Operating Manual

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Note
The complete documentation for the ICA machine consists of the following manuals:
- Operating Manual
- EC declaration of conformity as part of this Operating Manual
- Spare parts catalogue on a data carrier.

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Declared values without tolerances are merely approximations.
The photos do not correspond in all details to the condition of the machines delivered.

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1 Safety Instructions

1.1 Introductory comments

This Poly-clip machine has been built in accordance with the state of the art and the accident prevention regulations in force.

However, this machine may

- present danger to the lives of the user or others,
- or adversely affect the working of the machine and other property of the user, if the machine
  - is operated or maintained by untrained persons
  - and/or is used improperly or used for purposes other than intended.

• Note

Every person charged with start-up, operation, service, maintenance and repair of this machine must first read and understand the Operating Manual, in particular the Safety Instructions.
Furthermore, the general regulations on safety and accident prevention in force must be observed.

1.1.1 Warning symbols on the machine

The following table shows the warning symbols on the machine and explains what they mean.

Warning symbol	Meaning / Location
	Warning of dangerous electrical voltages Location: Transparent protective cover on control cabinet (back of machine). Before dismantling the transparent protective cover, switch off the main switch and secure it against being switched back on again!

- Warning symbols on the machine refer to potential danger points and must be observed without fail.
- Warning symbols must not be removed from the machine.
- Damaged and illegible warning symbols must be replaced without delay.

1.1.2 Warnings in manuals

In the instructions, you will find warnings before steps associated with risks.
Below is a description of how a warning is constructed and what it means.

1.1.2.1 Warning sign

The warning sign is shown below. Warnings with this sign warn against risk of injury or even death. Always follow these instructions to avoid dangers.

1.1.2.2 Danger levels

In each case, the warning sign in conjunction with a signal word indicates a specific level of danger:

Warning sign and signal word	Meaning	Probability
DANGER 	Failure to avoid the danger will result in death or serious injury (irreversible).	Given immediately before
WARNING 	Failure to avoid the danger may result in death or serious injury (irreversible).	Possibly
CAUTION 	Failure to avoid the danger may result in moderate or minor injury (reversible) and possibly damage to property.	Possibly
ATTENTION	Failure to avoid the danger may result in damage to property.	Possibly

Example of a warning:

CAUTION: Sharp-edged punch and sharp knife

You could cut yourself.

- Wear cut-resistant protective gloves!
- Work carefully and do not touch the blade of the knife or the edges of the punch.

1.2 Use of this machine

1.2.1 Correct use

This machine is designed solely for closing portioned and straight sausages in different casings and of various calibre sizes. Only a stuffing horn and casing brake of the same size may be used so that the separating and closing area is not accessible.
The casing brake holder must be engaged in the working position for operation.
Loops and codings may be attached to these sausages at the same time.
The operator's work area is at the front of the machine (see also section 1.7.2).
The machine is for commercial use only and is not intended for private use.
When coupled with a TSA and using an inner brake, the machine may only be started up if an “inner brake protective ring” suitable for the calibre of the filling system has been inserted into the casing brake holder.

1.2.2 Improper use

The machine must not be started up without stuffing horn, casing brake holder, casing brake or magazine rods.
The machine must not be started up without its panels on.
When coupled with a TSA and using an inner brake, the machine must not be started up without an “inner brake protective ring” suitable for the calibre of the filling system.

This machine must not be used to close casings, bags, nets or other types of packaging with hazardous contents such as corrosive liquids or environmentally harmful substances.
The machine is not suitable for use in potentially explosive atmospheres.
It is not permissible for more than one person to work at the machine at the same time because this would circumvent the safety measure of two-hand operation for example.

1.2.3 Modifications and alterations

a For safety reasons, unauthorised modifications or alterations to the machine as well as the attachment or installation of additional equipment or other models of, for example, an automatic GSA looper or twin turret not sold by Poly-clip System are not permitted.

b Protective devices prevent anyone reaching into the danger points during operation of the machine and must not be removed, modified or bypassed.

c The safety of the machine may be impaired by clips, loops and spare parts that do not meet the standards specified by Poly-clip System and are not supplied by Poly-clip System. Therefore, only original Poly-clip System clips and loops may be used with the machine and only original Poly-clip System spare parts may be attached or installed.

Any unauthorised modifications or alterations (a and b), use of non-original Poly-clip System clips and loops (c) and attachment or installation of non-original Poly-clip System spare parts (c) will invalidate both the EC declaration of conformity (CE) and the safety guarantee for this machine.

1.3 Who may operate the machine?

- The machine may only be operated by trained people aged 18 years or over, or by people aged 14 years or over under the supervision of someone trained on the machine.
- The operator must have read the Operating Manual.
- Only trained and authorised staff may operate this machine.
- Training must be carried out directly at the machine in accordance with the Operating Manual, especially the Safety Instructions chapter.
- During training, the danger points of the machine and all possible dangerous situations which may occur during operation of the machine must be explained to the operators directly at the machine (see section 1.7).
- The machine must only be operated by one person at all times.

1.4 Personal protective equipment required

You must read the safety data sheets for the consumables used on the machine; these safety data sheets can be obtained from the suppliers of the consumables. The safety data sheets contain additional notes regarding the required personal protective equipment. For your safety, always use the required personal protective equipment.

- Safety glasses

When cleaning the machine with a high-pressure washer up to 80 bar and with the cleaning nozzle at a distance of 1 metre from the machine surface. No dirtblaster should be fitted to the high-pressure washer.

- Safety shoes

Safety shoes are required during installation and set-up of the machine, and when dismantling and transporting it.

- Hearing protection

Hearing protection must be worn where noise levels in the work place are 85 dB(A) or higher. If the daily noise exposure level $LE_{X,8h}$ exceeds 80 dB(A), measures must be taken to reduce the noise. Suitable measures include, for example, soundproofing or the use of appropriate personal protective equipment (ear plugs or noise protection headphones).

- Personal padlock with key

To prevent the machine being switched back on while work is being carried out. You must carry the key for the padlock on your person.

- Cold protection clothing

Staff clothing must be appropriate for the ambient temperature in the place of installation (see section 3.2).

- Cut-resistant protective gloves

For changing the separator knife.

1.5 Protective devices

• Note

- The protective devices fitted are intended for standing operation.
- With the safety switches used, there is no incentive to bypass the safety equipment (according to the methods for determining and eliminating the possibility of bypassing, DIN EN ISO 14119). The safety switches are not easy to manipulate.

1.5.1 Danger points secured by a protective device:

A Sausage outlet by a protective shutter,
B Separator area by a protective shutter,
C Lower part of conveyor by a protective cover,
D Drive by the doors at the back of the machine.
E Separator area by the casing brake or by the “inner brake protective ring”

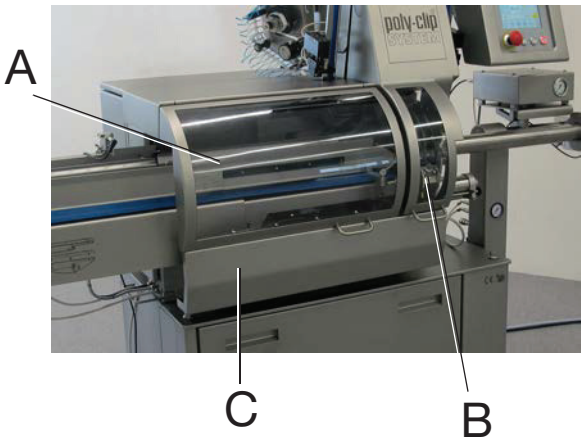


Fig. 1-1 Protective devices, standard version
A Protective shutter
B Protective shutter
C Protective cover

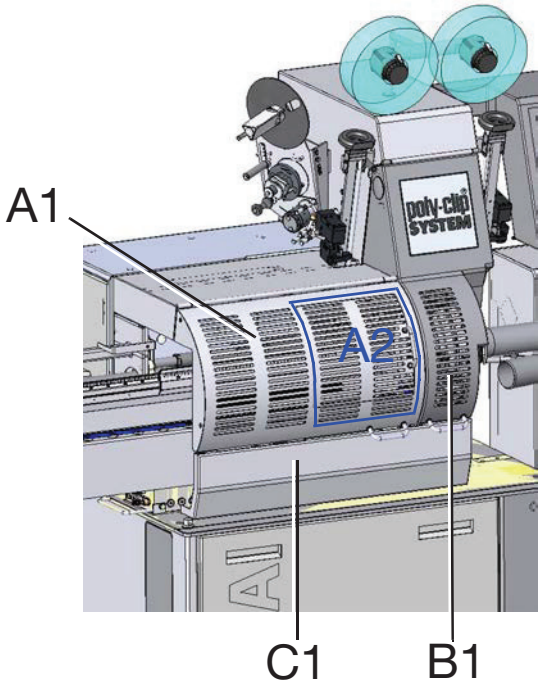


Fig. 1-2 Protective devices, optional version
A1 Protective shutter
A2 Sliding grate
B1 Protective shutter
C1Protective cover

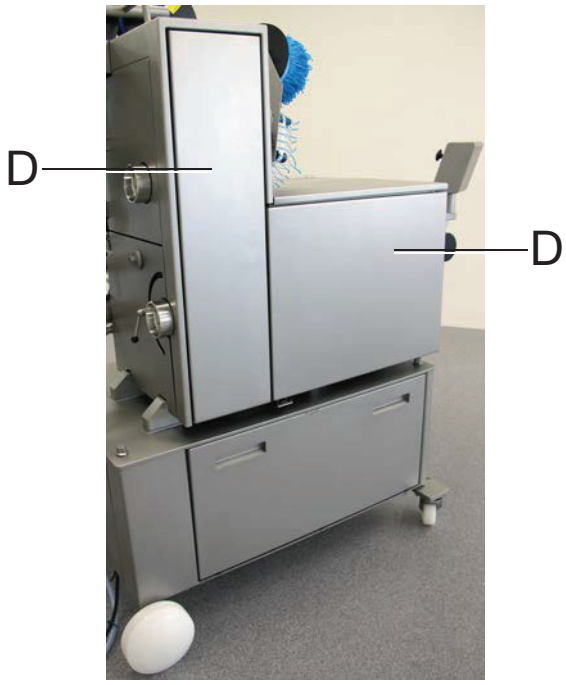


Fig. 1-3 D Doors, back of machine

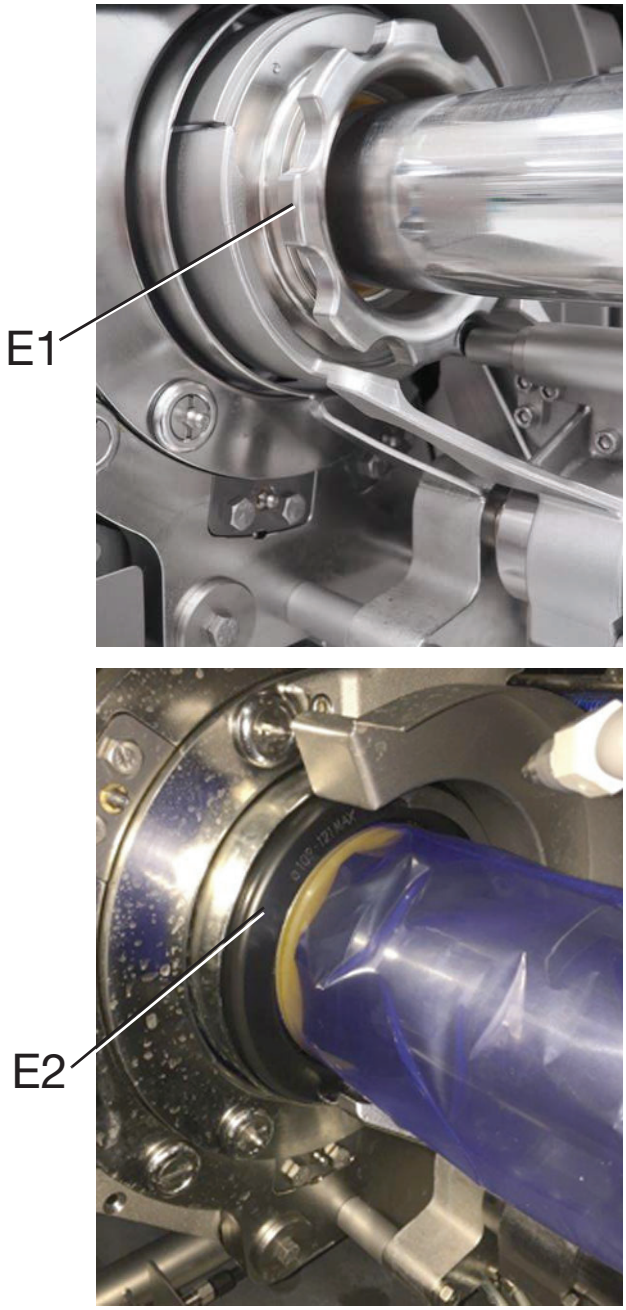


Fig. 1-4 E1 Casing brake
E2 “Inner brake protective ring”

1.5.1.1 Emergency Stop pushbutton

There is an Emergency Stop pushbutton (1, Fig. 1-5) for the machine on the control panel.

Fig. 1-5 1 Emergency Stop pushbutton

1.5.1.2 Local machine stop button (optional)

There is a local machine stop button on the second control panel at the end of the conveyor (optional, Fig. 1-6).

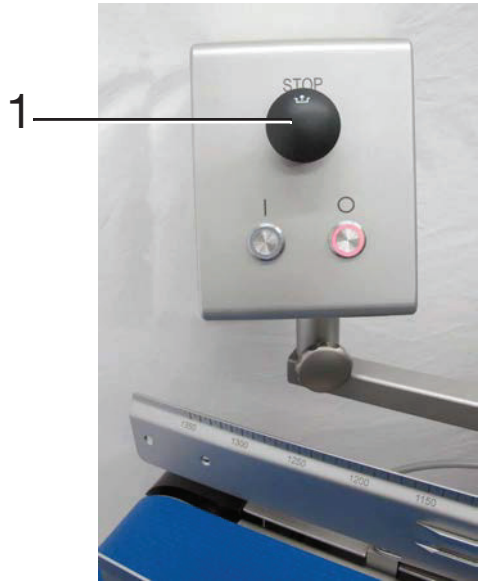


Fig. 1-6 1 Local machine stop button

1.5.2 Protective covers

Various protective covers protect danger points and can only be opened using a tool.

- A transparent protective cover on the control cabinet prevents anyone reaching into an area that contains live parts. Before dismantling the transparent protective cover, switch off the main switch and secure it against being switched back on again!

The following protective covers cover danger points and do not require tools:

- When coupled with a TSA and using an inner brake, the “inner brake protective ring” prevents anyone reaching into the closing and separator area. The protective ring (1) is inserted into the casing brake holder instead of the casing brake. The protective ring only fulfils its safety function if it is suitable for the calibre of the filling system. (Fig. 1-7)

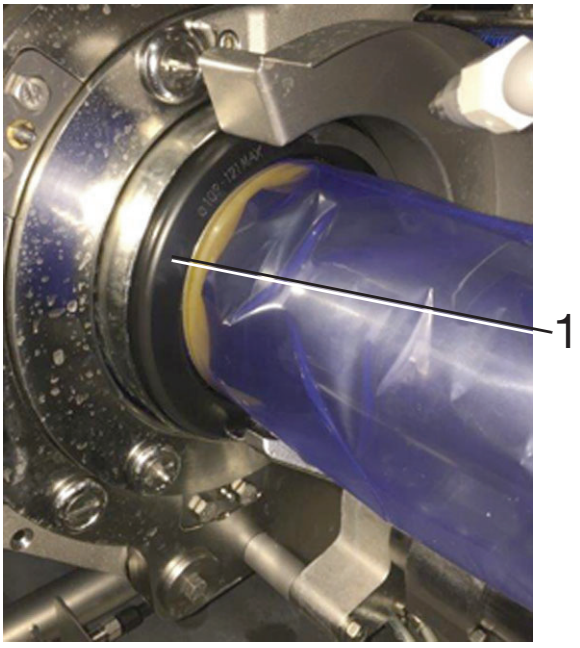


Fig. 1-7 1 “Inner brake protective ring”

1.5.3 What effect do the protective devices have?

In the following cases, an electrical circuit is interrupted, the machine stops immediately and is no longer operational:

- Protective shutter A or A1 is opened,
- Protective shutter A or A1 is moved sideways,
- Sliding grate A2 is opened,
- Protective shutter B or B1 is opened,
- Protective cover C or C1 is opened,
- D: One of the two doors at the back of the machine is opened,
- The Emergency Stop pushbutton on control panel is pressed,
- The local machine stop button (optional) is pressed.
- Casing brake E1 is removed or “inner brake protective ring” E2 is removed.

A message is displayed on the control panel, e.g. “15111 Protective grating top” (see also chapter 4, section 4.10).

1.5.4 All protective devices must be checked!

Check for presence and correct functioning:

- Before each start-up of the machine!
- Before any work is started on the machine!
- After all set-up, cleaning, service, maintenance and repair work on the machine!

1.5.5 How are the protective devices checked?

Prerequisite: The machine is operational.

For the check, trigger protective devices **A, B, C, D** and **E1/E2** or **A1, A2, B1, C1, D** and **E1/E2** one after the other (see 1.5.1).

Example: Checking protective device A at the sausage outlet:

- Open protective shutter A at the sausage outlet.

The message “15111 Protective grating top” appears. The machine is no longer operational.

- Close protective shutter A.

The message “15111 Protective grating top” disappears.

The machine is operational again.
If the result of any of the checks differs from that described here, the machine must be shut down immediately and the maintenance staff called.

• Note

The machine may only be operated if all protective devices **A, B, C, D and E1/E2** or **A1, A2, B1, C1, D** and **E1/E2** are working perfectly.

1.6 Set-up, service, cleaning, maintenance and repair work on the machine

1.6.1 Who may carry out this work?

- Set-up upon production changeover, as well as maintenance and cleaning work, may only be carried out by trained operators.
- Maintenance and repair work may only be carried out by technical staff who have been authorised by the operating company to perform this work. The customer's technical staff must be qualified specialists. Qualified specialists are people who, based on their training and experience, are able to identify risks and avoid potential hazards.

1.6.2 What must be observed and done before this work commences?

Set-up, service, cleaning, maintenance and repair work must be carried out only when the machine has stopped:
- Press the Automatic Off button.
- Press the Emergency Stop pushbutton.
- Switch off the main switch.
- Disconnect the main power supply at the machine.

• Completely disconnect the main compressed air supply at the machine:

- Push the air release valve (1, Fig. 1-8) against the direction of flow (see arrow, Fig. 1-8), thereby opening it.

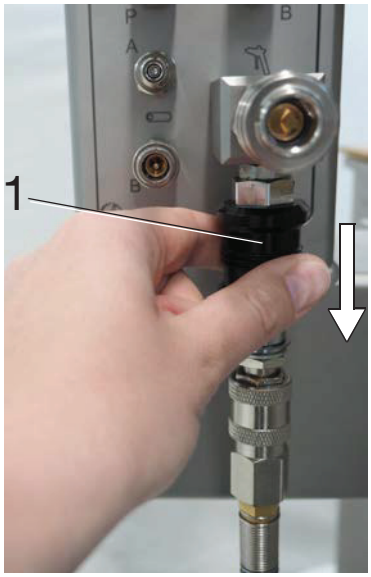


Fig. 1-8 Arrow: pointing against the direction of flow
1 Air release valve

- Check on the pressure gauge that the air pressure has been released:

Fig. 1-9 Pressure gauge

- Push and hold the compressed air hose in the direction of flow while pushing the ring on the air release valve (2, Fig. 1-10) against the direction of flow and remove the hose.

Fig. 1-10 2 Ring on the air release valve

- Unscrew the control cable between the clipping machine and the stuffing machine.
- Secure the machine against being switched back on, for example by means of a lock on the main switch. Carry the key on your person!

1.6.3 Cleaning the machine

- The machine must be cleaned in accordance with the local hygiene and accident prevention regulations in force.
- When using cleaning devices, the device manufacturer's safety instructions must be observed.
- When cleaning the machine with a high-pressure washer, only use high-pressure washers up to 80 bar and only at a distance of at least 1 metre. No dirtblaster should be fitted to the high-pressure washer.

1.6.4 Lubricating grease

The Poly-clip grease cartridge supplied with the central lubrication system in the machine contains special lubricating grease that satisfies European food regulations, meets the requirements of the FDA guidelines of Section 21 CFR 178.3570 and is approved in accordance with USDA-H1. It provides a high level of corrosion protection and is not washed out during cleaning of the machine, it distributes very well in our central lubrication systems and can be used in a wide service temperature range.
The lubricating grease for the central lubrication system is available under article number 213307 (310 ml). Grease for the manual lubrication points (grease gun) is available under article number 33269 (400 g).
If other lubricating greases are used, they may damage the automatic lubrication system. This can also lead to inadequate lubrication and cause consequential damage, e.g. if the lubricating grease used is of an inappropriate viscosity. Mixing other lubricating greases with the original lubricating grease may lead to reactions that cause irreparable damage to the central lubrication system.
We do not recommend refilling lubricant cartridges because this may result in air bubbles which could render the central lubrication system inoperative. This could damage the components of the central lubrication system.
Poly-clip System GmbH & Co. KG accepts no liability for damage caused by using a different grease or any consequential damage thereof.

1.6.4.1 Grease specification

- Synthetic hydrocarbon oil (base oil) with aluminium complex soap (thickener),
- Approved according to USDA-H1 or certified according to NSF ISO 21469,
- Service temperature range -45 °C to 120 °C,
- Density: 0.92 g/cm^3 [20 °C],
- Consistency: up to NLGI grade 2.

1.6.5 Work on electrical equipment

	**DANGER!**

Any unauthorised personnel carrying out work on the electrical equipment is at risk of electrocution. Work on the electrical equipment of the machine must only be carried out by a qualified electrician, or by a trained person under the guidance and supervision of a qualified electrician, in accordance with the electrical regulations.
A qualified electrician is someone who can assess the work assigned and identify potential risks based on his/her technical (electrical) training, his/her knowledge and experience as well as his/her knowledge of the relevant standards and regulations.

Before starting work:

- isolate,
- secure against being switched back on,
- ensure that no voltage is present,
- earth and short-circuit,
- cover or bar access to neighbouring live parts!

Damaged cables present a risk of electrocution! When moving machines, e.g. during cleaning, take care not to run over cables. Damaged cables must be replaced immediately.

1.6.5.1 Frequency converters and servo controllers

When the frequency converters and servo controllers are connected to the mains voltage, the components of the power unit as well as certain components of the control unit are connected to the electricity grid. Hence touching these components can be fatal!

Frequency converters and servo controllers may only be completely removed in accordance with the safety instructions and applicable safety regulations.
No individual parts may be attached to or removed from the frequency converters or servo controllers and no repairs may be carried out.

The frequency converters and servo controllers still carry a residual voltage after they have been switched off. The length of time it takes for these components to discharge can be found in the operating manuals for the components. Touching the components before this period has expired can result in serious injury or death.

1.6.5.2 Machine connection

- The machine may only be connected to electricity grids with a protective earthing (PE) system.
- The machine must not be operated without a fault-current circuit breaker. Only universal current-sensitive earth-leakage circuit breakers type B according to IEC 60755 may be used.
- The regulations of the local energy supplier and the applicable safety regulations must be observed when connecting the machine.
- It is essential to check for a protective earthing function prior to start-up.
- Prior to start-up, it is essential to check that the mains voltage matches the supply voltage specified on the machine type plate.
- An adequately fused socket (not included in the scope of supply) must be available on-site in the vicinity of the machine.

1.6.6 Working with process materials

When working with oil, grease, cleaning agents and other chemical substances, observe the manufacturers' safety and dosage information as well as the general regulations in force.
Residues of oil, grease, cleaning agents and other chemical substances must be collected in accordance with the legal provisions for recycling or disposal.
Local authority regulations pertaining to sewage disposal apply.

1.7 Residual dangers

DANGER!

Due to the intended use of the machine, despite the fullest possible integration of safety into the state-of-the-art design and construction of the machine, not all danger points can be secured such that no accidents at all happen. The danger points, the types of danger they pose and the protective measures that must be taken to prevent these dangers are described in this chapter.
Failing to take these protective measures can lead to life-threatening injuries. It is therefore essential that you read and observe this chapter carefully!

1.7.1 One-man operation

DANGER!

There are work sequences on the machine that, for safety reasons, require two-hand operation.
For example, the machine can only be swung in using two-hand operation and the twin turret can only be rotated using two-hand operation. This measure prevents operators reaching into the area of travel of the clip head. If more than one person were to operate the machine, this security measure would be circumvented.
Also bear in mind that people in the immediate vicinity of the machine and the operator could hamper the operator, e.g. by tripping and falling into the operator's work area.

- The machine must only be operated by one person at all times!
- Other people must always keep a safe distance from the machine and the operator in order to avoid hampering the operator in his/her work area.

1.7.2 Operator's work area

	**DANGER!**

The operator's work area is at the front of the machine only (see shaded area in Fig. 1-11). If the operator were to move outside of the shaded area, he would no longer be able to reach Emergency Stop pushbutton in good time to stop the machine in an emergency.

- The operator must always stay at the front of the machine!

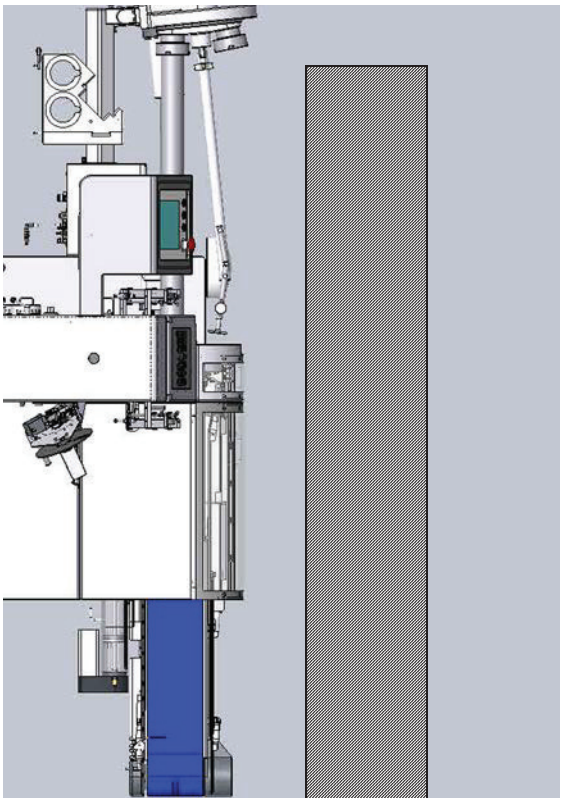


Fig. 1-11 Shaded area: Operator's work area

1.7.3 Trip hazard

	**WARNING!**

Cables and air hoses between the ICA and other machines must be laid in a way that avoids trip hazards.

1.7.4 Risk of injury through tools left attached

	**DANGER!**

Tools or implements left attached to the machine present a serious risk of injury. In particular, implements attached to the main axle may become dangerous projectiles when the machine is operated.

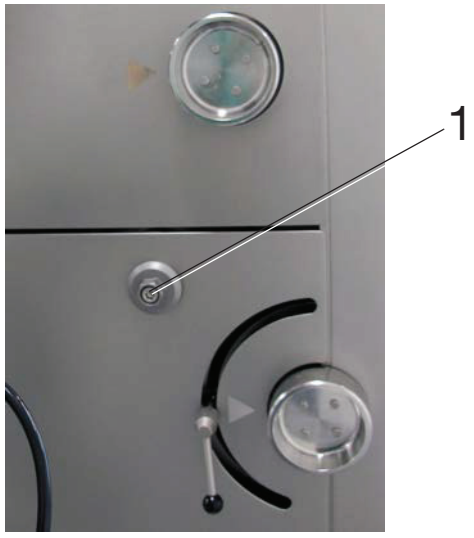


Fig. 1-12 1 Main axle

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work (for example: ratchet wrench on the main axle).
- Make sure that the machine is not misused as a "storage place" for various tools.

1.7.5 Risk of crushing when closing the protective shutters

	**CAUTION!**

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

1.7.6 Risk of crushing if clamping lever is misaligned

	**WARNING!**

The overspreading cylinder (1, Fig. 1-13) regularly travels out of the machine during operation. If the clamping lever (2) of the sausage guide is protruding sideways, the cylinder will travel against it, presenting a risk of crushing.

- The clamping lever must point towards the direction of flow of the meat, see Fig. 1-13.

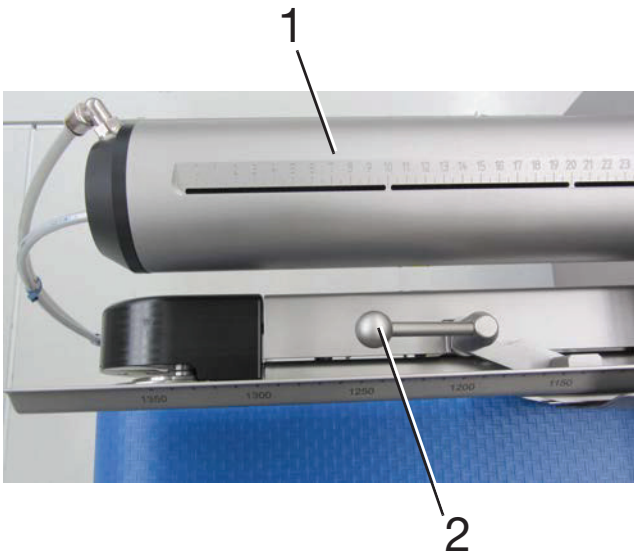


Fig. 1-13 1 Overspreading cylinder
2 Clamping lever

1.7.7 Risk of cuts when changing the knife, punch or die

CAUTION!

When changing the knife, punch or die, you could cut yourself on the sharp blade of the knife or the sharp edges of the punch.

- Wear cut-resistant protective gloves.
- Concentrate and perform this work carefully. Do not touch the edges of the punch or the blade of the knife.

1.7.8 Closing and separator area

DANGER!

Here, the separator plates gather the casing to a small diameter and the content (e.g. meat) is squeezed out of the resulting tail. Then the closing mechanism places the clips around the tail.
These work movements are executed with such great force and speed that there is a risk of crushing or amputation should you reach into the closing and separator area during machine operation.
The closing and separator area danger point is therefore covered during machine operation:

a) at the sausage inlet side by the stuffing horn, the casing brake holder and the casing brake E1 or the “inner brake protective ring” E2,

b) at the front by protective device B or B1, the protective shutter,

c) at the sausage outlet side by protective shutter A or A1 and A2 over the top and by protective cover C or C1 underneath.

- Before reaching into the closing and separator area, for example during casing changeover, the machine must be stopped. To do this, open the protective shutter at the sausage outlet.

1.7.9 Sausage inlet side

DANGER!

Here, the closing and separator area danger point is covered by the stuffing horn, the casing brake holder and the casing brake E1 or the “inner brake protective ring” E2. There is a risk of crushing between the stuffing horn and the casing brake/”inner brake protective ring” when swinging the casing brake device in and out.

- The machine must never be put into operation without stuffing horn, casing brake holder or casing brake/”inner brake protective ring”.
- Only a stuffing horn and casing brake of the same size may be used as this ensures the separating and closing area is not accessible.
- The casing brake holder must be engaged in the working position for operation.
- The machine must only be operated by one person at all times.
- When coupled with a TSA and using an inner brake, the machine must not be started up without an “inner brake protective ring” suitable for the calibre of the filling system.

1.7.10 Sausage outlet side

	DANGER!

Here, the closing and separator area danger point is covered by the sausage outlet and the protective shutter.
If the protective shutter (protective device A or A1) is flipped up or pushed away to the left of the sausage outlet, then the machine will stop.

- Never reach in underneath the protective shutter without flipping it up first.
- There is a high risk of injury here.

1.7.11 Drive

	DANGER!

The danger point is covered by the panelling and the doors at the back of the machine.

- Never reach into danger points without first having stopped the machine.

1.7.12 Moving the machine into the working position (swing in)

	DANGER!

Before production is started or after casing changeover, the clip head must be moved into the working position (swing in). Press and hold the manual function button “Swing machine in” and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the working position. Depending on the initial position, the clip head will move jerkily towards the stuffer. This happens under operating pressure so anyone standing behind the machine, for example, and reaching into the area of travel of the clip head (see crush points 1 and 2, Fig. 1-14) is at risk of their hands or arms being crushed or severed.

- Before swinging the machine in or out, always make sure that nobody is in the immediate vicinity of the machine and able to reach into the area of travel of the clip head.

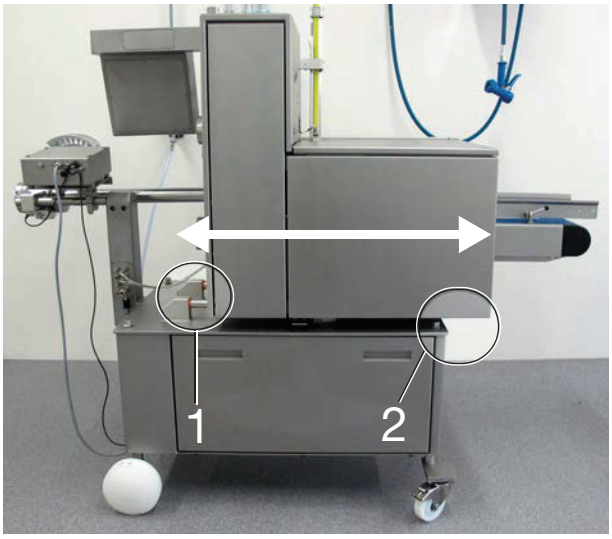


Fig. 1-14 Clip head swung out
1 Crush point on stuffer side
2 Crush point on outlet side

1.7.13 Automatic mode

DANGER!

The sausage outlet side is partly closed by the emerging sausage.
However, the inside diameter of the sausage outlet is larger than the emerging sausage.

- Nonetheless, the operators must not reach into this danger zone during operation.

1.7.14 Stuffing process

DANGER!

The separating and closing cycle step is initiated by the clip pulse from the stuffer.
After each completed stuffing process, the clipping machine cycle step takes place.

- Never reach into danger points without first having stopped the machine.

1.7.15 Speed

The speed for the machine's work cycle can be adjusted to suit the requirements (see chapter 4).
The speed selected must be such that the operator is able to remove the finished portions from the ICA without becoming stressed.

1.7.16 Stuffing process in automatic mode

DANGER!

If, during automatic operation, the stuffer becomes empty during the stuffing process and can no longer stuff a complete portion, the ICA remains in "Automatic On" mode.
Once the stuffing time selected on the stuffing machine has elapsed, it sends the clip signal to the clipping machine despite the portion being unfinished.

- The clipping machine cycle step is carried out.

• Note

For safety reasons, when the stuffer is empty you must press the Emergency Stop pushbutton on the clipping machine.

1.7.17 Switching from Automatic On to Automatic Off

DANGER!

This does not interrupt the work cycle that has already started. After the stuffing process, the clipping machine's cycle step is initiated by the clip pulse and is executed.
After the "Automatic Off" button has been pressed, automatic operation continues until the clip pulse from the stuffing machine switches the clipping machine to Automatic Off. Once the work cycle that has already started is completed, no more work cycles are carried out.

- Never reach into danger points without first having stopped the machine.

1.7.18 Control cabinet

• In case of fire

- To prevent the fire from spreading to other areas, do not open the control cabinet door!
- Pull out the mains plug!
- Do not attempt to extinguish the fire with water – risk of serious injury by electrocution! Only use carbon dioxide fire extinguishers.

1.7.19 Movable casing brake holder (optional)

	**DANGER!**

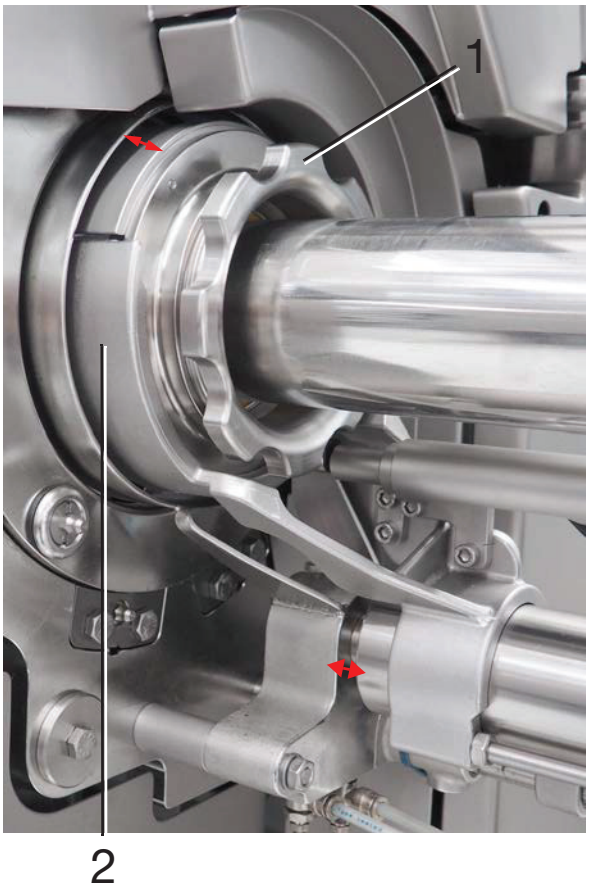


Fig. 1-15 1 Casing brake
2 Movable casing brake holder

The movable casing brake holder reduces the casing tension when the separator is dipped. It is controlled by the ICA by means of compressed air and is moved pneumatically a maximum of 30 mm parallel to the direction of stuffing. This creates a gap between the casing brake and the machine panelling and a gap in the area of the piston rod (see red arrows in Fig. 1-15). This work movement is executed with such great force and speed that there is a risk of crushing should you reach into the area of travel of the movable casing brake holder or casing brake during machine operation.
The gap between the casing brake and the machine panelling makes it possible to reach the separator. This presents risk of amputation.

- The machine must be set such that during operation, the gap created between the casing brake holder and the machine panelling cannot exceed 8 mm.
- Never reach into the separator through the gap between the casing brake and the machine panelling!
- Never reach into the area of travel of the casing brake holder or casing brake during machine operation!
- Before commencing any work on the machine (e.g. modification work for product changeover), always flip up the protective shutter at the sausage outlet! This measure stops the machine and simultaneously ensures it cannot be inadvertently switched back on.
- Proceed with the utmost care and concentration when working in the immediate vicinity of the machine to avoid accidentally reaching into the area of travel of the movable casing brake holder or the casing brake (e.g. through stumbling).
- Perform the work as a one-man operation.
- If you use the movable casing brake holder instead of the standard casing brake holder, the following also applies:
  Never operate the machine without stuffing horn, casing brake holder, casing brake and magazine rods!

1.7.20 Operation with a TSA and inner brake

There is a risk of body parts, especially fingers, being crushed or severed in the closing and separator area. When coupled with a TSA and using an inner brake, the “inner brake protective ring” prevents anyone reaching into the closing and separator area. The protective ring (1) is inserted into the casing brake holder instead of the casing brake. (Fig. 1-16)

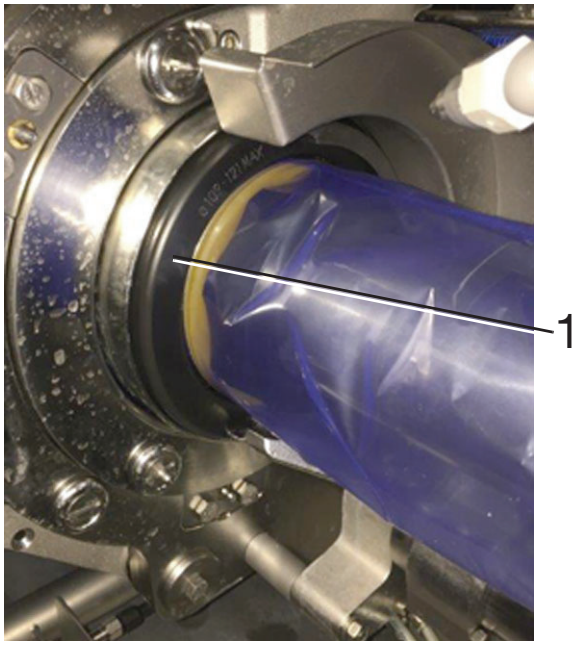


Fig. 1-16 1 “Inner brake protective ring”

The protective ring only fulfils its safety function if it is suitable for the calibre of the filling system. If the protective ring is too big, there will be a gap between the inner brake and the machine panelling, which makes the closing and separator area accessible.

- The calibre range (2) for which the protective ring is suitable is stamped on the protective ring. (Fig. 1-17)
- The calibre is stamped on the filling system (2). (Fig. 1-18)

The calibre range stamped on the “inner brake protective ring” must be suitable for the calibre of the filling system.

The operating company must ensure that when coupled with a TSA and using an inner brake, an “inner brake protective ring” suitable for the filling system is inserted into the casing brake holder.

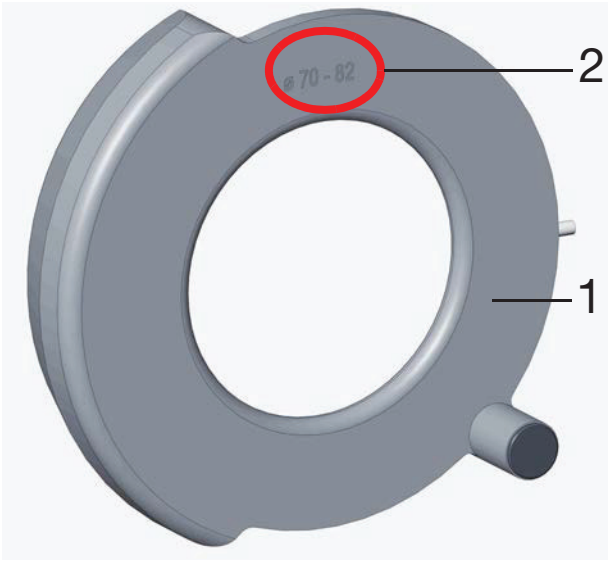


Fig. 1-17 1 “Inner brake protective ring”
2 Suitable calibre range, here 70 to 82 mm

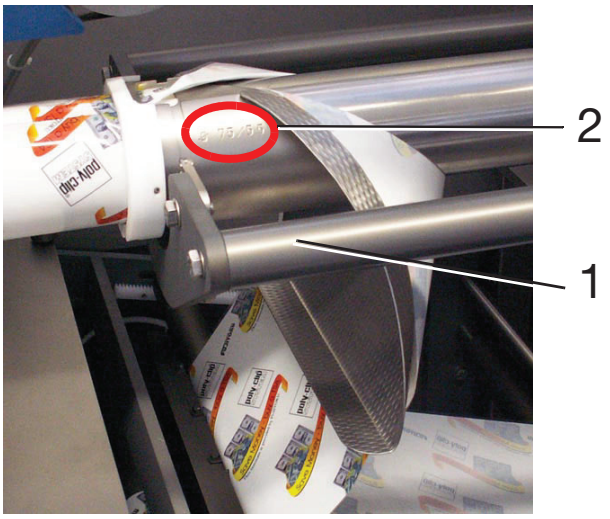


Fig. 1-18 1 Filling system
2 Calibre of filling system, here 75 mm

1.7.21 Preventing the machine from rolling away

	**DANGER!**

If the machine is not prevented from rolling away, it could injure the operator or other persons. If one person moves the machine alone, he/she may not be able to bring it to a halt quickly enough. In addition, one person alone does not have a sufficient view.

- The parking brakes should only be released to manoeuvre the machine.
- Always apply the parking brakes as soon as you have finished moving the machine and whenever moving is interrupted, however briefly.
- Only ever start up the machine with the parking brakes applied.
- The machine may only be moved by 2 people.

Fig. 1-19 1 Parking brakes on the swivel castors

1.7.22 Carrier pins on the transport wheel (optional GSA)

	**CAUTION!**

When loop transport is manually activated and during operation, the next loop is transported to the transfer position through rotation of the transport wheel. Through this rotation, there is a risk you could cut yourself on the carriers pins on the transport wheel (1, Fig. 1-20) during operation and when activating manual loop transport.

- When activating loop transport manually and during operation, do not reach into the area of movement of the transport wheel.

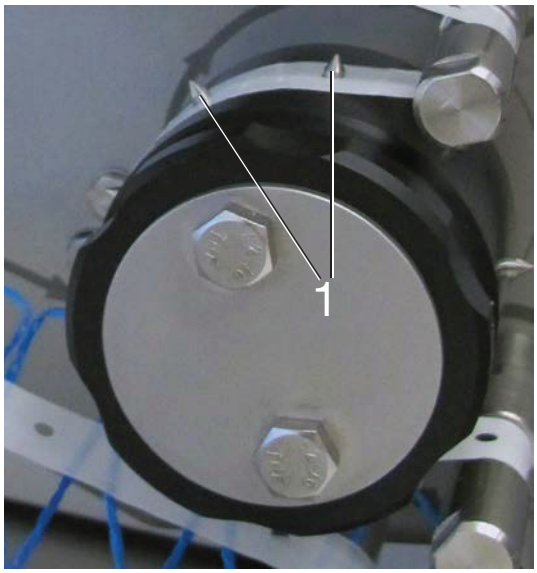


Fig. 1-20 1 Carrier pins on the transport wheel

1.8 Transport

- Only specialist staff are permitted to move the machine.
- Wear safety shoes!
- The Operating Instructions, especially the Safety Instructions, for the clipping machine and the local accident prevention regulations in force must be observed for all work.

1.8.1 Measures before transport

The main power supply to the machine must be disconnected, even for moving it short distances:

- Disconnect the main power supply at the machine.
- Completely disconnect the main compressed air supply at the machine:

- Push the air release valve (1, Fig. 1-21) against the direction of flow (see arrow, Fig. 1-21), thereby opening it.

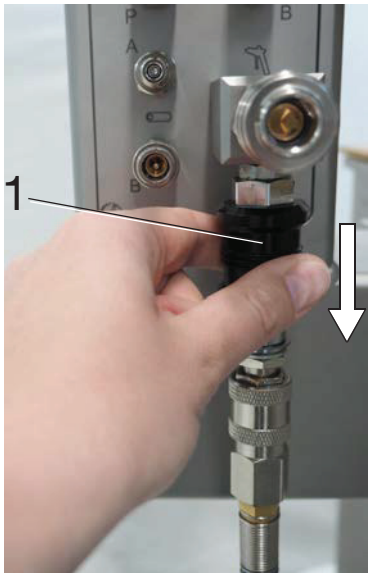


Fig. 1-21 Arrow: pointing against the direction of flow
1 Air release valve

- Check on the pressure gauge that the air pressure has been released:

Fig. 1-22 Pressure gauge

- Push and hold the compressed air hose in the direction of flow while pushing the ring on the air release valve (2, Fig. 1-23) against the direction of flow and remove the hose.

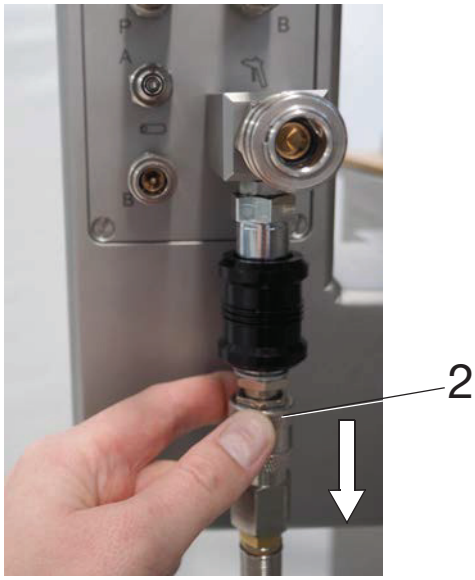


Fig. 1-23 2 Ring on the air release valve

- Unscrew the control cable between the clipping machine and the stuffing machine.
- Open the right-hand door at the back of the machine and use the transport lock (1, Fig. 1-24) to prevent the machine head from moving. Close the door.

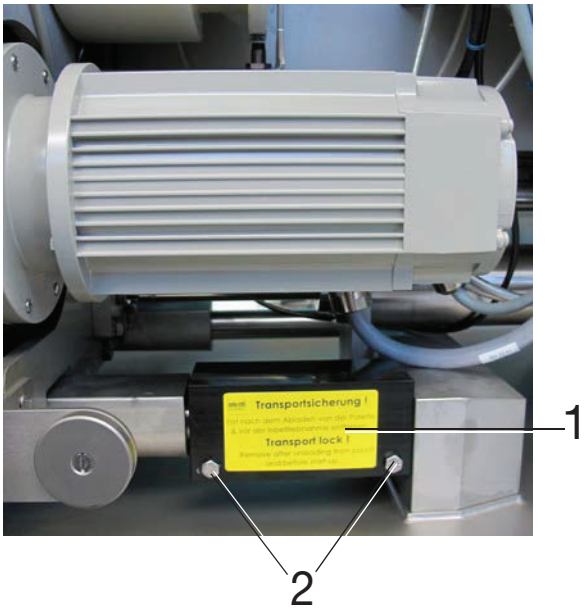


Fig. 1-24 1 Transport lock
2 Fixing screws

1.8.2 Moving the machine

	DANGER!

The machine and its additional equipment are very heavy. If the machine starts to move in an uncontrolled manner, there is a high risk of injury from crushing. If one person moves the machine alone, he/she may not be able to bring it to a halt quickly enough. In addition, one person alone does not have a sufficient view.

- Wear safety shoes.
- The machine may only be moved by 2 people.
- The machine can only be moved in a controlled manner on level surfaces and requires additional securing on slopes. Caution is also required for movement over thresholds and joints.
- The machine may only be moved from the side with the swivel castors and only by pushing because this is the only way the person responsible for moving it can safely operate the parking brakes.
- Do not move the machine jerkily.
- Do not run over cables. Damaged cables must be replaced immediately.
- Any time you pause while moving the machine, even if only briefly, and once it is in its final location, apply the parking brakes immediately to prevent it from rolling away.

Suitable places to push the machine are:

- Drive motor for conveyor (1, Fig. 1-25),
- Pivoting cross-piece (1, Fig. 1-26).

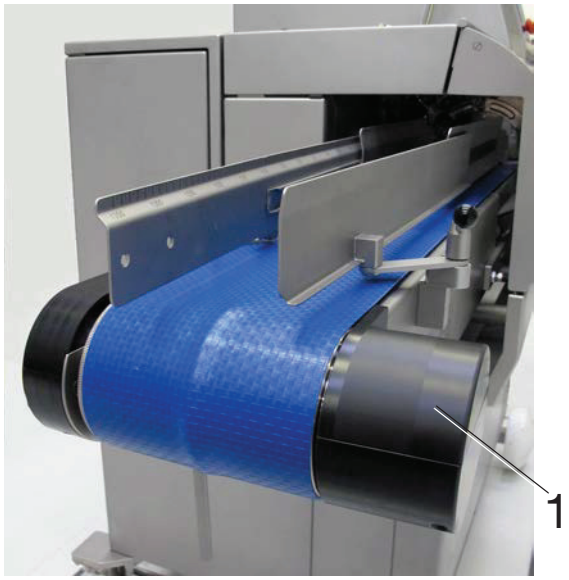


Fig. 1-25 Conveyor drive motor

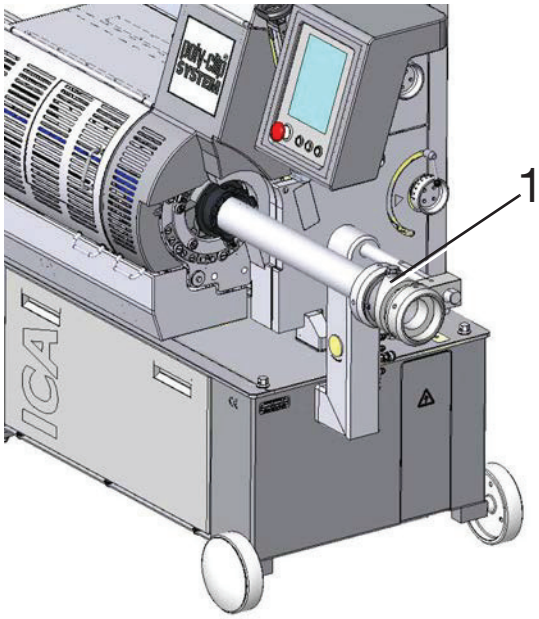


Fig. 1-26 1 Pivoting cross-piece

1.8.3 Loading and unloading

Details about the machine's weight and centre of gravity can be found in section 10.1.1.

	**DANGER!**

The machine and its additional equipment are very heavy. There is a danger to life under suspended loads and in the loading area:

- Never stand under suspended loads or in the loading area.
- Wear safety shoes.
- The machine may only be lifted using a forklift truck. The forklift truck must have a sufficient load capacity. Never place the fork tines under one of the 3 bushes on the panel as this will cause the panel to bend (Fig. 1-27)! Set the forks as far apart as possible and pick up the machine centrally from the rear.
- Only use suitable transport vehicles with sufficient carrying capacity.
- Secure the load on the transport vehicle to prevent it sliding or falling off.

1.8.4 Transport by ship, plane or lorry

- For transport, the machine must be bolted to a pallet to prevent it from tipping over.
- Secure the swivel castors and wheels to prevent them from slipping. Apply the parking brakes on the swivel castors. (Fig. 1-28)
- Use closing straps and cable ties on all protective shutters and protective covers to prevent them opening.
- Fit tension straps across the machine from one side to the other. (Fig. 1-27, Fig. 1-28)
- Use suitable means to protect the machine from moisture (film, desiccant bag).
- Secure the closed transport crate using 2 closing straps.
- Only use transport vehicles with a sufficient load capacity.
- Secure the load on the means of transport to prevent it sliding or falling off.

1.8.5 Removal of transport packaging

- Remove all parts attached for transport purposes and all packaging before start-up.

	**CAUTION!**

- Closing straps are stretched tight and will spring off when cut. Incorrect handling may result in injury.
- Any parts or equipment removed for transport purposes must be properly refitted in accordance with their intended use before machine start-up.

1.8.6 Disposal

1.8.6.1 Disposal of packaging material

Packaging must be disposed of in accordance with local legislative requirements.

1.8.6.2 Disposing of electrical/electronic components of the machine

Electrical/electronic components of the machine must be disposed of in accordance with local laws and regulations; in the EU, the Waste from Electric and Electronic Equipment Directive applies.

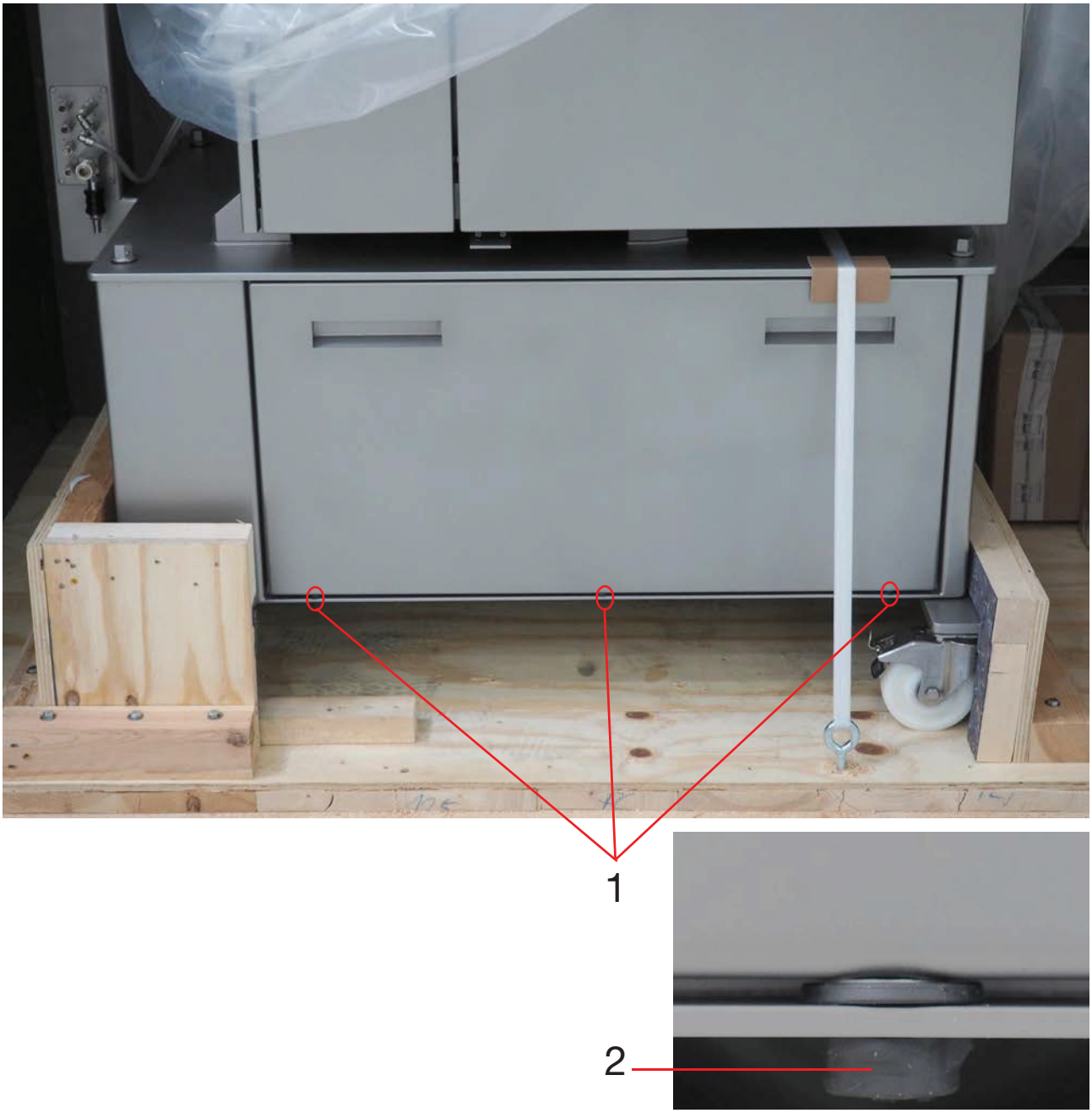


Fig. 1-27 Machine bolted onto pallet to prevent it tipping over
1 Seat of bushes
2 Bush, enlarged

ATTENTION: Panel bends

If the fork tines are inserted in the wrong place, the panel will bend.

- Never place the fork tines under one of the 3 bushes on the panelling as this will cause the panel to bend (Fig. 1-27)!
- Set the forks as far apart as possible and pick up the machine centrally from the rear.

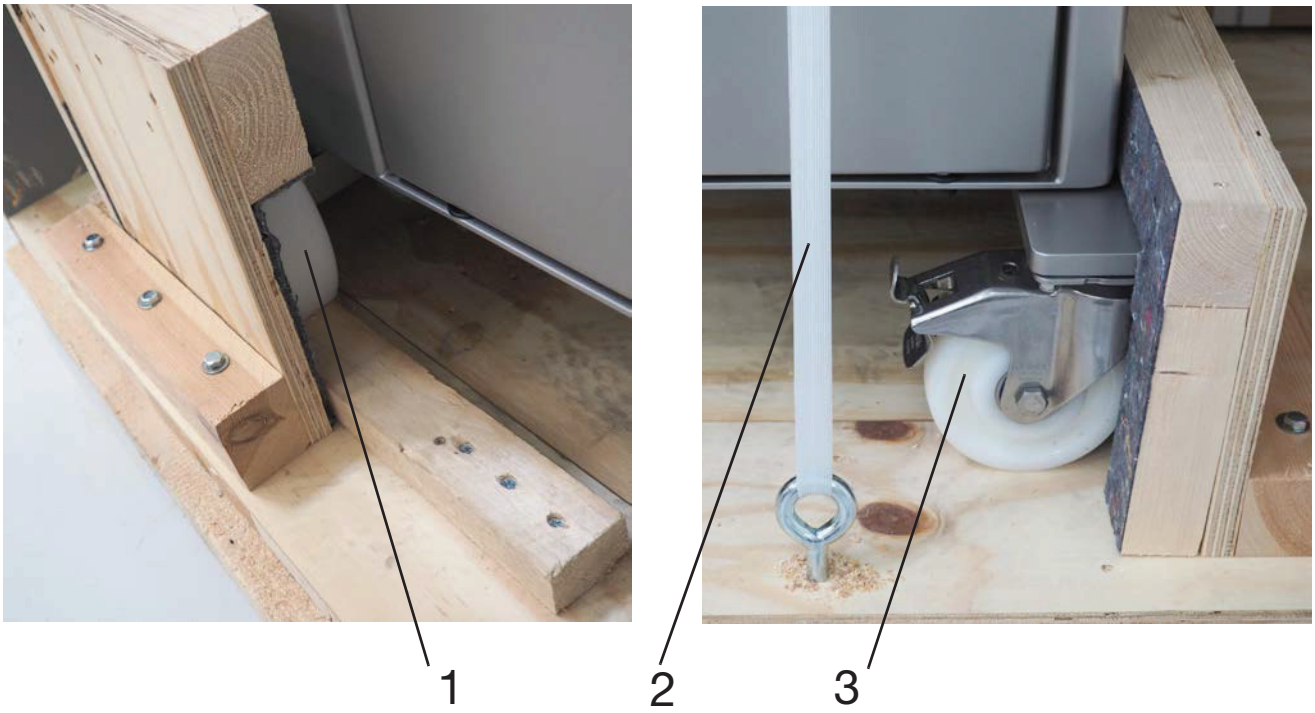


Fig. 1-28 1 Wheel
2 Tension strap
3 Swivel castor with parking brake on

2 Machine description

2.1 ICA (Iris-Clip-Automat) automatic double clipping machine

This machine is designed solely for the closing of portioned and straight sausages in different casings and of various calibre sizes.
Loops and codings may be attached to these sausages at the same time.

2.2 Operator's work area

The operator's work area is at the front of the machine only (see shaded area in Fig. 2-1).

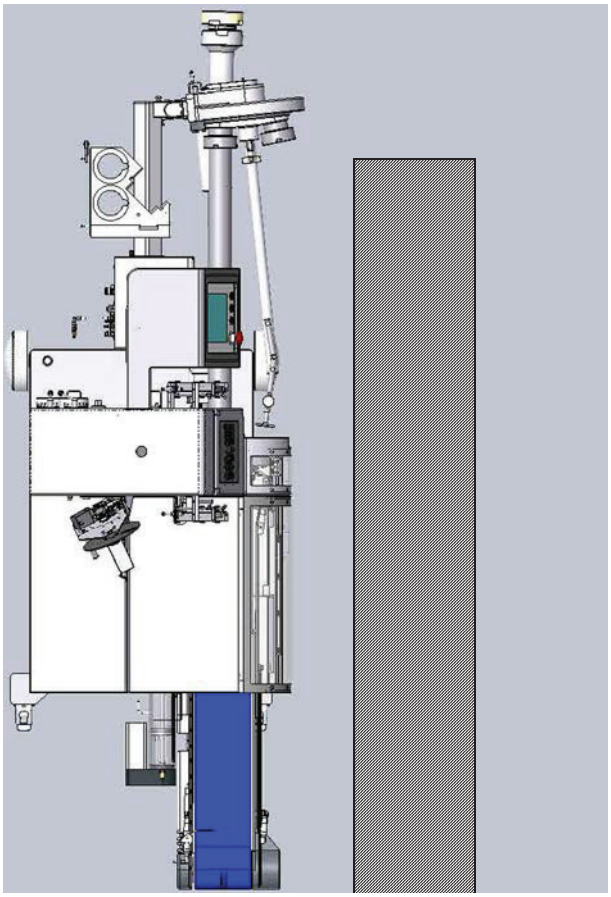


Fig. 2-1 Shaded area: Operator's work area

2.3 Suitable clip sizes

For calibres up to 160 mm:

- S 8740
- S 8744
- S 8748

For calibres up to 200 mm:

- S 840
- S 844
- S 848
- S 854

These clips are available in a variety of colours and hardnesses.

2.4 Casing brake

The casing brake is used to slow down the speed at which the casing is pulled off the stuffing horn. The resultant dynamic pressure in the casing determines the firmness and calibre of the sausage. Different types of sausage with different consistencies can be processed.

2.4.1 Dry sausage brake (optional)

With the dry sausage brakes, the braking force is pneumatically controlled. The pressure and the speed of the pressure increase are set on the touchpanel. This means the dry sausage brake can be optimally adjusted to the stuffing process. The dry sausage brake compensates for the difference between static friction (at the beginning and end of stuffing, the casing does not move) and dynamic friction (the casing moves through the casing brake).

Fig. 2-2 Pneumatic casing brake control

2.5 Stuffing horn

The stuffing horn guides the content from the stuffer through the casing brake into the casing.

2.6 Casing brake holder

The casing brake holder is attached to the ICA and holds the casing brake in place.

2.6.1 Movable casing brake holder

Instead of the rigid standard casing brake holder, a movable casing brake holder can be used.
The movable casing brake holder is controlled by the ICA by means of compressed air and reduces the casing tension when the separator is dipped. This is how bursts can be prevented when using dry sausage. Its features make it particularly suitable for large-calibre portions.

2.6.1.1 Swirl brake (optional)

The swirl brake is a movable casing brake holder for dry sausages. The casing brake holder moves back at the start of the stuffing process and then moves with the stuffing blast. The speed of the movement is adjusted to the flow of the meat. The swirl brake should be used together with a crown stuffing horn; this combination prevents fat being deposited under the casing. The meat does not clog, the maturing time of the sausages is reduced and the quality is significantly improved.

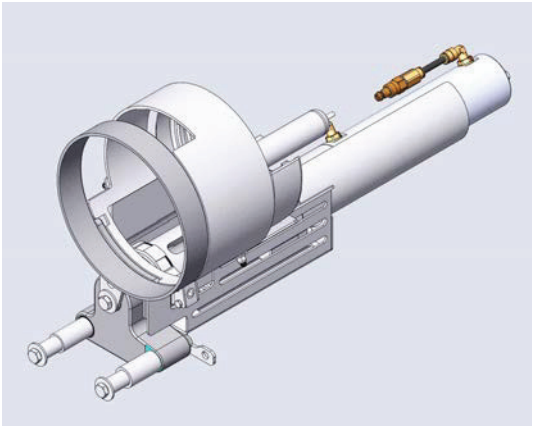


Fig. 2-3 Swirl brake

2.7 Optional equipment

The accessories described below are useful add-ons for the ICA.

2.7.1 GSA 20 belt looper

With the GSA 20 belt looper, hanging loops can be clipped to individual sausages, sausage chains or to each sausage in a chain according to the program. Loops are magazined on robust carrier tapes. The loops are taken automatically from the loop magazine and transported to the closing point. Precise positioning of the loops over the take-up holes of the carrier tape ensures smooth operation.
The unwound loop carrier tape is automatically separated from the loop during operation and rewound onto an additional magazine. The magazined carrier tape can be removed from the magazine and discarded.

Fig. 2-4 GSA belt looper

2.7.2 Spreading

2.7.3 Without overspreading

The version without overspreading has a cylinder that spreads the separator wider for service work.

2.7.4 Manual and motorised overspreading

Overspreading of at least 15 mm up to a maximum of 300 mm allows air-free loose stuffing for shaped products.
With manual overspreading, the spreading distance has to be adjusted manually with a crank. With motorised overspreading, the spreading distance is adjusted by a motor. Motorised overspreading offers the advantage that it can be saved in the recipe and can therefore be called up again for accurate reproducibility.

Fig. 2-5 1 Overspreading motor
2 Cylinder

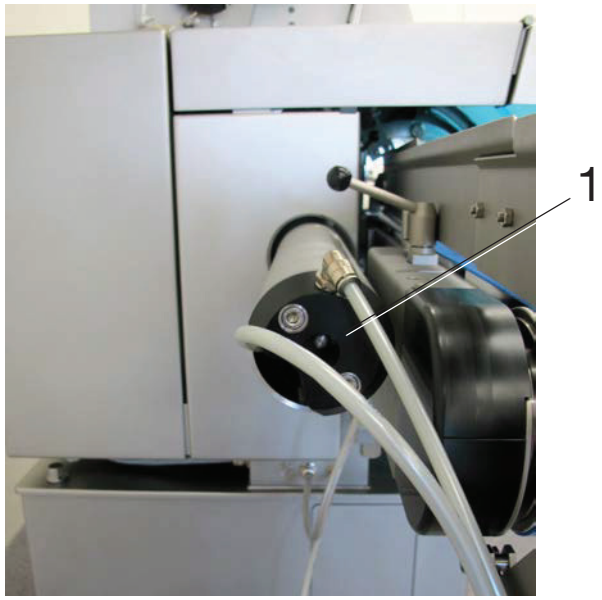


Fig. 2-6 Cylinder for manual overspreading
1 Spindle for setting the spreading distance

2.7.5 Casing end cut-off switch

With the optional casing end cut-off switch, a sensor causes the machine to switch off at the end of the casing.

2.7.6 "External automation" connection

The "External automation" connection is used for signal exchange with downstream units. The machine can send signals to downstream units (e.g. Emergency Stop pressed). The machine can receive signals from downstream units (e.g. Stuffer enabled). Signal exchange can be enabled or disabled according to the recipe.

2.7.7 Length stop (self-adjusting)

With the optional length stop, the clip pulse is controlled by sensor-based measurement of the product length (Fig. 2-7 and Fig. 2-8).
When the system is started in Automatic On mode, the self-adjusting length stop stops for the time needed to stuff the first portion. Based on the stuffing time determined in this way, the length stop signal is muted from the beginning of stuffing of the second portion for an adjustable period of time in order to avoid length stop malfunctions. This ensures that upon start of production, the machine automatically adjusts to the behaviour of the stuffer.

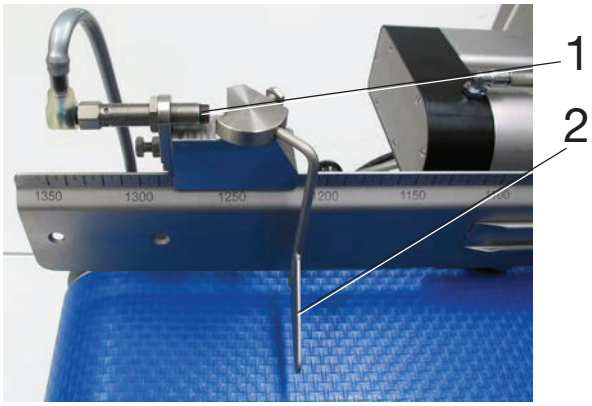


Fig. 2-7 1 Sensor
2 Length stop

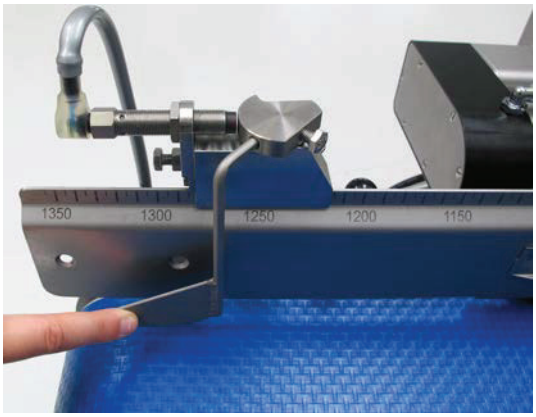


Fig. 2-8 Length stop in trigger position

2.7.8 Twin turret

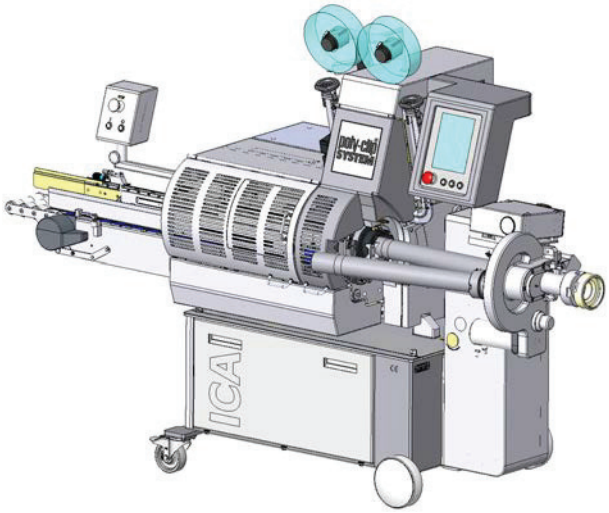


Fig. 2-9 ICA with twin turret

Two stuffing horns are attached to this accessory. This reduces casing changeover time to a minimum. Whilst production is underway with the first stuffing horn, the casing can be loaded onto the second. This option is particularly effective if the casing is gathered manually from the roll onto the stuffing horn. The stuffing horns/twin turret are rotated by a servo drive.

2.7.9 Sliding grate

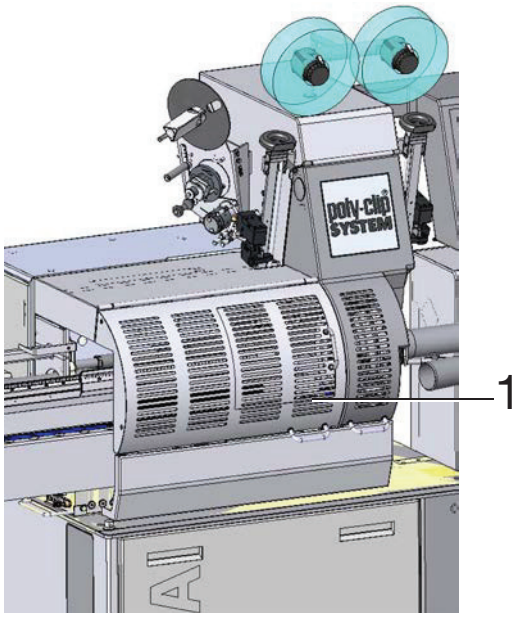


Fig. 2-10 1 Sliding grate

The sliding grate, required for safety purposes, is used for quickly removing casing remnants from the separator area. It is made entirely from stainless steel so, unlike the transparent cover, it can be cleaned with scouring pads.

2.7.10 Toothed guide for net knife

The toothed guide is specially designed for cutting elastic netting.

2.7.11 Second control panel at the end of the conveyor belt

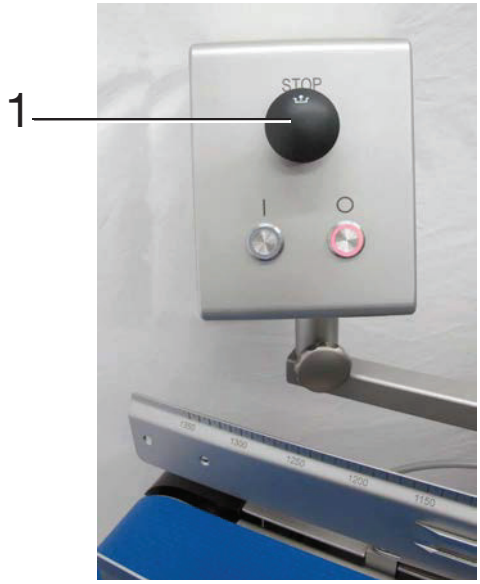


Fig. 2-11 Second control panel at the end of the conveyor belt

The second control panel is intended for operators standing at the conveyor belt. The control panel pivots.

2.7.12 Roller conveyor extension at conveyor belt

For portions longer than 1.2 m, a roller conveyor extension (1, Fig. 2-12) can be ordered.

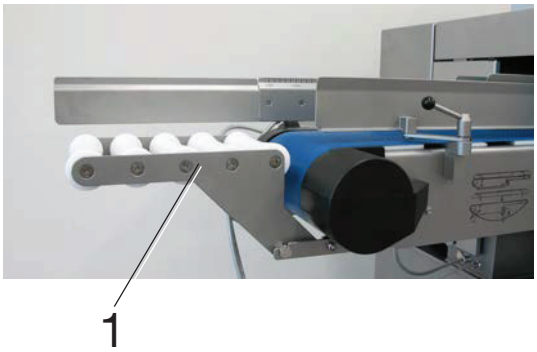


Fig. 2-12 Roller conveyor extension at conveyor belt

2.7.13 Conveyor belt speed control

Two length stops measure the speed at which the products are stuffed and synchronise the conveyor speed with the measured stuffing speed.

2.7.14 Standard pivoting telescopic belt

With the standard pivoting telescopic belt, both sausage guides (1 and 2, Fig. 2-13) can be pivoted and thus be optimally adjusted to the product diameter. It is therefore particularly suitable for small calibres. Naturally, the product length scale on the sausage guides is only correct if the sausage guides are in a fully pivoted in or fully pivoted out state.

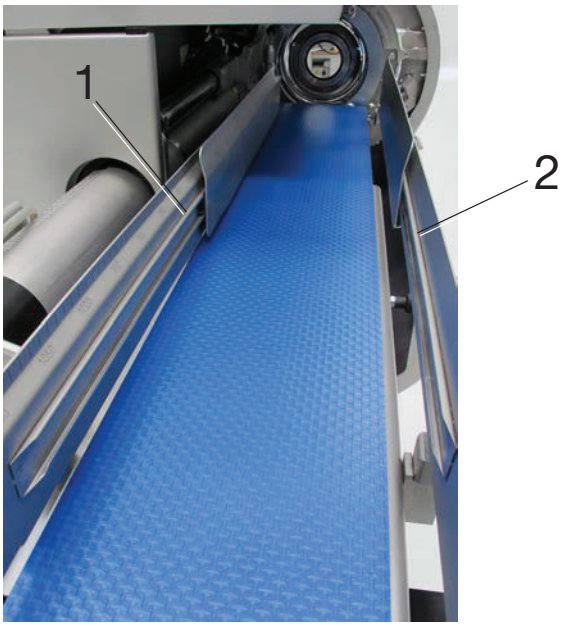


Fig. 2-13 Telescopic belt
1 Machine-side sausage guide
2 Operator-side sausage guide

2.7.15 Linear telescopic belt

With the linear telescopic belt, the machine-side sausage guide (1, Fig. 2-13) cannot be pivoted, but can be moved along the product axis and has an absolute product length scale. It is particularly suitable for large calibres.

2.7.16 Left/right rubber net knives

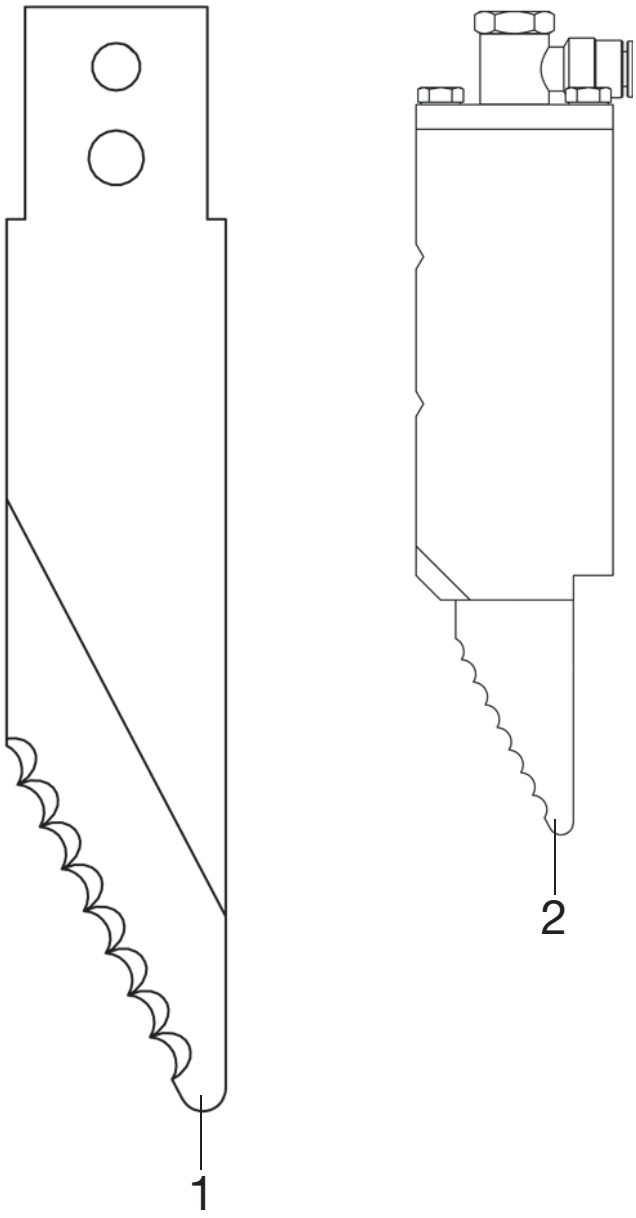


Fig. 2-14 1 Left rubber net knife
2 Right rubber net knife (here with cylinder), standard

2.7.17 Ceramic knife

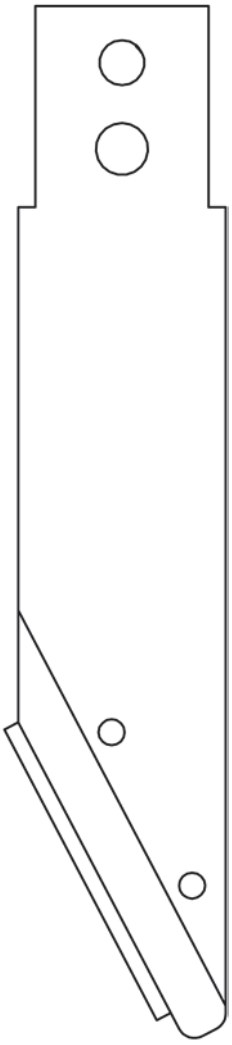


Fig. 2-15 Ceramic knife

2.7.18 Straight blade and serrated blade

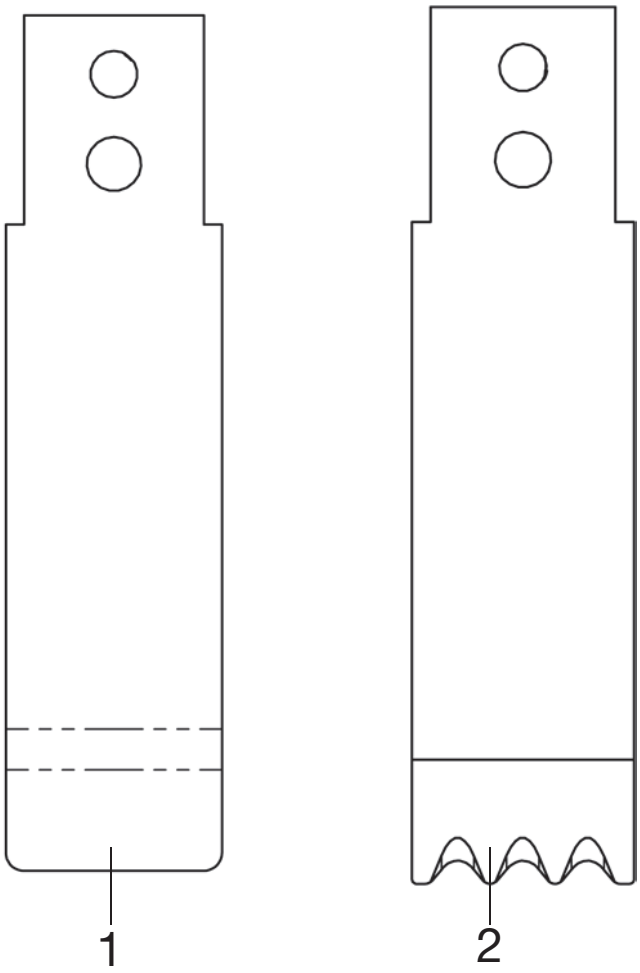


Fig. 2-16 1 Straight blade
2 Serrated blade

2.7.19 Oil sprayers

With the optional oil sprayers (coloured blue in Fig. 2-17), oil is sprayed through two nozzles on the separator to make it easier to process film. This option is only used in combination with a TSA.

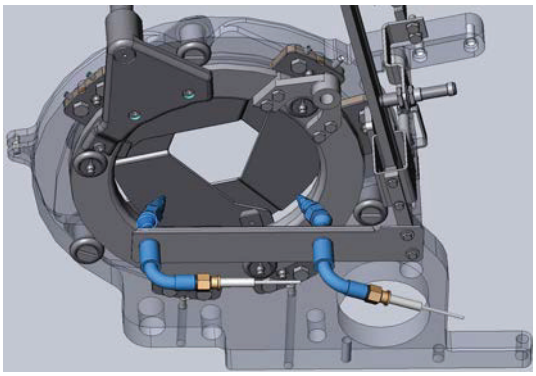


Fig. 2-17 Oil sprayers

2.7.20 Water spraying

With the optional water spraying (coloured blue in Fig. 2-18), two nozzles on the separator spray water onto the sealed film and casing to make processing easier. This option is only used in combination with a TSA.

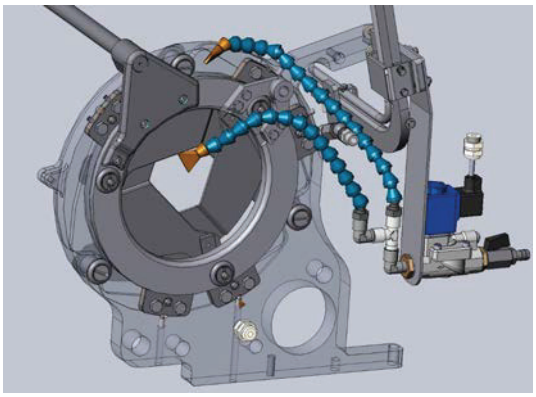


Fig. 2-18 Water spraying

2.7.21 Reel magazine

The reel magazine makes it possible to use clips from a reel. This means you can continue production for much longer without needing to refill with clips.

2.7.22 Dry sausage brake

See section 2.4.1.

2.7.23 Vacuum system

The vacuum system is designed especially for producing ham products without air pockets. It is used for producing calibres of 120 mm and above.

With this option, a vacuum tube (4) is mounted on the stuffing horn (5) and is used for sucking away the air in the casing. A vacuum nozzle can also be ordered to create the vacuum.
Special vacuum casing brakes (2) are required for the vacuum system. The functions of movable casing brake holders are limited by the vacuum system. (Fig. 2-19)

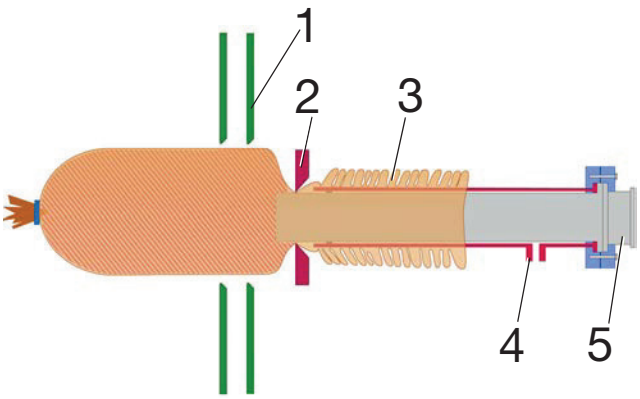


Fig. 2-19
1 Separator
2 Vacuum casing brake
3 Shirred casing
4 Vacuum tube
5 Stuffing horn

2.7.24 Storage rack

The storage rack is a handy device for storing the stuffing horn, casing brake and stuffing horn nut wrench.

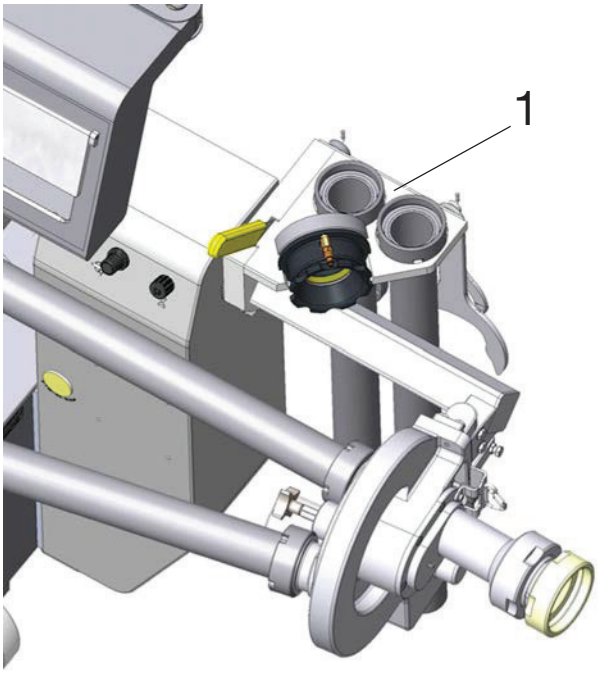


Fig. 2-20 1 Storage rack

2.7.25 Ham press

With the optional ham press, the product length is measured and separated with a meat separating knife. This type of processing is necessary for stuffing with very large pieces of meat.

2.7.26 ES 5000 label printer

This device can be used to print use-by dates and price information, for example, on a strip of tape. The printed piece of tape is cut and transported to the closing point.
Here, the resulting label is automatically clipped onto the end of the sausage.
Pre-printed tapes can also be used.

2.7.27 IFC interface to the Handtmann VF 800

Interaction between the clipping machine and the stuffer is automated through the IFC interface to the Handtmann VF 800. The stuffer can be operated via the control panel for the clipping machine.

3 Installation of the machine

3.1 Note

- Installation and set-up work must only be carried out by technical staff who have been authorised by the operating company to perform this work. The customer's technical staff must be qualified specialists. Qualified specialists are people who, based on their training and experience, are able to identify risks and avoid potential hazards.
- Set-up work must always be carried out when the machine has stopped.
- The Operating manual, especially the Safety instructions, and the local accident prevention regulations in force must be observed for all work.
- Work on the electrical equipment of the machine must only be carried out by a qualified electrician, or by a trained person under the guidance and supervision of a qualified electrician, in accordance with the electrical regulations. See chapter 1, section 1.6.5.
- Safety shoes must be worn during transport, assembly and installation of the machine.

3.2 Machine location

Minimum requirements:

- Firm and level floor (slope not more than 3%) of sufficient load-bearing capacity
- Sufficient illumination (at least 500 Lux)
- Pneumatic and electrical connection
- Water connection for cleaning
- Room temperature at installation site between 0 °C and 45 °C
- Space for safe operation and daily machine maintenance
  - Space required: Actual footprint of the machine plus at least 500 mm on either side
  - Workspace for operator: At least 1.5 m^2 and 1 m deep. The workspace area must be free from clutter and intersecting traffic routes.

• Note

When choosing the location for the machine, please observe the local accident prevention and sewage regulations.

3.3 Removing the packaging

CAUTION: Closing straps present risk of injury

Closing straps are stretched tight and will spring off when cut. There is a risk of injury.

- Cut carefully.

- Open the transport packaging.
- Remove all parts attached for transport purposes and all packaging.
- Collect the packaging material in accordance with the local legal provisions for recycling or disposal.

3.4 Unloading the machine from the pallet

DANGER: There is a danger to life under suspended loads and in the loading area

The machine and its additional equipment are very heavy. Danger to life under suspended loads and in the loading area!

- Never stand under suspended loads or in the loading area.
- Wear safety shoes.

- Set the forks of the forklift truck as far apart as possible and pick up the machine centrally from the rear.

3.5 Moving the machine to its location

• Note

This requires two people.

DANGER: Risk of machine tipping over and risk of crushing

As it is very heavy, the machine is difficult to control once in motion. If the machine is moved incorrectly, it can cause serious injury.

- The machine may only be moved by 2 people.
- The machine can only be moved in a controlled manner on level ground. On slopes it requires additional securing. Extra caution is required for movement over thresholds and joints.
- The machine may only be moved from the side with the swivel castors and only by pushing.
- Any time you pause while moving the machine, even if only briefly, and once it is in its final location, apply the parking brakes immediately to prevent it from rolling away.
- Do not move the machine jerkily.
- Wear safety shoes.

- Remove transport packaging.
- Release the parking brakes on the swivel castors (1, Fig. 3-1).
- Grip the machine at the conveyor belt drive motor and the pivoting cross-piece and move it to the installation site.
- At the installation site, immediately lock the parking brakes (1, Fig. 3-1) on both swivel castors.

Fig. 3-1 1 Parking brakes on the swivel castors

3.6 Coupling the machine with the stuffer

- Loosen the fixing screws on the bearing eye (1, Fig. 3-2).
- Guide the connecting rod (2) into the bearing eye and tighten with the fixing screws.
- Push the pivoting cross-piece (3) onto the connecting rod and tighten with the fixing screws (1, Fig. 3-4).
- Insert the casing brake into the casing brake holder.
- Use the stuffing horn nut to attach the stuffing horn to the pivoting cross-piece.

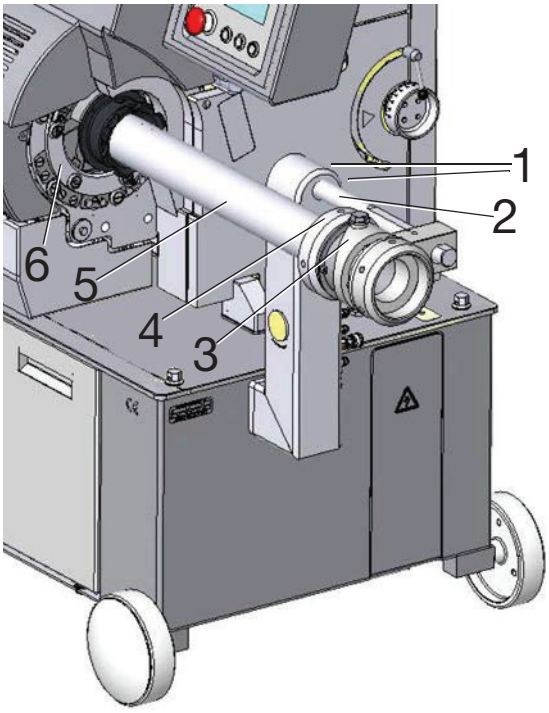


Fig. 3-2
1 Fixing screws on the bearing eye (here hidden)
2 Connecting rod
3 Pivoting cross-piece
4 Stuffing horn nut
5 Stuffing horn
6 Separator

3.6.1 Positioning the stuffing horn (pivoting cross-piece)

The distance between the end of the stuffing horn and the separator cover (1, Fig. 3-3) depends on the product and the calibre and must be set accordingly.

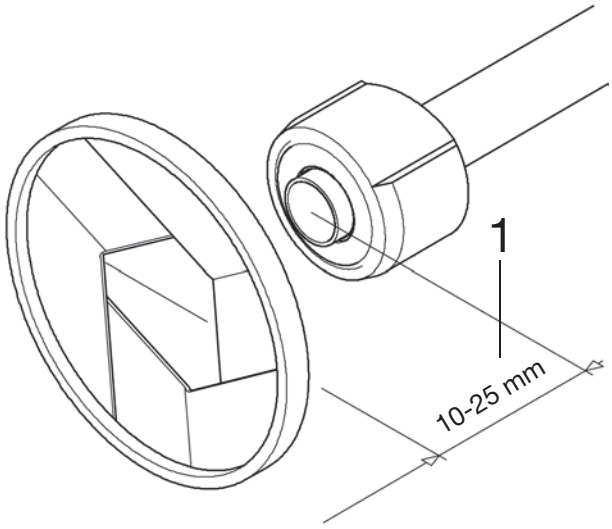


Fig. 3-3
Stuffing horn position
1 Distance between the end of the stuffing horn and the separator cover

- Run the machine in jog mode until the separator plates are closed, giving the smallest possible opening.
- Loosen the fixing screws (1, Fig. 3-4).
- Move the pivoting cross-piece (2) horizontally until you obtain the required distance between the end of the stuffing horn and the separator cover.

Once the end of the stuffing horn is at the desired distance from the separator cover:

- Loosely tighten the fixing screws (1, Fig. 3-4).
- Turn the pivoting cross-piece (2) on the connecting rod to align the stuffing horn with the centre of the separator.
- Finish tightening the fixing screws (1).

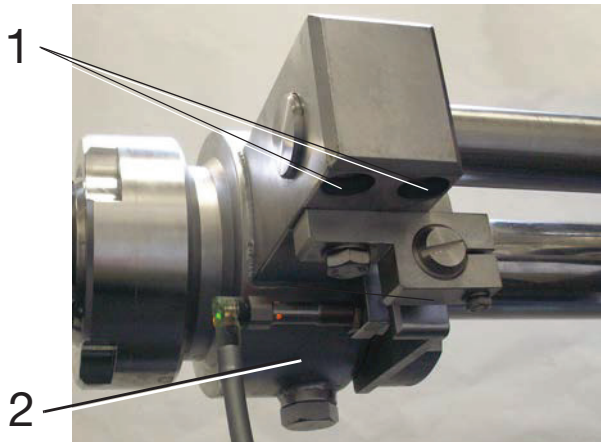


Fig. 3-4
View from below
1 Fixing screws
2 Pivoting cross-piece

If required, with the stuffing horn swung in, you can fine-centre it to the centre of the separator by altering the angle of the stuffing horn to the connecting rod:
- Loosen the fixing screw (1, Fig. 3-5).
- Push the stop (2) towards or away from the machine to fine-centre the stuffing horn
- Re-tighten the fixing screw (1).

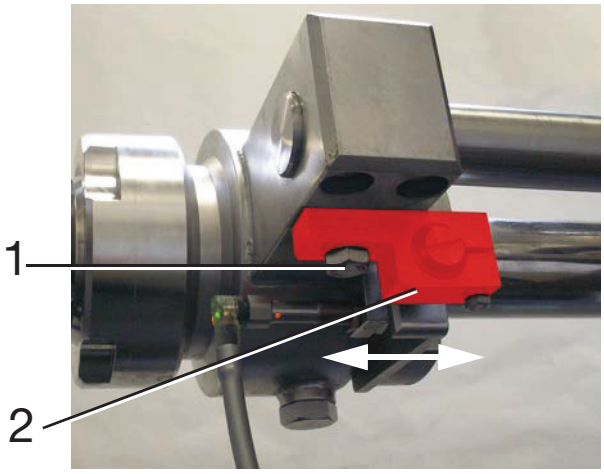


Fig. 3-5 View from below
1 Fixing screw
2 Stop

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.
- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove any tools and implements that were attached to the machine.

3.6.2 Positioning the stuffing horn (twin turret)

The stuffing horn height is roughly set at the factory using spacers (1, Fig. 3-6).

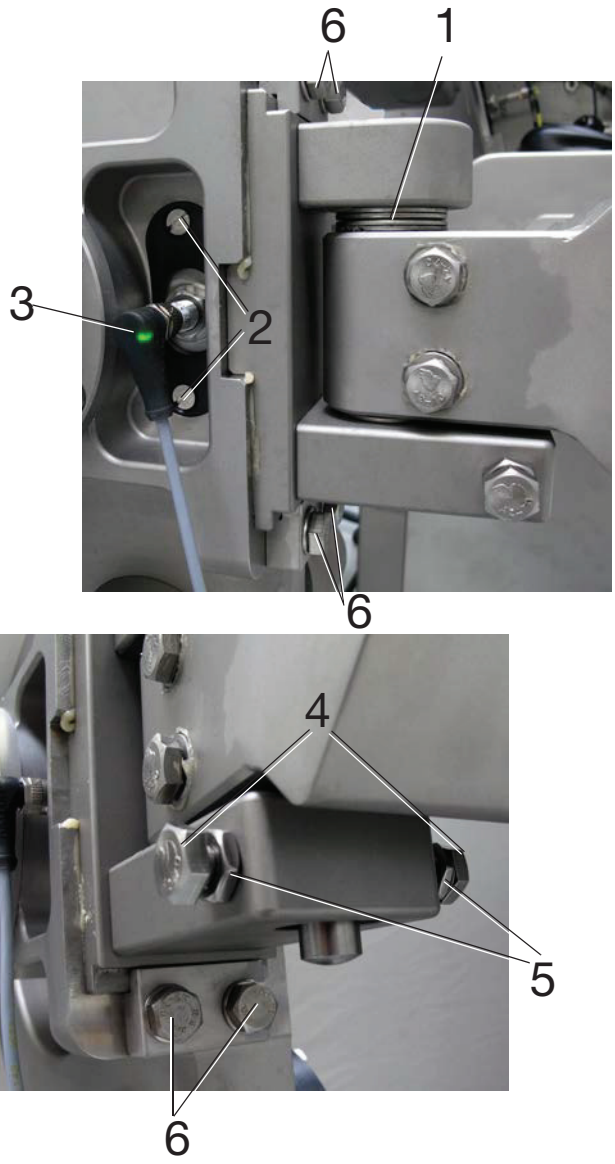


Fig. 3-6 1 Spacers
2 Screws for positioning the sensor (3)
3 Sensor
4 Set screws
5 Lock nuts
6 Fixing screws

3.6.2.1 Moving the stuffing horn further left or right

- Run the machine in jog mode until the separator plates are closed, giving the smallest possible opening.
- Loosen the lock nuts (5, Fig. 3-6) on both sides.
- To move the stuffing horn further left or right along the product axis, turn the set screws (4, Fig. 3-6) as follows:
  - Move right: loosen the set screw on the stuffer side and tighten the set screw on the machine side
  - Move left: loosen the set screw on the machine side and tighten the set screw on the stuffer side
- Tighten both lock nuts (5).

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

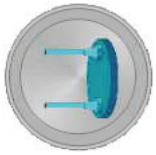
- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove any tools and implements that were attached to the machine.

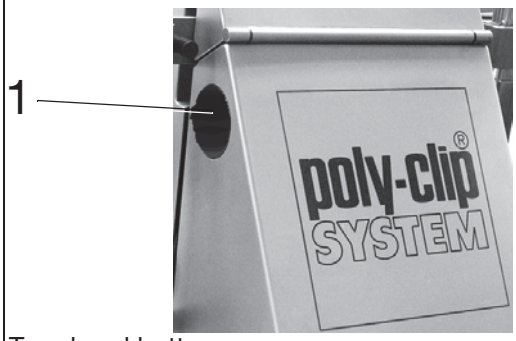
3.6.2.2 Moving the stuffing horn further up or down (fine adjustment)

- Loosen the screws (2, Fig. 3-6).
- Move the sensor (3) to the desired height and fix in place by tightening the screws (2).

- Rotate the twin turret: Simultaneously press and hold the manual function button "Rotate twin turret" and the two-hand button within 0.5 seconds until the next stuffing horn is in the stuffing position.



Manual function button "Rotate twin turret"



Two-hand button

- Check whether the stuffing horn has stopped at the desired height.
- Make further adjustments if necessary and re-check.

3.6.2.3 Setting the distance between the end of the stuffing horn and the separator cover (twin turret)

- Loosen the fixing screws (6, Fig. 3-6) at the top and bottom.
- Move the twin turret horizontally until you obtain the required distance between the end of the stuffing horn and the separator cover.
- Re-tighten the fixing screws (6).

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove any tools and implements that were attached to the machine.

3.6.3 Positioning the casing brake

For safety reasons, the machine cannot be operated without a casing brake.

- Swing in the casing brake holder.
- Swing out the stuffing horn.
- Insert the casing brake into the holder provided.

Default setting:
End of stuffing horn to start of casing brake = 1-10 mm (Fig. 3-7)
For larger stuffing horns, the distance increases accordingly.

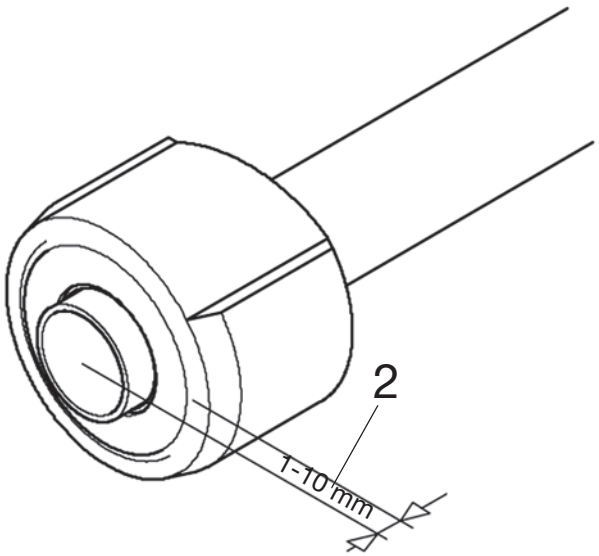


Fig. 3-7 Casing brake position
2 Distance between the end of the stuffing horn and the casing brake

- To adjust, loosen the fixing screw (3, Fig. 3-8) and move the casing brake holder with the casing brake as required.

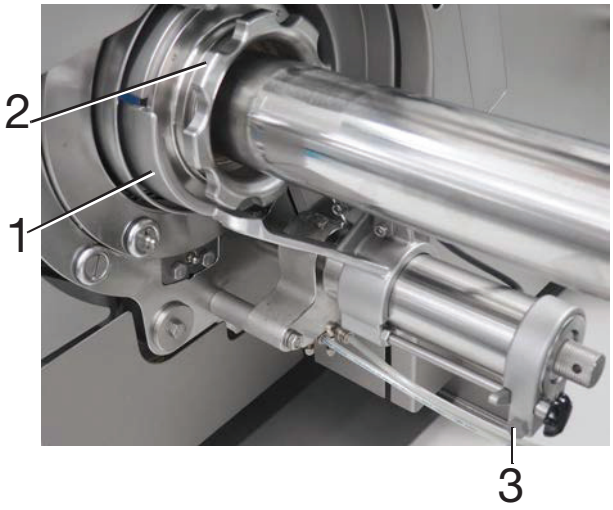


Fig. 3-8 1 Casing brake holder
2 Casing brake
3 Fixing screw

3.6.4 Setting the sausage meat inlet height

The height of the machine can be adjusted by turning the adjusting nut (1, Fig. 3-9) on each of the wheels and swivel castors:

- lower: turn clockwise
- higher: turn anti-clockwise

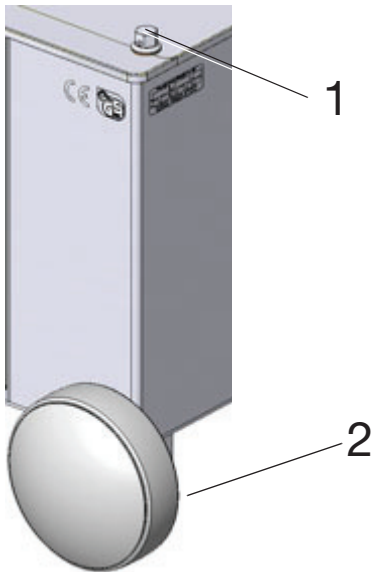


Fig. 3-9 1 Adjusting nut
2 Wheel

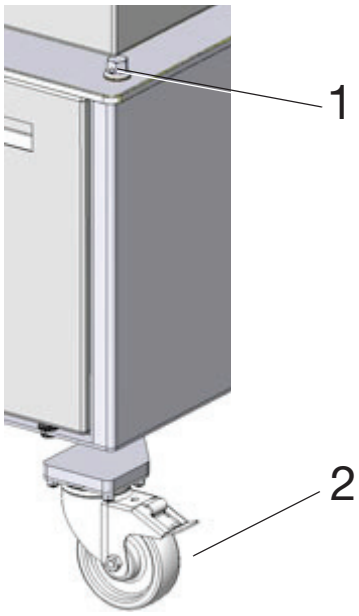


Fig. 3-10 1 Adjusting nut
2 Swivel castor

3.6.5 Connecting the clipping machine with the stuffer

- Screw the coupling sleeve (3, Fig. 3-11) into the stuffer connection.
- Screw the connecting nut (2, Fig. 3-11) onto the coupling sleeve.

- When the sausage meat inlet height is set correctly, the connecting nut can be tightened without force.
- The connecting nut (2, Fig. 3-11) must be on a level with the connecting piece of the stuffer.

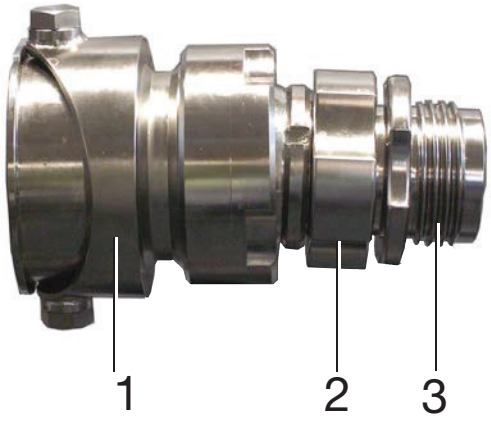


Fig. 3-11 1 Pivoting cross-piece/Twin turret
2 Connecting nut
3 Coupling sleeve

3.7 Machine connection

DANGER: Live parts

Improper work on electrical equipment incurs a risk of electrocution.

- Work on the electrical equipment must only be carried out by a qualified electrician, or by a trained person under the supervision of a qualified electrician, in accordance with the electrical regulations. See chapter 1, section 1.6.5.

- The machine may only be connected to electricity grids with a protective earthing (PE) system.
- The machine must not be operated without a fault-current circuit breaker. Only universal current-sensitive earth-leakage circuit breakers type B according to IEC 60755 may be used.
- The regulations of the local energy supplier and the applicable safety regulations must be observed when connecting the machine.
- It is essential to check for a protective earthing function prior to start-up.
- Prior to start-up, it is essential to check that the mains voltage matches the supply voltage specified on the machine type plate.
- An adequately fused socket (not included in the scope of supply) must be available on site in the vicinity of the machine.
- When the frequency converters and servo controllers are connected to the mains voltage, the components of the power unit as well as certain components of the control unit are connected to the electricity grid. Hence touching these components can be fatal!
  - Frequency converters and servo controllers may only be completely removed in accordance with the Safety instructions and applicable safety regulations. No individual parts may be attached to or removed from the frequency converter or servo controller and no repairs may be carried out.
  - The frequency converters and servo controllers still carry a residual voltage after they have been switched off. The length of time it takes for these components to discharge can be found in the Operating manuals for the components. Touching the components before this period has expired can result in serious injury or death.

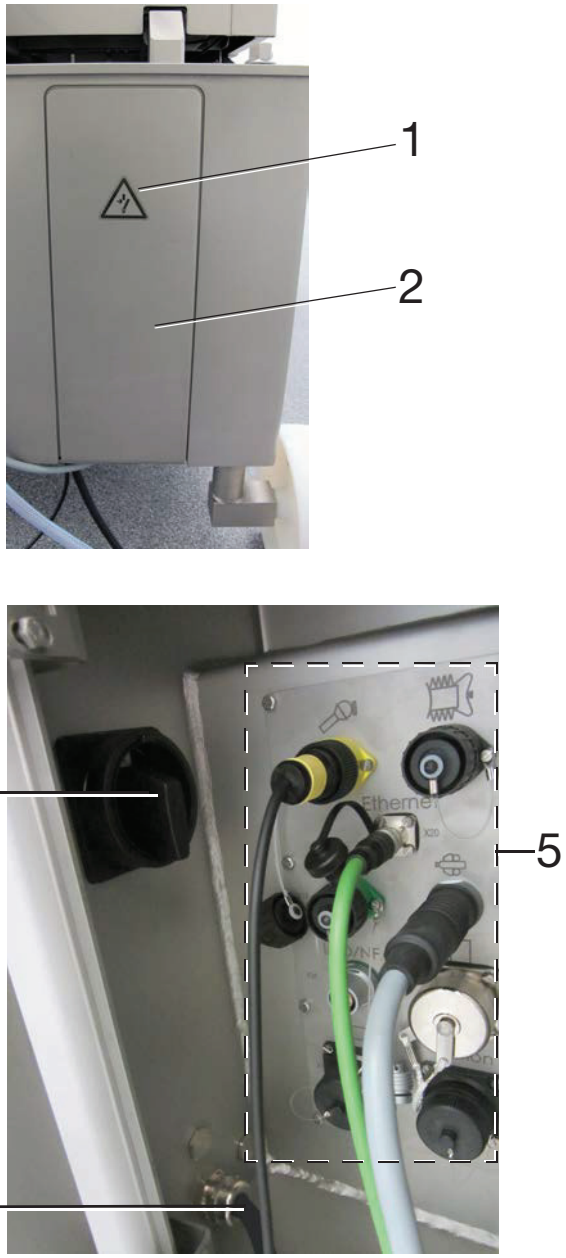


Fig. 3-12
1 Main switch symbol
2 Socket door on the stuffer side
3 Main switch
4 Five-core connecting cable
5 Electrical connections see section 3.7.1

- Fit a suitable plug onto the five-core connection cable (4, Fig. 3-12) on the machine.
- Connect the connection 4, Fig. 3-13 and the connection on the stuffing machine using the appropriate control cable.
- Set the main switch (3, Fig. 3-12) to ON.

3.7.1 Electrical connections

3.7.1.1 Connections on the stuffer side

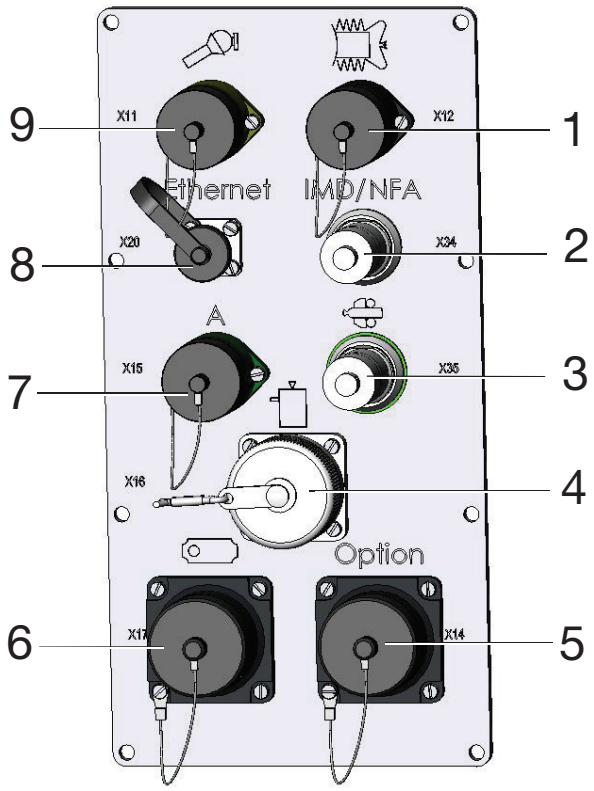


Fig. 3-13 Connections on the stuffer side
1 Casing end switch
2 IMD/NFA
3 Pneumatic casing brake
4 Control cable for stuffing machine
5 Option
6 Label dispenser
7 Spare
8 Ethernet
9 Pivoting cross-piece

3.7.1.2 Connections on the outlet side

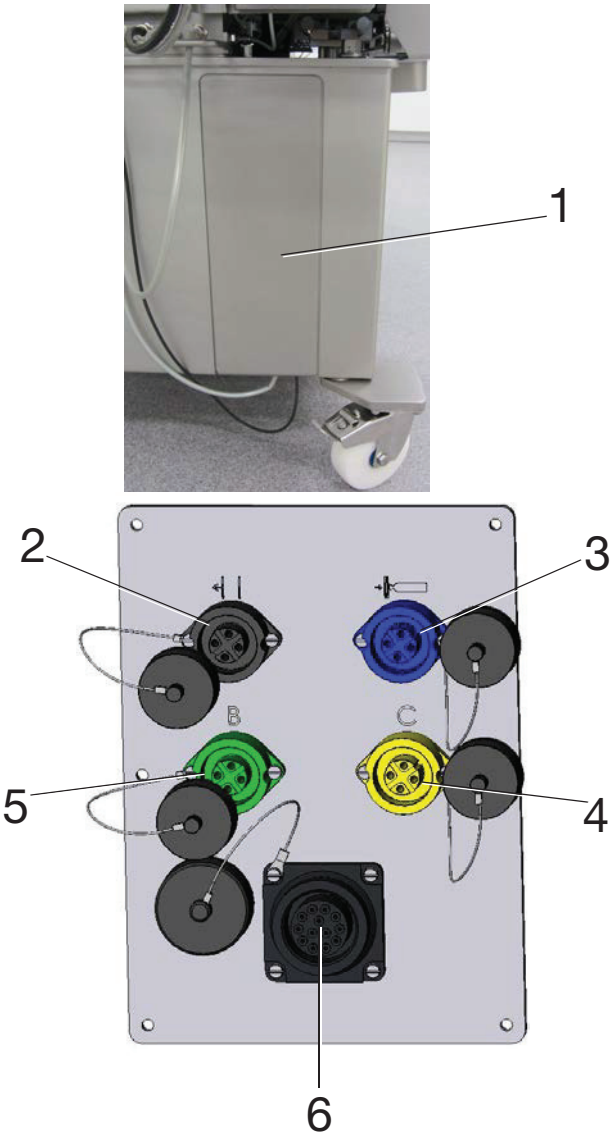


Fig. 3-14 Connections on the outlet side

1 Socket door on the outlet side

Connections on the outlet side		
No.	**Colour**	**Meaning**
2	Black	Connection for the overspreading cylinder
3	Blue	A length stop connected here gives the clipping machine the clip signal. If this clip signal is given instead of the one from the stuffer, the “Burst portion control” length stop can also be connected.
4	Yellow	A length stop connected here controls the ham press. If there is no ham press, the “Burst portion control” length stop can also be connected.
5	Green	A length stop connected here controls the dry sausage brake. If there is no dry sausage brake, the “Burst portion control” length stop can also be connected.
6	Black	Connection for external automation (optional); for signal exchange with downstream units

3.8 Pneumatic connections

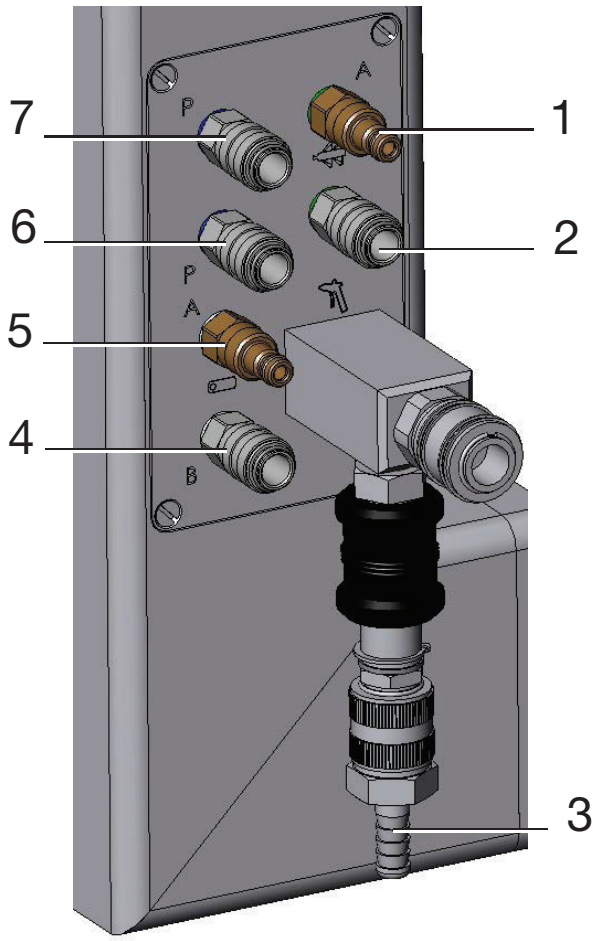


Fig. 3-15 Pneumatic connections on the back of the cross-piece
1 Movable casing brake
2 Movable casing brake
3 Compressed air connection
4 ES 5000
5 ES 5000
6 Casing brake control
7 Dry sausage brake

3.8.1 Pneumatic casing brake

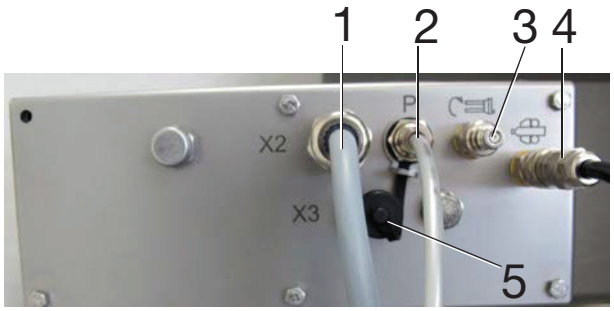


Fig. 3-16
1 Control cable
2 Compressed air connection
3 Twin turret
4 Pneumatic casing brake
5 Spare

3.8.2 Setting up the air filter

- Connect the compressed air hose.
- Push air release valve (1, Fig. 3-17) in the direction of flow (see white arrow, Fig. 3-17).

Fig. 3-17 1 Air release valve

3.8.3 Setting the operating pressure

- Read the air pressure off the pressure gauge.
- Lift the air pressure adjusting screw on the air filter (1, Fig. 3-18) and rotate until operating pressure of 5 to 7 bar shows on the pressure gauge.

3.8.4 Draining the air filter

The air filter drains automatically as soon as the compressed air is switched off. Drain the water daily.

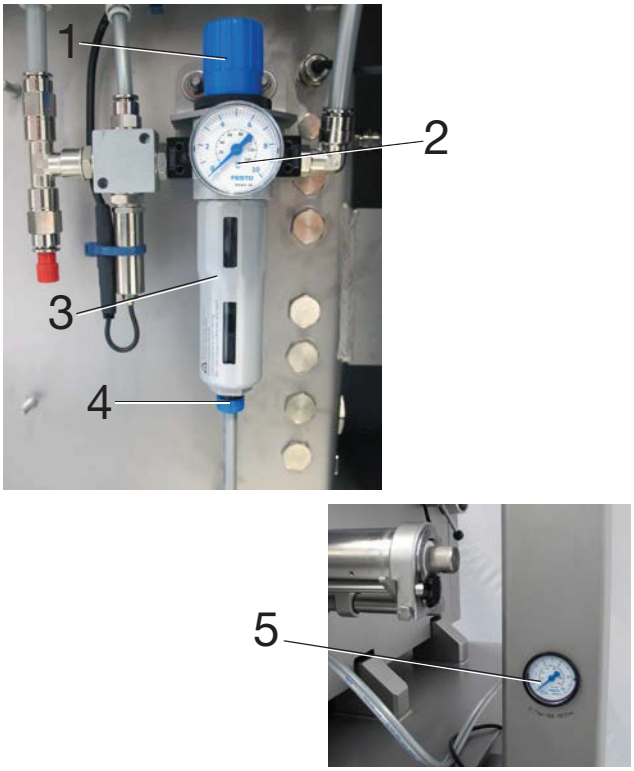


Fig. 3-18
1 Air pressure adjusting screw
2 Pressure gauge on the maintenance unit
3 Air filter
4 Water drain plug
5 Pressure gauge on the cross-piece

4 Indicators and controls

4.1 Control panel

The control panel comprises the most important function buttons (1-4) for operation and a touchscreen graphic display (5) with display buttons for controlling peripheral devices and adjusting value parameters for machine and device functions.

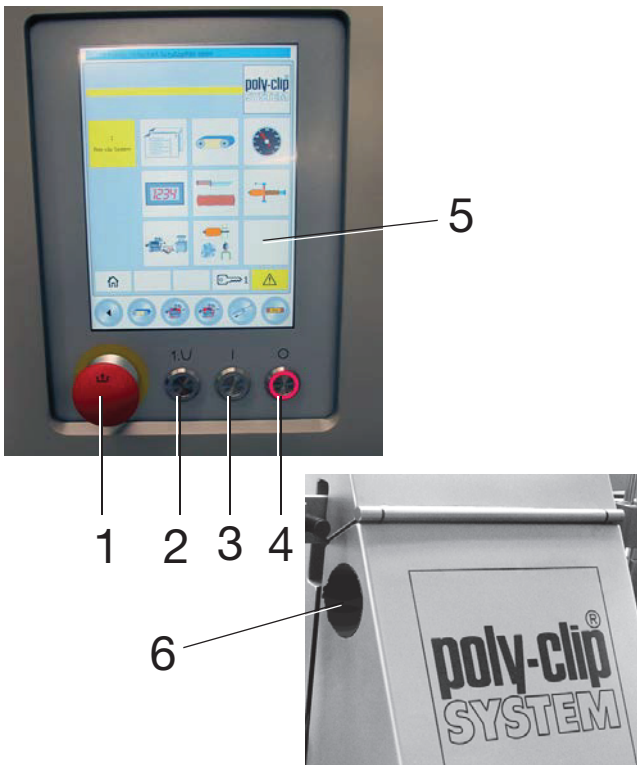


Fig. 4-1 Control panel

1 Emergency Stop pushbutton

2 “First Clip” button (two-hand operation)

First function: To place the first clip. Press the First Clip button (**2**) and the two-hand button (**6**) simultaneously within 0.5 seconds.
Second function: Clip signal lamp, indicator light, blue
Third function: Leave the cleaning position and move the machine into the home position

3 Automatic On button

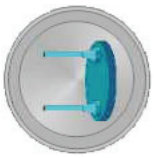
Indicator light, green
Function: Start automatic mode

4 Automatic Off button

Indicator light, red
Function: No more machine cycles are carried out after the initiated machine cycle has been completed. This is indicated by the Automatic Off button flashing.

5 Touchscreen graphic display

6 Two-hand button (two-hand operation)
First function: If this button is pressed during automatic operation, the machine switches to Automatic Off.
Second function: There are work sequences on the machine that, for safety reasons, require two-hand operation. These are listed in the following table:

	- Swing machine in Press and hold the manual function button and the two-hand button (6) simultaneously within 0.5 seconds until the machine has moved fully into the working position.
	- Swing machine out Press and hold the manual function button and the two-hand button (6) simultaneously within 0.5 seconds until the machine has moved fully into the end position.
	- Jog mode forwards • Only the protective shutter at the separator area may be open. • From the Supervisor menu level • Run machine forwards at slow speed: Press the manual function button and the two-hand button (6) simultaneously. The machine stops immediately when one of the buttons is released.
	- Jog mode backwards • Only the protective shutter at the separator area may be open • From the Supervisor menu level • Run machine backwards at slow speed: Press the manual function button and the two-hand button (6) simultaneously. The machine stops immediately when one of the buttons is released.
	- Rotate twin turret • Only possible in swung out state. • Rotate twin turret: Press and hold the manual function button and the two-hand button (6) simultaneously within 0.5 seconds until the next stuffing horn is in the stuffing position.

4.2 Additional control panel at the end of the conveyor (optional)

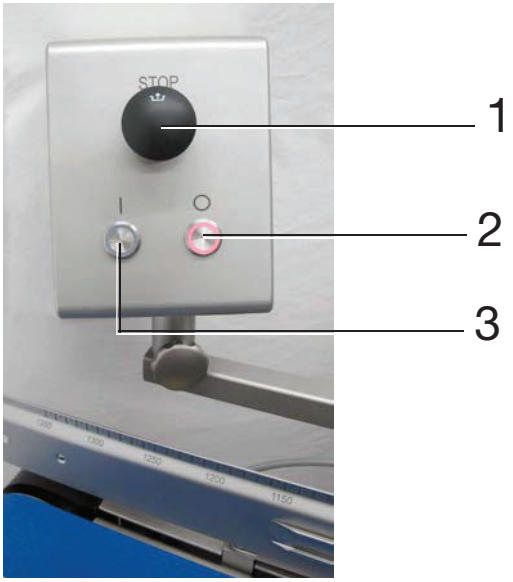


Fig. 4-2 Additional control panel

1 Local machine stop button

2 Automatic Off button
Indicator light, red

3 Automatic On button
Indicator light, green

4.3 Main switch, air release valve and compressed air supply connection

The main switch (3, Fig. 4-4) is behind the socket door on the stuffer side (1, Fig. 4-3).

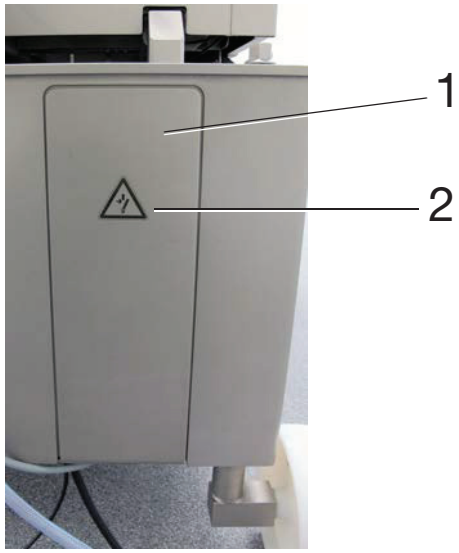


Fig. 4-3 1 Socket door, stuffer side
2 Main switch symbol

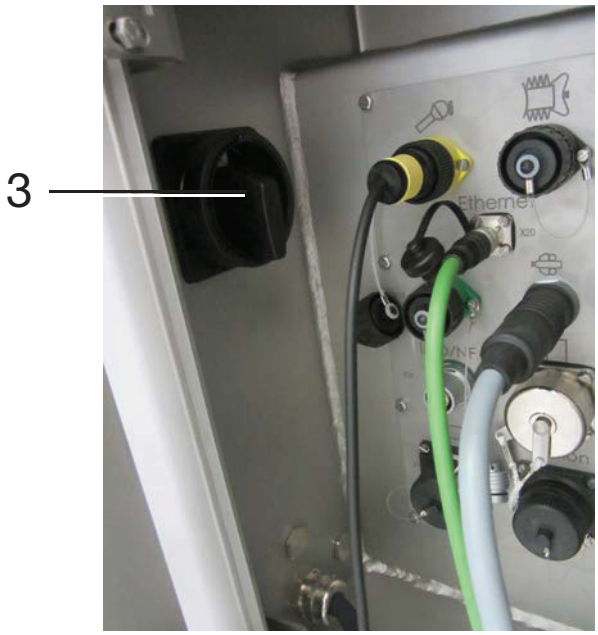


Fig. 4-4 3 Main switch

4.4 Easy-Touch display

Once the machine is switched on, the integrated program menu is activated and the screen shown in Fig. 4-5, for example, is displayed on the touchscreen graphic display.

Fig. 4-5 Basic selection screen of the Operator menu level
1 Key icon selection button:
For changing menu level

If the menu screen is not touched for 10 minutes, the “Operator” menu level will be logged on.

- The icons and number fields displayed in a menu screen serve as visual selection, input, display or function buttons.
- To select or execute a function, touch the corresponding icon button.

4.5 Program structure and passwords

The program is divided into 2 menu levels for different user activities.

1 Operator menu level (grey, password 1111)
2 Supervisor menu level (blue, password 7419)

The number on the “Key” icon selection button (1, Fig. 4-6) tells you which menu level you are in.

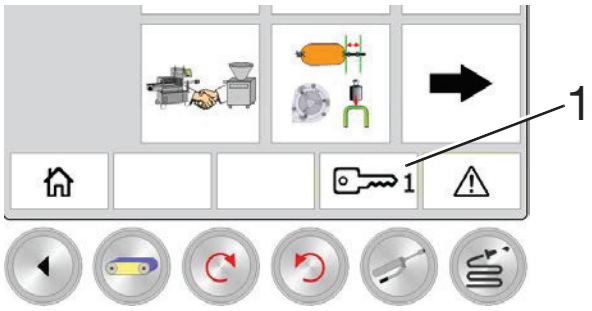


Fig. 4-6 1 “Key” icon selection button: here, Operator menu level (1)

4.5.1 Changing the menu level

- In the basic selection screen, press the “Key” icon selection button (1, Fig. 4-5).

The password input and icon selection screen of the active menu level appears (Fig. 4-7).

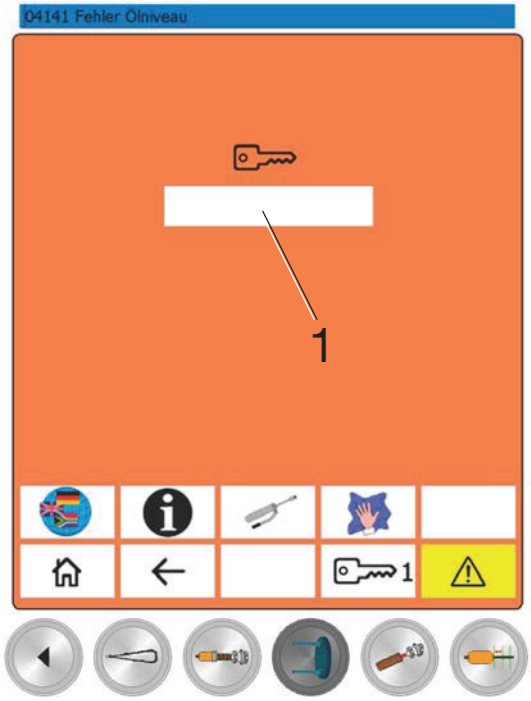


Fig. 4-7 Password input and icon selection screen (here: Operator menu level)

- Press the password input field (1, Fig. 4-7).

The keyboard for entering the password will be displayed (Fig. 4-8).

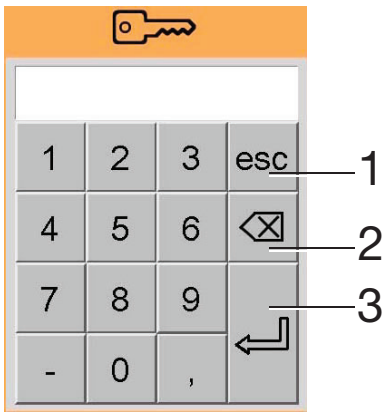


Fig. 4-8 Password input keyboard
1 Quit without saving
2 Clear input
3 Save and quit keyboard

4.6 Basic selection screens of the Operator and Supervisor menu levels

There is a basic selection screen in each of the Operator and Supervisor menu levels. The basic selection screen in both menu levels comprises 4 areas

4.6.1 Design of the basic selection screens

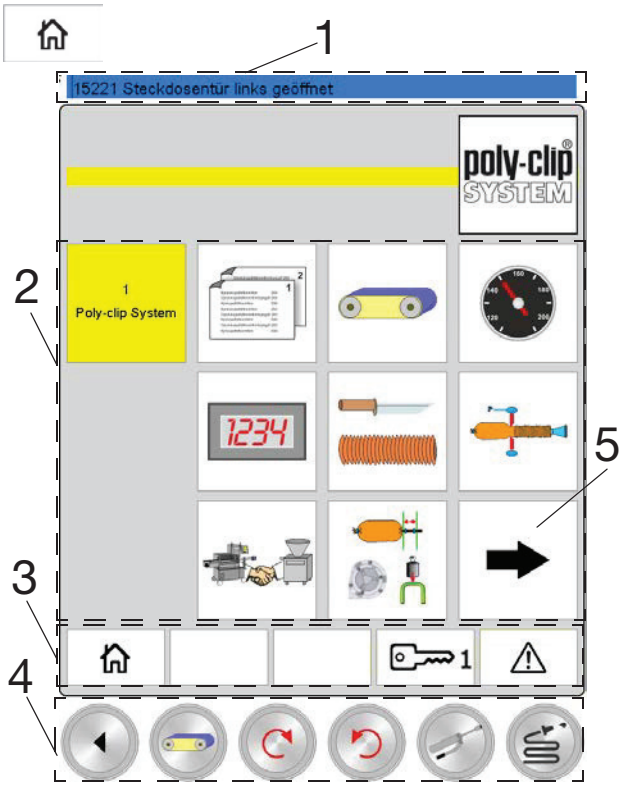


Fig. 4-9 Here: Basic selection screen of the Operator menu level, part 1

1 Display: Current message

2 Icon selection buttons for selecting the appropriate menu screens for setting the functional parameters of the machine and additional (optional) equipment

- Only the icon selection buttons for the additional equipment installed and functional parameters configured in the Supervisor menu level to be visible in the Operator menu level will be displayed!
- For meanings of icon selection buttons, see 4.6.3

3 Menu bar, see section 4.6.4

4 Manual function buttons: Manual machine functions (see section 4.6.7)

5 Scroll to basic selection screen, part 2

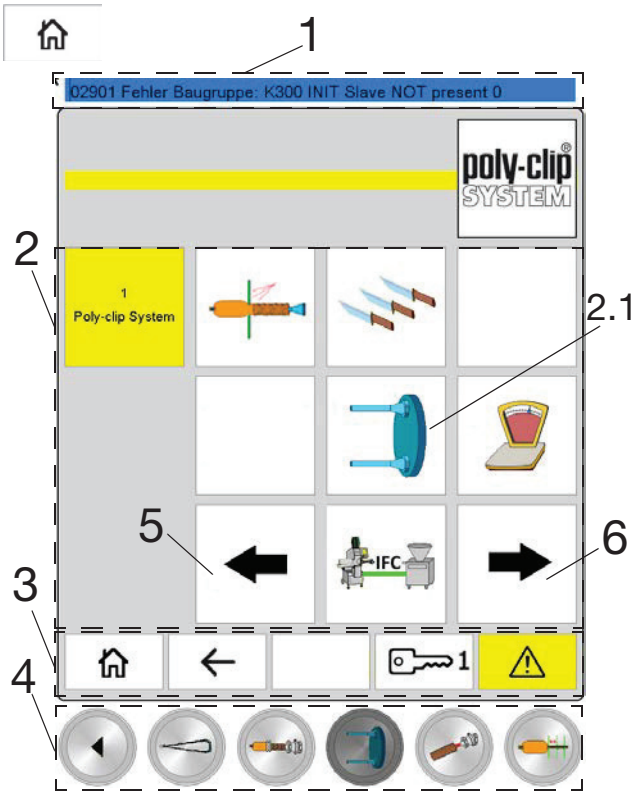


Fig. 4-10 Here: Basic selection screen of the Operator menu level, part 2

1 Display: Current message

2 Icon selection buttons for selecting the appropriate menu screens for setting the functional parameters of the machine and additional (optional) equipment

- Only the icon selection buttons for the additional equipment installed and functional parameters configured in the Supervisor menu level to be visible in the Operator menu level will be displayed!
- For meanings of icon selection buttons, see section 4.6.3

2.1 Alternatively, the following icon selection buttons can be displayed here:

	- Twin turret
	- NFA (Net Film Applicator)

3 Menu bar, see section 4.6.4

4 Manual function buttons: Manual machine functions (see section 4.6.7)

5 Scroll to basic selection screen, part 1

6 Scroll to basic selection screen, part 3

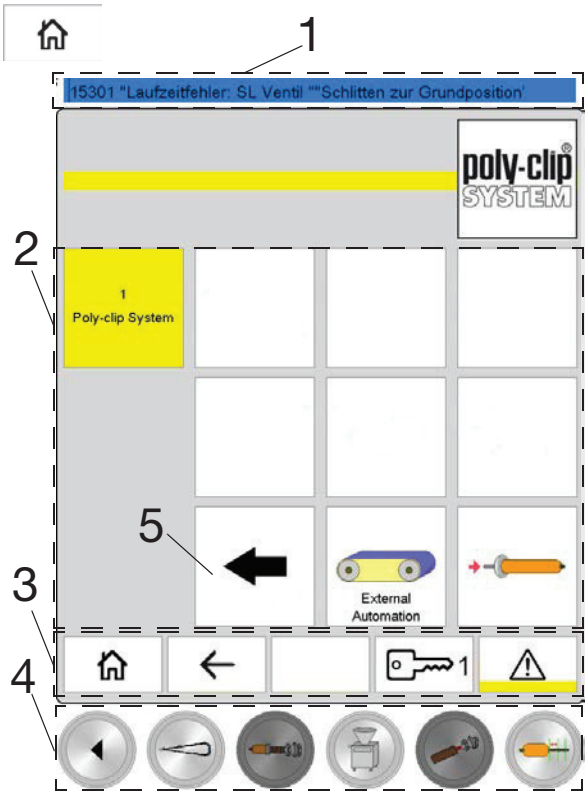


Fig. 4-11 Here: Basic selection screen of the Operator menu level, part 3

1 Display: Current message

2 Icon selection buttons for selecting the appropriate menu screens for setting the functional parameters of the machine and additional (optional) equipment

- Only the icon selection buttons for the additional equipment installed and functional parameters configured in the Supervisor menu level to be visible in the Operator menu level will be displayed!
- For meanings of icon selection buttons, see section 4.6.3

3 Menu bar, see section 4.6.4

4 Manual function buttons: Manual machine functions (see section 4.6.7)

5 Scroll to basic selection screen, part 2

4.6.2 Navigation in the basic selection screens and the screens for functional parameters

•Rectangular buttons are always for switching between screens and will take you to further settings (see icon selection buttons 4.6.3).

•Round buttons are always assigned with machine functions (see section 4.6.7.1).

•If a function button is outlined in green, this means the function is active.

4.6.2.1 The following icons may appear together with functional parameters

•**Cam On:**
Switch on at this rotation angle position

•**Cam Off:**
Switch off at this rotation angle position

•Displays and input fields marked with a rotation angle icon always relate to position settings.

•**Switch-on delay:**
Time by which switch-on is delayed

•**Switch-off delay:**
Time by which switch-off should be delayed

•**Time On:**
How long something is switched on

•**Time Off:**
How long something is switched off

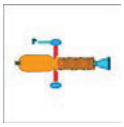
•Displays and input fields marked with a stopwatch always relate to time settings.

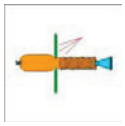
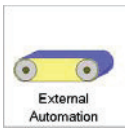
•Displays and input fields marked with a counter always relate to counter settings.

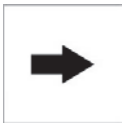
4.6.3 Meaning and function of icon selection buttons

• Note

Which icon selection buttons you can see depends on the respective machine configuration and the optional equipment installed as well as whether the icon selection buttons were set in the Supervisor menu level to be visible in the Operator menu level or not (see also section 4.9.23).

Icon	Meaning / Function
	- Product counter
	- Knife - Speed - Calibre-dependent cam - Calibre
	- Knife counter - Shirred casing counter - Loop counter - Label counter - Casing end switch
	- Clip size - Stuffing horn diameter - Calibre - Portion weight - Last loaded recipe
	- Clip pressure - Separator hole - Spreading
	- Conveyor
	- Pneumatic casing brake - Swirl brake or - Movable casing brake holder

Icon	Meaning / Function
	- Oil sprayers/water sprayers
	- Knife multi-triggering
	- Stuffer coupling Selection of type of signal exchange between stuffer and clipping machine
	- Simulator (found in the basic selection screen in the *Supervisor* menu level)
	- Icon selection button for Recipe management
	- Twin turret
	- External automation
	- NFA (Net Film Applicator)
	- IFC (Intelligent Filler Clipper Interface)

Icon	Meaning / Function
	- Scroll to basic selection screen, part 2
	- Scroll to basic selection screen, part 1

4.6.4 Menu bar

The menu bar (see Fig. 4-12) is displayed in each screen.

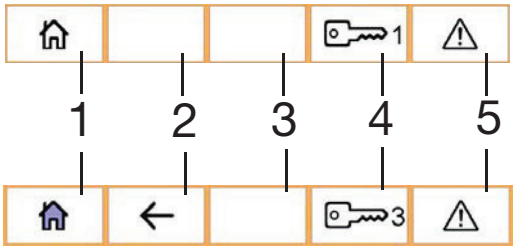


Fig. 4-12 Menu bar, top: Operator menu level
Menu bar, bottom: Supervisor menu level

1 Home button: Press to go to the basic selection screen of whichever menu level you are logged into (here: Supervisor menu level)

2 Back button
Function 1: Scroll to last selected screen
Function 2: If, for example, one of the operating modes Recipe management or Manual lubricationwas previously selected and not ended, then the Back button will take you to the operating mode that is still active rather than the last screen

3 Spare button: No function assigned

4 Key icon selection button
Function 1: Press to go to the password input and icon selection screen
Function 2: Display of the menu level currently logged on

5 Message icon and icon selection button: Error message display (see sections 4.6.6 and 4.9.2)

4.6.5 Password input and icon selection screen in the Operator menu level

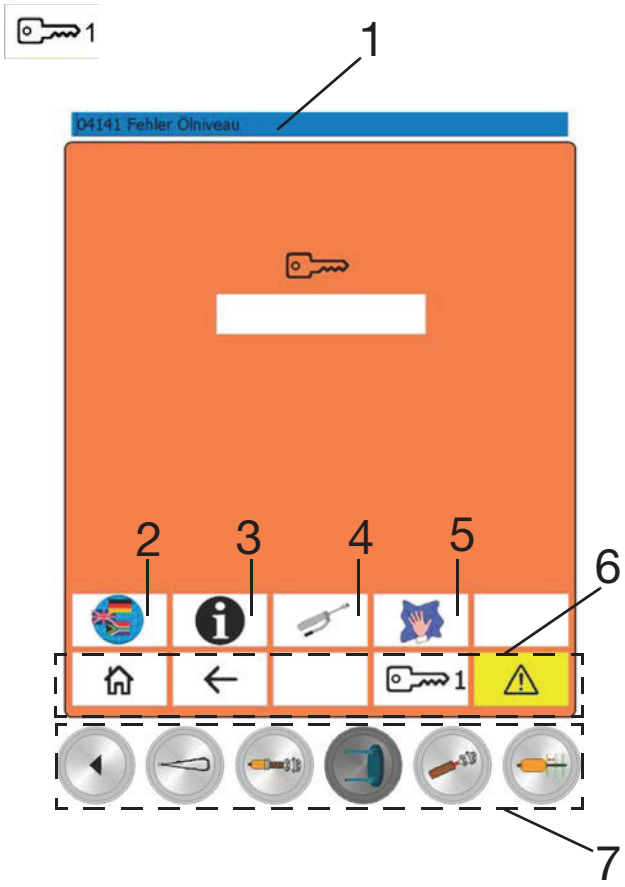


Fig. 4-13 Password input and icon selection screen in the Operator menu level

1 Display: Current message
2 Icon selection button: Language selection
3 Icon selection button: Display service information
4 Icon selection button: Lubrication plan, or interval control for the central lubrication version
5 Icon selection button: Clean touchscreen graphic display
6 Menu bar, see section 4.6.4
7 Manual function buttons: Manual machine functions (see section 4.6.7)

4.6.6 Current messages

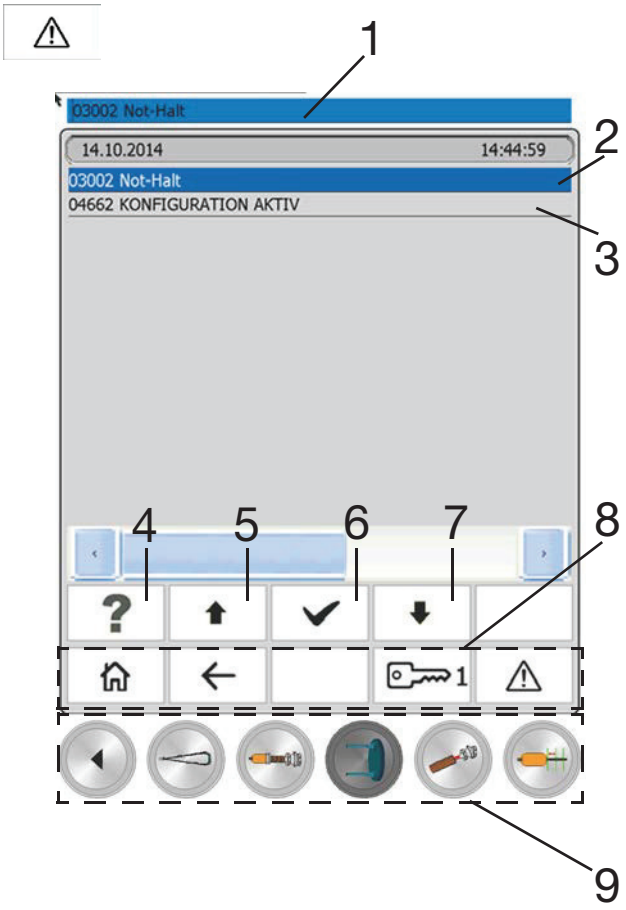


Fig. 4-14 Current messages in the Operator menu level

1 Display: Current message
2 Blue: Currently selected message
3 Older messages
4 Show details regarding currently selected message
5 Scroll up
6 Acknowledge messages that are no longer pending
7 Scroll down
8 Menu bar, see section 4.6.4
9 Manual function buttons: Manual machine functions (see section 4.6.7)

4.6.7 Manual function buttons

The manual function buttons are assigned with manual machine functions. Configuration of the manual function buttons depends on the machine configuration and is carried out by Poly-clip service technicians in accordance with your specifications. Up to 4 rows can be assigned with manual function buttons.

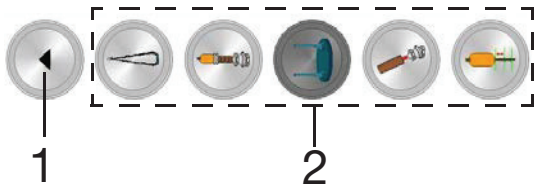


Fig. 4-15 Example:
Manual function buttons, row 1

1 Switch to next row of function buttons

2 Manual function buttons. For an overview of the icons/functions of the manual function buttons, see section 4.6.7.1

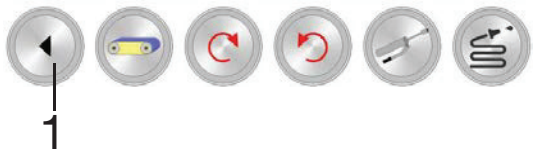


Fig. 4-16 Example:
Manual function buttons, row 2

1 Switch to next row of function buttons

• Note

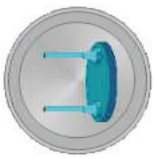
When a manual function button is greyed out (see Fig. 4-17), then it is locked because, for example, one of the operating modes Recipe management or Manual lubrication was selected and not ended. First, end the selected operating mode. (See also 2, Fig. 4-12).

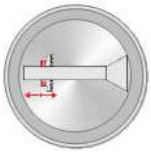
Fig. 4-17 Example: Function button greyed out

The functions jog mode forwards and jog mode backwards can only be executed if the safety circuit is closed. If these conditions are not met, the jog mode buttons will be greyed out.

4.6.7.1 Overview: Manual function buttons

Icon	Meaning / Function
	- Switch to next row of function buttons
	- Conveyor On/Off
	- Loop transport, manual
	- Label transport, manual
	- Manually operate oil sprayers/ water sprayers
	- Filling, manual
	- Swing machine in Press and hold the manual function button and the two-hand button (Fig. 4-18) simultaneously within 0.5 seconds until the machine has moved fully into the working position.

Icon	Meaning / Function
	- Swing machine out Press and hold the manual function button and the two-hand button (Fig. 4-18) simultaneously within 0.5 seconds until the machine has moved fully into the end position.
	- Jog mode forwards • Only the protective shutter at the separator area may be open. • From the Supervisor menu level • Run machine forwards at slow speed: Press the manual function button and the two-hand button (Fig. 4-18) simultaneously. The machine stops immediately when one of the buttons is released.
	- Jog mode backwards • Only the protective shutter at the separator area may be open • From the Supervisor menu level • Run machine backwards at slow speed: Press the manual function button and the two-hand button (Fig. 4-18) simultaneously. The machine stops immediately when one of the buttons is released.
	- Reset shirr counter to 0
	- Spreading, manual
	- Rotate twin turret • Only possible in swung out state. • Rotate twin turret: Press and hold the manual function button and the two-hand button (Fig. 4-18) simultaneously within 0.5 seconds until the next stuffing horn is in the stuffing position.

Icon	Meaning / Function
	- Move to cleaning position Pressing this button moves the separator into the cleaning position. Press the “First Clip” button to leave the cleaning position and move the machine into the home position.
	- Activate swirl brake or movable casing brake holder • Only possible if safety circuit is closed. • If the casing brake holder is at the separator, it will move to the stuffing horn and stay there when the button is pressed. If the casing brake holder is at the stuffing horn, it will move back towards the separator when the button is pressed.
	- Move to NFA working position

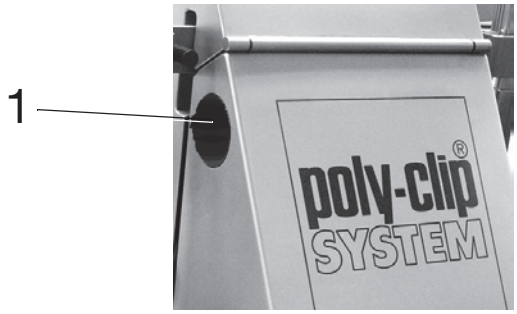


Fig. 4-18 1 Two-hand button (two-hand operation)

4.7 Settings in the password input screen

4.7.1 Setting the language

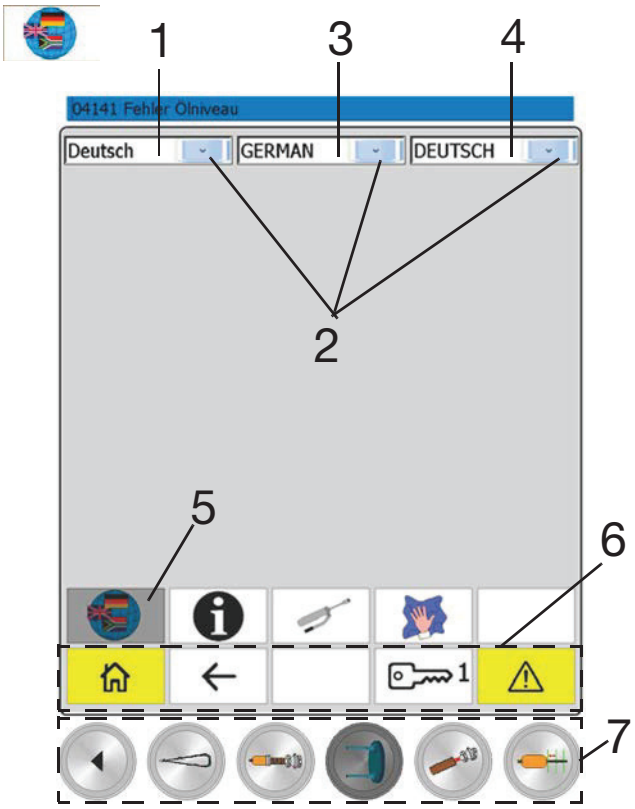


Fig. 4-19 Password input and icon selection screen in the Operator menu level

1 Language selection field: Display of the currently active language in German
2 Drop-down menu: Press to open the list of available languages
3 Language selection field: Display of the currently active language in English
4 Language selection field: Display of the currently active language in the respective local language
5 Icon selection button for language selection: If the icon selection button is grey, you are already in the language selection screen
6 Menu bar, see section 4.6.4
7 Manual function buttons: Manual machine functions (see section 4.6.7)

4.7.2 Displaying service information

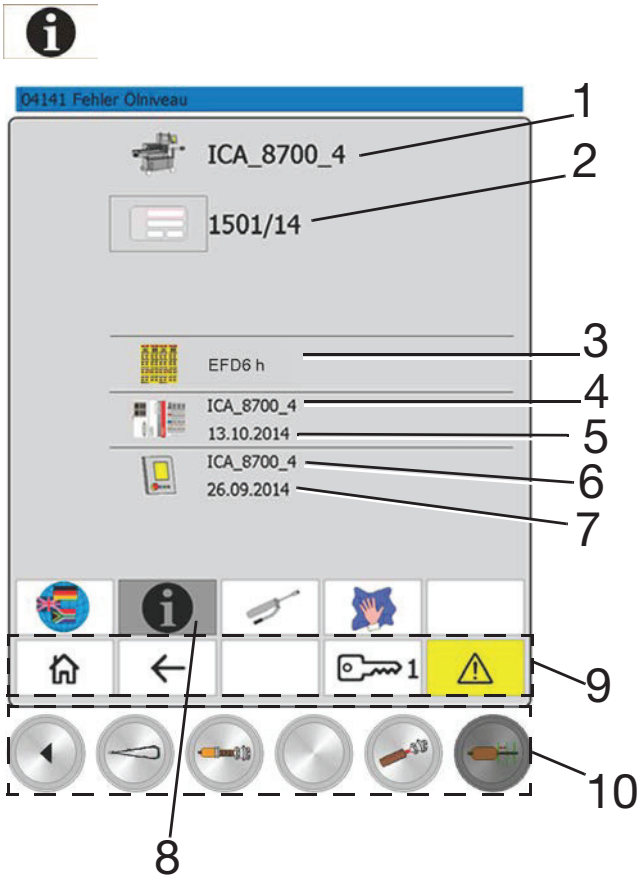


Fig. 4-20 Service information

1 Display: Machine name
2 Display: Serial number
3 Display: Version of safety module
4 Display: Name of PLC software
5 Display: Version date of PLC software
6 Display: Name of visualisation software
7 Display: Version date of visualisation software
8 Icon selection button for Display service information: If the icon selection button is grey, you are already in this screen
9 Menu bar, see section 4.6.4
10 Manual function buttons: Manual machine functions (see section 4.6.7)

4.7.3 Lubricate machine

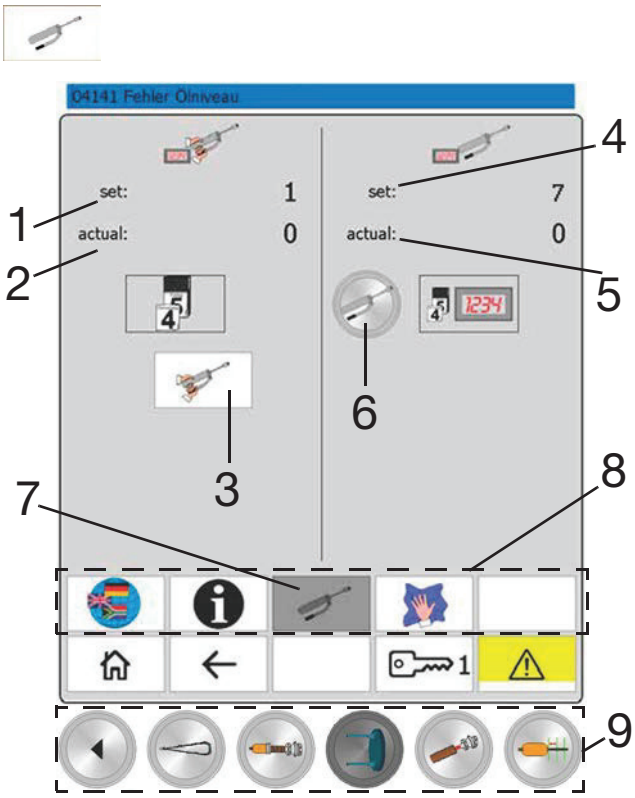


Fig. 4-21 Lubricate machine

1 Display: When the time period displayed here has elapsed, the message “Lubricate machine” appears (time period displayed here: 1 day)

2 Display: Progress within the time period (here: 0 days)

3 Press to go to the image sequence for manual lubrication points (section 4.7.4). If you are still in one of the operating modes, the screen for that operating mode will open rather than the image sequence. First, end the selected operating mode.

4 Display: When the time period displayed here has elapsed, the lubrication process is automatically started and performed (time period displayed here: 7 days). The message “Starting lubrication process” appears in the display window.

5 Display: Progress within the time period (here: 0 days)

6 If this button is pressed, the automatic lubrication process is started regardless of the automatic activation.

7 Icon selection button for lubrication:
If the icon selection button is grey, you are already in the lubrication screen

8 Menu bar, see section 4.6.4

9 Manual function buttons: Manual machine functions (see section 4.6.7)

4.7.4 Image sequence for manual lubrication points

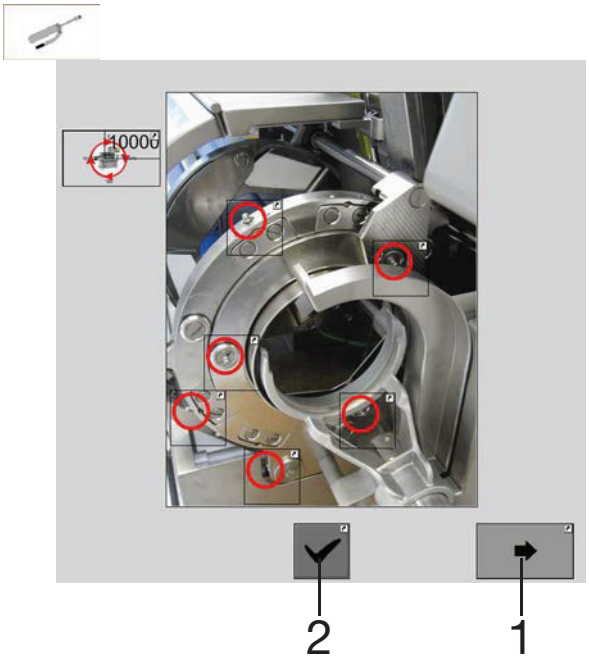


Fig. 4-22 Manual lubrication points, part 1

1 Next

2 Acknowledge message

• Note

ATTENTION: Machine damage due to inadequate lubrication

Inadequate lubrication will damage the machine.

- Do not acknowledge the message without first lubricating all the lubrication points shown.
- When the image sequence for manual lubrication appears, always press the Next button (1, Fig. 4-22) to make sure you have lubricated all the manual lubrication points before you acknowledge the message!

ATTENTION: Machine damage due to unsuitable grease

Unsuitable grease can damage the central lubrication system and may result in inadequate lubrication and associated consequences. Refilled lubricant cartridges contain air and lead to defects in the central lubrication system.

- Only use original lubricant cartridges from Poly-clip System.
- Do not refill lubricant cartridges, change them.

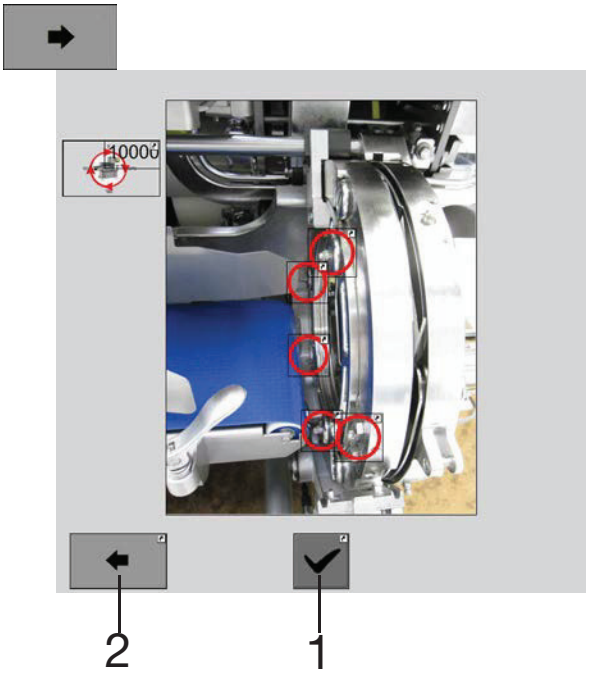


Fig. 4-23 Manual lubrication points, part 2

1 Acknowledge message

2 Back

4.7.5 Cleaning the screen

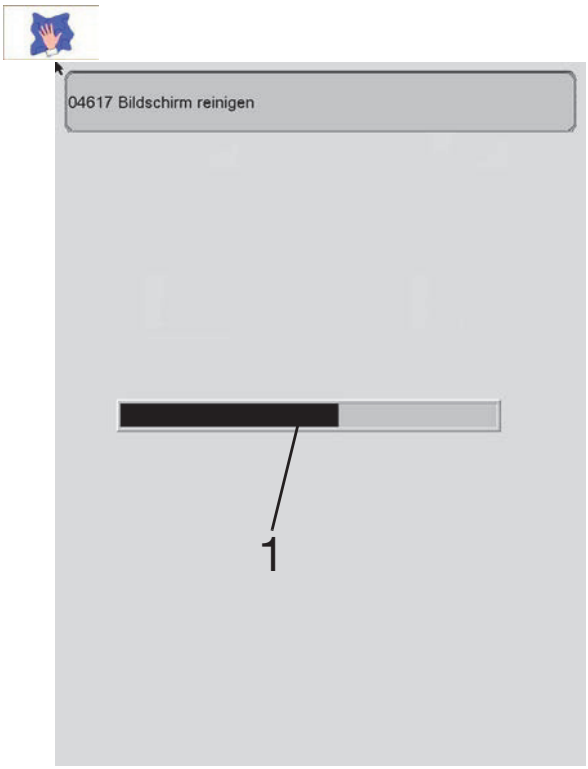


Fig. 4-24 Clean touchscreen screen

1 Progress bar

When the Clean touchscreen graphic display icon button is pressed, the screen is locked for a specific period of time to allow the touchscreen to be cleaned. The progress bar indicates how long the screen has been/will remain locked for. While the Clean touchscreen screen is active, the First Clip and Automatic On buttons are locked.

- Note

If you want to end screen locking, release the Emergency Stop pushbutton (by pulling it). You may need to press the Emergency Stop button first and then release it.

4.8 Parameter settings in the Operator menu level

4.8.1 Loading a recipe

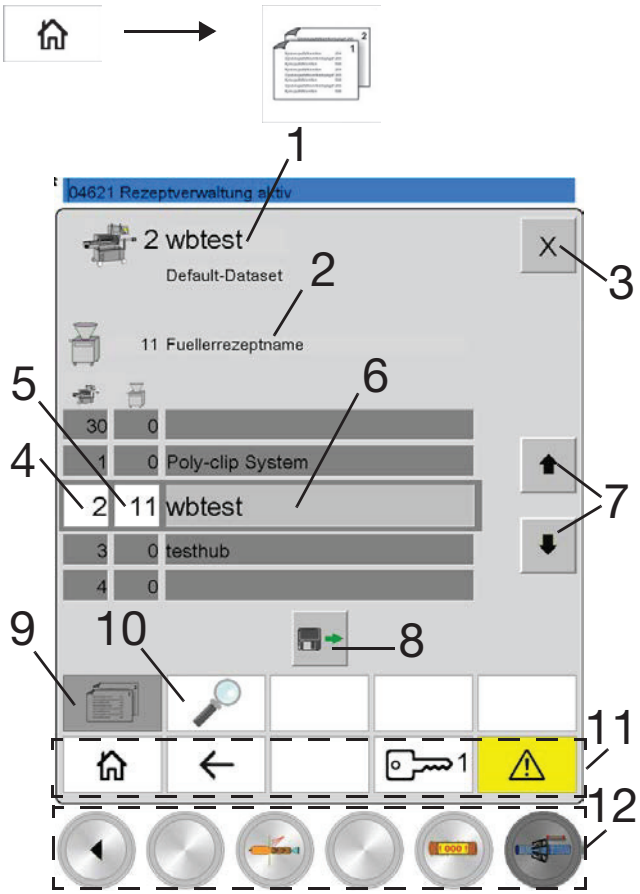


Fig. 4-25 Recipe management

1 Clipping machine: Display of last loaded recipe

2 Stuffer: Display of last loaded recipe

3 Close recipe management

4 Clipping machine recipe number: Pressing the recipe number makes the keyboard appear and you can then enter the desired recipe number

5 Stuffer recipe number: Pressing the recipe number makes the keyboard appear and you can then enter the desired recipe number

6 Clipping machine recipe selection

7 Buttons for browsing up and down in order to select a recipe

8 Load the recipe selected in position 6

9 Recipe management screen: If the icon selection button is grey, you are already in this screen

10 View recipe data in the selected recipe (takes you to Fig. 4-26)

11 Menu bar, see section 4.6.4

12 Manual function buttons: Manual machine functions (see section 4.6.7)

• Note

The machine always stores the last used function parameter settings. If, for example, a recipe was loaded and then later on, individual function parameters for it were changed it, the machine stores these latest function parameter settings. If the machine is then switched off and on again, these last used function parameter settings will be in the machine control system. The last loaded recipe and the last used function parameter settings may therefore differ!

4.8.2 Viewing recipe data

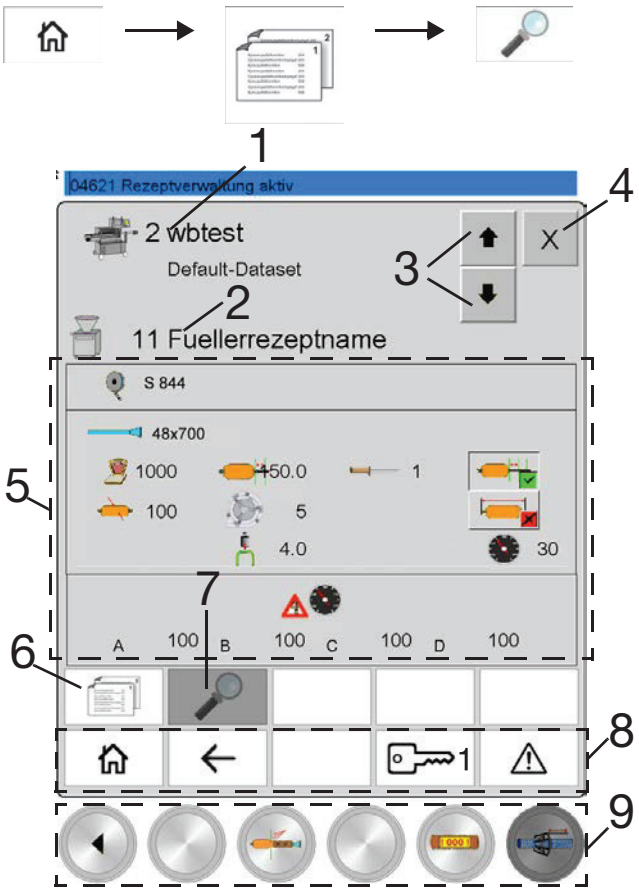
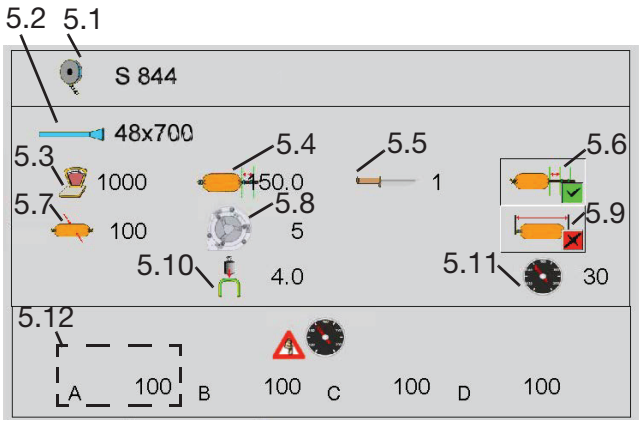


Fig. 4-26 Viewing recipe data

1 Display: Last loaded clipping machine recipe
2 Display: Last loaded stuffer recipe
3 Buttons for browsing up and down in order to select a recipe
4 Close recipe management
5 Display of the data relating to the currently selected recipe



5.1 Clip size
5.2 Stuffing horn size
5.3 Portion weight
5.4 Overspreading
5.5 Knife setting
5.6 Overspreading ON/OFF (here: on)
5.7 Portion calibre
5.8 Separator hole size
5.9 Length stop ON/OFF (here: off)
5.10 Clip pressure
5.11 Speed
5.12 Speed in the respective segment. Here: In segment A, the speed is 100%.
6 Call up Recipe management screen
7 View recipe data in the selected recipe: If the icon selection button is grey, you are already in this screen
8 Menu bar, see section 4.6.4
9 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.3 Conveyor

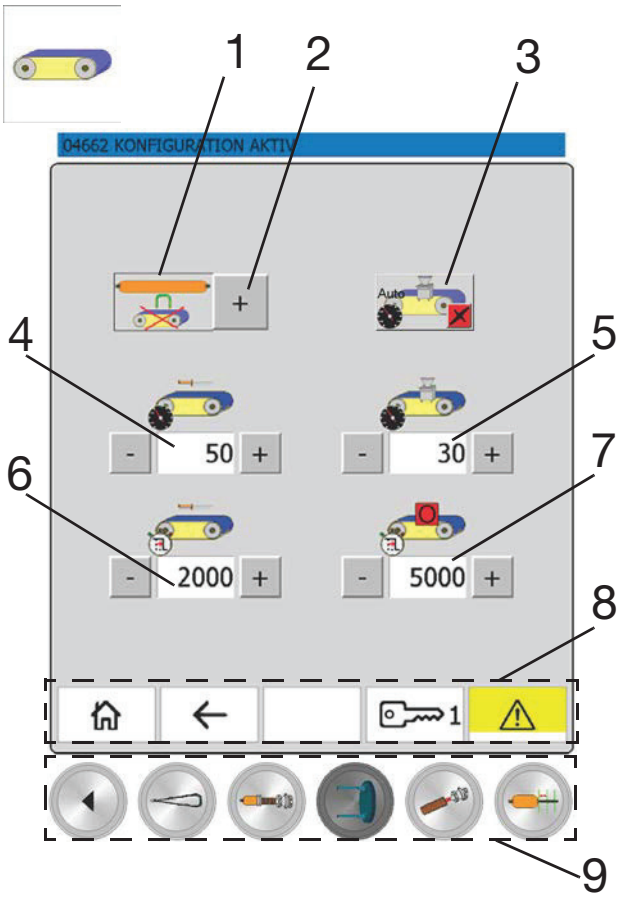
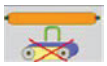


Fig. 4-27 + Change values (+)
- Change values (-)

1 Conveyor operating mode (here: Stop during clipping)

2 Change operating mode

Possible operating modes for the conveyor	
Icon	**Meaning / Function**
	- Continuous (for short portions)
	- Stop during stuffing (for sausage chains)
	- Stop during clipping (for very long portions)

3 “Automatic conveyor speed” function ON/OFF (here: off); The optimal conveyor speed is set automatically. This function is only effective if the 2 length stops are fitted in the machine.

4 Conveyor speed in percent after closing - fast speed

5 Conveyor speed in percent during stuffing - slow speed*

The conveyor speed is infinitely variable between 4 and 40 m/min.

This field has no effect if the “Automatic conveyor speed” function is switched on.

6 Set overrun time
Conveyor – fast speed after clipping*

7 Set overrun time
Conveyor – fast speed after switch-off

8 Menu bar, see section 4.6.4

9 Manual function buttons: Manual machine functions (see section 4.6.7)

* These parameters are only visible with the operating modes Continuous and Stop during stuffing.

4.8.4 Speed

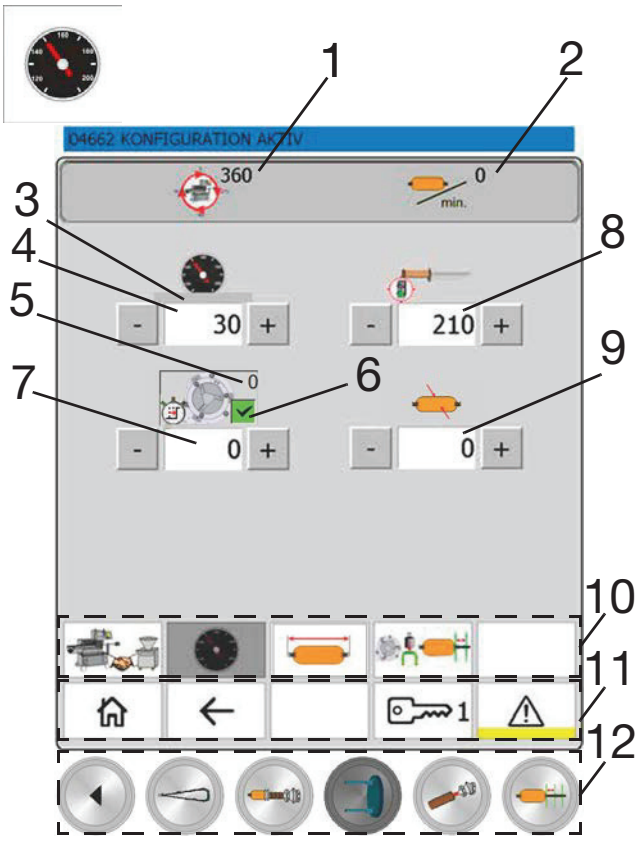


Fig. 4-28 + Change values (+)
- Change values (-)

1 Display: Current machine rotation angle

2 Display: Portions per minute

3 Speed limit display
Green bar: Machine speed is up to 70% of the maximum speed
Orange bar: Machine speed is between 70% and 90% of the maximum speed
Red bar: Machine speed is between 90% and 100% of the maximum speed

4 Speed in revolutions per minute

5 Machine rotation angle up to which the separator closes during stuffing once the delay time has elapsed and depending on the calibre set.

6 “Close separator during stuffing” function ON/OFF (here: on) Used to increase the cycle rate, especially for portions with small calibres

7 Delay for the “Close separator during stuffing” function, based on the home position of the machine

8 Machine rotation angle position at which the knife should cut
Adjustment range: 160° - 220° (factory setting)

9 Portion calibre

10 Quick select buttons, see section 4.8.8

11 Menu bar, see section 4.6.4

12 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.5 Stuffer coupling

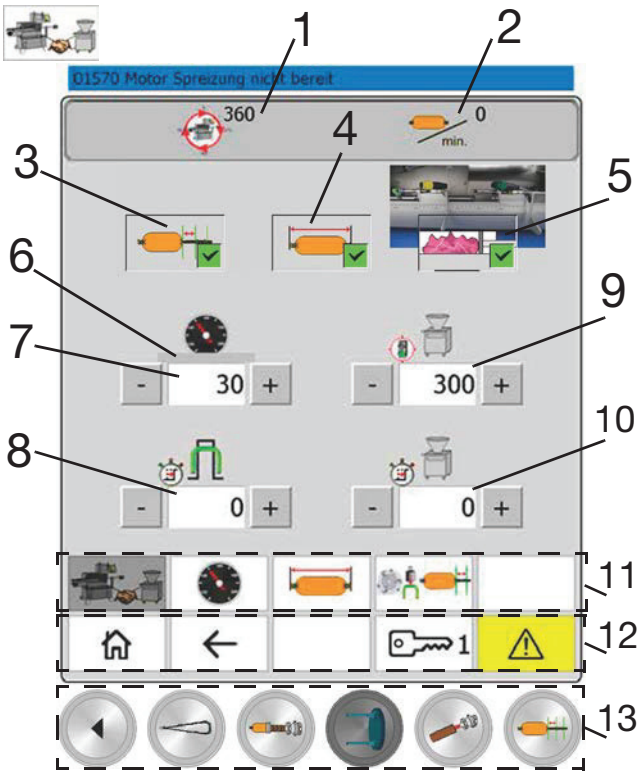


Fig. 4-29 + Change values (+)
- Change values (-)

1 Display: Current machine rotation angle

2 Display: Portions per minute

3 Overspreading ON/OFF

4 Length stop ON/OFF

5 “Ham press” function ON/OFF (here: on)

The selected function is only effective if the required length stops are fitted in the machine. The length stops time the casing brake, the cutting of the meat and the placing of the clip.

6 Speed limit display
Green bar: Machine speed is up to 70% of the maximum speed
Orange bar: Machine speed is between 70% and 90% of the maximum speed
Red bar: Machine speed is between 90% and 100% of the maximum speed

7 Speed in revolutions per minute

8 Clip pulse delay

9 Machine rotation angle position at which the stuffer should start

10 Stuffer delay

11 Quick select buttons, see section 4.8.8

12 Menu bar, see section 4.6.4

13 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.6 Length stop

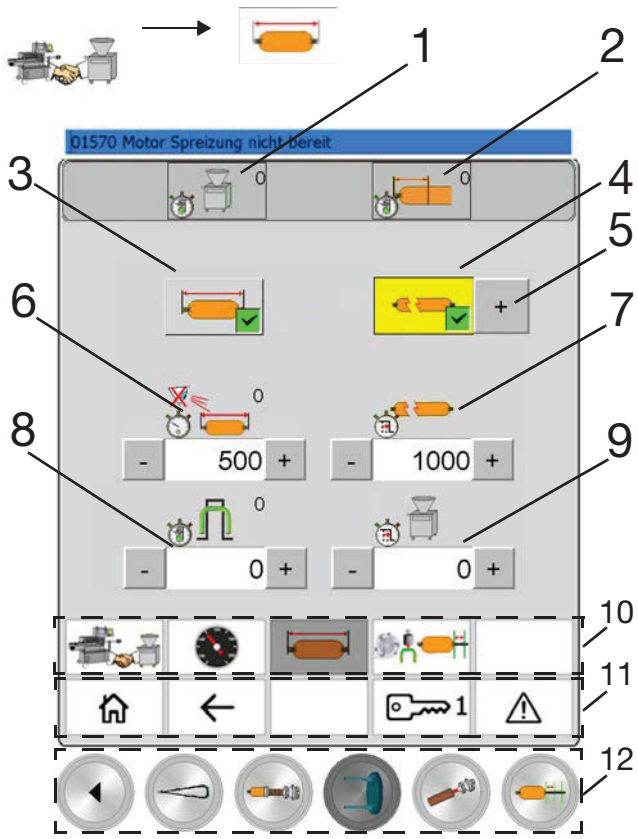


Fig. 4-30 + Change values (+)
- Change values (-)

1 Display: Stuffer portion runtime

2 Display: Time from beginning of stuffing to triggering of “Burst portion control” length stop. Only displayed if “Burst portion control” is switched on.

3 Length stop ON/OFF (here: on)

4 “Burst portion control” ON/OFF (here: on). An additional length stop is required. The background colour of the field indicates which connection this length stop has been connected to (here: yellow connection).

5 Change the background colour of field 4 if the “Burst portion control” length stop has been connected to a different connection.
See Fig. 3-14.

6 Minimum stuffer runtime before the clipping machine interprets the clip signal; This function is disabled for the first portion. This field is only available if the length stop is switched on.

7 Extra time to be added to the required stuffing time for a portion (time from beginning of stuffing to triggering of length stop).
If the total time, comprising this extra time and the required stuffing time, is exceeded, the machine switches to Automatic Off. This field is only available if Burst portion control is switched on.

8 Minimum clip pulse duration; This function is used to avoid, for example, false pulses being triggered by loops. This function must be switched on by the service technician.

9 Switch-off delay for stuffer; Used with clip marks and extra-long portions. This function must be switched on by the service technician.

10 Quick select buttons, see section 4.8.8

11 Menu bar, see section 4.6.4

12 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.7 Separator opening, clip pressure, overspreading

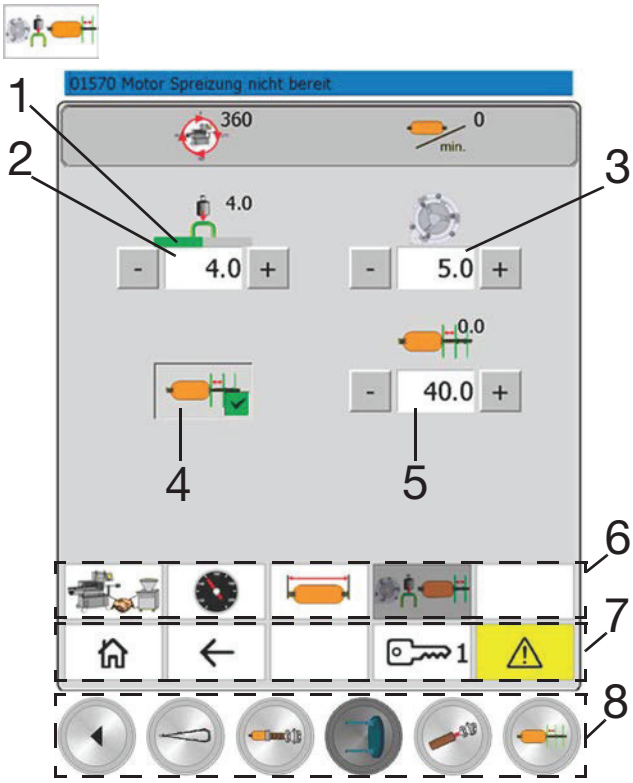


Fig. 4-31 + Change values (+)
- Change values (-)

1 Clip pressure display
Green bar: Low clip pressure set
Orange bar: Medium clip pressure set
Red bar: Maximum clip pressure set
2 Clip pressure
3 Separator hole size
4 Optional overspreading (here: on)
5 Overspreading
6 Quick select buttons, see section 4.8.8
7 Menu bar, see section 4.6.4
8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.8 Navigation using the quick select buttons

The quick select buttons (Fig. 4-32) allow you to switch directly between various settings screens (section 4.8.4 to 4.8.7).

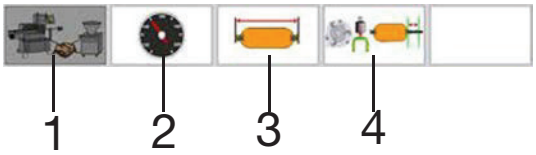


Fig. 4-32 Quick select buttons

To switch between the following screens:
1 Stuffer coupling
2 Speed
3 Length stop
4 Separator opening, clip pressure, overspreading

4.8.9 Product counter

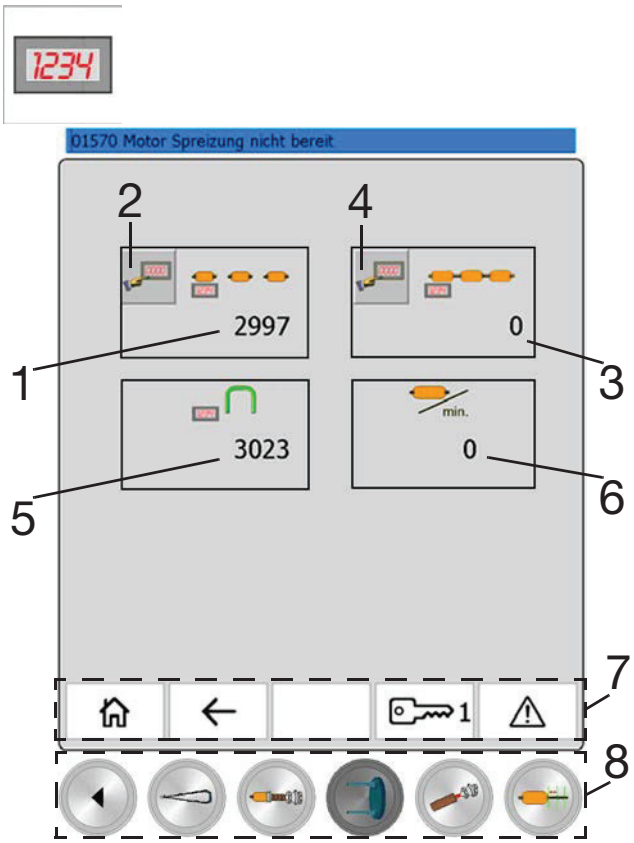


Fig. 4-33

1 Portion counter
2 Reset the portion counter to zero
3 Chain counter
4 Reset the chain counter to zero
5 Counter for all executed clip cycles
6 Portions per minute
7 Menu bar, see section 4.6.4
8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.10 Knife, shirred casing

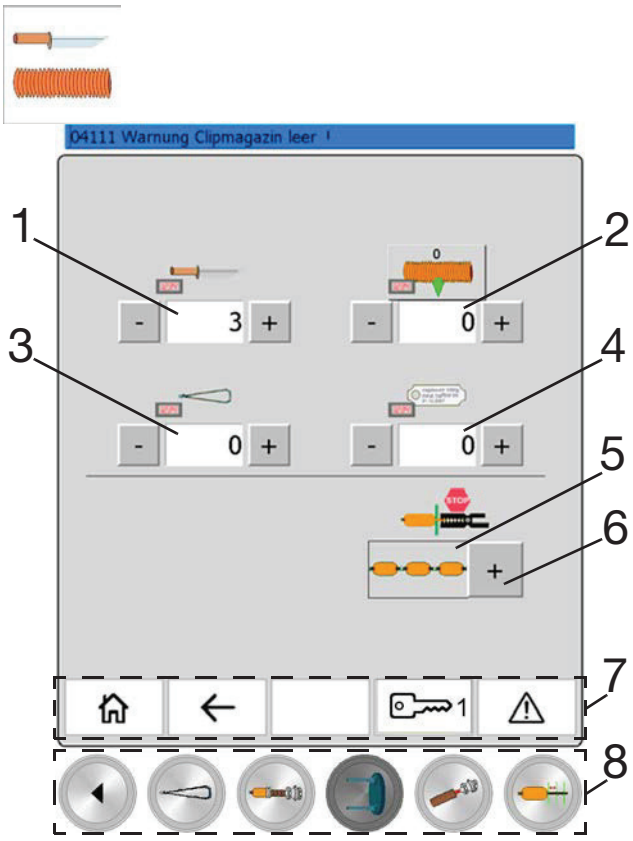


Fig. 4-34 + Change values (+)
- Change values (-)

1 Knife counter: For producing sausage chains

2 Shirred casing counter
When the set number of portions is reached, the machine switches to “Automatic-Off”.
The current count is shown in the shirred casing.
The current count can be applied as the target value by pressing the shirred casing.

3 Loop counter
Only visible when option is installed.

4 Label counter
Only visible when option is installed.

5 Casing end switch: Casing end switch operating mode

Casing end switch operating modes	
Icon	**Meaning**
	- When the casing end switch is triggered, the portion is still stuffed to the end and the clip is placed.
	- When the casing end switch is triggered, the portion is not stuffed to the end; the clip is placed immediately instead.
	- When the casing end switch is triggered, the machine stops immediately and no clip is placed.

6 Change casing end switch operating mode

7 Menu bar, see section 4.6.4

8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.11 Pneumatic casing brake, part 1

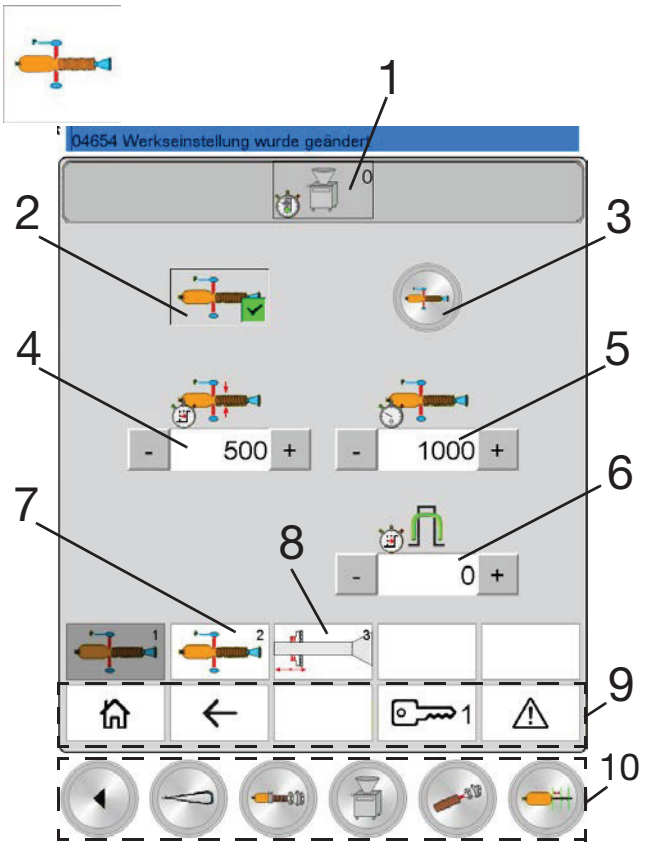


Fig. 4-35

1 Display: Stuffer portion runtime
2 Pneumatic casing brake ON/OFF (here: on)
3 Manually operate casing brake
4 Switch-on delay for pneumatic casing brake: Set point in time when the pneumatic casing brake should close
5 Duration of on time for pneumatic casing brake: Set point in time when the pneumatic casing brake should open
6 Duration of clip delay: Set clip delay time
7 Call up “Pneumatic casing brake, part 2” screen
8 Call up “Swirl brake” or “Movable casing brake” screen. Only if one of these options is installed.
9 Menu bar, see section 4.6.4
10 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.12 Pneumatic casing brake, part 2

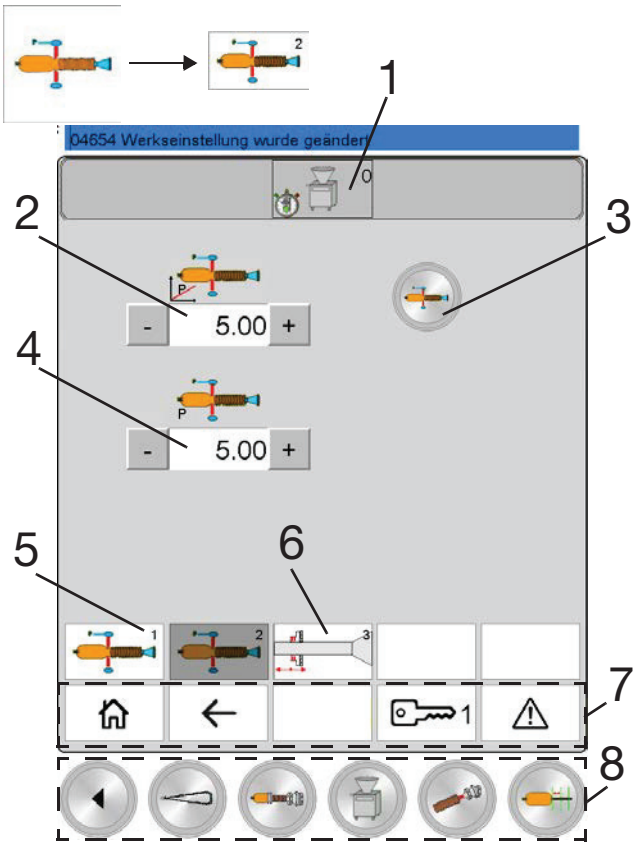


Fig. 4-36

1 Display: Stuffer portion runtime
2 Set speed of pressure increase for the casing brake
3 Manually operate casing brake
4 Set pneumatic casing brake pressure for the stuffing horn in working position
5 Call up “Pneumatic casing brake, part 1” screen
6 Call up “Swirl brake” or “Movable casing brake” screen. Only if one of these options is installed.
7 Menu bar, see section 4.6.4
8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.13 Swirl brake

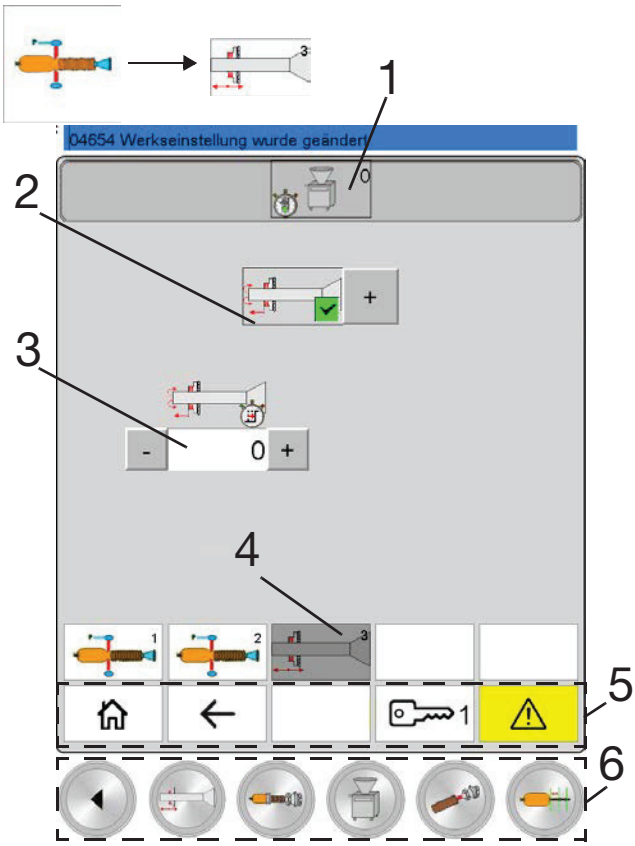


Fig. 4-37 Swirl brake

1 Display: Stuffer portion runtime

2 Swirl brake ON/OFF (here: on)

3 Switch-on delay for swirl brake after stuffer start-up. Value “0”: Swirl brake moves towards stuffing horn when stuffer starts up.

4 Swirl brake screen:
If the icon selection button is grey, you are already in this screen

5 Menu bar, see section 4.6.4

6 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.14 Movable casing brake holder

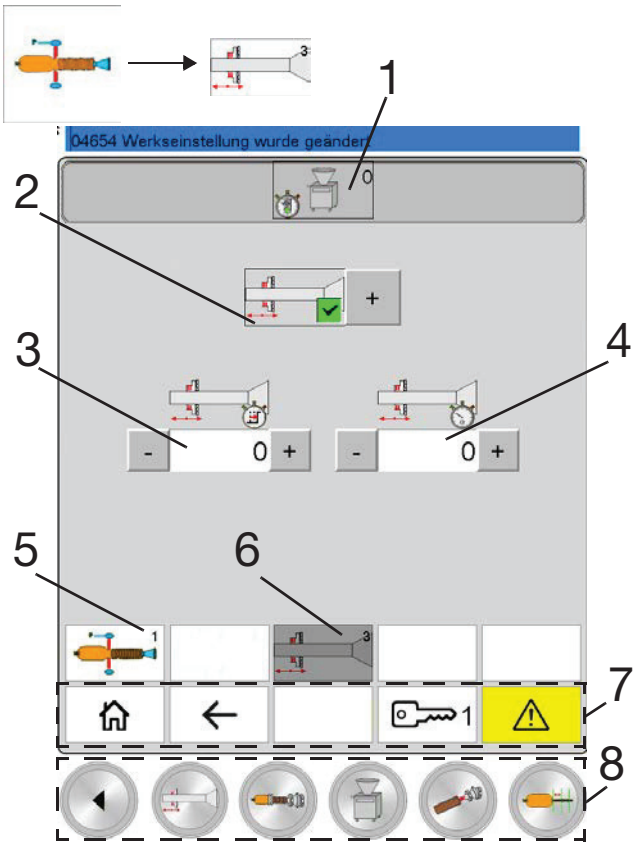


Fig. 4-38 Movable casing brake holder

1 Display: Stuffer portion runtime

2 Movable casing brake holder ON/OFF (here: on)

3 Switch-on delay for casing brake holder after stuffer start-up. Value “0”: Casing brake holder moves towards stuffing horn when stuffer starts up.

4 Residence time of casing brake holder on stuffing horn. Value “0”: Casing brake holder moves back towards separator upon clip pulse.

5 Call up “Pneumatic casing brake, part 1” screen

6 Movable casing brake holder screen:
If the icon selection button is grey, you are already in this screen

7 Menu bar, see section 4.6.4

8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.15 Oil sprayers/water sprayers

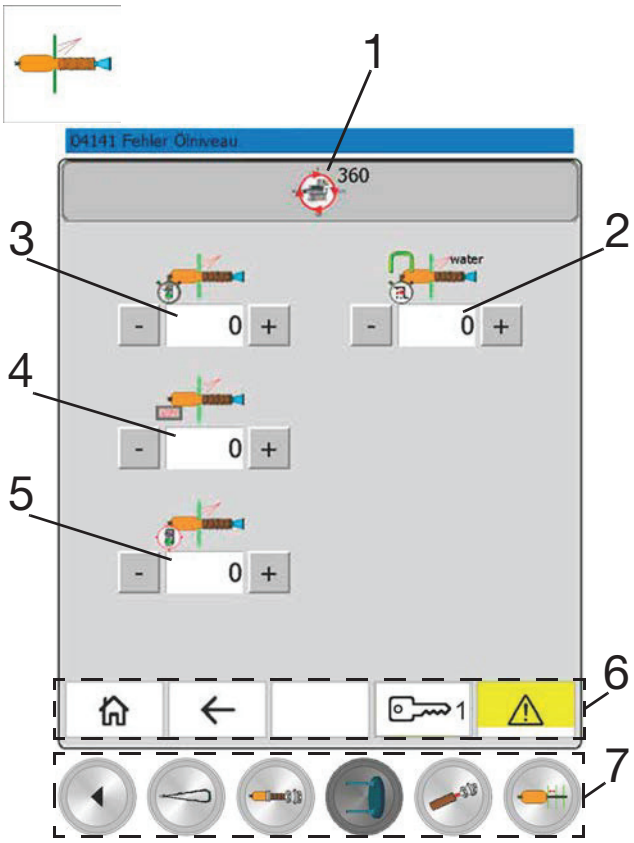


Fig. 4-39 + Change values (+)
- Change values (-)

1 Machine rotation angle display

2 Water sprayers: Set how long water spraying should continue after the stuffer has stopped. This field is only available if the “Water sprayers” option is activated.

Fields 3, 4 and 5 are only available if the “Oil sprayers” option is activated.

3 Set duration of on time

4 Set after how many portions oil should be sprayed.
After every portion: Set value 1
After every two portions: Set value 2, etc.
In the setting shown, no oil will be sprayed.

5 Set machine rotation angle at which the oil sprayers should be switched on

6 Menu bar, see section 4.6.4

7 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.16 Knife multi-triggering

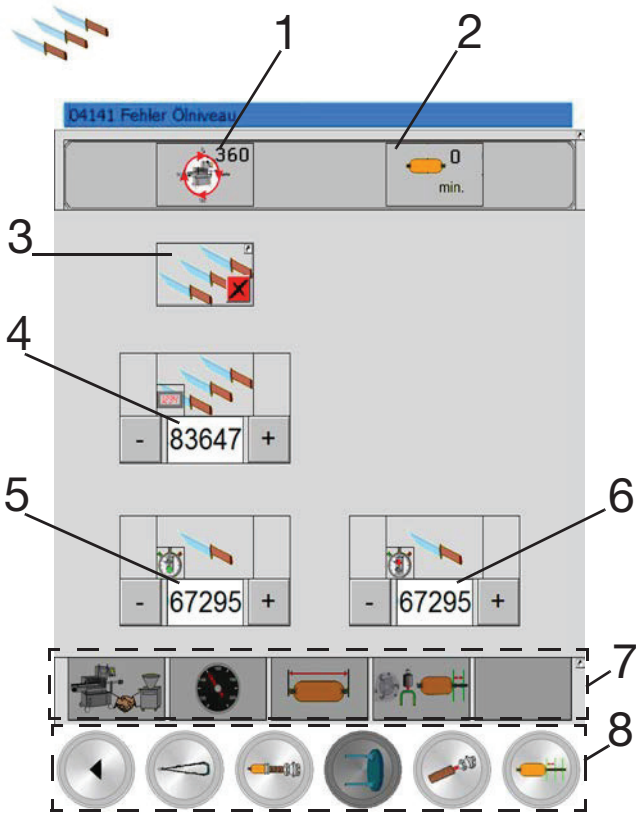


Fig. 4-40 + Change values (+)
- Change values (-)

1 Machine rotation angle display

2 Portions per minute

3 Knife multi-triggering ON/OFF (here: off)

4 Set the number of knife strokes per cutting operation. The machine stops during the cutting operation.

5 Duration of on time for knife

6 Knife pause

7 Quick select buttons, see section 4.8.8

8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.17 Portion weight, calibre, stuffing horn diameter

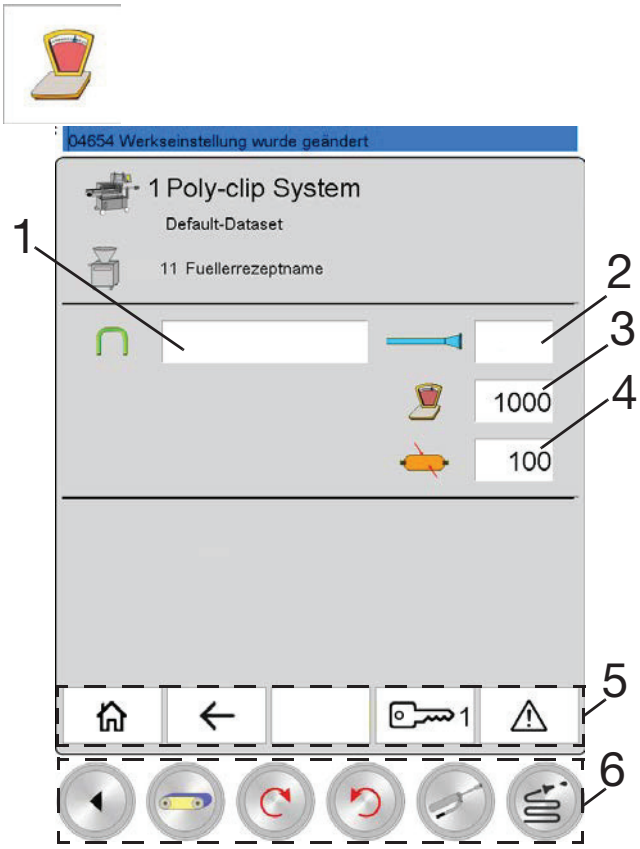


Fig. 4-41

1 Clip size of the last loaded recipe or entered value
2 Stuffing horn size
3 Portion weight
4 Portion calibre
5 Menu bar, see section 4.6.4
6 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.18 External automation

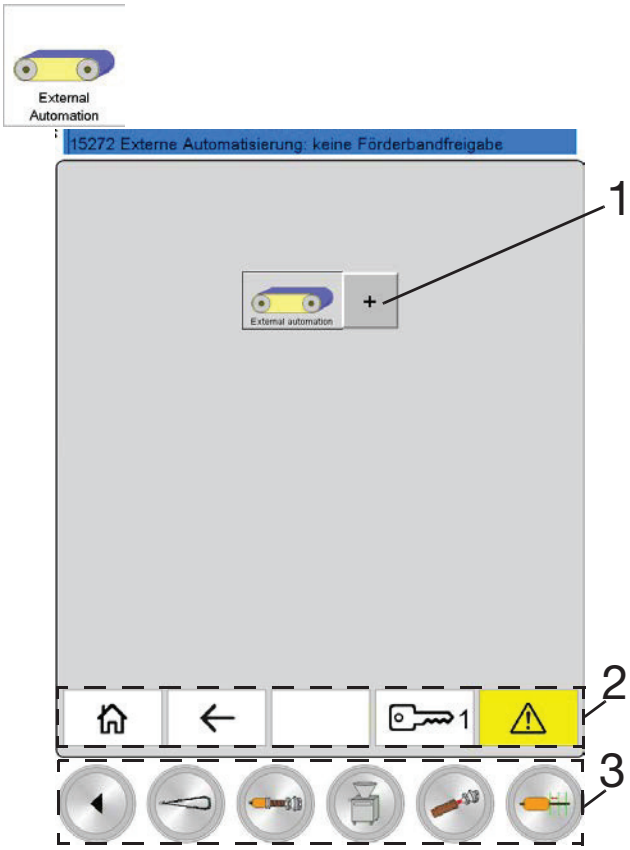


Fig. 4-42 External automation

1 “External automation” function ON/OFF (here: on)
2 Menu bar, see section 4.6.4
3 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.19 NFA

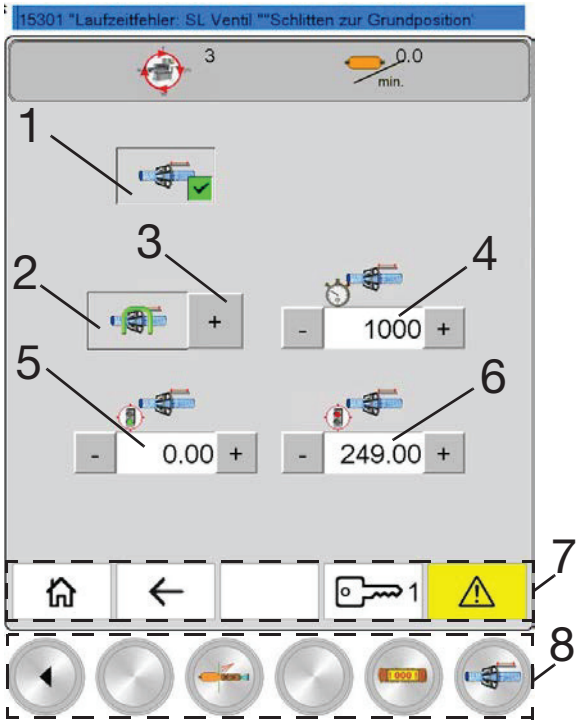


Fig. 4-43

1 “NFA” function ON/OFF (here: on)

2 NFA start time

NFA start time	
Icon	**Meaning**
	- Start with clip pulse
	- Start with stuffer start

3 Change NFA start time

4 Duration of on time for NFA

5 NFA working position

6 NFA home position

7 Menu bar, see section 4.6.4

8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.8.20 IFC

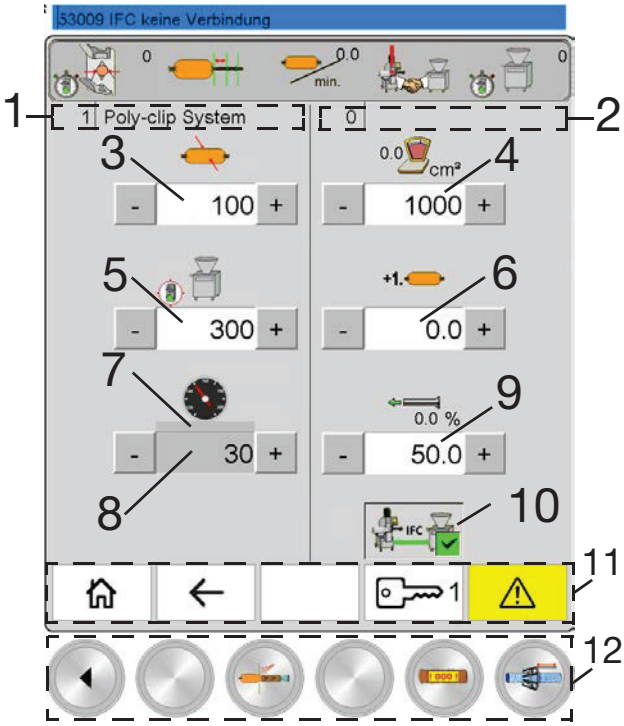


Fig. 4-44

1 No./name of clipping machine recipe

2 No./name of stuffer recipe

3 Portion calibre in mm

4 Portion volume in cm^3

5 Clipping machine rotation angle at which the stuffer should start

6 Extra weight for first portion (after casing change or long period of downtime) in Automatic On operating mode

7 Speed limit display
The maximum machine speed depends on various factors, such as the type of clip used and the overspreading set, and is dynamic.
Green bar: Machine speed is up to 70% of the maximum speed
Orange bar: Machine speed is between 70% and 90% of the maximum speed
Red bar: Machine speed is between 90% and 100% of the maximum speed

8 Machine speed in revolutions per minute
9 Stuffing speed of stuffer in percent
10 “IFC” function ON/OFF (here: on)
11 Menu bar, see section 4.6.4
12 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9 Supervisor menu level

4.9.1 Password input and icon selection screen in the Supervisor menu level

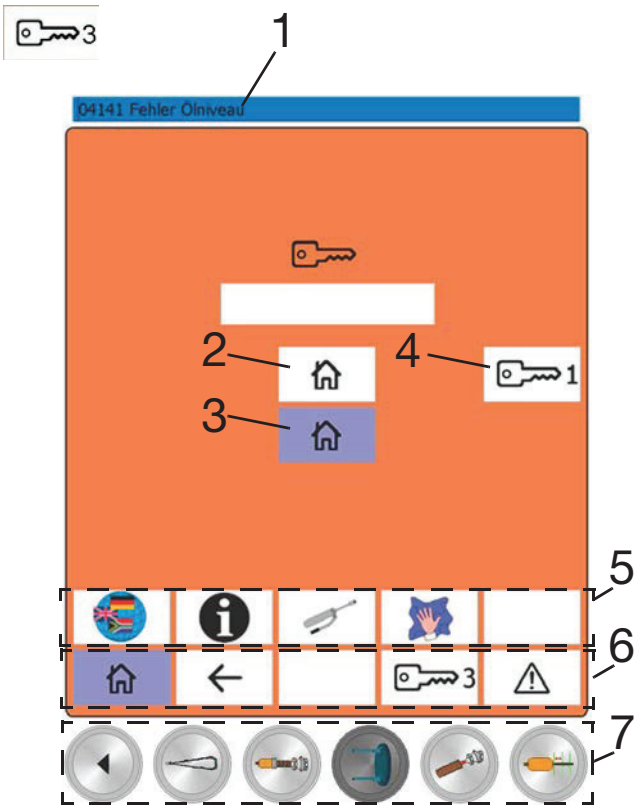


Fig. 4-45 Password input and icon selection screen in the Supervisor menu level

1 Display: Current message
2 Press to go to the basic selection screen of the Operator menu level (You remain logged in with the rights of the Supervisor menu level)
3 Press to go to the basic selection screen of the Supervisor menu level
4 Press to go to the basic selection screen of the Operator menu level (You are then no longer logged in with the rights of the Supervisor menu level)
5 Menu bar, see Fig. 4-13
6 Menu bar, see section 4.6.4
7 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.2 Current messages

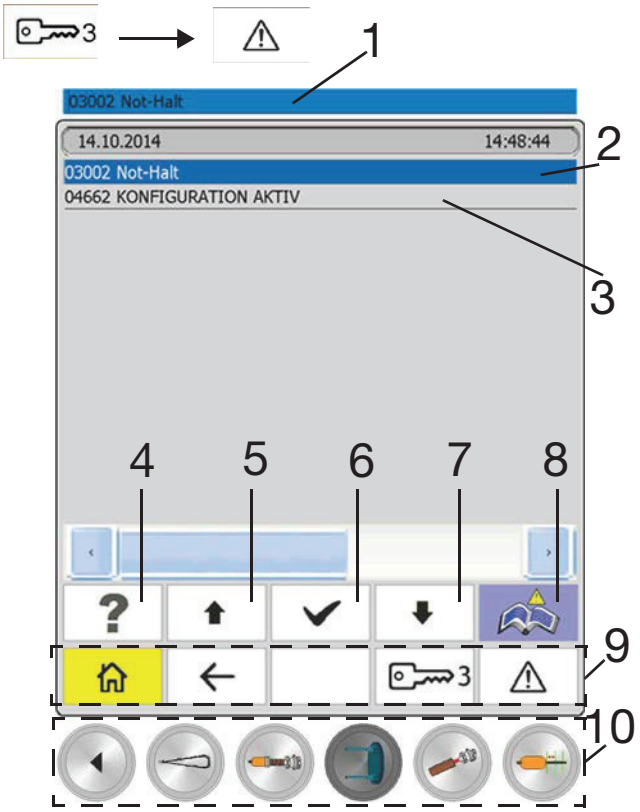


Fig. 4-46 Current messages in the Supervisor menu level

1 Display: Current message
2 Blue: Currently selected message
3 Older messages
4 Show details regarding currently selected message
5 Scroll up
6 Acknowledge messages that are no longer pending
7 Scroll down
8 Message history (see section 4.9.3)
9 Menu bar, see section 4.6.4
10 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.3 Message history

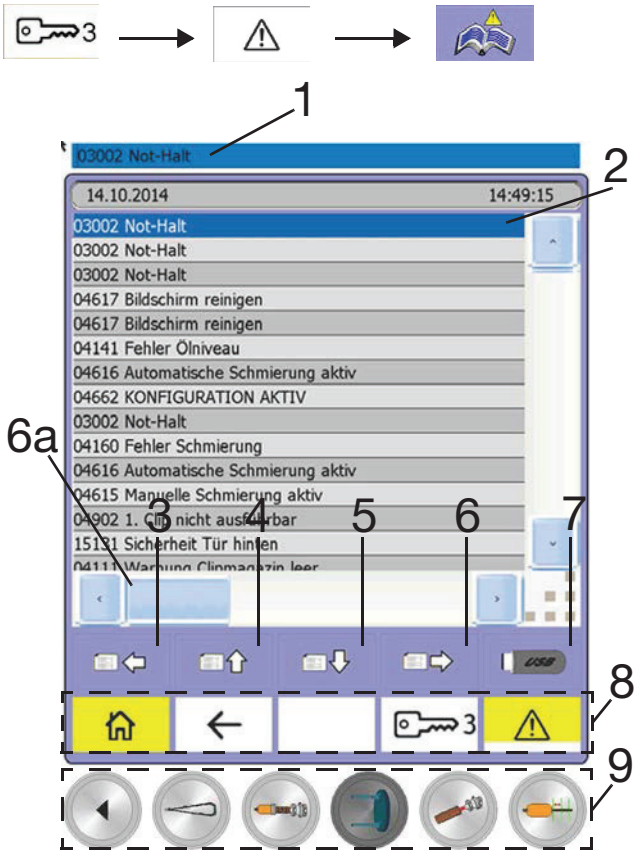


Fig. 4-47 Message history

1 Display: Current message
2 Blue: Currently selected message
3 Scroll one page to the left
4 Jump one page up in the messages
5 Jump one page down in the messages
6 Scroll one page to the right
6a Scroll one page to the right/left
7 Scroll to Export message history screen (see section 4.9.4)
8 Menu bar, see section 4.6.4
9 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.4 Exporting message history

Prerequisite: USB stick is inserted.

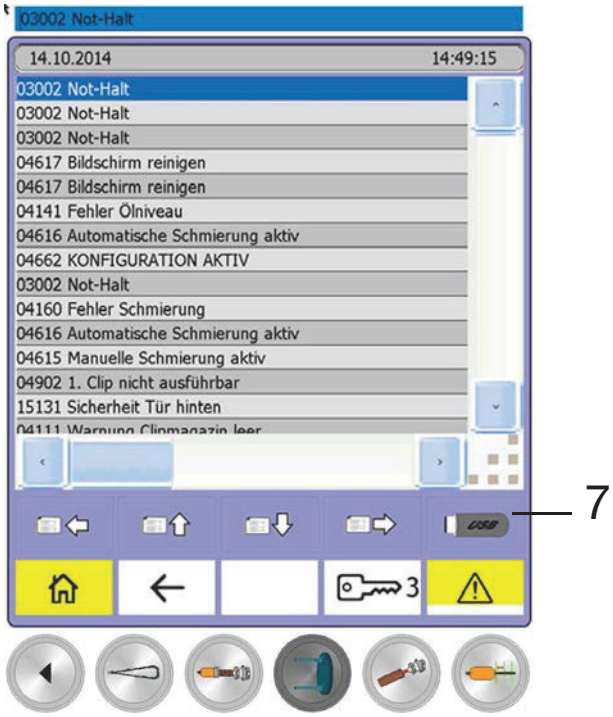


Fig. 4-48

- Press the USB Stick icon selection button (7, Fig. 4-48).

The Export message history screen appears (see Fig. 4-49).

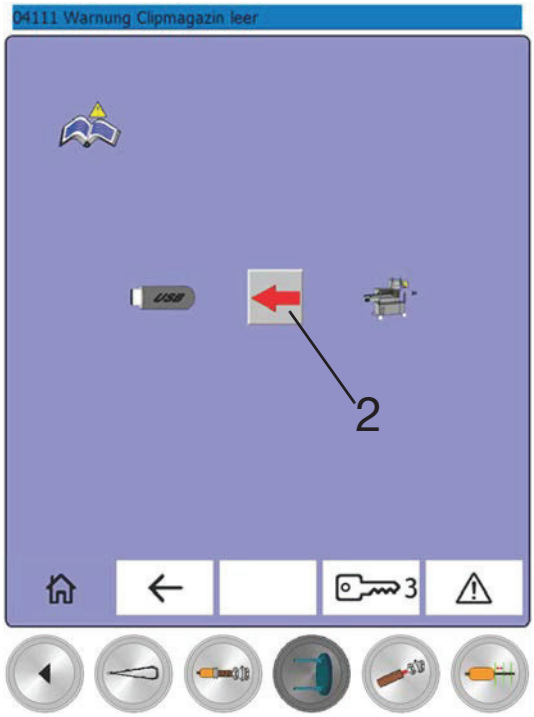


Fig. 4-49 Exporting message history
2 Save message history to USB stick

- Press button 2. (Fig. 4-49)

The message history will now be saved as a TXT file to the USB stick inserted.

4.9.5 Recipe management

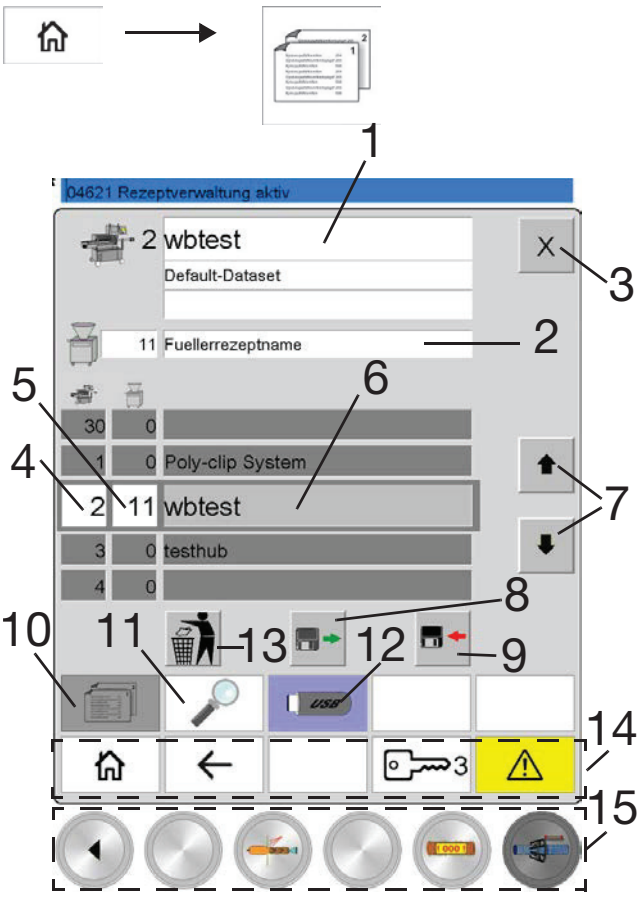


Fig. 4-50 Recipe management

1 Clipping machine: Display of the last loaded recipe/Input of new recipe name

2 Stuffer: Display of the last loaded recipe/Input of new recipe name

3 Close recipe management

4 Clipping machine recipe number: Pressing the recipe number makes the keyboard appear and you can then enter the desired recipe number

5 Stuffer recipe number: Pressing the recipe number makes the keyboard appear and you can then enter the desired recipe number

6 Clipping machine recipe selection

7 Buttons for browsing up and down in order to select a recipe

8 Load the recipe selected in position 6

9 Save the parameters set as a new recipe in the selected saving location
ATTENTION: All parameters present in this saving location will be overwritten!

10 Recipe management screen:
If the icon selection button is grey, you are already in this screen

11 View recipe data in the selected recipe (takes you to section 4.9.8)

12 Scroll to USB screen (see section 4.9.9)

13 Load the recipe selected in position 6

14 Menu bar, see section 4.6.4

15 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.6 Loading a recipe

- Using the selection buttons 6 and 7 (Fig. 4-50), select the desired recipe.
- Press the “Load recipe” button (8, Fig. 4-50):

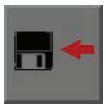
The selected recipe is now located in the machine memory.

4.9.7 Saving a recipe

- Using the selection buttons 6 and 7 (Fig. 4-50), select a saving location. Remember, all parameters already present in the selected saving location will be overwritten!
- Press Recipe name 1, Fig. 4-50.

The keyboard appears.

- Enter the recipe name and confirm.
- Press Save recipe:



The recipe has been saved in the selected saving location. All parameters present in this saving location have been overwritten.

4.9.8 Viewing recipe data

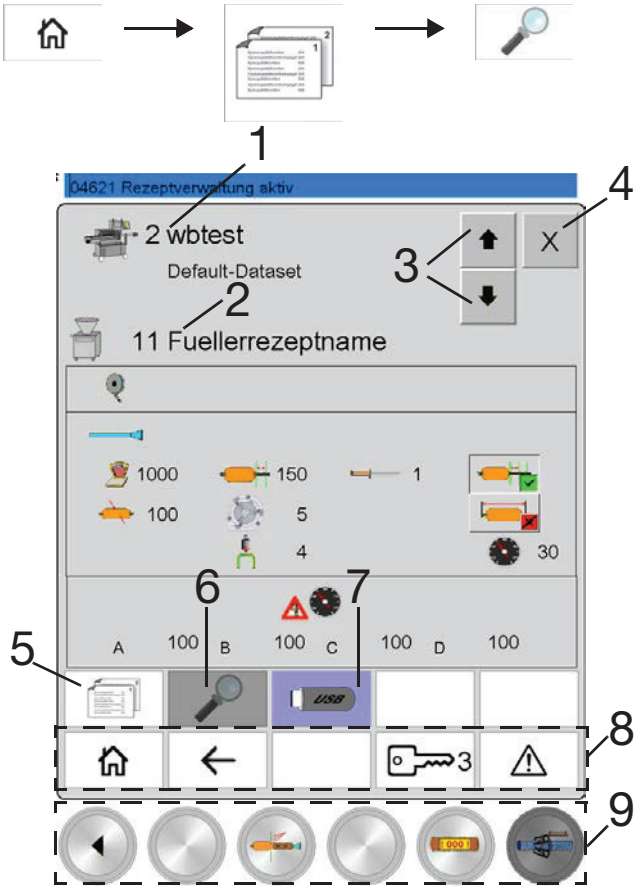


Fig. 4-51 Viewing recipe data

1 Display: Last loaded clipping machine recipe
2 Display: Last loaded stuffer recipe
3 Buttons for browsing up and down in order to select a recipe
4 Close recipe management
5 Call up Recipe management screen
6 View recipe data in the selected recipe:
If the icon selection button is grey, you are already in this screen
7 Scroll to USB screen (see section 4.9.9)
8 Menu bar, see section 4.6.4
9 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.9 Saving recipe data to a USB stick/ Loading recipe data from a USB stick

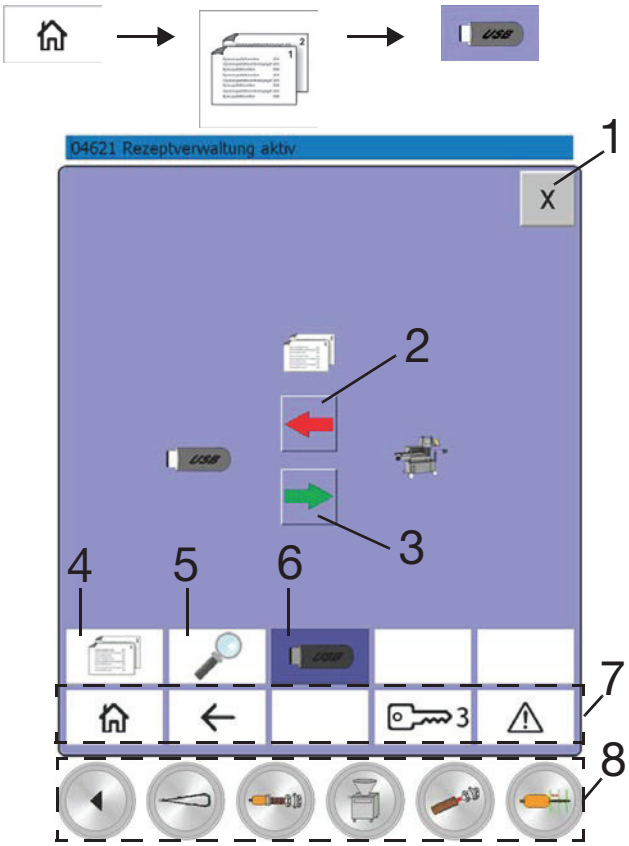


Fig. 4-52 USB

1 Close recipe management
2 Transfer recipes to USB stick
A file will be created with a name structured as follows:“MachineName_SerialNumber_Date_ProductData.csv”.
3 Read recipes from USB stick
The file must be called “ProductData.csv” and be located in the top level of the USB stick.
4 Recipe management screen
5 View recipe data in the selected recipe (takes you to Fig. 4-51)
6 USB screen
If the icon selection button is grey, you are already in this screen
7 Menu bar, see section 4.6.4
8 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.10 Conveyor

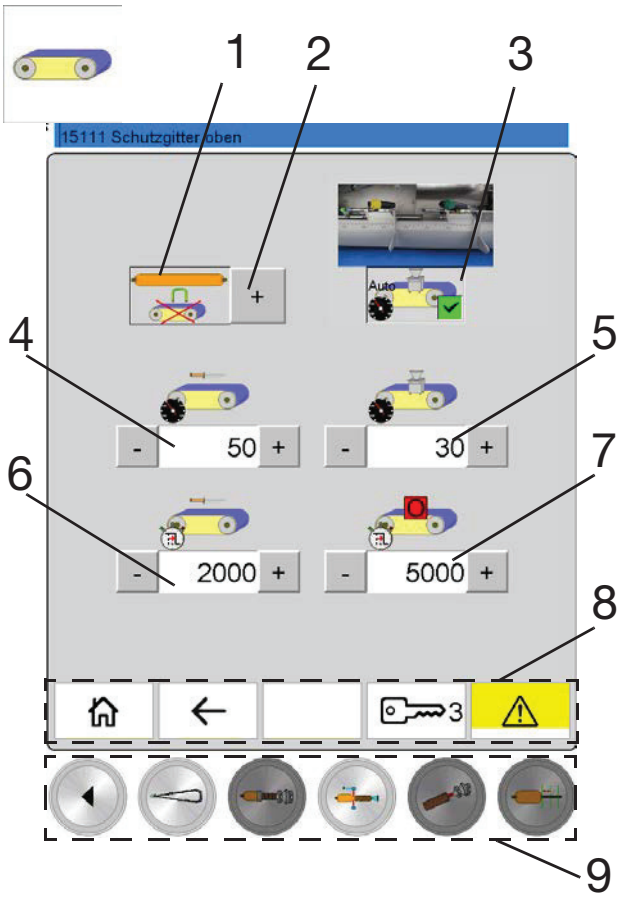
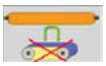


Fig. 4-53 + Change values (+)
- Change values (-)

1 Conveyor operating mode (here: Stop during clipping)

2 Change operating mode

Possible operating modes for the conveyor	
Icon	**Meaning / Function**
	- Continuous (for short portions)
	- Stop during stuffing (for sausage chains)
	- Stop during clipping (for very long portions)

3 Automatic conveyor speed ON/OFF (here: on). The optimal conveyor speed is set automatically. This function is only effective if the 2 length stops are fitted in the machine.

4 Conveyor speed in percent after closing - fast speed

5 Conveyor speed in percent during stuffing - slow speed*
This field has no effect if the “Automatic conveyor speed” function is activated.

• Note

The conveyor speed is infinitely variable between 4 and 40 m/min.

6 Set overrun time
Conveyor – fast speed after clipping*

7 Set overrun time
Conveyor – fast speed after switch-off

8 Menu bar, see section 4.6.4

9 Manual function buttons: Manual machine functions (see section 4.6.7)

* Both these parameters are only visible with the operating modes Continuous and Stop during stuffing.

4.9.11 Speed

See Speed screen in the Operator menu level (section 4.8.4).

4.9.12 Knife, shirred casing

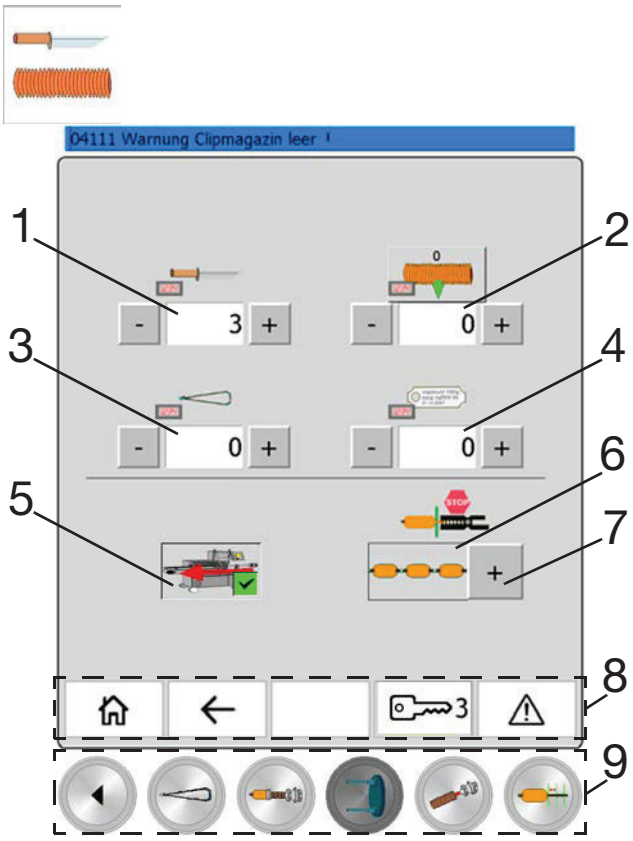


Fig. 4-54 + Change values (+)
- Change values (-)

1 Knife counter: For producing sausage chains

2 Shirred casing counter
When the set number of portions is reached, the machine switches to “Automatic-Off”.
The current count is shown in the shirred casing.
The current count can be applied as the target value by pressing the shirred casing.

3 Loop counter
Only visible when option is installed.

4 Label counter
Only visible when option is installed.

5 Automatically swing machine out after casing end detection ON/OFF
(here: on)

6 Casing end switch: Casing end switch operating mode

Casing end switch operating modes	
Icon	**Meaning**
	- When the casing end switch is triggered, the portion is still stuffed to the end and the clip is placed.
	- When the casing end switch is triggered, the portion is not stuffed to the end; the clip is placed immediately instead.
	- When the casing end switch is triggered, the machine stops immediately and no clip is placed.

7 Change casing end switch operating mode

8 Menu bar, see section 4.6.4

9 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.13 Length stop

See Length stopscreen in the Operator menu level (section 4.8.6).

4.9.14 Portion weight, calibre, stuffing horn diameter

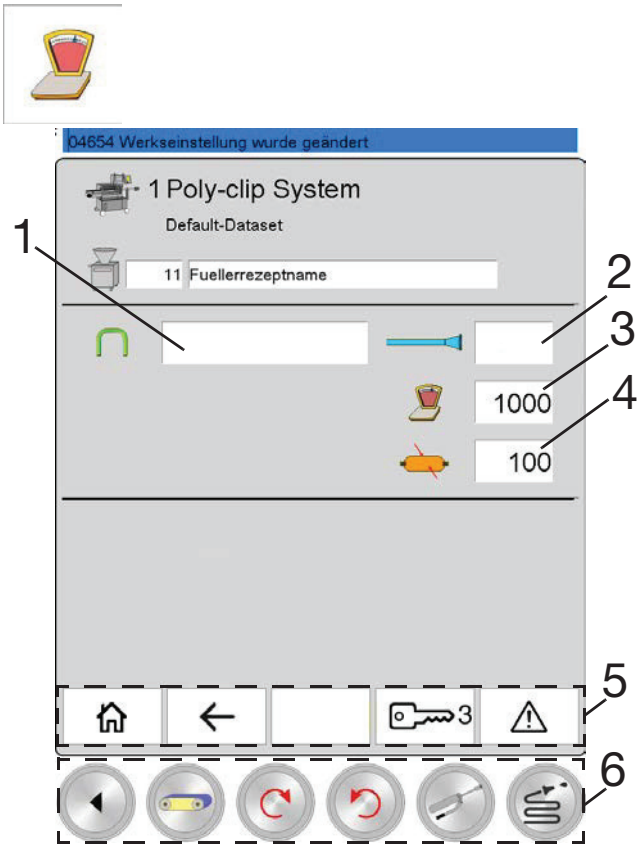


Fig. 4-55

1 Input field: Clip size
2 Input field: Stuffing horn size
3 Input field: Portion weight
4 Input field: Portion calibre
5 Menu bar, see section 4.6.4
6 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.15 Rotating the twin turret at slow speed

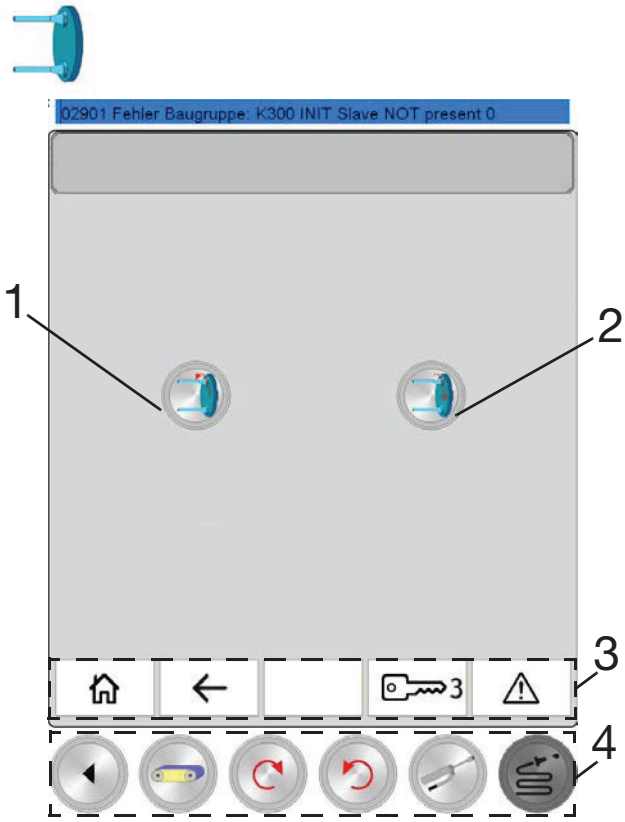


Fig. 4-56

The twin turret can only be rotated if the machine has been swung out beforehand.

1 Rotate twin turret at slow speed in the direction of production: Press and hold the button and the two-hand button (Fig. 4-18) simultaneously within 0.5 seconds. Movement stops as soon as one of the buttons is released.
2 Rotate twin turret at slow speed against the direction of production: Press and hold the button and the two-hand button (Fig. 4-18) simultaneously within 0.5 seconds. Movement stops as soon as one of the buttons is released.
3 Menu bar, see section 4.6.4
4 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.16 Separator opening, clip pressure, overspreading

See Separator opening, clip pressure, overspreading screen in the Operator menu level (section 4.8.7).

4.9.17 Oil sprayers/Water sprayers

See Oil sprayers/water sprayers screen in the Operator menu level (section 4.8.15).

4.9.18 Pneumatic casing brake

See Pneumatic casing brake screen in the Operator menu level (section 4.8.11).

4.9.19 Speed

See Speed screen in the Operator menu level (section 4.8.4).

4.9.20 Basic selection screen of the Supervisor menu level

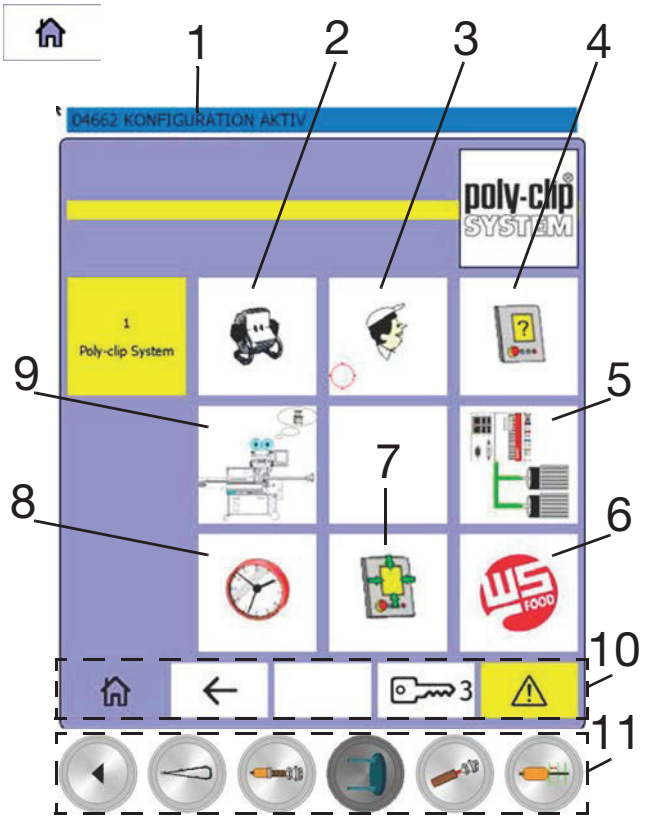


Fig. 4-57

1 Display: Current message
2 Pressing this button takes you to the display of the address screen of Poly-clip System Germany (see section 4.9.21)
3 Press to go to the Rotation angle for machine functions screen (see section 4.9.22)
4 Press to go to the Screen configuration for the Operator menu level screen (see section 4.9.23)
5 Press to go to the Inputs/Outputs screen (see section 4.9.28)
6 Press to go to the WS Food screen (see section 4.9.27)
7 Press to go to the Calibrate touchpanel screen (see section 4.9.26)
8 Press to go to the Set date/time screen (section 4.9.25)
9 Press to go to the Simulator screen (section 4.9.24)
10 Menu bar, see section 4.6.4
11 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.21 Poly-clip System Deutschland address screen

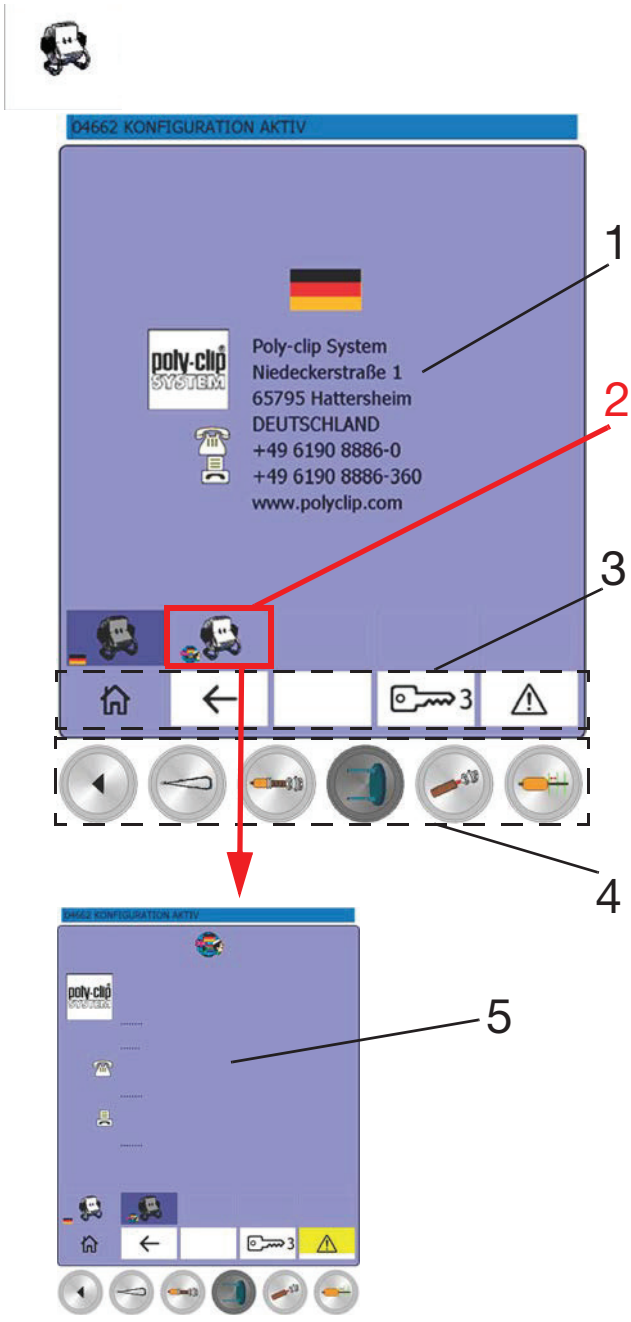


Fig. 4-58

1 Poly-clip System Deutschland address
2 Press to go to the address of the national/local contact partner (see 5)
3 Menu bar, see section 4.6.4
4 Manual function buttons: Manual machine functions (see section 4.6.7)
5 Address of the national/local contact partner

4.9.22 Rotation angles for machine functions

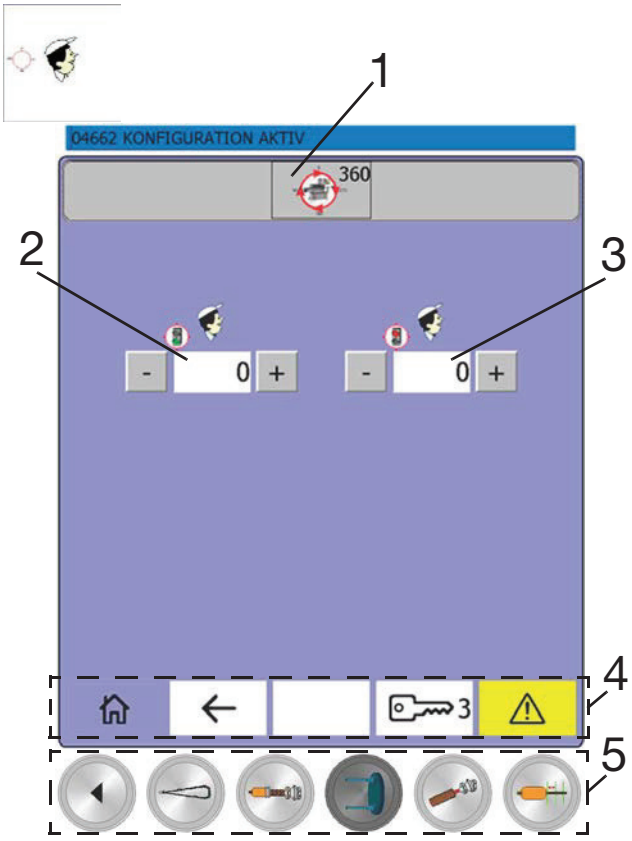


Fig. 4-59 ✚ Change values (+)
✖ Change values (-)

1 Display of the current machine rotation angle

2 Under the green light, the rotation angles for switch-on are displayed and adjusted

3 Under the red light, the rotation angles for switch-off are displayed and adjusted

4 Menu bar, see section 4.6.4

5 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.23 Setting the visibility of the icon selection buttons for the Operator menu level

- In the basic selection screen of the Supervisor menu level, press the Screen configuration icon selection button:

The “Screen configuration for the Operator menu level, part 1” screen appears (see Fig. 4-60).

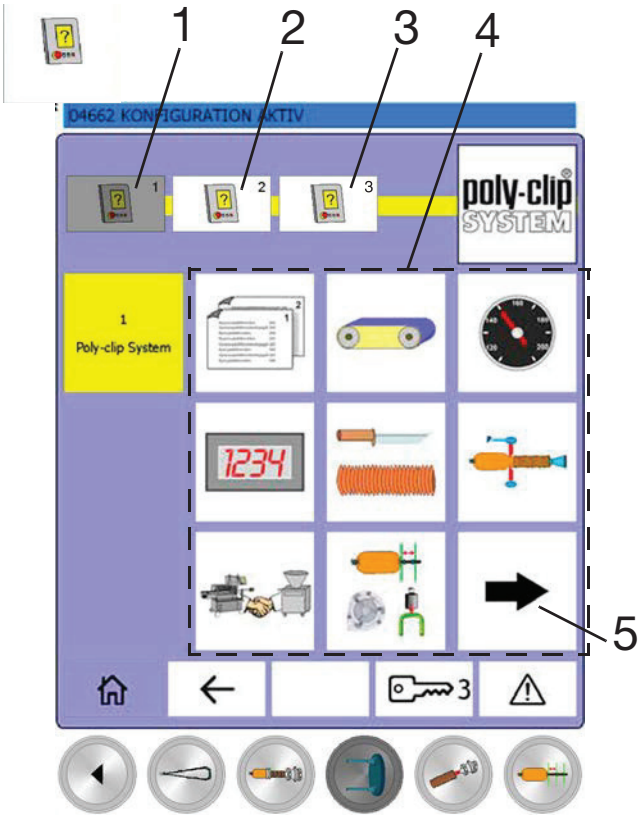


Fig. 4-60 Screen configuration for the Operator menu level, part 1

Re. buttons 1, 2 and 3: If the button is grey, you are already in that screen. If the button is white, you can press it to switch to that screen.

1 Screen configuration for the Operator menu level, part 1.

2 Screen configuration for the Operator menu level, part 2.

3 Screen configuration for the Operator menu level, part 3.

4 Configuration of the icon selection buttons for the Operator menu level: If an icon selection button is coloured grey here, then it is not visible in the Operator menu level.

- Touch the icon selection buttons to select those that should not be visible in the Operator menu level. Selected icon selection buttons will be coloured grey.

If the entire Basic selection screen, part 2 should not be visible in the Operator menu level, you must switch icon selection button 5 (Fig. 4-60) to invisible. If some icon selection buttons in the Basic selection screen, part 2 or part 3 are to remain visible, then you should not switch icon selection button 5 to invisible.

- Press button 2 Fig. 4-60:

The “Screen configuration for the Operator menu level, part 2” screen appears (see Fig. 4-61).

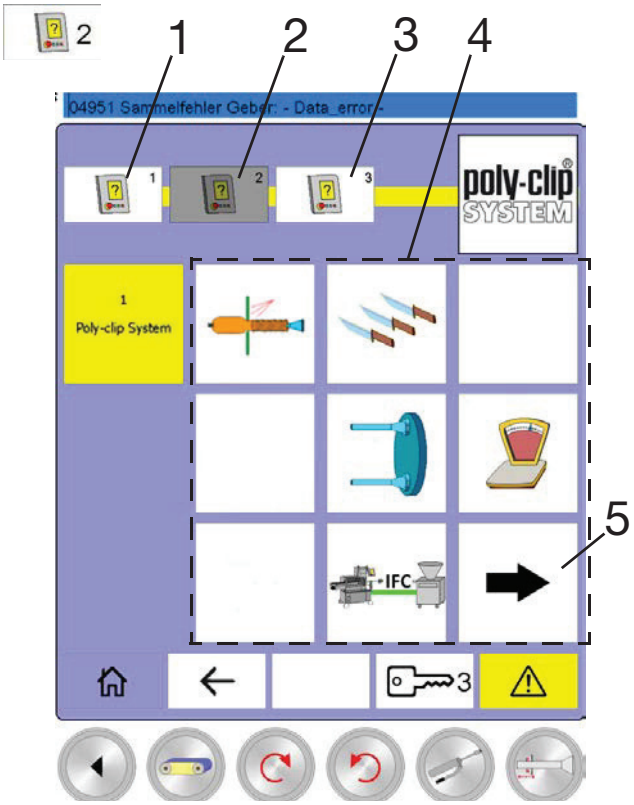


Fig. 4-61 Screen configuration for the Operator menu level, part 2

- Touch the icon selection buttons to select those that should not be visible in the Operator menu level. Selected icon selection buttons will be coloured grey.

If the entire Basic selection screen, part 3 should not be visible in the Operator menu level, you must switch icon selection button 5 (Fig. 4-61) to invisible. If some icon selection buttons in the Basic selection screen, part 3 are to remain visible, then you should not switch icon selection button 5 to invisible.

- Press button 3 Fig. 4-61:

The “Screen configuration for the Operator menu level, part 3” screen appears (see Fig. 4-62).

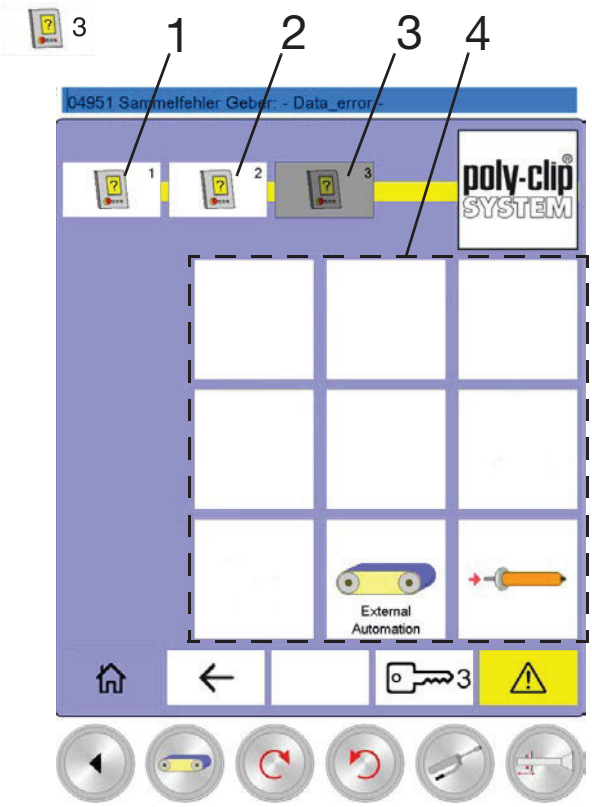


Fig. 4-62 Screen configuration for the Operator menu level, part 3

- Touch the icon selection buttons to select those that should not be visible in the Operator menu level. Selected icon selection buttons will be coloured grey.
- Once you have made all your settings, press the Key icon selection button:

The password input and icon selection screen of the Supervisor menu level appears.

- Press the Key icon selection button of the Operator level:

The basic selection screen of the Operator level appears.

- Check the settings you have made and correct them if necessary.

4.9.24 Simulator

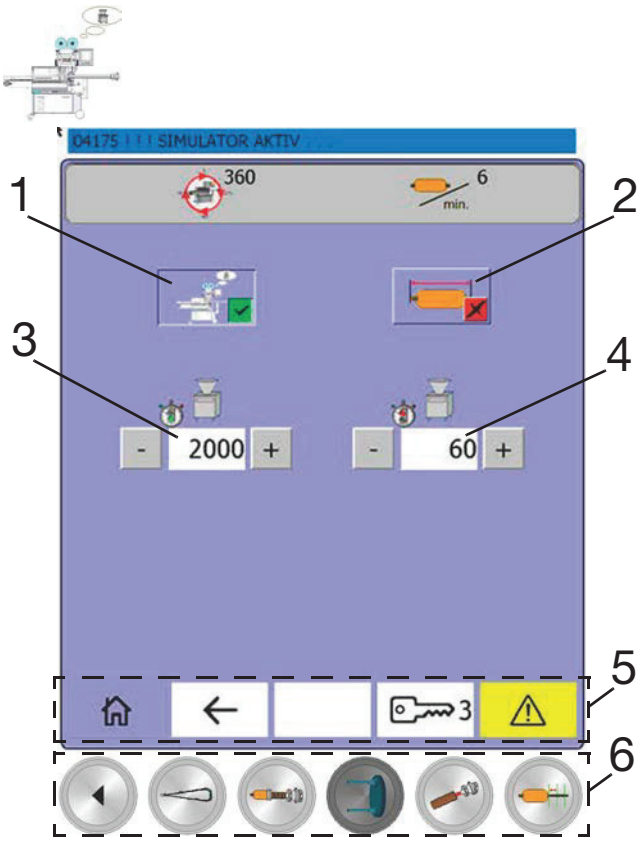


Fig. 4-63 ✚ Change values (+)
✚ Change values (-)

1 Simulator ON/OFF (here: on)
2 Length stop ON/OFF (here: off)
3 Set stuffing time*
4 Set stuffing pause*
5 Menu bar, see section 4.6.4
6 Manual function buttons: Manual machine functions (see section 4.6.7)
* These settings are only displayed when the simulator is switched on.

4.9.25 Setting the date/time

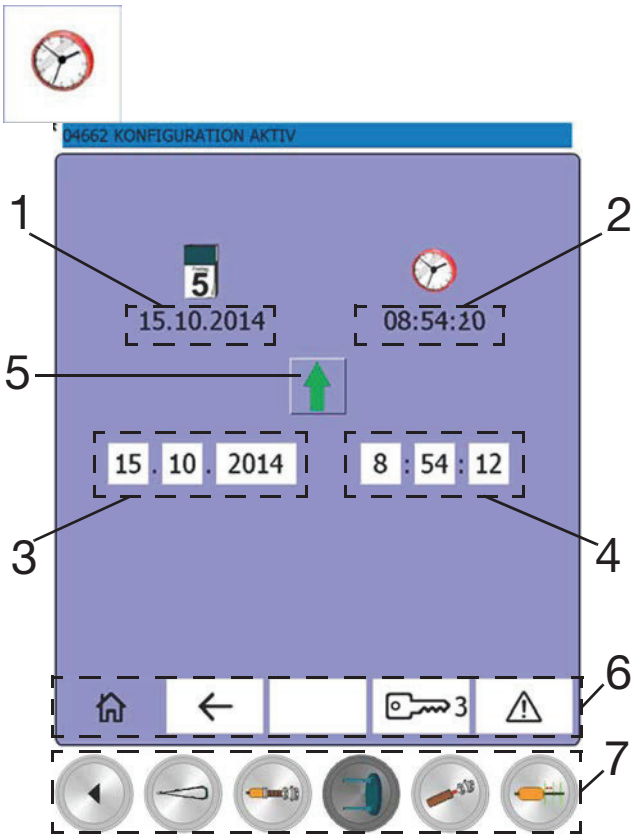


Fig. 4-64 Setting the date/time

1 Display: Date
2 Display: Time
3 Input field: Date
4 Input field: Time
5 Load the data entered in positions 3 and 4 into the operating system
6 Menu bar, see section 4.6.4
7 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.26 Calibrating the touchpanel

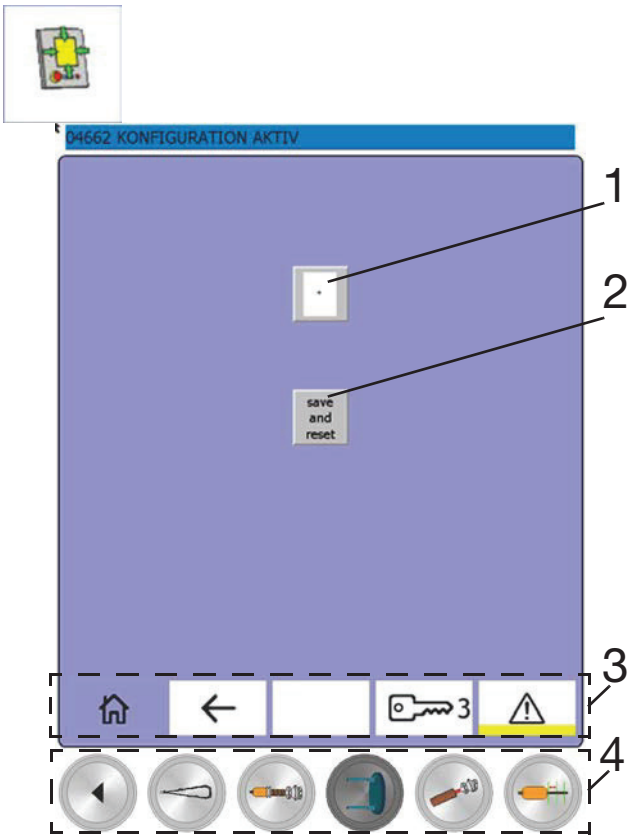


Fig. 4-65 Calibrating the touchpanel screen

1 Start the Calibrate touchpanel function
2 Save and re-start the operating system
3 Menu bar, see section 4.6.4
4 Manual function buttons: Manual machine functions (see section 4.6.7)

4.9.27 WS Food

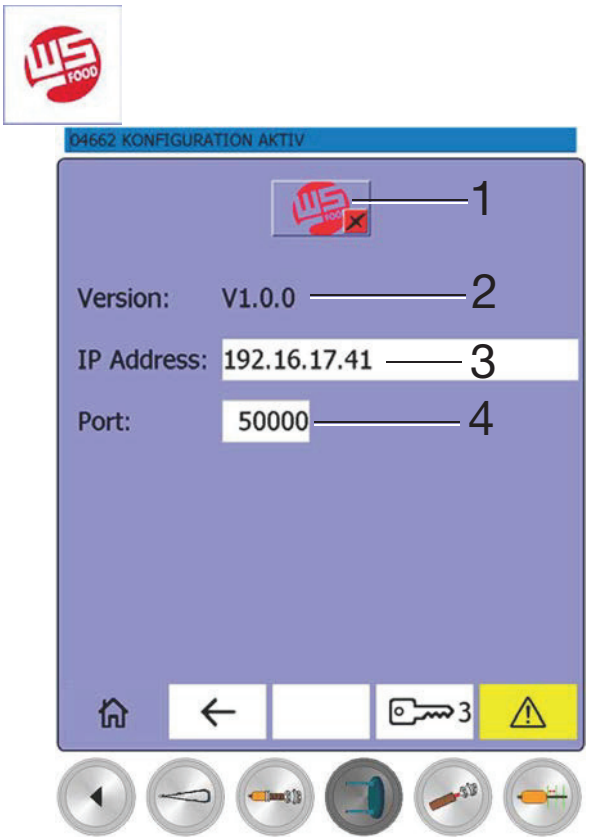


Fig. 4-66 WS Food

1 WS Food ON/OFF (here: off)
2 WS Food version
3 Customer IP address
4 Port number

4.9.28 Inputs/Outputs, page 1

In case of error, you may be asked by the Poly-Clip hotline to call up one of the following screens (Fig. 4-67 to Fig. 4-72).

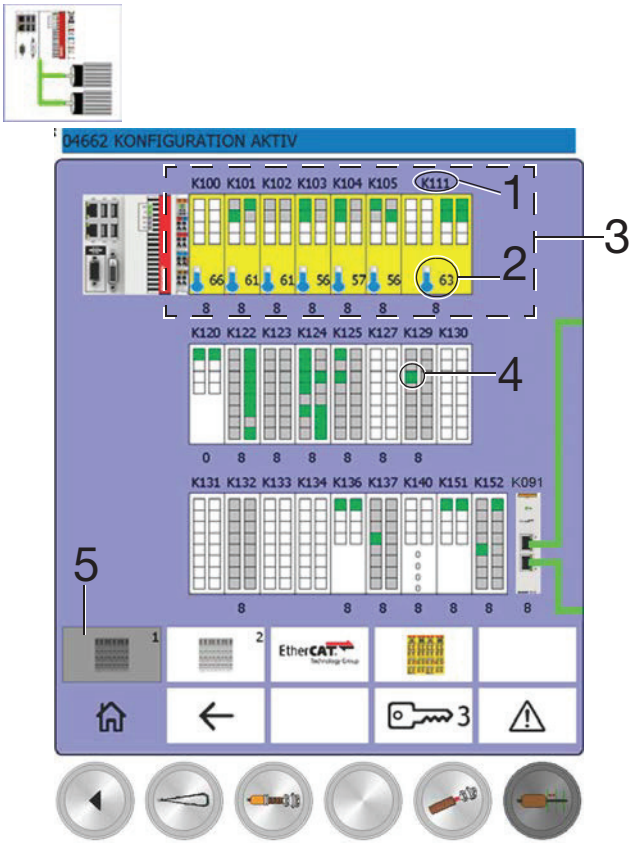


Fig. 4-67 Inputs/Outputs, page 1

1 Equipment identification of the module
2 Temperature of the module in °C (temperature display only for safety modules)
3 Safety modules (always marked yellow)
4 Status of the module (Green box means: signal present at the input or output.)
5 View Inputs/Outputs, page 1: If the icon selection button is grey, you are already in this screen

4.9.29 Navigation using the quick select buttons (inputs/outputs)

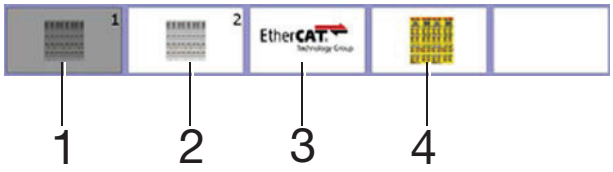


Fig. 4-68

1 Inputs/outputs, page 1: If the icon selection button is grey, you are already in this screen
2 Inputs/outputs, page 2
3 EtherCAT bus
4 Addresses of safety modules

4.9.30 Inputs/Outputs, page 2

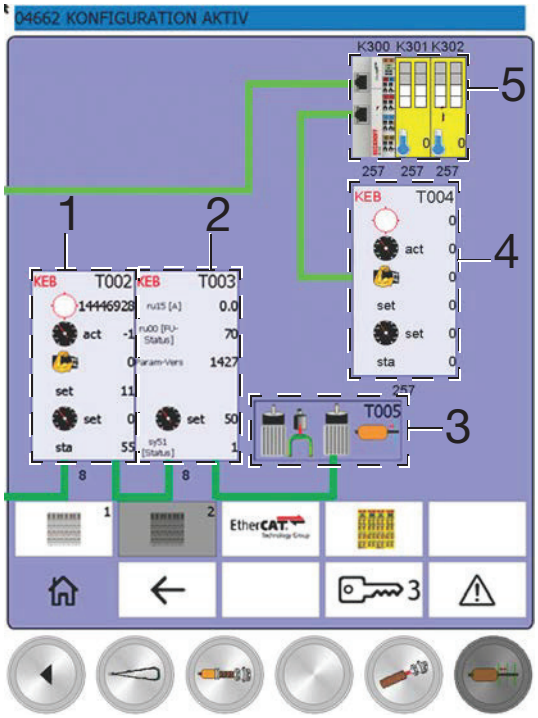


Fig. 4-69 Inputs/Outputs, page 2

1 Frequency converter, main drive

2 Frequency converter, conveyor

3 Stroke: Positioning motors for clip pressure and separator hole (optional)

4 Frequency converter for twin turret if there is a twin turret

5 Safety module (twin turret) if there is a twin turret

• Note

Module errors are indicated by a flashing lightning arrow (Fig. 4-70).

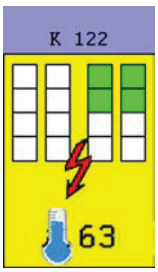


Fig. 4-70 Module errors

4.9.31 EtherCAT bus

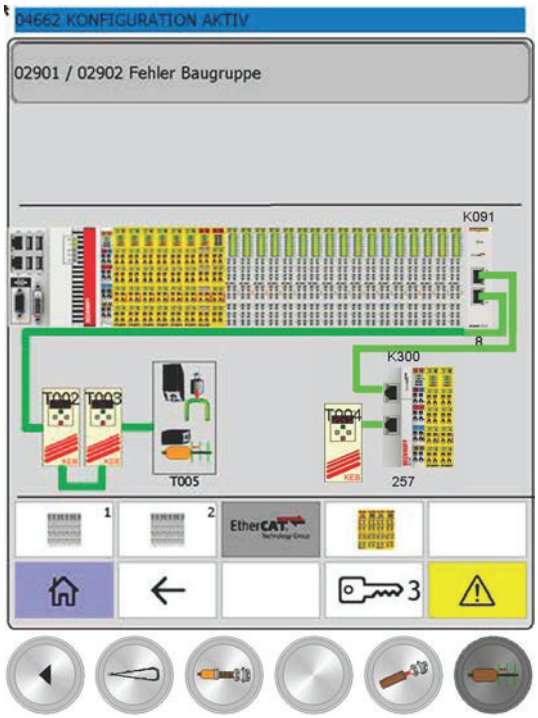


Fig. 4-71 EtherCAT bus connection of bus components

4.9.32 Safety module addresses

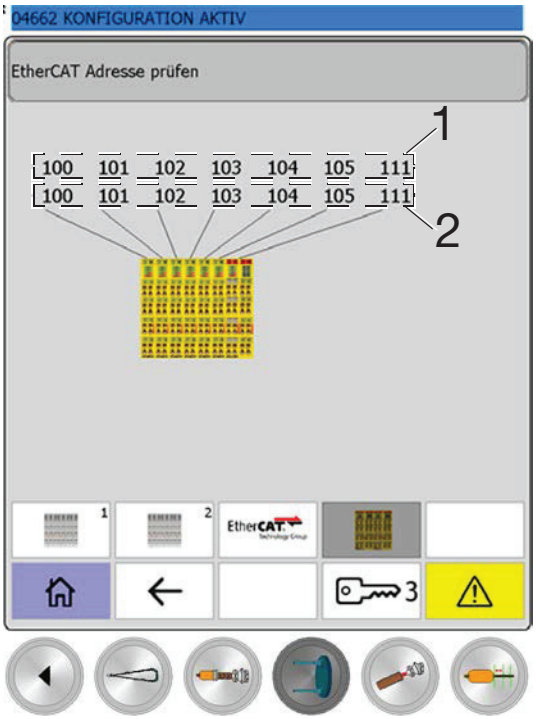


Fig. 4-72 Safety module addresses

1 Target address

2 Actual address

The safety module address status is displayed. Discrepancies between target and actual status will render the safety system non-operational.

4.10 Possible error messages

1171	Format adjustment drive stroke group error SDO/Parameter access
1251	Clip height motor positioning active
1301	Fault clip height motor
1302	Timeout clip height motor
1351	Fault clip height motor positioning
1370	Clip height motor not ready
1371	Format adjustment drive clip height group error SDO/Parameter access
1451	Spreading motor positioning active
1501	Fault spreading motor
1502	Timeout spreading motor
1551	Fault spreading motor positioning
1570	Spreading motor not ready
1571	Format adjustment drive spreading group error SDO/Parameter access
3001	Fault Emergency Stop
3002	Emergency Stop
3021	Fault safety swing out
3022	Safety swing out
3101	Fault two-hand jog forwards
3102	Fault two-hand jog backwards
3201	Fault output safety Emergency Stop/ Doors
3202	Fault output Emergency Stop
3203	Fault output safety delayed
3300	Safety CPU stop
3301	Wrong safety PLC version
3311	Fault restoring TwinSAFE project
3312	Fault backing up TwinSAFE project
3315	K100 EL6900 restore active
3316	K100 EL6900 backup active
4016	Format adjustment drive no voltage supply
4022	Switching off mains voltage
4023	Group error restart
4031	Controller starting, please wait!
4051	Timeout casing end switch
4052	Timeout 2-hand enabling button
4053	Timeout stuffer active
4054	Timeout clip signal
4055	Timeout length stop
4058	Timeout 1st clip button
4059	Timeout Automatic ON button
4060	Timeout Automatic OFF button
4061	Timeout external Automatic ON button
4062	Timeout external Automatic OFF button
4081	Casing end -> Warning
4082	Shirr counter --> Automatic off
4091	Casing end -> Automatic off
4101	Warning GSA empty (quantity remaining)
4102	GSA empty, machine OFF
4111	Warning clip magazine empty
4112	Clip magazine empty, Automatic OFF
4118	Stuffing horn not swung in
4121	Fault label
4141	Fault oil level
4160	Fault lubrication
4170	Fault stuffer <--> Clipping machine interface
4175	! ! ! SIMULATOR ACTIVE! ! !
4200	IMD metal detected
4201	IMD metal detection off
4601	I/O test active
4611	Check spreading/conveyor belt
4615	Manual lubrication active
4616	Automatic lubrication active
4617	Clean screen
4621	Recipe management active
4622	Factory settings management active
4623	Data management active
4624	Fault saving recipe
4625	Fault saving factory settings
4626	Fault loading recipe
4627	Fault loading factory settings
4631	Fault exporting recipes to USB
4632	Fault importing recipes from USB
4633	Fault exporting factory settings to USB
4641	Loading recipes
4642	Saving recipes
4643	Saving all recipes
4644	Importing recipes from USB
4645	Exporting recipes to USB
4651	Loading factory setting
4652	Saving factory setting
4653	Exporting factory setting to USB
4654	Factory setting has been changed
4661	Machine type?
4662	CONFIGURATION ACTIVE
4663	CODING SYSTEM CHANGE
4902	1st clip cannot be executed
4903	Automatic cannot be executed
4906	Adjust clip height cannot be executed
4907	Adjust spreading cannot be executed
4908	Automatic lubrication cannot be executed
4909	Manual lubrication cannot be executed
4910	Jog movement cannot be executed
4911	I/O test cannot be executed
4912	Recipe management cannot be executed
4913	Factory setting management cannot be executed
4914	Data management cannot be executed
4919	Clean screen cannot be executed

4931	No home position
4932	Drive blocked
4933	Fault motor/frequency converter main drive
4935	Writing parameters in motor/ frequency converter main drive
4960	Group error WS Food server
4990	Group error TCP/IP communication stuffer
15050	Wiring fault on an EL9410 supply terminal:
15100	Fault safety protective grating bottom
15101	Protective grating bottom
15110	Fault safety protective grating top
15111	Protective grating top
15120	Fault swing out for twin turret
15121	Swing out for twin turret
15130	Fault safety back door
15131	Safety back door
15170	Fault output/Return Emergency Stop/ Doors OR 2-hand
15180	Fault output/Return twin turret
15190	Quick stop
15195	TSA external stop active
15196	TSA: Stuffer not enabled
15201	Fault frequency converter conveyor belt
15202	Writing parameters in motor/ frequency converter conveyor belt drive
15205	Casing burst: Auto off
15210	Timeout overspreading home position
15211	Timeout overspreading active position
15212	Fault sensor overspreading in home position
15213	Fault sensor overspreading in above position
15215	Overspreading not in home position
15220	Right socket door open
15221	Left socket door open
15230	Home position required
15238	Power limit main drive: Warning, increased values
15239	ICA power limit exceeded: Automatic Off
15260	Twin turret not in home position
15261	Sensor fault twin turret
15262	Casing brake holder not in position
15265	Fault motor/frequency converter twin turret
15266	Writing parameters in motor/ frequency converter twin turret drive
15270	External automation: Stop
15271	External automation: Stuffer not enabled
15272	External automation: conveyor belt not enabled
15291	Conveyor belt not taut
15320	Cams for 4-position cylinder must be taught
53001	Input parameters locked, when IFC is active
53002	IFC data exchange running
53003	IFC data exchange done
53004	IFC data exchange completed with errors
53005	IFC communication fault
53006	IFC sending communication fault
53007	IFC receiving communication fault
53008	IFC error code
53009	IFC no connection
53010	IFC no valid portion time from filler
53011	IFC fault calculated revolutions per minute from machine too high
53012	IFC software versions are not correct
53013	IFC machine STOPPED by request from filler
53014	IFC recipe number not equal
53015	IFC recipe number from filler not within the limits
53016	IFC no IP address or port from filler
53017	IFC storage of communication fault
53018	IFC fault calculation
53019	IFC machine automatic OFF by request from filler
53020	IFC filler not ready
53021	IFC missing recipe number in filler
53022	IFC timeout data to filler
80000	System stop
80003	Available disk space <30%, deleting alarm history older than 30 days
02901 / 02902	Fault module
03041 / 15040	Fault safety casing brake
03042 / 15041	Safety casing brake
04011...04015	Fault fuse
04020 / 30070	Fault compressed air
04513/15240	Main drive power limit! Check setting!
04951 / 10951	Group error encoder
11131 / 15200	Conveyor belt not ready
1303 / 4606	Setting clip pressure
1503 / 4607	Setting spreading

4.10.1 Combined error messages

Individual components of the machine can also send error messages, creating a combined error message. If, for example, you disconnect the connection between the motor and the servo actuator for the main drive, the following combined error message will appear:

Fig. 4-73

1 Poly-clip error message
2 Machine position at which the error message occurred
3 Error message of the component

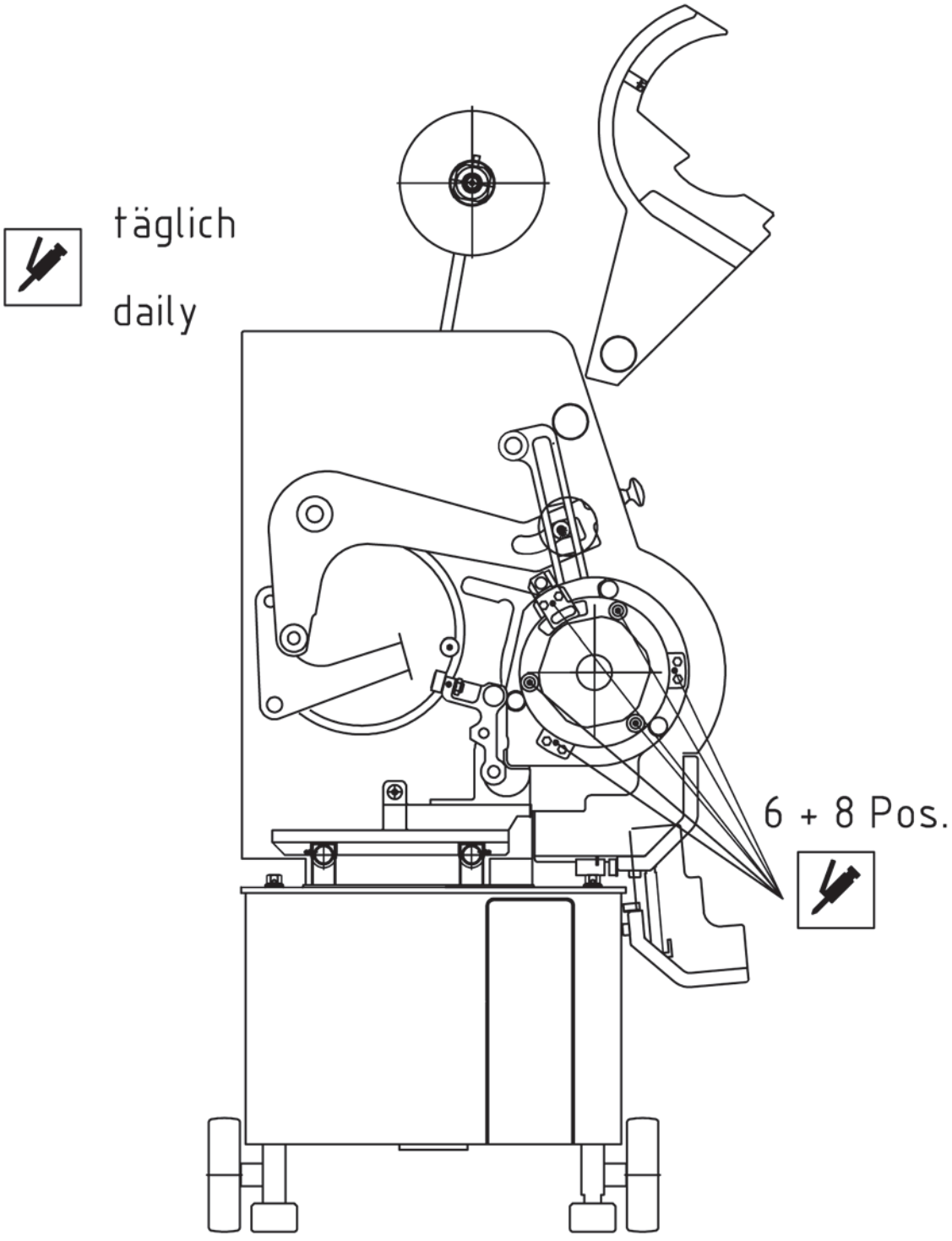


Fig. 4-74 Lubrication plan

5 Start-up

5.1 Note

- Only trained and authorised staff may operate this machine. The machine may only be operated by trained people aged 18 years or over, or by people aged 14 years or over under the supervision of a person trained on the machine.
- It is not permissible for more than one person to work at the machine at the same time.
- The protective devices fitted are intended for standing operation.
- Before each start-up, the protective devices must be checked. The machine may only be operated if all protective devices are installed and functioning properly. See chapter 1, section 1.5.
- The machine must not be started up without stuffing horn, without magazine rods, without casing brake or without panels.
- When coupled with a TSA and using an inner brake, the machine may only be started up if an “inner brake protective ring” suitable for the calibre of the filling system has been inserted into the casing brake holder.
- The transport lock must be removed before start-up (see chapter 1, Fig. 1-24).
- Work on the electrical equipment of the machine must only be carried out by a qualified electrician, or by a trained person under the guidance and supervision of a qualified electrician, in accordance with the electrical regulations. See chapter 1, Section 1.6.5.
- The Operating manual, especially the Safety instructions, and the applicable local accident prevention regulations must be observed for all work.

	**DANGER!**

Before carrying out any of the work described in this chapter for which it is necessary to work inside the machine, the machine must be shut down in accordance with paragraph 5.2!
All work must be carried out with the machine at a standstill.

5.2 Shutting the machine down

- Press the Automatic Off button.
- Press the Emergency Stop pushbutton.
- Switch off the main switch.
- Disconnect the main power supply at the machine.

- Completely disconnect the main compressed air supply at the machine:

- Push the air release valve (1, Fig. 5-1) against the direction of flow (see arrow, Fig. 5-1), thereby opening it.

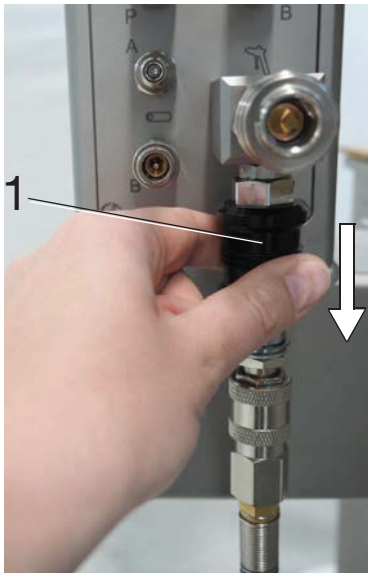


Fig. 5-1 Arrow: pointing against the direction of flow
1 Air release valve

- Check on the pressure gauge that the air pressure has been released:

Fig. 5-2 Pressure gauge

- Push and hold the compressed air hose in the direction of flow while pushing the ring on the air release valve (2, Fig. 5-3) against the direction of flow and remove the hose.

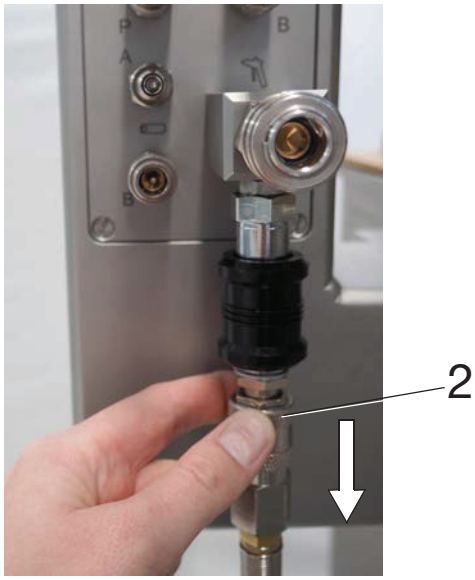


Fig. 5-3 2 Ring on the air release valve

- Unscrew the control cable between the clipping machine and the stuffing machine.

5.3 Start-up check list

- Select the correct clip size for the product and fill the clip magazines (see chapter 5.4).
- Screw on the right stuffing horn for the product.
- Insert the appropriate casing brake into the casing brake holder and adjust.
- Switch the compressed air on.
- Set the operating pressure (see chapter 3.8.3).
- Set the main switch (3, Fig. 3-12) to ON.
- Release the Emergency Stop pushbutton.
- Check the protective devices.

DANGER: Risk of injury by crushing and cutting in the closing and separator area

You are at risk of incurring injury by crushing and cutting in the closing and separator area.

- Always open the protective shutter at the sausage outlet before reaching into the danger zone.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutter at the sausage outlet.

CAUTION: Risk of cuts on the carrier pins on the transport wheel

There is a risk of cuts in the area of travel of the transport wheel (GSA).

- On activating loop transport manually and during its operation, do not reach into the area of the transport wheel.

- Fill the loop magazine on the GSE and press the "Loop transport, manual" button on the control panel until the 1st loop is in the takeover position.
- Set the clip pressure.
- Set the stuffer programme/length stop.
- Make the production-related settings on the control panel.
- Swing the clip head out.
- Swing out the stuffing horn.
- Pull the shirred casing onto the stuffing horn.
- Swing the stuffing horn in and pull the start of the casing through the casing brake and the separator.
- Fill the stuffing horn with sausage meat.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close the protective shutter at the sausage outlet.

DANGER: Risk of crushing in the area of travel of the clip head

Risk of crushing for any third party standing in the area of travel of the clip head.

- Before swinging the clipping machine in, make sure that nobody is able to reach into the area of travel of the clip head.

- Make sure that nobody is able to reach into the area of travel of the clip head, then swing the clipping machine in.
- Place the first clip.

DANGER: Risk of crushing in the area of travel of the pneumatic casing brake

During operation, there is a risk of injury by crushing in the area of travel of the casing brake holder and the casing brake.

- The machine must be set such that during operation, the gap created between the casing brake holder and the machine panelling cannot exceed 8 mm.
- Never reach into the area of travel while the machine is operating!
- Always flip up the protective shutter at the sausage outlet before reaching into the area of travel!
- Perform the work as a one-man operation.

CAUTION: Risk of cuts on the carrier pins on the transport wheel

There is a risk of cuts in the area of travel of the transport wheel (GSA).

- On activating loop transport manually and during its operation, do not reach into the area of the transport wheel.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove any tools and implements that were attached to the machine.
- Push the Automatic On button.
- After 3-4 sausages, push the Automatic Off button.
- Check the sample sausages for firmness of stuffing, check that there is no sausage meat in the tail and check that the clip is tight.
- If necessary, adjust the values set on the stuffer or clipping machine, e.g. adjust the casing brake or the clip pressure.
- If the product is OK, press the Automatic On button to start production.

5.4 Filling the machine with clips

5.4.1 Filling the rod magazine with clips

Fig. 5-4 1 Weight, folded to the side

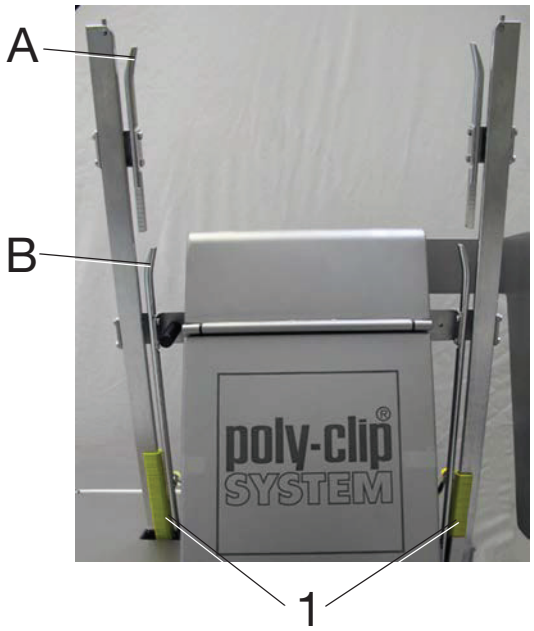


Fig. 5-5 1 Clip stick

- Pull up the weight (1, Fig. 5-4) on the magazine rod and fold it to the side.
- Put the clip stick onto the magazine rod and let it slide down. You can insert the clip stick at two points of different heights depending on body size (see A and B, Fig. 5-5).
- Push the start of the clip stick far enough into the clip channel of the guide for the first clip to be gripped by the punch and carried along.
- Fold the weight (1, Fig. 5-4) up and let it slide down.
- Repeat the process on the other rod magazine.

5.4.2 Filling the magazine with clips from a reel

- Select the correct clip size for the product.
- Push the clip reel (1, Fig. 5-7) onto the magazine spindle so that the clip ends of the hanging clip stick point outward.
- Press the Emergency Stop pushbutton.
- Set the reel brake (2, Fig. 5-7) to medium, see section 5.4.3
- Place the start of clip stick onto the magazine rod, press the upper ends of both transport levers (Fig. 5-6) simultaneously towards each other and push the clip stick into the clipping position.

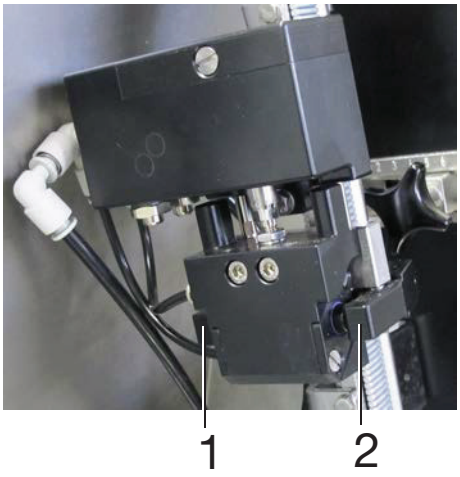


Fig. 5-6 1 Transport lever
2 Transport lever

- Repeat the process on the other reel magazine.
- When you have finished this work, release the Emergency Stop pushbutton.

5.4.3 Setting the braking force on the clip magazine

The spindle brake must be set so that the clip stick can be easily uncoiled without deforming.
- To set the reel brake (2, Fig. 5-7), turn the knurled nut.

- Higher braking force: turn clockwise
- Lower braking force: turn anti-clockwise

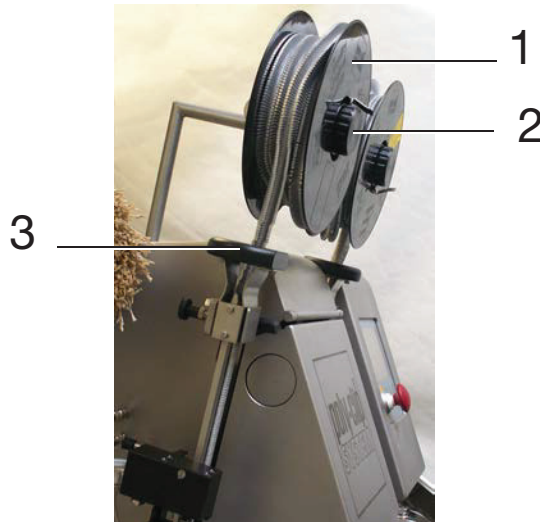


Fig. 5-7 1 Clip reel
2 Reel brake
3 Clip inlet

5.5 Swinging the clipping machine in

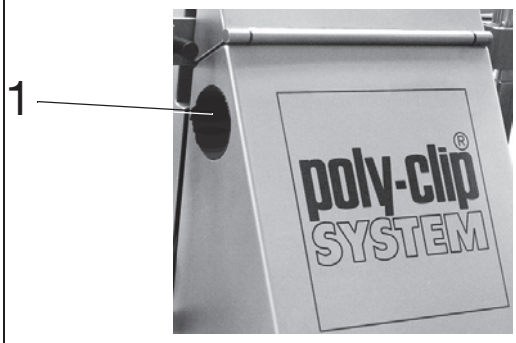
DANGER: Risk of crushing in the area of travel of the clip head

Risk of crushing for any third party standing in the area of travel of the clip head.

- Before swinging the clipping machine in, make sure that nobody is able to reach into the area of travel of the clip head.

- Make sure that nobody is able to reach into the area of travel of the clip head. Then press and hold the manual function button "Swing machine in" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the working position.

Manual function button "Swing machine in"



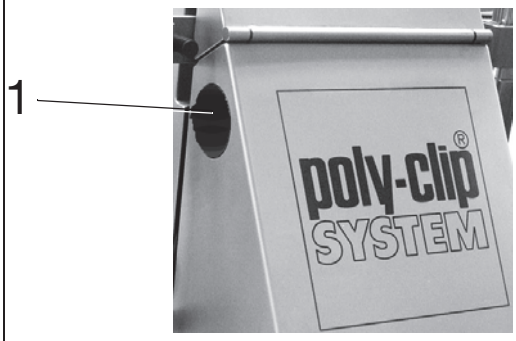
Two-hand button

5.6 Swinging the clipping machine out

In the swung-out position, a new casing can be pulled onto the stuffing horn, for example, or the casing brake can be changed:

- Press and hold the manual function button "Swing machine out" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the end position.

Manual function button "Swing machine out"



Two-hand button

5.7 Inserting/changing the casing brake

- Swing the machine out: Press and hold the manual function button "Swing machine out" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the end position. See section 5.6.
- Remove the casing brake holder: To do this, press the latch (1, Fig. 5-8) down and at the same time, pull the knob (2, Fig. 5-8) to the right.

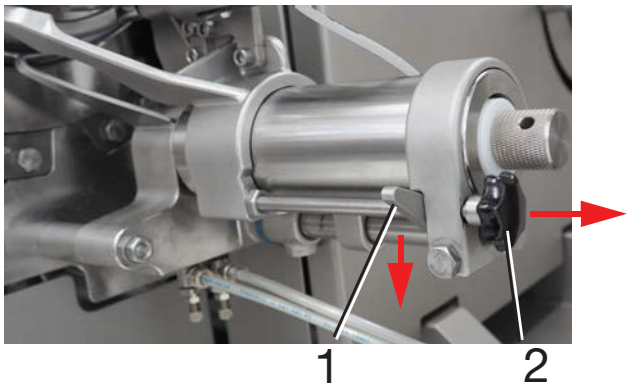


Fig. 5-8 1 Latch
2 Knob

- Insert the casing brake into the holder.

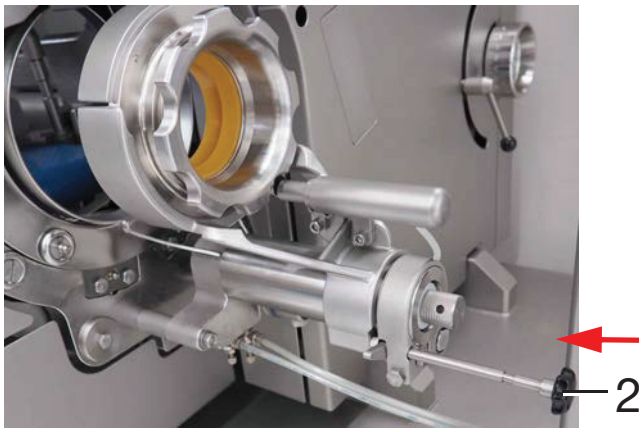


Fig. 5-9 2 Knob

- Push the casing brake holder back: To do this, push the knob (2, Fig. 5-9) towards the casing brake.

DANGER: Risk of crushing in the area of travel of the clip head

Risk of crushing for any third party standing in the area of travel of the clip head.

- Before swinging the clipping machine in, make sure that nobody is able to reach into the area of travel of the clip head.

- Make sure that nobody is able to reach into the area of travel of the clip head. Then swing the machine in: Press and hold the manual function button "Swing machine in" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the working position. See section 5.5.

5.8 Adjusting the casing brake force

5.8.1 Mechanical casing brake

DANGER: Risk of crushing in the area of travel of the pneumatic casing brake

During operation, there is a risk of injury by crushing in the area of travel of the casing brake holder and the casing brake.

- Never reach into the area of travel while the machine is operating!
- Always flip up the protective shutter at the sausage outlet before reaching into the area of travel!
- Perform the work as a one-man operation.

- Open the protective shutter at the sausage outlet.
- The braking force is set by turning the outer ring (1, Fig. 5-10):
- Higher braking force: turn clockwise
- Lower braking force: turn anti-clockwise
- Close the protective shutter at the sausage outlet.

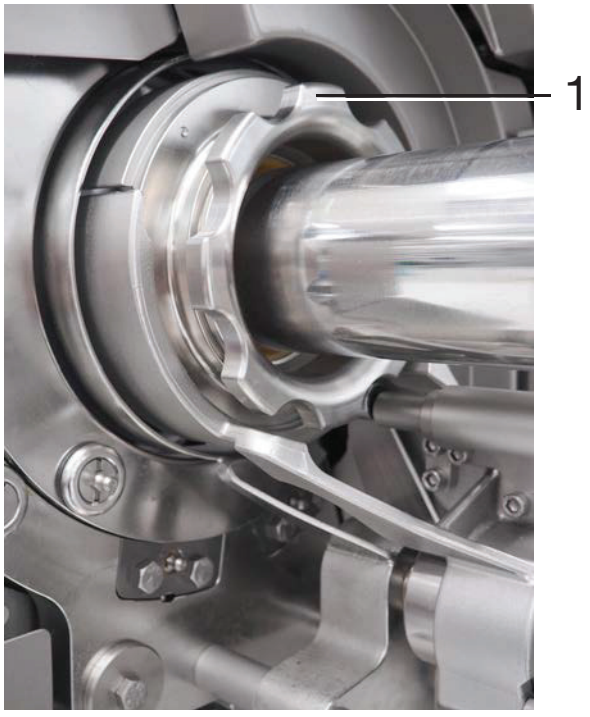


Fig. 5-10 1 Outer ring

5.9 Starting up the GSA belt looper

CAUTION: Risk of cuts on the carrier pins on the transport wheel

There is a risk of cuts in the area of travel of the transport wheel (GSA).

- On activating loop transport manually and during its operation, do not reach into the area of the transport wheel.

- Move the protective shutter at the sausage outlet.
- Push the loop reel (1, Fig. 5-11) onto the spindle (2, Fig. 5-11). The knot side of the loop must face outwards.

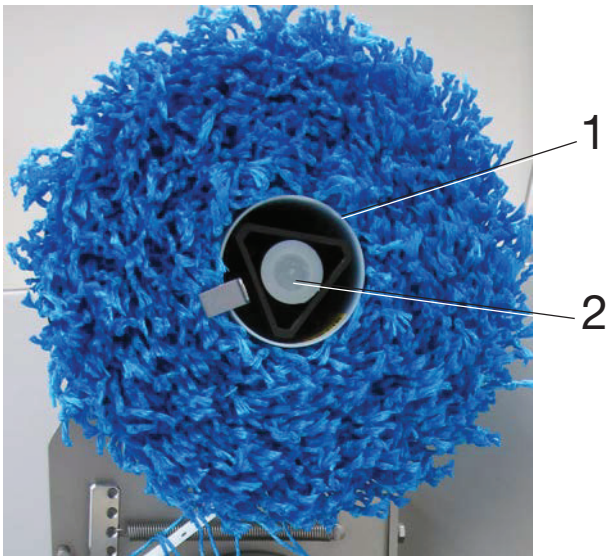


Fig. 5-11 1 Loop reel
2 Spindle

- Thread the loop tape according to the arrows shown in Fig. 5-12.

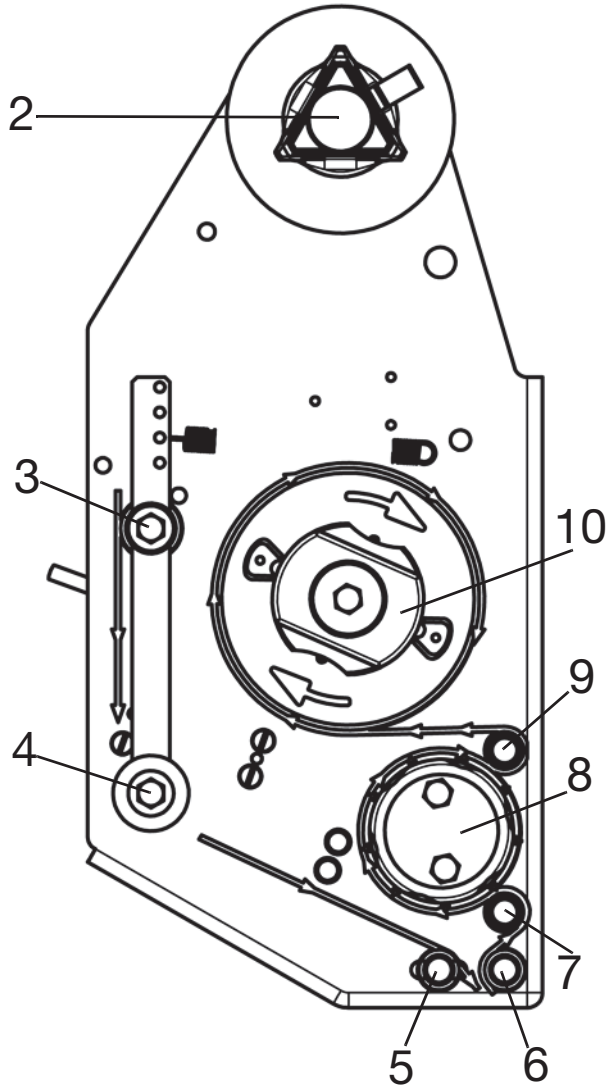


Fig. 5-12 2 Spindle
3 Guide pulley
4 Jockey roller
5 Guide pulley
6 Guide pulley
7 Guide pulley
8 Transport wheel
9 Guide pulley
10 Residual tape winder

Threading sequence in accordance with Fig. 5-12:
- Guide the loop tape around the outside of the guide pulley (3) and the jockey roller (4).
- Guide the loop tape around the inside of the guide pulley (5).

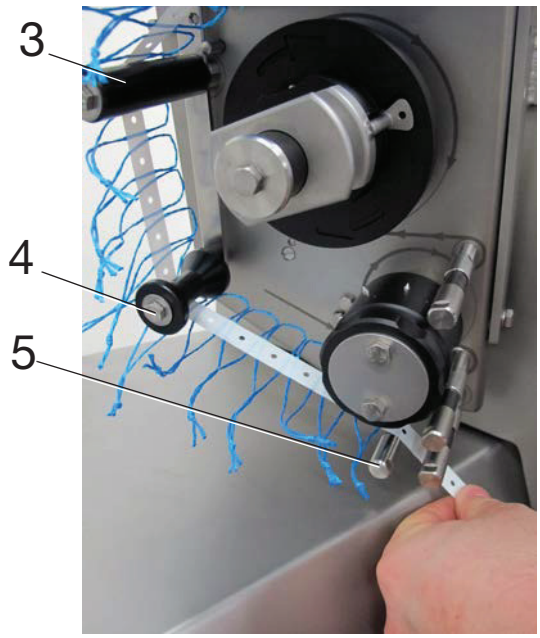


Fig. 5-13 3 Guide pulley
4 Jockey roller
5 Guide pulley

- Guide the loop tape around the belt guide and to the guide pulley (6).

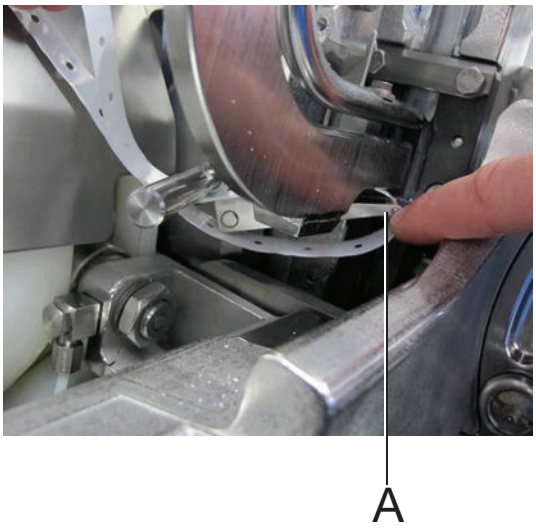


Fig. 5-14 A Belt guide

- Guide the loop tape around the inside of the guide pulley (6) and the outside of the guide pulley (7).
- Place the loop tape onto the transport wheel (8) so that several carrier pins (B, Fig. 5-15) engage into the holes in the loop tape.

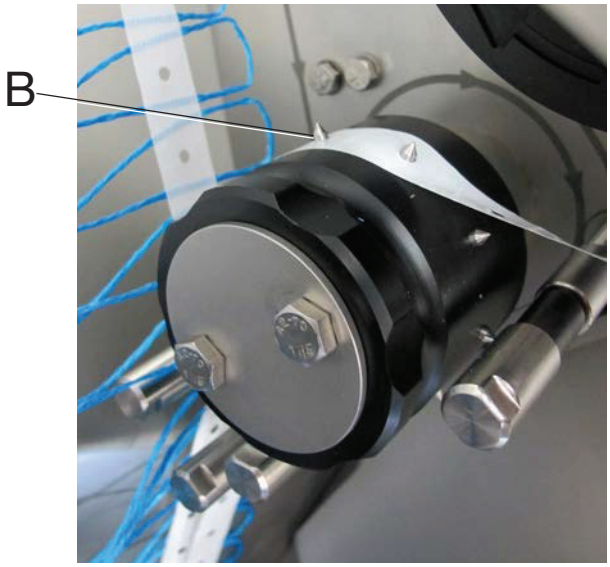


Fig. 5-15 Transport wheel
B Carrier pin

- Guide the loop tape around the outside of the guide pulley (9).
- Place loop tape on the carrier pin (C, Fig. 5-16) of the residual tape winder (10).

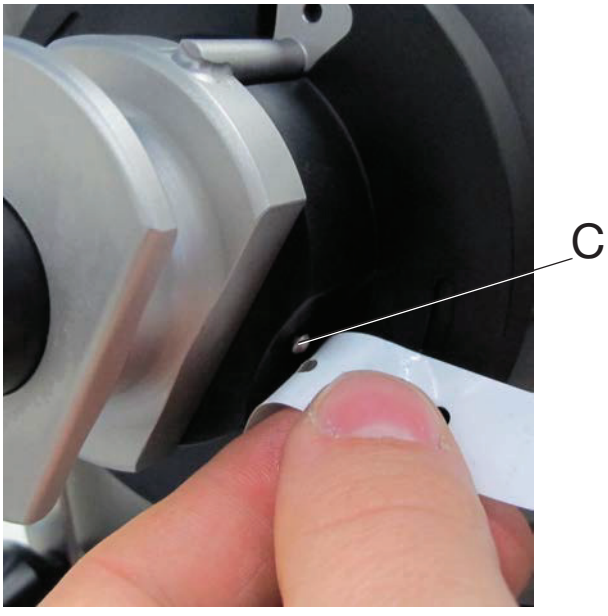


Fig. 5-16 C Carrier pin

CAUTION: Risk of cuts on the carrier pins on the transport wheel

There is a risk of cuts in the area of travel of the transport wheel (GSA).

- On activating loop transport manually and during its operation, do not reach into the area of the transport wheel.

- Turn the residual tape winder clockwise or press the "Loop transport, manual" function button until the first loop is in the transfer position (Fig. 5-17) and can be gripped by the clip.

Manual function button "Loop transport, manual"

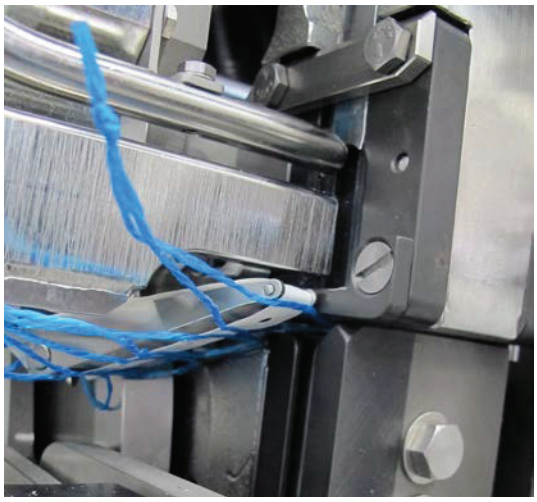


Fig. 5-17 First loop in the transfer position

- Close the protective shutter at the sausage outlet.

Fig. 5-18 Loop tape inserted

5.10Clip pressure

- Deforming the clip requires a different amount of force depending on the type of clip and the type of casing.
- The clip pressure must be adjusted accordingly.

5.10.1Checking the clip pressure

Visual check:

- The clip must sit securely on the casing end, but must not cut into the casing or damage it.
- The legs of the closed clip must be symmetrical on both sides.
- The clip size must be selected such that no void forms between casing and the clip.
- The clip legs must not be deformed or have nicks.

Manual check

- Attempt to pull the clip off the casing end.

5.10.2 Adjusting the clip pressure

• Note

To set the clip pressure automatically via the touchpanel, see section 4.8.7.

The clip pressure is too high if the clip is deformed or damaged or if the casing is closed too tightly when the correct clip size has been selected.

The clip pressure is too low if the clip can be pulled off the end of the casing or if the legs of the clip are not closed when the correct clip size has been selected.

- Press the Automatic Off button to stop the machine.
- Loosen the quick-locking screw (1, Fig. 5-19) and swivel:

• Higher: anti-clockwise
• Lower**:** clockwise.

The clip pressure set can be read on the clip pressure scale (2, Fig. 5-19).

- Re-tighten the quick-locking screw (1, Fig. 5-19).

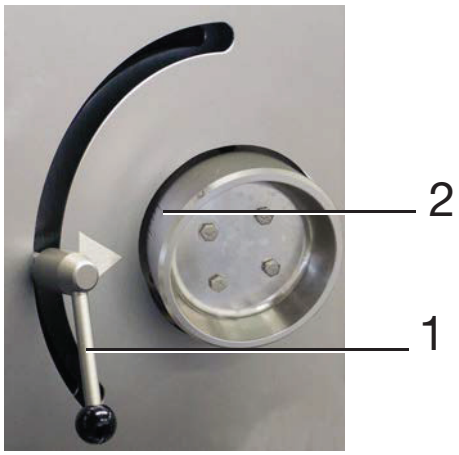


Fig. 5-19 1 Quick-locking screw
2 Clip pressure scale

5.11 Adjusting the separator

• Note

To set the spreading automatically via the touchpanel, see section 4.8.7.

- Press the Automatic Off button to stop the machine.
- Loosen the quick-locking screw (1, Fig. 5-20) and swivel:

• Smaller separator opening: anti-clockwise
• Larger separator opening: clockwise

The size of the separator opening set can be read on the separator scale (2, Fig. 5-20).
- Re-tighten the quick-locking screw (1, Fig. 5-20).

Fig. 5-20 1 Quick-locking screw
2 Separator setting scale

5.12Adjusting the swirl brake

- Adjust the seat of the swirl brake on the stuffing horn:
- Loosen the screw (1). (Fig. 5-21)
- Slide the stop (2) to the left or right.
- Tighten the screw (1).

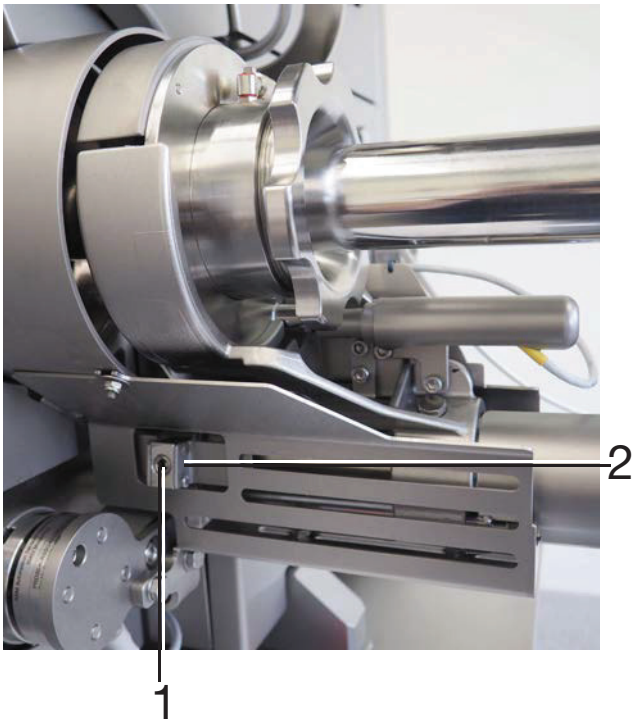


Fig. 5-21 1 Screw
2 Stop

- Switch the swirl brake on via the touchpanel, see section 4.8.13.
- Set the swirl brake switch-on delay after stuffer start-up via the touchpanel, see section 4.8.13.

- Use the throttle (1) to set the speed at which the swirl brake moves back towards the separator. (Fig. 5-22)
- Higher speed: anti-clockwise
- Lower speed: clockwise

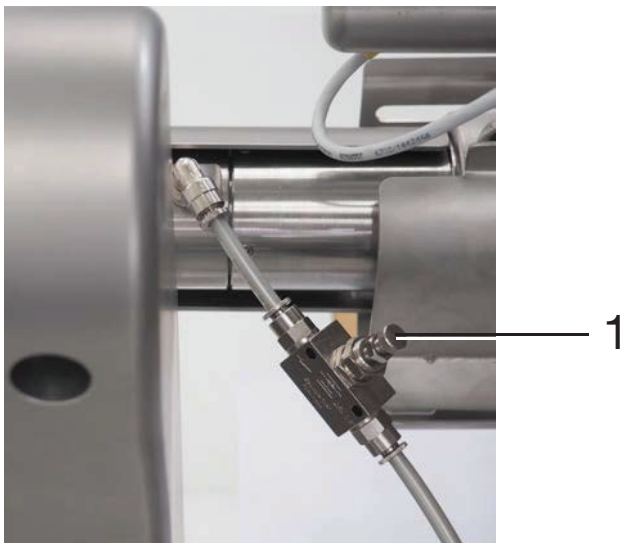


Fig. 5-22 1 Throttle

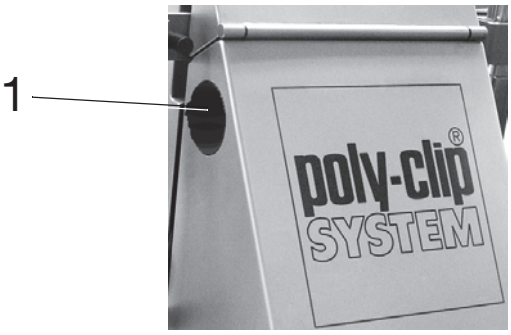
6 Operation

- The machine may only be operated by trained people aged 18 years or over, or by people aged 14 years or over (if they are still in training) provided they are under the supervision of a person trained on the machine.
- The Operating manual, in particular the Safety instructions chapter, and the local accident prevention regulations in force must be observed.

6.1 Changing the casing (pivoting cross-piece)

- Press the Automatic Off button.
- Swing the clipping machine out: Press and hold the manual function button "Swing machine out"" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the end position.

Manual function button "Swing machine out"



Two-hand button

- Swing out the stuffing horn.
- Remove the rest of the casing from the stuffing horn.
- Pull the new shirred casing onto the stuffing horn.

DANGER: Risk of injury by crushing and cutting in the closing and separator area

You are at risk of incurring injury by crushing and cutting in the closing and separator area.

- Always open the protective shutter at the sausage outlet before reaching into the danger zone.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutter or the sliding door at the sausage outlet.
- Swing the stuffing horn in and pull the start of the casing through the casing brake and the separator.
- Fill the stuffing horn with sausage meat.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close the protective shutter at the sausage outlet.

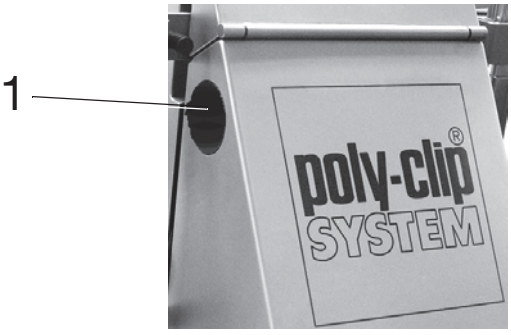
DANGER: Risk of crushing in the area of travel of the clip head

Risk of crushing for any third party standing in the area of travel of the clip head.

- Before swinging the clipping machine in, make sure that nobody is able to reach into the area of travel of the clip head.

- Make sure that nobody is able to reach into the area of travel of the clip head, then swing the machine in: Press and hold the manual function button "Swing machine in" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the working position.

Manual function button "Swing machine in"



Two-hand button

- Place first clip (press the First Clip button and the two-hand button simultaneously within 0.5 seconds).

DANGER: Risk of crushing in the area of travel of the pneumatic casing brake

During operation, there is a risk of injury by crushing in the area of travel of the casing brake holder and the casing brake.

- The machine must be set such that during operation, the gap created between the casing brake holder and the machine panelling cannot exceed 8 mm.
- Never reach into the area of travel while the machine is operating!
- Always flip up the protective shutter at the sausage outlet before reaching into the area of travel!
- Perform the work as a one-man operation.

CAUTION: Risk of cuts on the carrier pins on the transport wheel

There is a risk of cuts in the area of travel of the transport wheel (GSA).

- On activating loop transport manually and during its operation, do not reach into the area of the transport wheel.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

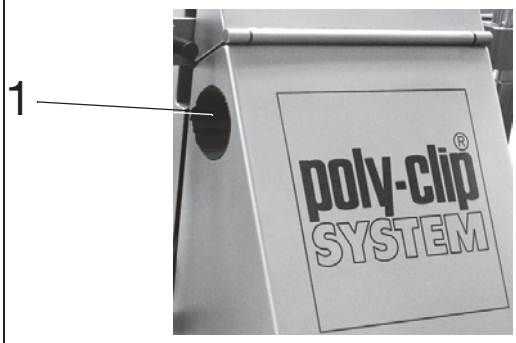
- Remove any tools and implements that were attached to the machine.
- Press the Automatic On button.

6.2 Changing the casing (twin turret)

Prerequisite: Production is underway with the first stuffing horn.

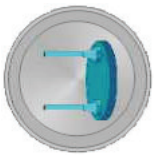
- Load the casing onto the second stuffing horn.
- As soon as the remaining casing on the first stuffing horn is only enough for 1 to 2 portions, press the Automatic Off button.
- Swing the clipping machine out: Press and hold the manual function button "Swing machine out" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the end position.

Manual function button "Swing machine out"

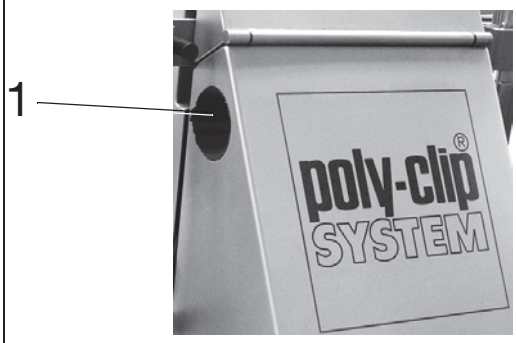


Two-hand button

- Rotate the twin turret: Simultaneously press and hold the manual function button "Rotate twin turret" and the two-hand button within 0.5 seconds until the next stuffing horn is in the stuffing position.



Manual function button "Rotate twin turret"



Two-hand button

DANGER: Risk of injury by crushing and cutting in the closing and separator area

You are at risk of incurring injury by crushing and cutting in the closing and separator area.

- Always open the protective shutter at the sausage outlet before reaching into the danger zone.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutter at the sausage outlet.

- Pull start of casing through casing brake and separator.
- Fill the stuffing horn with sausage meat.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close the protective shutter at the sausage outlet.

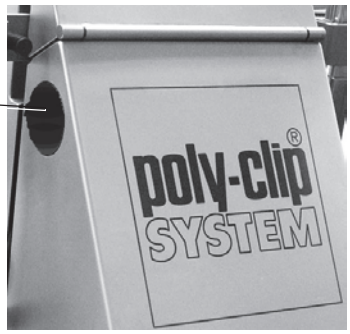
DANGER: Risk of crushing in the area of travel of the clip head

Risk of crushing for any third party standing in the area of travel of the clip head.

- Before swinging the clipping machine in, make sure that nobody is able to reach into the area of travel of the clip head.

- Make sure that nobody is able to reach into the area of travel of the clip head, then swing the machine in: Press and hold the manual function button "Swing machine in" and the two-hand button simultaneously within 0.5 seconds until the machine has moved fully into the working position.

Manual function button "Swing machine in"



Two-hand button

- Place first clip (press the First Clip button and the two-hand button simultaneously within 0.5 seconds).

DANGER: Risk of crushing in the area of travel of the pneumatic casing brake

During operation, there is a risk of injury by crushing in the area of travel of the casing brake holder and the casing brake.

- The machine must be set such that during operation, the gap created between the casing brake holder and the machine panelling cannot exceed 8 mm.
- Never reach into the area of travel while the machine is operating!
- Always flip up the protective shutter at the sausage outlet before reaching into the area of travel!
- Perform the work as a one-man operation.

CAUTION: Risk of cuts on the carrier pins on the transport wheel

There is a risk of cuts in the area of travel of the transport wheel (GSA).

- On activating loop transport manually and during its operation, do not reach into the area of the transport wheel.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove any tools and implements that were attached to the machine.
- Push the Automatic On button.
- Remove the rest of casing from first the stuffing horn and load the new casing onto the stuffing horn.

7 Maintenance

7.1 Note

- Maintenance and repair work must only be carried out by technical staff who have been authorised by the operating company to perform this work. The customer's technical staff must be qualified specialists. Qualified specialists are people who, based on their training and experience, are able to identify risks and avoid potential hazards.
- The Operating manual, in particular the Safety instructions chapter, and the local accident prevention regulations in force must be observed.
- It is not permissible for more than one person to work at the machine at the same time.
- The work must be carried out when the machine is stopped. For all work described in this chapter, the machine must be shut down in accordance with section 7.2.

7.2 Shutting the machine down

- Press the Automatic Off button.
- Press the Emergency Stop pushbutton.
- Switch off the main switch.
- Disconnect the main power supply at the machine.
- Completely disconnect the main compressed air supply at the machine:
- Push the air release valve (1, Fig. 7-1) against the direction of flow (see arrow, Fig. 7-1), thereby opening it.

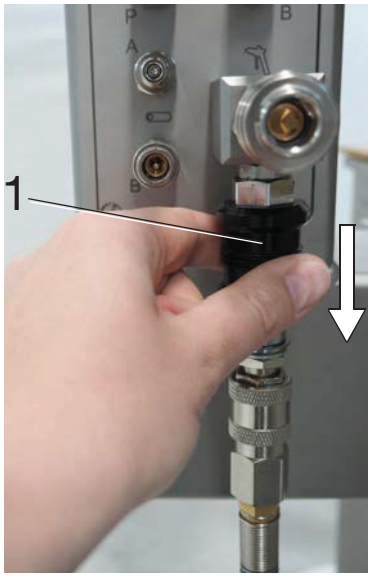


Fig. 7-1 Arrow: pointing against the direction of flow
1 Air release valve

- Check on the pressure gauge that the air pressure has been released:

Fig. 7-2 Pressure gauge

- Push and hold the compressed air hose in the direction of flow while pushing the ring on the air release valve (2, Fig. 7-3) against the direction of flow and remove the hose.

Fig. 7-3 2 Ring on the air release valve

- Unscrew the control cable between the clipping machine and the stuffing machine.
- Secure the machine against being switched back on, for example by means of a lock on the main switch. Carry the key on your person!

7.3 Changing the punch

- Press the Manual spreading function button (Fig. 7-4) on the control panel. The separator system is opened.

Fig. 7-4

- Press the Stuffer coupling icon selection button (1, Fig. 7-5) on the control panel to display the current machine rotation angle (2, Fig. 7-5).

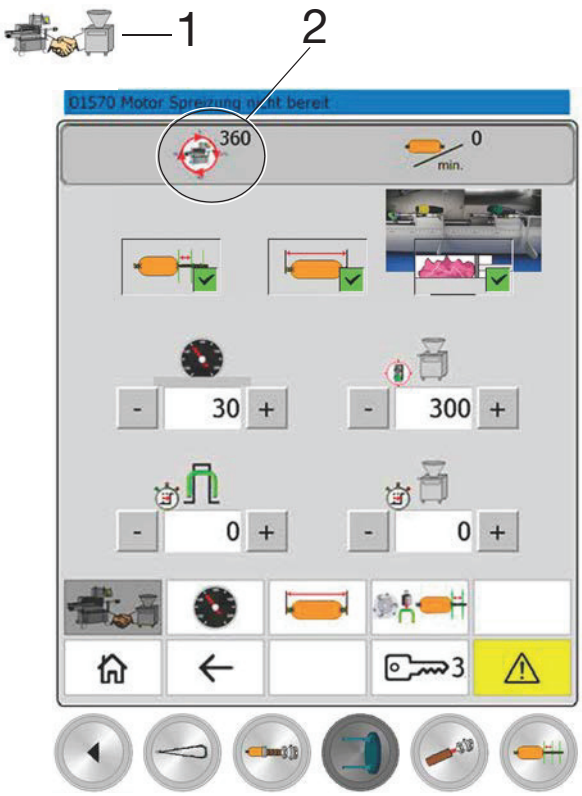
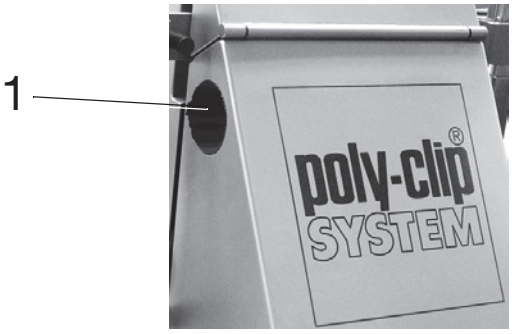


Fig. 7-5 1 Stuffer coupling icon selection button
2 Current machine rotation angle

- Move the machine in jog mode to 180°. Then press and hold the manual function button "Jog mode backwards" and the two-hand button simultaneously until the machine has moved into the position.

Manual function button "Jog mode backwards"



Two-hand button

DANGER: Danger of body parts being crushed or severed if you carry out work on the machine while it is ready for operation

If you carry out work on the machine while it is ready for operation, you are at risk of body parts being crushed or severed.

- Before starting work, shut the machine down in accordance with section 7.2.

- Shut the machine down (see section 7.2).

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutters and the protective cover at the separator area and sausage outlet.
- Loosen the bracket (3, Fig. 7-6) and fold it back.
- Loosen the bridge (2, Fig. 7-6) and fold it down: To do this, loosen the rear fixing screw (1, Fig. 7-6), unscrew and remove the front fixing screw (1, Fig. 7-6).

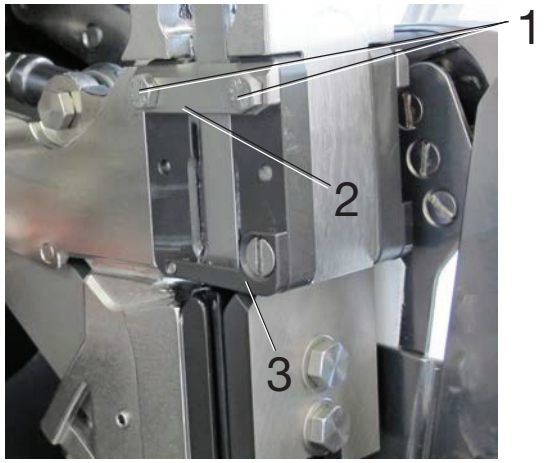


Fig. 7-6 1 Fixing screws
2 Bridge
3 Bracket

Fig. 7-7 Bracket folded back and bridge folded down

- Loosen the punch holder (1, Fig. 7-8) (8 mm Allen key).

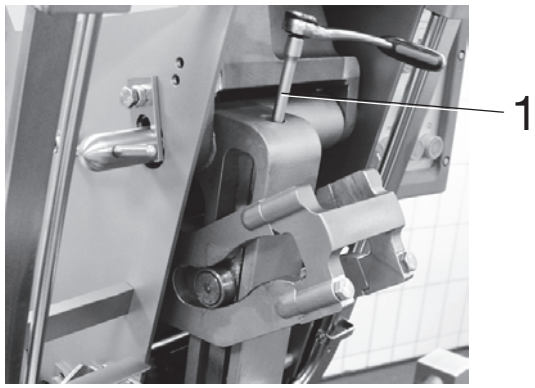


Fig. 7-8 1 Loosening the punch holder

CAUTION: Sharp-edged punch and sharp knife

You could cut yourself.

- Wear cut-resistant protective gloves!
- Work carefully and do not touch the blade of the knife or the edges of the punch.

- First remove the punch and the punch holder (1, Fig. 7-9) on the sausage outlet side.
- Then remove the punch on the stuffer side.
- Pull the punches off the punch holders and then replace both punches with new ones.

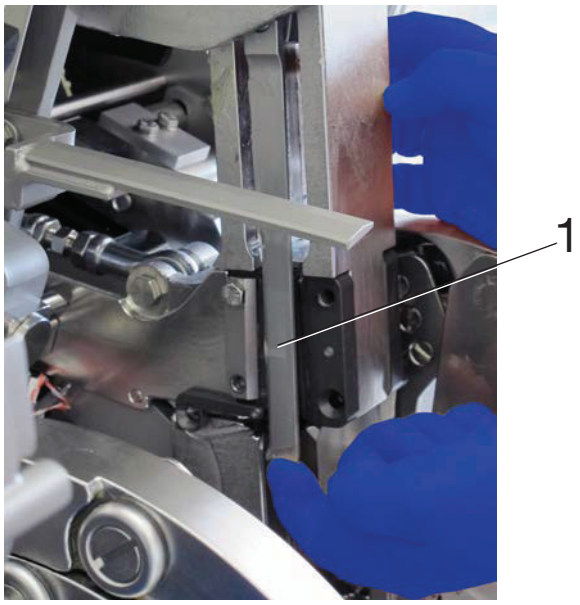


Fig. 7-9 1 Removing the punch on the sausage outlet side

Fig. 7-10 1 Punch
2 Punch holder

- First attach the punch on the stuffer side. Make sure that the smooth side faces out and the notch faces the rear when inserted.
- Insert the right punch first at the top and then push straight down into the guide.
- Then push the left punch on to the punch holder (2, Fig. 7-11) and insert from the top from the sausage outlet side.

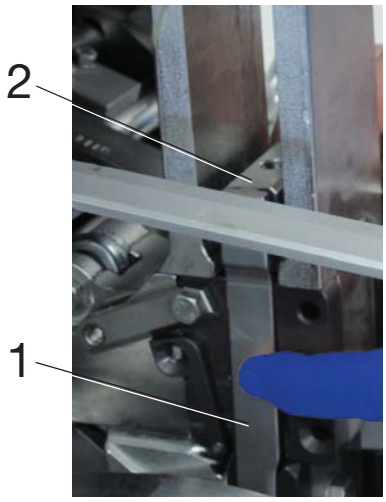


Fig. 7-11 1 Punch (sausage outlet side)
2 Punch holder

- In doing so, make sure that the punch on the stuffer side also sits on the punch holder.
- Push the punch holder up and screw it tight (8 mm Allen key).

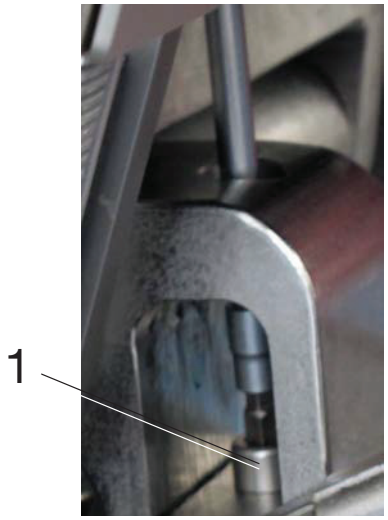


Fig. 7-12 1 Screwing the punch holder tight

- Fold the bracket (2, Fig. 7-13) forwards and tighten the fixing screw.

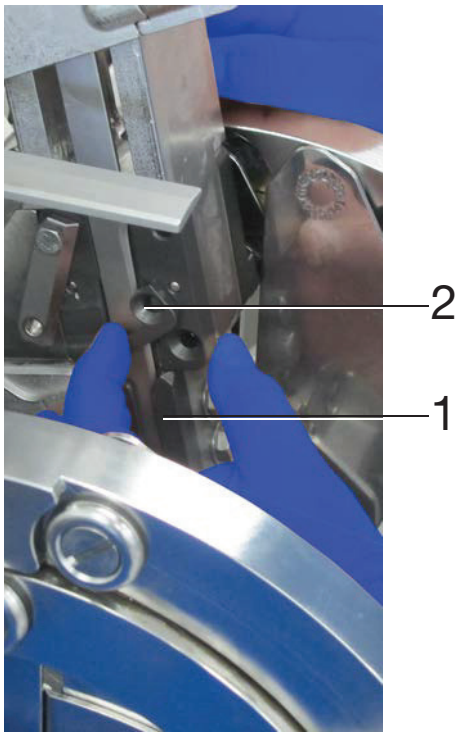


Fig. 7-13 1 Punch guide
2 Bracket

- Fold the bridge (1, Fig. 7-14) up and tighten the front fixing screw (2, Fig. 7-14) first and then tighten the rear one.

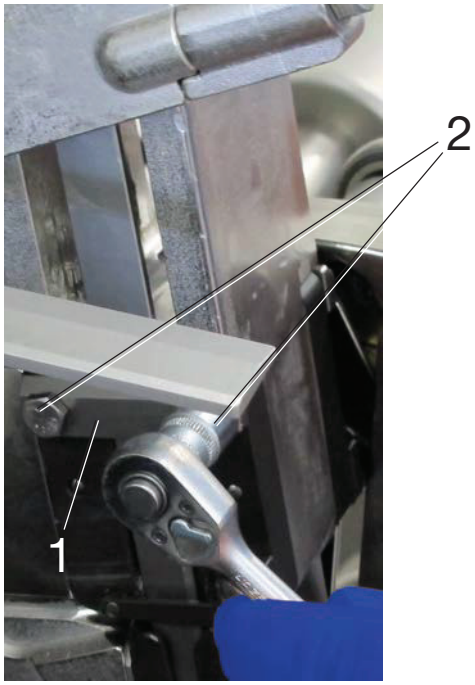


Fig. 7-14 1 Bridge
2 Fixing screws

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close the protective shutters and the protective cover at the separator area and sausage outlet.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove all tools from the vicinity of the machine.

7.4 Changing the die

- Note regarding die support pieces:

If measurements for sample portions show that the left and the right clip were closed at different heights (difference of 0.1 mm or more), this must be compensated for using a die support piece.
Die support pieces are available in sizes 8.5x8.6 and 8.7x8.9 mm. A second set of dies is included in the tool kit.

- Press the Manual spreading function button (Fig. 7-15) on the control panel. The separator system is opened.

Fig. 7-15

- Press the stuffer coupling icon selection button (1, Fig. 7-16) on the control panel to display the current machine rotation angle (2, Fig. 7-16).

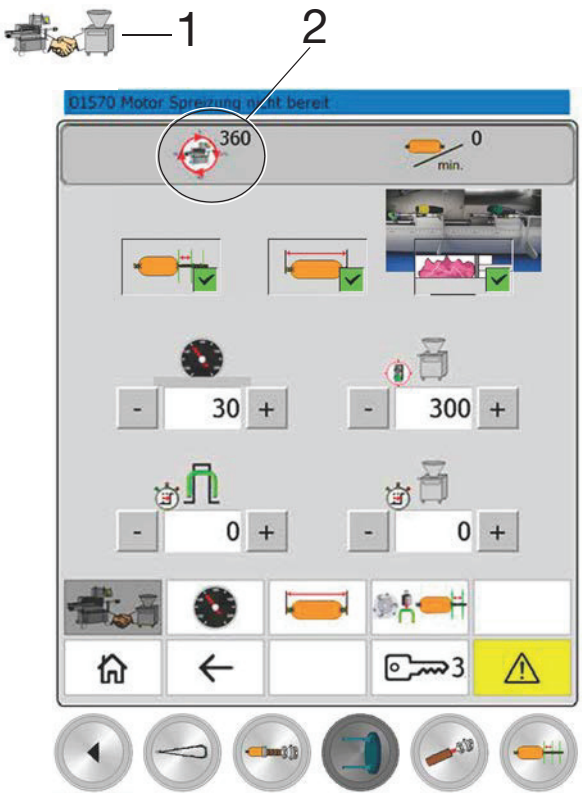
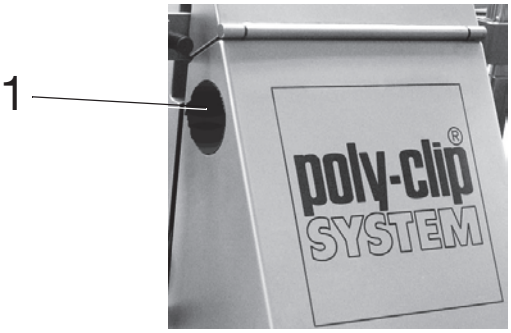


Fig. 7-16 1 Stuffer coupling icon selection button
2 Current machine rotation angle

- Move the machine in jog mode to 215° (+/- 5°). Then press and hold the manual function button "Jog mode backwards" and the two-hand button simultaneously until the machine has moved into the position.

Manual function button "Jog mode backwards"



Two-hand button

DANGER: Danger of body parts being crushed or severed if you carry out work on the machine while it is ready for operation

If you carry out work on the machine while it is ready for operation, you are at risk of body parts being crushed or severed.

- Before starting work, shut the machine down in accordance with section 7.2.

- Shut the machine down (see section 7.2).

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutters at the separator area and sausage outlet.

CAUTION: Sharp edges

You could cut yourself.

- Work carefully and do not touch the edges of the die!

- Remove the die fixing screw (1, Fig. 7-17) (5 mm Allen key).

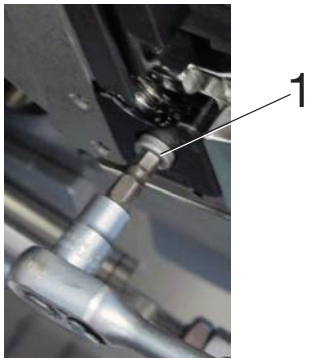


Fig. 7-17 1 Die fixing screw

- Exchange the die.

- Note regarding the fitting of die support pieces

The die support pieces must be fitted so as to compensate for the die with the right value.
Fit the die on the sausage outlet side:
- If necessary, insert a die support piece (1, Fig. 7-18), making sure the installation orientation is correct.

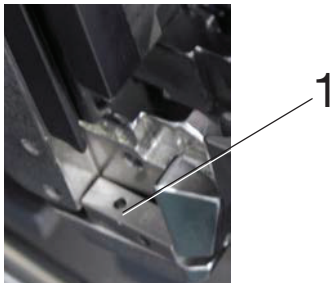


Fig. 7-18 1 Die support piece

- Insert the die support piece and tighten the fixing screw (1, Fig. 7-19).

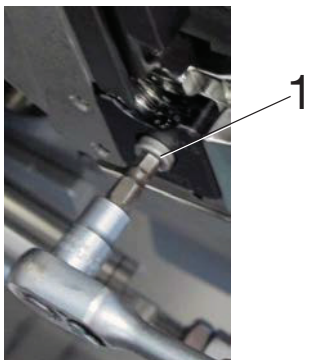


Fig. 7-19 1 Die fixing screw

Dismantle the die on the stuffer side:
- Remove the fixing screw (1, Fig. 7-20) on the separator drive (wrench size 22).

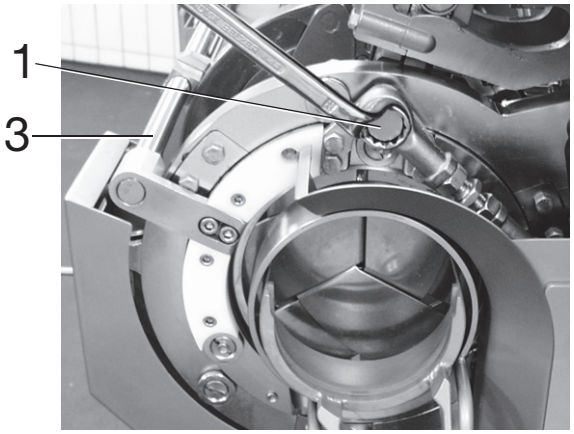


Fig. 7-20 1 Removing the fixing screw on the separator drive
3 Connecting rod

- Rotate the connecting rod (3, Fig. 7-20) into the 12 o'clock position to open the separator.
- Unscrew the fixing screw (2, Fig. 7-21) on the die (5 mm Allen key).

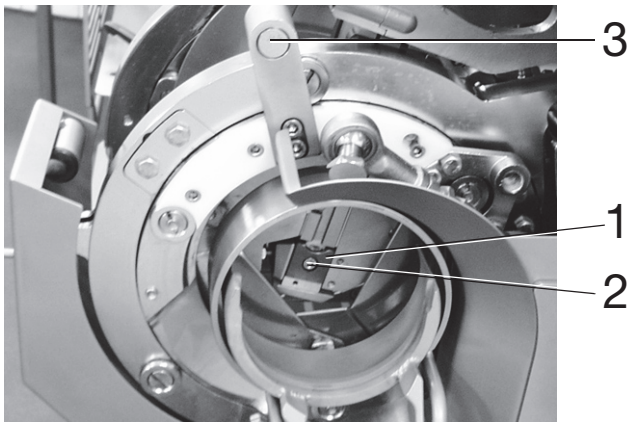


Fig. 7-21 1 Die
2 Fixing screw
3 Connecting rod in 12 o'clock position

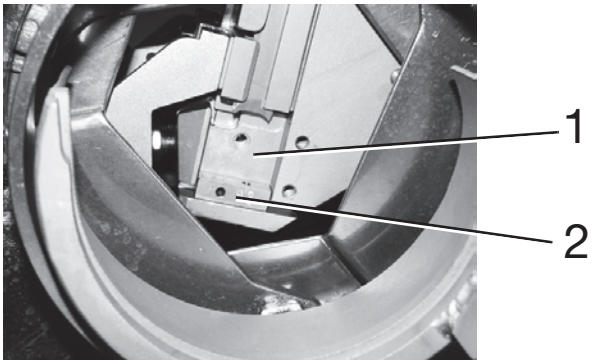


Fig. 7-22 1 Die
2 Die support

- Exchange the die.

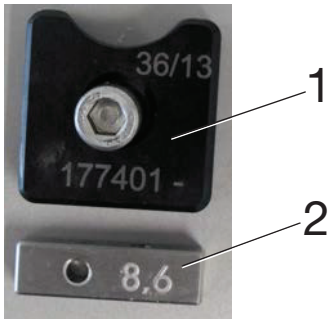


Fig. 7-23 1 Die
2 Die support

Fit the die on the stuffer side:
- Insert the die and tighten the fixing screw using a 5 mm Allen key.
- Tighten the screw on the separator drive (1, Fig. 7-24) (wrench size 22).

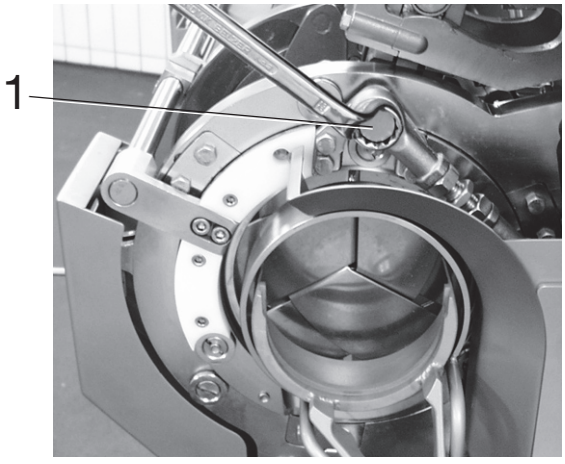


Fig. 7-24 1 Tightening the separator drive screw

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutters at the separator area and sausage outlet.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove all tools from the vicinity of the machine.

7.5 Changing the knife

- Press the Manual spreading function button (Fig. 7-25) on the control panel. The separator system is opened.

Fig. 7-25

- Press the stuffer coupling icon selection button (1, Fig. 7-26) on the control panel to display the current machine rotation angle (2, Fig. 7-26).

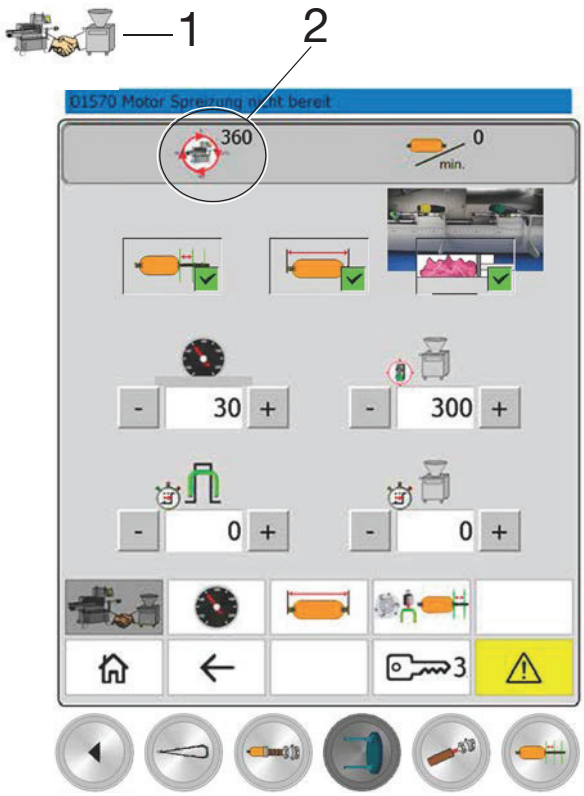
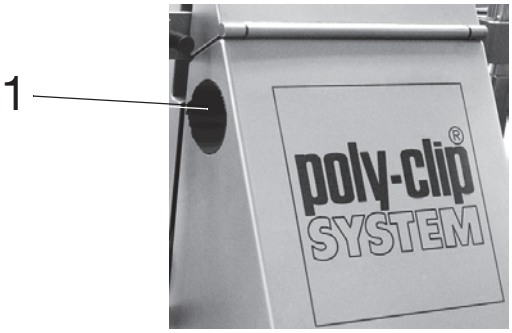


Fig. 7-26 1 Stuffer coupling icon selection button
2 Current machine rotation angle

- Move the machine in jog mode to 220°. Then press and hold the manual function button "Jog mode backwards" and the two-hand button simultaneously until the machine has moved into the position.

Manual function button "Jog mode backwards"



Two-hand button

DANGER: Danger of body parts being crushed or severed if you carry out work on the machine while it is ready for operation

If you carry out work on the machine while it is ready for operation, you are at risk of body parts being crushed or severed.

- Before starting work, shut the machine down in accordance with section 7.2.

- Shut the machine down (see section 7.2)

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open the protective shutters and the protective cover at the separator area and sausage outlet.

- Remove the fixing screw (1, Fig. 7-27) on the joint rod head and push the tool lever forwards.

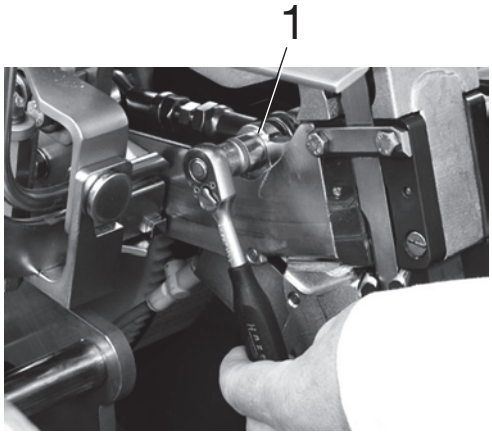


Fig. 7-27 1 Joint rod head fixing screw

- Remove the pneumatic hose (2, Fig. 7-28) on the quick vent valve (1, Fig. 7-28).
- Loosen the fixing screw (3, Fig. 7-28).

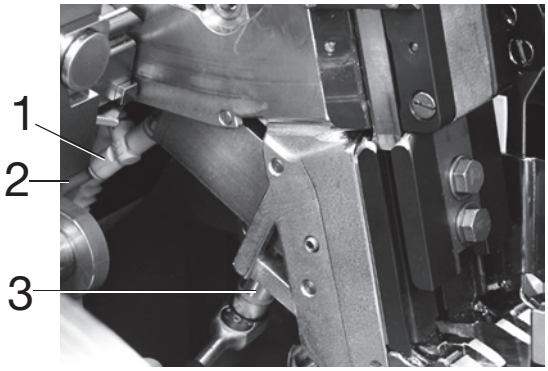


Fig. 7-28 1 Quick vent valve
2 Pneumatic hose
3 Fixing screw

- Loosen the adjusting screw (1, Fig. 7-29).

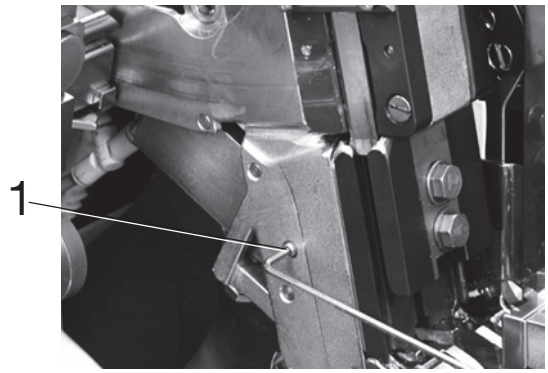


Fig. 7-29 1 Adjusting screw

CAUTION: Sharp-edged punch and sharp knife

You could cut yourself.

- Wear cut-resistant protective gloves!
- Work carefully and do not touch the blade of the knife or the edges of the punch.

- Pull the knife cylinder up and out.
- Remove the fixing screws (2, Fig. 7-30) on the cylinder cover.

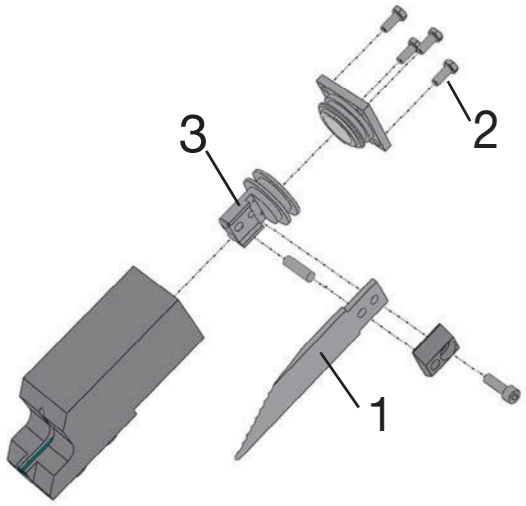


Fig. 7-30 1 Knife
2 Fixing screw
3 Piston

- Remove the piston (3) and knife.
- Exchange the knife (1).
- Re-insert the piston (3) and knife.
- Tighten the cylinder cover with the fixing screws (2).

- Push the pneumatic hose onto the quick vent valve (1, Fig. 7-31) on the knife cylinder (2, Fig. 7-31). To do this, push the ring (1, Fig. 7-32) on the quick vent valve in the direction of the arrow, connect the pneumatic hose and release the ring.

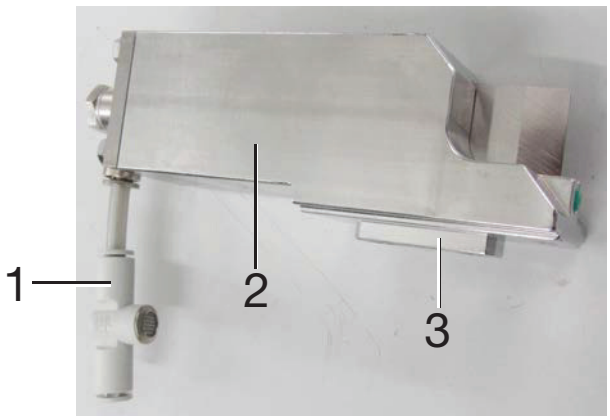


Fig. 7-31 1 Quick vent valve
2 Knife cylinder
3 Rib

Fig. 7-32 1 Ring on the quick vent valve

- Insert the knife cylinder (2, Fig. 7-31) such that the rib (3, Fig. 7-31) engages in the opening (2, Fig. 7-33).

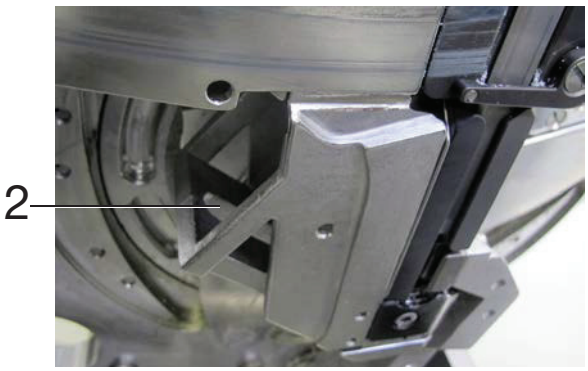


Fig. 7-33 2 Opening

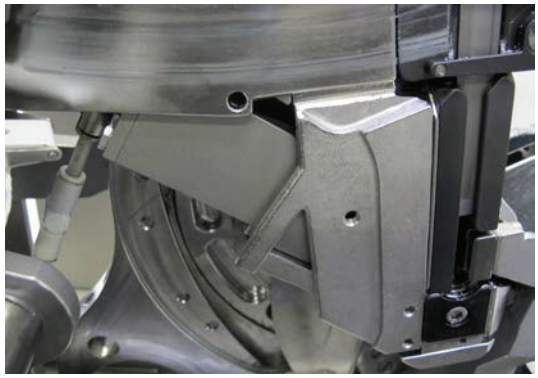


Fig. 7-34 Knife cylinder inserted

- Tighten the fixing screw (1, Fig. 7-35) on the knife cylinder, but not too tight because that could lead to the machine malfunctioning.

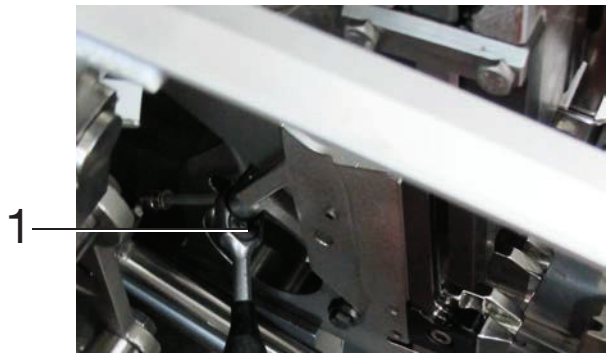


Fig. 7-35 1 Knife cylinder fixing screw

- Screw on the adjusting screw (1, Fig. 7-36)

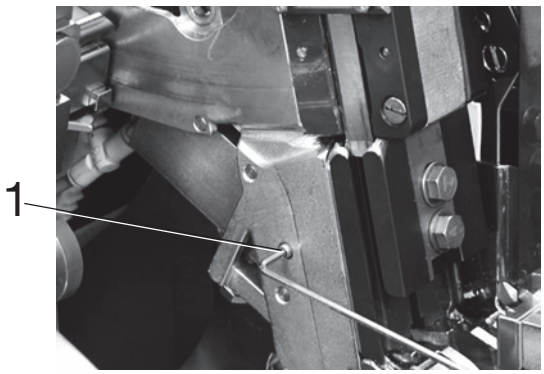


Fig. 7-36 1 Screwing on the adjusting screw

- Push the tool lever backwards and tighten the fixing screw (1, Fig. 7-37) on joint rod head.

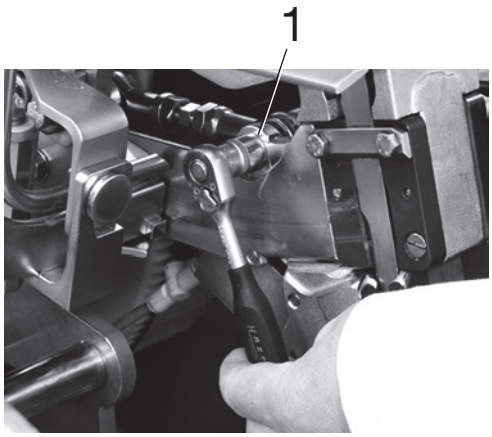


Fig. 7-37 1 Joint rod head fixing screw

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close the protective shutters and the protective cover at the separator area and sausage outlet.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove all tools from the vicinity of the machine.

7.6 Central lubrication

7.6.1 Inserting/changing the lubricant cartridge

When the lubricant cartridge is empty, an error message will appear on the touchscreen.
- Open the left door on the back of the machine (Fig. 7-38).

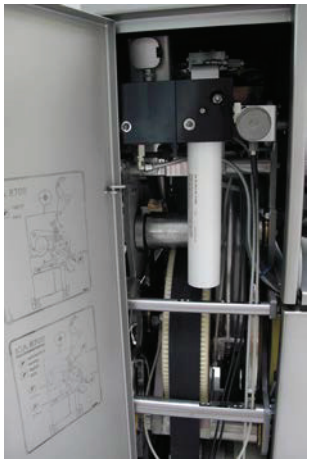


Fig. 7-38

- Unscrew and remove the empty lubricant cartridge from the grease pump.

ATTENTION: Machine damage due to unsuitable grease

Unsuitable grease can damage the central lubrication system and may result in inadequate lubrication and associated consequences. Refilled lubricant cartridges contain air and lead to defects in the central lubrication system.

- Only use original lubricant cartridges from Poly-clip System.
- Do not refill lubricant cartridges, change them.

- Screw an original lubricant cartridge (1, Fig. 7-39) into the grease pump (2, Fig. 7-39).

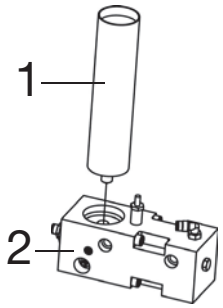


Fig. 7-39 1 Lubricant cartridge
2 Grease pump

- Close the left door on the back of the machine.

7.6.2 Bleeding the grease pump

If the grease pump is malfunctioning, bleed it:
- Open the left door on the back of the machine (Fig. 7-38).
- Remove the bleed screw (1, Fig. 7-40).

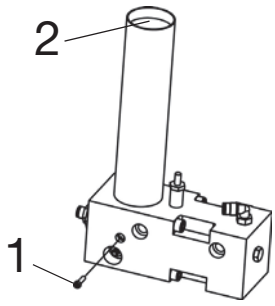


Fig. 7-40 1 Bleed screw
2 Plunger

- Push the plunger (2, Fig. 7-40) into the lubricant cartridge until grease seeps from the open hole for the bleed screw.
- Refit and tighten the bleed screw.
- Close the left door on the back of the machine.

8 Troubleshooting

8.1 Note

Maintenance and repair work must only be carried out by trained, specialist staff.
Work on the electrical equipment of the machine must only be carried out by a qualified electrician, or by a trained person under the guidance and supervision of a qualified electrician, in accordance with the electrical regulations.
A qualified electrician is a person who can assess the work assigned and identify potential risks based on his/her technical (electrical) training, his/her knowledge and experience as well as his/her knowledge of the relevant standards and regulations.

This work must always **be carried out when the machine is stopped**.
The Operating manual for the clipping machine, especially the "Safety instructions" chapter, and the local accident prevention regulations in force must be observed for this work.
Check all the protective devices are complete, fitted correctly and working properly after performing any maintenance or repair work. See chapter 1, section 1.5.

8.1.1 Before starting the work

- Press the Automatic Off button.
- Press the Emergency Stop pushbutton.
- Switch off the main switch.
- Disconnect the main power supply at the machine.

• Completely disconnect the main compressed air supply at the machine:

- Push the air release valve (1, Fig. 8-1) against the direction of flow (see arrow, Fig. 8-1), thereby opening it.

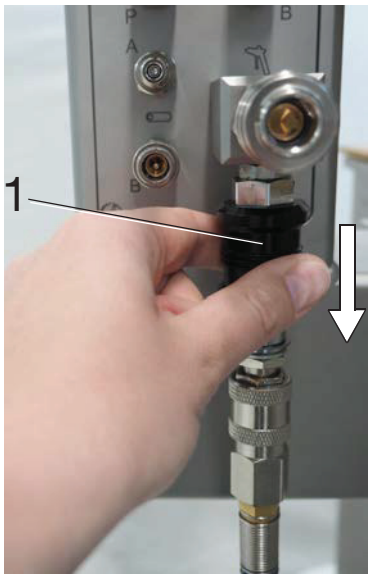


Fig. 8-1 Arrow: pointing against the direction of flow
1 Air release valve

- Check on the pressure gauge that the air pressure has been released:

Fig. 8-2 Pressure gauge

- Push and hold the compressed air hose in the direction of flow while pushing the ring on the air release valve (2, Fig. 8-3) against the direction of flow and remove the hose.

Fig. 8-3 2 Ring on the air release valve

- Unscrew the clipping machine-stuffing machine control cable.
- Secure the machine against being switched back on, for example by means of a lock on the main switch. Carry the key on your person!

8.2 List of possible faults and problems

	Fault	Cause / Fault	Remedy
1	Missing clip	a) Too few clips in magazine b) Clip in die c) Die/punch damaged	a) Fill magazine b) Remove clip c) Replace die/punch
2	Clip too loose	Clip pressure too low	Set clip pressure higher
3	Clip too tight	Clip pressure too high	Set clip pressure lower
4	Clip closed unevenly	a) Die plate damaged b) Punch damaged	a) Replace die b) Replace punch
5	Casing damaged	a) Clip pressure set incorrectly b) Casing too dry c) Casing brake set too tight d) Separator plate damaged	a) Correct the setting b) Soak casing more c) Adjust casing brake force d) Polish damaged points or replace the separator plate
6	Portions are not separated correctly	a) Knife is blunt b) Knife guide dirty c) Operating pressure too low	a) Sharpen/replace knife b) Clean and lubricate the knife guide c) Adjust operating pressure to 5-7 bar
7	Sausage comes out of machine at an angle	Stuffing horn not centred to separator opening	Centre stuffing horn to separator opening
8	First clip slips from casing during stuffing	a) Casing not soaked sufficiently b) Clip pressure too low c) Stuffing horn not centred to separator opening	a) Soak casing more b) Correct the clip pressure c) Centre stuffing horn to separator opening
9	Separator plates do not open	a) Mechanical jam b) Sausage meat between plates	a) Remove foreign object b) Remove sausage meat
10	Punch jammed	a) Clip residue in clip channel b) Missing clip or double clip in die	a) Remove clip residue b) Remove clip
11	Fault on the GSA automatic belt looper	Incorrect loop transport setting	Correct the setting. See section 8.3.
12	Machine slows down	- Silencer blocked Possible causes: - Air connection line too small	- Replace silencer - Use compressed air hose with inner hose diameter of min. 10 mm
13	Machine not running	a) Safety circuit interrupted b) Lack of compressed air c) Operating pressure too low d) Air line clogged	a) Check safety equipment b) Check compressed air supply c) Set 5-7 bar d) Clean air line
14	Buttons on the touchscreen display are not working	a) Buttons have been locked so the display can be cleaned. The "Cleaning image" is shown. b) The touchscreen display has been adjusted	a) Either wait for the set key lock time to expire or exit "Cleaning image" by pressing the Emergency Stop pushbutton. b) Recalibrate the touchscreen display

	Fault	Cause / Fault	Remedy
15	Stuck in the "Cleaning image" 	The selected button lock duration is too long.	Exit "Cleaning image" by realeasing (pulling) the Emergency Stop pushbutton. You may need to press the Emergency Stop pushbutton first and then release it.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Remove all tools from the vicinity of the machine.

8.3 Correcting the position of the loop on the GSA 20

- Open the protective covers.
- Loosen the screws (1). (Fig. 8-4)
- Turn the transport wheel (2) by hand. (Fig. 8-4)
- Tighten the screws (1).
- Close the protective covers.
- Move a loop forward and check it is in the correct position. (Fig. 8-5)
- Remove tools.

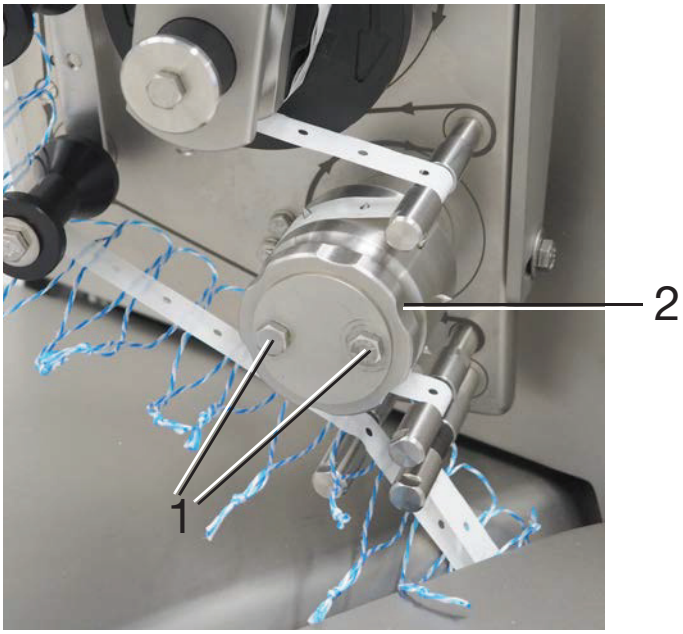


Fig. 8-4 GSA 20
1 Screws
2 Transport wheel

Fig. 8-5 GSA 20: Loop in correct position
The red line indicates the position of the clip guide.

9 Cleaning and maintenance

9.1 General points

The machine must be cleaned before every use at the least.
Cleaning and maintenance work on the machine must be carried out by trained and authorised staff only.
All cleaning and maintenance work must only be carried out when the machine is stopped.
The Operating manual, particularly the Safety instructions chapter, and the generally applicable accident prevention regulations must be observed.

9.1.1 Working with process materials

When working with oil, grease, cleaning agents and other chemical substances, you must observe the manufacturers' instructions regarding safety, dosing and use as well as the general regulations in force. Never exceed the cleaning agent dosages specified by the manufacturer as too much leads to destruction of synthetic parts and heavy corrosion of various metallic components!

9.1.2 Selecting process materials

Do not use chlorine-based cleaning and maintenance products!
Only use food-safe lubricants in accordance with USDA-H1 or NSF ISO 21469!
When selecting cleaning agents, the local hygiene regulations in force must be observed.

9.1.3 Disposal of process materials

Residues of oil, grease, cleaning agents and other chemical substances must be collected in accordance with the legal provisions for recycling or disposal.
Local authority regulations pertaining to sewage disposal apply.

9.2 Before carrying out cleaning and maintenance work

The machine must be shut down before cleaning and maintenance work commences.
All cleaning and maintenance work must only be carried out when the machine is stopped.
The air pressure on the machine must have been released before the work is started.

9.2.1 Preparing the machine for cleaning (operating staff)

The activities described in this section and in section 9.2.2 must be carried out by the operating staff after production has finished.
- Press the stuffer coupling icon selection button (1, Fig. 9-1) on the control panel to display the current machine rotation angle (2, Fig. 9-1).

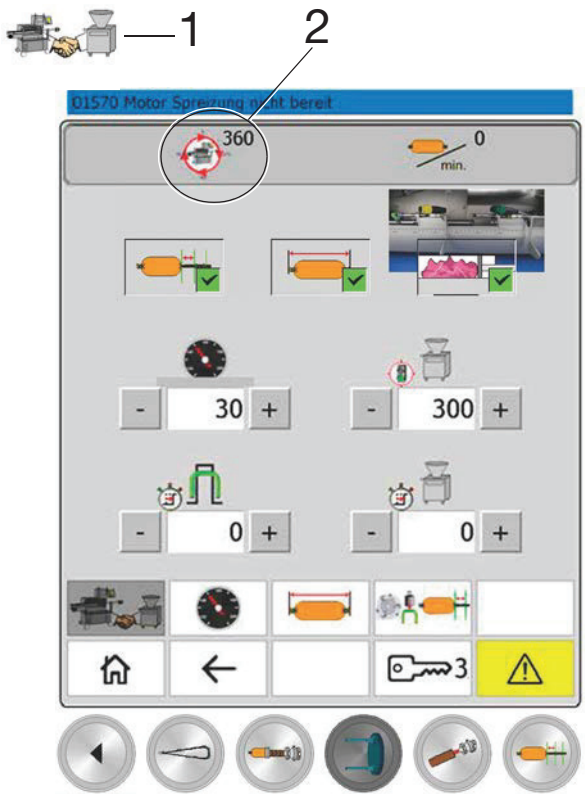
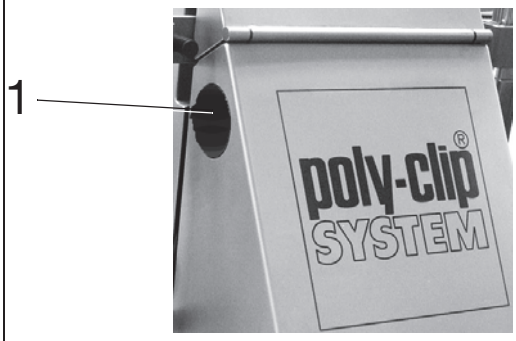


Fig. 9-1 1 Stuffer coupling icon selection button
2 Current machine rotation angle

- Move the machine in jog mode to 360°. Then press and hold the manual function button "Jog mode backwards" and the two-hand button simultaneously until the machine has moved into the position.

Manual function button "Jog mode backwards"



Two-hand button

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open protective shutters A to C (Fig. 9-2) at the sausage outlet.
- Remove the sausage guides (1, Fig. 9-2).

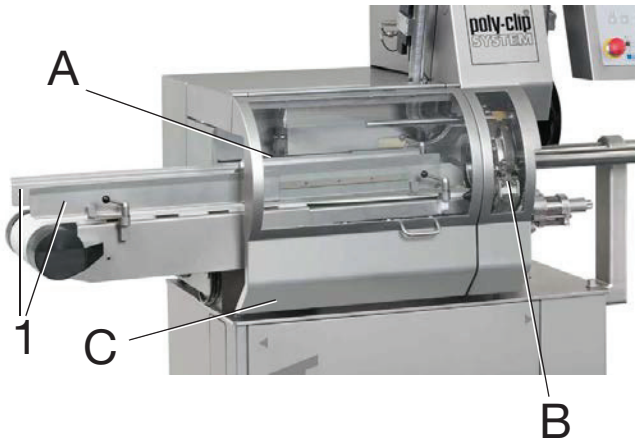


Fig. 9-2 A Protective shutter
B Protective shutter
C Protective cover
1 Sausage guides

- Remove optional roller conveyor extension.
- Remove the belt of the conveyor. To do this:

- Pull out the locking bolt (1, Fig. 9-3).

Fig. 9-3 1 Locking bolt

- Remove the roller (1, Fig. 9-4).

Fig. 9-4 1 Roller

- Lower the wiper (Fig. 9-5).

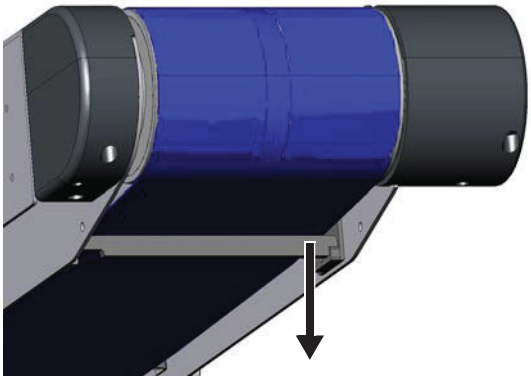


Fig. 9-5 Lowering the wiper

- Remove the belt of the conveyor.
- For the GSA 20 automatic looper, remove the loop reel (1). (Fig. 9-6)

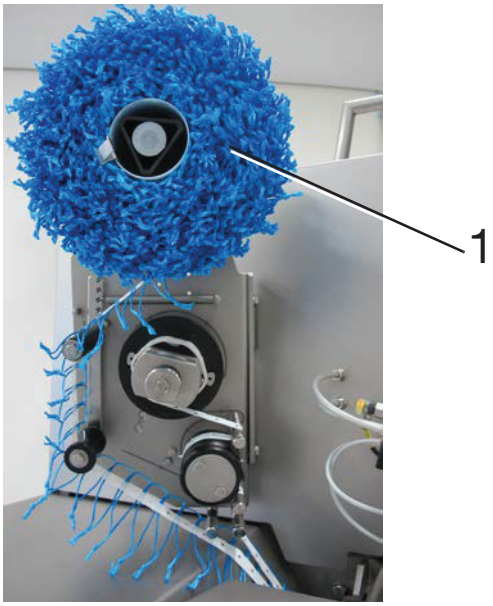


Fig. 9-6 GSA 20
1 Loop reel

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close protective shutters A to C (Fig. 9-2).
- Press the Manual spreading function button (Fig. 9-7) on the control panel. The separator system is opened.

Fig. 9-7

- Press the stuffer coupling icon selection button (1, Fig. 9-8) on the control panel to display the current machine rotation angle (2, Fig. 9-8).

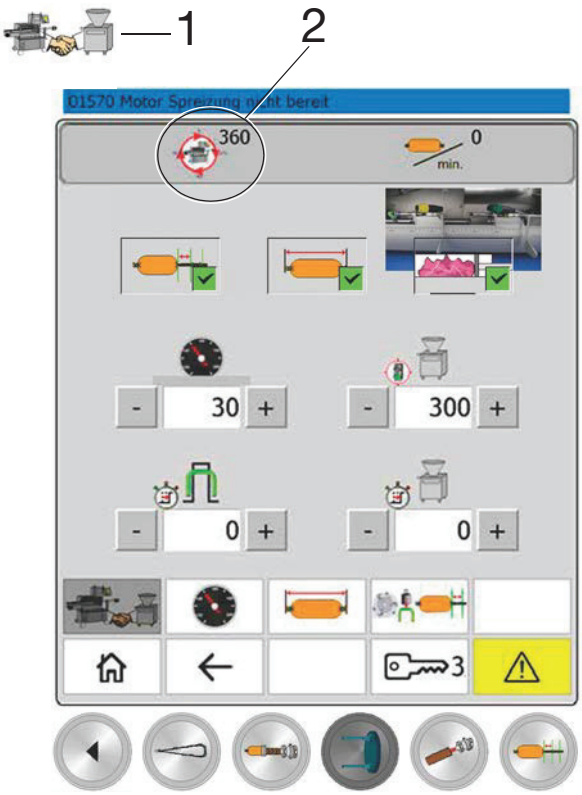
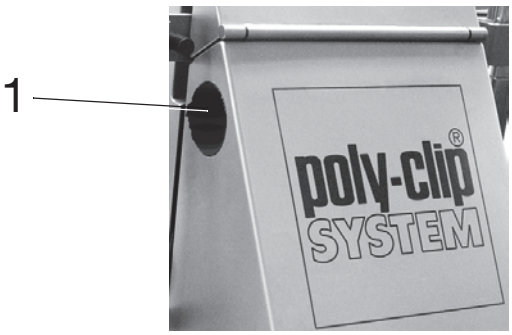


Fig. 9-8 1 Stuffer coupling icon selection button
2 Current machine rotation angle

- Move the machine in jog mode to 140°. Then press and hold the manual function button "Jog mode backwards" and the two-hand button simultaneously until the machine has moved into the position.

Manual function button "Jog mode backwards"



Two-hand button

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Open protective shutters A to C (Fig. 9-2) at the sausage outlet.

9.2.2 Shutting the machine down (operating staff)

- Switch off the main switch.
- Disconnect the main power supply at the machine.
- Completely disconnect the main compressed air supply at the machine:

• Push the air release valve (1, Fig. 9-9) against the direction of flow (see arrow, Fig. 9-9), thereby opening it.

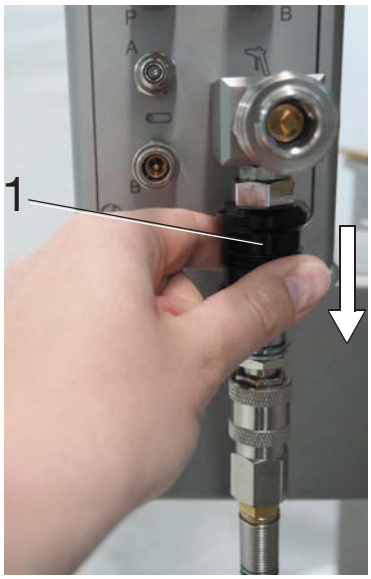


Fig. 9-9 Arrow: pointing against the direction of flow
1 Air release valve

• Check on the pressure gauge (Fig. 9-10) that the air pressure has been released:

Fig. 9-10 Pressure gauge

• Push and hold the compressed air hose in the direction of flow while pushing the ring on the air release valve (2, Fig. 9-11) against the direction of flow and remove the hose.

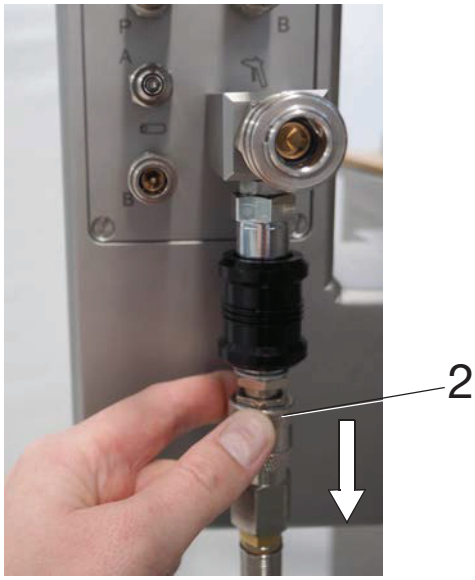


Fig. 9-11 2 Ring on the air release valve

- Unscrew the control cable between the clipping machine and the stuffing machine.

9.2.3 Preparing the machine for cleaning (operating staff)

The activities described in this section must be carried out by the cleaning staff.

- Remove the stuffing horn and casing brake for cleaning.
- Close the protective doors on the stuffer and outlet side.
- Cap off all open connection sockets.
- Cover electrical parts to protect them from moisture.
- Cover the control panel and touch screen.

9.3 Carrying out the cleaning

DANGER: Risk of crushing/ electrocution if cleaning the machine whilst in operation

If you clean the machine while it is operating, you are at risk of serious injury through crushing or electrocution.

- Before cleaning, the machine must be shut down, see section 9.2.2.

WARNING: Incorrect use of cleaning agents is dangerous

Your health is at risk if you use the cleaning agents incorrectly.

- Read and observe the manufacturer's specifications for the cleaning agent.

DANGER: Eye damage due to hot water and dirt particles

When cleaning with high-pressure washers, hot water under pressure and dirt particles can cause serious eye injuries.

- Wear safety glasses.
- Follow the Operating instructions for the high-pressure washer.

ATTENTION: Damage to electrical parts

Electrical parts can be damaged if they come into contact with water.

- Cover electrical parts before cleaning commences.
- When cleaning with a high-pressure washer, never expose electrical parts to direct steam jets.
- Never use a high-pressure washer to clean the control panel, touch screen or valve manifold!

ATTENTION: Machine may be damaged if the cleaning nozzle is held too close to the machine surface or if the wrong setting is used on the high-pressure washer

Small parts on the machine may be destroyed if you hold the cleaning nozzle too close to the machine when cleaning it with the high-pressure washer or if you set the pressure too high on the high-pressure washer.

- Clean the machine with the high-pressure washer set at up to 80 bar maximum and hold the cleaning nozzle at least 1 metre from the machine surface.
- Do not use a dirtblaster.

ATTENTION: Destruction of transparent plastics

Scouring pads scratch transparent plastics (Plexiglas). The material is then no longer transparent.

Scouring pads must not be used on transparent plastics (Plexiglas).

ATTENTION: Cleaning difficulties

When the cleaning water is hotter than 55 °C, protein solidifies and makes cleaning more difficult.

The cleaning water should be max. 55 °C.

- Remove coarse dirt from the machine and from any parts removed for cleaning.
- Rinse carefully with water no hotter than approx. 55 °C.
- Visually inspect the machine and all parts removed for cleaning for cleanliness, in particular the:
  - Stuffing horn
  - Pivoting cross-piece
  - Casing brake
  - Separator area
- Lather systematically from top to bottom.
- After lathering for the appropriate lather time, carefully rinse machine systematically with max. 55 °C hot water from top to bottom, removing all cleaning agent residues.
- Re-check all problem areas of the machine thoroughly for cleanliness.

- Disinfect the machine and all parts removed for cleaning.
- After disinfecting, carefully rinse machine and all parts removed for cleaning with drinking water.

9.4 After cleaning and maintenance of the machine

- Dry the machine and all parts removed for cleaning with compressed air.
- Apply a protective layer to the machine and the parts removed for cleaning. For example:
  - Oil the separator, especially the polished parts, with food-grade oil.
  - Grease all moving parts with food-grade grease.
- Lubricate the machine in accordance with the lubrication plan.
- Properly refit all parts removed for cleaning.

CAUTION: Risk of crushing when opening and closing protective covers and shutters

When opening and closing protective covers and shutters, there may be a risk of crushing between the protective shutter/cover and the machine.

- Open and close protective covers/shutters carefully and as a one-man operation.

- Close all shutter, doors, covers and protective devices opened for cleaning and maintenance work.
- Check all protective devices are complete, fitted correctly and functioning properly, see chapter 1.5.

DANGER: Risk of injury through tools left attached

Tools and implements left attached present a very high risk of injury. Implements left attached to the main axle can become dangerous projectiles.

- Always make sure that all tools and implements have been removed upon completion of assembly and maintenance work!

- Before the machine is restarted, all cleaning materials and tools must be removed from the machine.
- Before longer periods of non-operation, for example weekends, spray the machine with a fine coat of anti-corrosion oil.

10.1 Technical data

• Note

The values listed here are for reference.
The authoritative ones are those on the machine's type plate.

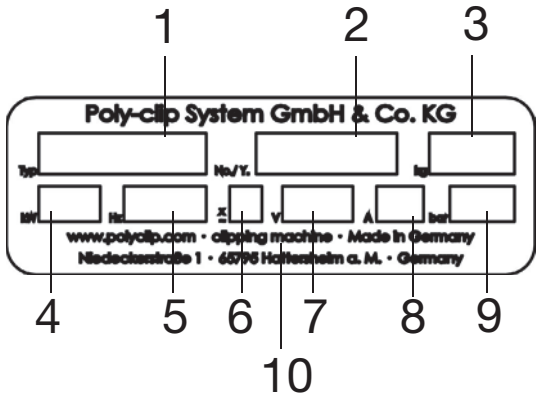


Fig. 10.1-1 Type plate

1 Machine name
2 Serial number / Year of construction
3 Weight [kg]
4 Power consumption [kW]
5 Frequency range [Hz]
6 Number of phases
7 Voltage range [V]
8 Fuse [A]
9 Compressed air range [bar]
10 Machine type

10.1.1 Dimensions and weight

Width:	approx. 2300 mm
Depth:	approx. 940 mm
Height:	approx. 1900 - 2050 mm
Weight excl. packaging:	approx. 850 kg
Weight including twin turret, without packaging:	approx. 910 kg

10.1.2 Pneumatic connection

Operating pressure:	0.5 - 0.7 MPa (5 - 7 bar)
Compressed air consumption: With GSA belt looper: With overspreading:	0.6 standard litres/work cycle 1 standard litre/work cycle 20 standard litre/work cycle

The compressed air used must be pre-filtered and free from condensation.

10.1.3 Electrical connection

Supply voltage:	200 - 240 VAC, 380 - 460 VAC, 50/60 Hz
Power consumption:	2.8 kW
Fuse:	16 A
Control cable:	Clipping machine/stuffer

10.1.4 Dimensions

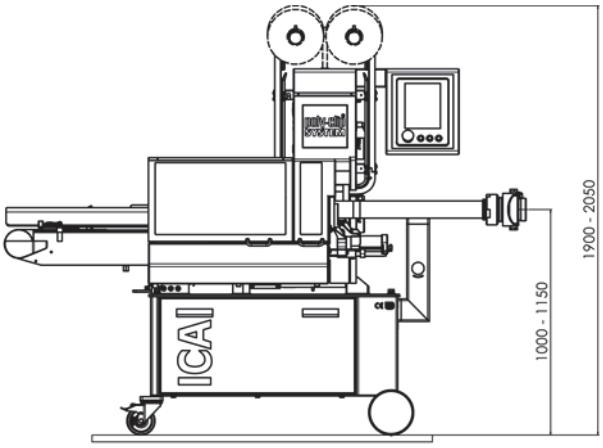


Fig. 10.1-2 ICA, front view

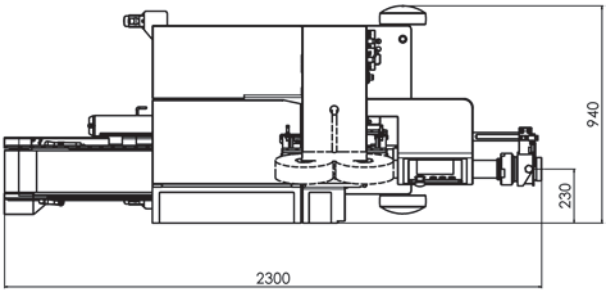


Fig. 10.1-3 ICA, top view

10.1.5 Volume at the work station L_{pA}:

A-rated sound pressure level emission L_{pA} at the work station allocated for the machine: 72 dB(A).

- This value was measured:
  - according to EN 11204
  - with clip S 8740
  - on cotton twin, triple
  - with knife switched off
  - at 18 cycles per minute.

The value comprises a measurement uncertainty K_{pA} of up to 2.5 dB.

- If the daily noise exposure level LEX,8h exceeds 80 dB(A), measures must be taken to reduce the noise. Suitable measures include, for example, soundproofing or the use of appropriate personal protective equipment (ear plugs or noise protection headphones).

10.1.6 Centre of gravity

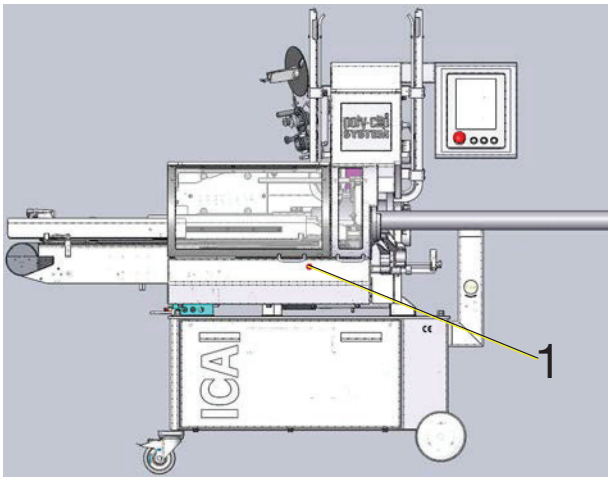


Fig. 10.1-4 1 Centre of gravity, front view

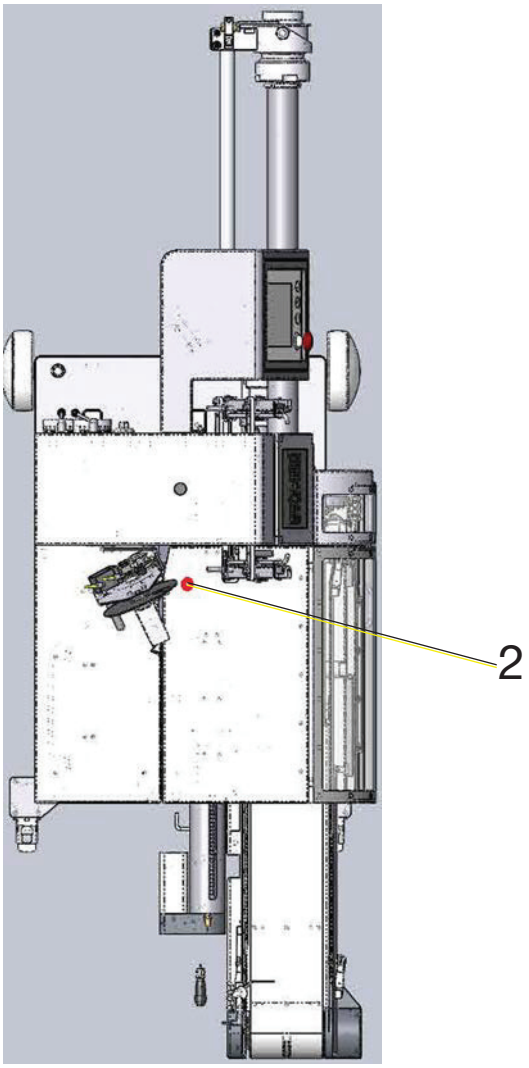


Fig. 10.1-5 2 Centre of gravity, top view

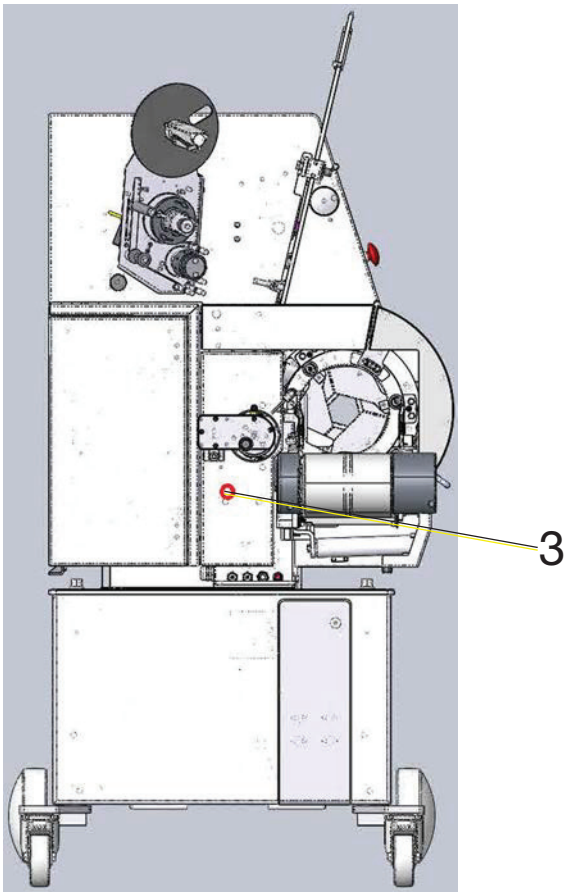


Fig. 10.1-6 3 Centre of gravity, side view

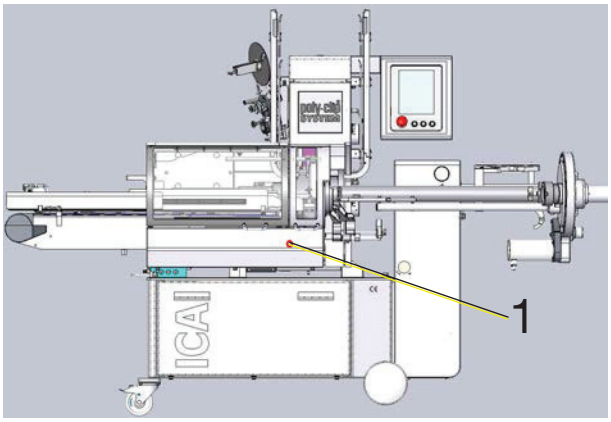


Fig. 10.1-7 1 Twin turret centre of gravity, front view

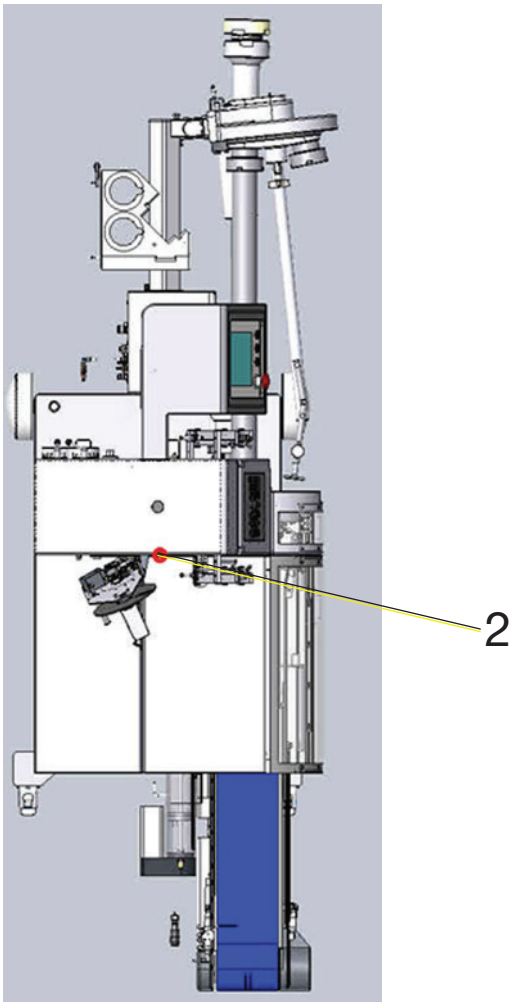


Fig. 10.1-8 2 Twin turret centre of gravity, top view

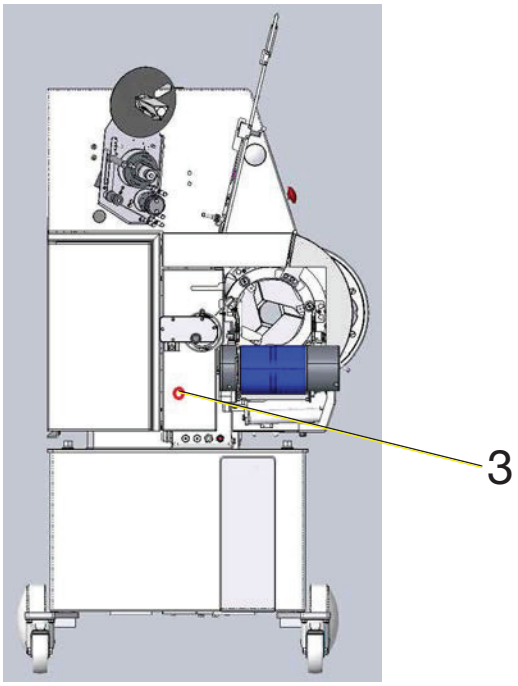


Fig. 10.1-9 3 Twin turret centre of gravity, side view

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