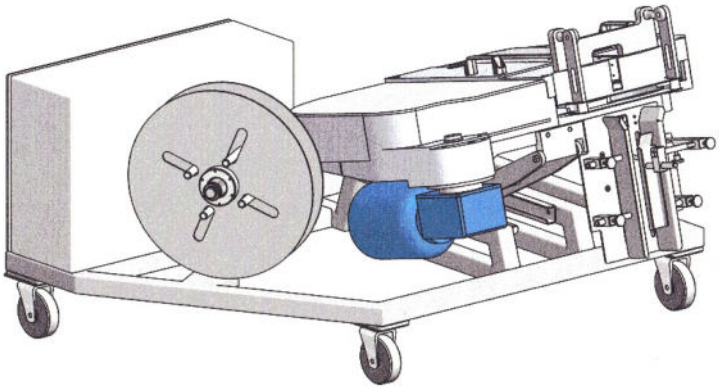
TRANSLATION OF THE ORIGINAL OPERATING MANUAL	Status 01.12.2015
Bag closing machine 60 KM	



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0. TABLE OF CONTENTS

1. General

DANGER!

This machine may present hazards if it is improperly operated.

These operating instructions contain basic instructions to be observed throughout all life phases of the machine - when setting up, operating and servicing.

For this reason, these operating instructions must be read by the installation technicians as well as the responsible specialist / operator prior to installation and commissioning and must always be available at the point of operation of the machine.

Customer-specific changes/modifications are not taken into account in these operating instructions.

Particular hazards for personnel, property or the environment are highlighted at the respective points throughout these operating instructions.

Likewise, you can also find additional instructions on behaviour and handling to ensure smooth operation of the machine.

Observe the instructions provided and behave accordingly.

Train all users with regard to the machine operation and the stipulated safety instructions.

1.1 Explanation of symbols

DANGER!	Risk of injury to personnel	**NOTE!**	Additional information
ATTENTION!	Risk of property damage or environmental damage	**OPTION**	Note relating to optional equipment
	Warning of automatic start-up		Danger of being drawn in
	Caution - warning of a hazard location		Danger of crushing
	Danger of hand injuries		Warning of industrial trucks
	Warning of hazardous electrical power		Warning of suspended loads
	Danger of slipping		
	Standing on area forbidden		

1.2 Technical data (overview)

Weight	ca. 300 kg (basic version)
Electrical connection	220/380 Volt, 50 Hz 3 Phase, 1.0 kW
Length	ca. 1200 mm
Width	ca. 987 mm
Height	ca. 830 mm (depending on the angle of incline set)
Compressed air	5 - 6 bar
Performance	max. 60 bags/min
Bag format	Width 50 - 250 mm Length 100 - 400 mm Longer bags on request
Types of bags	Flat bags, side folding bags, crossed bottom bags, block bottom bags
Material types	Paper, cellophane, PP, PE
Clip belt	Paper and plastic clip belts, width 8 mm with 2 wire inserts, wire Ø 0.6-0.7 mm
Colour	Standard silver grey

The machine is mobile, on four wheels, two of which are braked rollers, and can be moved by one person if required.

2. Safety

2.1 Proper use and inadmissible methods of operation

NOTE!

The bag closing machine 60 KM is intended for use in the foodstuffs industry for closing (clipping) block bottom bags downstream of a tubular bag machine.

DANGER!

It is intended exclusively for use in combination with a tubular bag machine.

Operation of the machine is only permitted if these operating instructions have been completely read and understood and the procedures described within them are observed.

The machine has been designed only for the area of application cited in the order confirmation or in these operating instructions. Any deviation from these operating conditions requires new contractual agreements.

The machine is suitable exclusively for the intended use. Any other use or use extending beyond this, such as

- loading of the machine by hand
- packaging of other products
- use of packaging bags other than those intended
- use of closing clips other than those intended
- operation outside the operational parameters described

shall be considered improper use.

The manufacturer/supplier shall not be liable for any damages resulting from this. The operating company alone bears the responsibility for this.

NOTE!

Warranty and liability are applicable in accordance with the contractually stipulated conditions.

NOTE!

Operation of the machine is not permitted

- in potentially explosive areas
- with power sources that are not cited on the order confirmation
- with products for which the machine was not intended to be used
- with changes to the machine equipment that have been carried out by the operating company

2.2 General information for the operating company and personnel

Prior to starting work, personnel tasked with working on the machine must be briefed with the help of these operating instructions, on the hazards associated with their work and the measures to avoid these.

The operating instructions and the applicable regulations should be safely stored such that they are accessible for the operating and maintenance personnel.

Disregard of the safety instructions can result in personnel, the environment or machinery being endangered. Disregard of the safety instructions can result in the loss of any warranty claims.

In certain circumstances, disregard can result in the following hazards:

- Failure of important machine functions
- Failure of stipulated methods for maintenance and repair
- Endangering of personnel through electrical, mechanical or physical effects

2.2.1 Requirements for personnel

Work on/with the machine may only be carried out by persons who are authorised to do so due to their training and qualifications.

Task	Qualification
Connection work, set-up work	Qualified specialist personnel
Repair, maintenance	Manufacturer
Loading, monitoring	Trained personnel
Electrical work	Electricians

NOTE! Manual loading work over an extended period of time can result in a lack of metal challenge for the operating personnel and this in turn can lead to an increased risk of accidents. It is recommended in such working situations that the operating company arranges the work with adequate variation in tasks.

2.2.2 Duties of the operating company

NOTE! The operating company is under an obligation to operate the machine only when it is inperfect condition.

The operating personnel must be tasked with the operation of the machine by the operating company.

The following in particular are the responsibility of the operating company:

- Appointment of qualified and trained personnel
- Stipulation of responsibilities for operating, set-up, maintenance and repair work
- Stipulation of necessary tests and checks
- Regular checking to ensure that the operating personnel are working in a safety-conscious manner, aware of the hazards and in compliance with these operating instructions.

NOTE! Hazard points, which arise between this machine and upstream or down-

stream customer-provided devices (e.g. loading devices, feed devices, removal devices, conveyor-type weighing devices) must be assessed and safeguarded appropriately by the operating company.

The operating company has the legal obligation, regardless of the operational and delivery condition of the machine, to assess the hazards for the personnel associated with the type of work to be carried out and to implement whatever measures are necessary to ensure industrial safety.

The operating company is obligated to familiarise themselves with the applicable foodstuffs and hygiene regulations.

2.2.3 Important behavioural rules

DANGER!

Persons who operate powered equipment must ensure that they do not endanger others through hazardous movements.

There is an increased risk of accidents on the machine due to moving masses and parts. Intervention into the machine at areas other than the designated operating positions is only permitted if the machine has been switched off and secured to prevent it being switched on again.

DANGER!

Long hair worn loose, loose clothing, jewellery or similar could become caught and drawn in. This could result in very serious injuries. Wear tight-fitting clothing. Protect long hair, with a hair net for example. Take off jewellery.

It is not permitted to climb on the machine while it is operating.

NOTE!

Warning and hazard signs are attached to the machine to protect the operating personnel. Observe these signs and proceed with particular caution in these places.

Damaged or illegible warning or hazard signs should be replaced immediately!

NOTE!

Alongside the information provided in these operating instructions, the existing national regulations for accident prevention as well as the generally applicable legal regulations and other binding regulations for accident prevention and for environmental protection must be observed.

DANGER!

Electrical devices

Important behavioural rules

There is a risk of fatal injury in the event of contact with electrically live parts or wiring.

The complete machine must be disconnected from the mains before working on electrical devices. This is done by switching off the main switch and pos. disconnecting from the mains supply (by pulling out the mains plug).

Work on electrical systems may only be carried out by electricians in accordance with the electrical regulations.

Fuses must not be repaired or bypassed. Only use the fuses provided by the manufacturer.

2.3 Safety devices

DANGER!

Only operate the machine when all safety devices are present and functioning properly!

The operating company and the operators of the machine are responsible for ensuring the machine is operated properly!

Hazard points that could not be eradicated by means of design are equipped with safety devices and may be identified with warning signs on the machine and working safety instructions in the operating manual.

Changes, attachments or alterations to the machine are not permitted if it is possible that they may impair the safety.

2.3.1 Listing

The machine is equipped with the following safety devices:

DANGER!

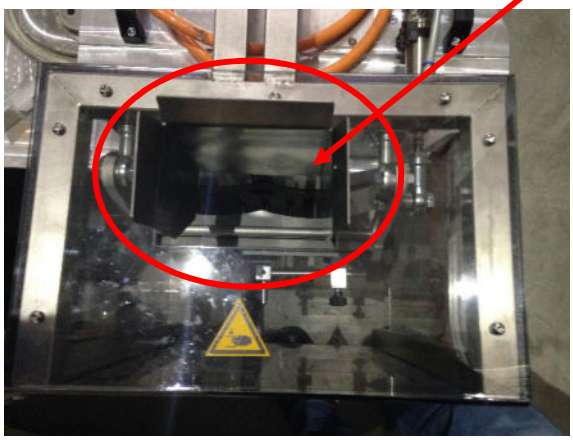
Load disconnecter, lockable main circuit breaker with EMERGENCY STOP function

DANGER!

EMERGENCY STOP button

Key switch for jog mode for jog mode

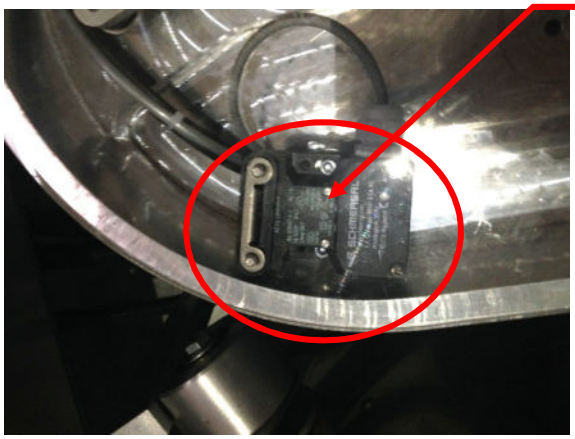
DANGER!



Inlet chute with light barrier

DANGER!
Danger of being drawn in whilst the machine is running!

DANGER!



Plexiglass cover with door monitoring

DANGER!
Danger of being drawn in whilst the machine is running!

2.3.2 Checking of the safety devices

The planning, implementation and documentation of checks must be carried out by the operating company in accordance with the applicable regulations and laws. The following information provides ideas and suggestions.

Load disconnecter, main circuit breaker	
Interval	When the machine is switched on and every four years within the scope of the electrical checks per BGV A3 [German accident prevention & insurance association safety regulations]
Scope	Functional capability
Checker	Operating personnel
Measures in the event of a fault	• Do not start up • Disconnect from mains • Arrange repair by electrical specialist

Protective coverings	
Interval	When the machine is switched on
Scope	Properly fastened
Checker	Operating personnel
Measures in the event of a fault	• Do not start up • Arrange repairs

Monitoring switch on protective coverings	
Interval	Recommendation: Annually (see also: § 3 section 3 BetrSichV [German health and safety act])
Scope	Functional capability
Checker	Capable person per BetrSichV (electrician if necessary)
Measures in the event of a fault	• Do not start up • Disconnect from mains • Arrange repair by electrical specialist

Inlet chute	
Interval	Before using the machine
Scope	Functional capability, fastening
Checker	Operating personnel
Measures in the event of a fault	• Do not start machine • Disconnect from mains • Repair by specialist personnel

2.4 Personal protective equipment

The type and scope of the personal protective equipment required is to be defined by the operating company within the scope of the hazard analysis (see also 2.2). The following information provides ideas and suggestions.

Head

Not required in normal operation. Adapt to suit surrounding conditions.

Minimum protection through industrial bump caps per DIN EN 812 recommended with commissioning tasks (see also BGR 193).

Hair

When operating the system: protect long hair with hair net.

Eyes

If there is a hazard due to product emerging and dust load: tight-sealing protective goggles with side protection (see also BGR 192).

Body

Not required in normal operation. Adapt to suit surrounding conditions.

Hearing

Not necessary. Adapt to suit surrounding conditions.

Hands

Wear protective gloves when working with the cutters (e.g. protective gloves to protect against mechanical hazards, per EN 388, category 1, see also BGR 195).

Minimum protection recommended with maintenance work: Suitable protective footwear (see above).

Feet

Safety footwear S1 or safety footwear P1 or occupational footwear P1 is recommended.

With maintenance work: Safety footwear

Miscellaneous

Not required in normal operation. Adapt to suit surrounding hazards.

Independent of this, the necessary measures with regard to the applicable foodstuffs and hygiene regulations must be observed.

2.5 Safety checks

NOTE!

The operating company must regulate (§§ 3, 10 and 11 BetrSichV) the checking of work equipment within the scope of the stipulations of the industrial safety regulations (BetrSichV).

In doing so,

- the type, scope and intervals for the necessary checks should be stipulated
- It is necessary to determine and stipulate which prerequisites personnel must fulfil in order to be tasked with the checking or testing of work equipment - so which capabilities such a competent person must have per § 2 Abs. 7 BetrSichV

As a matter of principle, the following must be observed with this (see also § 10 BetrSichV):

- Work equipment, whose safety depends on the installation conditions, must be checked after installation and before commissioning in order to ensure that it has been properly installed and to ensure that the work equipment is functioning properly.
- Work equipment that is exposed to influences that could damage it and that could lead to hazardous situations must be checked regularly. The repetitive checks must be carried out at the stipulated intervals by capable persons. An extraordinary check is required if unusual occurrences could have detrimental effects on the safety of work equipment (e.g. accidents, natural events, extended periods of inactivity or changes to the work equipment).
- Work equipment must be checked after maintenance work to ensure that there has been no impairment of safety.
- All checks must be carried out by capable persons.

The following table provides a basic idea of system parts and work equipment to be checked. More details on certain assemblies and individual parts can be found in the associated technical documentation:

Category:	**Work equipment**			
Sub-category:	**All work equipment whose safety depends on the installation conditions as well as work equipment that is exposed to influences that could damage it and that could lead to hazardous situations (insofar as the work equipment has not been separately named in another point).**			
Type of check	**Source**	**Checking interval**	**Checker**	**Check book**
Proper condition	§ 10 BetrSichV	• Depending on the situation / at suitable intervals • Before (re)commissioning • After change / maintenance	• Contractor / supervisor • Competent person	No

Category:	**Workplaces, general requirements per ArbStättV [German workplace regulations]**			
Sub-category:	**Safety devices, e.g. emergency stop switches, safety lighting, signalling systems**			
Type of check	**Source**	**Checking interval**	**Checker**	**Check book**
Functional capability	§ 4 (3) ArbStättV	• Depending on the situation / at suitable intervals • Annually • Before (re)commissioning • After change / maintenance	• Competent person	No

Category:	**Lighting systems**			
Sub-category:				
Type of check	**Source**	**Checking interval**	**Checker**	**Check book**
Compliance with the requirements on the lighting quality	ASR A 3.4	• Depending on the situation / at suitable intervals	• Expert	No

Category:	**Electrical systems and equipment**			
Sub-category:	**General**			
Type of check	**Source**	**Checking interval**	**Checker**	**Check book**
Proper condition. Take the implementation instructions for § 5 BV A3 into account with the stipulation of the checking intervals. Test book as requested by BG [German employers' liability insurance association]	§ 5 (1) DGUV-V 3 [regulation from the German employers' liability insurance association]	• Depending on the situation / at suitable intervals • Before (re)commissioning • After change / maintenance	• Competent person	Yes

Category:	**Electrical systems and equipment**			
Sub-category:	**Electrical systems and fixed equipment**			
Type of check	**Source**	**Checking interval**	**Checker**	**Check book**
Proper condition	DA for § 5 DGUV-V 3 table 1A	• Every 4 years	• Competent person	No

Explanation:

BetrSichV	German operational safety regulations
ArbStättV	German workplace regulations
ASR	Technical regulations for workplaces
DGUV-V	Regulation from the German employers' liability insurance association
DA	Implementation instruction

2.6 Declaration of Conformity

EC Declaration of Conformity
per attachment II of the EC Machinery Directive 2006/42/EC

CE

Manufacturer:	Kremers Verpackungsmaschinen Service und Vertrieb GmbH & Co. KG Heinrich-Horten-Str. 8 a D-47906 Kempen Germany
Designation	Bag closing machine
Type designation	60 KM
Machine no.:	See type plate
Year of manufacture	See type plate
We hereby declare that the machine/system designated conforms to the domestic market directives cited here.	• EC Machinery Directive 2006/42/EC • EMC directive 2004/108/EC including their amendments
Applied European harmonised standards	EN ISO 12100, 13849, 13850, 13857, 14119, EN 349, 614-1, 953, 1037, 60204-1, 62061, 82079-1
Applied national standards and technical specifications	• Operational Safety Regulations • Provisions and specifications of the employers' liability insurance association
Person responsible for the compilation of the technical documents:	Mr Michael Kremers

This declaration shall be void in the event of the designated machine/system being changed in any significant way.

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Telefax +49 2152 8 94 49 29

Kempen, 01.12.2015	Michael Kremers Managing director	
Place / date	Name / position	Signature

3. Transport, installation and connection

3.1 Transport

NOTE!

The exact scope of delivery is specified on the order/delivery documentation. After delivery of the machine with its accessories, any damage incurred due to defective packaging or transportation must be immediately reported to the shipping company, the insurance company and the manufacturer. Please also refer to our terms and conditions of sales and delivery.

The machine is delivered in fully assembled condition.

The machine should always be transported or moved in upright position.

The machine can be lifted and moved with a forklift truck under the frame.

The weight of the machine incl. packaging can be found in the order or delivery documentation. (see also "Technical data" chapter)

ATTENTION!

When lifting the machine, use only the intended lifting points - do not fasten lifting gear to machine attachments!

DANGER!

The load could fall down and cause serious injuries to personnel! Do not stand underneath suspended loads!

When transporting and unloading, jerky movements, shocks and heavy vibrations must be prevented when lifting and setting down!

NOTE!

The machine must be stored in a dry location, protected from moisture.

3.2 Installation

When installing the machine, ensure that there is adequate room for movement around the machine.

There must be sufficient free space around the machine for maintenance, care and operating personnel.

NOTE

It is recommended that a minimum distance of 1.5 m is observed around the machine as a working area. This working area should be cordoned off from traffic areas (e.g. through coloured marking on the floor).

The machine should be installed in vertical position.

The installation location should be firm and level and must be able to bear the load.

DANGER!

It is not necessary to anchor the machine to the hall floor, but it should be locked in place during operation.

3.3 Connection

ATTENTION: Have electrical installation work carried out exclusively by electricians!

The electrical connection is implemented by means of plug-in connection (cable supplied)

NOTE!

Be sure to check that the on-site mains power supply matches with the voltage cited on the type plate.
The proper connection of the machine to upstream or downstream devices should be checked by the operating company.

The tubular bag machine and the 60 KM bag closing machine must be synchronised with one another.

This is implemented automatically via a 10-pole control line.

ATTENTION! It is strongly recommended to have the control lines of the tubular bag machine and the bag closing machine linked by KREMERS specialists!

The establishment of the compressed air supply is implemented with the connection line provided.

4. Description of the machine

4.1 Description of the process

The 60 KM bag closing machine uses clips to close filled bags that are passed into the feed chute from a tubular bag machine.

The bags filled by the tubular bag machine drop through the feed chute onto the tilting base of the 60 KM bag closing machine.

There the bags are detected by a light sensor and fastened in place by the bag pressing device.

Then the bag is gathered together at the neck and the clipping process initiated.

After the clipping process, the bag pressing device releases the bag, the tilting base moves downwards and the released bag slides out of the machine.

The machine is then ready for the next closing cycle.

DANGER! The 60 KM is mobile. It must be secured to the tubular bag machine in its working position. The chassis rollers should be locked for this.

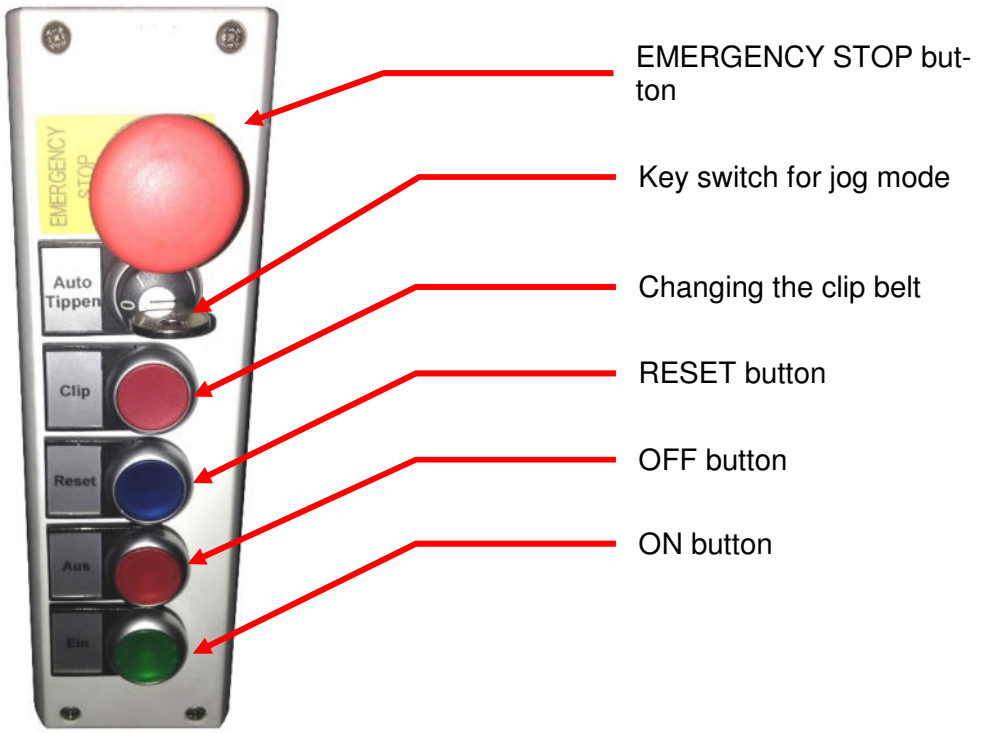
4.2 Synchronisation

The tubular bag machine and the 60 KM bag closing machine must be synchronised with one another (see also point 2.2).

This is implemented electrically via a 10-pole plug and the cable provided.

4.3 Control unit

DANGER!



4.4 Initial commissioning

① Position the 60 KM bag closing machine under the tubular bag machine such that the feed chute is centred underneath the filling tube of the tubular bag machine. Lock the machine in this position.

② The electrical control connection to the tubular bag machine should be established by means of the control cable provided.

③ Establish the compressed air supply.

④ Establish the electrical power supply.

⑤ The machine is ready for operation.

DANGER!

The EMERGENCY STOP function of the upstream tubular bag machine must always be chained with the safety equipment of the bag closing machine. Otherwise, if the EMERGENCY STOP function is triggered on the tubular bag machine there could be a significant risk of crushing on the KM 60 bag closing machine!

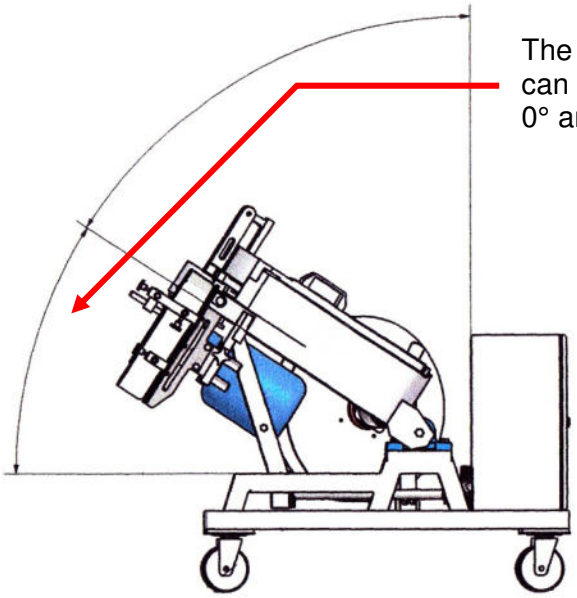
5. Commissioning and decommissioning

5.1 Calibration

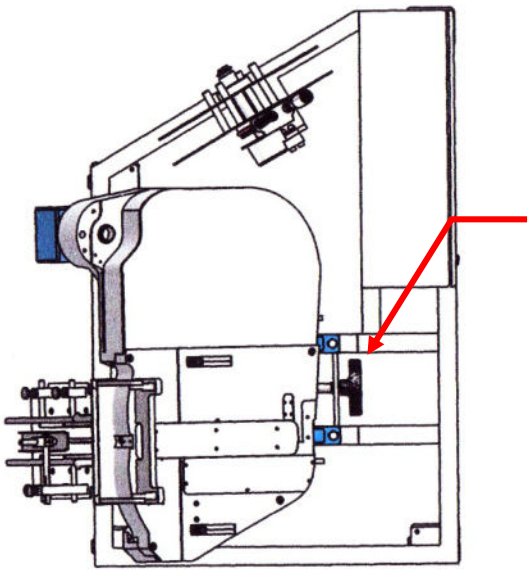
Calibration work may only be carried out by persons who are authorised to do so and able to do so due to their training and qualifications.

Switch off the machine in accordance with these operating instructions and pull out the mains plug.

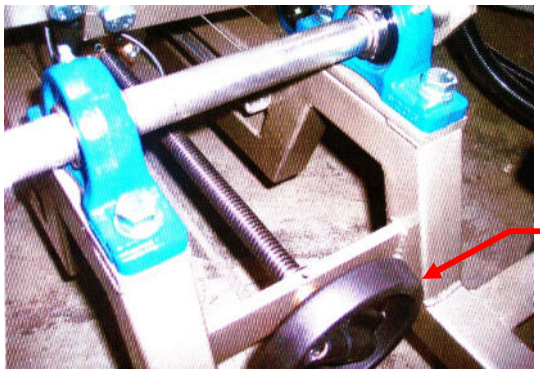
Adjusting the incline



The incline of the bags being fed can be adjusted in a range between 0° and 60°.

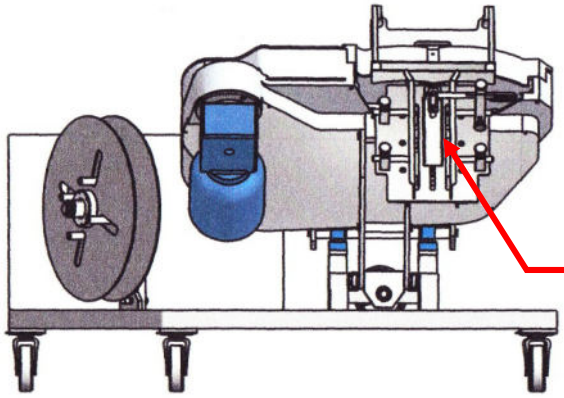


The adjustment of the incline is carried out by means of the hand wheel on the rear of the machine.

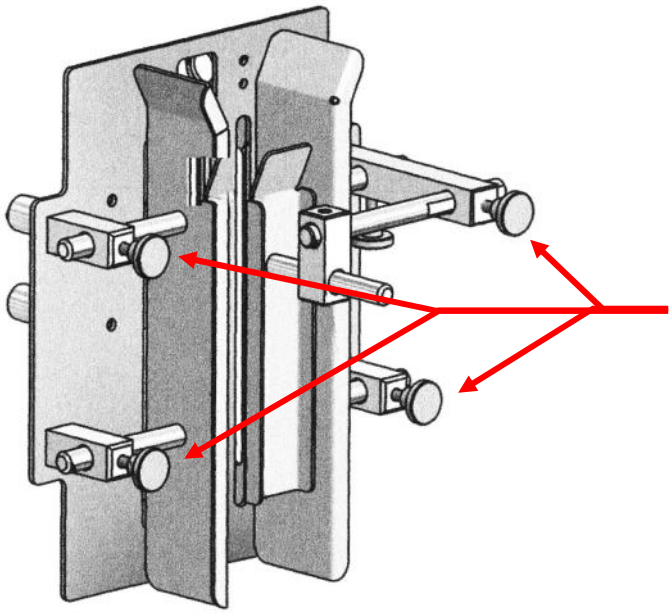


The adjustment of the incline is carried out by means of the hand wheel on the rear of the machine.

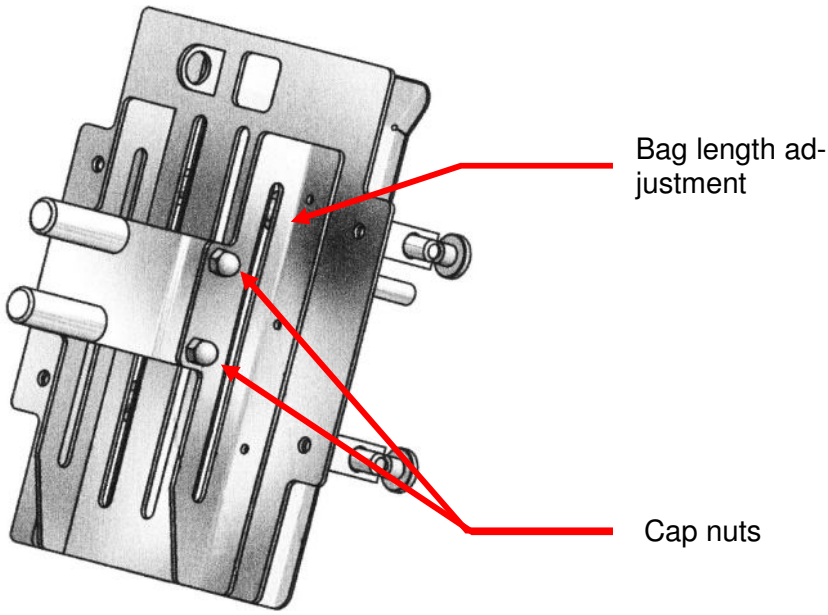
Adjusting the bag size



The adjustment of the bag size is carried out via knurled screws on the collecting tray.



Bag width adjustment



5.2 Switching on

① Ensure that the feed chute is empty.

② Ensure that the plexiglass cover is closed.

③ Ensure that the work area around the machine is freely accessible

④ Ensure that the bag closing machine is linked to the tubular bag machine via the control cable provided and that the tubular bag machine is switched on.

⑤ 

⑥ Key switch to "AUTO"

⑦ Actuate ON button

DANGER!

⑧ Switch on tubular bag machine. The first bag is fed and the KM 60 is thus ready for operation.

There is a significant danger of injury where the filling goods are discharged.

Do not reach into the feed chute under any circumstances!

The feed chute is monitored by a light barrier.

Tampering with this light barrier must be forbidden under all circumstances.

DANGER!

5.2 Switching off

DANGER!!

① Ensure that the feed chute is empty.

② Actuate OFF button

③ Switch off main switch and, if necessary, secure with a padlock to prevent unauthorised use.

6. Operation

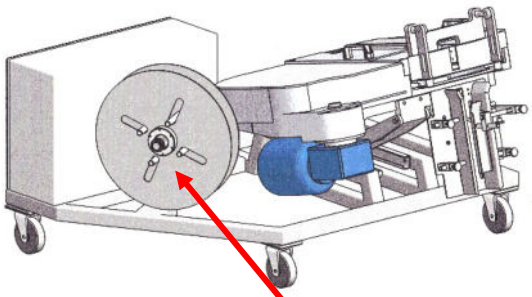
6.1 Inserting the clip belt

ATTENTION!

Carry out all equipping procedures only whilst the machine is at a complete standstill! Switch off machine beforehand and, if necessary, secure against switching on again!

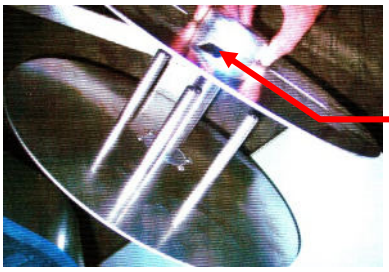
① Switch machine off (see chapter 5.2)

②



Remove the safety sleeve of the reel disc by pulling on the outer ring.

③

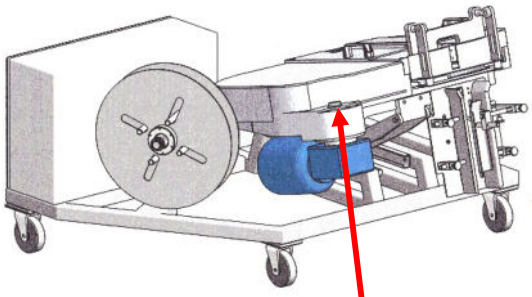


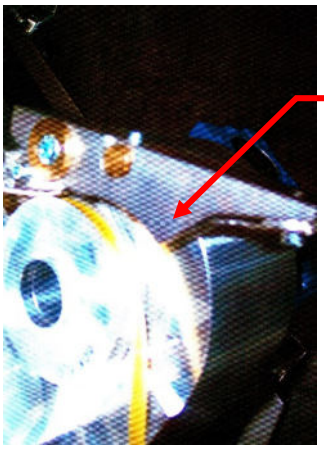
Remove outer reel disc.

④

Insert clip belt, fit outer reel disc and latch safety sleeve into place

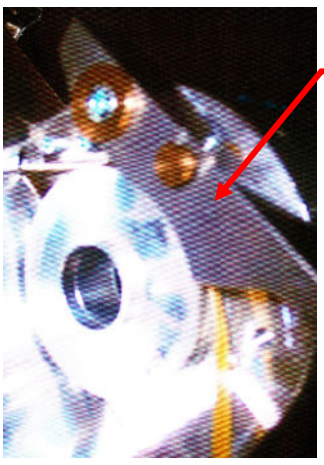
⑤





Open the backstop, feed the clip belt around the defection roller and into the clip head

⑥



Close backstop

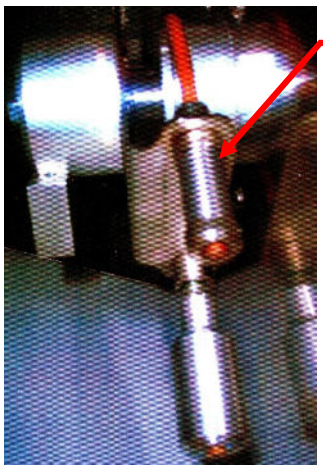
⑦

Switch machine on again (see chapter 5.1)

DANGER!

⑦

Feed the new clip belt into the machine via the "CLIP" button



⑧

Regulate the clip belt feed via the adjusting screw on the clip belt reel braking device.

6.2 Replacing the clip belt cutter

ATTENTION!

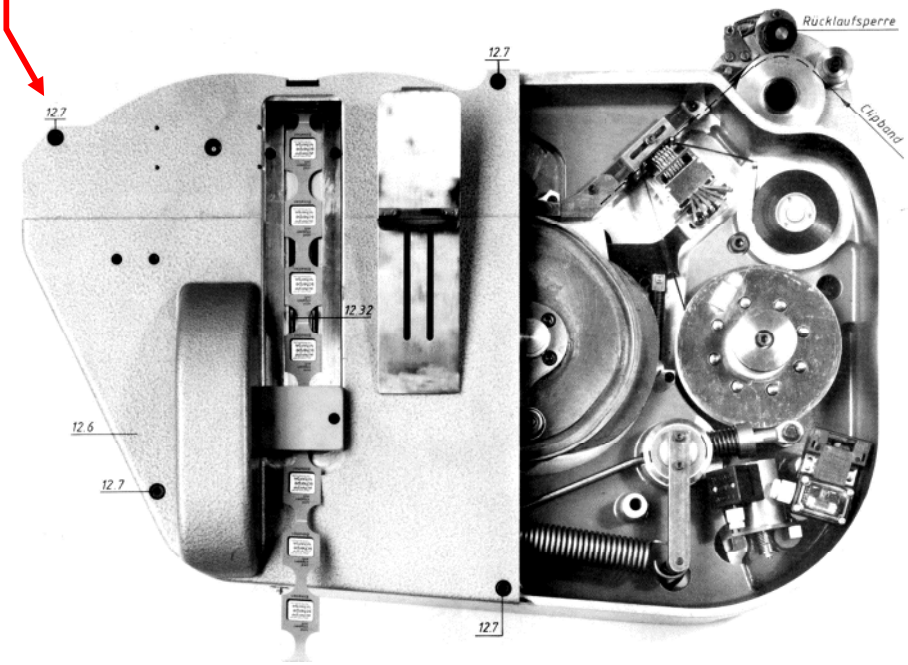
Carry out all equipping procedures only whilst the machine is at a complete standstill! Switch off machine beforehand and, if necessary, secure against switching on again!

Attention - Danger of cutting injuries!

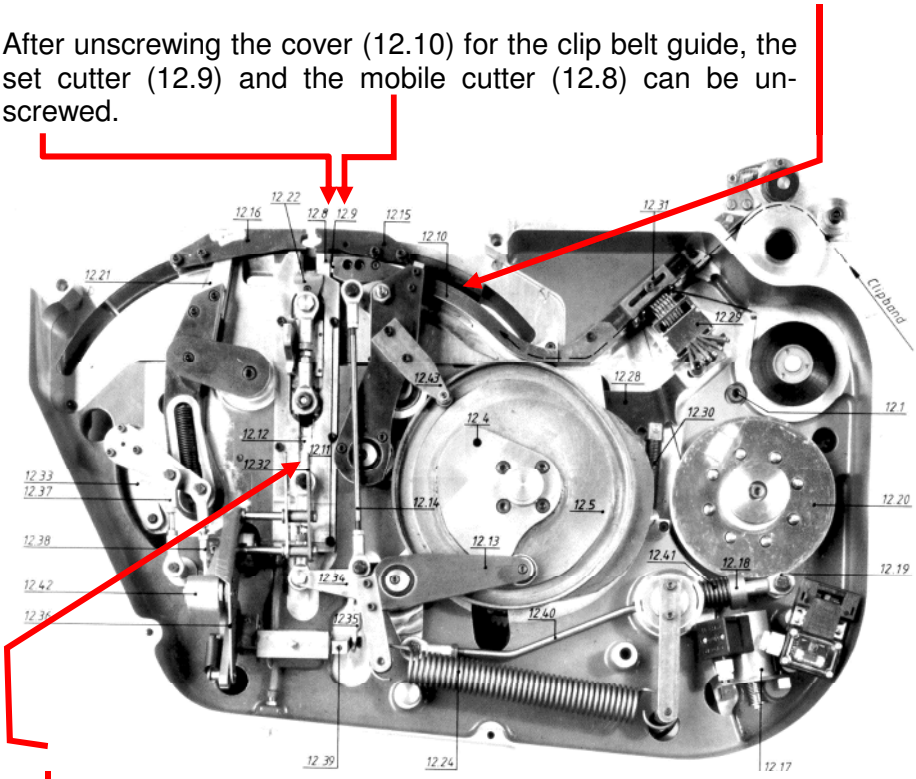
① Switch machine off (see chapter 5.2)

Open the clip head cover.

② Loosen 4 Allen screws (12.7) and remove the clip head cover (12.6).



③ After unscrewing the cover (12.10) for the clip belt guide, the set cutter (12.9) and the mobile cutter (12.8) can be unscrewed.



④

It is now necessary to adjust the clip belt cutters relative to one another to ensure a clean cut, but first check whether the slider (12.12) moves without play. If necessary, loosen the screws (12.11) and set the right slider guide somewhat closer.

The forward slider movement is implemented via a cam with force-locking and the backwards movement via a spring. If the machine is now turned by hand until the slider (12.11) reaches the rearwards position, the correct setting for the cutter with the clip belt can be checked by sliding the slider forwards by means of the cam lever (12.13) cutting the clip belt manually.

NOTE

The cut should be smooth and without threads.

After adjusting the cutter, screw the top clip belt guide (12.10) back on again

Fit the clip head cover (12.6) and screw on.

⑤ Switch machine on again (see chapter 5.1)

6.3 Adjusting the clip belt length

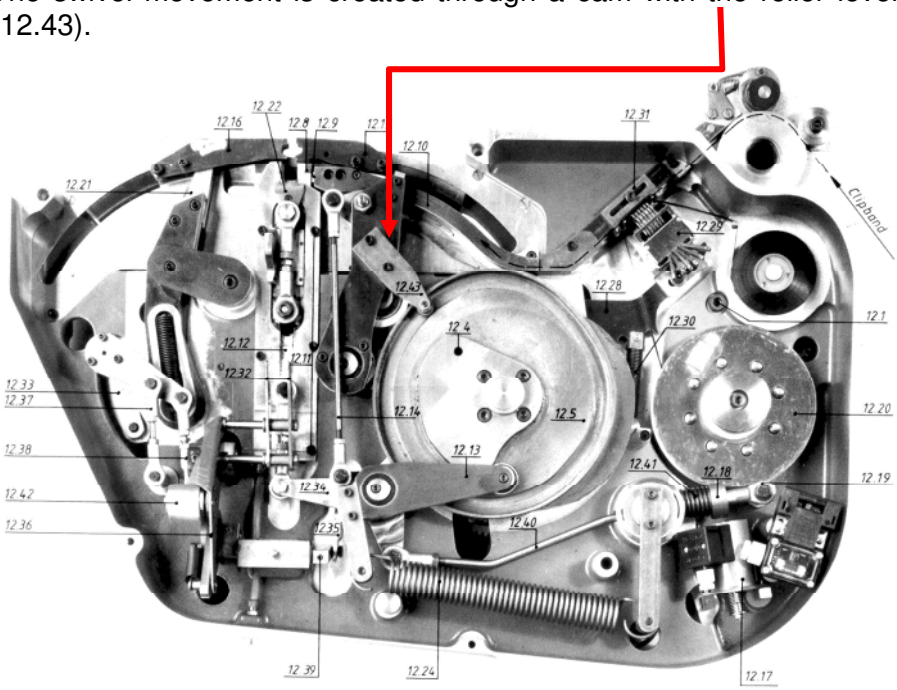
ATTENTION!

Carry out all equipping procedures only whilst the machine is at a complete standstill! Switch off machine beforehand and, if necessary, secure against switching on again!

① Switch machine off (see chapter 5.2).

Open the clip head cover.

② The clip belt is pulled forward to suit the desired length with a gripper. The swivel movement is created through a cam with the roller lever (12.43).



③ The size of the gripper swivel movement can be adjusted by swivelling the roller lever (12.43) after loosening the screws.

Turning the lever anticlockwise reduces the stroke, turning clockwise increases the stroke.

The left clip side is closed before the right clip side. For the greatest possible clip retaining force, it is necessary that the leg that is closed first is as long as possible and that it reaches almost as far as the 2nd leg. To achieve this, it is necessary to have a longer clip length with thick bag materials than with thin bag materials. If the clip length is set too short, the overlapping of the closed clip is no longer ideal. If the clip length is set too long, it is not possible to close the 2nd clip arm properly. This can result in faulty clipping and problems at the clipping head.

④ Fit the clip head cover (12.6) and screw on.

⑤ Switch machine on again (see chapter 5.1)

6.4 Adjusting the packer sheet and packer lever

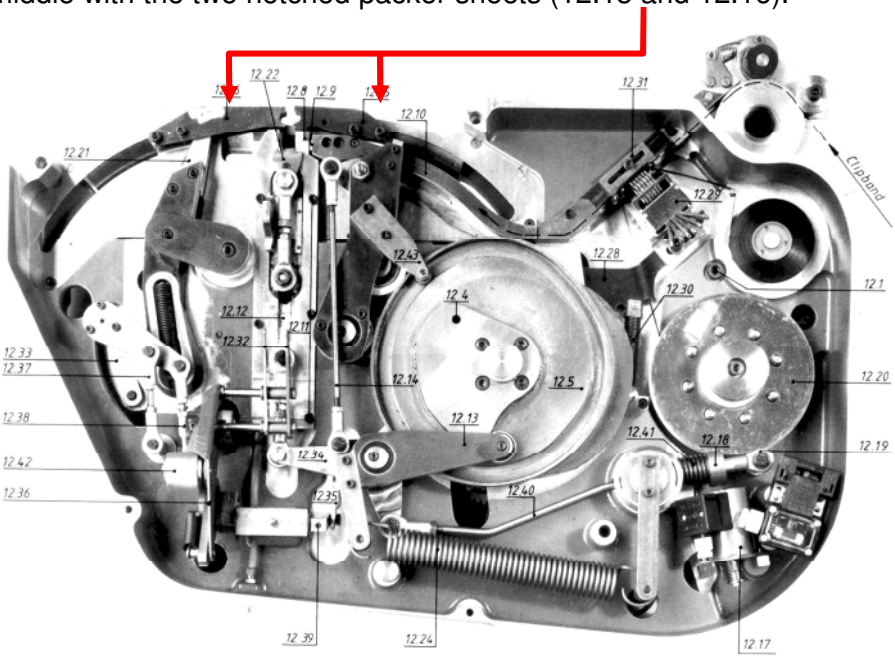
ATTENTION!

Carry out all equipping procedures only whilst the machine is at a complete standstill! Switch off machine beforehand and, if necessary, secure against switching on again!

① Switch machine off (see chapter 5.2).

Open the clip head cover.

② The bag is gathering together to form a bag neck by laying the bag flat between plates and then pressing both sides together towards the middle with the two notched packer sheets (12.15 and 12.16).

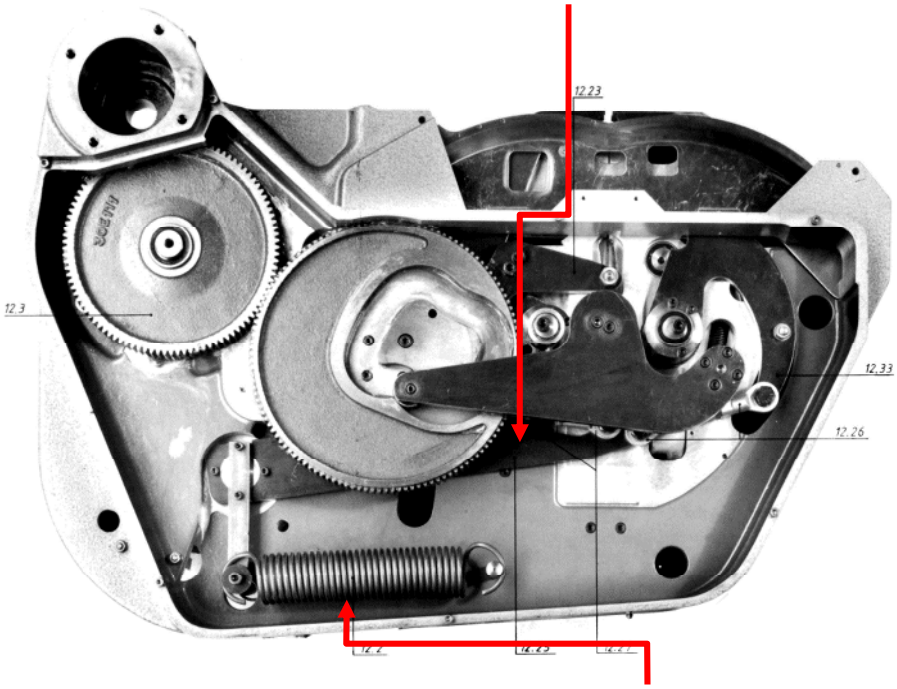


The bag remains between these two packer sheets until the clip closing procedure is completed.

③ The packer sheets should be screwed on such that the centre notch lines up with the centre slot between the two packer sheets.

Adjusting the packer lever

The opening and closing of the packer sheets (12.15 and 12.16) (see section 12 a) is implemented with the cam lever (12.25):



The closing motion is implemented by the springs (12.2 and 12.24).
The opening motion is implemented via the cam with force-locking.
The transition of the movement from the cam lever (12.25) to the two packer arms is implemented through the two swivel heads (12.26 and 12.27).
In the closed state, the packer sheets (12.15 and 12.16) must be exactly in the centre of the slider, along with the recess. Any deviation can be corrected at the two swivel head sets (12.26 and 12.27).

④ Fit the clip head cover (12.6) and screw on.

⑤ Switch machine on again (see chapter 5.1)

6.5 Clip belt feed

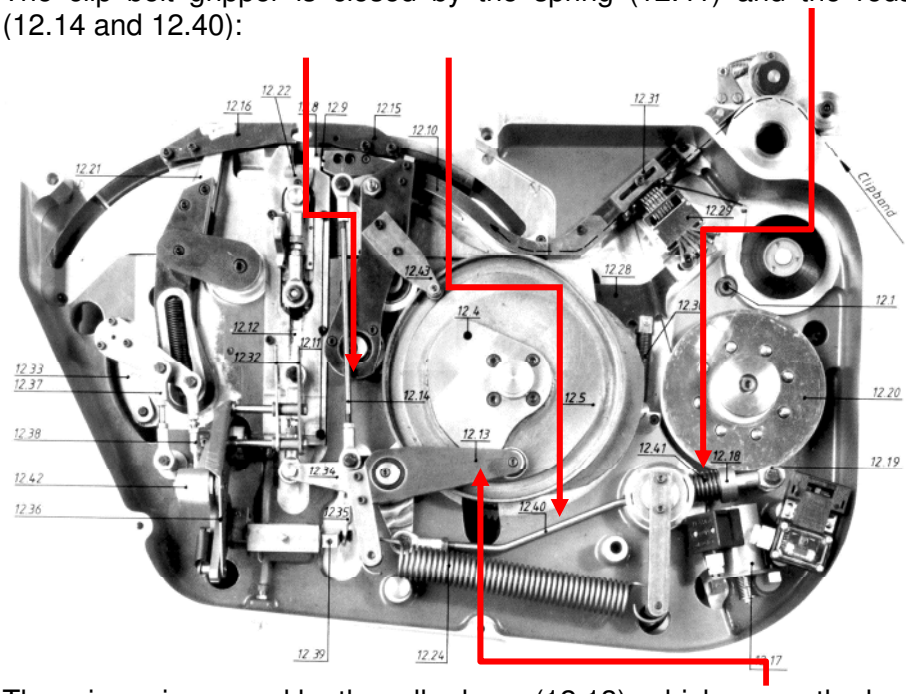
ATTENTION!

Carry out all equipping procedures only whilst the machine is at a complete standstill! Switch off machine beforehand and, if necessary, secure against switching on again!

① Switch machine off (see chapter 5.2).

Open the clip head cover.

② The clip belt gripper is closed by the spring (12.41) and the rods (12.14 and 12.40):



The gripper is opened by the roller lever (12.13), which opens the lever positively via a drive pin.

③ Fit the clip head cover (12.6) and screw on.

④ Switch machine on again (see chapter 5.1)

6.6 Adjusting the outer and inner slider

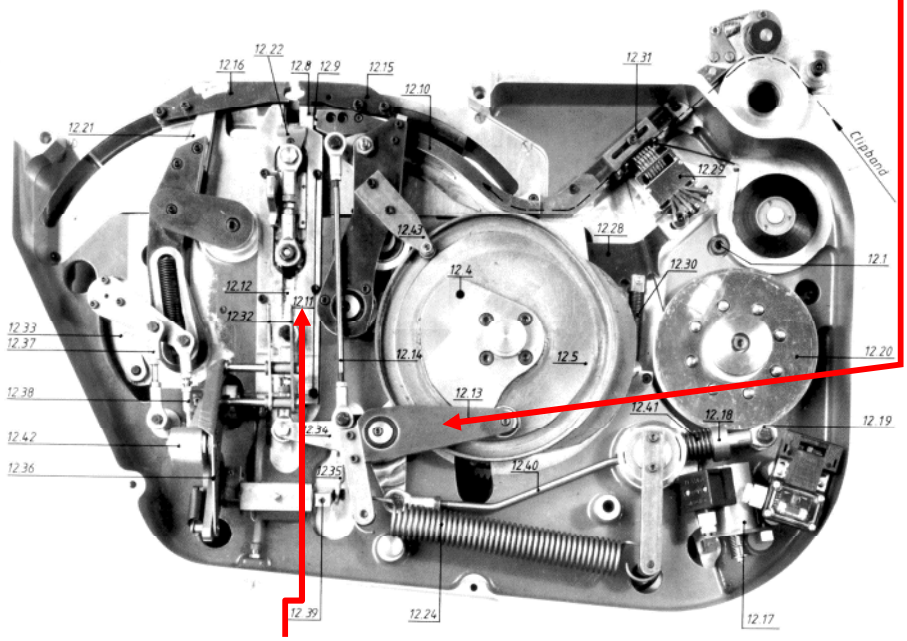
ATTENTION!

Carry out all equipping procedures only whilst the machine is at a complete standstill! Switch off machine beforehand and, if necessary, secure against switching on again!

① Switch machine off (see chapter 5.2).

Open the clip head cover.

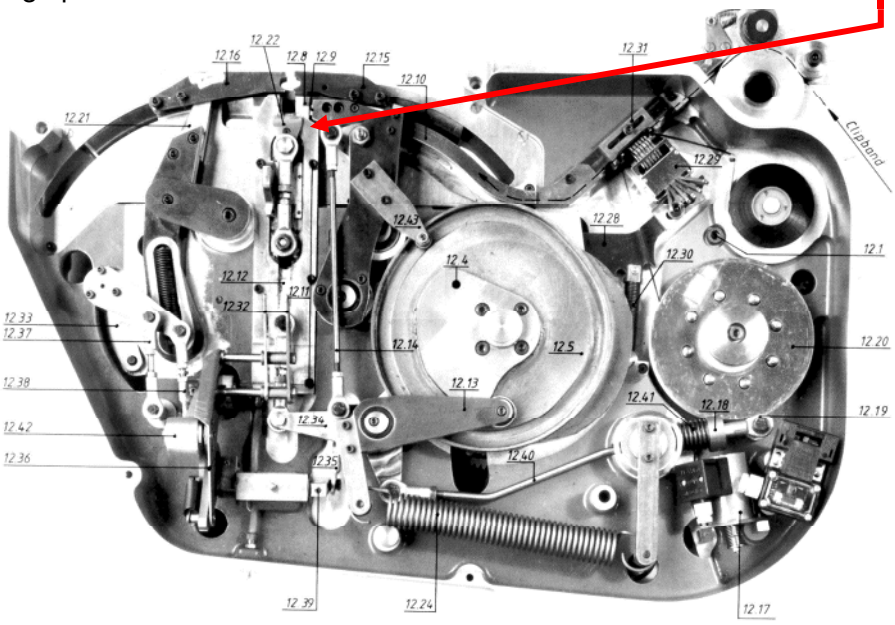
② The cam lever (12.13) drives the outer slider (12.11) via a swivel head set with adjusting spindle.



The outer slider (12.11) cuts the clip belt with the movable clip belt cutter and implements the U-shaped bending of the clip belt in conjunction with the bending finger of the upper part (12.6).

③ If swivel heads ever have to be replaced, the general setting dimension is engraved on the bronze slider. Fine adjustment should be carried out by ensuring that the outer slider is always free of the clip closer (12.21) when turned by hand.

④ The inner slider with the label cutter (12.22) is driven by the cam lever (12.23) (section 12 c) and a swivel head set with the adjusting spindle.



The general setting dimension for the two swivel heads is likewise engraved on the slider.

The fine adjustment should be carried out such that the clip is closed tightly enough, whereby increasing the swivel head distance means a tighter clip.

⑤ Fit the clip head cover (12.6) and screw on.

⑥ Switch machine on again (see chapter 5.1)

7. Behaviour in the event of faults

Faults may only be rectified by persons who are authorised to do so and able to do so due to their training and qualifications.

Work on electrical equipment may only be carried out by electricians or subordinate persons under the direction and supervision of an electrician in accordance with the electrical regulations.

Possible problem	Cause(s)	Measures
Machine cannot be switched on	Open cover: Clip head cover plexiglass cover	1. Close cover 2. Start machine
	Feed chute not empty	1. Main switch set to "0" 2. Empty feed chute 3. Start machine
	Main switch off	4. Move main switch to "I" position 5. Start machine (see chapter 5.1)
	Key switch set to jog mode	Set key switch to permanent operation
	No power supply	1. Connect power supply with tubular bag machine 2. Start machine
		Test fuses
Unusual noises	Mechanical problems	Switch machine off immediately Call in a service technician

Preparations for rectifying faults

Switch off machine in accordance with these operating instructions and secure to prevent it being switched on again by shutting off the main switch.

If necessary, disconnect the machine from the power supply by pulling out the mains plug.

8. Maintenance, repair and cleaning

8.1 Maintenance and repair

Maintenance and repair work may only be carried out by persons who are authorised to do so and able to do so due to their training and qualifications.

Work on electrical equipment may only be carried out by an electrician or subordinate person under the direction and supervision of an electrician in accordance with the electrical regulations.

Preparations for maintenance and repair work

Switch off machine in accordance with these operating instructions and secure to prevent it being switched on again by shutting off the main switch

If necessary, disconnect the machine from the power supply by pulling out the mains plug.

Recommended maintenance intervals

All of the maintenance instructions in this chapter relate to machine operation under normal conditions (operation on 5 weekdays each for 8 hours under normal external circumstances).

Maintenance tasks

Interval	Maintenance work
Monthly	Visual check by technical personnel
Annually	Check by our service personnel

In addition, the rollers, cams and sprockets should be lubricated from time to time.

ATTENTION! **Use of the universal lubricant and cleaning agent "WD-40" can result in significant faults and damage to the machine!**

Actions to be carried out after maintenance work and before switching on again

Check safety devices.

Check the fault-free functional operation of the machine.

Maintenance work on supplier parts

Observe the instructions and information from the respective manufacturer regarding maintenance work.

8.2 Jog mode for inspection work

The machine can be operated in so-called "jog mode", independent of the controller connection with a tubular bag machine.

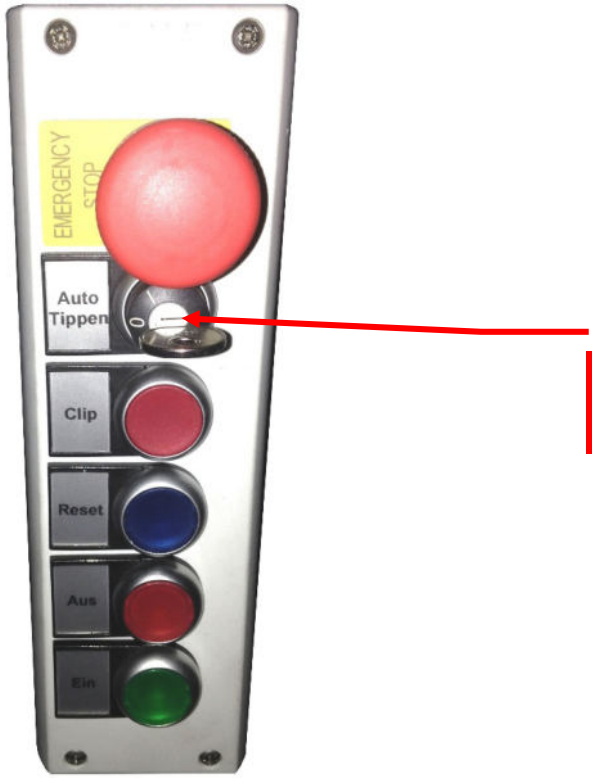
① Switch machine off (see chapter 5.2).

Switch off tubular bag machine.

② Push the machine out from under the tubular bag machine.

DANGER!

③ Disconnect the electrical connections between the machine and the tubular bag machine.



④ Set key switch to "Jog".

8.3 Cleaning

DANGER!

There is an increased risk of accidents while the machine is running due to moving masses and parts.

No cleaning work is permitted on the machine whilst it is running.

Ensure that the floor around the machine is as clean as possible to avoid the risk of slipping

DANGER!

① Empty the machine in normal operation.

② Switch the machine off (see chapter 5.2), set the main switch to the "O" position

DANGER!

③ Lock the main switch with a padlock if more than one person will be working on the machine.

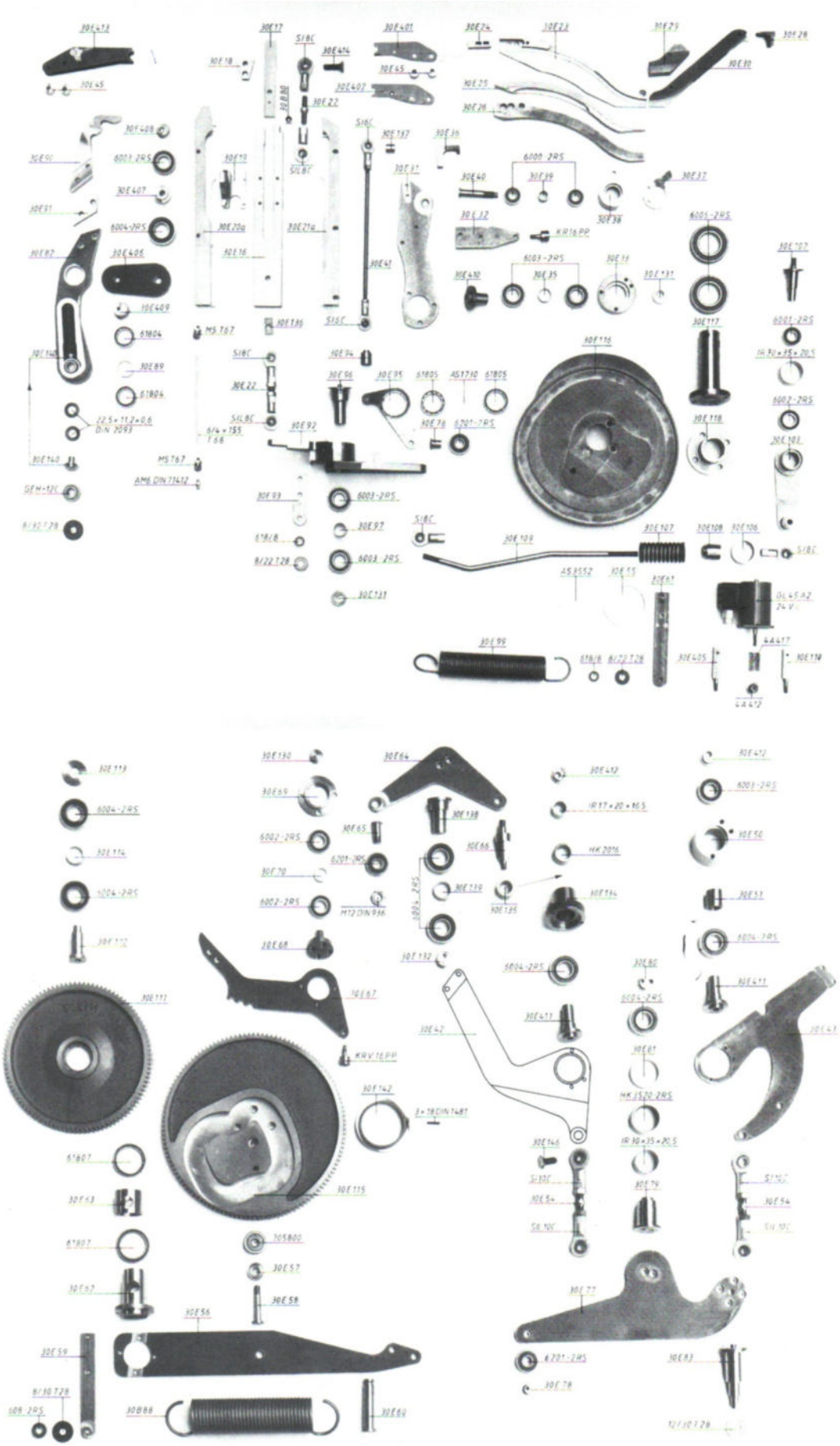
NOTE!

Use only cleaning agents that are approved for use in the foodstuffs industry and that are suitable for stainless steel surfaces.

Observe the instructions of the distributor of this cleaning agent with regard to handling hazardous substances.

9. Replacement parts and bought-out parts

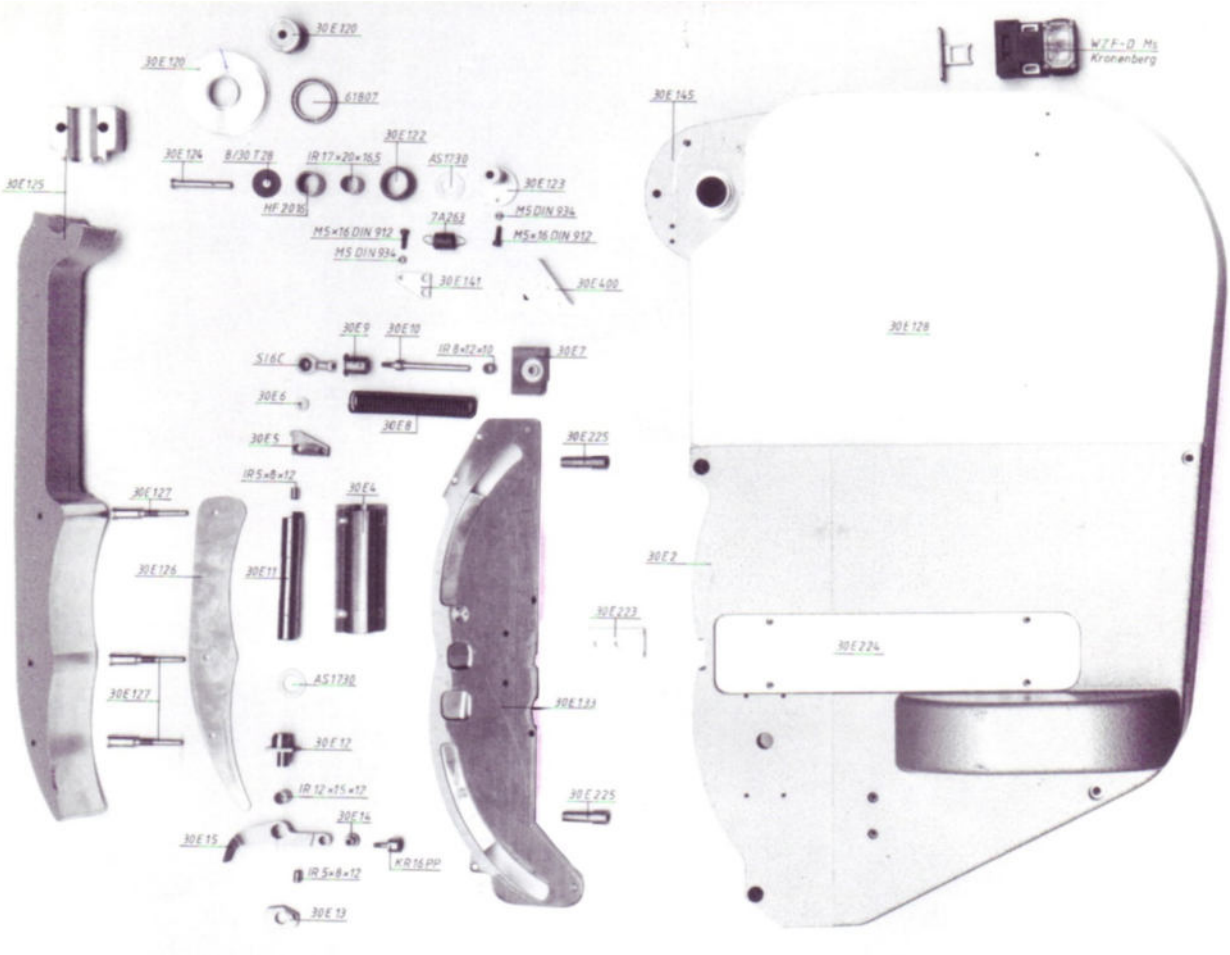
When ordering replacement parts, please quote the designations cited in the replacement parts lists and also the machine number. This will avoid time-consuming queries.



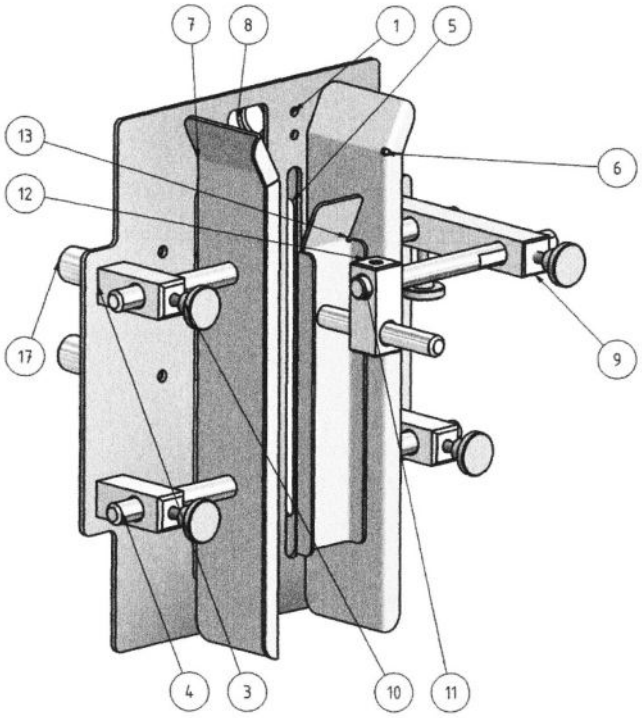
Number	Part no.	Name
1	4 A 412	Spring hinge sleeve
1	4 A 417	Spring for DC solenoid
1	30 B 80	Set cutter
1	30 B 88	Outer spring for packer
1	30 E 16	Outer slider
1	30 E 17	Inner slider-
1	30 E 18	Lower cutter for hanger
1	30 E 19	Cam for U-bender
1	30 E 20 a	Slider guide, left
1	30 E 21 a	Slider guide, right
2	30 E 22	Connector for swivel head
1	30 E 23	Cutter holder
1	30 E 24	Set cutter for clip belt
1	30 E 25	Guide for belt feed
1	30 E 26	Cover for belt feed
1	30 E 28	Inlet guide
1	30 E 29	Cover for sheet guide
1	30 E 30	Sheet guide
1	30 E 31	Clip belt feed lever
1	30 E 32	Cam lever for clip feed
1	30 E 33	Hub for feed lever
1	30 E 35	Ball bearing sleeve for feed lever
1	30 E 36	Outer feed rod
1	30 E 37	Inner feed rod
1	30 E 38	Sleeve for feed rod
1	30 E 39	Small sleeve for feed rod
1	30 E 40	Shaft for feed gripper
1	30 E 41	Rod for feed gripper
1	30 E 42	Right packer lever
1	30 E 43	Left packer lever
4	30 E 45	Large spacer tube for packer
1	30 E 50	Box for packer lever
1	30 E 51	Spacer sleeve for packer lever
2	30 E 54	Adjusting rod for packer
1	30 E 55	Bearing hoops
1	30 E 56	Control lever for packer
1	30 E 57	Support for packer cam roller
1	30 E 58	Shaft for packer cam roller
1	30 E 59	Spring lever for packer
1	30 E 60	Spring suspension
1	30 E 61	Additional spring lever
1	30 E 62	Shaft for packer controller
1	30 E 63	Spacer tube for packer controller
1	30 E 64	Roller lever for closing stamp
1	30 E 65	Roller shaft for closing stamp
1	30 E 66	Swivel pin for closing stamp
1	30 E 67	Cam lever for printing mechanism
1	30 E 68	Shaft for printing mechanism lever
1	30 E 69	Ball bearing sleeve for printing mechanism
1	30 E 70	Spacer sleeve for printing mechanism
1	30 E 77	Cam lever for closing device
2	30 E 78	Roller shaft for closing device
1	30 E 79	Shaft for closing device cam lever
1	30 E 80	Clamp washer for closing device shaft
1	30 E 81	Ball bearing sleeve for closing device shaft
1	30 E 82	Coupler for closing device
1	30 E 83	Stud bolt for closing device lever

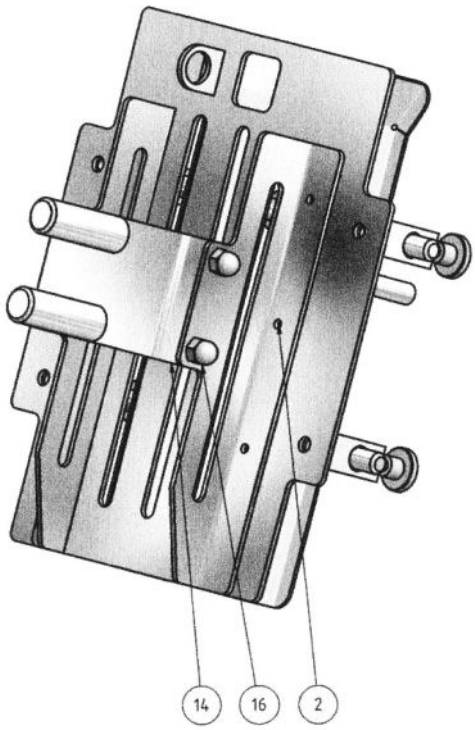
Number	Part no.	Name
1	30 E 89	Intermediate sleeve for swing arm
1	30 E 90	Clip finger
1	30 E 91	Feather key for clip finger
1	30 E 92	Control lever for cutting slider
1	30 E 93	Spring shackle for cutting slider
1	30 E 94	Swivel head support
1	30 E 95	Control lever for clip belt feed
1	30 E 96	Shaft for control lever
1	30 E 97	Ball bearing, spacer sleeve
1	30 E 99	Spring for belt section
1	30 E 102	Shaft for pressure belt winder
1	30 E 103	Swing arm for belt winder
1	30 E 106	Spring bush
1	30 E 107	Spring for transportation gripper
1	30 E 108	Spring barrel guide
1	30 E 109	Rod for belt transportation
1	30 E 110	Right support for solenoids
1	30 E 111	Idle wheel
1	30 E 112	Shaft for idle wheel
1	30 E 113	Rest for idle wheel •
1	30 E 114	Spacer sleeve for idle wheel
1	30 E 115	Lower cam
1	30 E 116	Upper cam
1	30 E 117	Shaft for cam set
1	30 E 118	Flange sleeve for cam set
1	30 E 130	Ball bearing disc 0 15
2	30 E 131	Ball bearing disc 0 17
1	30 E 132	Ball bearing disc 0 20
1	30 E 134	Sleeve for right packer lever
1	30 E 135	Spacer sleeve for right packer
1	30 E 136	Base for swivel head
1	30 E 137	Support for swivel head
1	30 E 138	Shaft for closing device stamp
1	30 E 139	Ball bearing sleeve for closing device stamp
1	30 E 140	*Connection* for cup spring
1	30 E 142	Cam for printing mechanism
1	30 E 146	Swivel head screw for inner packer
1	30 E 401	Packer sheet, lower right
1	30 E 402	Packer sheet, upper right
1	30 E 405	Left support for solenoids
1	30 E 406	Swing arm for closing device lever
1	30 E 407	Flange shaft for swing arm
1	30 E 408	Clamping nut for flange shaft
1	30 E 409	Shaft for swing arm
1	30 E 410	Shaft for feed lever
2	30 E 411	Shaft for packer
2	30 E 412	Ball bearing disc for packer
1	30 E 413	Left packer sheet unit
1	30 E 414	Swivel head screw for lower cutter
1	30 E 415	Swivel head screw for control lever
1	M 12 DIN 936	Hex. Nut, flat
1	3x18 22, 5x11, 2x0, 6	Clamping bush DIN1481
60	DIN 2093	Cup spring
1	A M6 DIN 71412	Ball-type grease nipple
2	8/22 T28	Washer disc
2	8/30 T28	Washer disc
1	12/30 T28	Washer disc

Number	Part no.	Name
2	MS T67	Screw connection
1	6/4x155 T68	Hose, PVC
1	AS 1730	Axial disc
1	AS 3552	Axial disc
1	GEH-12C	Swivel bearing
1	HK 2016	Needle bush
1	HK 3520-2RS	Needle bush
1	IR 17x20x16.5	Inner ring
2	IR 30x35x20.5	Inner ring
1	KR 16 PP	Cam roller
1	KRV 16 PP	Cam roller
2	S I 6C	Swivel head
4	S I 8C	Swivel head
2	S I L 8C	Swivel head
2	S I 10C	Swivel head
2	S I L 10C	Swivel head
1	608 - 2RS	Grooved ball bearing
2	618 - 2RS	Grooved ball bearing
2	6000 - 2RS	Grooved ball bearing
1	6001 - 2RS	Grooved ball bearing
3	6002 - 2RS	Grooved ball bearing
6	6003 - 2RS	Grooved ball bearing
8	6004 - 2RS	Grooved ball bearing
2	6006 - 2RS	Grooved ball bearing
3	6201 - 2RS	Grooved ball bearing
2	61804	Grooved ball bearing
2	61805	Grooved ball bearing
2	61807	Grooved ball bearing
1	305800	Track roller
1	GL 45A2 24 V=	Valve solenoid

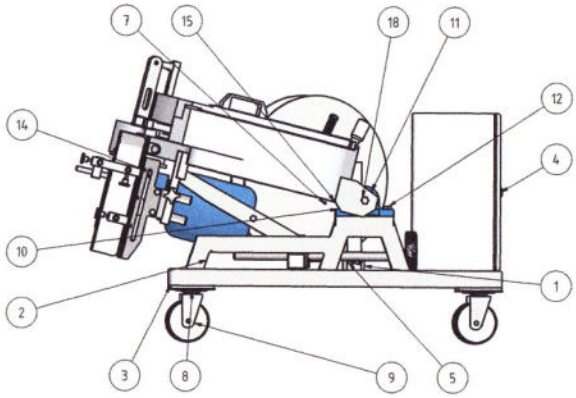

30E120
30E170
61807
30E122
30E124
B/30T28
IR17×20×16,5
AS1730
30E123
30E125
HF2015
7A263
M5 DIN 934
M5×16 DIN 912
M5 DIN 934
30E141
30E400
30E9
30E10
IR8×12×10
30E7
S16C
30E6
30E8
30E5
30E225
IR5×8×12
30E4
30E127
30E176
30E11
30E2
30E223
30E224
AS1730
30E177
30E133
30E12
IR12×15×17
30E225
30E14
30E15
KR16PP
IR5×8×12
30E13
30E145
30E128
W7F-D M5
Kronenberg

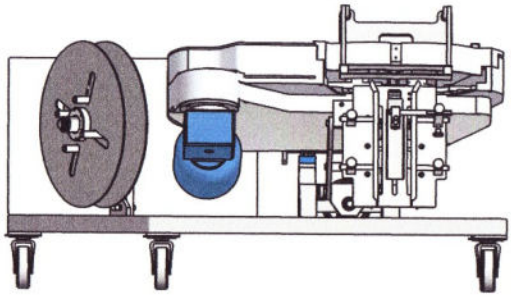
Number	Part no.	Name
1	7 A 263	Spring
1	30 E 2	Cover
1	30 E 4	Sleeve for U-bender
1	30 E 5	Spring shackle for U-bender
1	30 E 6	Disc for shackle
1	30 E 7	Holder for spring guide
1	30 E B	Spring for U-bender
1	30 E 9	Spring sleeve
1	30 E 10	Guide rod for spring
1	30 E 11	Shaft for U-bender
1	30 E 12	Flange sleeve for U-bender
1	30 E 13	Disc for flange sleeve
1	30 E 14	Cam roller sleeve for U-bender
1	30 E 15	U-bender
1	30 E 120	Spring holder for non-return device
1	30 E 121	Clip infeed rollers
1	30 E 122	Ratchet wheel
1	30 E 123	Sleeve for backstop
1	30 E 124	Shaft for backstop
1	30 E 125	Packer plate
1	30 E 126	Lower sheet for packer plate
3	30 E 127	Support for packer plate
1	30 E 128	Plexidur covering
1	30 E 133	Lower packer sheet
1	30 E 141	Holder for locking spring
1	30 E 145	Housing for clip head
1	30 E 223	Filler plate for label knife
1	30 E 224	Covering for label feed
2	30 E 225	Centring pin
1	30 E 400	Clip belt guide sheet
2	M5x16 DIN 912	Allen screw
2	M5 DIN 934	Hex. nut
1	8/30 T28	Washer disc
2	AS 1730	Axial disc
1	HF 2016	Bush roller clutch
2	IR 5x8x12	Inner ring
1	IR 8x12x10	Inner ring
1	IR 12x15x12	Inner ring
1	IR 17x20x16.5	Inner ring
1	KR 16 PP	Cam roller
1	S I 6C	Swivel head
1	61807	Grooved ball bearing
1	WZF-D Ms	Safety switch WZF-D Ms

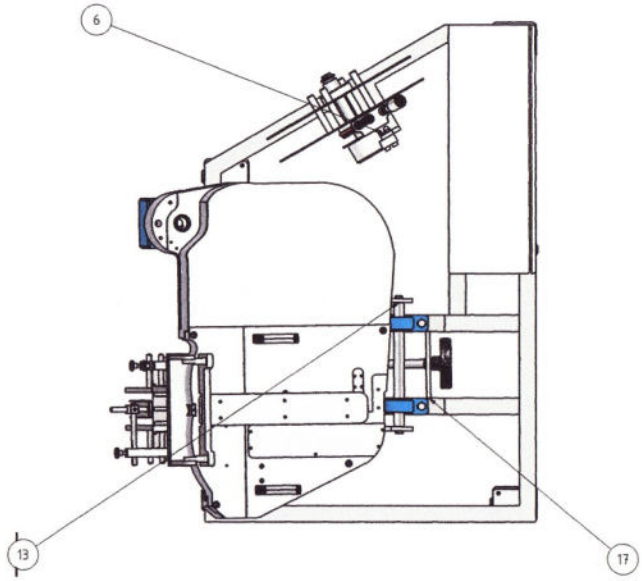




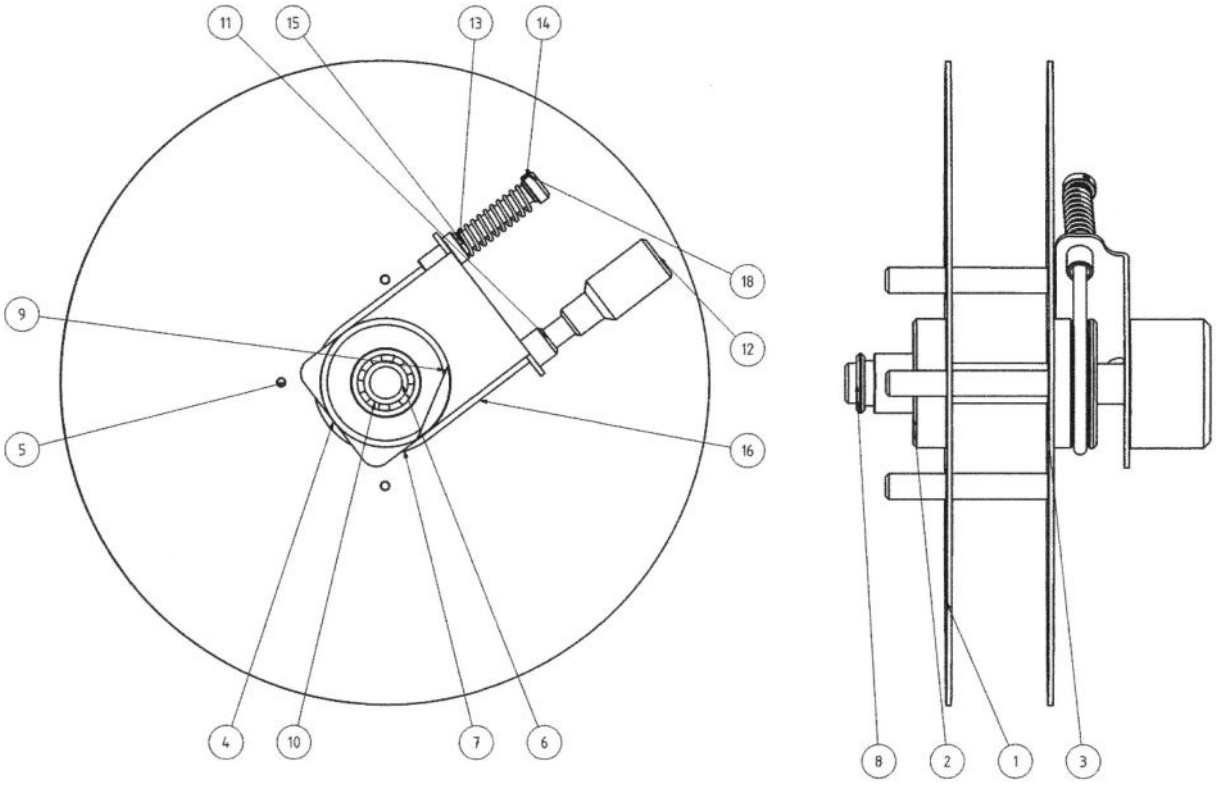
OBJECT	NUMBER	COMPONENT NUMBER	DESCRIPTION
1	1	Sliding floor	
2	1	Adjustment angle	
3	3	Guide	
4	5	Round rod	
5	1	Adjustment angle mirrored	
6	1	Side sheet, right	
7	1	Side sheet, left	
8	1	Sensor holder for M18x1	
9	1	Double guide	
10	5	Star grip - M6 x 20	
11	1	Round rod2	
12	1	Intermediate guide	
13	1	Limit sheet	
14	1	Mounting sheet	
15	4	ISO 4762 - M8 x 16	Allen screw
16	4	JIS B 1183 Type 1 - M8	Cap nut
17	2	Round rod3	



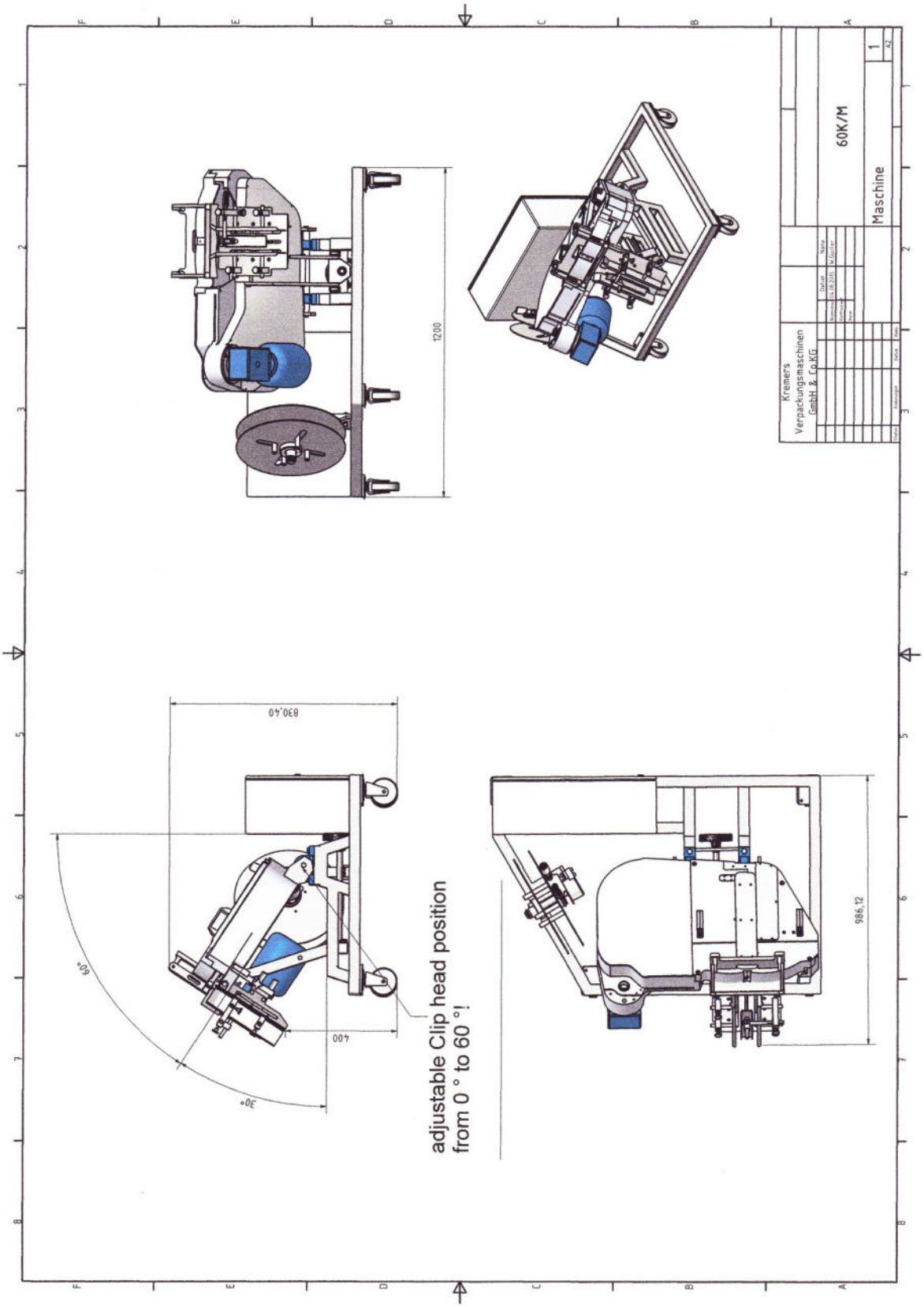


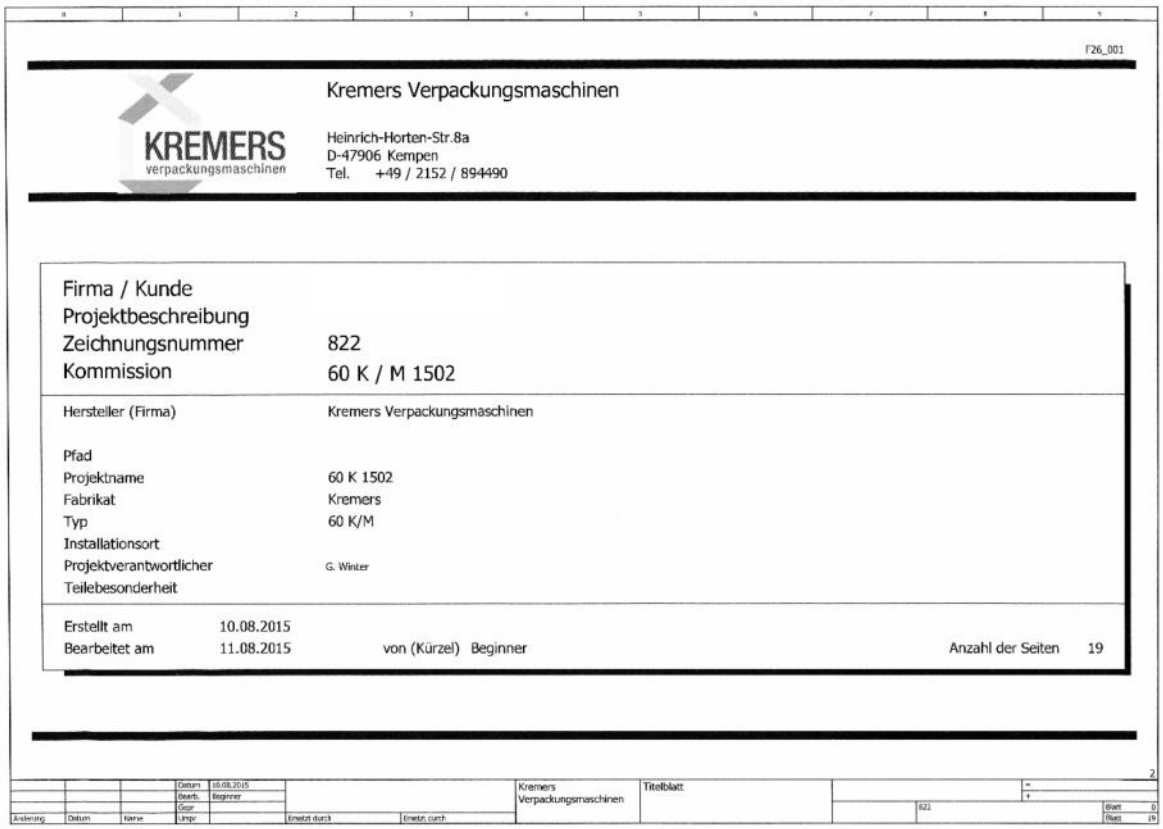


OBJECT	NUMBER	COMPONENT NUMBER	DESCRIPTION
1	1	Frame	
2	2	Carrier	
3	4	Roller plate	
4	1	Control cabinet	
5	2	ISO 4762 - M8 x 40	Allen screw
6	2	DIN 1587 - M8	Cap nut
7	1	Reel assembly	
8	4	Rollers	
9	4	Castor	
10	2	Pedestal bearing mount	
11	2	Pedestal bearing	
12	4	ISO 4017 - M12 x 40	Hexagonal screw
13	1	Welle1	
14	1	Complete assembly	
15	1	Clip head mount 2	
16	2	Guide 1	
17	1	Bearing plate	
18	2	ISO 8765 - M10 x 1.25 x 45	



OBJECT	NUMBER	COMPONENT NUMBER	DESCRIPTION
1	1	Reel disc 1	
2	1	Flange	
3	1	Reel disc 2	
4	1	Stop flange	
5	4	Round rod 16mm	
6	1	Shaft	
7	1	Stop sheet	
8	1	Mobac shaft lock	
9	1	Bearing mount	
10	2	OIN 625 SKF - SKF 6004	Ball bearing, single-row
11	1	Brake adjustment	
12	1	Rotary knob	
13	1	Guide	
14	1	Guide shaft	
15	1	Spring	
16	1	Leather strap	
17	1	DIN 705 - 88	Adjustment ring
18	I	ISO 13337 - 3 x 16	Spiral split pins, with slit, light version


60K/M
Maschine
Kremers Verpackungsmaschinen GmbH & Co.KG
1200
830,40
400
986,12
adjustable Clip head position
from 0 ° to 60 °!



F26_001

KREMERS verpackungsmaschinen

Kremers Verpackungsmaschinen

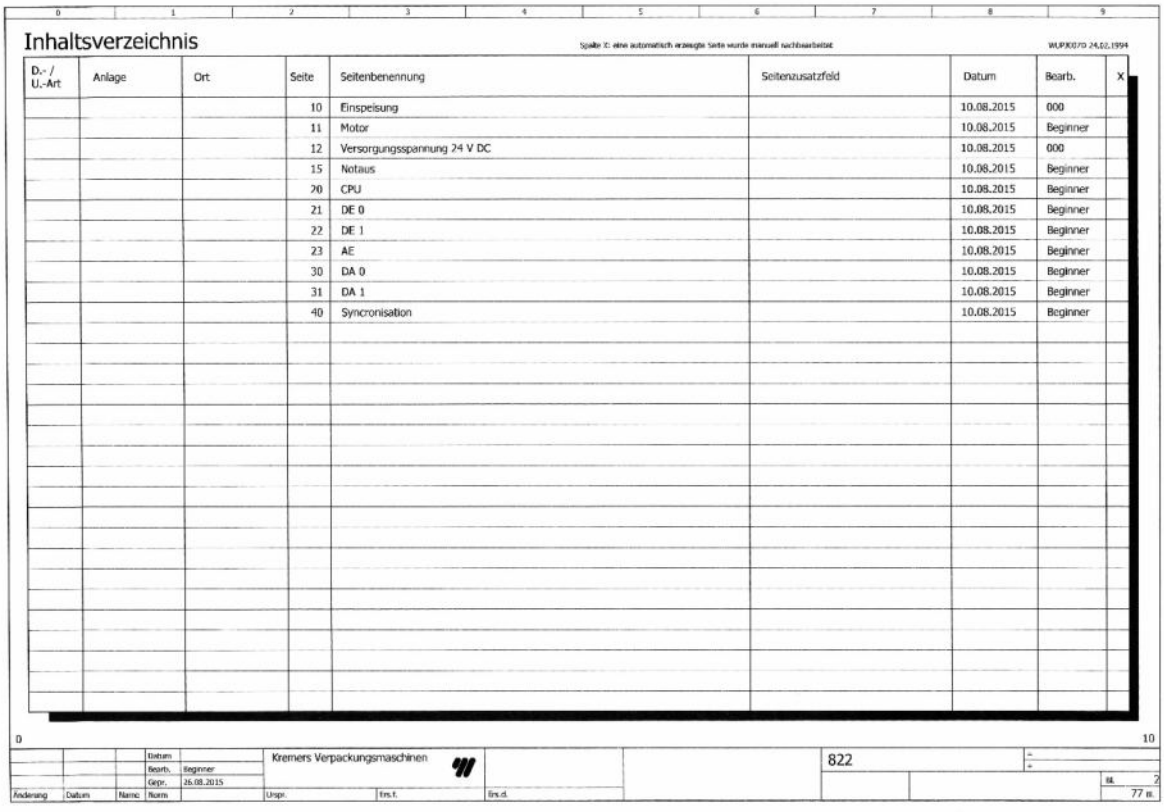
Heinrich-Horten-Str.8a
D-47906 Kempen
Tel. +49 / 2152 / 894490

Firma / Kunde	
Projektbeschreibung	
Zeichnungsnummer	822
Kommission	60 K / M 1502
Hersteller (Firma)	Kremers Verpackungsmaschinen
Pfad	
Projektname	60 K 1502
Fabrikat	Kremers
Typ	60 K/M
Installationsort	
Projektverantwortlicher	G. Winter
Teilebesonderheit	

Erstellt am 10.08.2015
Bearbeitet am 11.08.2015 von (Kürzel) Beginner Anzahl der Seiten 19

Datum 10.08.2015 Bearb. Beginner Gepr. Änderung Datum Name Urspr. Ersetzt durch Ersetzt durch

Kremers Verpackungsmaschinen | Titelblatt | 822 | Blatt 0 | Blatt 19



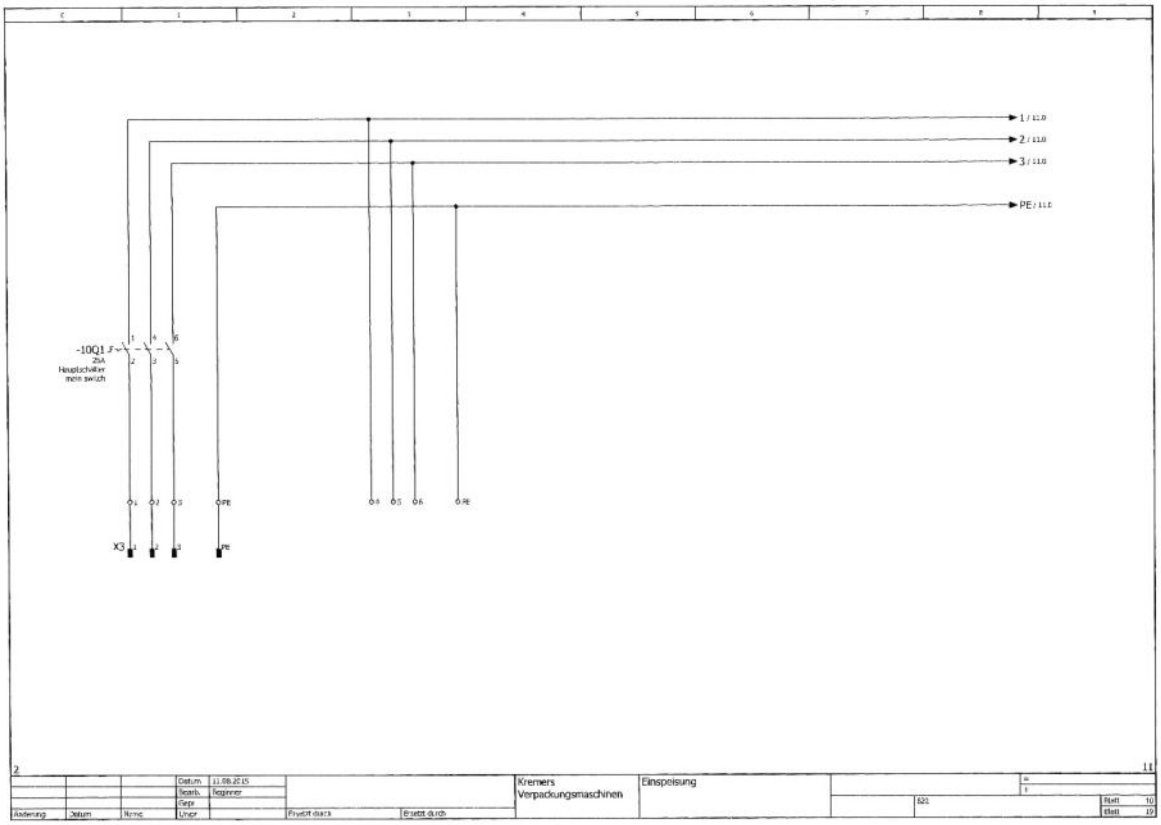
Inhaltsverzeichnis

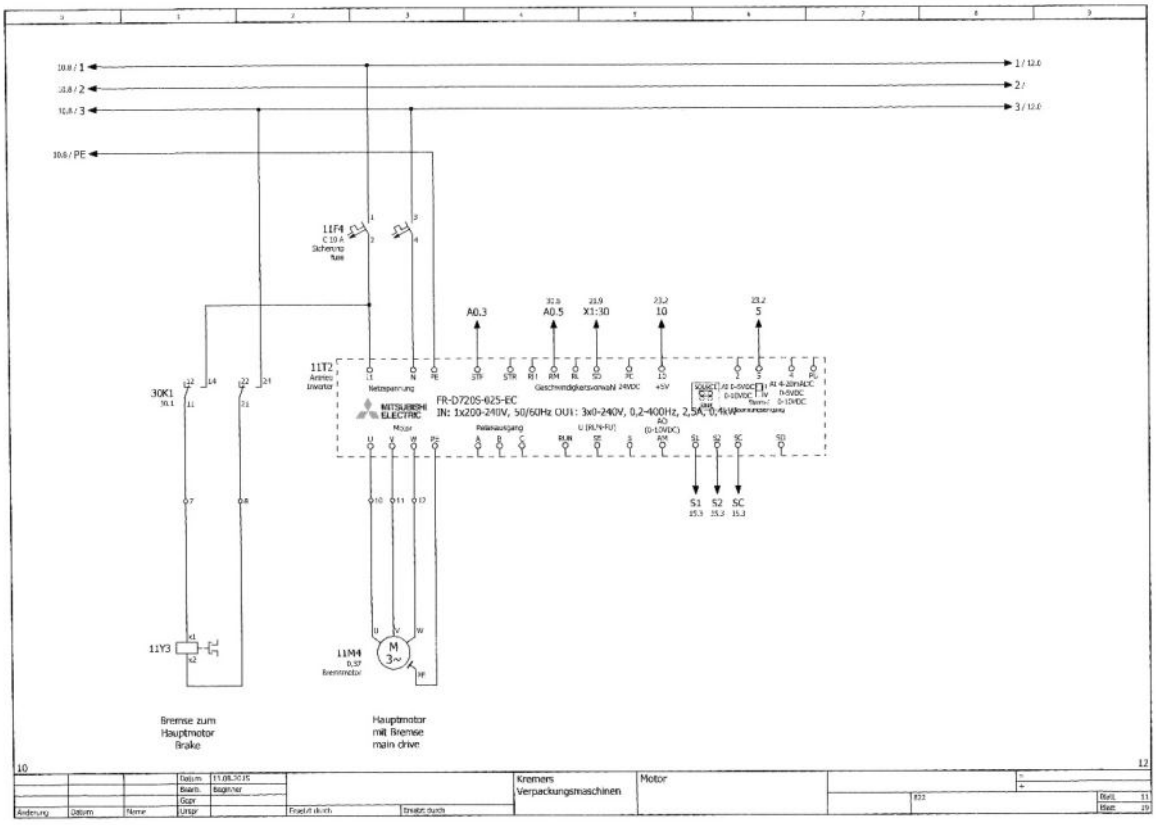
Spalte X: eine automatisch erzeugte Seite wurde manuell nachbearbeitet WUPKO70 24.02.1994

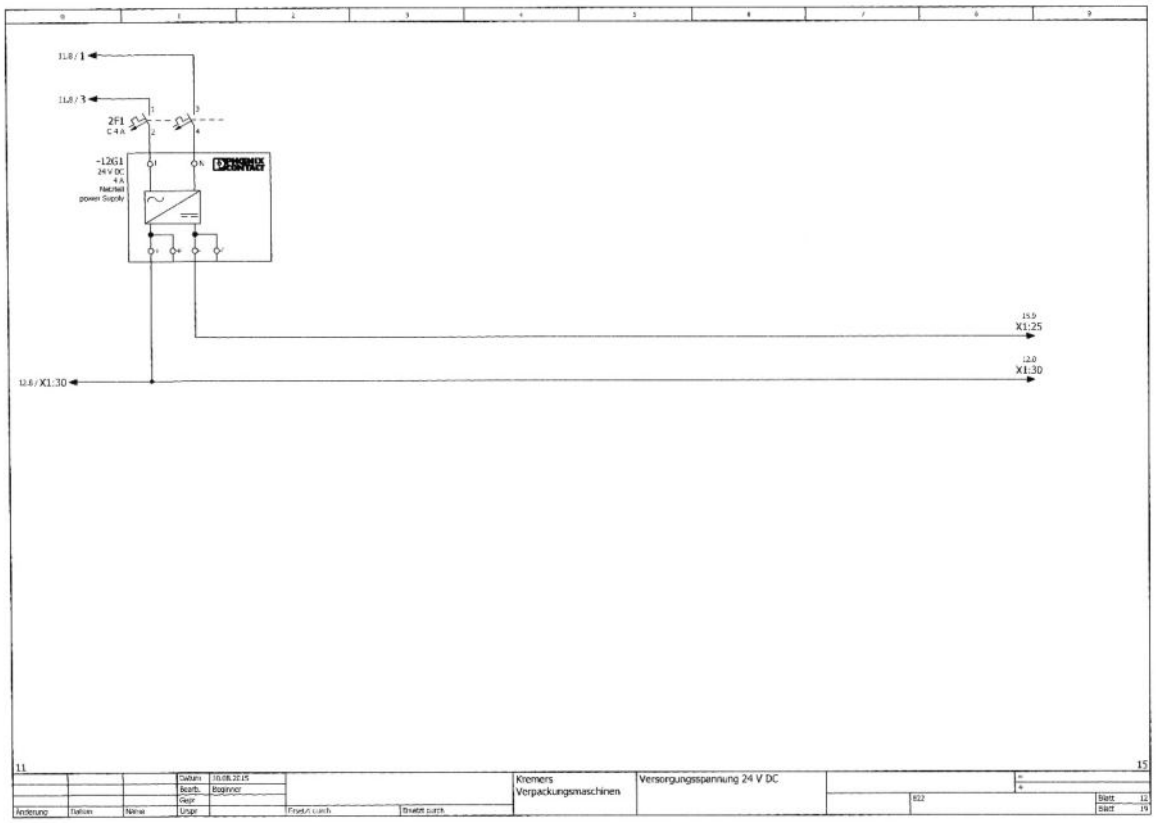
D.- / U.-Art	Anlage	Ort	Seite	Seitenbenennung	Seitenzusatzfeld	Datum	Bearb.	X
			10	Einspeisung		10.08.2015	000	
			11	Motor		10.08.2015	Beginner	
			12	Versorgungsspannung 24 V DC		10.08.2015	000	
			15	Notaus		10.08.2015	Beginner	
			20	CPU		10.08.2015	Beginner	
			21	DE 0		10.08.2015	Beginner	
			22	DE 1		10.08.2015	Beginner	
			23	AE		10.08.2015	Beginner	
			30	DA 0		10.08.2015	Beginner	
			31	DA 1		10.08.2015	Beginner	
			40	Syncronisation		10.08.2015	Beginner	

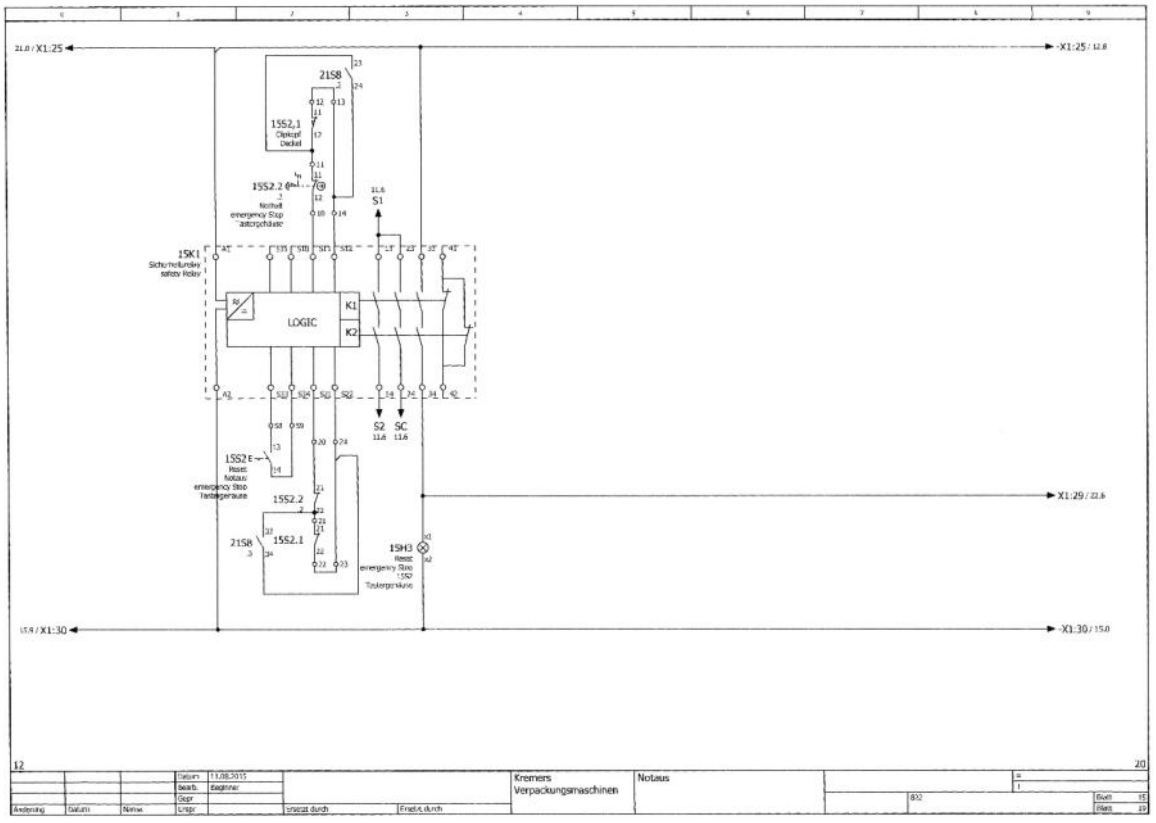
Datum Bearb. Beginner Gepr. 26.08.2015 Änderung Datum Name Norm Urspr. Ers.f. Ers.d.

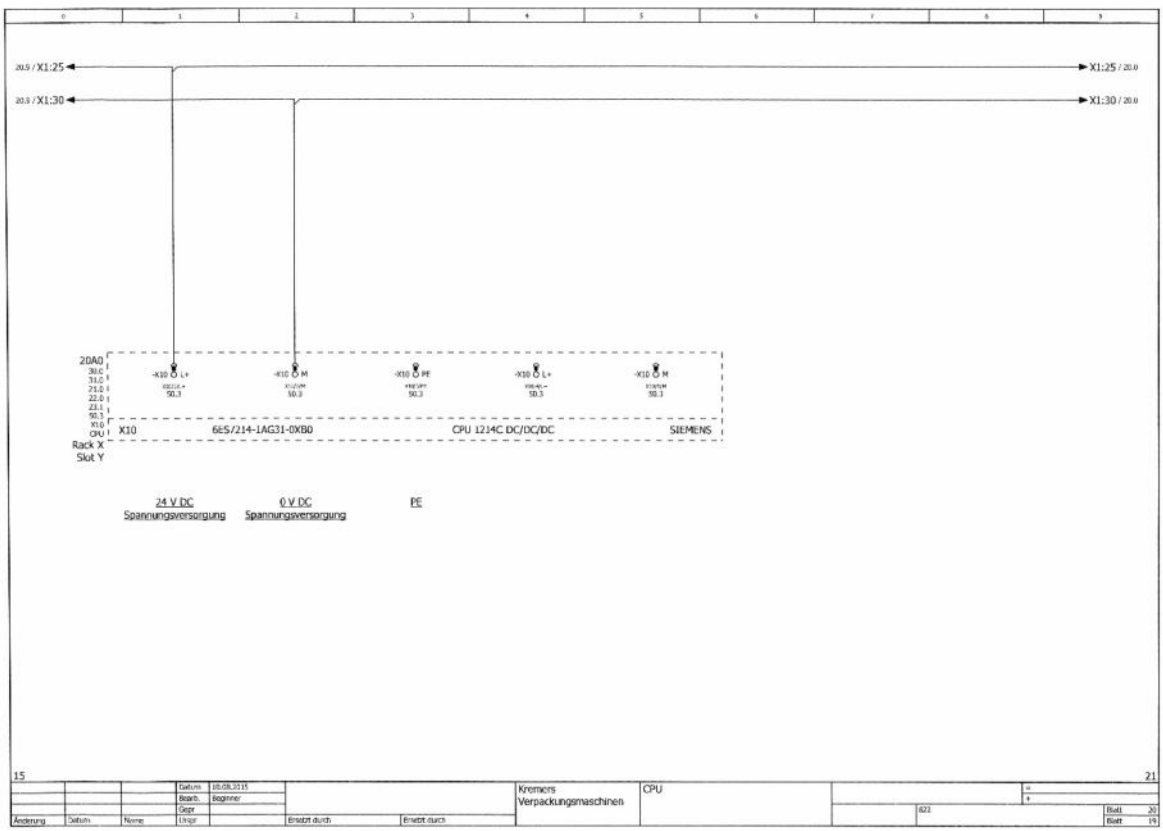
Kremers Verpackungsmaschinen | 822 | Bl. 2 | 77 Bl.

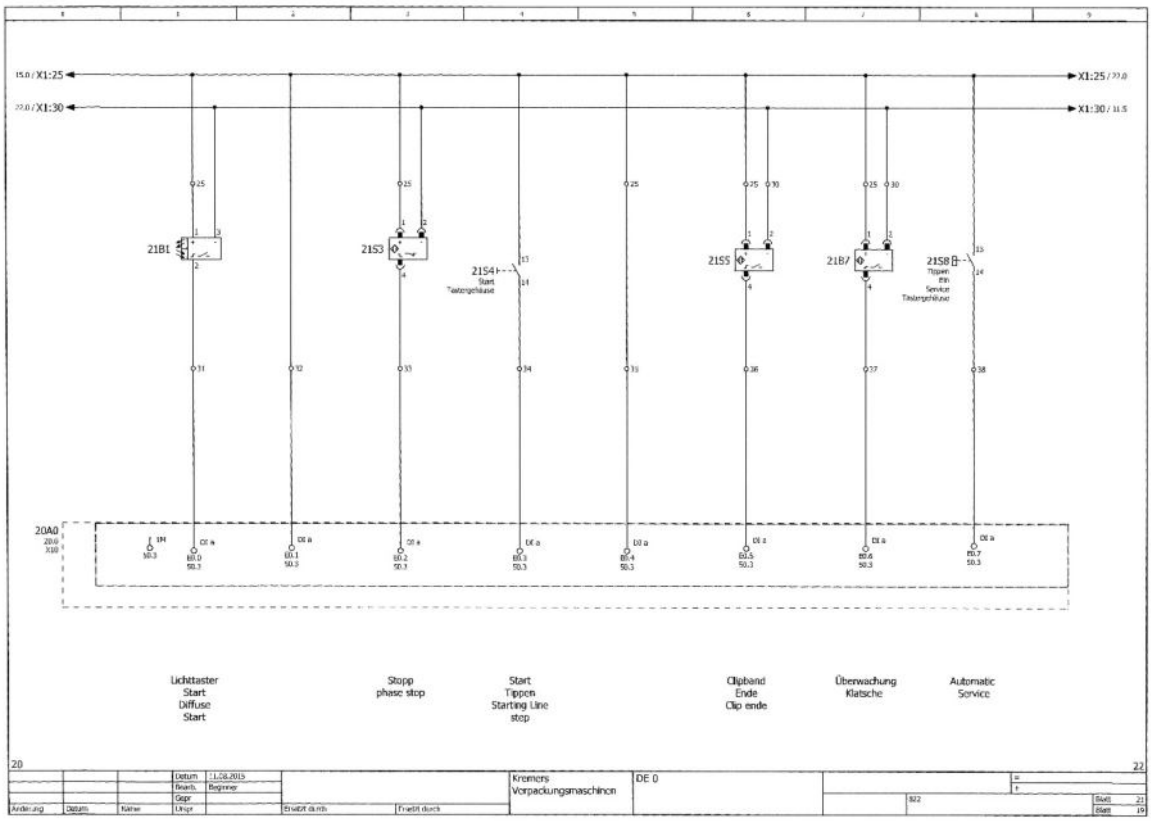

-10Q1
Hauptschalter
main switch
X3
PE
Kremers
Verpackungsmaschinen
Einspeisung

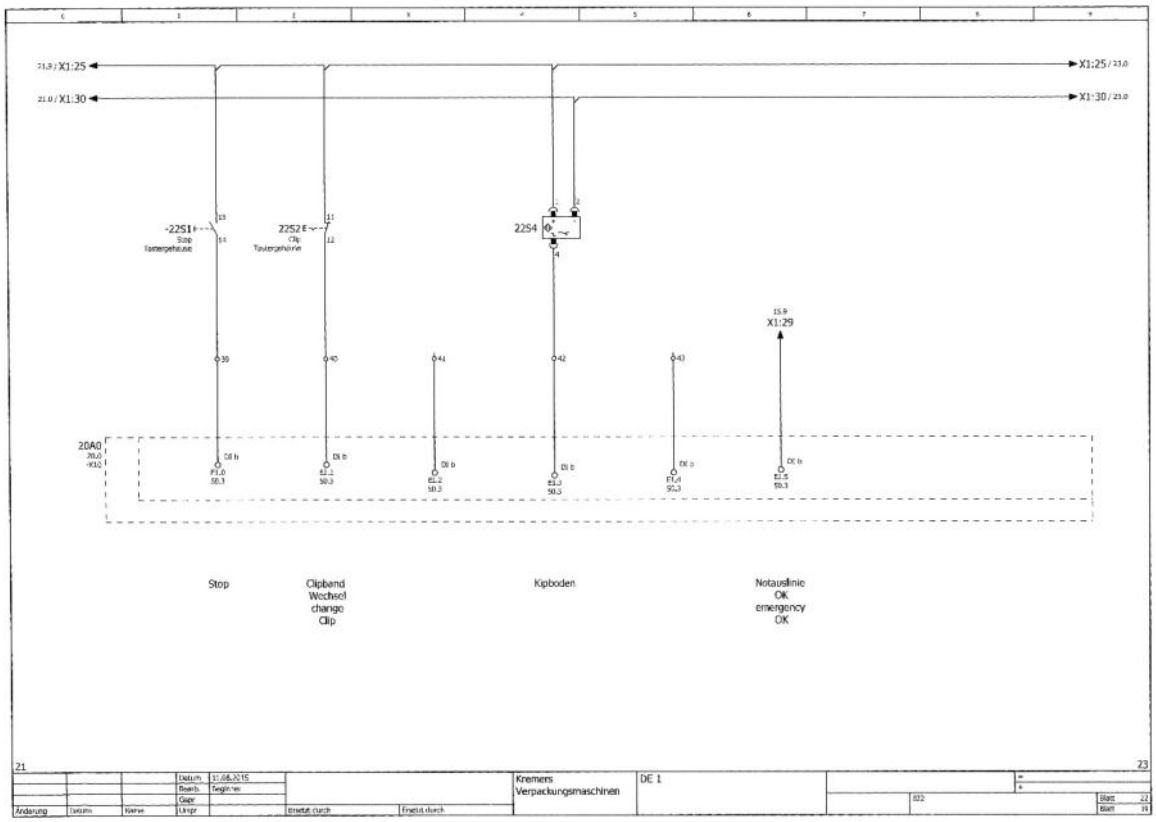

11F4
30K1
11T2
FR-D720S-025-EC
11Y3
11M4
S1
S2
SC
Bremse zum
Hauptmotor
Brake
Hauptmotor
mit Bremse
main drive
Kremers
Verpackungsmaschinen
Motor

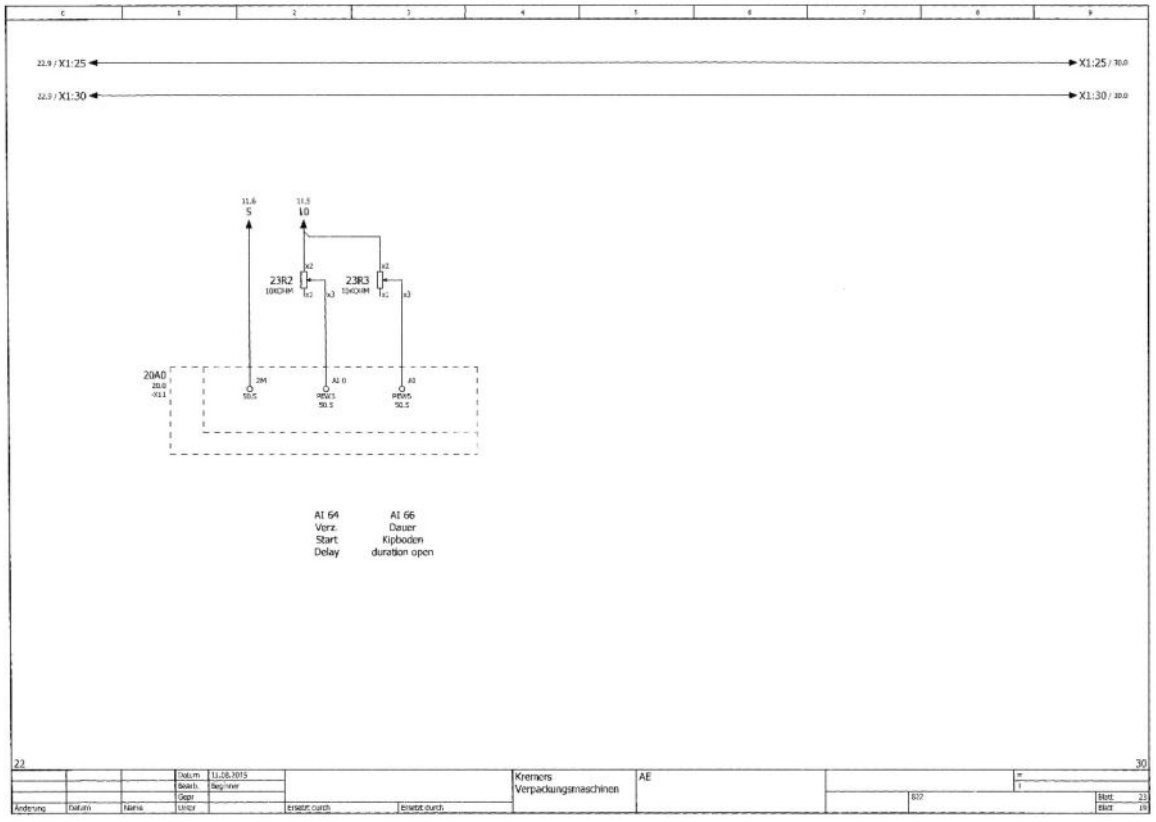

11.8 / 1
11.8 / 3
2F1
C 4 A
-12G1
24 V DC
4 A
Netzteil
power Supply
15.0
X1:25
12.0
X1:30
12.8 / X1:30
11
15
Kremers
Verpackungsmaschinen
Versorgungsspannung 24 V DC

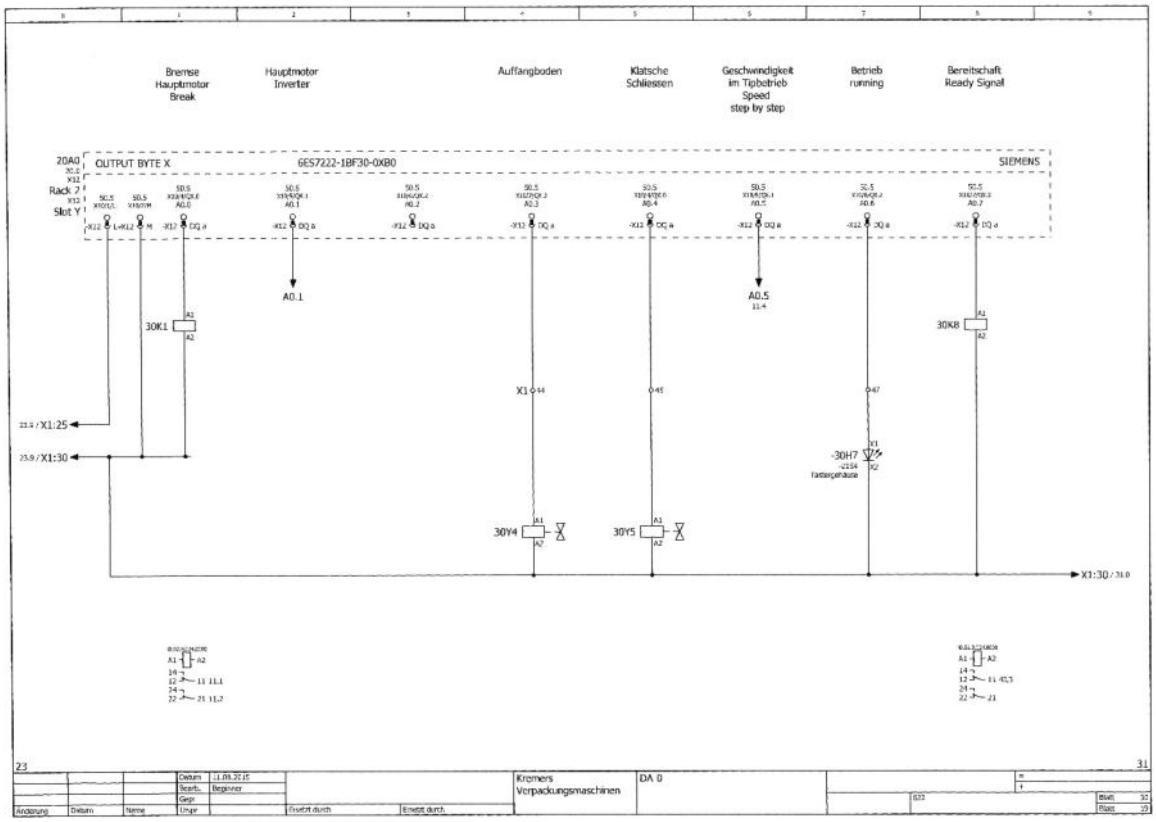

21.8 / X1:25
-X1:25 / 12.8
21S8
1SS2.1
Objekt
Deckel
1SS2.2
Not-Halt
emergency Stop
"abzuschalten"
11.6
S1
1SK1
Sicherheitsrelais
safety Relay
LOGIC
K1
K2
S2
11.6
SC
11.6
1SS2 E
Reset
Not-Aus
emergency Stop
Tastergeräusch
1SS2.2
1SS2.1
21S8
1SH3
Reset
emergency Stop
1SS2
Tastergeräusch
-X1:29 / 22.8
15.4 / X1:30
-X1:30 / 15.0
12
20
Kremers
Verpackungsmaschinen
Notaus

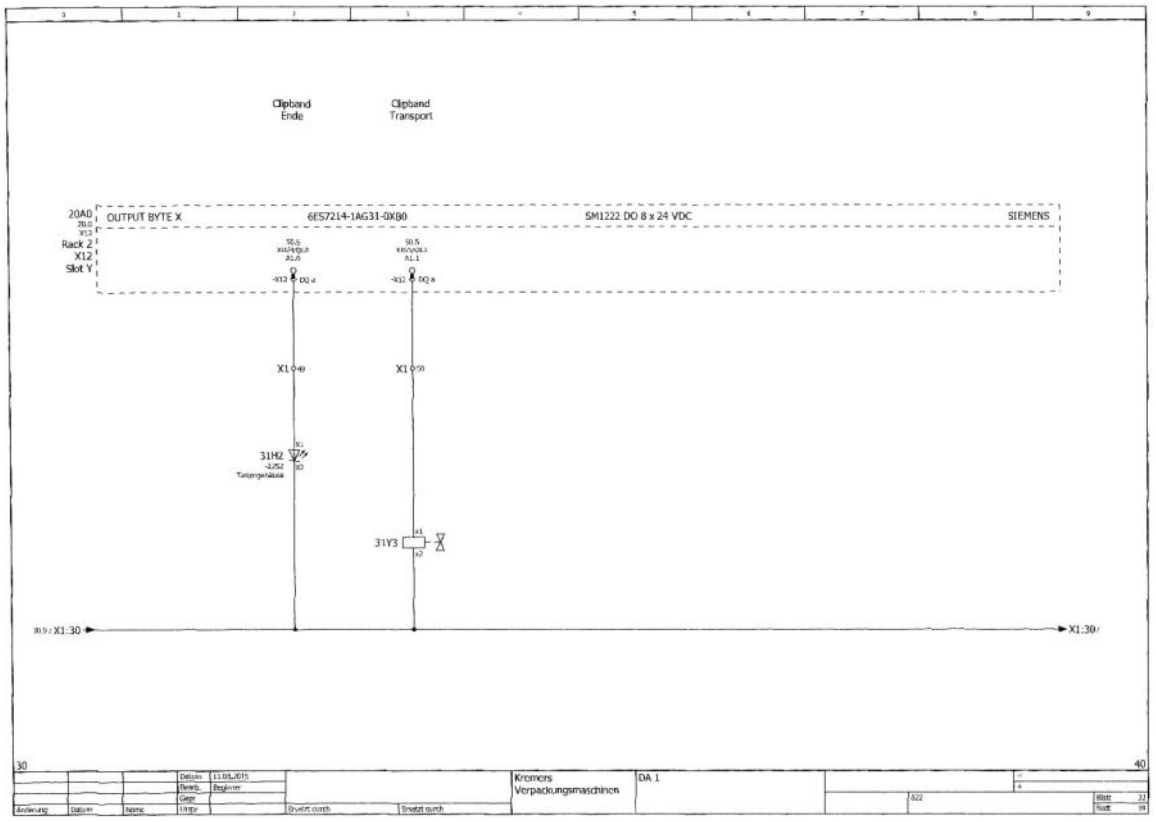

20.9 / X1:25
20.8 / X1:30
X1:25 / 20.0
X1:30 / 20.0
20A0
X10
6ES7214-1AG31-0XB0
CPU 1214C DC/DC/DC
SIEMENS
Rack X
Slot Y
24 V DC
Spannungsversorgung
0 V DC
Spannungsversorgung
PE
Kremers
Verpackungsmaschinen
CPU

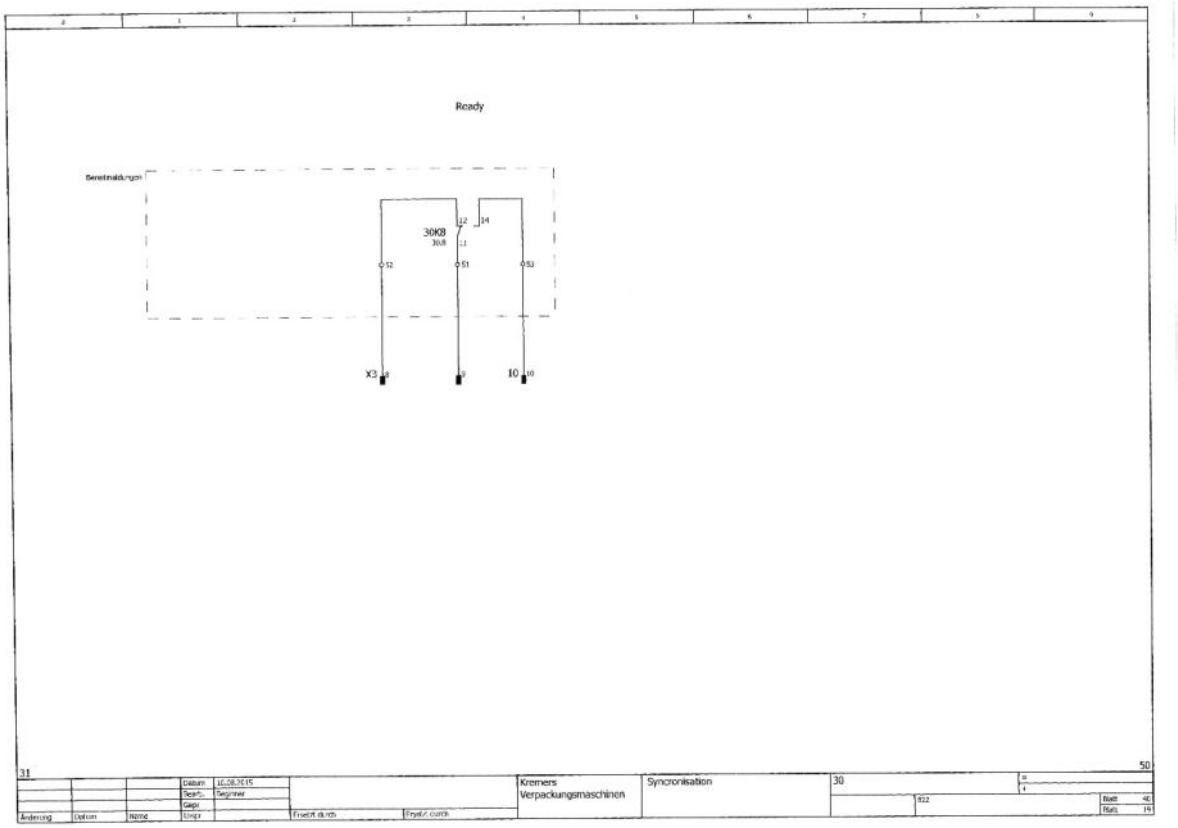

15.0 / X1:25
22.0 / X1:30
X1:25 / 22.0
X1:30 / 11.5
21B1
21S3
21S4
21S5
21B7
21S8
20A0
Lichttaster
Start
Diffuse
Start
Stopp
phase stop
Start
Tippen
Starting Line
stop
Clipband
Ende
Clip ende
Überwachung
Klatsche
Automatic
Service
Kremers
Verpackungsmaschinen
DE 0

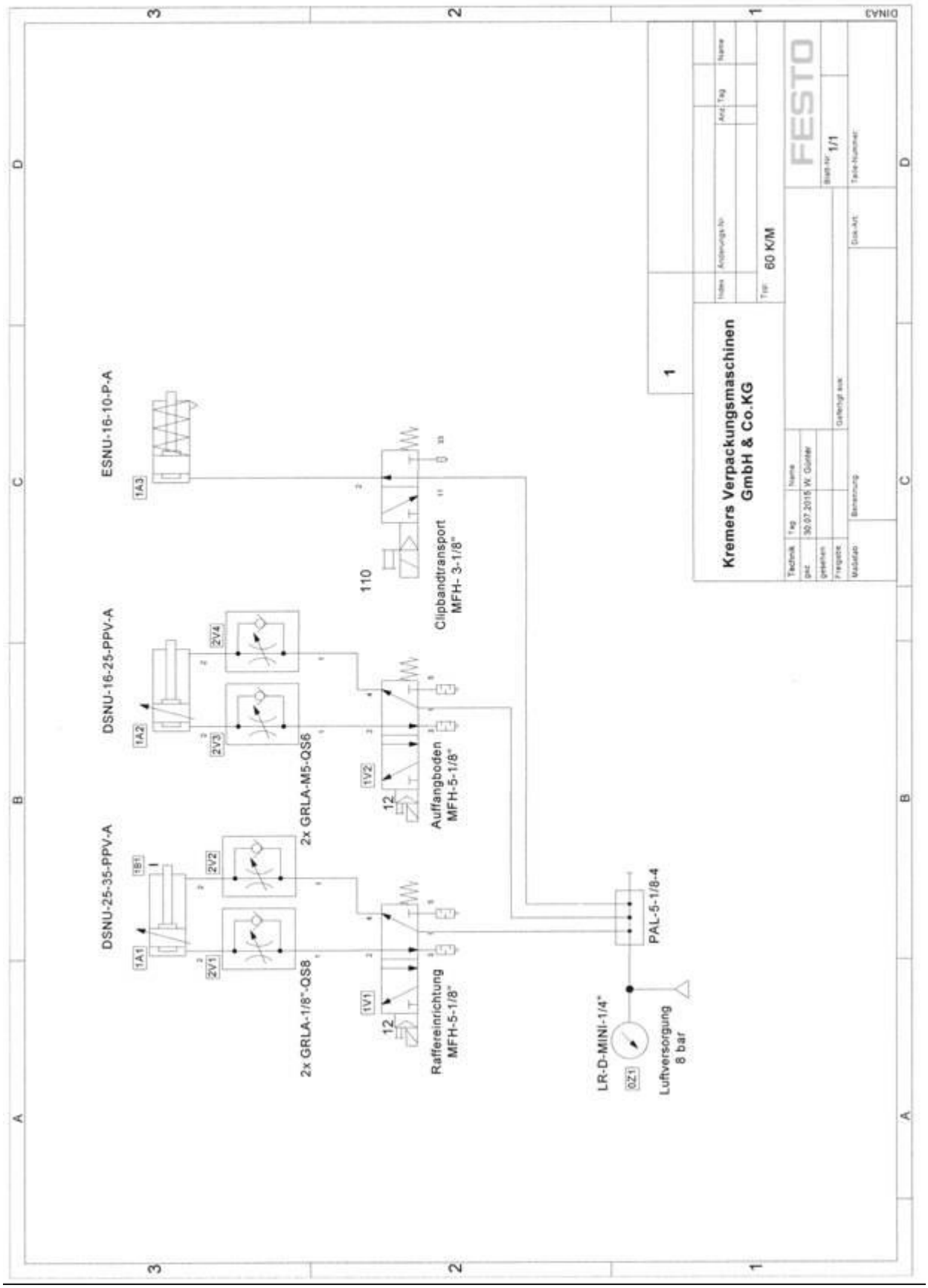

X1:25
X1:30
-22S1
22S2
22S4
X1:29
20A0
Stop
Clipband Wechsel change Clip
Kipboden
Notauslinie OK emergency OK
Kremers Verpackungsmaschinen
DE 1


X1:25
X1:30
23R2
23R3
20A0
AI 64 Verz. Start Delay
AI 66 Dauer Kipboden duration open
Kremers Verpackungsmaschinen
AE


Bremse
Hauptmotor
Break
Hauptmotor
Inverter
Auffangboden
Klatsche
Schliessen
Geschwindigkeit
im Tipbetrieb
Speed
step by step
Betrieb
running
Bereitschaft
Ready Signal
OUTPUT BYTE X
6ES7222-1BF30-0XB0
SIEMENS
Rack 2
X12
Slot Y
A0.1
A0.5
30K1
30K8
X1:44
X1:45
X1:47
30H7
30Y4
30Y5
X1:25
X1:30
Kremers
Verpackungsmaschinen
DA 0


Clipband
Ende
Clipband
Transport
OUTPUT BYTE X
6ES7214-1AG31-0XB0
SM1222 DO 8 x 24 VDC
SIEMENS
Rack 2
X12
Slot Y
X1:49
X1:50
31H2
31Y3
X1:30
Kremers
Verpackungsmaschinen
DA 1


Ready
30K8
Kremers Verpackungsmaschinen
Syncronisation


ESNU-16-10-P-A
1A3
110
Clipbandtransport
MFH- 3-1/8"
DSNU-16-25-PPV-A
1A2
2V4
2V3
2x GRLA-M5-QS6
1V2
12
Auffangboden
MFH-5-1/8"
DSNU-25-35-PPV-A
1B1
1A1
2V2
2V1
2x GRLA-1/8"-QS8
1V1
12
Raffereinrichtung
MFH-5-1/8"
PAL-5-1/8-4
LR-D-MINI-1/4"
0Z1
Luftversorgung
8 bar
Kremers Verpackungsmaschinen
GmbH & Co.KG
60 K/M
FESTO