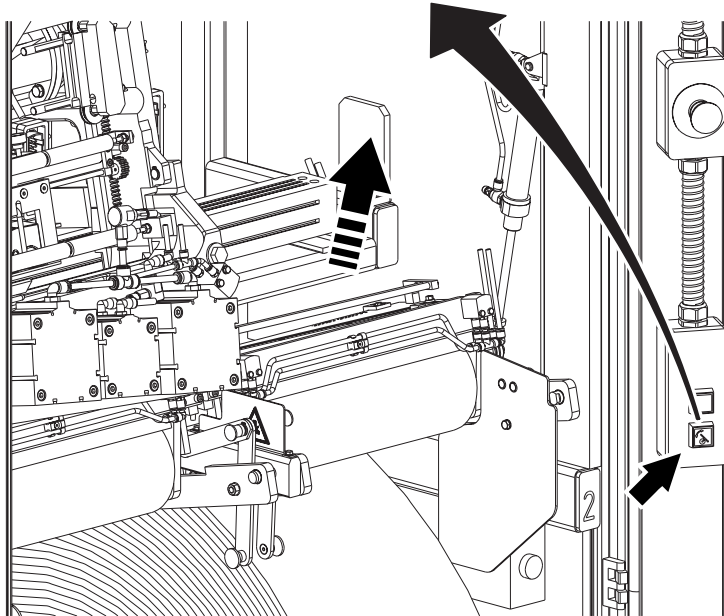
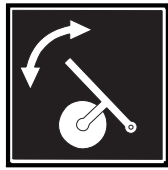
Remove the plastic wrapping from the reel.

Remove and keep the P-order tag.

Note! The unique P-order and reel numbers allocated to each packaging material reel and printed on the P-order tag provide traceability for the production batch. If a problem with the packaging material is detected these numbers must be quoted in any communication with Tetra Pak.

Note! Arrow marks on the side of the reels indicate where there are factory splices. During production, the machine will automatically discard the packages which include a factory splice.

Always check the packages after a factory splice, see the Package Checks section in chapter 5 Checks.



! WARNING

Moving parts can crush and cut.

Splicing Preparation (without ARL)

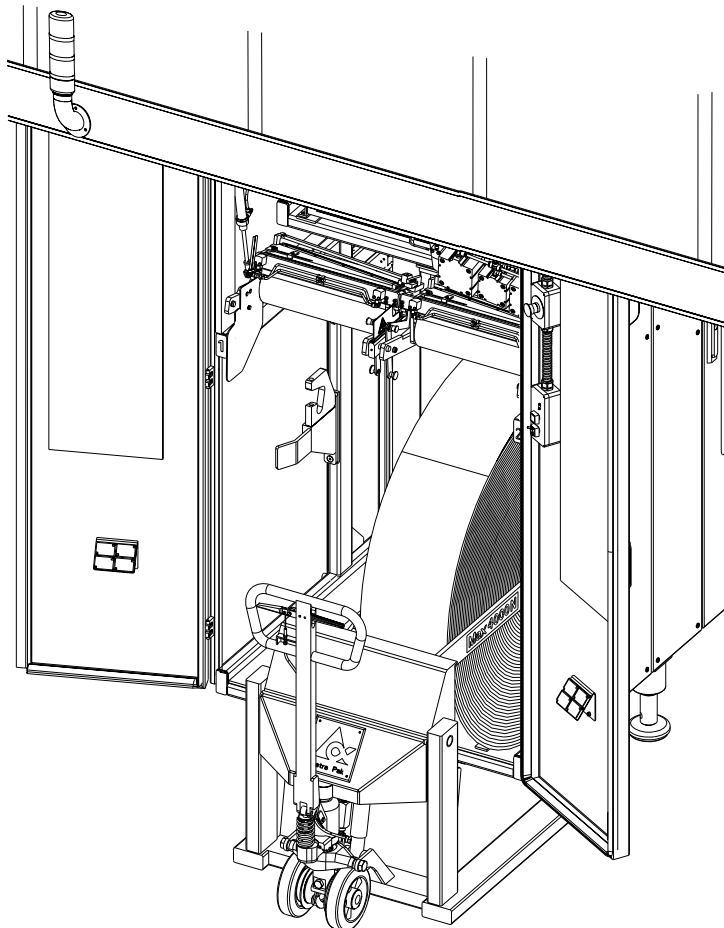
1

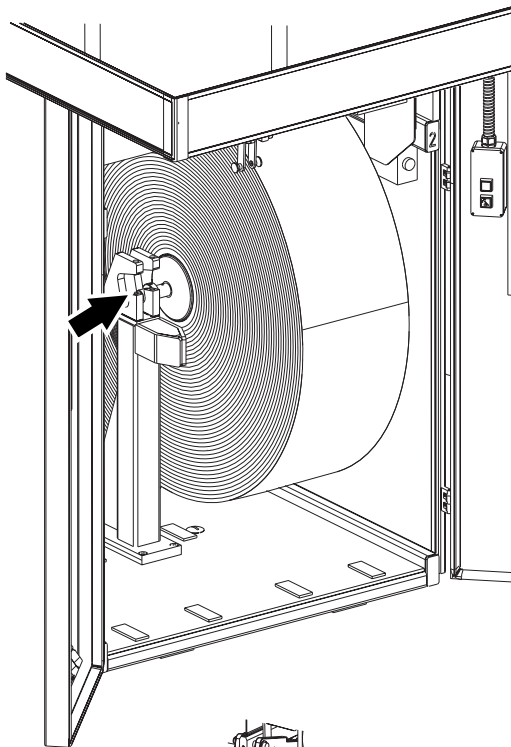
Open the ASU doors.

If required press the **PACKAGING MATERIAL HOLDER** button to raise the package material holder.

2

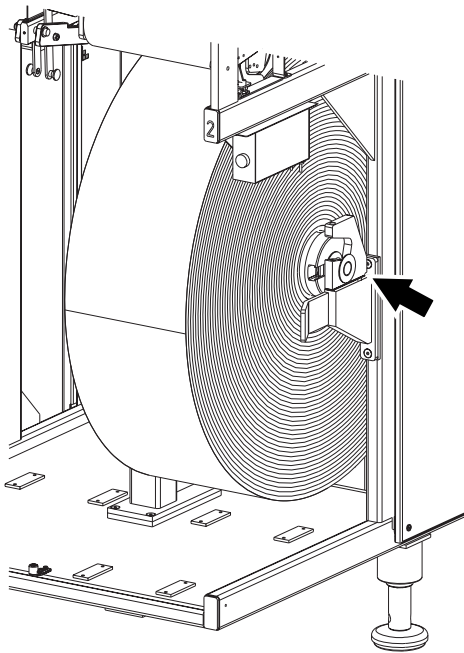
Load the reel of packaging material into the ASU.



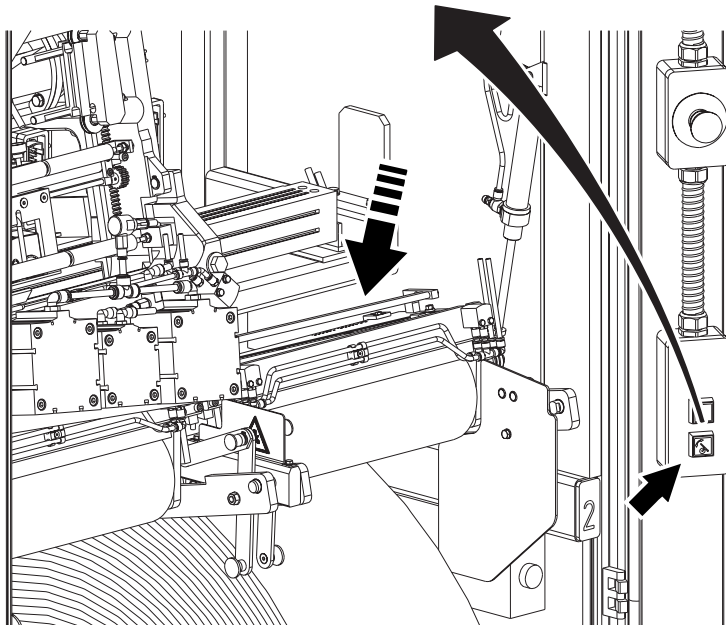


3

Make sure the packaging material reel is aligned correctly on the bobbin holders.



TechPub_2614345_0105 - 09_OM81809_10en.fm



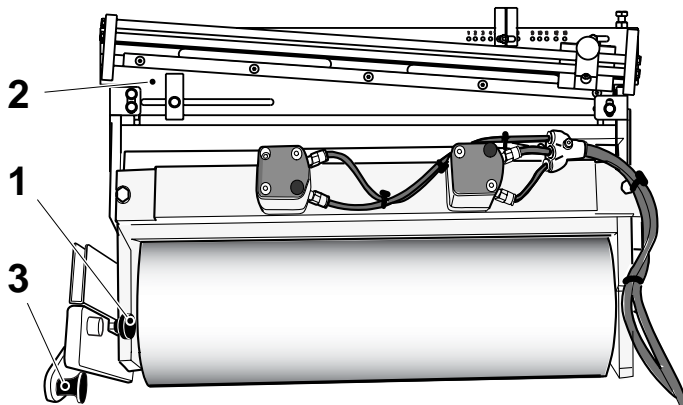
! WARNING

Moving parts can crush and cut.

4

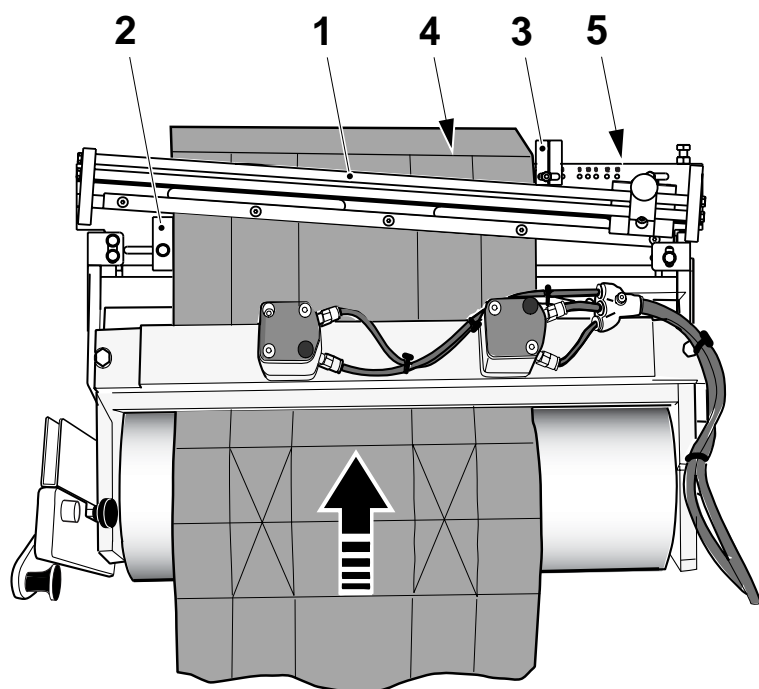
Press the PACKAGING MATERIAL HOLDER button.

The packaging material holder above the reel lowers.



5

Release the knob (1) and raise the cutting table (2) by means of the handle (3).



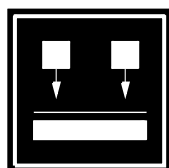
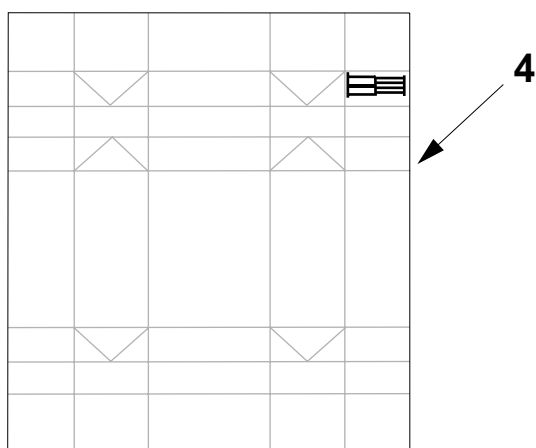
6

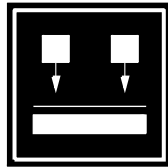
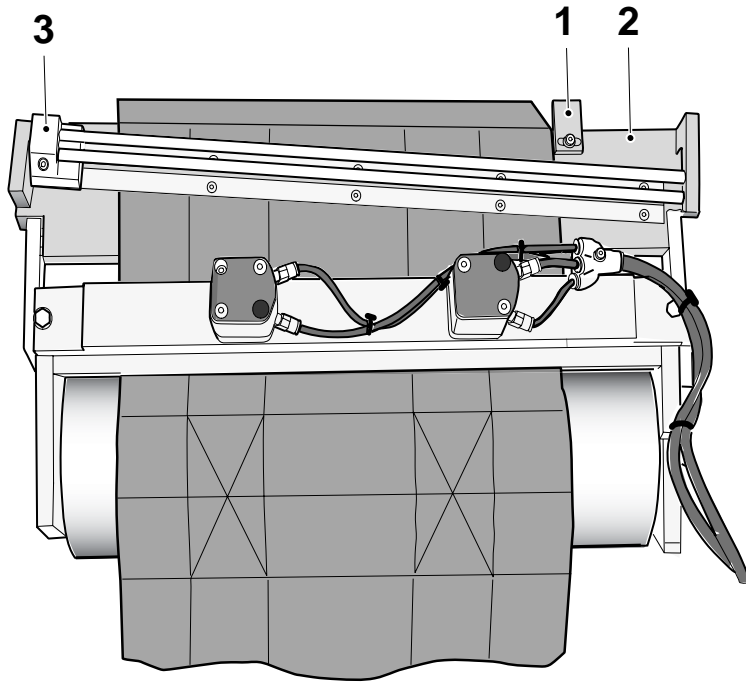
Thread the packaging material under the cutting device (1) and between the guides (2) and (3).

If required press the MATERIAL LOCKING button to allow the packaging material to pass through the cutting table.

Fold the packaging material upwards along the top crease (4), then downwards to make a sharp crease.

Fold the top crease (4) of the packaging material over the edge of the cutting table (5).





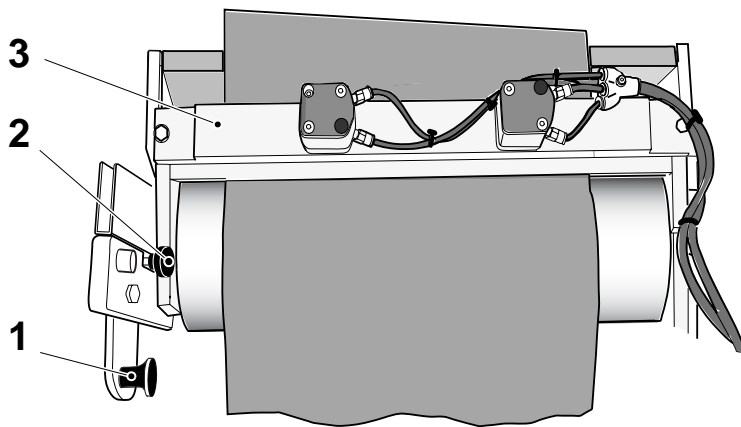
7

Hold the edge of the packaging material against the guide (1) and the edge of the table (2). Do not move it once aligned.

Press the MATERIAL LOCKING button to lock the packaging material in place.

Cut off the end of the packaging material by sliding the knife (3) across the cutting table.

Remove the end piece.



8

Lower the cutting table (3) to the production position by means of the handle (1) and the knob (2).

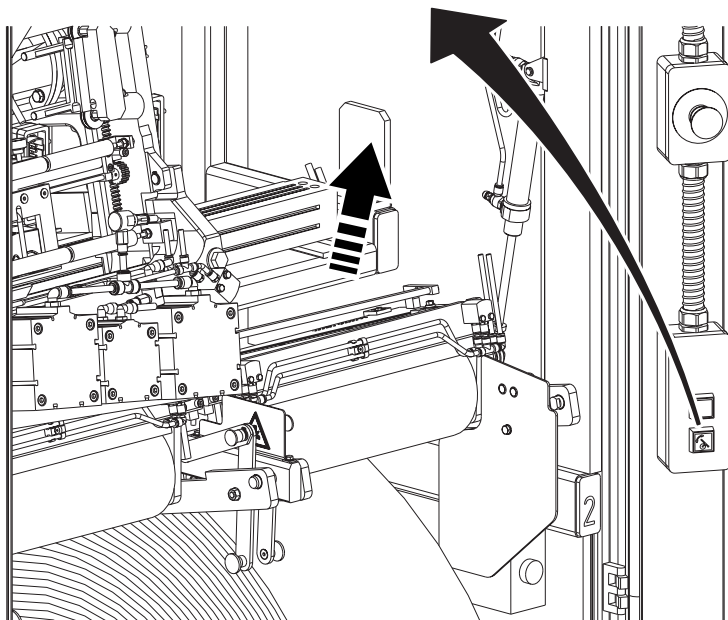


9

Close the ASU doors and reset the alarms on the TPOP display.

If an alarm appears, take the appropriate measures or call a technician.

TechPub_2614345_0105 - 09_OM81809_10en.fm



! WARNING

Moving parts can crush and cut.

Splicing Preparation with ARL
1

Open the ASU doors.

Press the **PACKAGING MATERIAL HOLDER** button.

The packaging material holder next to the splice unit lifts to allow enough space to insert the new reel.

! WARNING

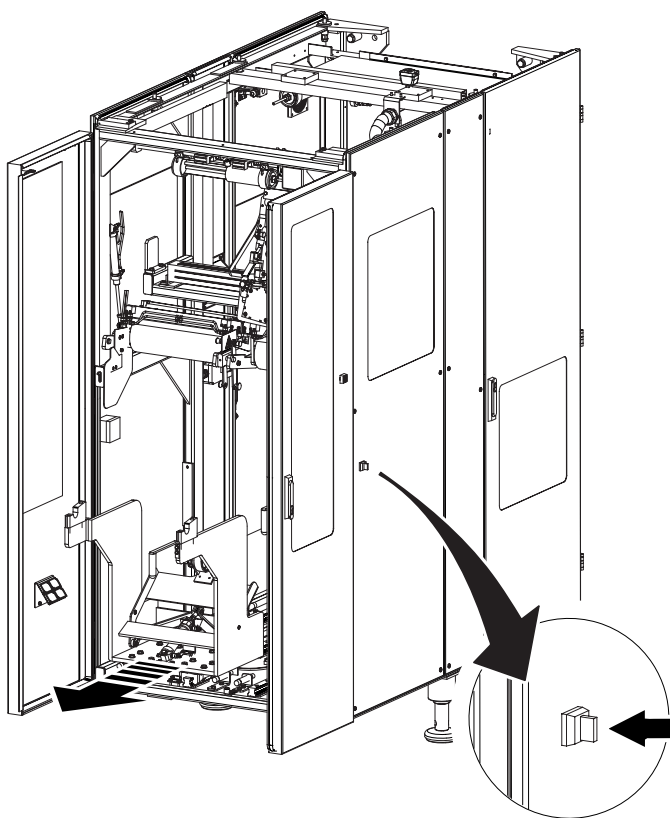
Moving parts can crush and cut.

2

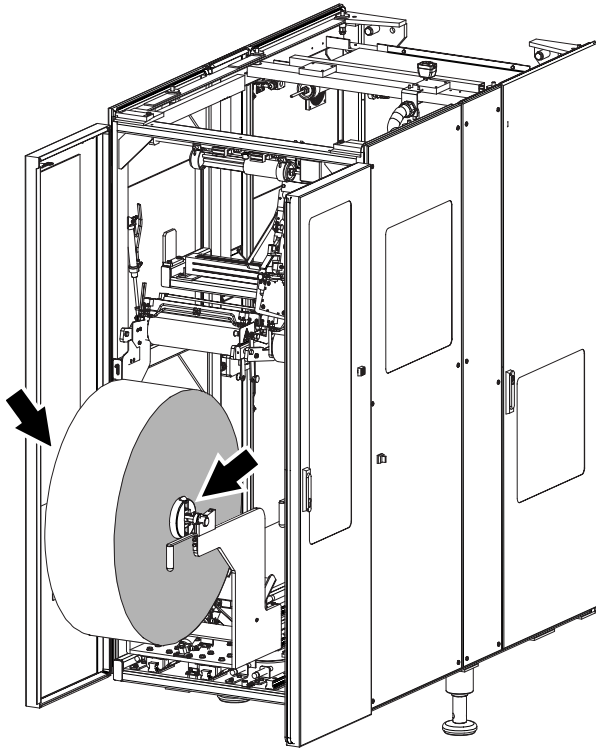
Note! The RH side button activates the LH carriage and vice versa.

Turn the **AUTOMATIC REEL LOADING** switch.

A pneumatic cylinder pushes the loading carriage out of the ASU.



TechPub_2614345_0105 - 09_OM81809_10en.fm

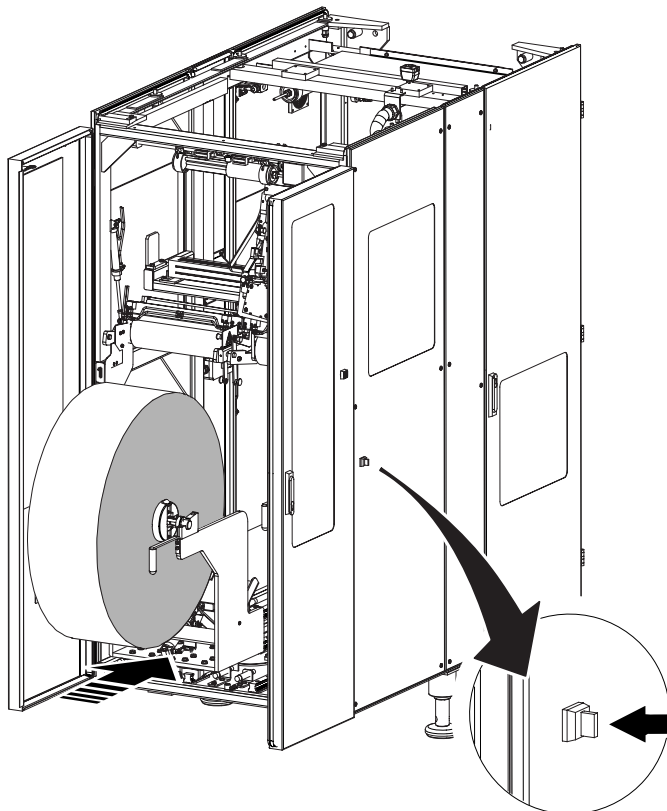
**3**

Load the reel of packaging material on the carriage.

Make sure the packaging material reel is aligned correctly on the bobbin holders.

Cut approximately two turns of packaging material from the reel.

TechPub_2614345_0105 - 09_OM81809_10en.fm

**WARNING**

Moving parts can crush and cut.

4

Note! The RH side button activates the LH carriage and vice versa.

Turn the AUTOMATIC REEL LOADING switch.

The loading carriage returns inside the ASU.

Proceed as shown in Splicing Preparation (without ARL) from step 4.



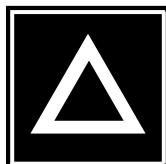
Manual Web Splice

1

Press the MANUAL WEB SPLICE button.

When the machine has performed the splice, open the ASU door behind the packaging material reel that is not in use.

Follow the instructions on page [6-17](#).



CAUTION

Risk of personal injury.

The rollers of the ASU magazine may be suspended in an upper position when the machine is stopped due to an interrupted web splice. The rollers may drop suddenly if the packaging material web is cut.

Interrupted Web Splice

1

If the machine stops when a packaging material splice is being performed, the SPLICE INTERRUPTED alarm appears on the TPOP.

To restart the machine, acknowledge the alarm, remove the cause of the stoppage and follow the instructions in [Manual Web Splice](#).

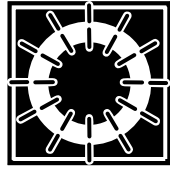
2

The packages with the splice are automatically discarded.

Carry out the checks according to the [Package Checks](#) section in chapter [5 Checks](#).



Note! Register the number of packages taken for the checks, see [Record Package Waste for Quality Checks](#) in [chapter 2 Control Panels](#).

**CAUTION****Hygiene.**

Before handling clean parts, disinfect your hands/gloves with cleaning compound code **H**.

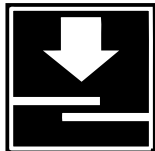
Packaging Material Broken or Splice Failure (ASU Loop Empty)

1

When there is an unsuccessful packaging material splice or the packaging material is broken, the ASU loop empties and the machine stops in **SHORT STOP**.

Note! Reset the alarm on the TPOP only **after** performing the splice.

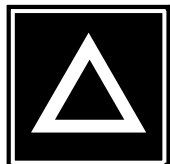
The ASU loop empty alarm is displayed on the TPOP and an audible signal is given to indicate that the machine is ready to perform a manual splice.

**2**

Pull back the packaging material and feed it back into the splicing unit.

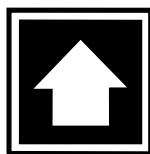
Prepare a new packaging material splice, follow the instructions on page [6-17](#).

Close the ASU doors and press the **MANUAL WEB SPLICE** button.

**3**

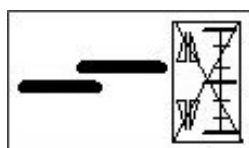
Reset the Alarm on the TPOP.

The ASU loop is filled with packaging material.



4

Press the PROGRAM UP button to restart the machine.



Immediate Splice Enabled

1

Note! Using the IMMEDIATE SPLICE ENABLED function will create extra package waste.

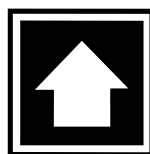
When there is an urgent need to perform a packaging material splice because of an alarm condition, it is possible to perform an immediate splice disregarding the packaging material position (out of design).

See the Manoeuvre System section of chapter 2 Control Panels for instructions on how to navigate to the ASU Window.

Press the IMMEDIATE SPLICE ENABLED.

Note! To cancel the function and return to PRODUCTION, press the PROGRAM UP button or O in the ON/OFF button.

An audible signal is given to indicate that the machine is ready to perform a manual web splice. Follow the instructions in Manual Web Splice.



7 Conversion

This chapter describes the procedures necessary to change the machine volume.

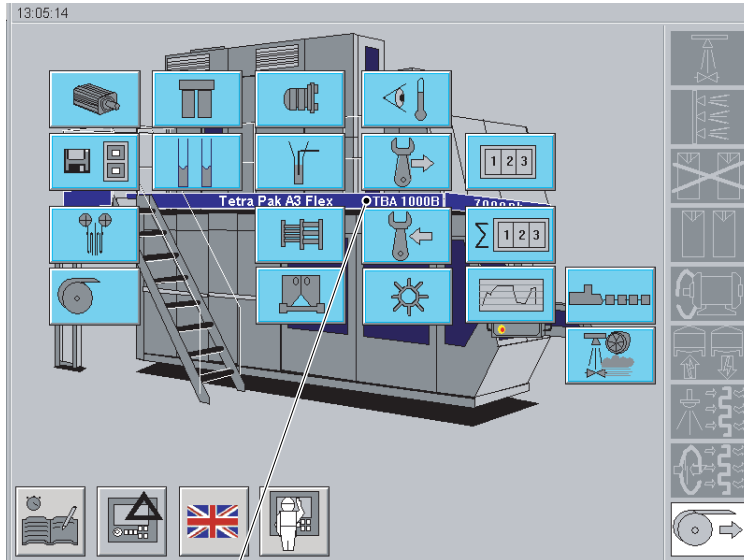
QuickChange	7 - 5
Preparation	7 - 5
Equipment Checklist	7 - 5
Manual Volume Change	7 - 6
Automatic Volume Change	7 - 7
Change Equipment	7 - 8
Volume Flaps Valid for TBA 1890 S/TBA 2000 S Only .	7 - 8
Volume Flaps Valid for TPA 1000 Sq and TPA 750 Sq Only	7 - 9
Volume Flaps Valid for all other QuickChange Volumes	7 - 9
Guide Plates Valid for all QuickChange Volumes . . .	7 - 10
Pressure Device Valid for TPA 200 Sq, TPA 250 Sq, TPA 1000 Sq and TPA 750 Sq Only	7 - 10
Bottom Plates Valid for TBA 1890 S and TBA 2000 S Only	7 - 11
Bottom Plates Valid for TPA 1000 Sq and TPA 750 Sq Only	7 - 11
Bottom Plates Valid for all other QuickChange Volumes	7 - 12
Pull Down Device Valid for TBA 200 Sq, TBA 250 Sq, TBA 500 Sq, TBA 1000 Sq, TPA 200 Sq, TPA 250 Sq, TPA 1000 Sq and TPA 750 Sq Only	7 - 13
Pressure Device Valid for TPA 200 Sq, TPA 250 Sq, TPA 1000 Sq and TPA 750 Sq Only	7 - 14
Drop Chute Guide Plates Valid for TBA 1000 B/TBA 500 B and TBA 1000 Sq/TBA 500 Sq	7 - 14
Design Correction Photocells Valid for TBA 200 Sq, TBA 250 Sq, TBA 200 B, TBA 250 B, TBA 330 S, TBA 250 S, TBA 200 M, TPA 200 Sq and TPA 250 Sq Only	7 - 15
Flap Heater Nozzles Valid for TBA 250 B Only	7 - 15
Volume Change Completion	7 - 16

This page intentionally left blank

TechPub_2614345_0105 - 10_OM81809_10en.fm

QuickChange

This section describes what must be done to change the package volume on A3/Flex QuickChange filling machines.



1

Preparation

Make sure the correct packaging material reel is spliced and prepared ready for production.

Check on the TPOP display which volume is currently in use.

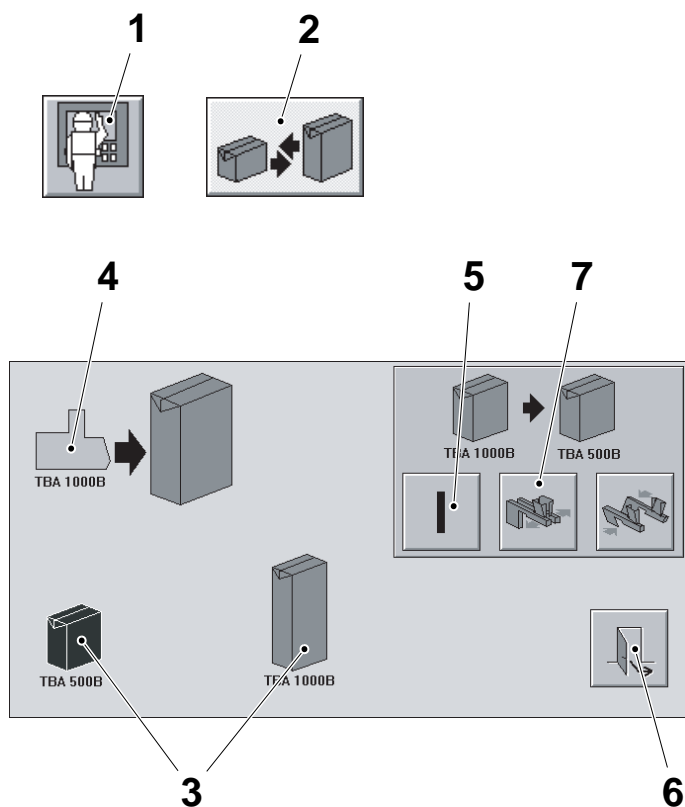
Note! The size of the current package being produced is shown on the TPOP display (1).

Change the reel as necessary and prepare a packaging reel splice, see [Packaging Material Supplies](#) in chapter [6 Supply of Materials](#).

Equipment Checklist

Make sure the necessary volume change equipment is available:

- LH and RH cutting jaw volume flaps
- LH and RH pressure jaw volume flaps
- Two conveyor guide plates: LH and RH
- Two drop chute guide plates.

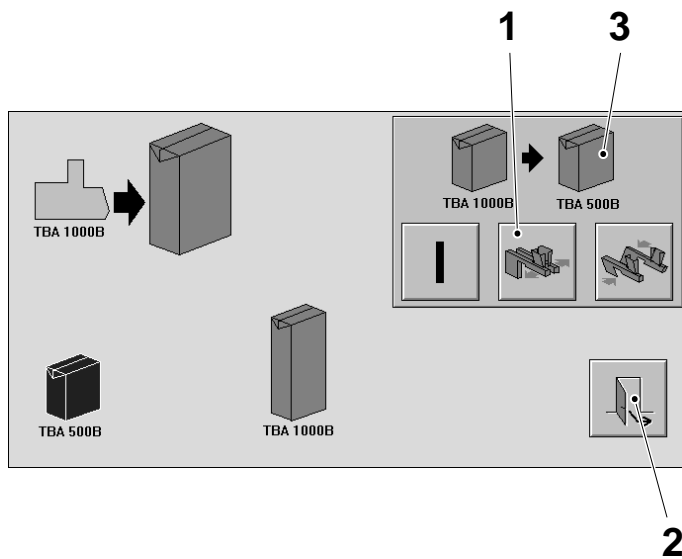


Manual Volume Change

A manual volume change is performed when the machine is in step PREPARATION and ready for inching.

- Touch the MANOEUVRE SYSTEM button (1).
- Touch the MANUAL VOLUME CHANGE button (2).
- Touch the required package volume symbol (3) on the VOLUME CHANGE window. The symbol (4) always shows the current volume.
- Touch the START button (5) for four seconds to continue, or press the EXIT button (6) to cancel and return to the main TPOP window.
- Wait until the OPEN button (7) is activated: the arrows on the button become black.
- Make sure the correct change is possible and the correct packaging material is supplied.
- On the VOLUME CHANGE window touch the OPEN button (7) for four seconds: the button becomes white.
- The system opens both jaw pairs. Wait until all system movement has stopped.

Note! The jaw system doors will remain locked until all movement has stopped.



Automatic Volume Change

An automatic volume change is performed when the machine is running in production or sterile inching and new packaging material is spliced (either automatically or manually) and detected by the design correction photocells.

Make sure the change is possible and the correct packaging material is spliced and ready.

Note! If the wrong packaging material is supplied perform a packaging material splice, see [Packaging Material Supplies](#) in chapter [6 Supply of Materials](#).

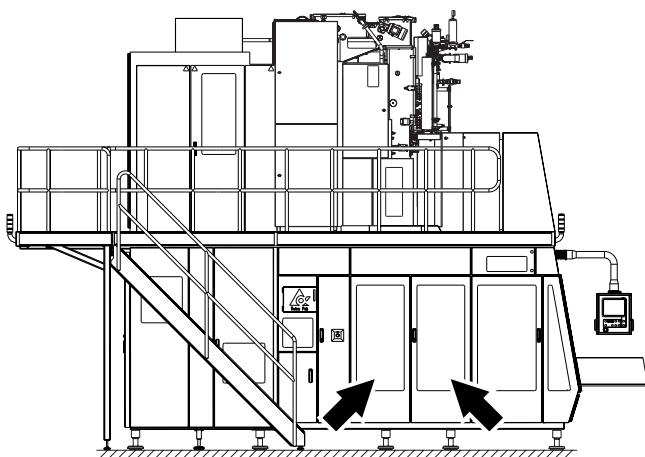
The machine will stop automatically when the new packaging material arrives at the jaw system and the VOLUME CHANGE window will be displayed.

The volume detected (3) is automatically proposed as choice.

Note! When the OPEN button (1) is touched the volume change procedure must be completed. To exit the procedure touch the EXIT button (2) to return to the main TPOP window.

- a) On the VOLUME CHANGE window touch the OPEN button (1) for four seconds.
- b) The system opens both jaw pairs. Wait until all system movement has finished.

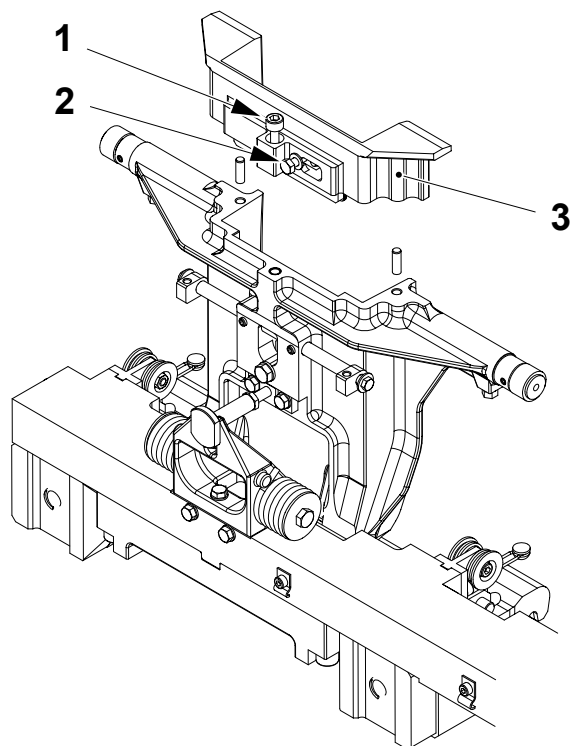
Note! The jaw system doors will remain locked until all system movement has stopped.



Change Equipment

1

Open the two LH jaw system doors.



Volume Flaps Valid for TBA 1890 S/ TBA 2000 S Only

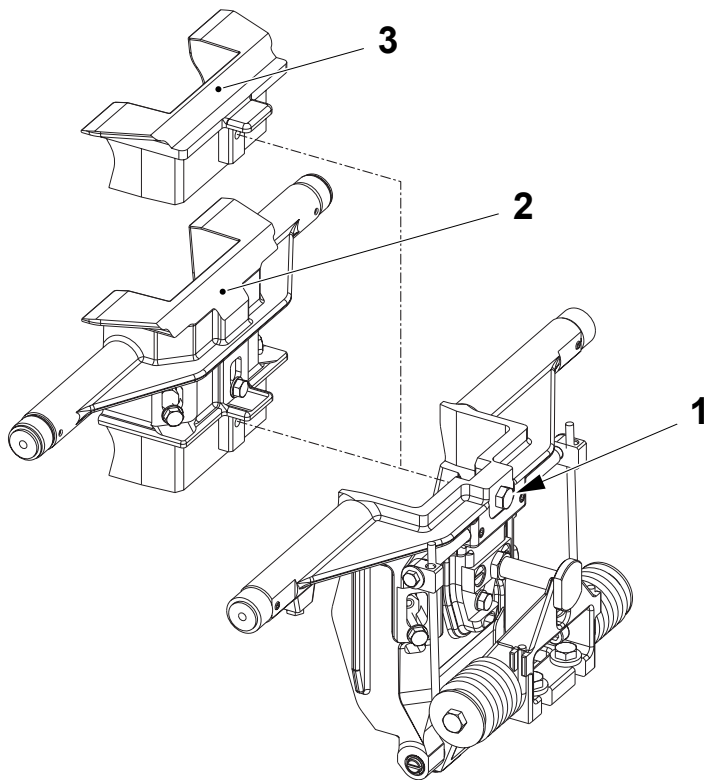
1 a

For PRODUCTION with TBA 1890 S,
on each of the four volume flaps:

- Loosen the screws (1) and (2) and remove the upper part (3) of the volume flap.

For PRODUCTION with TBA 2000 S,
on each of the four volume flaps:

- Fit the upper part (3) and tighten the screws (1) and (2).



Volume Flaps Valid for TPA 1000 Sq and TPA 750 Sq Only 1 b

For PRODUCTION with TPA 1000 Sq, on each of the four volume flaps:

- Loosen the screw (1) and fit the upper part (2). Tighten the screw (1).

For PRODUCTION with TPA 750 Sq, on each of the four volume flaps:

- Loosen the screw (1) and fit the upper part (3). Tighten the screw (1).

TechPub_2614345_0105 - 10_OM81809_10en.fm

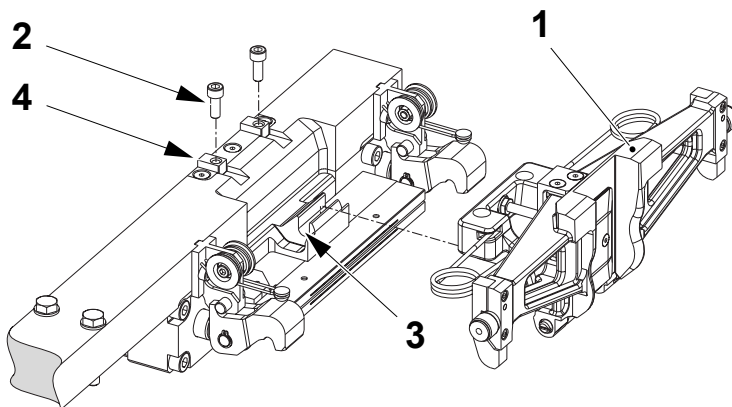
Volume Flaps Valid for all other QuickChange Volumes 1 c

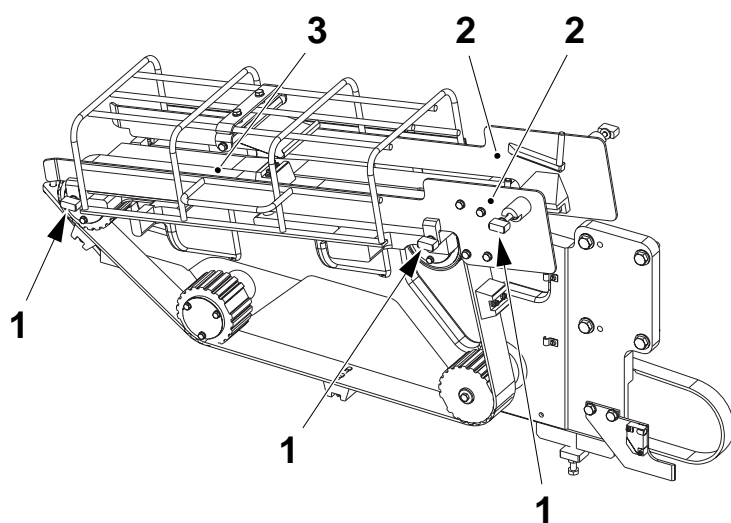
On each of the four volume flaps:

- Release the two screws (2) securing the volume flap (1) to the carrier and remove the volume flap (1).

Note! Each of the four volume flaps has a unique installation position.

- Install the replacement volume flap (1) with the hinge bar into the slot (3) and the two locating pins (4) aligned with the two holes on the volume flap (1).
- Secure using the two screws (2).

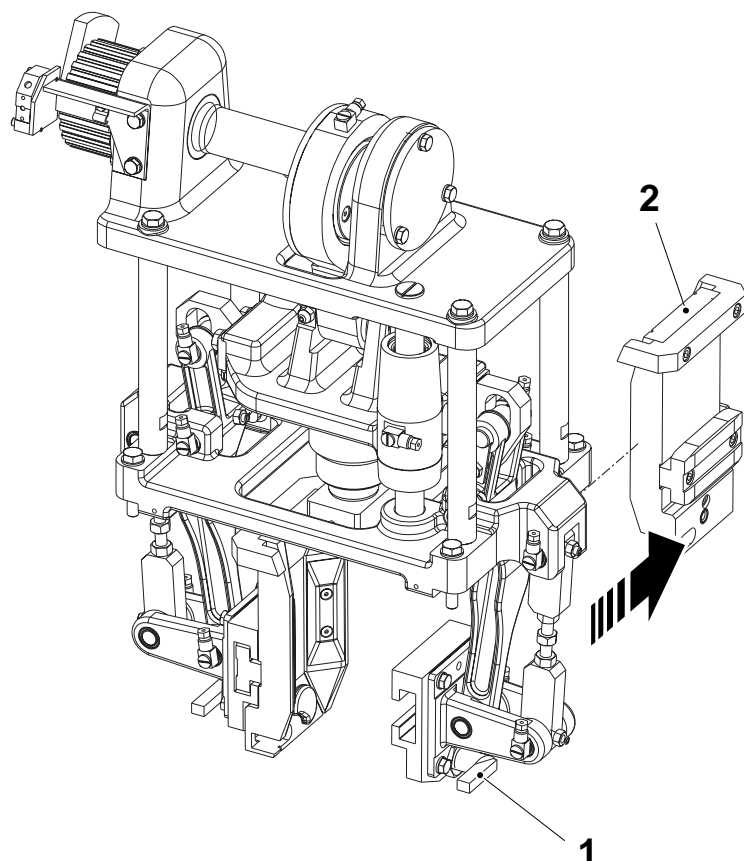




Guide Plates Valid for all QuickChange Volumes 1 d

- Release the quick-release levers (1) securing the guide plates (2) to the conveyor (3).
- Install the new guide plates (2) onto the conveyor (3) and secure using the quick-release levers (1).

Note! After the volume change is complete, check the synchronisation of the final folder wheel and the conveyor, see page [2-87](#).

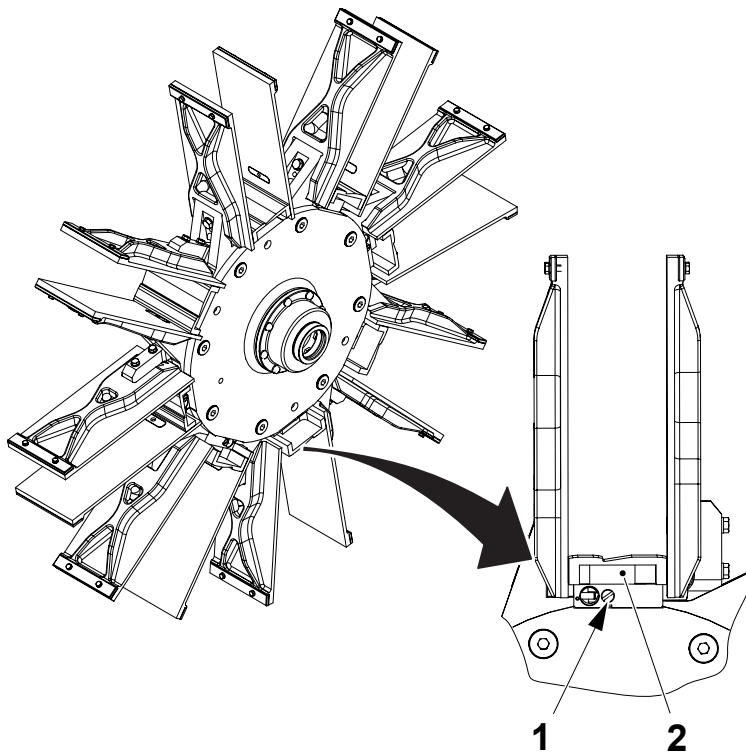


Pressure Device Valid for TPA 200 Sq, TPA 250 Sq, TPA 1000 Sq and TPA 750 Sq Only 1 e

Crank the final folder until the pressure device is in the open position.

Turn the knob (1) 180° to release the pusher (2).

Repeat the procedure on the other side of the pressure device.



! WARNING

Hot surface.

The bottom plates may be hot. Wear personal protective equipment.

Bottom Plates Valid for TBA 1890 S and TBA 2000 S Only

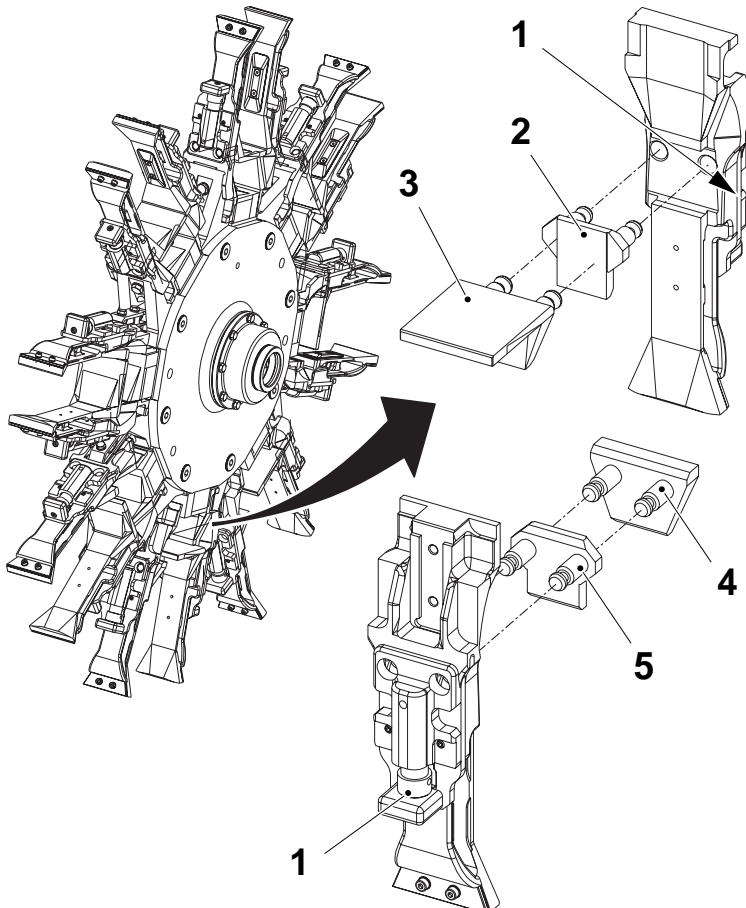
1 f

Note! Crank the final folder to access the stations.

In each station loosen the screw (1) to release the bottom plate (2).

Change the bottom plate (2) according to the volume.

TechPub_2614345_0105 - 10_OM81809_10en.fm



! WARNING

Hot surface.

The bottom plates may be hot. Wear personal protective equipment.

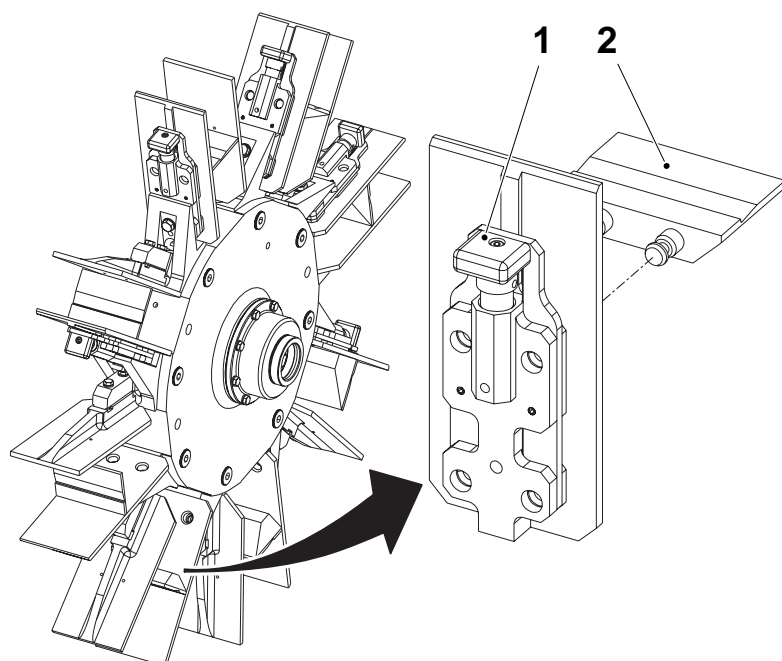
Bottom Plates Valid for TPA 1000 Sq and TPA 750 Sq Only

1 g

Note! Crank the final folder to access the stations.

In each station, push the knob (1) on the fixed flap and fit the bottom plate (2) for PRODUCTION with TPA 750 Sq or the plate (3) for PRODUCTION with TPA 1000 Sq.

On the moveable flap, push the knob (1) and fit the plate (4) for PRODUCTION with TPA 750 Sq or the plate (5) for PRODUCTION with TPA 1000 Sq.



! WARNING

Hot surface.

The bottom plates may be hot. Wear personal protective equipment.

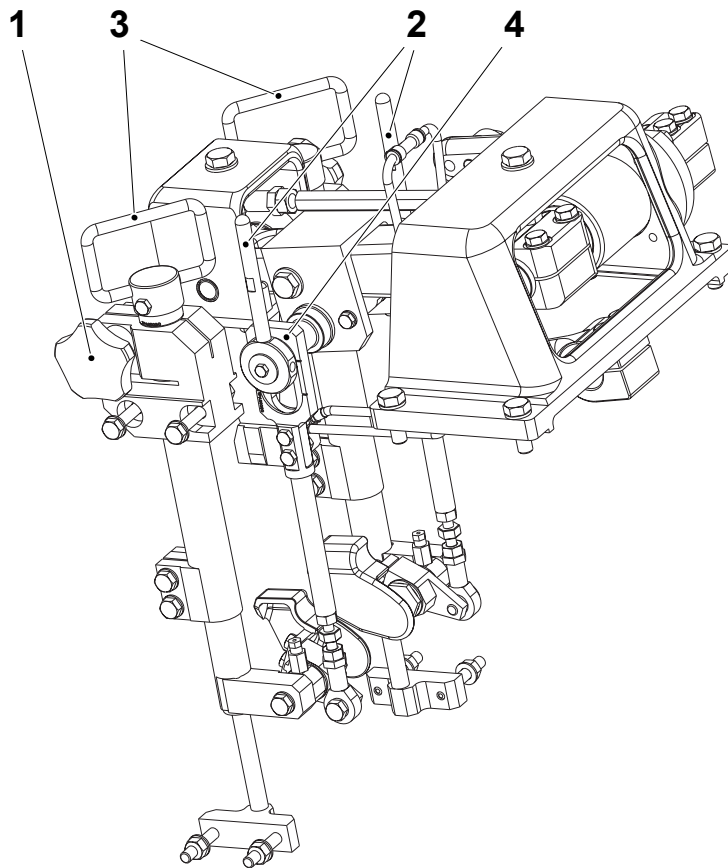
Bottom Plates Valid for all other QuickChange Volumes

1 h

Note! For TBA 1000 B and TBA 330 S volumes the bottom plate must be removed. For TPA 200 Sq, TPA 250 Sq, TBA 200 Sq and TBA 250 Sq the bottom plate is reversed. Crank the final folder to access the stations.

In each station push the knob (1) to release the bottom plate (2).

Change the position of the bottom plate (2) according to the volume to produced.



**Pull Down Device Valid for
TBA 200 Sq, TBA 250 Sq,
TBA 500 Sq, TBA 1000 Sq,
TPA 200 Sq, TPA 250 Sq,
TPA 1000 Sq and TPA 750 Sq Only
1i**

Crank the final folder to 320°.

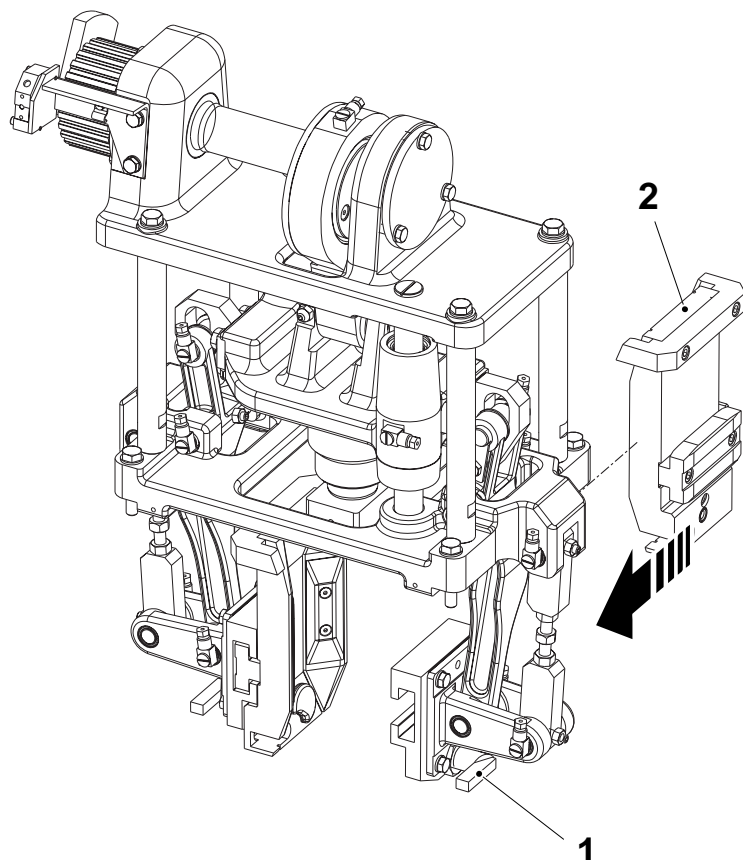
Loosen the two knobs (1) and the two bars (2) to release the folding parts.

For PRODUCTION with TBA 200 Sq, TBA 500 Sq, TBA 1000 Sq, TPA 200 Sq or TPA 750 Sq pull the two handles (3) and the handles (4) to lift the folding parts.

Tighten the two knobs (1) and the two bars (2) to secure the folding parts.

For PRODUCTION with TBA 200 Sq, TPA 250 Sq or TPA 1000 Sq push the two handles (3) to lower the folding parts.

Tighten the two knobs (1) and the two bars (2) to secure the folding parts.



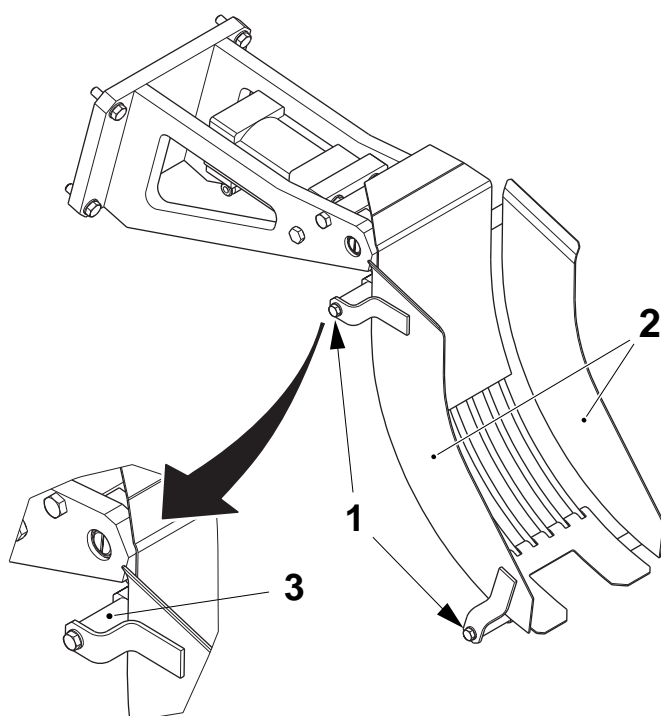
**Pressure Device Valid for
TPA 200 Sq, TPA 250 Sq,
TPA 1000 Sq and TPA 750 Sq Only
1 j**

Crank the final folder to 30°.

Fit the correct pusher according to the volume to be produced.

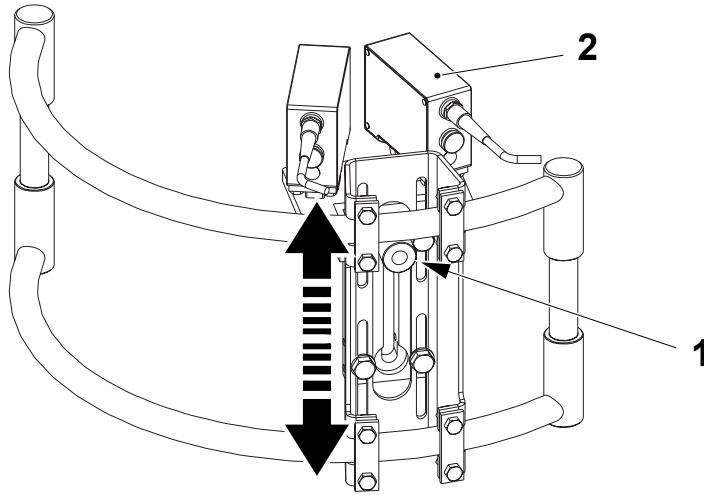
Turn the knob (1) 180° to secure the pusher (2).

Repeat the procedure on the other side of the pressure device.



**Drop Chute Guide Plates Valid for
TBA 1000 B/TBA 500 B and TBA
1000 Sq/TBA 500 Sq
1 k**

- a) Remove the four screws (1) from the drop chutes (2).
- b) Change the spacers (3) and tighten the screws (1).



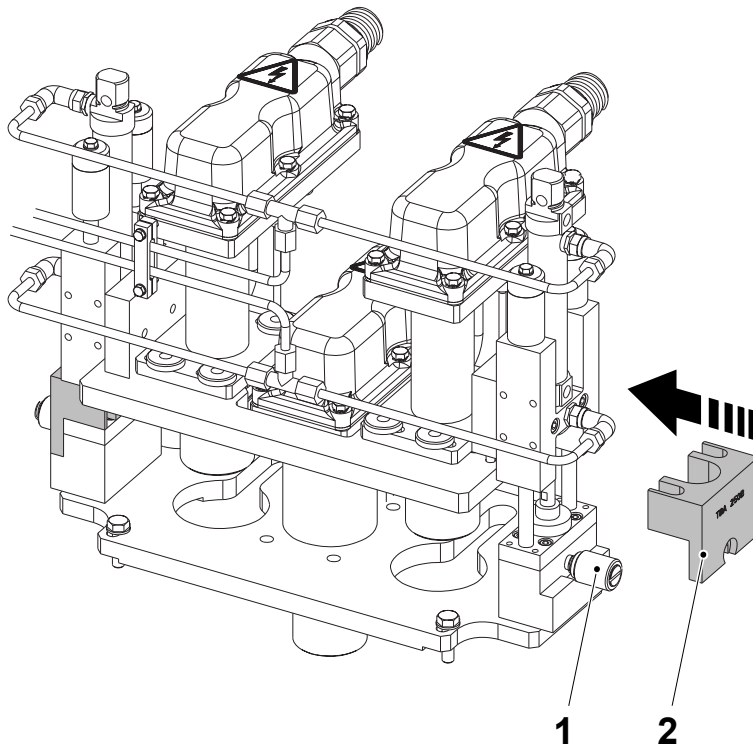
Design Correction Photocells Valid for TBA 200 Sq, TBA 250 Sq, TBA 200 B, TBA 250 B, TBA 330 S, TBA 250 S, TBA 200 M, TPA 200 Sq and TPA 250 Sq Only

1 l

Pull the knob (1) and move the photocell unit (2) to the correct position for the volume to be used in PRODUCTION.

Package	Position
TBA 200 B - TBA 330 S TBA 250 S - TPA 250 Sq TBA 250 Sq	Upper position
TBA 250 B - TBA 200 M TPA 250 Sq TBA 200 Sq	Lower position

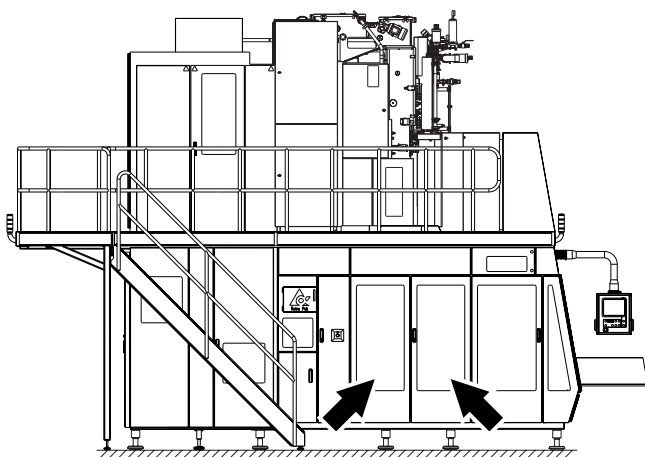
TechPub_2614345_0105 - 10_OM81809_10en.fm



Flap Heater Nozzles Valid for TBA 250 B Only

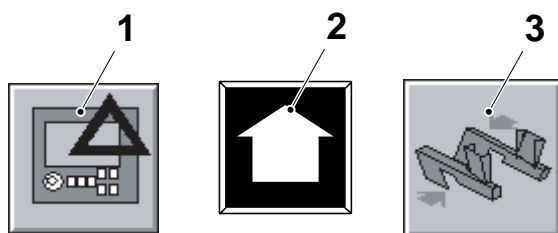
1 m

On both sides of the final folder, pull the knob (1) and fit the spacer (2).



1n

Close the two LH jaw system doors.



Volume Change Completion 2

- a) Close the LH jaw system doors. Reset any alarms present on the TPOP display.

Note! If needed, use the alarms button (1) to open the alarm window of the alarm that needs to be reset.

- b) Press the PROGRAM UP button (2) when flashing and wait until the CLOSE button (3) is activated.
- c) Press the CLOSE button (3). The two sets of jaws will close, and the VOLUME CHANGE window will disappear.

The volume change has now been completed.

8 Stop

This chapter describes the different types of stop conditions and how to stop the machine under normal operating conditions.

**CAUTION****Hazardous noise.**

Risk of impaired hearing. Hearing protection is recommended whenever this equipment is in operation.

CAUTION**Risk of damage to the equipment.**

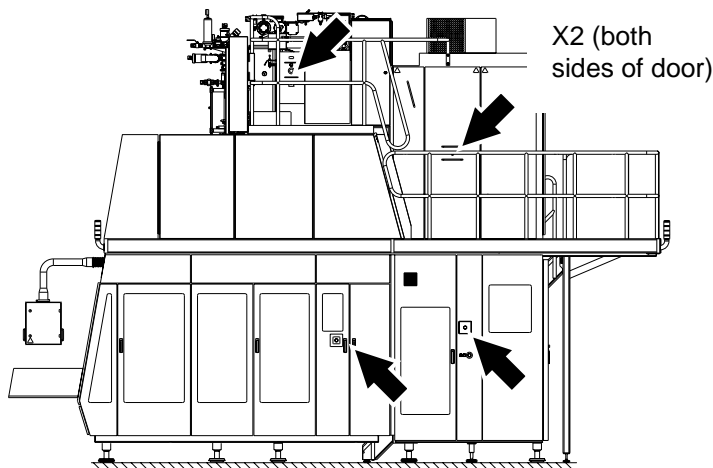
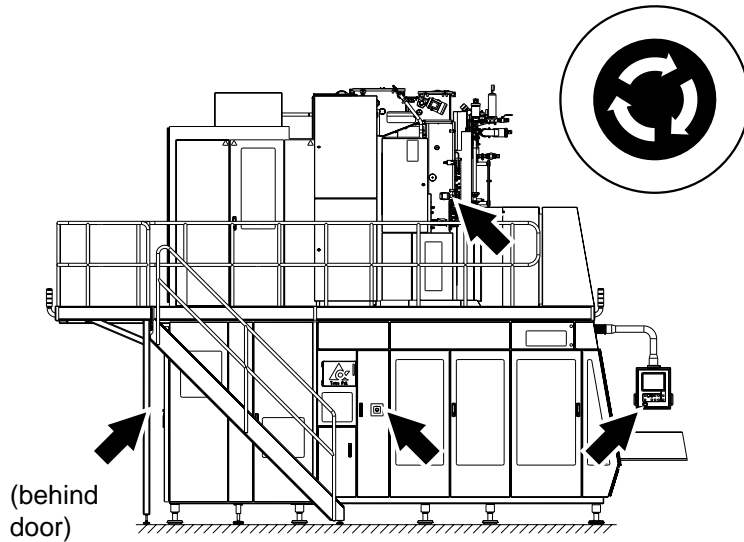
When possible, the machine should normally be stopped in a SHORT STOP or a NORMAL STOP during PRODUCTION.

Emergency Stop	8 - 5
Security Stop	8 - 6
Short Stop	8 - 7
Short Stop Time Exceeded	8 - 8
Normal Stop	8 - 9
Production Finished Stop	8 - 10
Interrupting the Automatic Sequence	8 - 11

This page intentionally left blank

Emergency Stop

When there is a risk of **serious danger to people or to the machine**, push any of the EMERGENCY STOP buttons (arrows) as quickly as possible.



1

Pressing an EMERGENCY STOP button results in the following:

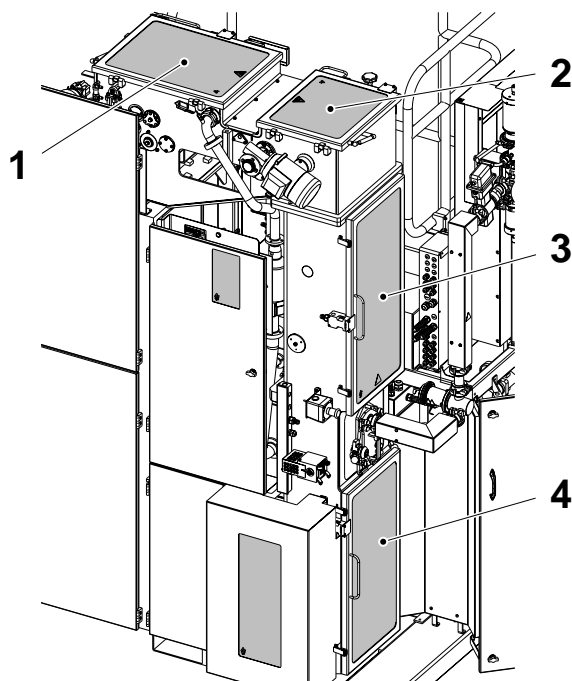
- All machine movements and functions stop **instantly**
- The pneumatic system de-pressurizes completely
- The machine program steps down to step ZERO.

Take the following actions:

- Eliminate the cause of the stop and clear any alarms.
- Twist out and reset the EMERGENCY STOP button.
- Cut open the product tube to empty any remaining product.
- Register the cause and number of lost packages in the collect system. See the Manual Recording of a Production Stop Cause in chapter 2 Control Panels.
- Clean the machine according to Daily Care.
- Restart PRODUCTION. See the Preparing after Daily Care section.

Security Stop

All hazardous areas of the machine are fitted with safety switches. If any door or guard fitted with a safety switch is opened the machine will perform a SECURITY STOP.



1

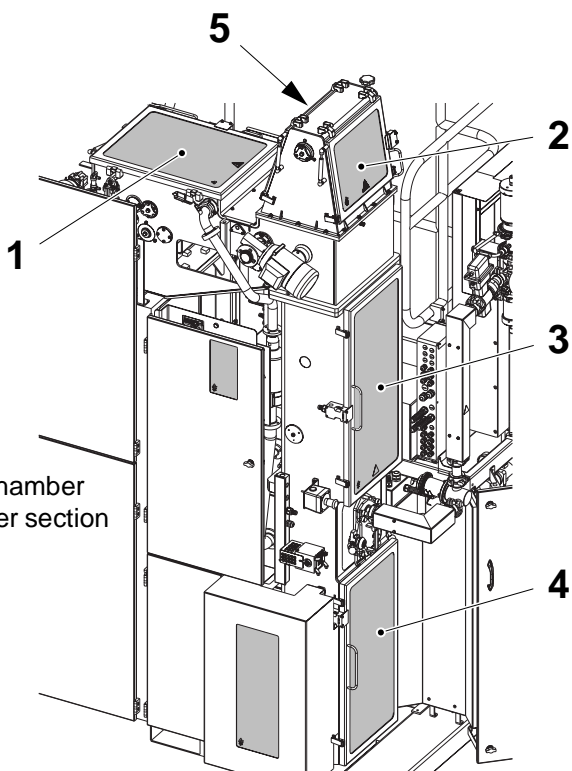
During PRODUCTION the machine will stop immediately if:

- any of the doors of the aseptic chamber (1), (2), (3), (4) or (5) are opened
- there are jammed packages
- there are final folder errors.

Also see the Safety Precautions chapter.

Note! If any of the aseptic chamber doors have been opened, the machine resets to step ZERO. Follow the instructions in the Daily care section.

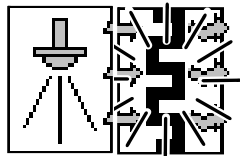
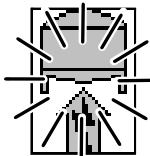
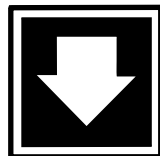
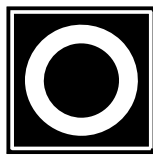
Reset any alarms on the TPOP.



Drying chamber with upper section

Short Stop

Use the SHORT STOP button to stop the machine for 15 minutes or less.



CAUTION

Machine steps down.

If a package material splice is in the peroxide bath when the machine is in SHORT STOP, the machine automatically steps down to DRYING.

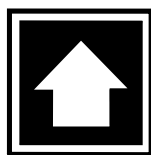
1

Use SHORT STOP to stop the machine for 15 minutes or less.

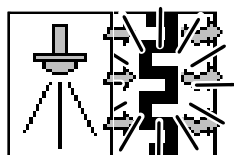
To stop the machine during PRODUCTION:

- Select whether to stop the LH or the RH pair of jaws in an open position by turning the selector switch
- Press the SHORT STOP button or press the PROGRAM DOWN button once
- the machine program steps down to SIGNAL TO STERILIZER. The SIGNAL TO STERILIZER symbol and the DRYING symbol are lit.
- the machine stops in design with the selected jaw pair in the open position. (A bar on the TPOP indicates the remaining time since the Short stop button was pressed)

Note! Register the stop reason in the collect system. See chapter [2 Control Panels](#).

**1 a**

Press the PROGRAM UP button to restart the machine.



! CAUTION

Risk of serious production fault.

If the machine has been stopped for more than 40 minutes, the alarm NEW STERILIZATION IS RECOMMENDED appears on the TPOP. It is recommended to step down the machine and perform a new sterilization of the machine.

CAUTION

Risk of broken packaging material web.

If the machine has been stopped for more than 20 minutes, the alarm PERFORM JAW INCHING appears on the TPOP. Press the INCHING button until the machine stops, this renews the packaging material from the inlet of the peroxide bath to the jaws, to minimize the risk of the packaging material web breaking.

Short Stop Time Exceeded

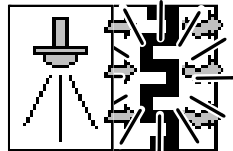
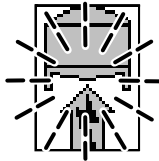
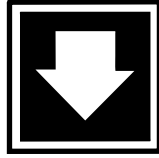
1 b

If the machine has been stopped for more than 15 minutes, the machine program steps down to step DRYING.

To restart the machine, see chapter [4 Start](#).

Normal Stop

Use NORMAL STOP to stop the machine during PRODUCTION.



CAUTION

Risk of serious production fault.

If the machine has been stopped for more than 40 minutes, the alarm NEW STERILIZATION IS RECOMMENDED appears on the TPOP. It is recommended to step down the machine and perform a new sterilization of the machine.

CAUTION

Risk of broken packaging material web.

If the machine has been stopped for more than 20 minutes, the alarm PERFORM JAW INCHING appears on the TPOP. Press the INCHING button until the machine stops, this renews the packaging material from the inlet of the peroxide bath to the jaws, to minimize the risk of the packaging material web breaking.

1

To stop the machine during PRODUCTION, press the PROGRAM DOWN button twice.

The machine program steps down to DRYING. The SIGNAL TO STERILIZER symbol and the DRYING symbol are lit.

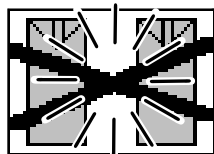
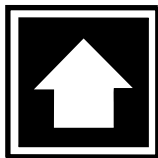
The machine continues until the product is emptied from the tube and then stops.

Register the stop reason in the collect system. See chapter [2 Control Panels](#).

Restart the machine as usual. See chapter [4 Start](#).

Production Finished Stop

Use PRODUCTION FINISHED if this is the planned time to end PRODUCTION.



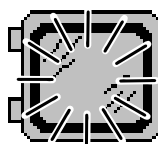
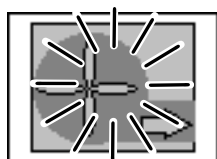
1

To stop PRODUCTION, press the PROGRAM UP button.

The machine program steps to PRODUCTION ENDED.

As soon as the tube is empty, there is a pause for two minutes.

Note! To interrupt the automatic sequence see [Interrupting the Automatic Sequence](#) on page [8-11](#).



1a

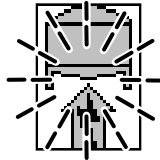
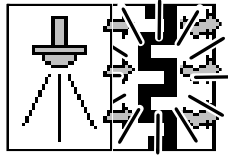
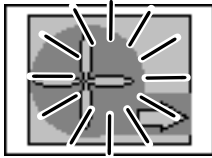
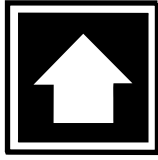
After the pause the machine program steps to VENTING ASEPTIC CHAMBER for 10 minutes. A time bar on the TPOP displays the remaining time.

After the step VENTING ASEPTIC CHAMBER, the machine automatically proceeds to step DOORS ASEPTIC CHAMBER.

The peroxide fumes are exhausted, the compressor stops, and the aseptic chamber doors can be opened.

Go immediately to
VENTING ASEPTIC CHAMBER

Return to PRODUCTION



Interrupting the Automatic Sequence

2

During the two minute pause before the program steps to VENTING ASEPTIC CHAMBER, it is possible to proceed straight to step VENTING, or return to PRODUCTION.

To step to VENTING ASEPTIC CHAMBER:

- press the PROGRAM UP button for three seconds.

To return to PRODUCTION:

- press the PROGRAM DOWN button
 - the program steps to DRYING
 - the SIGNAL TO STERILIZER symbol and the PROGRAM UP button start to flash
 - press the PROGRAM UP button and restart the machine, see chapter [4 Start](#).

This page intentionally left blank

TechPub_2614345_0105 - 11_OM81809_10en.fm

9 Care and Cleaning

This chapter describes how to clean and maintain the machine. Perform Daily Care after every PRODUCTION run. Perform Weekly care once a week or after every 120 hours of operation.

**CAUTION**

Risk of minor or moderate injury.

Use only Tetra Pak recommended cleaning compounds when cleaning parts which may come into contact with hydrogen peroxide. Cleaning with non-recommended compounds may cause an explosion!

Daily Care	9 - 5
Daily Care or Daily and Weekly Care?	9 - 5
Internal Cleaning	9 - 20
Final Cleaning	9 - 22
Intermediate Cleaning	9 - 23
External Cleaning	9 - 25
Recorder	9 - 31
Paper Recorder, Cleaning (OE)	9 - 31
Recorder	9 - 38
Process and CIP Recorders (OE)	9 - 41
Weekly Care	9 - 46
Gasket Replacement	9 - 55
Change Dollies	9 - 57
Change Oil	9 - 58
Service Unit - Clean Filters	9 - 62
ICU - Refill Containers	9 - 63

This page intentionally left blank

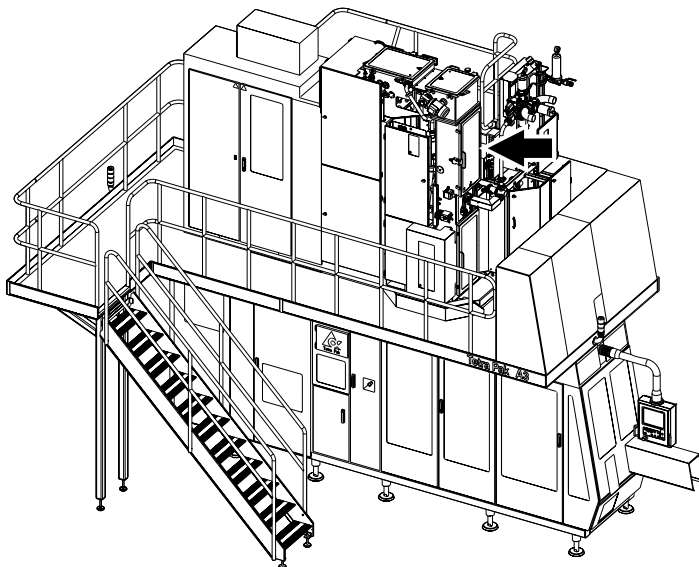
Daily Care

This section describes what to do after each PRODUCTION_run or at least every 24 operating hours.

Daily Care or Daily and Weekly Care?

Note! IF ONLY DAILY CARE IS TO BE PERFORMED, START WITH ITEM 1.

Note! IF BOTH DAILY CARE AND WEEKLY CARE HAVE TO BE PERFORMED, START FROM ITEM 2.



WARNING

Hydrogen Peroxide.

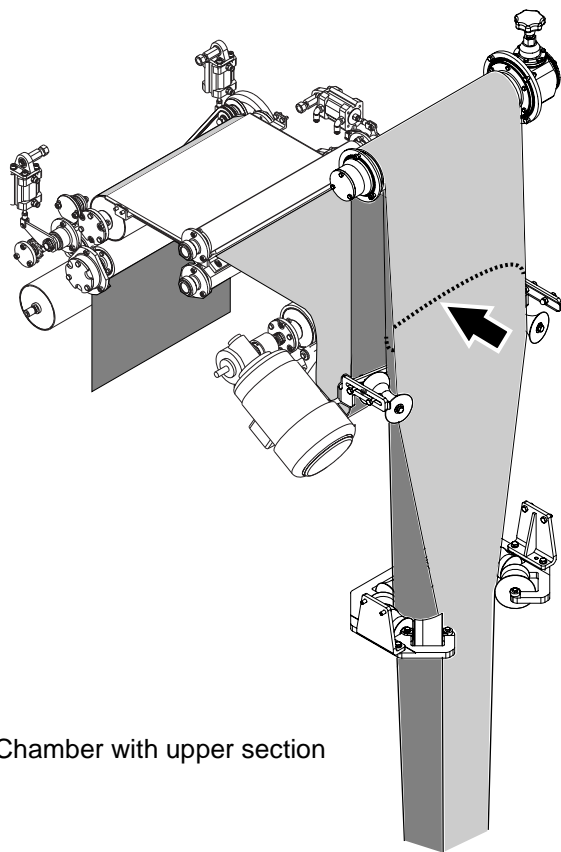
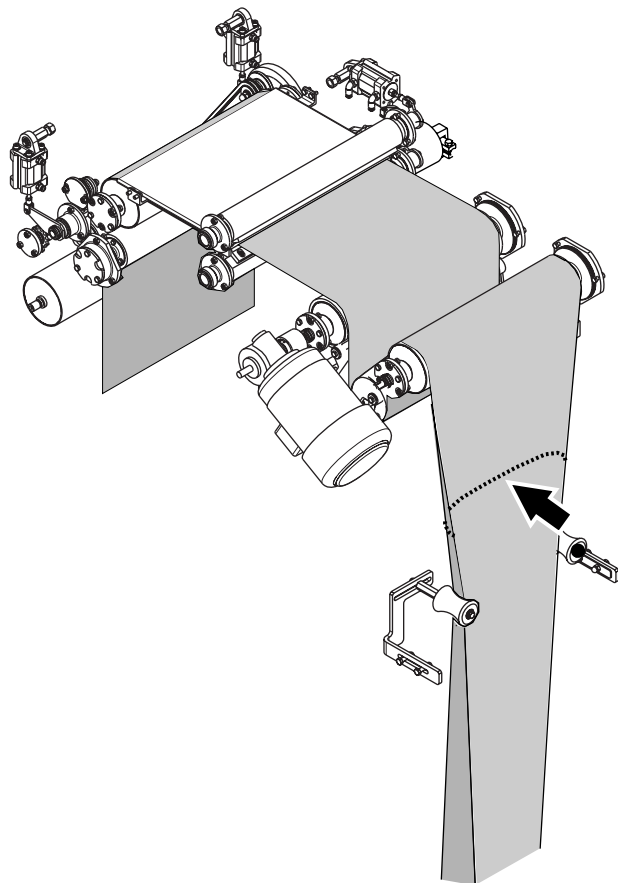
Follow the Safety Precautions.

1

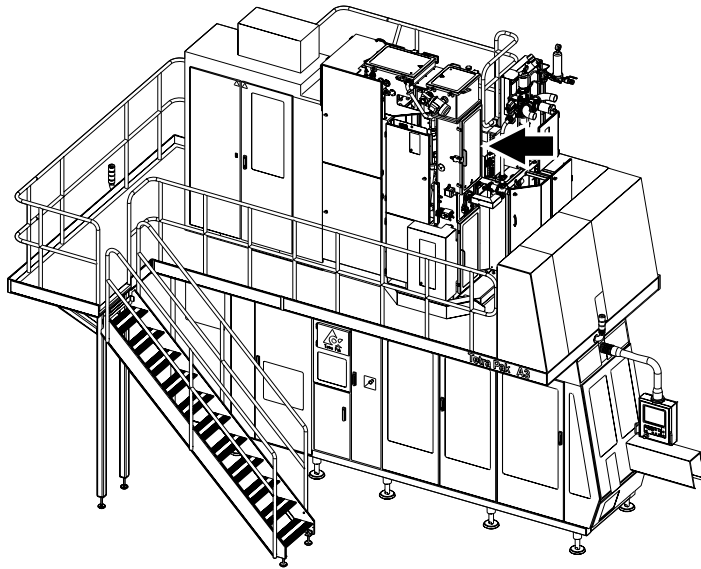
Open the upper aseptic chamber door.

1a

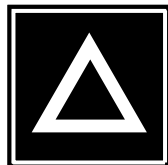
Cut off the packaging material at the position shown in the illustration.



Drying Chamber with upper section

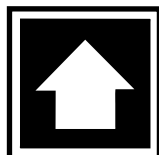
**1b**

Close the upper aseptic chamber door.

**1c**

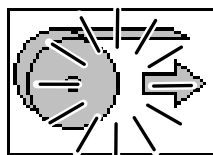
Make sure all covers and doors on the machine are closed and reset any alarms TPOP display.

If an alarm reappears, take the appropriate action or call a technician.

**1d**

Press the PROGRAM UP button.

The PREPARATION symbol lights.

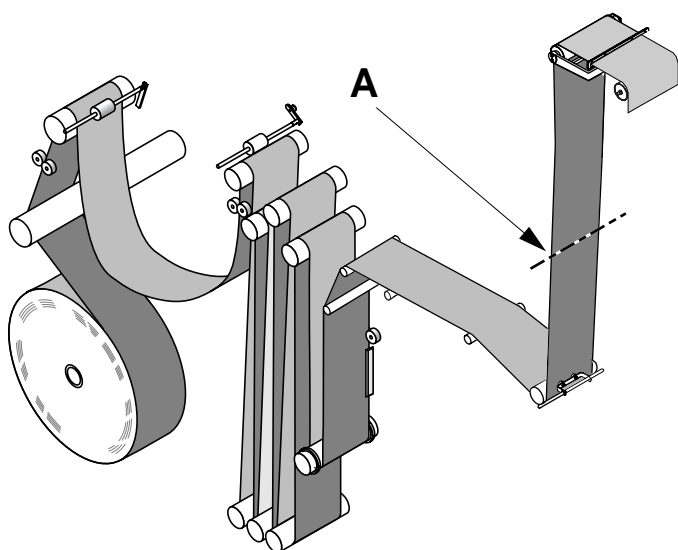


**1e**

Press the INCHING button when it begins to flash.

Keep the button pressed until all the packaging material tube has been fed out.

To continue with DAILY CARE only go to item 3.

**WARNING****Hydrogen Peroxide.**

There is a risk of hydrogen peroxide residue on the packaging material when removing it from the hydrogen peroxide bath. Follow the Safety Precautions.

2

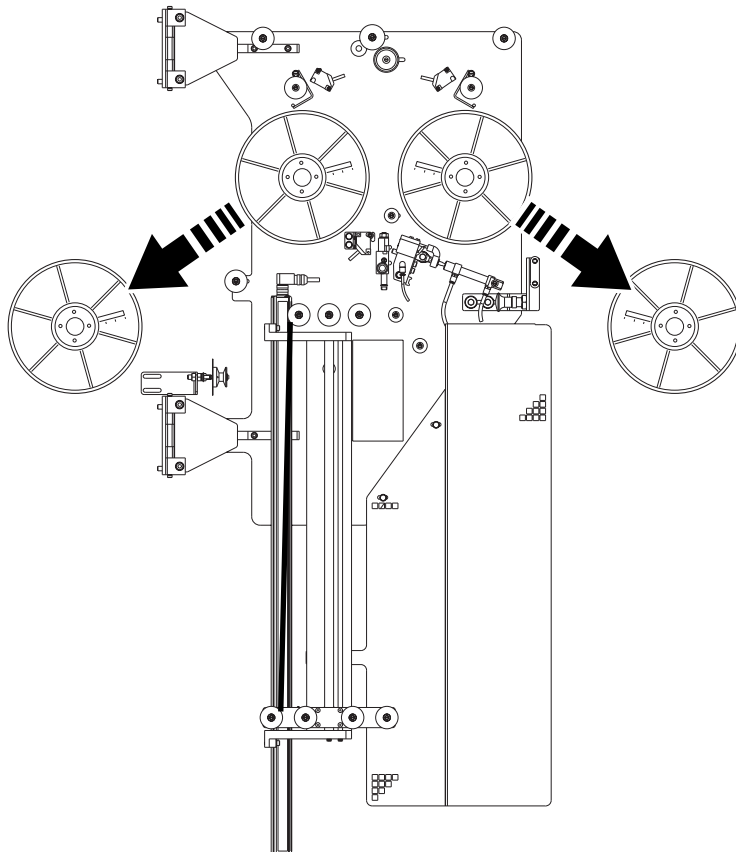
Cut the packaging material at point **A**.

**2a**

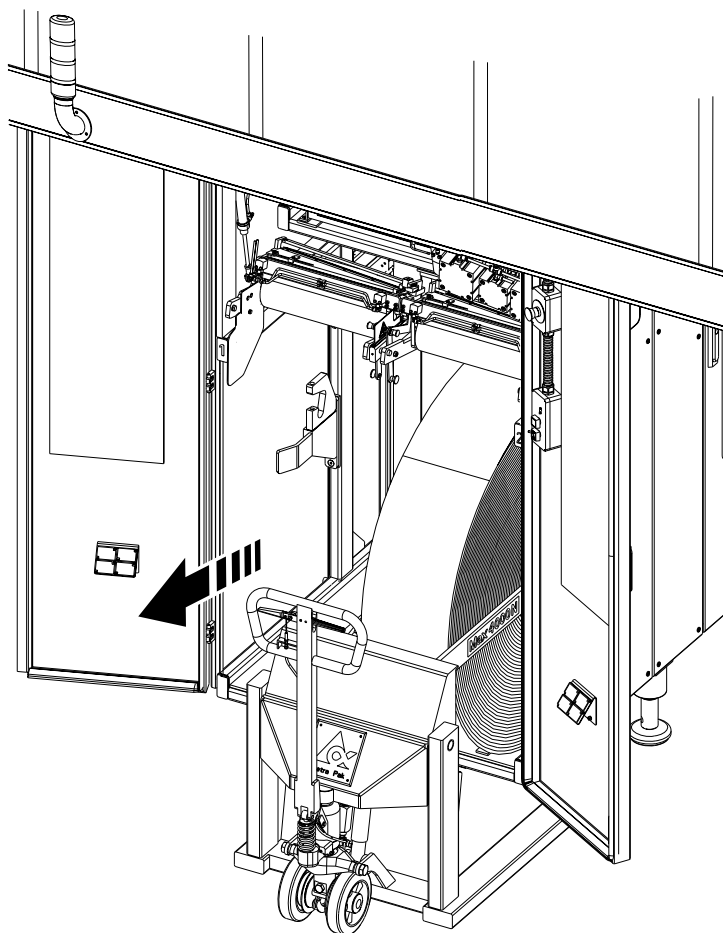
Reset any alarms on the TPOP.

Press the INCHING button when it begins to flash.

Keep the button pressed until all the packaging material tube has been fed out.

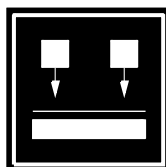
**2b**

Cut the LS strip away from the packaging material. Rewind both LS strips back onto the reels and remove them from the machine.

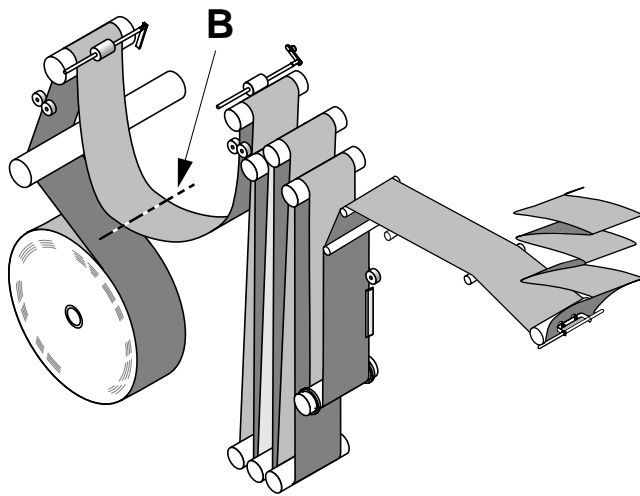
**2c**

Cut off the packaging material under the material holder and remove both packaging material reels.

Secure the loose ends of the reels with tape.

**2d**

Press the MATERIAL LOCKING button to release the packaging material in the ASU.

**CAUTION****Risk of personal injury.**

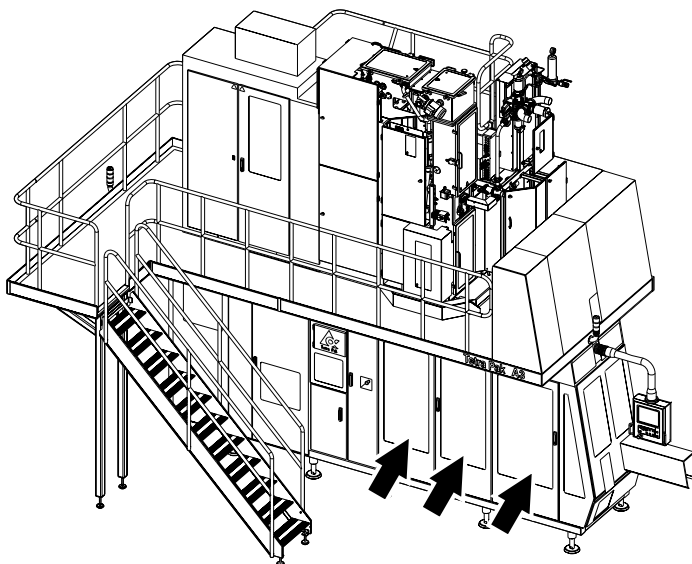
Make sure the rollers of the ASU magazine are in the lower position before cutting the packaging material web.

2e

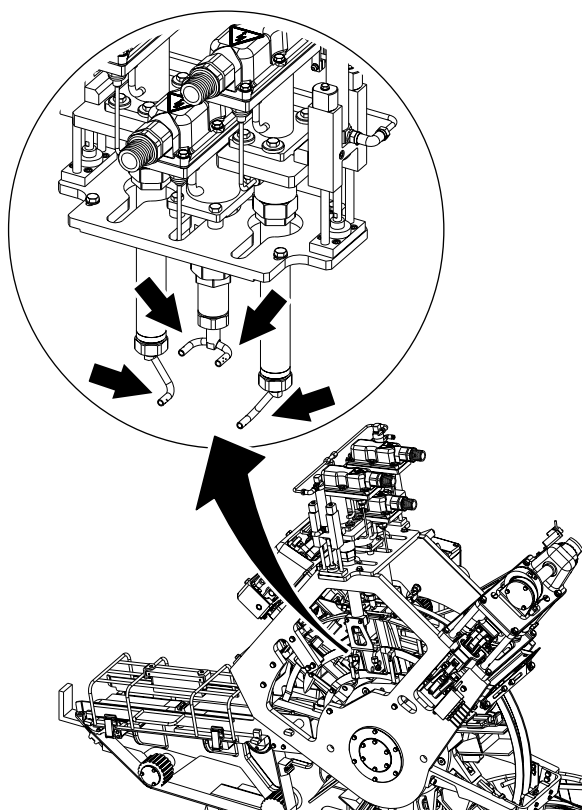
Cut the packaging material at point **B**.

Pull forward and remove all the remaining packaging material by hand from the ASU and the rest of the machine.

Note! Cut the packaging material at additional points to facilitate the removal of the packaging material.

**3**

Open the doors to the jaw unit and the final folder unit.

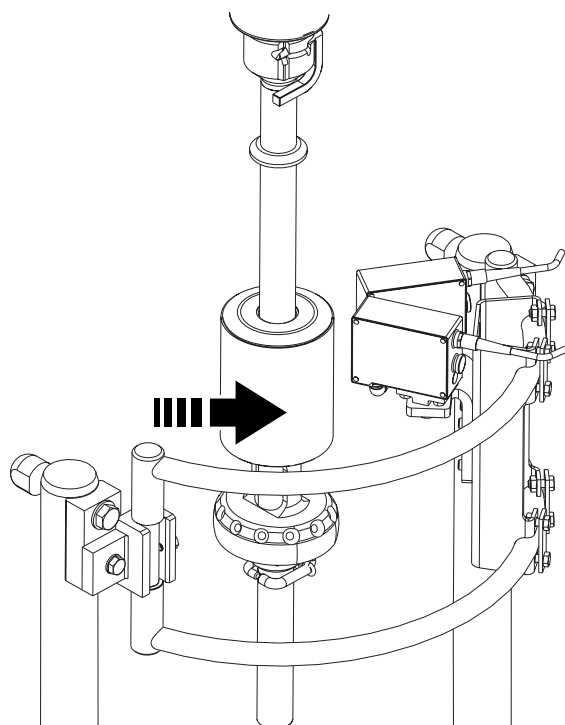
**! WARNING****Hot surface.**

The nozzles and other parts of the final folder may be hot. Wear personal protective equipment.

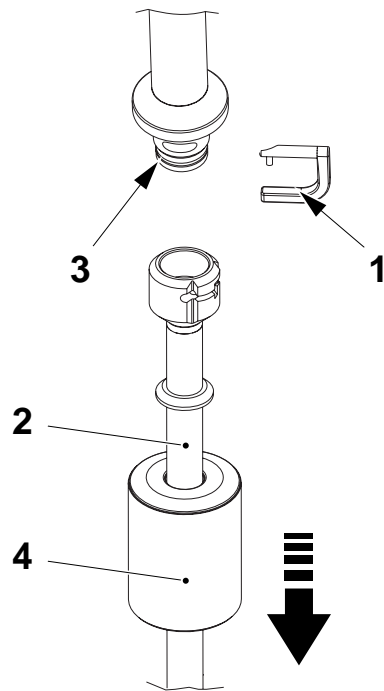
4

Clean the four heating nozzles of the flap heater (arrow) in the final folder with a brass wire brush.

Check that the air holes of the nozzles are not clogged after the cleaning. Blow clean the nozzles with compressed air.

**5**

Swing the bow clamp outwards.



5a

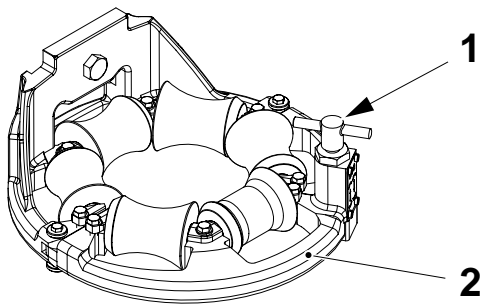
Remove the lock pin (1) and the lower part of the filling pipe (2).

Remove the O-ring (3) and check for wear or damage. Change if required.

Check that the float (4) is not damaged or cracked and that no liquid has leaked inside the float (4). The nominal weight of the float (4) is marked on the float (10 grams). Weigh the float (4) and change if necessary.

Note! Make sure that these parts are cleaned after CIP and external cleaning have been started.

TechPub_2614345_0105 - 12_OM81809_10en.fm



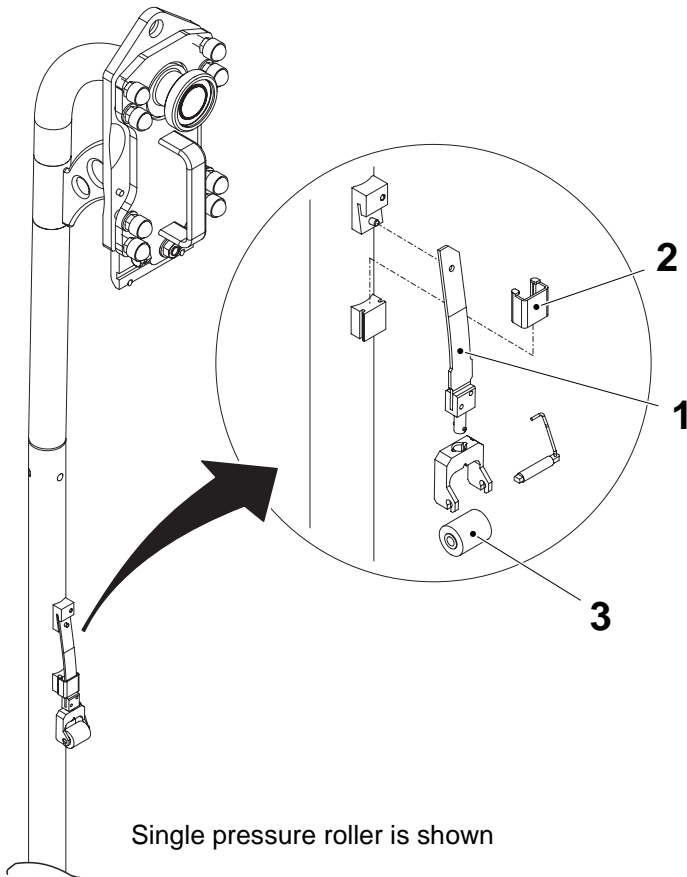
! WARNING

Burn Hazard.

The components may be hot. Wear personal protective equipment.

5b

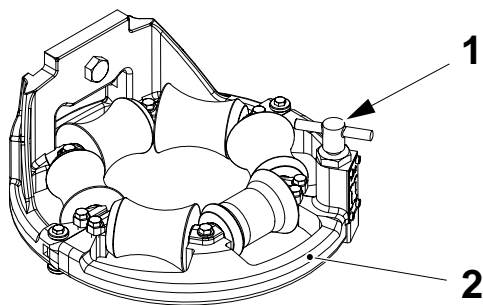
Pull the lever (1) and open the lower forming ring (2).



5c

Note! Make a note of which direction the part number on the roller (3) is facing and assemble in the same direction after cleaning.

Press on the spring (1) and slide up the hood (2). Turn the spring (1) sideways until the pressure roller can be pulled off the filling pipe.

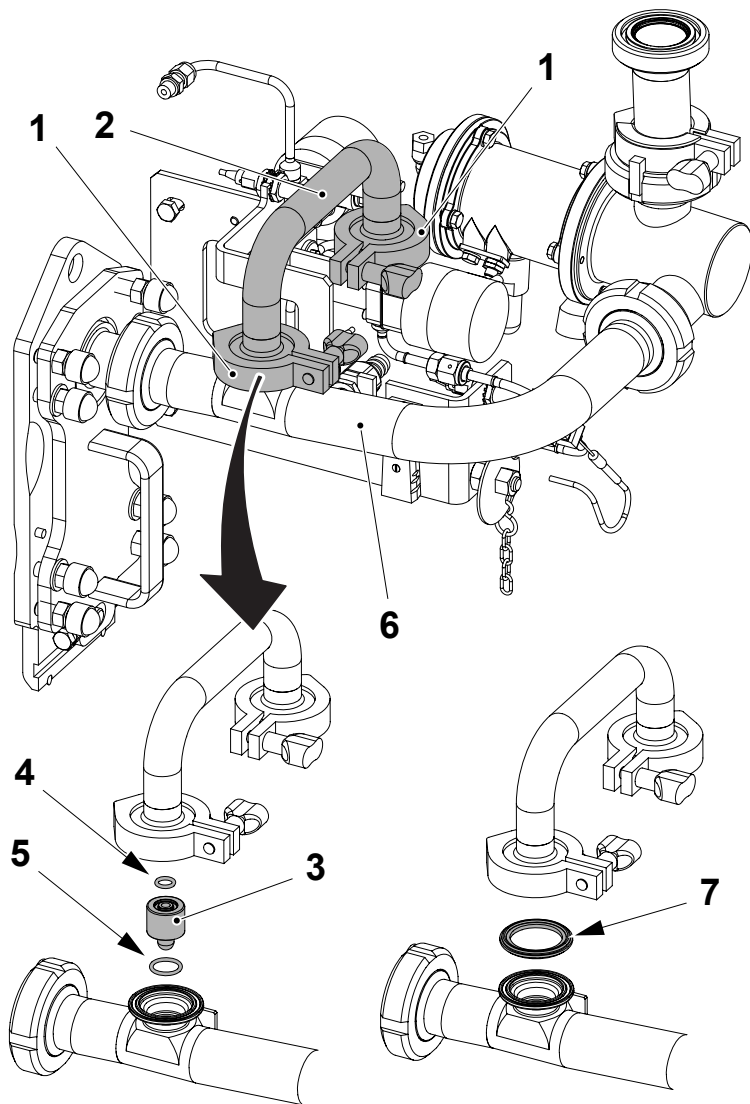


! WARNING

Burn Hazard.
The components may be hot. Wear personal protective equipment.

5d

Pull the lever (1) and close the lower forming ring (2).

**6**

Note! If the filling machine is not equipped with HI (OE) or if the HI equipment has been bypassed continue with item 7 on page 9-17.

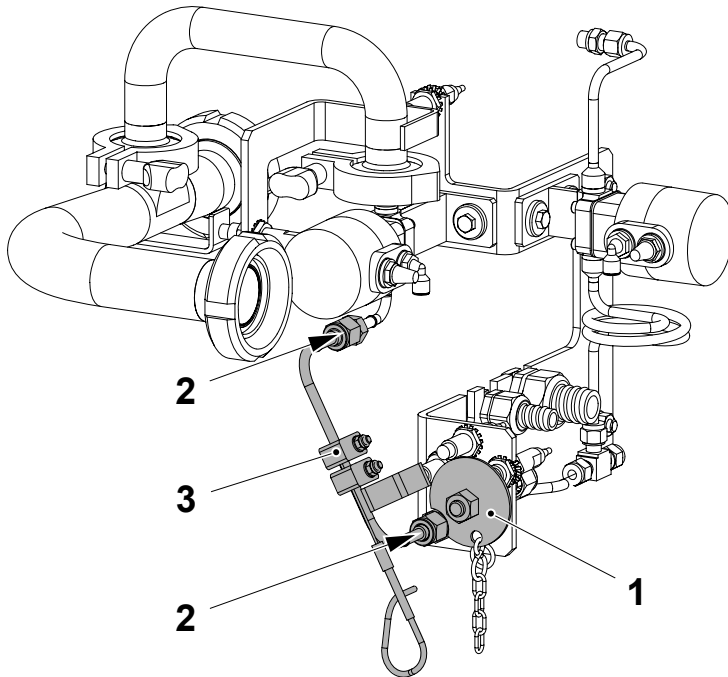
Loosen the pipe clamps (1) and remove the pipe (2).

Remove the nozzle (3) and the O-rings (4) and (5) from the HI product pipe (6).

Note! Clean the nozzle (3) as described in item 14 on page 9-30.

Fit the gasket (7) and the pipe (2) and tighten the pipe clamps (1).

PRODUCTION position



6a

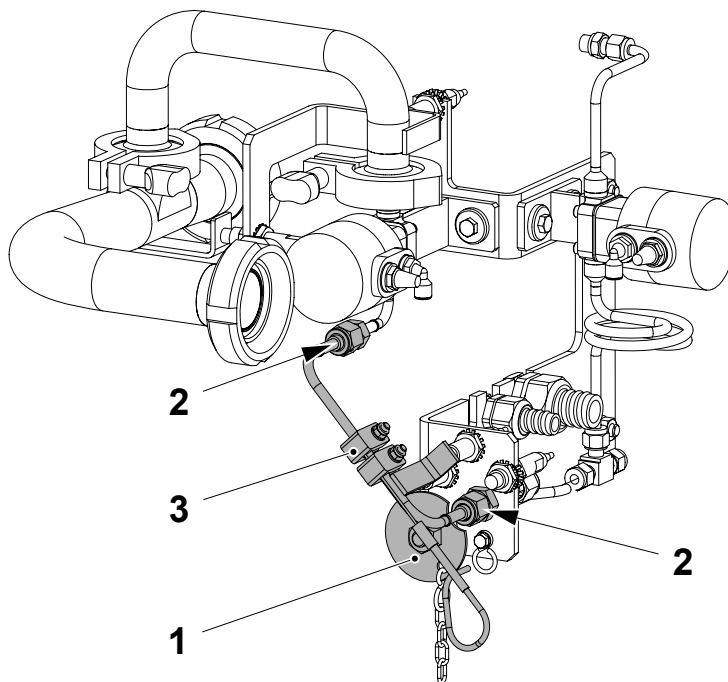
Remove the cap (1) from the CLEANING connection.

Loosen the connections (2) to release the pipe (3). Check that the O-rings are not worn or damaged. Change them if necessary.

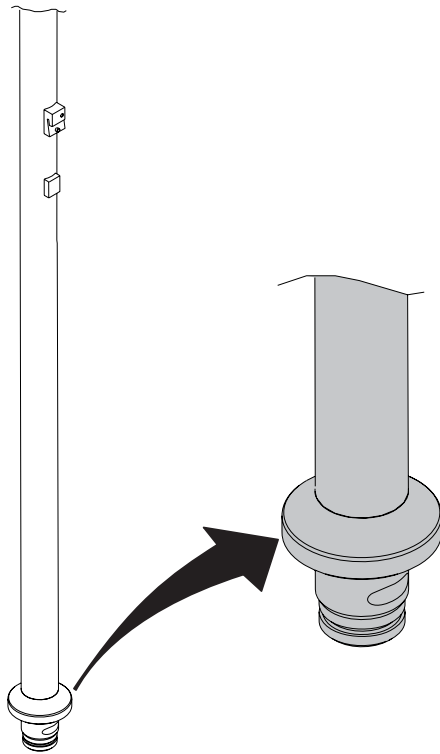
Swing the pipe (3) into the CLEANING position.

Fit and tighten the cap (1) on the PRODUCTION connection.

CLEANING position



TechPub_2614345_0105 - 12_OM81809_10en.fm

**CAUTION****Risk of serious production fault.**

Take care to remove all visible product residue from the pipe. Sterilisation is effective on clean surfaces but may not be effective on product residue.

CAUTION**Hygiene.**

Before handling clean parts, disinfect hand/gloves with cleaning compound code **H**.

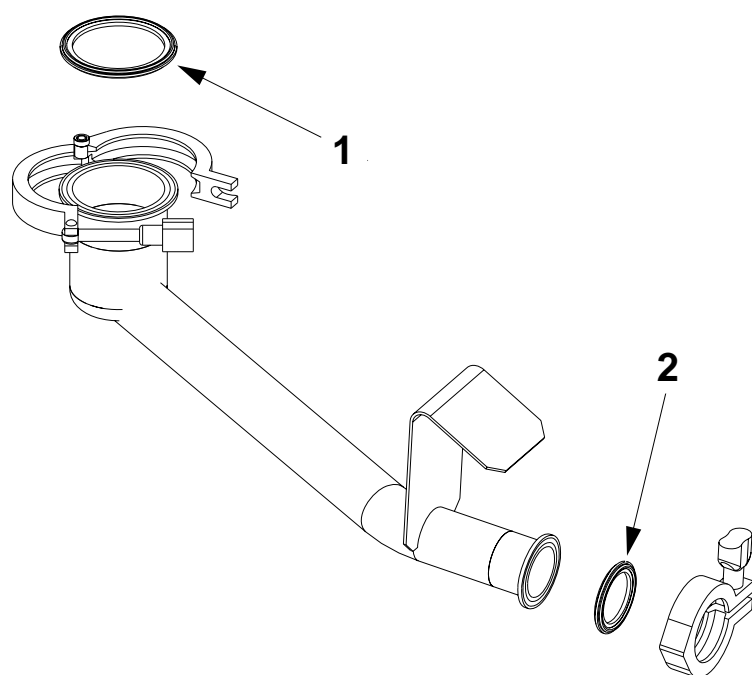
7

Wipe off any product residue on the lower part of the upper filling pipe with a sponge.

Use water and cleaning compound code **D**. Rinse with drinking water.

Spray a small quantity of disinfectant code **G3**, on the filling pipe covering entirely the flange area, shown shaded in the illustration.

Note! For cleaning compound code information, see chapter 11 Technical Data.

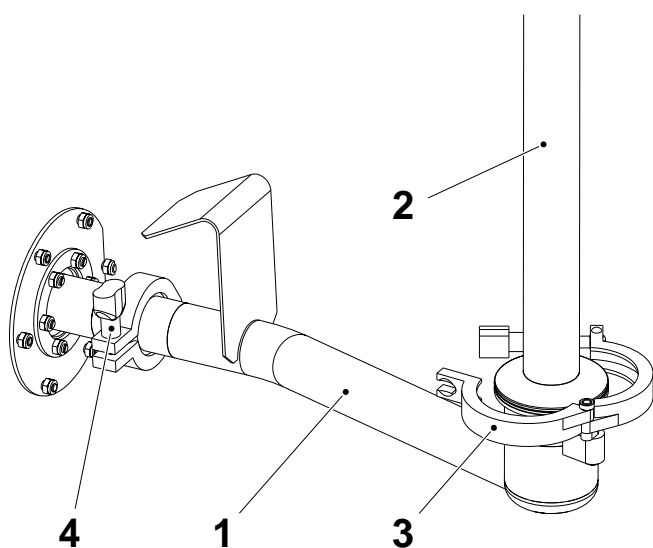
**CAUTION**

Risk of damage to the equipment.

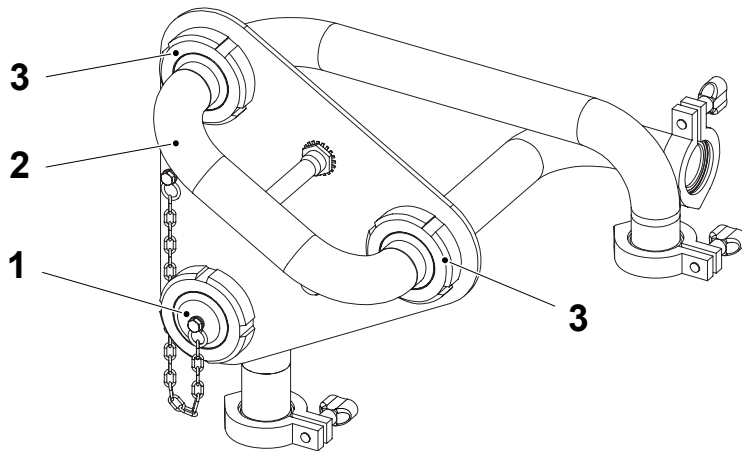
Replace worn or damaged seals. A bad seal may cause leakages and an ineffective cleaning process.

7a

Check the gaskets (1) and (2) of the cleaning sleeve. Change if required.

**7b**

Fit the cleaning sleeve (1) to the filling pipe (2) and secure it with the catches (3) and (4).



8

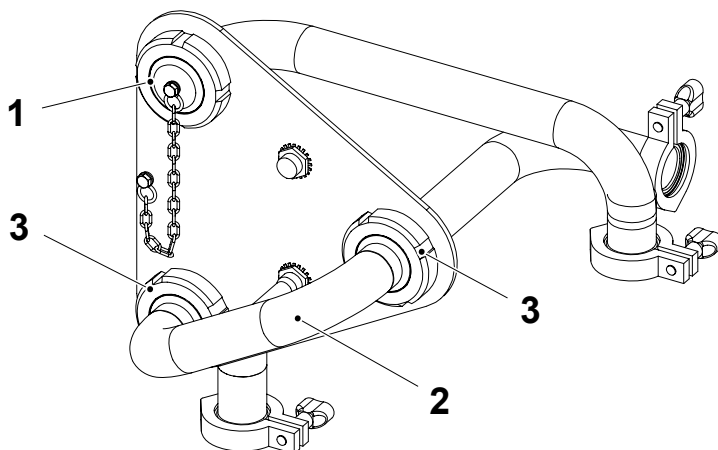
Note! If the filling machine is equipped with an automatic cleaning valve (OE) go to item 10 on page 9-20.

Remove the cap (1) from the cleaning pipe.

Remove the change-over pipe (2) from the production position by loosening the locking rings (3).

Check the gaskets of the locking rings (3) for wear or damage and change if required.

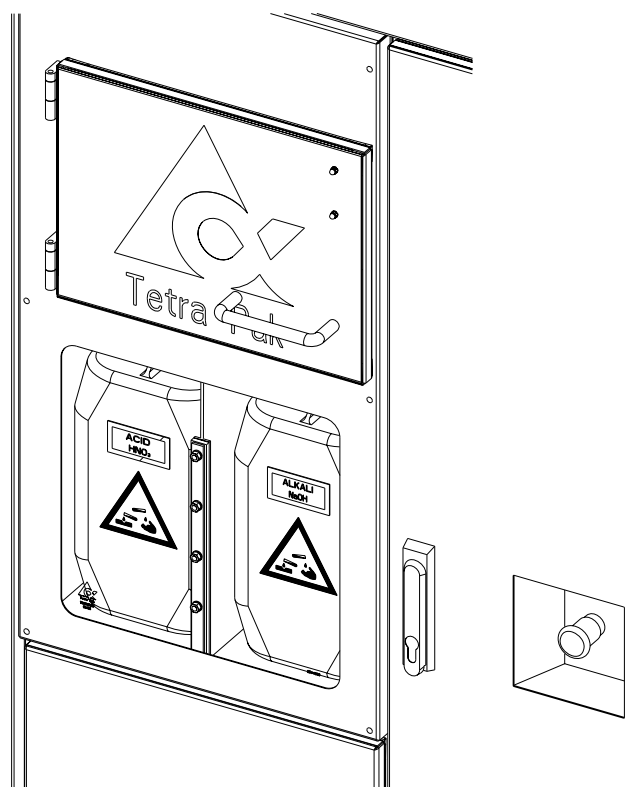
TechPub_2614345_0105 - 12_OM81809_10en.fm



9

Fit the change-over pipe (2) into the cleaning position and tighten with the locking rings (3).

Fit the cap (1) to the product pipe.

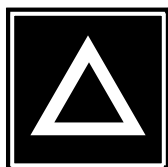
**WARNING**

Chemical Products.

Follow the Safety Precautions.

Internal Cleaning**10**

Check the level of alkali and acid in the containers. If required refill the containers, see the ICU refilling procedure on page [9-63](#).

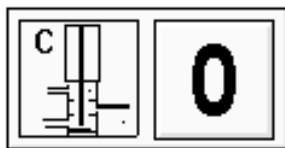
**10a**

Close all covers and doors on the machine and reset the alarms on the TPOP display.

If an alarm is present, take the appropriate action or call a technician.

**10b**

On the TPOP, touch the CIP PROGRAM button.

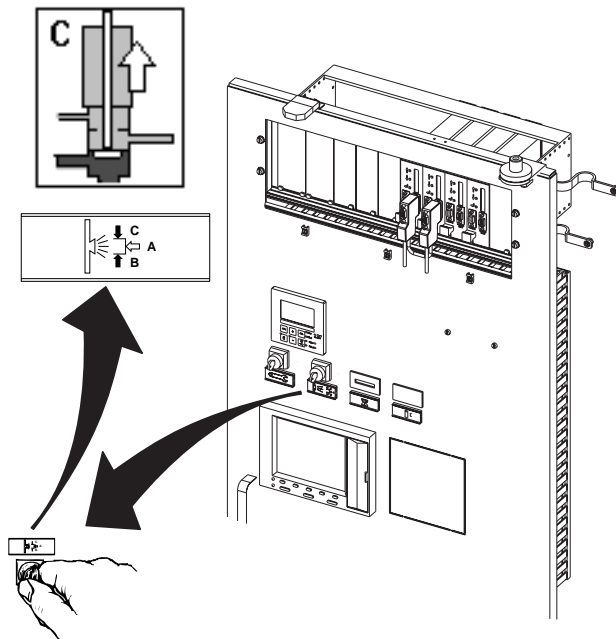
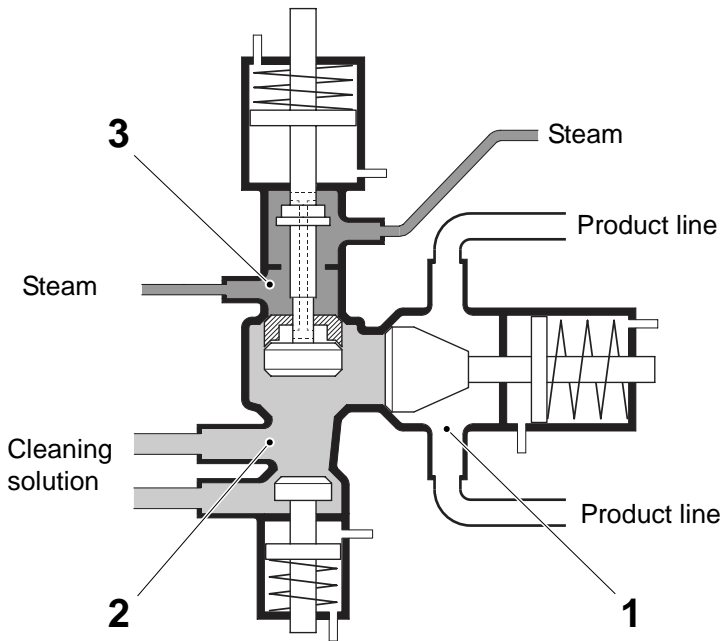
**10c**

The CIP CLEANING symbol appears on the TPOP display.

Decide which CIP method to use:

- Use INTERMEDIATE CLEANING only after an unplanned stop during production (such as an emergency stop) and when production will be started immediately after cleaning. All parts of the filling system, except the steam valve C, are cleaned. Continue with item 10e to perform INTERMEDIATE CLEANING.
- Use FINAL CLEANING after every production run and while the product line is also being cleaned. The entire filling system including the steam valve C is cleaned. Continue with item 10d to perform FINAL CLEANING.

Product valve during FINAL CLEANING



CAUTION

Risk of serious production fault.

FINAL CLEANING must only be performed if the product line is empty and no other machines connected to the product line are in the PRODUCTION phase. Never perform FINAL CLEANING while product remains in the product line.

Final Cleaning 10d

Note! For INTERMEDIATE CLEANING start with item 10e.

FINAL CLEANING must be performed after every PRODUCTION run and at the same time as the cleaning of the product line.

The filling system and all of the surfaces inside the product valve which are in contact with product are cleaned. This includes the area inside the product valve which acts as a steam barrier between the filling system of the machine and the product line (the steam valve C).

- 1 PRODUCT VALVE (A)
- 2 STERILE AIR VALVE (B)
- 3 STEAM VALVE (C)

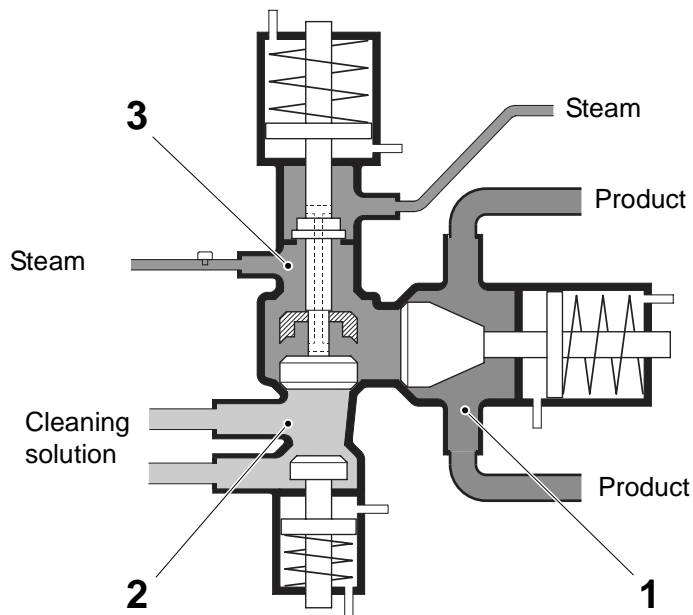
For FINAL CLEANING, turn the non-locking key switch to the RH position.

Continue with item 10f.

Note! For further information concerning FINAL CLEANING and INTERMEDIATE CLEANING, see the technical manual; Cleaning of Tetra Brik Aseptic Filling machines.

TechPub_2614345_0105 - 12_OM81809_10en.fm

Product valve during INTERMEDIATE CLEANING

**CAUTION****Risk of serious production fault.**

INTERMEDIATE CLEANING does not clean the area of the product valve acting as a steam barrier between the product valve and the product line (the C valve). Do not use INTERMEDIATE CLEANING if there will be a delay between the cleaning and the start of production. Never use INTERMEDIATE CLEANING as a replacement for FINAL CLEANING.

Intermediate Cleaning**10e**

Note! For FINAL CLEANING start with item 10d.

INTERMEDIATE CLEANING must be performed if there is an unplanned stop of the filling machine, such as an emergency stop and when product remains in the product line and the production can be restarted immediately after the cleaning.

The filling system and all of the surfaces inside the product valve which are in contact with product are cleaned except the area which acts as a steam barrier between the filling system of the machine and the product line (the steam valve C).

- 1 PRODUCT VALVE (A)
- 2 STERILE AIR VALVE (B)
- 3 STEAM VALVE (C)

Continue with item 10f.

Note! For further information concerning FINAL CLEANING and INTERMEDIATE CLEANING, see the technical manual; Cleaning of Tetra Brik Aseptic Filling machines.

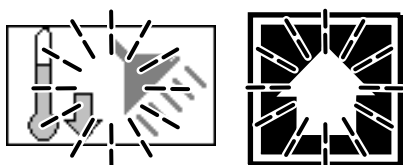
**10f**

Touch the ALKALI button to clean with alkali or the ALKALI AND ACID button to clean with alkali and acid.

**10g**

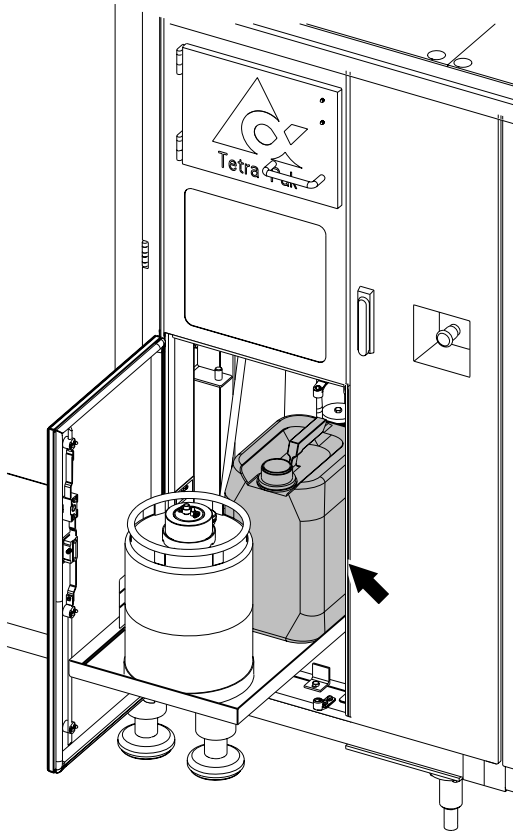
When the PROGRAM UP button starts to flash, press it.

Note! To interrupt or stop the cleaning procedure see page [2-21](#).

**10h**

When the COLD WATER RINSE icon and the PROGRAM UP button start to flash, press the PROGRAM UP button to start the CIP cleaning.

Note! To interrupt or stop the cleaning procedure see page [2-21](#).

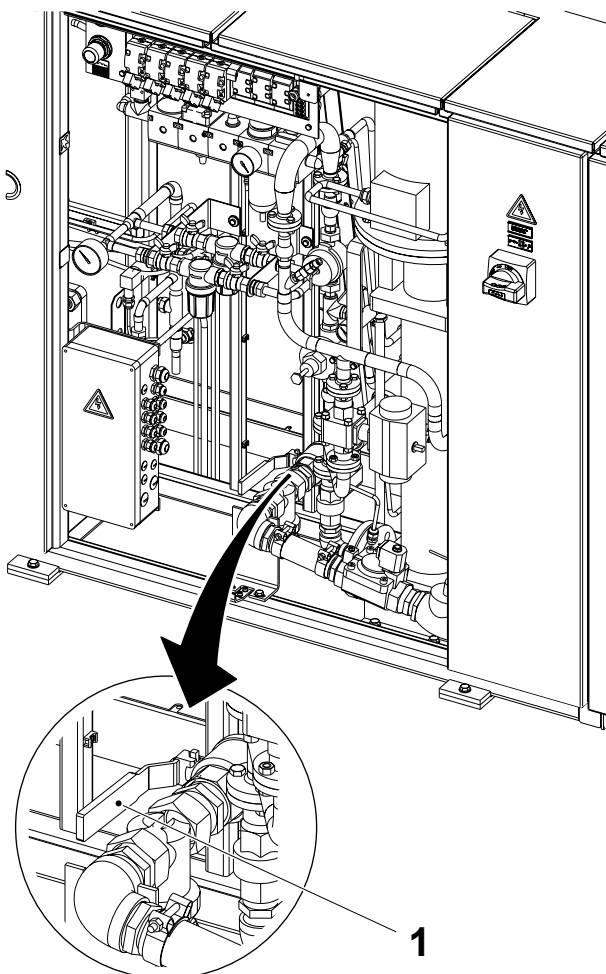
**WARNING****Chemical Products.**

Follow the Safety Precautions.

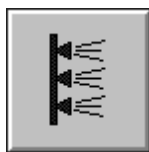
External Cleaning**11**

Check the level of the detergent in the container used for the external cleaning. If required, top up with the cleaning compound code **C1**.

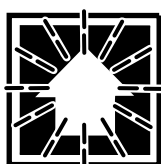
Note! For cleaning compound code information, see chapter [11 Technical Data](#).

**11a**

Use the cleaning handle (1) to open the cleaning valve.

**11b**

Touch the EXTERNAL CLEANING button.

**CAUTION**

Risk of damage to the equipment.

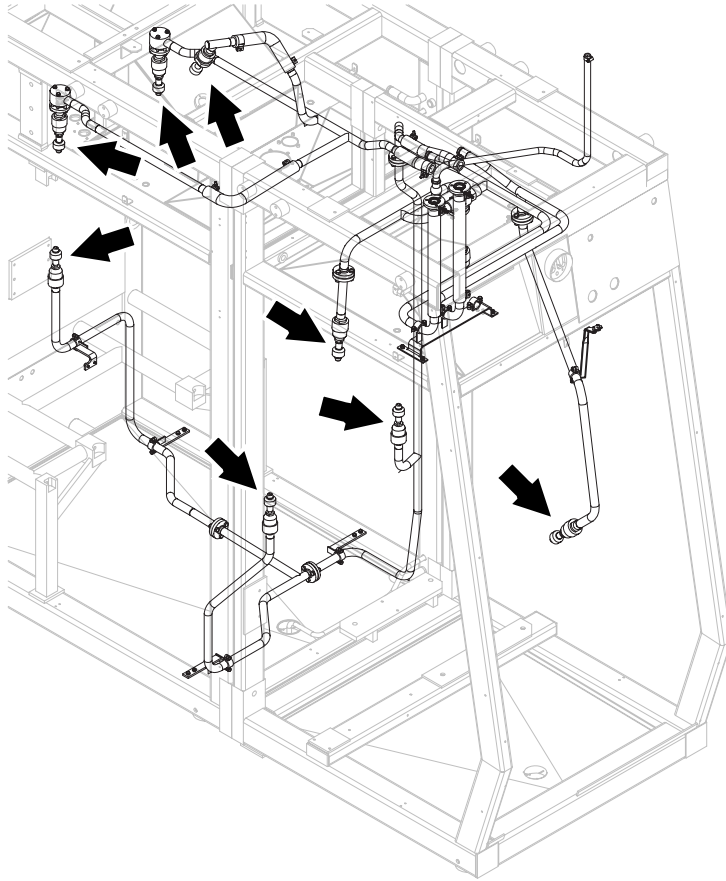
Do not turn off the compressed air and the water supply until CIP cleaning and external cleaning have been completed.

11c

When the PROGRAM UP button begins to flash, press it to start the cleaning.

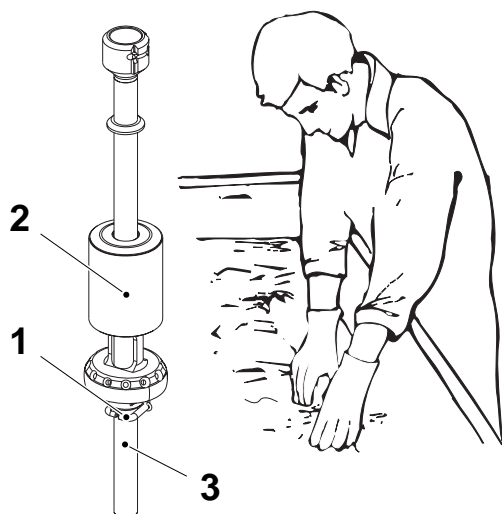
A bar is displayed on the TPOP showing the remaining time.

Note! For details on how to interrupt the cleaning procedures see page [2-23](#).

**11 d**

Check visually through the glass that the cleaning nozzles are functioning properly.

Call a service technician if any of the nozzles do not function.

**CAUTION****Risk of serious production fault.**

Take care to remove all visible product residue from the parts. Sterilization is effective on clean surfaces but may not be effective on product residue.

CAUTION**Hygiene.**

Before handling clean parts, disinfect hand/gloves with cleaning compound code **H**.

12

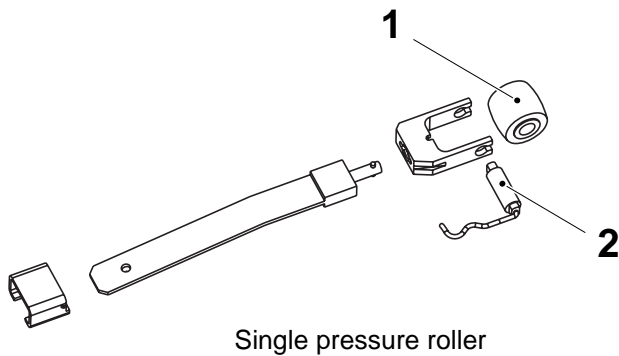
Clean separately by hand:

- the pin (1)
- the float (2)
- lower filling pipe (3).

Use water and the cleaning compound code **D**. Rinse with drinking water.

Store the cleaned lower filling pipe in its storage container. Use the cleaning compound code **F**.

Note! For cleaning compound code information, see chapter [11 Technical Data](#).



! WARNING
Chemical Products.
 Follow the Safety Precautions.

CAUTION
Risk of serious production fault.
 Remove all product residue from the parts. Sterilisation is effective on clean surfaces but may not be effective on product residue.

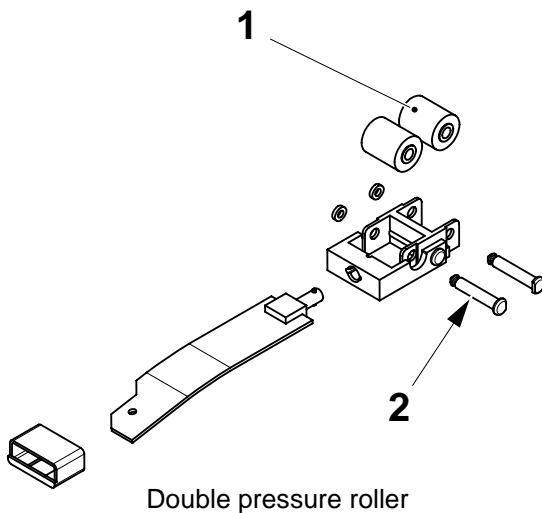
CAUTION
Hygiene.
 Before handling clean parts, disinfect hand/gloves with cleaning compound code H.

13
 Carefully note how the LS strip pressure roller is assembled, then disassemble it.

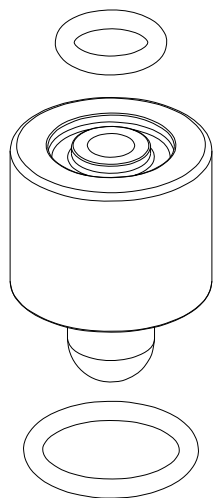
Using cleaning compound code **D**, clean all parts of the LS strip pressure roller.

After cleaning, rinse with drinking water. Make sure that the roller (1) and the shaft (2) are not worn or damaged. Change if required. Assemble the LS strip pressure roller and place it in a dry, clean place.

Note! For cleaning compound code information, see chapter 11 Technical Data.



TechPub_2614345_0105 - 12_OM81809_10en.fm

**WARNING****Chemical Products.**

Follow the Safety Precautions.

CAUTION**Risk of serious production fault.**

Remove all product residue from the parts. Sterilisation is effective on clean surfaces but may not be effective on product residue.

CAUTION**Hygiene.**

Before handling clean parts, disinfect hand/gloves with cleaning compound code **H**.

14

Note! If the filling machine is not equipped with HI (OE) or if the HI equipment has been bypassed continue with item 15 on page 9-31.

Remove the O-rings from the nozzle. check the O-rings for wear or damage and change them as required.

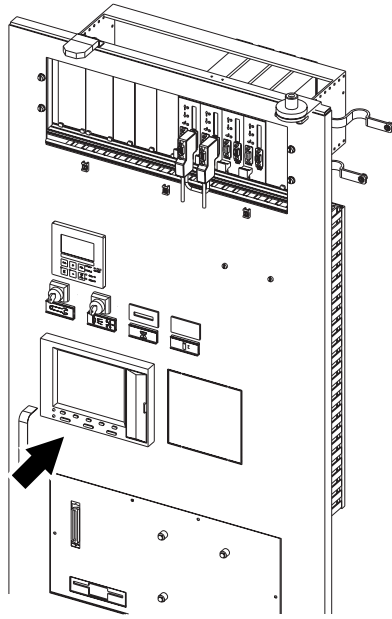
Clean the nozzle using a wire suitable for the hole in order to not modify the nozzle hole size.

Clean the nozzle and the O-rings with cleaning compound code **D**. After cleaning rinse with drinking water.

When the nozzle is dry, hold it up to the light and check that there are no objects blocking the nozzle.

When the nozzle and the O-rings are clean place them in a dry, clean place.

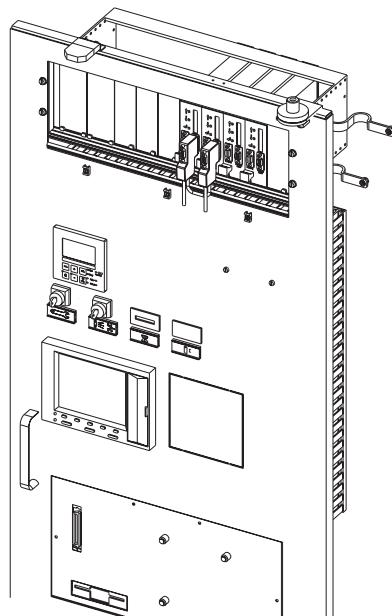
Note! For cleaning compound code information, see chapter 11 Technical Data.



**Recorder
15**

Note! If the filling machine is equipped with paper recorders (OE) go to item **16**.
Check on the CIP data recorder screen that the recorder is recording all of the channels. If not, call a technician.

TechPub_2614345_0105 - 12_OM81809_10en.fm

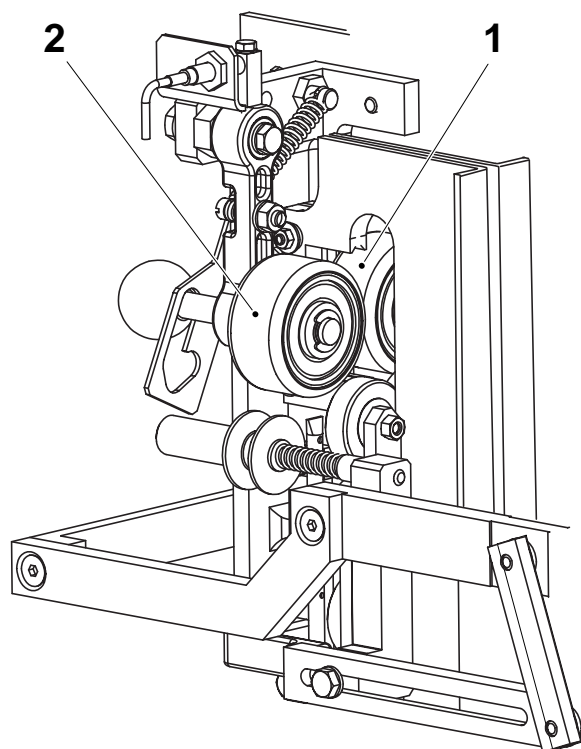


**Paper Recorder, Cleaning
(OE)
16**

Check that the printing on the cleaning recorder is correct on all the channels. If not, call a technician.

Cleaning recorder channels are as follows:

Ch	Colour	Function
AN 4	Blue	CIP conductivity
AN 5	Brown	CIP Flow rate
AN 6	Black	CIP Temperature
DI4	Black	Cleaning ON

**WARNING****Chemical Products.**

Follow the Safety Precautions.

17

On the strip applicator, clean the counter roller (1) and the pressure roller (2) with compressed air. Then use a sponge and cleaning compound code **G1** or **G2**.

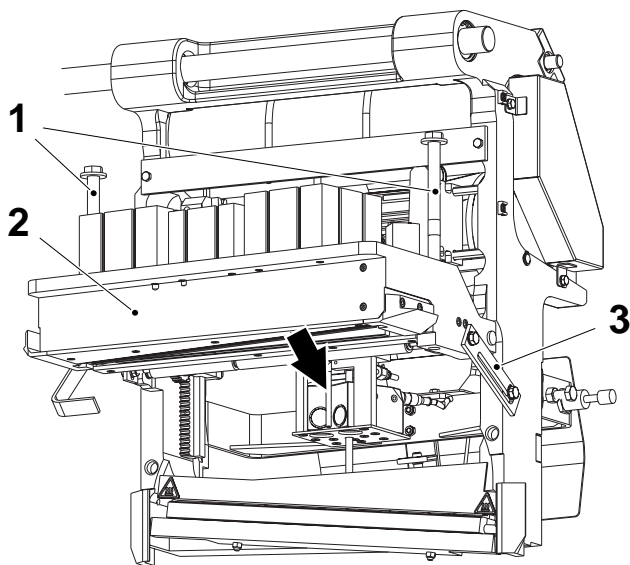
Note! For cleaning compound code information, see chapter [11 Technical Data](#).

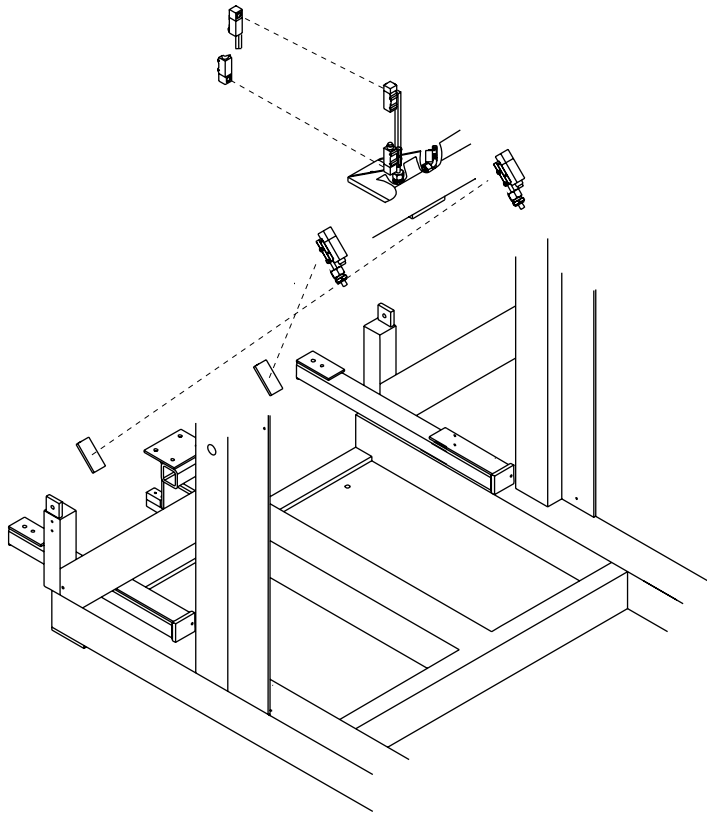
**WARNING****Moving parts can crush and cut.**

Make sure the locking rod (3) is properly locked.

18

- a) Loosen the screws (1).
- b) Lift up the pressure jaw (2) and lock it into position with the locking rod (3).
- c) Clean the photocell lenses on the splicing unit using a clean cloth. A dirty lens may cause reading errors which can affect production.
- d) Release the locking rod (3), swing down the pressure jaw (2) and tighten the screws (1).





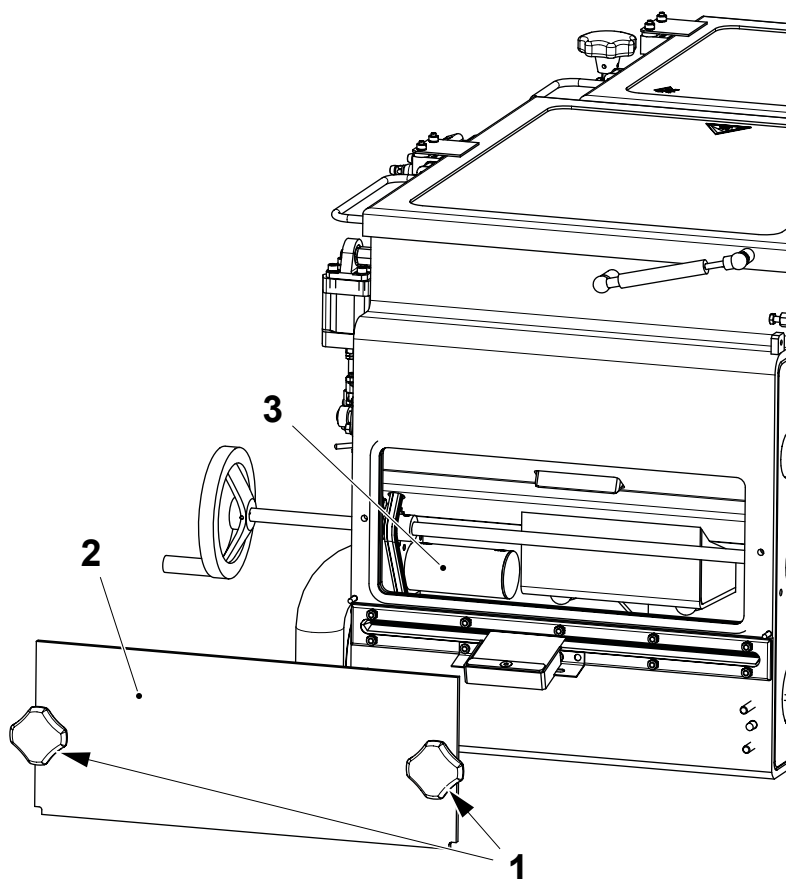
19

Note! Photocells are mounted on a moveable bracket. When cleaning, take care not to change the setting of the photocell.

Clean the eight photocell lenses in the ASU packaging material compartment with a clean dry cloth.

Note! A dirty lens may cause reading errors which can affect production.

TechPub_2614345_0105 - 12_OM81809_10en.fm



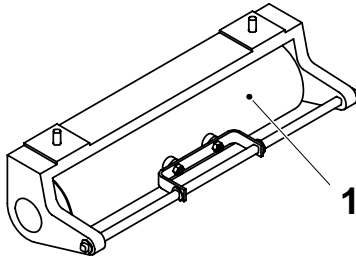
20

Loosen the handles (1) together, untightening them equally.

Remove the hatch (2) and clean the filter (3) from strip or packaging material residues making sure that no packaging material or strip drops inside the peroxide bath.

If the filter (3) is very dirt, loosen the screws, remove the filter and clean it with a brush wire. Fit back the filter (3).

Fit the hatch (2) and tighten the handles (1) equally.

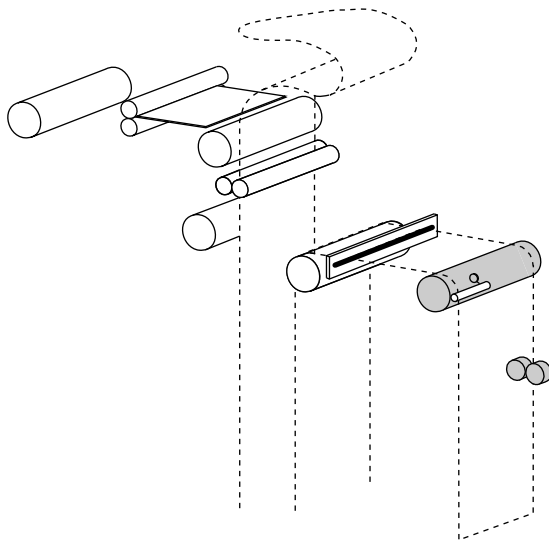
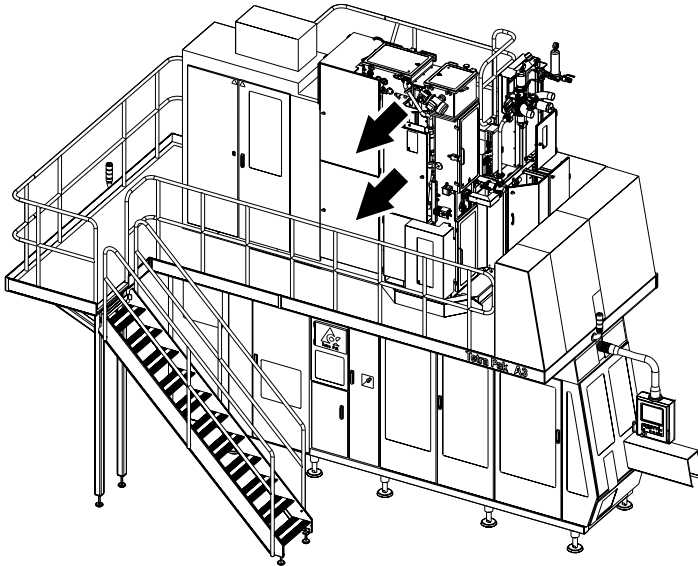


21

Open the doors indicated by the arrow in the illustration.

Clean the roller (1) with a sponge and cleaning compound code **G1** or **G2**.

Note! For cleaning compound code information, see chapter 11 Technical Data.



22

Clean the rollers coloured grey in the illustration, the bending roller, the paper guide and the splice guard with a sponge. Use cleaning compound code **G1** or **G2**.

Wipe dry with a clean cloth.

Note! For cleaning compound code information, see chapter 11 Technical Data.

! WARNING

Burn Hazard.

The components may be hot. Wear personal protective equipment.

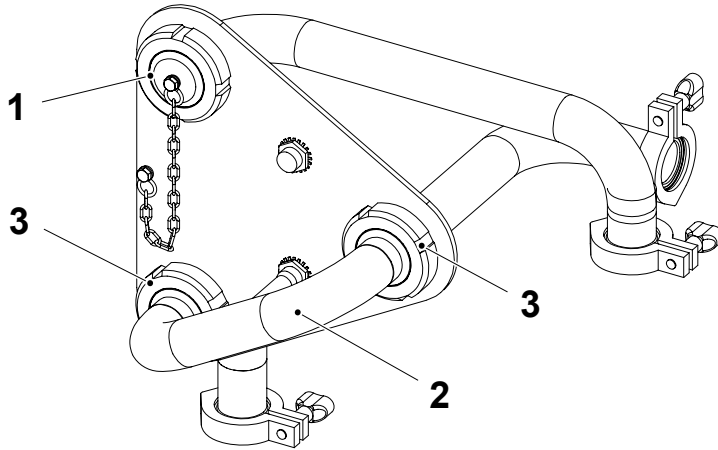
23

Note! If the filling machine is equipped with an automatic cleaning valve (OE) go to item 25 on page 9-37.

When the CIP cleaning is finished, remove the change-over (2) pipe from the cleaning position by loosening the locking rings (3).

Check the gaskets of the locking rings (3) for wear or damage and change if required.

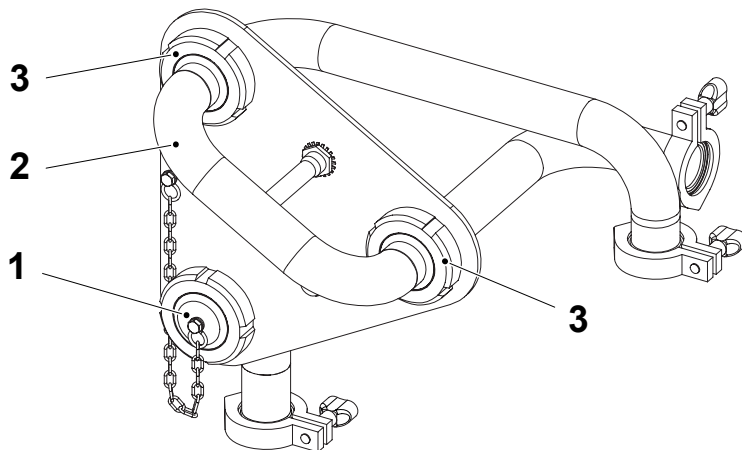
Remove the cap (1) from the production pipe.



23a

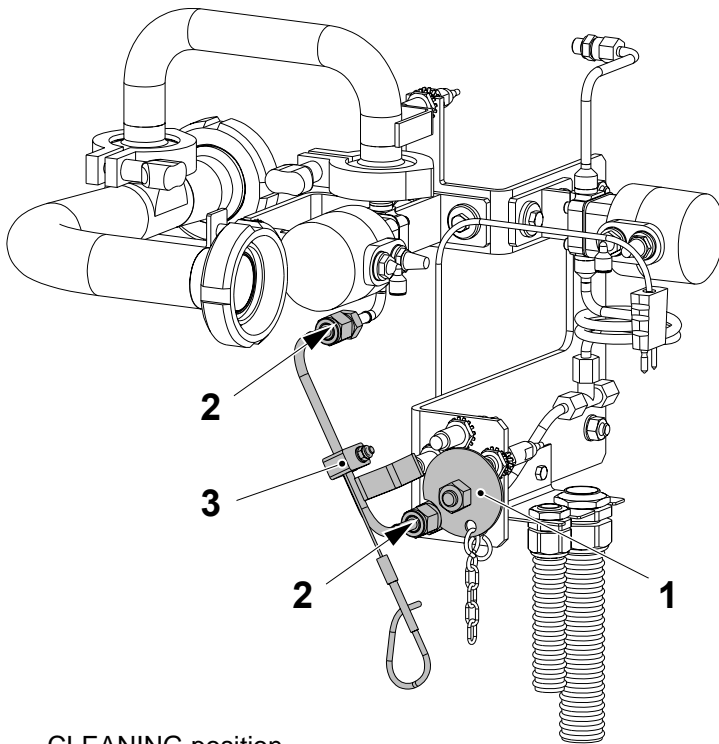
Fit the change-over pipe (2) into the production position and tighten with the locking rings (3).

Note! Fit the cap (1) to the cleaning pipe.

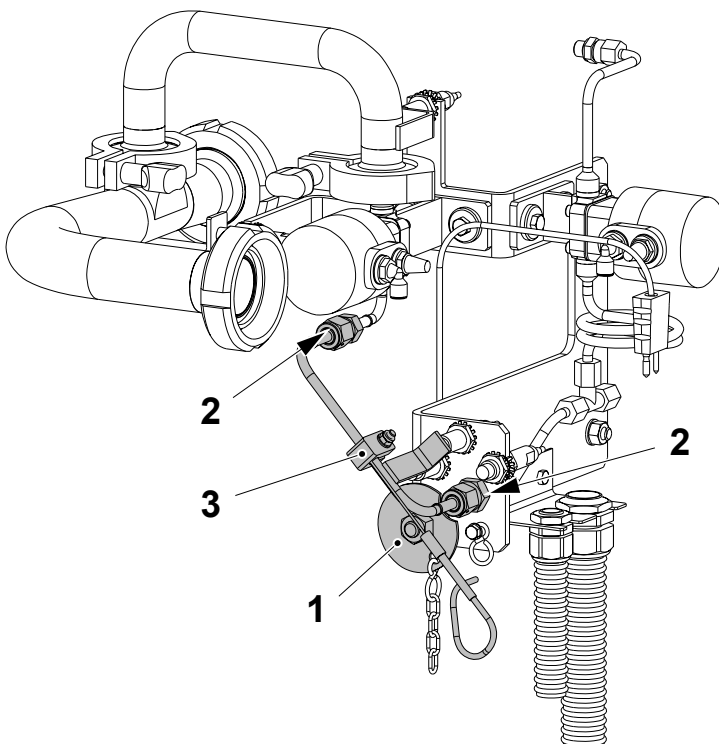


TechPub_2614345_0105 - 12_OM81809_10en.fm

PRODUCTION position



CLEANING position



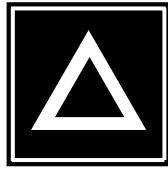
24

Note! If the filling machine is not equipped with HI (OE) or if the HI equipment has been bypassed continue with item 25 on page 9-37.

Remove the cap (1) from the PRODUCTION connection.

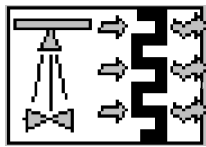
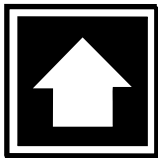
Loosen the connections (2) to release the pipe (3). Swing the pipe (3) into the PRODUCTION position.

Fit and tighten the cap (1) on the CLEANING connection.

**25**

Close all covers and doors on the machine and reset the alarms on the TPOP.

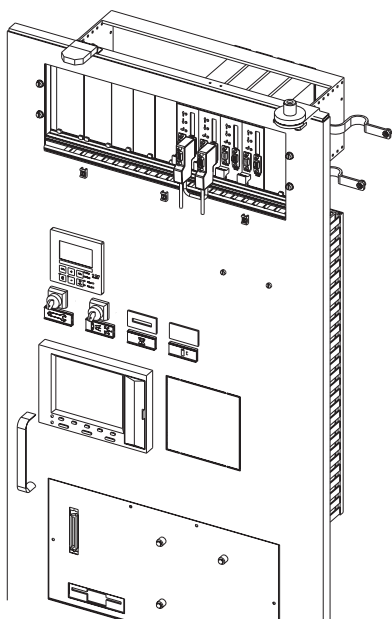
TechPub_2614345_0105 - 12_OM81809_10en.fm

**25a**

Note! If the filling machine is equipped with an automatic cleaning valve (OE) go to item 26 on page 9-38.

Press the PROGRAM UP button to step up to step CIP DRYING.

The machine will step automatically to step ZERO after 9 minutes when the CIP DRYING step is completed.



Recorder

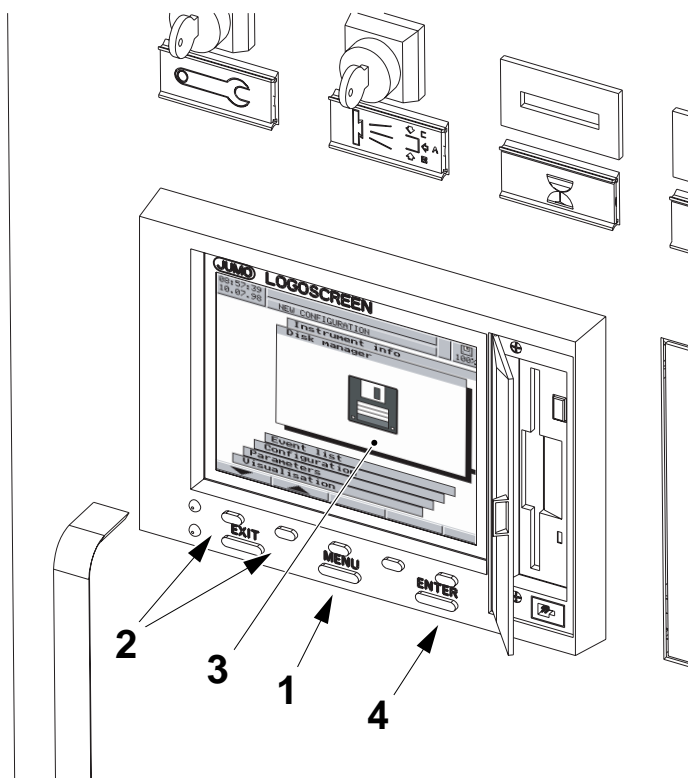
26

Note! If the filling machine is equipped with paper recorders (OE) go to item [29](#).

When the CIP and external cleaning are finished, check the % level of the diskette or CompactFlash Memory Card in the recorder screen. If the diskette or the CompactFlash Memory Card are full or more than 90% complete, change them.

To change the diskette, continue with item [27](#).

To change the CompactFlash Memory Card, continue with item [28](#).

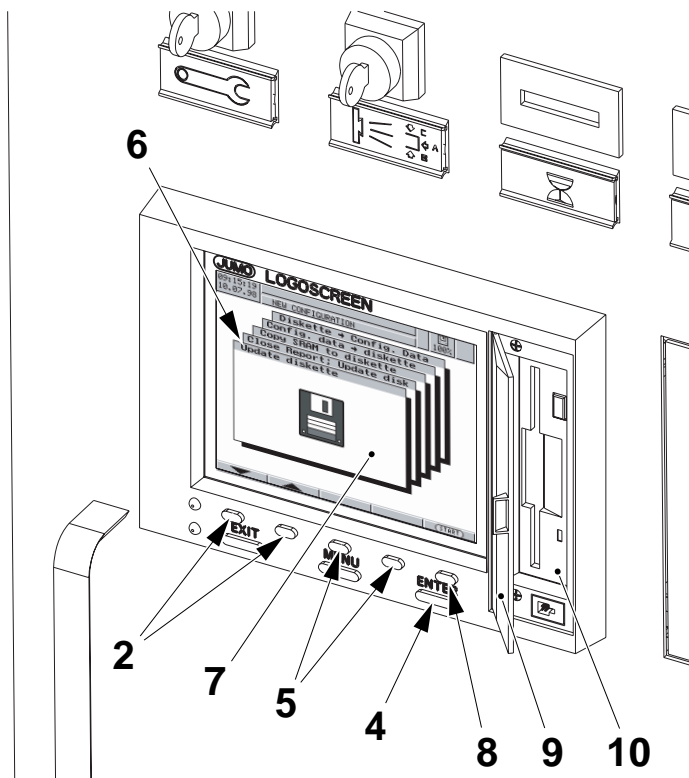


27

Note! Valid for recorders equipped with diskette station.

Press the MENU button (1).

Use the ARROW buttons (2) to select the DISK MANAGER window (3) and press the ENTER button (4).



27a

Pressing one of the ARROW buttons (2) will display the password prompt. Use the ARROW buttons (2) and (5) to input the password and press the ENTER button (4).

If the batch reports are also to be downloaded to the diskette, select the CLOSE REPORT; UPDATE DISK window (6).

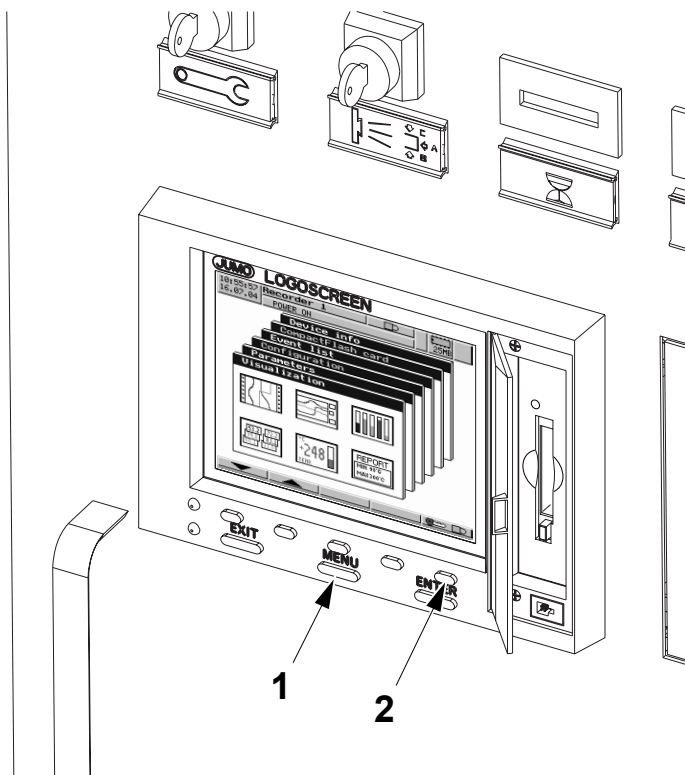
Use the ARROW buttons (2) to select the UPDATE DISKETTE window (7) and press the START button (8).

Any remaining PRODUCTION and CIP record data is saved to the diskette. When the operation is completed, open the door (9) and eject the diskette from the diskette station (10).

Insert the new diskette into the diskette station (10) and close the door (9).

Give the diskette to the person responsible for evaluation.

TechPub_2614345_0105 - 12_OM81809_10en.fm

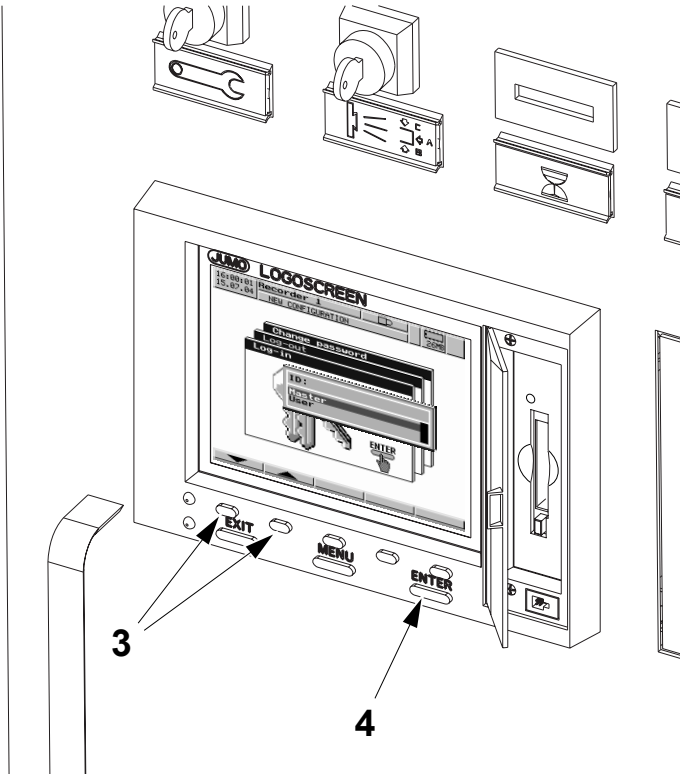


28

Note! Valid for recorders equipped with CompactFlash Memory Card station.

To access the CompactFlash Card menu is necessary to perform the log in.

Press the MENU button (1) and the LOG IN AND LOG OFF button (2).

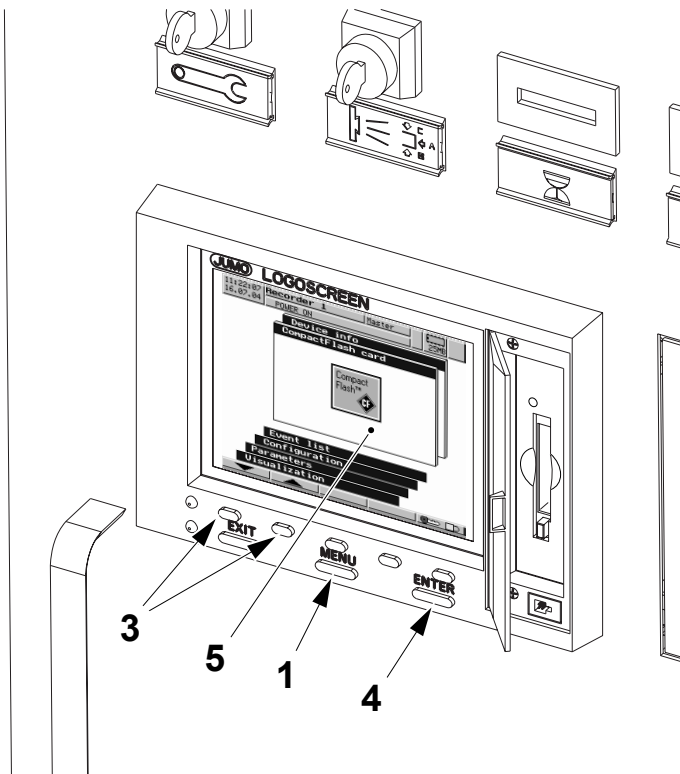


28a

Use the arrow button (3) to select the LOG IN window and press the ENTER button (4).

Select the user name “User” and press the ENTER button (4).

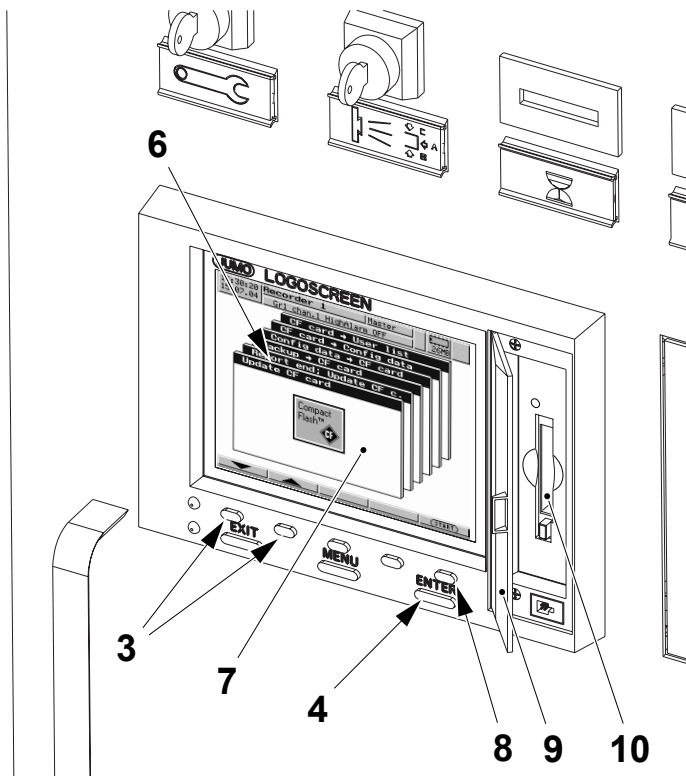
Enter the password “0” and press the ENTER button (4).



28b

Press the MENU button (1).

Use the ARROW buttons (3) to select the COMPACTFLASH CARD window (5) and press the ENTER button (4).



28c

If the batch reports are also to be downloaded to the CompactFlash Memory Card, select the REPORT END; UPDATE CF CARD window (6).

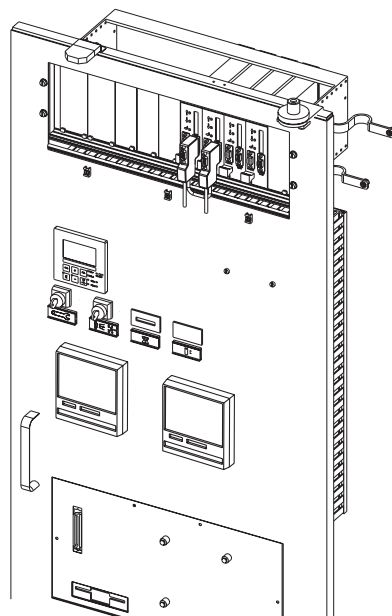
Use the ARROW buttons (3) to select the UPDATE CF CARD window (7) and press the START button (8).

Any remaining PRODUCTION and CIP record data is saved to the CompactFlash Memory Card. When the operation is completed, open the door (9) and eject the CompactFlash Memory Card from the CompactFlash slot (10).

Insert the new CompactFlash Memory Card into the CompactFlash slot (10) and close the door (9).

Give the CompactFlash Memory Card to the person responsible for evaluation.

TechPub_2614345_0105 - 12_OM81809_10en.fm



Process and CIP Recorders (OE)

29

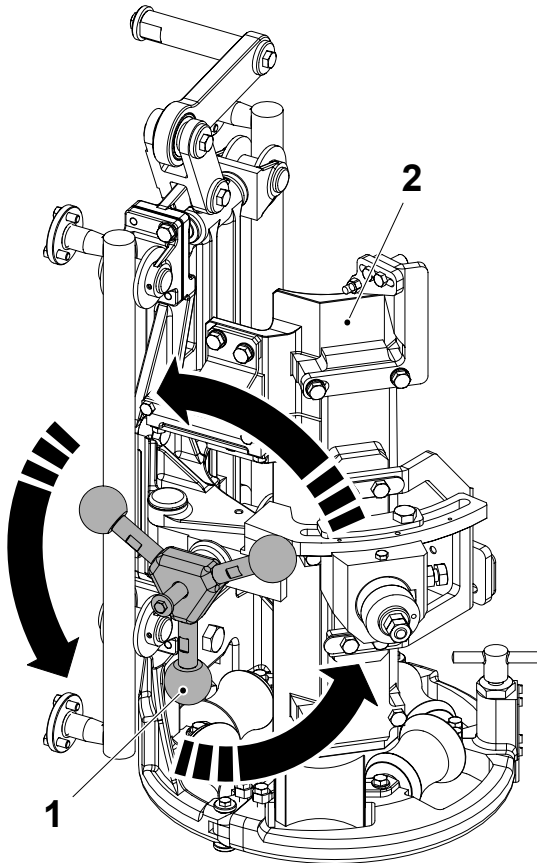
Note! Only for machines fitted with paper recorders. For standard machines continue with item 30.

When the CIP and external cleaning are finished, press the FEED key on both recorders to feed some chart paper.

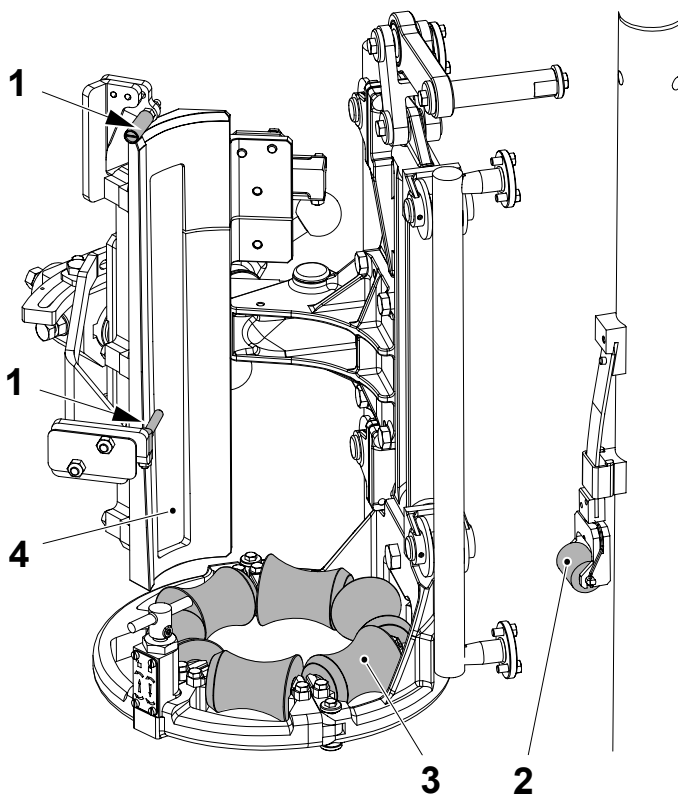
Open the recorders and tear off the process report and the cleaning report.

Check the print quality on each report. If required, change the ink wheel. See item 7 on page 9-17.

Give the reports to the person responsible for evaluation.

**30**

Turn the handle (1) to release the LS inductor (2) and push the LS inductor (2) as far to the LH side as possible.

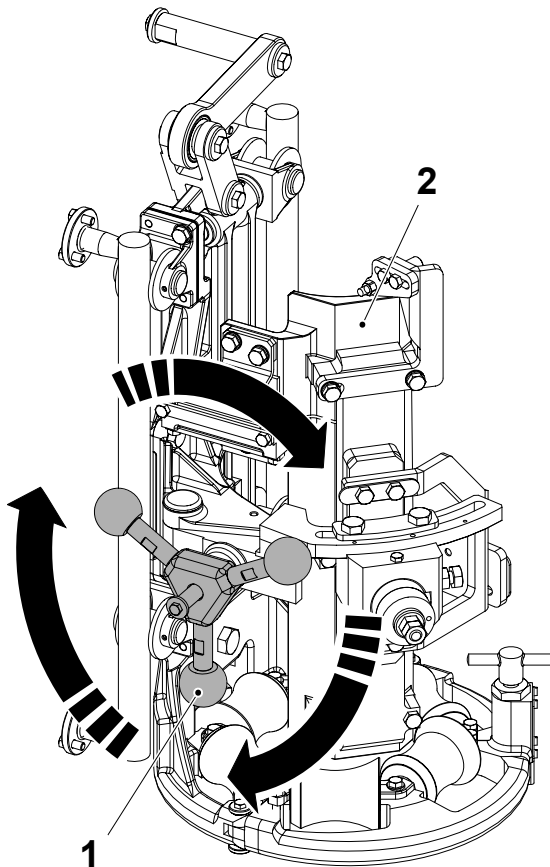
**30a**

Check the rotation and condition of the LS inductor guide rollers (1) and the pressure roller (2). If required, call a service technician.

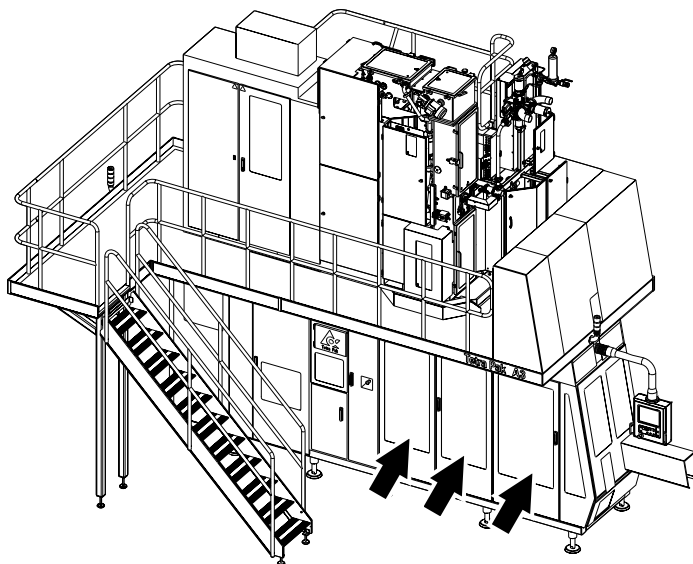
Check that all rollers (3) in the forming ring rotate freely. If required, call a service technician.

Taking care not to damage the surfaces, carefully remove all residue from:

- the rollers (1) and (2)
- the inside of the LS inductor (4).

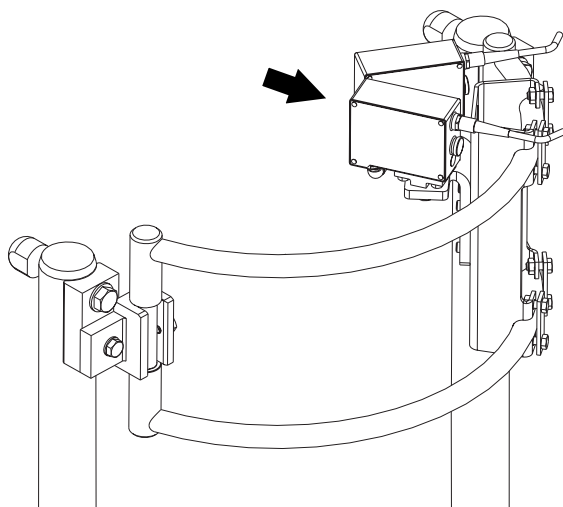
**30b**

Push the LS inductor as far to the RH side as possible and turn the handle (1) to secure the LS inductor (2) into the production position.

**31**

Open the doors to the jaw unit and the final folder unit.

Wipe down all the rubber seals on the doors of the jaw unit and final folder area with a sponge to remove water residue.

**WARNING****Chemical Products.**

Follow the Safety Precautions.

31 a

Clean the photocell lenses with a clean dry cloth.

Note! If there are small lime deposits on the design correction photocell lenses, use cleaning compound code **D**. A dirty lens may cause reading errors which can affect PRODUCTION.

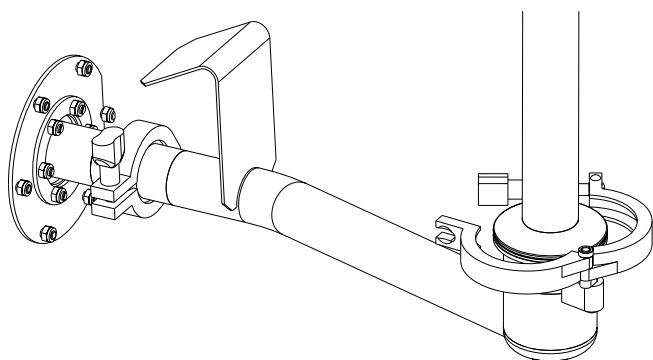
Note! For cleaning compound code information, see chapter [11 Technical Data](#).

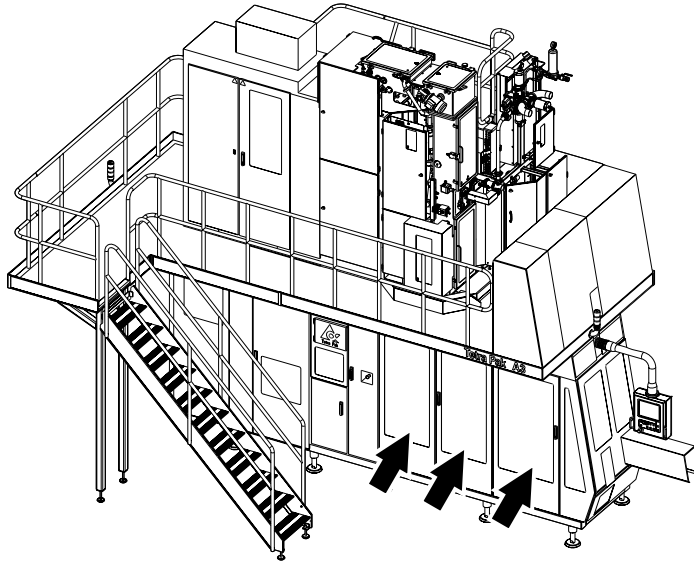
**WARNING****Hot surface.**

The components may be hot. Wear personal protective equipment.

31 b

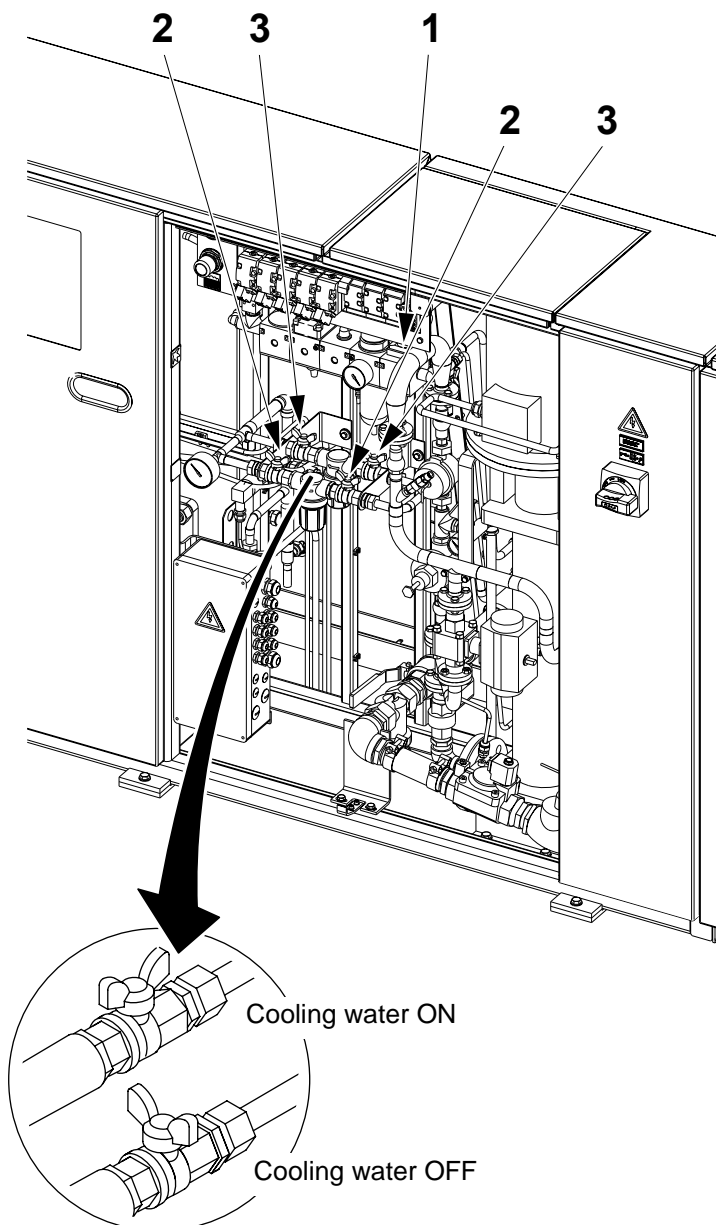
Disconnect the cleaning sleeve and remove it from the filling machine.





31 c

Close the jaw unit and final folder unit doors.



32

DAILY CARE has now been completed.

When resuming PRODUCTION, start from Preparing after Daily Care in chapter 3 Preparation.

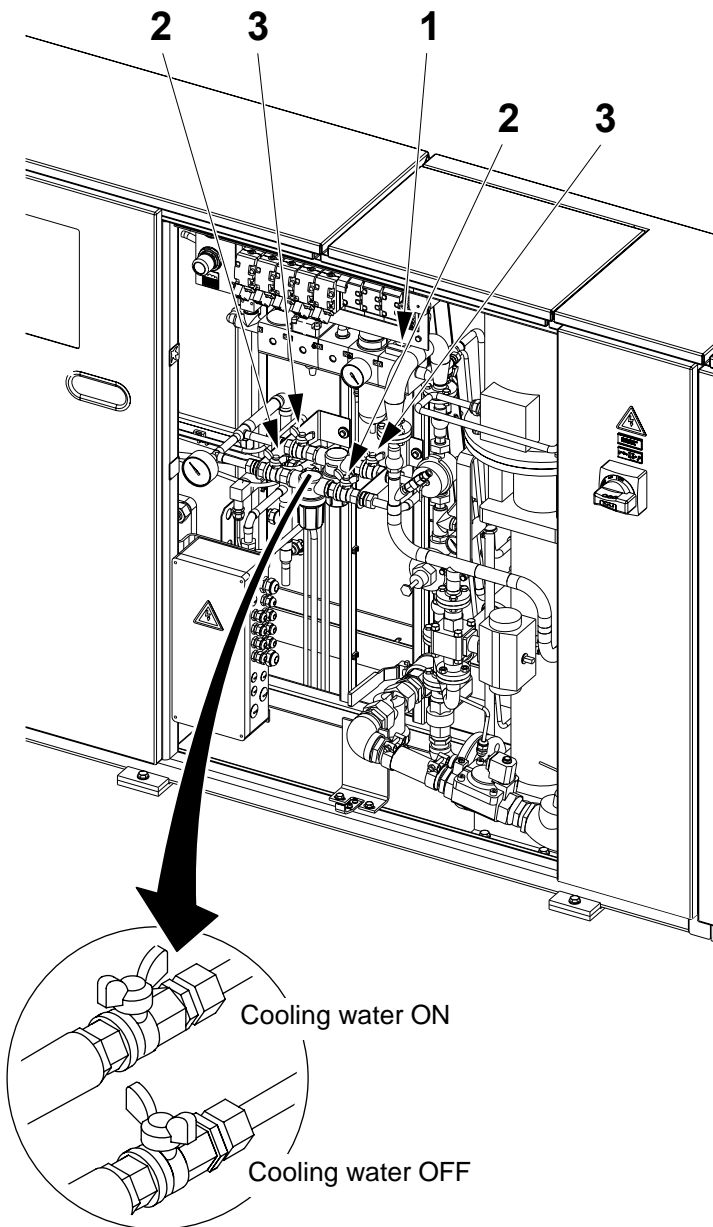
To perform Weekly Care go to the section Weekly Care on page 9-46.

If WEEKLY CARE or PRODUCTION is not scheduled, ensure that the air supply (1) is OFF and the cooling water supply (2) or (3) is OFF, depending on which filter is in use.

TechPub_2614345_0105 - 12_OM81809_10en.fm

Weekly Care

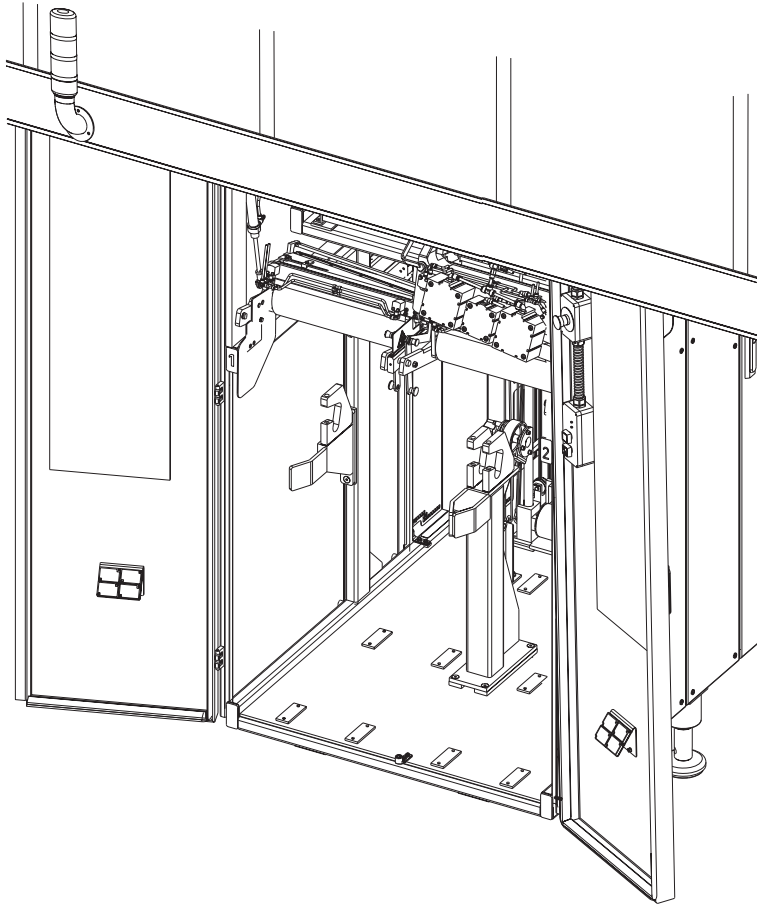
This section describes what to do once a week or at least every 120 operating hours.



1

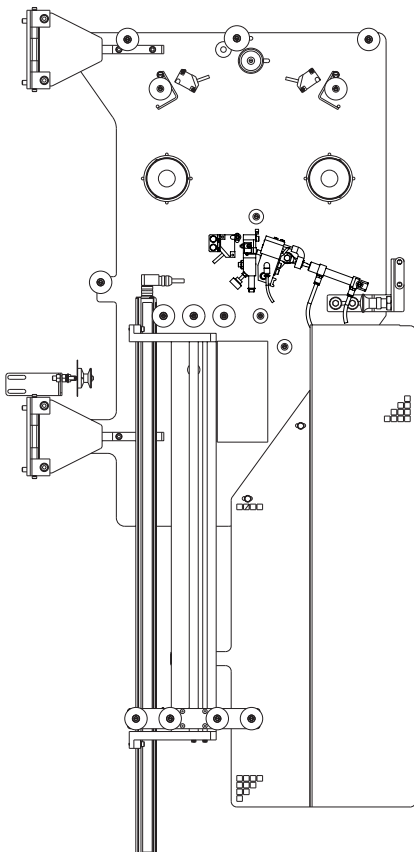
Turn ON the air supply (1),

Turn ON the cooling water supply (2) or (3) depending on which filter is in use.

**2**

Vacuum clean the inside of the ASU (floor and walls).

TechPub_2614345_0105 - 12_OM81809_10en.fm

**WARNING****Chemical Products.**

Follow the Safety Precautions.

2a

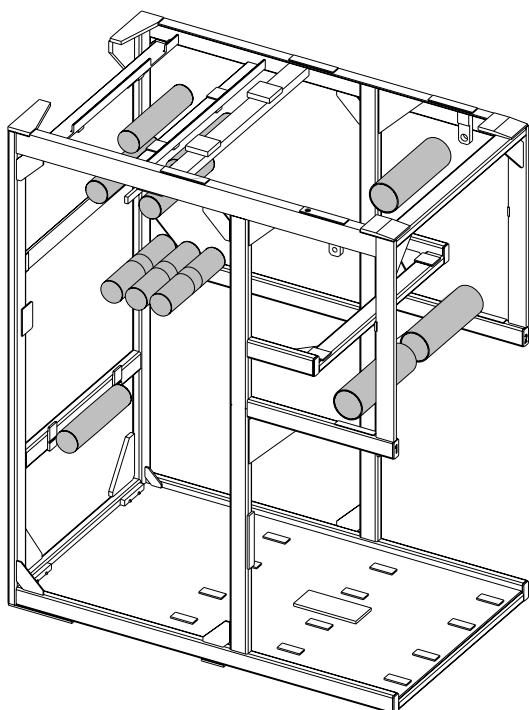
Clean the strip applicator unit with compressed air.

Clean all the rollers on the strip applicator and the sealing unit with a sponge. Use cleaning compound code **G1** or **G2**.

Clean the shafts of the strip magazine with a sponge. Use cleaning compound code **G1** or **G2**.

Wipe dry with a clean cloth.

Note! For cleaning compound code information, see chapter 11 Technical Data.



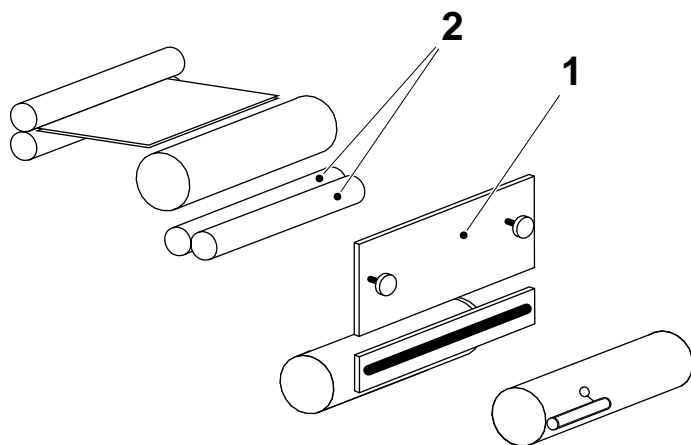
! WARNING
Chemical Products.
 Follow the Safety Precautions.

! WARNING
Moving parts can crush and cut.
 Make sure that the material holders are safely locked in either the upper or lower position.

2b
 Clean all the ASU rollers shaded grey in the illustration. Use a sponge with cleaning compound code **G1** or **G2**.

Wipe dry with a clean cloth.

Note! For cleaning compound code information, see chapter 11 Technical Data.



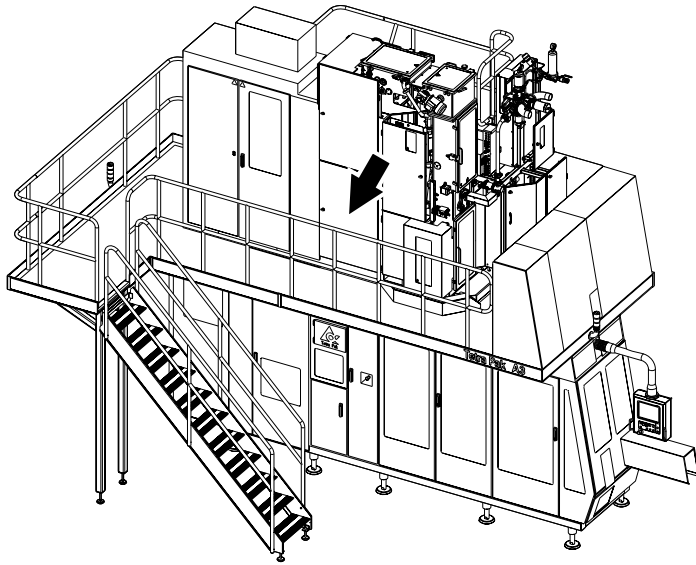
! WARNING
Hydrogen Peroxide.
 Follow the Safety Precautions.

3
 Open the top aseptic chamber door and remove the hatch (1) from the carrier compartment.

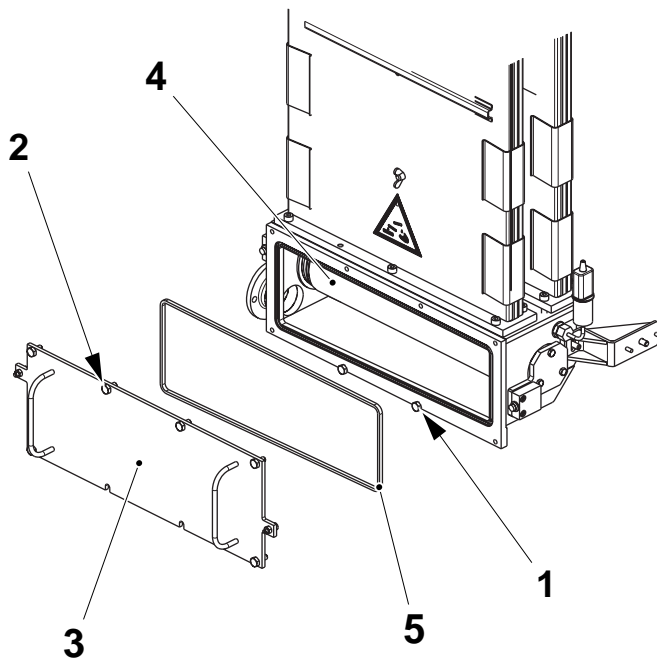
Make sure the surfaces on both the calendar rollers (2) are smooth and undamaged. Use a sponge and **distilled water** only to clean these parts:

- calendar rollers (2)
- the inside of the chamber and all rollers
- the window of the aseptic chamber door
- the roller in the carrier compartment.

Close the top aseptic chamber door and fit the hatch (1) on the carrier compartment.

**3a**

Open the door indicated by the arrow in the illustration.

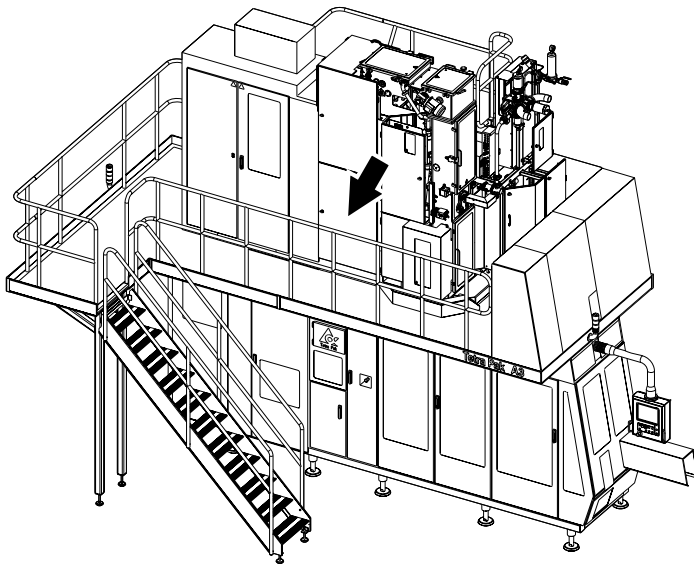
**WARNING**

Hydrogen Peroxide.

Follow the Safety Precautions.

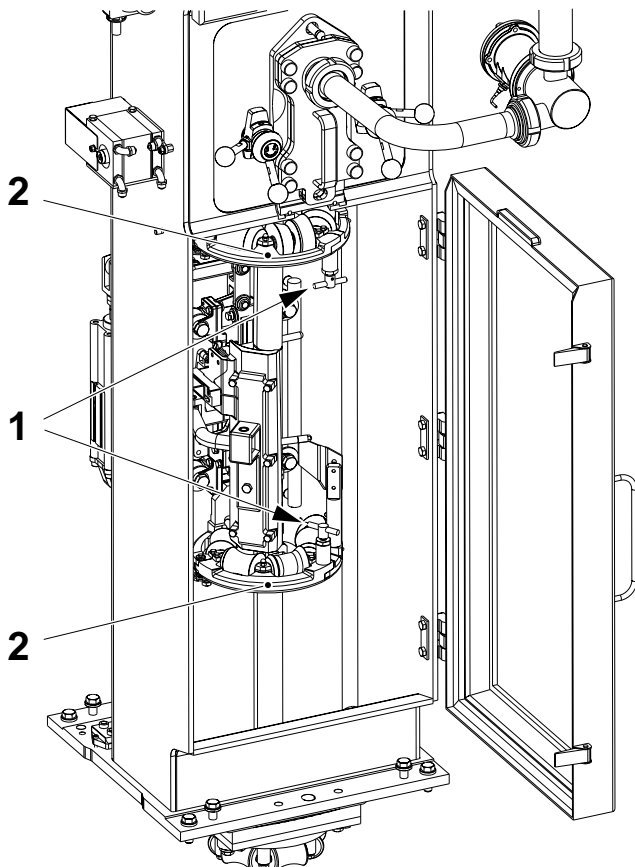
3b

- a) Loosen the two lower screws (1), remove the rest of the screws (2) and remove the bottom cover (3).
- b) Spin the peroxide bath roller (4) by hand to make sure it rotates smoothly in both directions.
- c) Check for pieces of LS strip and paper dust.
- d) Clean and rinse the peroxide bath roller (4) with a sponge and **distilled water** only.
- e) Check the condition of the gasket (5).
- f) Put the gasket (5) and the cover (3) back and tighten the screws (2) crosswise.



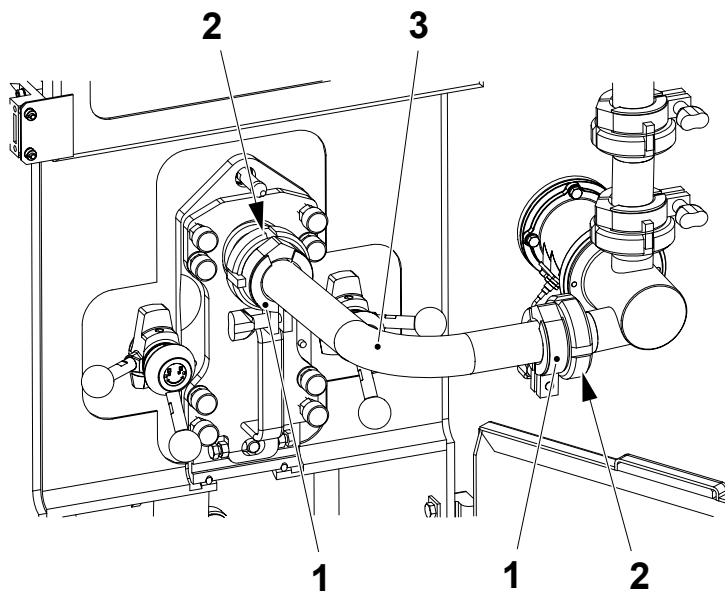
3c

Close the door indicated by the arrow in the illustration.



4

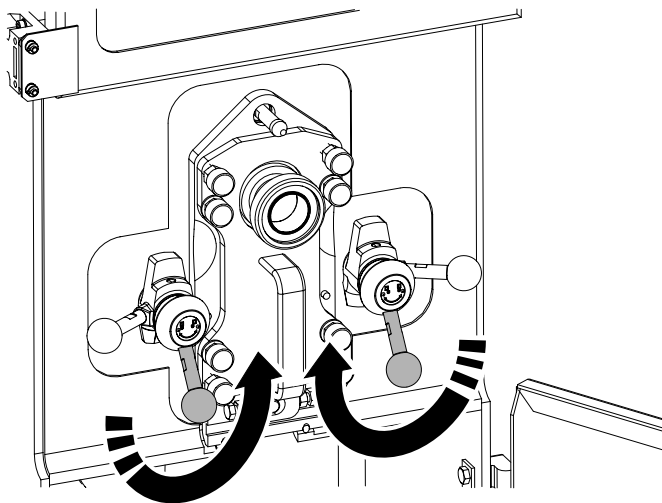
Pull the two levers (1) and open the two forming rings (2).

**4a**

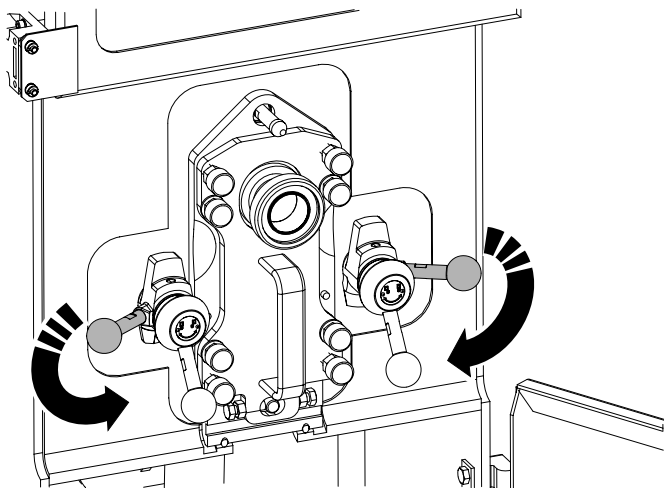
Loosen the two locking clamps (1) and the two locking nuts (2).

Remove the product pipe (3).

Note! The product pipe gaskets must be changed every time the product pipe (3) is removed.

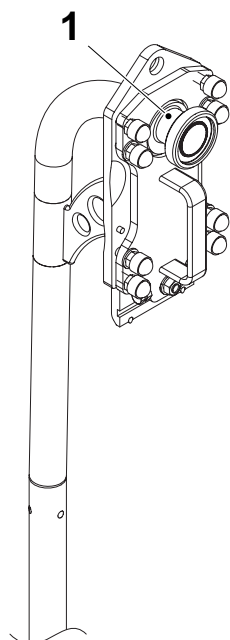
**4b**

Turn the two knobs in the unlocking direction.

**4c**

With one hand firmly holding the filling pipe, turn the two knobs to release the filling pipe from the aseptic tower.

Remove the upper filling pipe.

**WARNING**

Chemical products.

Follow the Safety precautions.

CAUTION

Risk of serious production fault.

Remove all product residue from the parts. Sterilization is effective on clean surfaces but may not be effective on product residue.

CAUTION

Risk of damage to the equipment.

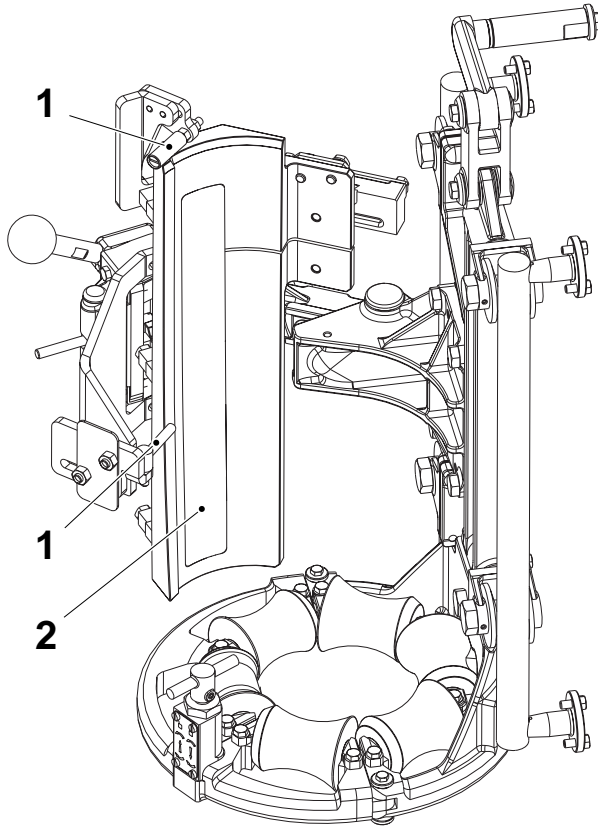
Make sure the top connection area (1) does not come into contact with liquid.

4d

Clean the outside of the upper filling pipe with cleaning compound code **D**. Make sure that **all** product residue is removed from the pipe.

After cleaning immerse the upper filling pipe in a bath of cleaning compound code **F**. It is recommended to immerse the filling pipe for a minimum of 6 hours.

Note! For cleaning compound code information, see chapter [11 Technical Data](#).

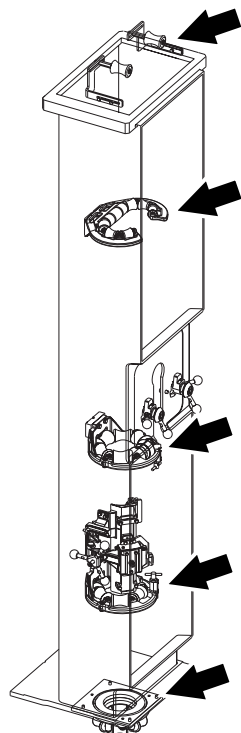


4e

Check the LS inductor guide (1) for surface damage. If necessary call a technician.

Clean the inside of the LS inductor (2) with a sponge to remove PE residue.

TechPub_2614345_0105 - 12_OM81809_10en.fm



Standard forming section is shown



WARNING

Chemical Products.

Follow the Safety Precautions.

CAUTION

Risk of serious production fault.

Remove all product residue from the parts. Sterilisation is effective on clean surfaces but may not be effective on product residue.

CAUTION

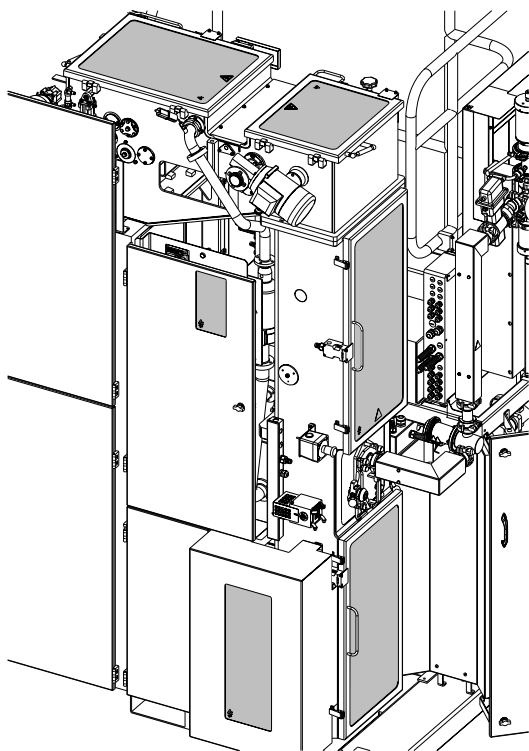
Hygiene.

Do not dry with compressed air. Allow the rollers to dry.

4f

Use cleaning compound **G1** or **G2** to clean the rollers and forming rings.

Check the rollers for surface damage and make sure that they rotate freely in both directions. If necessary call a technician.



Standard aseptic chamber is shown



WARNING

Hydrogen Peroxide.

Follow the Safety Precautions.

CAUTION

Hygiene.

Do not dry with compressed air.

4g

Clean the inside of the aseptic chamber and the door windows with a sponge. Use the cleaning compound code **D**.

Rinse with drinking water and a sponge. Wipe the windows dry with a clean cloth.

Note! For cleaning compound code information, see chapter 11 Technical Data.



WARNING

Chemical products.

Follow the Safety Precautions.

CAUTION

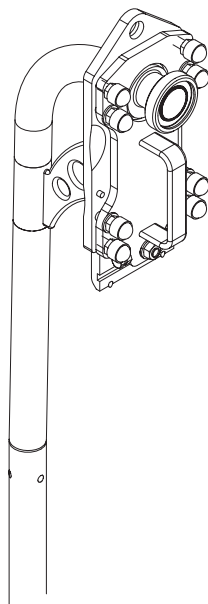
Hygiene.

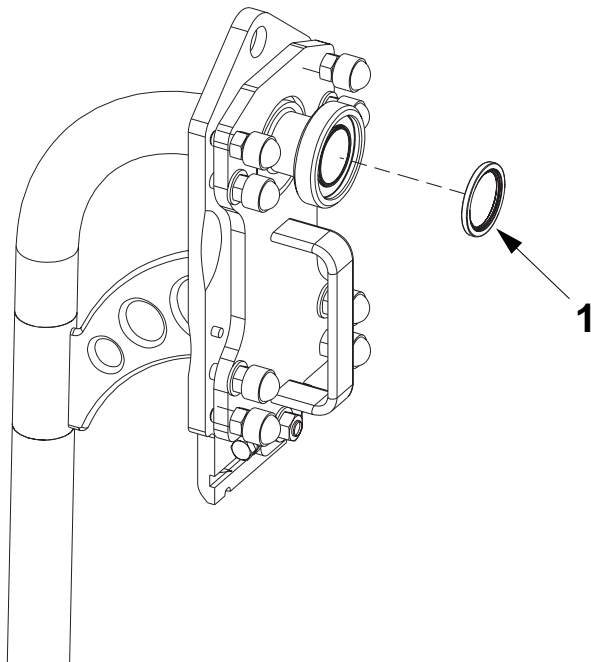
Before handling clean parts, disinfect your hands/gloves with cleaning compound code **H**.

4h

Remove the immersed upper filling pipe from the cleaning compound code **F** and rinse with drinking water.

Note! For cleaning compound code information, see chapter 11 Technical Data.



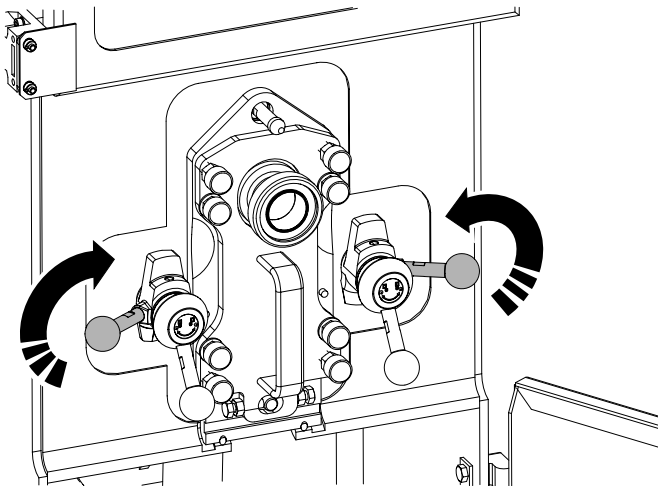


Gasket Replacement

4i

Change the gasket (1) each time the product pipe is removed from the upper filling pipe.

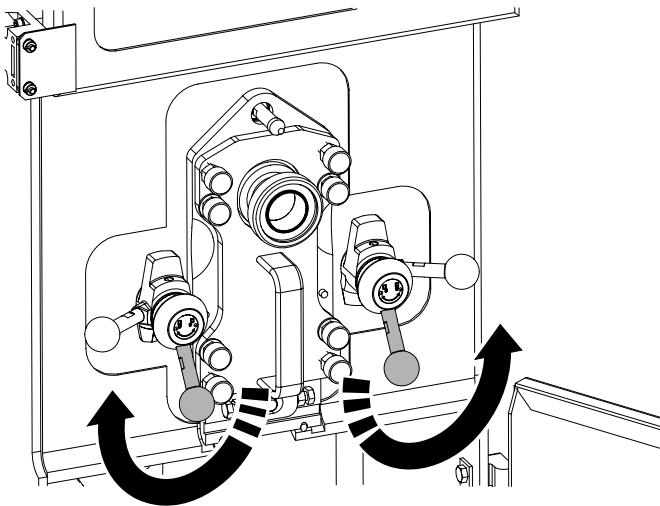
TechPub_2614345_0105 - 12_OM81809_10en.fm



4j

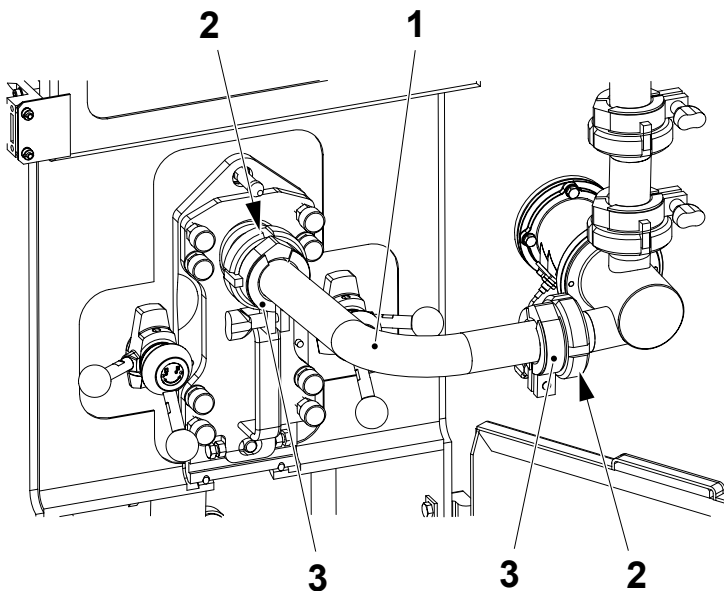
Fit the upper filling pipe in the aseptic chamber.

With one hand firmly holding the filling pipe, turn the two knobs to secure the filling pipe to the aseptic tower.



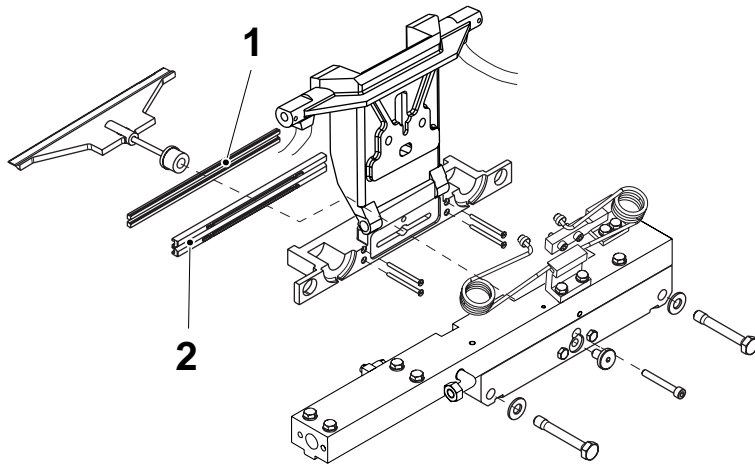
4k

Turn the two knobs in the locking direction.



4l

Fit the product pipe (1) and tighten the two locking nuts (2) and the two locking clamps (3).



WARNING

Blade and burn hazard.

The knife is sharp and may be hot. Wear personal protective equipment.

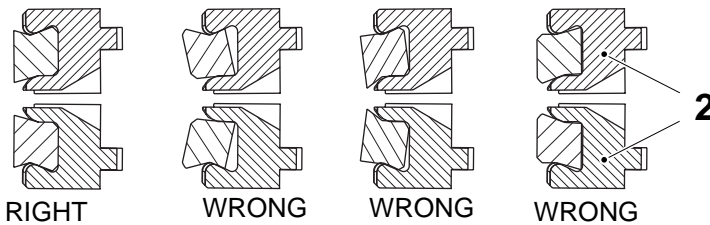
Change Dollies

5

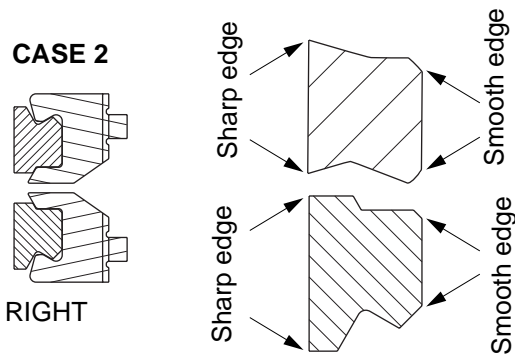
Perform the following work on both the jaw pairs:

- a) Step up to PREPARATION.
- b) Inch a jaw pair to an open position.
- c) Step down to ZERO.
- d) Use a suitable tool to remove the dollies (1).
- e) Clean and inspect the two cutting rails (2).
- f) If the cutting rails (2) are damaged or worn, call a technician to change them.
- g) Make sure to correctly insert the new dollies (1) into the cutting rails (2).

CASE 1

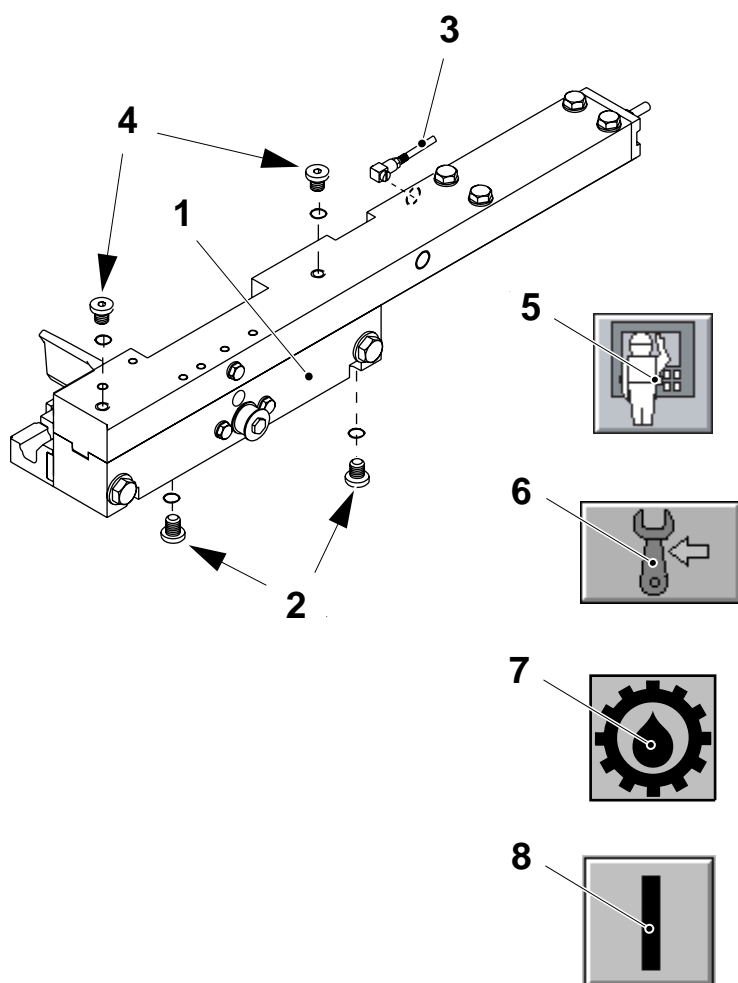


CASE 2



Note! Take care to correctly position the profiles when fitting the dollies (1). The two sharp edges of the rubber list must be facing outwards from the rails (2).

TechPub_2614345_0105 - 12_OM81809_10en.fm

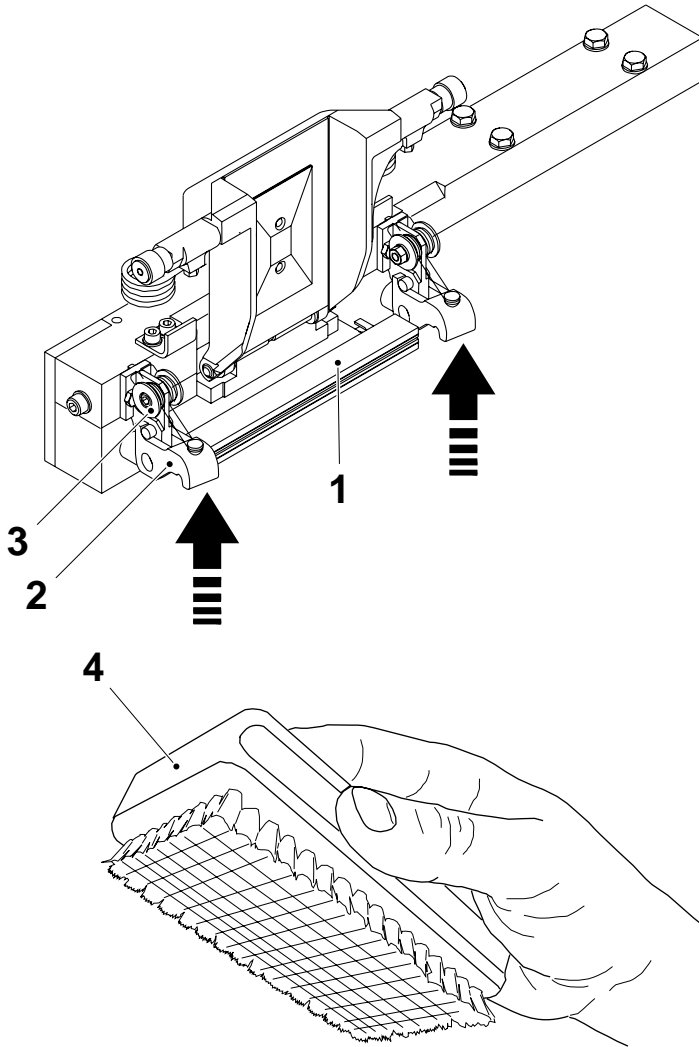
**WARNING****Chemical Products.**

Follow the Safety Precautions.

Change Oil**6**

Perform the following work on both the cutting jaws.

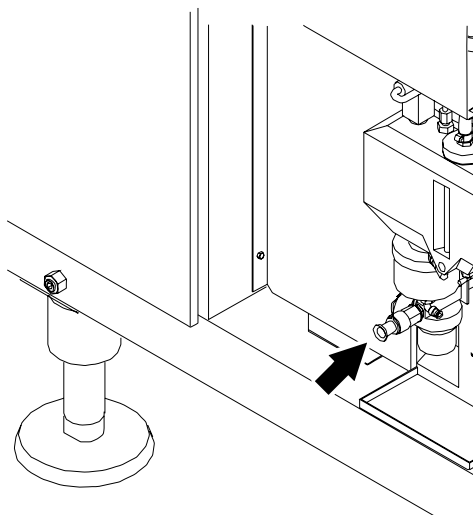
- a) Step up to step PREPARATION.
- b) Inch a jaw pair to the lower horizontal position.
- c) Step down to step ZERO.
- d) Drain the oil from the bearing housing (1) by removing the drain plugs (2) and the plugs (4).
- e) Fit and tighten the drain plugs (2)
- f) Fill up the bearing housing (1) with oil. Use lubricant code **H**. See the Technical data section.
- g) Fit the plugs (4).
- h) Crank the jaw pair slightly to access and loosen the screw to remove the oil pipe connection (3).
- i) Step up to step PREPARATION.
- j) Touch the MANOEUVRE button (5) on the TPOP display.
- k) Touch the MAINTENANCE SERVICE UNIT LEFT button (6).
- l) Touch the MANUAL LUBRICATION button (7).
- m) Touch the START button (8).
- n) Check that oil comes out from the oil pipe connection (3).
- o) Fit the oil pipe connection (3).



7

- a) Clean the inductor (1) with a nylon or hard bristle flat brush (4). Check for damage and/or wear that could affect sealing quality.
- b) If required call a technician to change the inductor (1).
- c) Check that the catches (2) and the catch return springs (3) are functioning: lift and then release each catch (2). The catch should return directly to the stop position.
- d) Clean the catches (2) and the catch springs (3).
- e) Call a technician to change the catches (2) and the catch springs (3) if required.

TechPub_2614345_0105 - 12_OM81809_10en.fm



WARNING

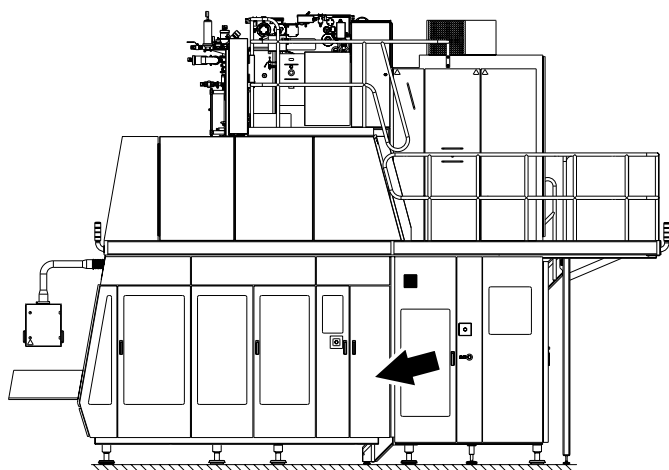
Chemical Products.
Follow the Safety Precautions.

8

Check the oil level in the central lubrication tank. Refill if required. Use lubrication code **H**.

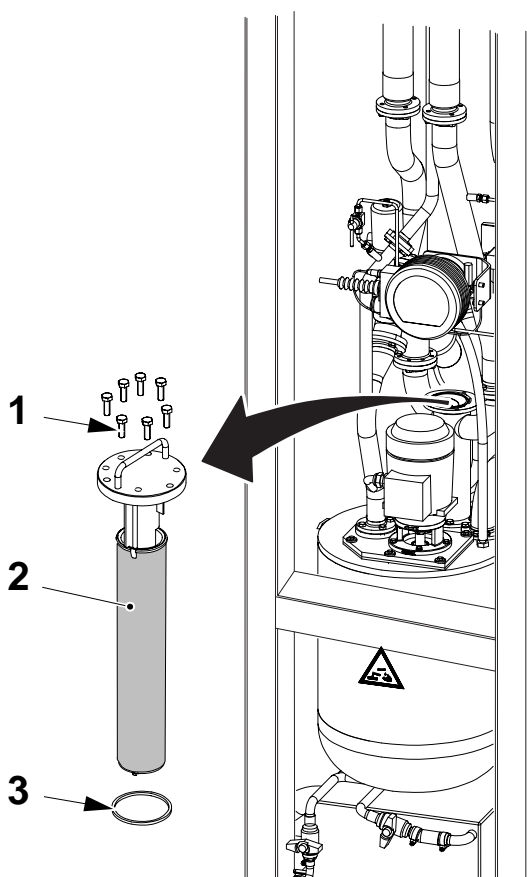
Note! Pump slowly as the level rises faster in the tank than in the level indicator.

Note! For lubricant code information, see chapter 11 Technical Data.



8a

Open the door indicated by the arrow in the illustration.



! WARNING

Hydrogen Peroxide.

Follow the Safety precautions. Do not touch the filter with hands. Wear personal protective equipment.

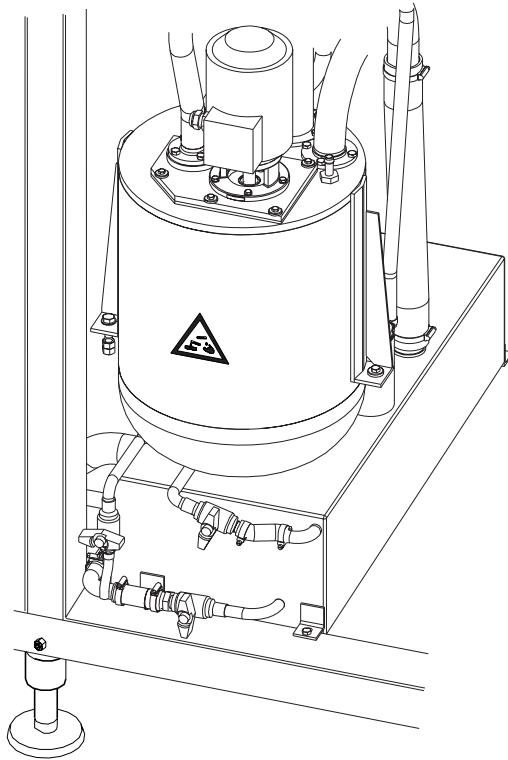
8b

Remove screws (1) and lift up the filter (2) from the hydrogen peroxide tank. Check the filter (2) and the gasket (3). Change if needed.

Rinse the filter with distilled water and clean it using compressed air.

Rinse the filter again with distilled water.

Fit back and tighten the screws.

**WARNING****Hydrogen Peroxide.**

Follow the Safety precautions.

CAUTION**Risk of production fault.**

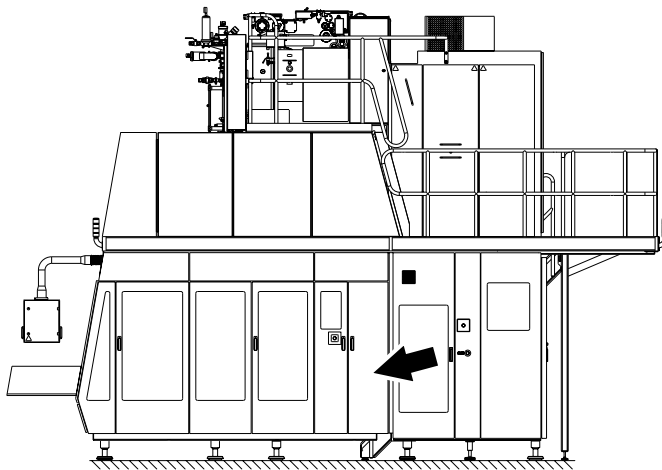
The peroxide must be changed weekly to prevent paper dust and impurities accumulating in the tank. If this is not done, it can lead to peroxide stability problems.

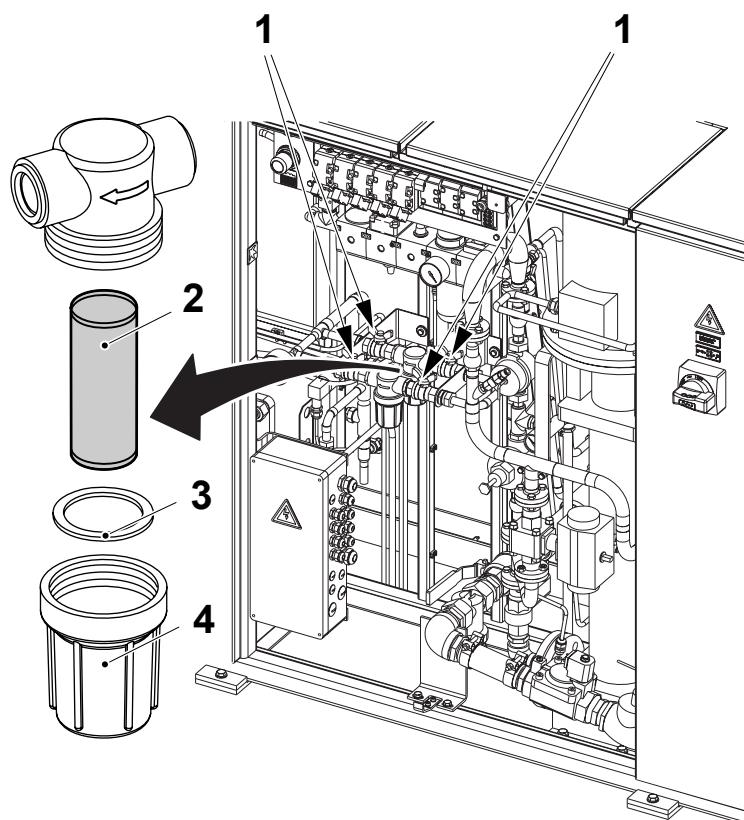
8c

Change the hydrogen peroxide, see [Change Hydrogen Peroxide](#) in chapter [10 Sterilization Liquid](#).

8d

Close the door indicated by the arrow in the illustration.



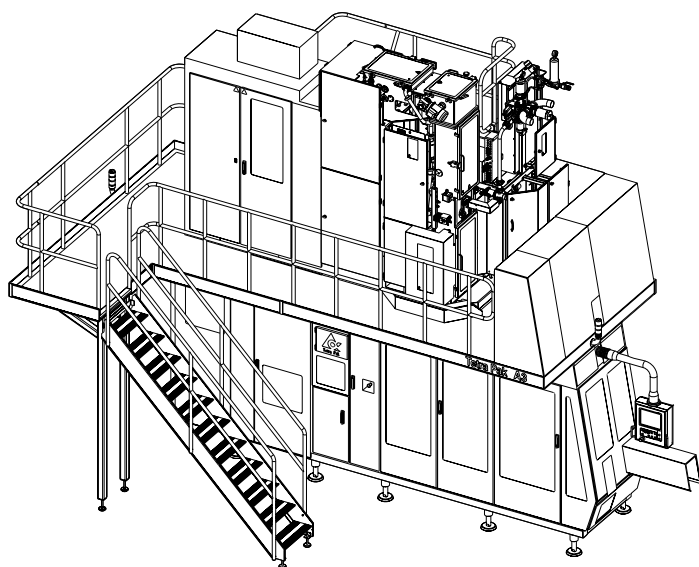


Service Unit - Clean Filters 9

Note! During PRODUCTION only one filtering line must be open.

- Close the four water valves (1).
- Unscrew the filter housing (4) and remove the filter insert (2).
- Clean the filter insert (2) with compressed air or change if required.
- Check the seal ring (3) for damage. Change as required.
- Fit the filter insert (2), fit the seal ring (3) and tighten the filter housing (4).
- Open two of the water valves (1) in one filtering line and make sure that there is no leakage.

Repeat the procedure for the other filter.



10

Clean the platform floor with a brush. Do not use any water.

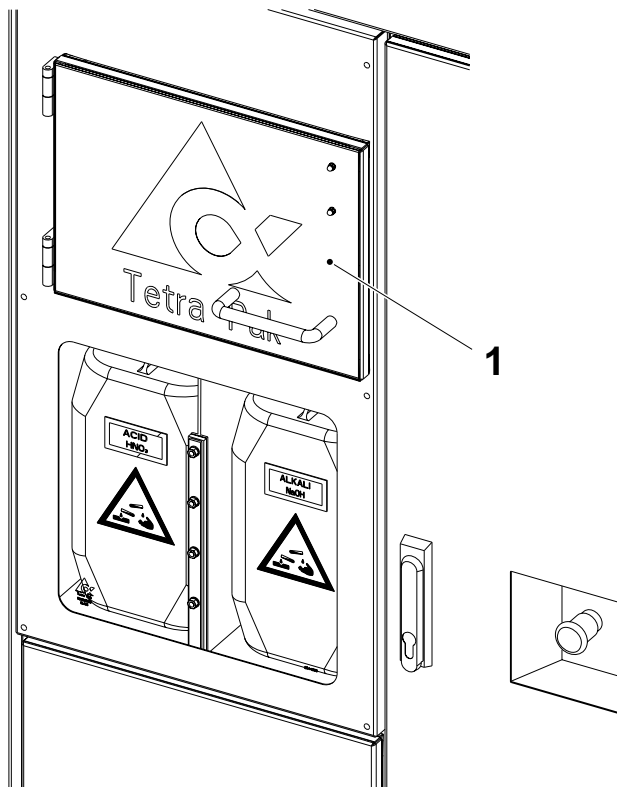
Clean the outer machine surfaces with a sponge. Use cleaning compound code **G1** or **G2**.

Polish the stainless steel plating with paraffin oil.

Clean the windows on the machine with a sponge. Use cleaning compound code **G1** or **G2**.

Wipe dry with a clean cloth

Note! For cleaning compound code information, see chapter 11 Technical Data.



! WARNING

Sudden and violent chemical reaction.

Never contaminate hydrogen peroxide with alkali or acid. The door to the hydrogen peroxide container must always be closed during the ICU refilling procedure. Keep spare hydrogen peroxide containers away from the filling machine during the ICU refilling procedure.

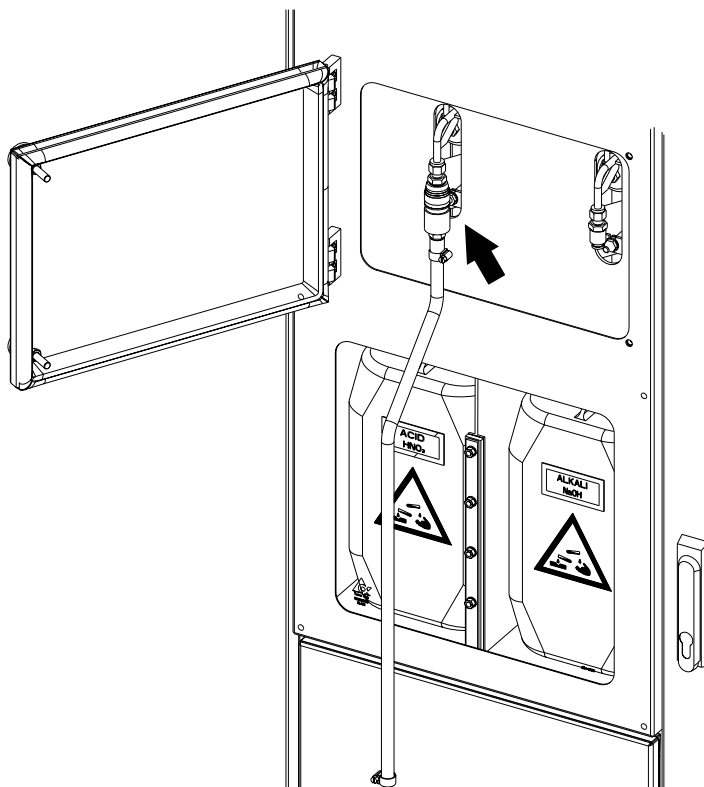
ICU - Refill Containers

11

Check the level of alkali and acid in the containers.

Open the door (1) to the refilling unit.

TechPub_2614345_0105 - 12_OM81809_10en.fm



! WARNING

Alkali and Acid.

Follow the Safety Precautions.

CAUTION

Risk of damage to the equipment.

The acid (Nitric Acid) concentration should not exceed a maximum of 50%. The alkali (Caustic Soda) concentration should not exceed a maximum of 30%.

11a

Connect the refilling pipe to the appropriate connection.

Step up to PREPARATION.

Note! The refilling pipe marked with a **yellow** stripe connects to the acid container. The refilling pipe marked with an **orange** stripe connects to the alkali container.



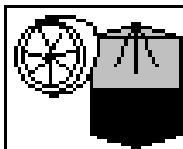
11b

On the TPOP, touch the MANOEUVRE SYSTEM button.

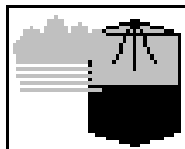


11c

Touch the ICU MANOEUVRE button.



Acid



Alkali

11d

Touch the ACID button to select acid refilling or the ALKALI button to select alkali refilling.



11e

Touch the START button to refill the container.



11 f

Note! If it is necessary to stop the refilling procedure, touch the STOP button.

Refilling is stopped automatically when the maximum level is reached in the container.

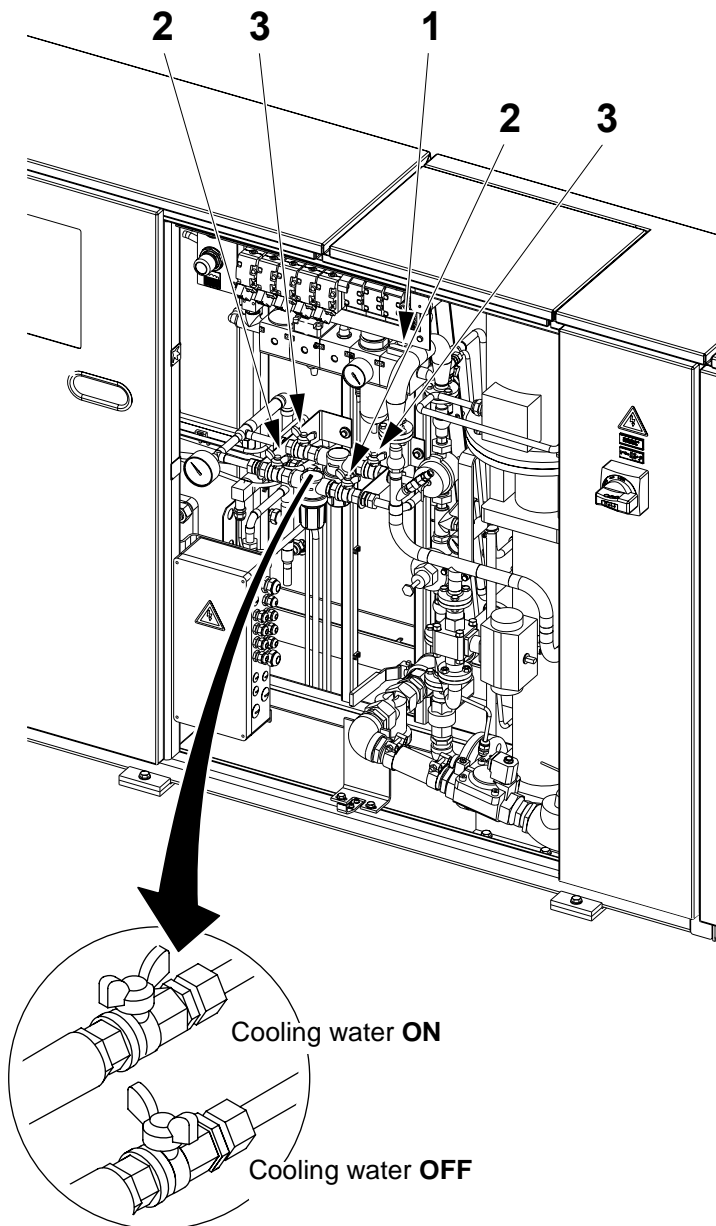
Remove the refilling pipes after the refilling procedure.

12

Weekly care is now complete. When resuming production after weekly care, start from the Preparing After Weekly Care in chapter 3 Preparation.

If PRODUCTION is not scheduled:

- turn OFF the air supply (1)
- turn OFF the cooling water (2) or (3).



TechPub_2614345_0105 - 12_OM81809_10en.fm

This page intentionally left blank

TechPub_2614345_0105 - 12_OM81809_10en.fm

10 Sterilization Liquid

TechPub_2614345_0105 - 13_OM81809_10en.fm

This chapter describes how to handle hydrogen peroxide.



WARNING

Hydrogen Peroxide.

Follow the Safety Precautions.

Concentration Check 10 - 5

Peroxide Concentration at Machine Start-up10 - 7

Peroxide Concentration During PRODUCTION10 - 7

Hydrogen Peroxide Concentration (by weight)10 - 8

Change Hydrogen Peroxide 10 - 9

Dilution Tank10 - 9

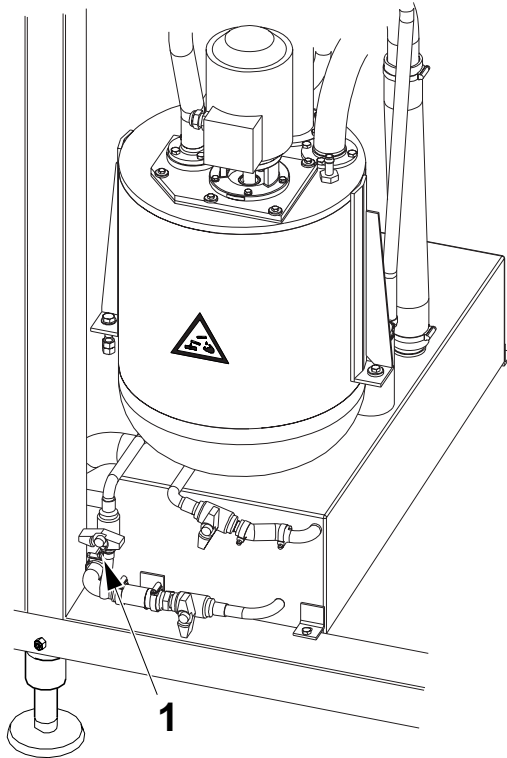
Change Container10 - 12

TechPub_2614345_0105 - 13_OM81809_10en.fm

This page intentionally left blank

Concentration Check

This section describes how to manually check the concentration of the hydrogen peroxide.



! CAUTION

The equipment must be thoroughly cleaned.

1

The following equipment is required:

- aerometer with thermometer
- graduated plastic cylinder with an inside diameter of 35 - 50 mm.

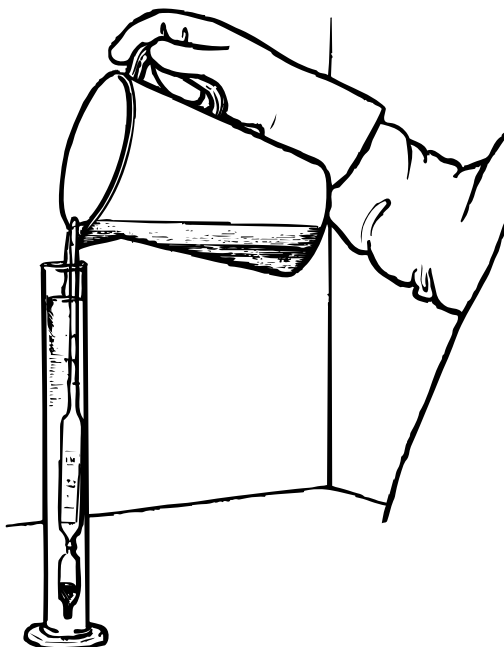
Open the valve (1) and draw approximately 250 ml of hydrogen peroxide from the tank into a clean vessel.

Pour a small amount of hydrogen peroxide into the graduated cylinder.

Lower the aerometer into the cylinder making sure that it contains enough liquid to float the aerometer.

If there are air bubbles on the aerometer, stir gently until the bubbles disappear.

Read the density at the liquid level on the aerometer and **at the same time** read the temperature.



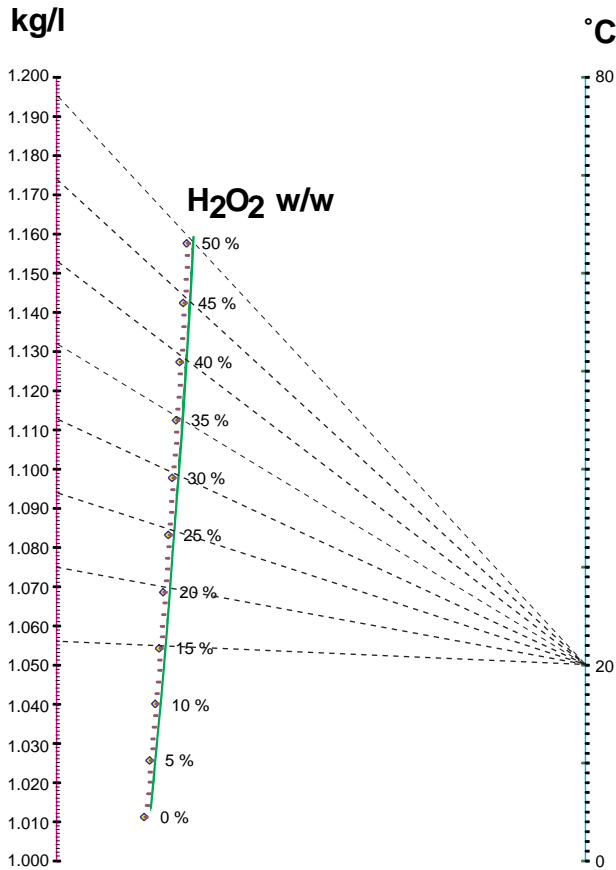
2

Evaluate the hydrogen peroxide concentration (in terms of percent by weight) from the nomogram.

With a ruler, join the density value of the sample with the temperature value to get the hydrogen peroxide concentration.

Note! Photocopying and/or resizing the nomogram may distort its accuracy. This could lead to incorrect evaluation of the hydrogen peroxide concentration.

To check the accuracy of the nomogram, refer to the following table reporting the concentration and density values calculated at 20 °C:



Sample nomogram

°C	kg/l	% w/w
20	1.056	15
20	1.075	20
20	1.094	25
20	1.113	30
20	1.132	35
20	1.153	40
20	1.174	45
20	1.195	50

Peroxide Concentration at Machine Start-up

Note! These values are applicable to checks made during PREPARING AFTER DAILY CARE.

3

If the concentration is below **32%** or above **48%**, change the hydrogen peroxide. See Change Hydrogen Peroxide on page 10-9.

If the hydrogen peroxide concentration is between **32%** and **35%**:

- repeat the check every 30 min
- if the concentration decreases, stop the machine and call a technician.

Peroxide Concentration During PRODUCTION

Note! These values are applicable to checks made during PRODUCTION.

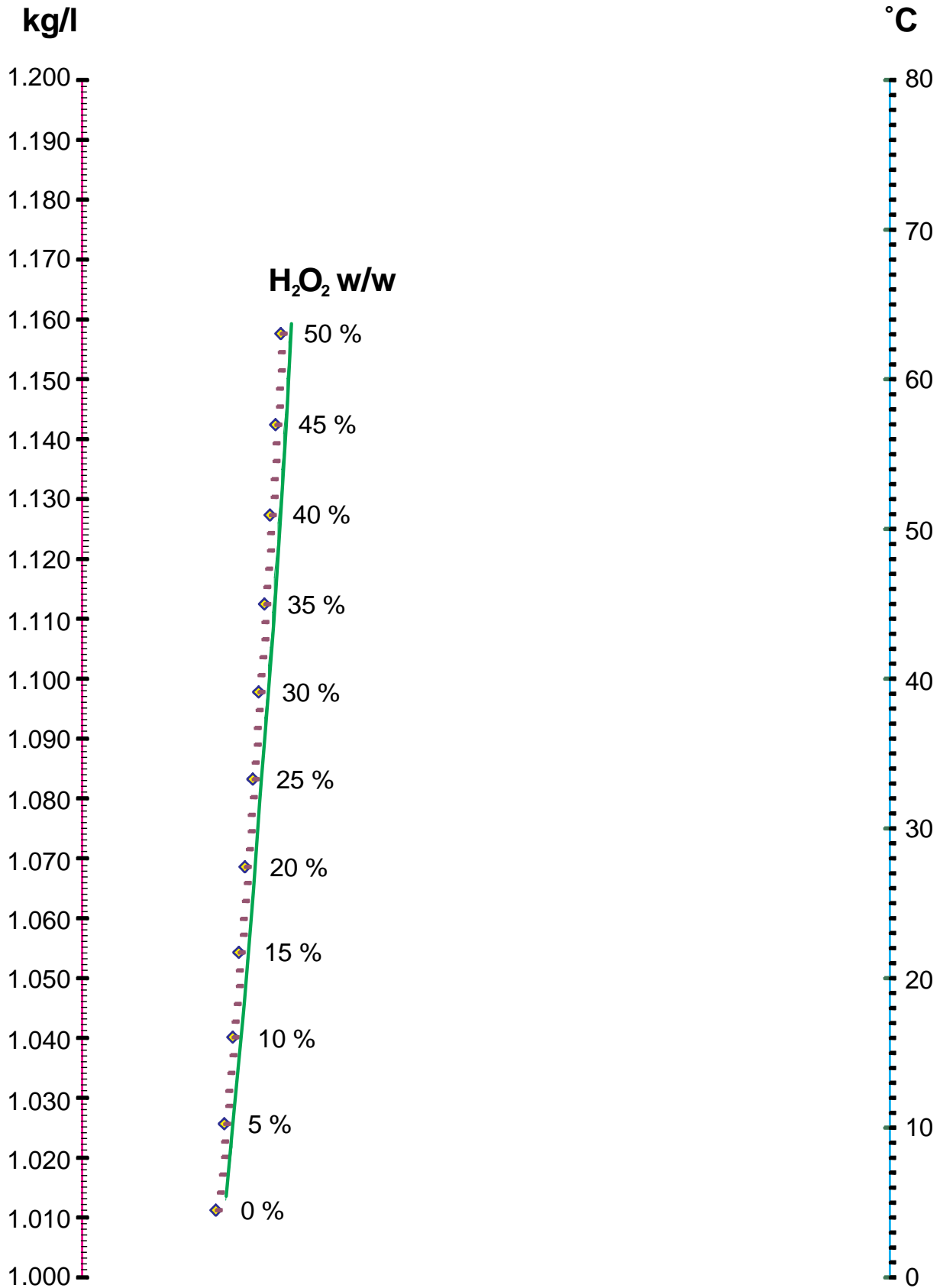
3a

If the concentration is below **30%** or above **50%**, change the hydrogen peroxide. See Change Hydrogen Peroxide on page 10-9.

If the hydrogen peroxide concentration is between **30%** and **35%**:

- repeat the check every 30 min
- if the concentration decreases, stop the machine and call a technician.

Hydrogen Peroxide Concentration (by weight)

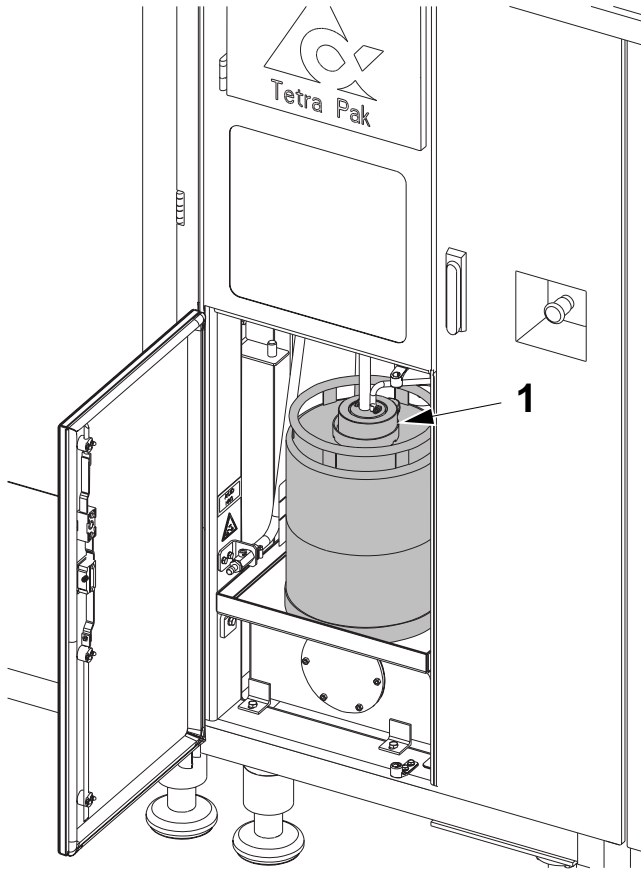


TechPub_2614345_0105 - 13_OM81809_10en.fm

970630

Change Hydrogen Peroxide

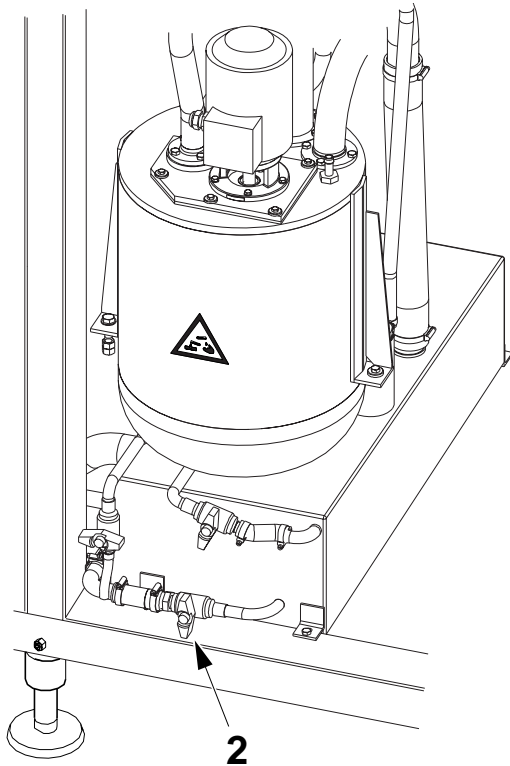
This section describes how to change the hydrogen peroxide in the dilution tank and how to change the hydrogen peroxide container.



Dilution Tank

1

Lift the cap (1), to disengage the hydrogen peroxide container.

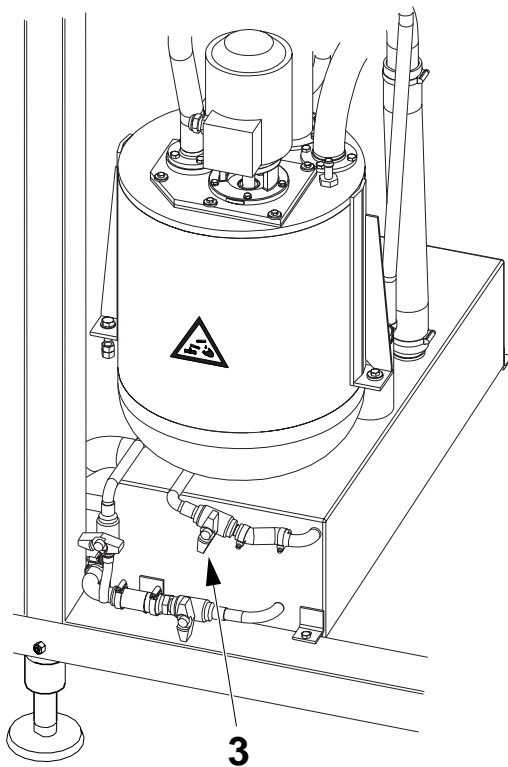


2

Open the valve (2), to empty the dilution tank. It takes approximately 5 minutes.

Note! When the machine has been in production for more than 24 hours, the hydrogen peroxide concentration in the dilution tank is less than 1%.

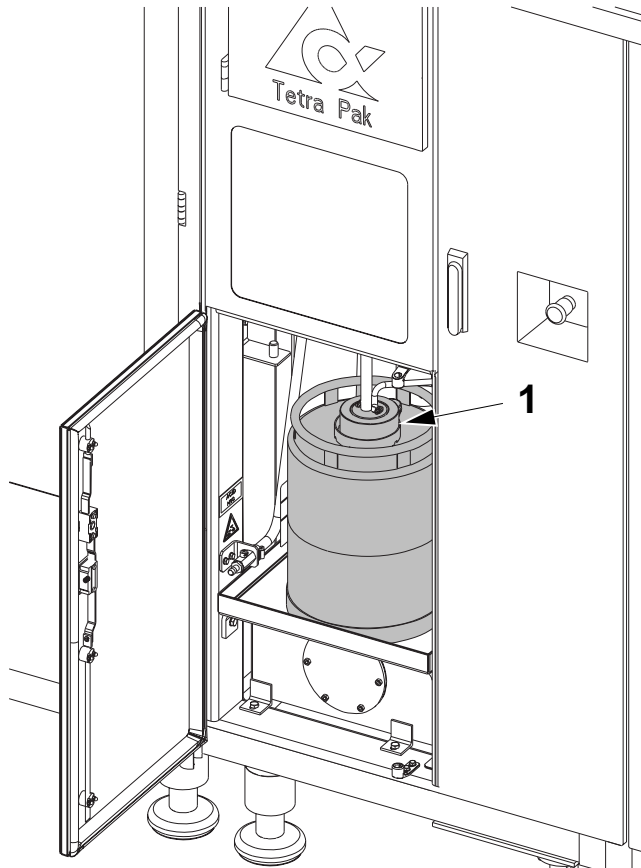
When the tank is empty, close the valve (2).



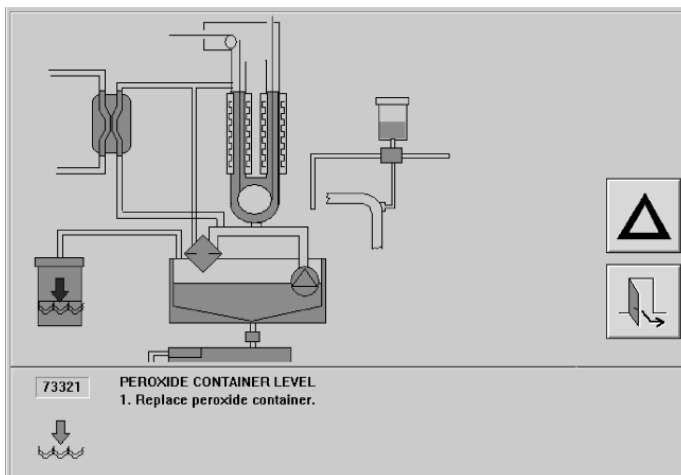
3

Open the valve (3), to drain the hydrogen peroxide from the tank into the dilution tank. It takes approximately 5 minutes.

When the tank is empty, close the valve (3).

**4**

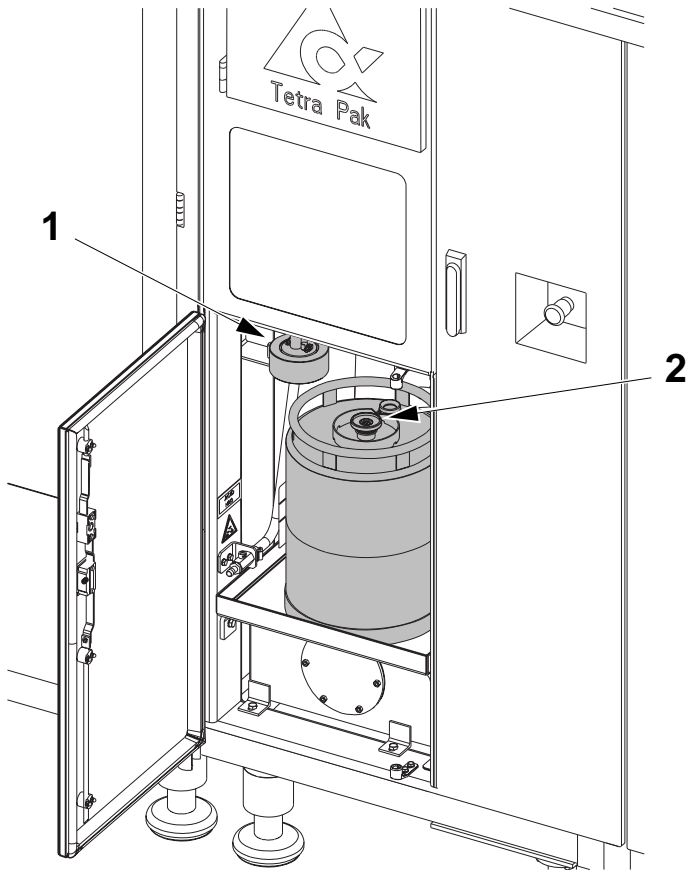
Fit the cap (1), to engage the hydrogen peroxide container.

**5**

Follow the instructions on the TPOP when the alarm PEROXIDE CONTAINER LEVEL lights up.

Change the hydrogen peroxide container, see [Change Container](#) in this section.

It takes approximately three full containers to fill up the hydrogen peroxide tank.



! WARNING

Hydrogen Peroxide.

Always transport and keep the hydrogen peroxide container stored with the lid (2) installed.

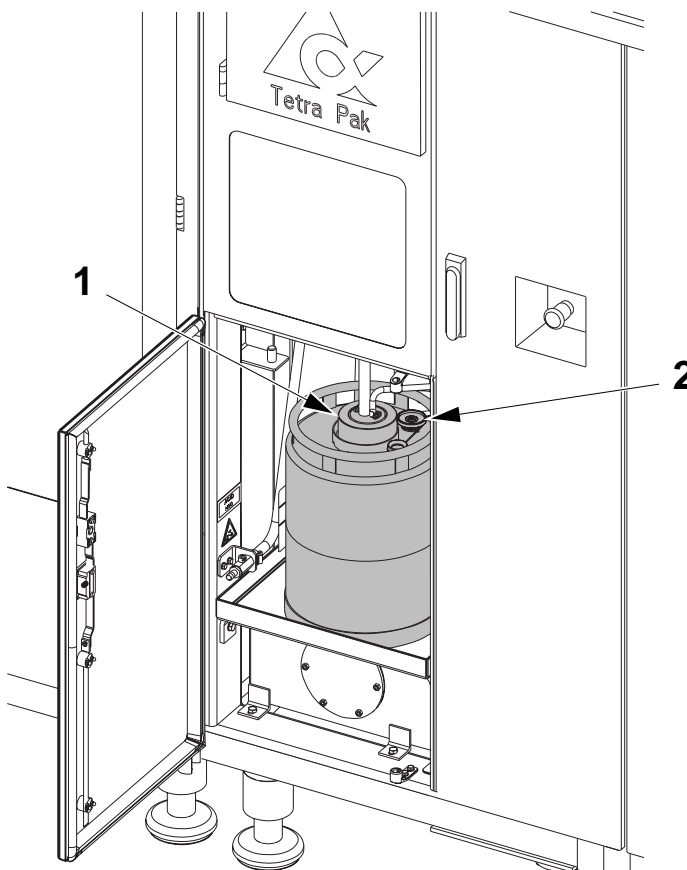
Change Container

1

Lift the cap (1) to disengage the hydrogen peroxide container.

Put the lid (2) onto the connection and tighten it.

Remove the container from the filling machine.



2

Place a **full** container with 35% w/w hydrogen peroxide into the filling machine.

Remove the lid (2) and place it to one side.

Fit back the cap (1) to engage the hydrogen peroxide container.

TechPub_2614345_0105 - 13_OM81809_10en.fm

11 Technical Data

TechPub_2614345_0105 - 14_OM81809_10en.fm

This chapter provides the standard values for setting this machine and information on the recommended chemicals and lubricants to be used with this machine.

Setting Values	11 - 5
Pressure Setting Values	11 - 5
Temperature Setting Values	11 - 8
Coolant Flow Values	11 - 10
Consumption Data	11 - 11
Consumables	11 - 11
Cleaning Compounds	11 - 12
Cleaning Compound Table	11 - 13
Lubricant Recommendations	11 - 14

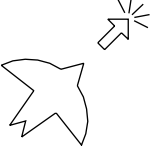
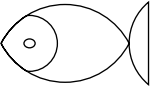
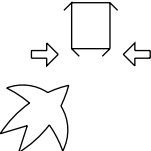
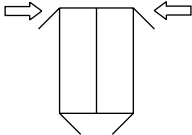
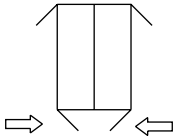
This page intentionally left blank

TechPub_2614345_0105 - 14_OM81809_10en.fm

Setting Values

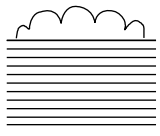
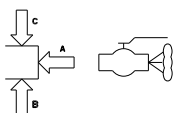
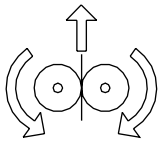
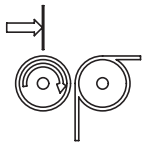
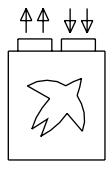
This section provides the correct setting values for this machine.

Pressure Setting Values

Pressure	Symbol	Value (bar)
Air spray		2.0
Central lubrication oil		30
Cold water		3.0 to 4.5
Cooling water system		2.0
Flap blowing		2.0 - 3.0
Flap sealing top left and right		1.0 to 2.0
Flap sealing bottom left and right		1.0 to 2.0

(Cont'd)

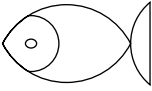
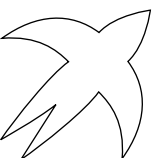
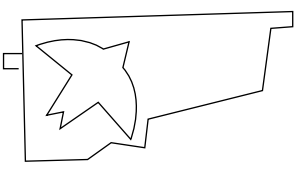
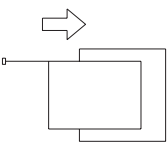
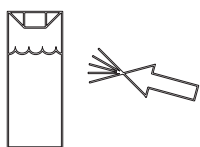
(Cont'd)

Pressure	Symbol	Value (bar)
Foaming		5.0
Peroxide tank filling		0.2
Product pressure (dependant on product and local conditions)		0.5 to 2.5
Product level regulation, anti-condensation		0.2
Temperature control steam barrier		4.0
Calender roller		2.0
Pendulum roller		4.0 TBA1890S/TBA2000S 2.0 All other volumes
Photocells, design correction, air		0.6

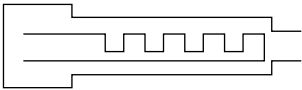
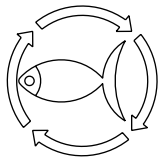
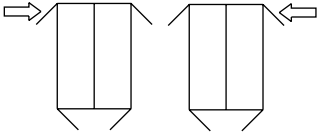
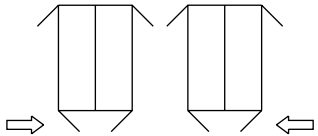
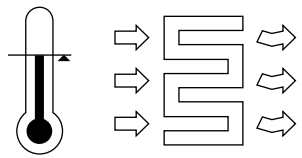
(Cont'd)

TechPub_2614345_0105 - 14_OM81809_10en.fm

(Cont'd)

Pressure	Symbol	Value (bar)
Warm water (red)		3.0 to 4.5
Air		5 to 7
Overpressure final folder		0.2 to 0.3
Waste conveyor front guard		1.0
Main air, ASU		5 to 6
Web tension, ASU		0.5 to 0.6
HI peroxide spray (OE)		3.0

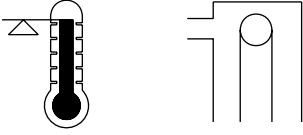
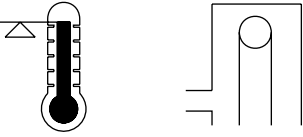
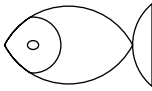
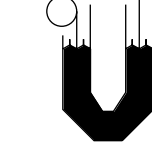
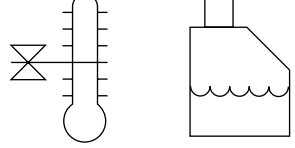
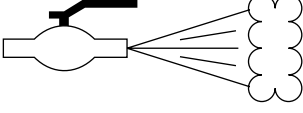
Temperature Setting Values

Temperature	Symbol	Process Value (°C)
Air superheater		360
Cooling water (compressor)		10 to 12
Cooling water		2 to 5
Flap heating, top (left and right)		390 ± 20
Flap heating, bottom (left and right)		530 ± 20
Heat sterilization		280

(Cont'd)

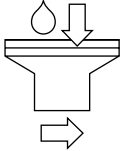
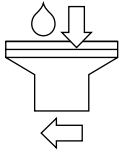
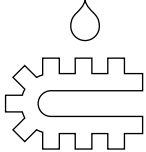
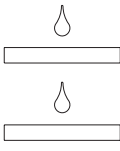
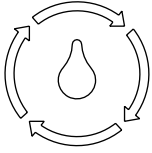
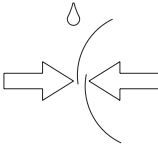
TechPub_2614345_0105 - 14_OM81809_10en.fm

(Cont'd)

Temperature	Symbol	Process Value (°C)
Top aseptic chamber		80
Bottom aseptic chamber		(Not in use)
Warm water (red)		55 to 60
Peroxide bath		79
Peroxide tank		80
Steam (sterilization)		130

TechPub_2614345_0105 - 14_OM81809_10en.fm

Coolant Flow Values

Flow	Symbol	Value (litre/minute)
Cold water flow, TS right		0.8
Cold water flow, TS left		0.8
Cold water flow, final folder		2.0
Cold water flow, hydraulic cooler (only for DIMC Flex equipped with Hydraulic unit)		2.0
De-ionizing circuit		1.5
Cold water flow, LS transformer		1.0

TechPub_2614345_0105 - 14_OM81809_10en.fm

Consumption Data

Consumption	Unit	Value
Hydrogen peroxide	% w/w	35
	l/h	1.5 to 2.0
Alkali cleaning detergent	l/h	1.2
Alkali NaOH (30%) (ICU)	l/cycle	1
Acid HNO ₃ (50%) (ICU)	l/cycle	0.45

Consumables

Standard Consumable Materials		
Leak detection fluid (red ink)	TP No.	90298-26
Process recorder:		
- Ink wheel	TP No.	90332-324
- Fan fold chart	TP No.	90332-325
LS strip:		
- MPM	TP No.	8856-951-01
- MSE	TP No.	8858-951-01
- MWM	TP No.	8854-951-01

Cleaning Compounds



WARNING

Risk of explosion.

Cleaning with not recommended cleaning agents, for example agents including alcohol, could cause explosion. Use only Tetra Pak recommended cleaning agents when cleaning or disinfecting parts that can come into contact with hydrogen peroxide.

It is strongly recommend, in order to optimize the cleaning efficiency, to use water characterised by the following physio-chemical parameters:

- water quality; chlorine free, drinkable water
- pH; between 6 and 8 pH units
- water hardness; between 5 and 10 °f French degrees of hardness (between 3 and 6 German degrees of hardness)
- chlorides; lower than 50 ppm
- silicates; lower than 10 ppm.

(Cont'd)

(Cont'd)

Cleaning Compound Table

Comparable qualities from other suppliers may be selected in compliance with the technical requirements listed in the table. All cleaning compounds must comply with local legal requirements.

The supplier recommendations for concentration and temperature should be followed. When dosing the products automatically, the concentration should be checked.

Cleaning Type	TP Code		Detergent Type	Example									
				Raw Material				Formulated Products					
				Name	Max Conc w/w	Use Conc w/w	Use Temp °C	Ecolab	Use Conc. w/w	Use Temp. °C	Johnson Diversey	Use Conc. w/w	Use Temp. °C
CIP	A	1	Alkali	NaOH	30%	1.50%	80	P3-mip CIP	2.0%	80	VC 13 VC 7	3.0% 4.5%	80
	B	1	Acid	HNO3	50%	1.00%	60	P3-horolith L31	1.0%	60	VA 5	2.0%	60
External Cleaning (automatic)	C	1	Alkali foam*					P3-Topax 12	3.0%	25	VF 9	3.0%	25
		2	Alkali solution**					P3-mip FPC	2.0%	55	VK 12	1.0%	55
Manual Cleaning (wiping)	D	1	Alkali					P3-mip FPC	2.0%	25	VK 12	1.0%	25
Manual Disinfection (immersion)	F	1	Low alkali					P3-Topax 99	2.0%	25	VS 1	1.0%	25
		2	Low alkali					P3-Steril	2.0%	25	VT 1	1.0%	25
		3	Acid solution	Peracetic acid solution	15%	200ppm	25	Oxonia Active	0.50%	25	VT 6	0.10%	25
Manual Disinfection (spraying)	G	1	Alcoholic solution	Isopropanol			25	Spitaderm	Pure	25	VT 10	Pure	25
		2	Alcoholic solution	Ethanol			25	Alcodes	Pure	25			25
		3	Acid solution	Peracetic acid solution	15%	200ppm	25	Oxonia Active	0.50%	25	VT 6	0.10%	25
Hand Disinfection	H	1					Manodes	Pure	25	H34	Pure	25	

*To be used on TBA/21, TBA/22, A3/Flex, A3/Speed, TB/21, C3/Flex.

**To be used on TBA/8, TBA/9, TBA/19, TB/8, TB/9, TB/19.

TechPub_2614345_0105 - 14_OM81809_10en.fm

Lubricant Recommendations

The table below lists only a selection of lubricants with their respective designations. Comparable lubricants from other suppliers may be selected with the aid of the lubricant specifications (document No in the table).

Lubricant specifications may be ordered from:

Tetra Pak GTS AB - Parts Supply Chain
Ruben Rausings gata - S-221 86 LUND, Sweden.

Lubricant Code	Part No. (used when ordering from Tetra Pak)	Supplier	Product Designation (2004-05)
A Motor oil	90 296-28	Statoil	PowerWay D2 10W-30
B High-pressure oil	90 296-73 90 296-78	BP Esso Statoil Mobil Shell	Energol GR-XP 220 Spartan EP 220 LoadWay EP 220 Mobilgear 630 Omala oil 220
	90 296-72 For use in production plant with start temperature below 5° C.	BP Esso Statoil Mobil Shell	Energol GR-XP 150 Spartan EP 150 LoadWay EP 150 Mobilgear 629 Omala oil 150
C Hydraulic oil	90 296-53	BP Esso Statoil Mobil Shell	Bartran HV 32 Univis N 32 HydraWay HVX 32 DTE Oil 13 Tellus Oil T 32
D Mist lubrication oil	90 296-80	BP Esso Statoil Mobil Shell	Autran DX ATF Dextron II TransWay DX II ATF 220 ATF Dextron II
E Compounded cylinder oil	90 296-77 90 296-2	BP Esso Statoil Mobil Shell	Energol AC-C460 Cyclesso TK 460 CylWay FZ 460 600W Super Cylinder Oil Valvata Oil J460
F Lithium grease, EP type	90 296-68	BP Esso Statoil Mobil Shell Shell	Energrease LS EP 2 / XRB2 EP Esso MP Grease/Beacon EP 2 UniWay LI 62 Mobillux EP 2 Grease 1344 LiEP 2 Calithia EP Grease T2

Lubricant Code	Part No. (used when ordering from Tetra Pak)	Supplier	Product Designation (2004-05)
H High-pressure oil	90 296-75 90 296-76	BP Esso Statoil Mobil Shell	Energol GR-XP 320 Spartan EP 320 / Mobilgear 632 (mineral) 320 LoadWay EP 320 Mobilgear 632 Omala oil 320
	90 296-73 90 296-78 For use in production plant with start temperature below 5° C.	BP Esso Statoil Mobil Shell	Energol GR-XP 220 Spartan EP 220 LoadWay EP 220 Mobilgear 630 Omala oil 220
K Circulation oil	90 296-15	BP Esso Statoil Mobil Shell	Energol CS 100 Tereso 100 TurbWay 100 DTE Oil Heavy Tellus Oil 100
L Silicon grease	90 296-9		Grease 55322-30 ACC to M 1255.322 TUBE 100 GR
M Lithium grease, EP type	90 296-70	BP Esso Statoil Mobil	Energrease LS EP 1 Beacon EP 1 UniWay LI 61 Mobillux EP 1
N PTFE grease	90 296-91	Sikema	
O Lithium complex grease	90 296-61	BP Esso Statoil	Energrease LS 3 Unirex N3 UniWay HT-63
P Synthetic compressor oil	90 296-54	BP Esso Statoil Mobil Shell	Energol RC 68 Compressor Oil 68 CompWay 68 Rarus 427 Corena Oil H68
Q Low friction assembly paste	90 296-12	Dow Kluber	Molykote G-N Plus Unimoly Plus
R Synthetic grease	90 459-246	Kluber	Klubersynth UH1 14-1600
S Synthetic hydrocarbon grease	90 296-10	Mecman	435-1
T Synthetic lubricating grease	90 459-0340	Shell	Cassida HDS2

Lubricant Code	Part No. (used when ordering from Tetra Pak)	Supplier	Product Designation (2004-05)
U Hydraulic fluid	90 459-1310	Shell	Cassida Fluid HF32
V Oil	90 296-104	Molykote	Molykote Foodslip EP Gear Oil 220
W Hydraulic fluid	90 458-1427	Shell	Hydraulic Oil 46 Shell Tellus T 46
X Oil	90 296-105	Kluber Lubrication	Kluberoil 4 UH1-220
Y Lubrication oil	90 458-2735	Mobil	Mobil SHC 634

TechPub_2614345_0105 - 14_OM81809_10en.fm

