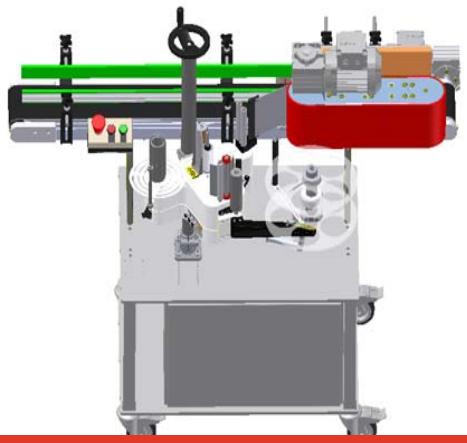
Original User's Manual

Installation, Setup, Operation and Maintenance

Geset 121

Article number of documentation 32708732



Weber Marking Systems GmbH
Maarweg 33
D-53619 Rheinbreitbach
E-Mail: info@webermarking.de
http://www.webermarking.de

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Table of content

1. General information

Overview

Congratulations! You are now the owner of a high-quality labeling system. Our desire is for you to experience the full benefit of this system to your complete satisfaction for many years. As a prerequisite, we recommend system installation by one of our experienced specialists (for instructions, see page **32**). Contact our service hotline (page **7**); we are available in 24 hours a day, Monday through Friday.

Liability restrictions

All of the information and directions in these instructions were compiled with reference to applicable standards and regulations, the state-of-the-art as well as our years of accumulated experience.

The manufacturer assumes no liability for damage arising from the following:

- Nonobservance of operating instructions
- Improper use
- Use of untrained personnel
- Independent changes to the system
- The use of spare parts that have not been approved by the manufacturer

The following apply: The obligations agreed in the supply contract, general terms and conditions, the manufacturer's delivery conditions, as well as the statutory regulations applicable upon the conclusion of the contract. We retain the right to make technical changes to improve usefulness and for the sake of development.

Warranty provisions

The warranty conditions are conform to the valid General Trading Conditions of Weber Marking Systems GmbH at the moment of purchase.

Copyright

Purpose and overview of the operating instructions

These operating instructions will help you get to know the system and use it properly.

They contain important instructions for the user on how to use the system safely and correctly. Please comply with this information to avoid hazards, minimize repair costs and outages, and to increase the reliability and service life of the machine.

The operating instructions are for the system identified in the title with the stated type number.

The operating instructions must always be available wherever the system is used. They must be read and used by everyone assigned to work with the system.

Printing mistakes, errors, and changes to maintain the state-of-the-art may occur. Illustrations without protection devices may be presented for the sake of illustration.

How to use the operating instructions

Detailed explanations are offered below of the conventions for the text and illustrations which are used in this manual.

- Buttons and switches that need to be pressed are placed in brackets.

Ex.: Press the [Start] button to accept the changes...

- Procedures that need to be performed in a fixed sequence have to be numbered.

Step	Procedure
1	Pull the power plug...

- Special information is in bold and/or has a gray background.

  This is an example of special information!

- All figures (Fig.) are numbered sequentially for each chapter. This means that the reference "**Fig. 2-1**" corresponds to the first figure in chapter 2.

- Illustrations are frequently shown with only the essential information and may therefore deviate from the original. Illustrations are therefore shown without covers or protection device for the sake of clarity.

- Some illustrations only show **one** version (for example, only the right-handed or left-handed version or only [System1]…), especially when the information is transferable to other versions.

Service-Hotline

The technical service hotline is available 24 hours a day, Monday through Friday. In emergencies, parts may be shipped as late as approximately 10:00 p.m.

Tel :	**+49 (0)2224 - 7708 - 440**
Fax :	**+49 (0)2224 - 7708 - 21**
E-Mail :	**hotline-ed@bluhmsysteme.com**

If you want to discuss labeling system malfunctions, have the following information ready for the hotline:

- Detailed description of the problem.
- All the information from the labeling system rating plate.
- Did the problem arise for the first time after the following?
  - After inserting a new role of labels or ribbon.
  - After changing the system configuration.
- If the malfunction arose in the print-apply cycle, all of the information about the PLC signal status.

Before contacting our hotline, check if the operating instructions (chapter titles, troubleshooting) has information to help you deal with the problem.

We would like to keep our hotline available for our customers as much as possible. Please be aware that our hotline may also refer you to written information in the operating instructions.

Explanation of the terms used

Term	Explanation
3-roll system	Is used for labeling around of round products.
Adhesive strings	Glue that has leaked out at the edge of the label can hold the label to the backing paper. The printed label remains stuck to the backing paper and cannot be moved to the tamp pad.
Air assist tube	The air assist tube conducts the *supporting air* through one or more holes to the bottom of the label. It is attached next to the peeler bar and can be adjusted.
Air assist	A jet of air that, when the label is being fed, presses the label against the bottom of the tamp until it is held by the vacuum.
Air Blast)	Air that blows on the label through holes in the tamp pad at the time of labeling (through house nozzles when there is a blow box) so that the label is placed on the product without being touched.
Application cycle	Complete operating sequence of the labeling system (such as printing the label, peeling it off, transferring it to the applicator and labeling the product).
Application mode	See explanations: Tamp on, tamp blow, blow on and wipe on.
Applicator	This identifies the label dispenser and mimic that moves the tamp.
Automatic mode	See labeling operation
Blow-on	Contact-less application mode in which the tamp receives the printed label by a vacuum and blows it on to the product without the tamp moving.
Chain orientation	The chain orientation aligns rectangular and oval products parallel and centered at the transport belt.
Change separation device	To label the fed products, they have to be fed separately to the labeling system. The separation device separates the products.
Contrast	Difference in brightness of light and dark sections of a picture / print.
Conveying system	The unit consisting of the conveyor belt and its control
Conveyor	Belt for conveying the product
CS	Abbreviation for conveying system (see above)
Cycle	Steps of labeling from the detection of product, to the labeling of the product, to the return to the initial position of the tamp.
Cylinder Home-Position Sensor	Sensor to detect home position if the cylinder is retracted.
Dancer arm	The arm that holds the label liner taught by spring tension.

Term	Explanation
Default	All basis settings for the system after it is made that can differ from the status after the system is started up. The software parameters can be returned to the defaults by being reset, and any changed values are lost.
Default	See factory-setting.
DIP switches	DIP stands for "dual in-line package." Dip switches are miniature switches that have 4 to 8 switches. The status (open/closed) can be changed by turning the switches with a pointed object (pencil, etc.) The configuration of the labeling system is determined by the switch position.
Display	Display field that shows the status to the user.
Display-Controller	Controller with integrated display panel for text information (s. display) and key panel for operation and programming**.**
Edge detection	The edge (front or back) of a product or label is used by a sensor to detect the product or label gap.
Feed (label feed)	Press the [Feed] button to advance a label.
Gimbal adjustment	The gimbal adjustment is used to align the longitudinal and lateral inclination of the labeling system and thus the peeler bar to product. The peeler blade has to be aligned parallel to product.
Home position	Basic position of the tamp at the peeler bar
Home position sensor	Sensor for detecting the end position when the tamp is in home position
Hotline	A service for offering customers quick telephone diagnosis
HPU	Height positioning unit - a device powered by motor or pneumatic drive for elevating vertically a labeling system. The labeling system can be moved into various vertical positions.
Infeed	The products are fed manually or by a (customized) conveying system at infeed of the labeling system.
Label Applicator	See labeling system
Label Feed	The advancement of a label. While printing or when the [Feed] button is pressed, the drive motor for the print module is activated, and the label liner is transported (the dancer arm releases the unwinder brake). The advanced label is printed in the print module, and the peeler bar is separated from the backing paper.
Label gap sensor	See label sensor
Label Gap	Distance between two labels on the backing. The dispenser detects the gap by a (label) sensor
Label Liner	Silicon-coated backing to which individual labels are adhered.
Label Out	An optical sensor (reflective light sensor) for detecting the end of the labels

Term	Explanation
Label sensor	An optical sensor that determines the gap between the labels
Label size	Dictates the label format: Width x length (in the direction of feed of the label liner measured in millimeters [mm]
Labeling system	Dispensing system for automatically applying labels
Labeling operation	This is the same as automatic mode. The labeling system is ready to print and dispense labels
Labeling system	The labeling system is used to label products automatically and consists of several components (assembly groups), e.g. conveyor belt, labeling system.
Leading Edge	The leading edge of a product/label is used to trigger a process (s. a. edge detection).
LED	Light-emitting diode
Low label prewarning: **Low Label warning**	An optical sensor (reflective light sensor) for detection of an (adjustable) minimum label roll diameter to provide a warning
Mandrel	A powered shaft with an attachment for mounting the label liner. The mandrel winds the backing.
Opacity	The transparency of a material can be measured by a light barrier and is named opacity. The measuring sets the quantity of the radiated light in proportion to the incoming light. The lower the proportion, the lower is the opacity.
Peeler bar	Metal bar that is used to peel off the label. The peeler bar is below the printhead when the print module is used for labeling.
Photocell	Product sensor. The sensor identifies the product to be labeled and generates the trigger signal. See trigger signal
Piston	The piston affects on the mandrel for the linear movement of the cylinder and transfers compressed air to movement.
PLC	Programmable logic controller.
Pneumatic systems	Compressed air is used as an energy source for generating movement and flow.
Poti/potentiometer	Changeable resistor (controller) for the analog control of labeling system settings (such as the timing of the tamp movement in relation to the rotary position of the potentiometer)
Pressure Gauge	See service unit
Pressure rollers	Pushes the label onto the product adhesively.
Product Delay	An adjustable delay between the time at which the product is detected to the start of the dispensing cycle.

Term	Explanation
Product Detector	A sensor for detecting the product. Most frequently, optical sensors are used (photocells, light barriers, reflective sensors).
PSI	American unit of measure for compressed air. (1 PSI = 0.06895 bar).
Reset	Command for the resetting software systems to their defaults which is usually activated by a combination of keys.
Rewinder	Holder (generally for three-inch cardboard core) for winding the label backing strip. The rewinder winds the backing paper that is returned from the printing module. It is controlled by the dancer arm (see dancer arm). Rewinders have a motorized drive.
Re- and Unwinder	See rewinder and unwinder.
RFID	This abbreviation stands for radio frequency identification. This technology is used to identify products so that they can be tracked using smart labels (see RFID label .
Round plate	The round plate is turned by a motor and it is used to feed the products tot he inlet or to take the product from runout.
Runout	The runout forwards the products to the customer's conveying system. Here the products are removed.
Sensor for variable stroke	A proximity sensor that is attached to the tamp and identifies the product. The label is blown on and applied during product detection.
Service unit (FR group)	This unit consists of: • A gauge for displaying the compression of the compressed air (in bar) • Quick action stop valve • Water trap for manually draining any condensate
Start sensor	The start sensor scans the leading edge of the product. As soon as a product is detected, the labeling procedure starts. The label position on the product is adjusted by the sensor position.
Stroke	Way the tamp moves during extension in direction of product.
Tamp	Unit that grabs the label by means of a vacuum, conveys it to the product and applies it.
Tamp pad (suction/blowing tamp)	Perforated plate of the tamp to which the peeled off label is transferred.
Tamp travel time	Duration of tamp movement (extension and backfeed) during a labeling cycle.
Tamp-blow	Contact-less application mode in which the tamp takes a printed label by means of a vacuum, conveys it to the product and blows it on to the product.

Term	Explanation
Tamp-on	Application mode in which the tamp takes a printed label by means of a vacuum, conveys it to the product and presses it on to the product.
Product Delay	An adjustable delay between the time at which the product is detected to the start of the dispensing cycle.
Product Detector	A sensor for detecting the product. Most frequently, optical sensors are used (photocells, light barriers, reflective sensors).
PSI	American unit of measure for compressed air. (1 PSI = 0.06895 bar).
Top conveyor	The top conveyor is placed parallel above the transport belt and can be adjusted in height. It is used to fasten the products during labeling.
Touchscreen	Touch-controlled screen or monitor
Trailing Edge	The trailing edge of a product is used to trigger a process (s. a. edge detection).
Trailing edge	See Leading Edge.
Transport belt	The transport belt transports the products that should be labeled.
Trigger-signal	The signal from the sensor or PLC which is used to activate application.
Unwinder	The unwinder receives the roll of labels (generally with a 3 inch cardboard core). The unwinder allows the label roll to unwind smoothly without skipping, and a roll brake governs the feed (see also the dancer arm). Unwinders can also have a motor drive
VAC	Alternating voltage
Vacuum belt	The vacuum belt moves round products in rotation and enables thus an all around labeling.
Vacuum generator (Venturi)	An unit that uses compressed air to generate a vacuum.
VDC	Direct current voltage
Water trap	See service unit
Web	Label liner consisting of a silicon-coated backing and the individual labels adhering to it.
Wipe-On	Labeling procedure at which the label is peeled off by a peeler blade and directly forwarded to the product. Label feed and product speed have to be identical.
Zero-/Home-Position-Sensor :	This sensor is activated if the tamp arrives the zero position.

2. Safety regulations

Behavior in an emergency

The operating personnel must know the location of and how to use safety equipment, alarms, first aid and rescue equipment.

What to do in an emergency?

- If individuals, body parts or objects become caught in the moving parts of the labeling system, immediately disconnect the compressed air and power supply to the labeling system.
- Immediately perform all necessary first-aid on injured persons. Observe the applicable safety regulations to prevent additional personal injury.
- Obtain medical help for injured persons.
- Eliminate all the causes of the accident.

Basic safety guidelines

Safety guidelines offer information the form of text and symbols to warn of hazards and provide instruction for preventing any personal injury and property damage.

Safety instructions are introduced by keywords that express the extent of the danger.

Safety instructions can be affixed directly on the labeling system or in documents pertaining to the labeling system.

Meaning of the hazard levels

⚠ DANGER	The symbol indicates a hazardous situation that will cause serious injury or death. To prevent personal injury, all safety instructions must be observed.
⚠ WARNING	The symbol indicates a hazardous situation that can lead to serious injury or death. To prevent personal injury, all safety instructions must be observed.
⚠ CAUTION	The symbol indicates a hazardous situation that can lead to moderate or light injury. To prevent personal injury, all safety instructions must be observed.
NOTICE	The symbol indicates a hazardous situation that can lead to property damage. To prevent property damage, all warnings must be observed.

Intended use

The operational safety of the system Geset 121 is guaranteed only if it is used as intended.

Intended use consists of the following …

- The labeling system may only be used for automatically labeling moving and stationary products.
- The labeling system may only be worked on manually after it stops.
- The labeling system is used for the specific products agreed with the customer with the specific, agreed labels. In every way, the products and labels must satisfy the documented* specifications agreed between the machine manufacturer and customer.

  * "Documented specifications" are laid down in the MES (Machine and Equipment Standard, Continental).
- the labeling system is operating in explosion-proof environments (not intended for explosion-risk areas) !
- the labeling system does not come in direct contact with food products.
- the labeling system is not operating outdoors.
- the labeling system is used with an additional pneumatic shutter at the aperture for the tamp when operating in a wet environment.
- the labeling system has additional air conditioning features in the stainless steel cabinet for use in an aggressive air environment (e.g. salted air).
- the labeling system has additional air conditioning features in the stainless steel cabinet for use in a dusty environment with unadjusted particles.
- the labeling system is used exclusively for industrial purposes.
- all working conditions and instructions, prescribed in this manual, will be observed.
- failures at the labeling system affecting the safety have to be reported and immediately resolved by trained and briefed personnel.
- maintenance is kept and performed correctly.
- the labeling system is used exclusively under faultless conditions.
- safety equipments are not by-passed or abrogated.
- arbitrary changes at the machine are omitted.
- the labeling system is used or operated by adequate personnel, refer to “Approved persons” (s. page **22)**. These persons must have read and have to be familiar with the content of the manual.

Handling the labeling system without considering one of these points is not for the intended purpose and can cause serious damages to persons or properties.

Reasonably foreseeable misuse

Usage different than or going beyond that specified under "Intended use" is considered unauthorized.

The operator bears sole responsibility for

- Damage arising from improper use.
- Furthermore, the manufacturer assumes no liability for such use.

Improper use can cause exposure to risk.

Improper use includes e.g. the following:

- Operating in an explosive atmosphere
- When the labeling system comes into contact with food.

Modifications and alterations to the labeling station

If the machine is independently modified and altered, all of the manufacturer's liability and warranties will expire. This also holds true for modifications and changes to the programs of the programmable control system as well as changes to the parameters to control devices not described in these operating instructions.

The electromagnetic behavior of the machine can be impaired by additions or changes.

Do not change or modify the machine without first consulting the manufacturer and obtaining the written approval.

Hazards to the labeling system

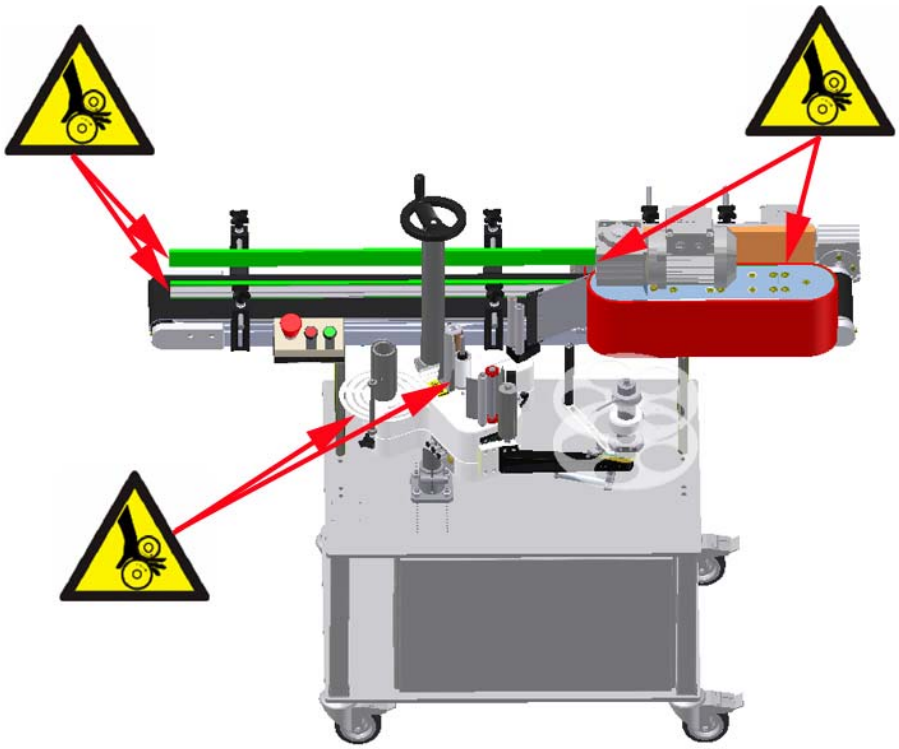


Fig. 2-1: Hazards to the labeling system

Safety instructions

WARNING

Hazard from direct or indirect contact with voltage-conducting parts.

DANGER TO LIFE!

When individuals touch parts that conduct electricity arising from malfunctions.

- Only electricians may work on the switch cabinet and electrical equipment.
- Regularly check the electrical equipment of the labeling system. Immediately take care of loose connections and damaged cables.
- Always keep the switch cabinet locked.
- Before working on electrical equipment, switch the miniature circuit breaker to "0" position and secure it against being accidentally turned on. If possible, disconnect the power.

⚠CAUTION

Hazard from easily flammable label material.

 FIRE HAZARD!
The ribbon and labels are easily flammable. Potential injury from fire and smoke.
- Keep away from sources of ignition and open fire.

⚠CAUTION

Danger of being pulled in by rotating elements

 DANGER OF BEING PULLED IN!
Rotating elements on the labeling system.
Backing rewinder (driven by a stepper motor) and the label feed on the labeling system or in the print module (driven by stepper motor).
- Do not stick anything in, on or between the moving parts.

⚠CAUTION

Hazards from actively controlled movements.

 RISK OF INJURY FROM CRUSHING!
The movements of the labeling system are motor-driven by an automatic controller.
- Maintain a distance from moving parts.

⚠CAUTION

Danger to health from the improper use of lubricants and cleaners.

 HEALTH HAZARD!
The instructions in the manufacturer's current safety data sheets for the specific lubricants and cleaners that are used must be observed along with the applicable safety and disposal regulations.

⚠CAUTION

Tripping hazard from connecting lines.

 RISK OF INJURY!
Connecting lines for power, compressed air and computer and signal lines can pose a tripping hazard, causing serious injury.
– Release the tension of connecting lines to the system and run them so that they do not pose a hazard.

⚠CAUTION **Danger of injury from corners and edges.**

 RISK OF INJURY!

Scrapes and cuts can result from sharp edges and pointed corners. Always keep the work area clean. The label web has sharp edges.

Observe caution when working close to sharp edges and pointed corners. Remove unnecessary objects.

- In case of doubt, wear protective gloves.
- Be careful when inserting and changing label web.

⚠CAUTION ***2 Danger due to hot surface.**

 RISK OF INJURY!

At *2print head,*2forming tamp and *servo motor high surface temperatures may exist.

- Maintain a distance from the hot surfaces.
- If work has to be performed at these assembly parts, wear protective gloves or turn off the system and let the components cool down.

⚠CAUTION ***2 Danger due to compressed air.**

 HEALTH HAZARD!

Whipping compressed air hoses, thrown parts or uncontrolled moving parts can cause injury.

The compressed air connection may only be connected to a compressed air supply that is secured against compressed air overstepping. When connecting the compressed air, the pneumatically powered components move to its home position.

- Maintain a distance from pneumatically moved components.
- If work has to be performed at pneumatic components, the system has to be bled and secured against resetting.
- Before connecting the compressed air, check to ensure that all pneumatic connections are correctly seated and secure if necessary.

*2 only if system has the appropriate features.

CAUTION ***² Risk of injury due to light beam.**

 RISK OF INJURY!

*²Sensors or *²camera illumination may have a strong light intensity.

Do not look into the source of light.

*² only if system has the appropriate features.

Remaining risks

The labeler is constructed in a way that makes it safe for use. Some hazards are inherent in the design and construction but can be minimized with the corresponding safety mechanisms and equipment. A certain residual risk always exists when operating machinery. Knowledge about residual risks of the system helps you to increase your safety awareness and avoid accidents. To prevent hazards, observe the special safety instructions and each chapter. Connection to the customer's conveying system may evoke dangerous areas at the changeovers. Suitable safety measures have to be taken in this case.

Warnings on the labeling system

Special hazards arising from the labeling system are identified with yellow stickers. The pictograms indicate hazards:

	Danger
	Life-threatening hazard due to electrical power
	Crushing hazard
	Entanglement hazard
	Danger due to hot surface
	Danger due to strong light radiation
	Observe manual

*2 Only if system has the appropriate features.

Approved persons

Only authorized personnel may work on the labeling system. Observe minimum age permitted by law!

The labeling system may only be used by persons who have been instructed in its use. Personnel to be trained, to receive orientation training, or currently being trained within the scope of general training and education programs, must be strictly and continuously supervised when operating the machine.

The operator of the labeling system must make the operating instructions available to the user/operating personnel of the machine and ensure that these instructions have been read and understood before commencing work on or with the machine. Only then may the operator start and operate the labeling system.

The responsibilities for the different tasks and activities involving the labeling system must be clearly defined and documented. Competencies and authorities must be clearly defined and assigned to prevent any unambiguous situations that could endanger personnel. Prepare a detailed workplace designation and assignment sheet if several persons are working with or on the machine.

All work on the electrical equipment must only be carried out by a trained electrician. Malfunctions may only be eliminated by authorized technicians.

All work associated with the assembly, installation and maintenance of the machine must only be carried out by trained and responsible specialists or technicians.

The machine operator must ensure that the technicians have been trained how to use the integrated control before they can troubleshoot problems or perform servicing.

Personal Protective Gear

Wear the following protective gear when working on the machine:

PROTECTIVE FOOTWEAR

To protect against falling parts and slipping

PROTECTIVE WORK CLOTHES

Protective work clothes fit snugly, tear easily, have tight-fitting sleeves and no projecting parts.

- Wear a hair net if necessary
- Do not wear jewelry or wristwatches

SAFETY GLASSES

Wear safety glasses to protect from splashing cleanser and flying parts.

PROTECTIVE GLOVES

Wear protective gloves to protect from sharp-edged objects.

Wear personal protective gear for the following activities.	**Protective work clothes**	**Protective footwear**	**Protective gloves**	**Safety goggles**
				
Transporting the machine.	X	X	X	
Setup the machine and connect it.	X	X		
Maintenance work.	X	X		X
Production operation.	X	X		
	Observe the manufacturer's documentation for the individual components of the machine!			

Protection Devices

Operate the system only if all safety- and protection devices are completely available and functional. Check the protection devices for its function:

- At first operation.
- At regular routine test.
- After exchange of security-relevant components and parts.

If deficiencies occur during operation at the protection devices, stop the system immediately and remedy the deficiencies! Do not change or remove any protection devices. Do not take the protection devices out of operation by any change.
Protection devices may only be removed when the system is stopped and safeguarded against re-starting of the system (e.g. padlock at main switch). If subcomponents are supplied, the protection devices have to be installed according to the regulations by the operator.

Connection to the customer's conveying system may evoke dangerous areas at the changeovers. Suitable safety measures have to be taken in this case.

*² System cover

The fixed and screwed system covers protect the user against mechanical hazards.

*² Main switch

The main switch serves for switching the system on and off. In position "0" it interrupts the power supply to the system but however the supply in front of the switch can be energized.

The main switch can be locked in position "0" as a protection against a hazard by accidentally or unauthorized switching on of the system.
Lock always the main switch:

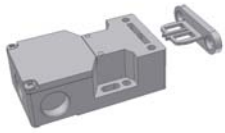
- During maintenance works.
- If switching on the system may lead to a hazard.

*² Emergency-Stop Push Button

The emergency stop push button serves for an immediate stopping of the complete labeling system. It should only be used in emergency situations.
The emergency stop push button is locked after actuation and has to be locked manually before restarting (consider the information at the button).

*²Only if system has the appropriate features.

*[2]Safety switch



Safety switchs are mounted at the protective cabinets and protective doors that can be opened. It is used to stop immediately the system if the protective covers or doors have been opened unintentionally. Turning on the system when the protective cover or the protective door is still open, is not possible.

*[2] Only if system has the appropriate features.

Workplaces for the operating personnel

The labeling station is an automated system and does not require operation while labeling.

When the labeling system is operating without any malfunction, the operator may only be in the safe area, that is, the area covered by the protective measures.

Only one person is permitted to replace the labels and colored ribbon when the related system has stopped and when the conveying system has stopped.

The access side is always the side where the operator panel is mounted. For servicing, repairing and troubleshooting (remove the label from the applicator), etc., the labeling system can be operated from all sides.

After troubleshooting and/or restarting the labeling station, the operator must immediately leave the hazardous area and to stay in the area designated by the safety measures.

Waste disposal

This label is in compliance with RoHS EU Directive 2002/95/AC given observance of the prohibitions on use are and avoidance of pollutants.

*[2] Only if system has the appropriate features.

3. Specifications

Dimensions (H x W x D in mm)	Appr. 1517mm x 952,5mm x 1345,43mm
Weight	appr. 130 kg (without label roll)
Power connection:	115 VAC / 60Hz (1~)
Power consumption:	max. 1 KVA
Ambient temperature:	10 - 38 °C
Surrounding conditions:	20-90 % relative humidity (non-condensing)
***²Compressed air connection:**	6 - 7 bar (according to **DIN ISO 8573-1)**
	Compressed air quality according to DIN EN ISO 8573-1 **- Remaining oil** **(quality class 5) =** 25 mg/m³ **- Remaining dust** **(quality class 3) =** 5µm ; 5 mg/m³ **- Remaining water** **(quality class 4) =** 6 g/m³ ; +3 °C
***²Maximum compressed air consumption**	Up to 200 Nl/min (under extreme conditions) (0,3 - 3 liters per feed cycle)

*² Only if system has the appropriate features.

Information on operation

Operator panel	2 buttons, one push button

Noise level

The A-evaluated equivalent permanent noise level at the working places of this system is maximum 75db (A).

4. Transport

Delivery

The labeling station is normally delivered by a haulage contractor. Check the package for any damage. If you notice anything unusual, notify the haulage contractor immediately and note it on the delivery slip.

Scope of the delivery

The elements of the system delivery depend on the selected options and the customer's specific application. When the system is delivered, check to see if everything is there against the delivery slip.

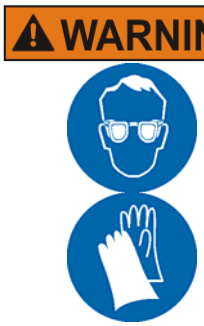
Transportation and unpacking

Safety instructions

Hazard from lifted loads.

Falling loads can cause severe injury or death.

- Do not walk under a lifted load. The load may not be tilted.
- The location of the center of gravity must be taken into account when transporting the system.



Hazard from tight straps.

The straps are secured tightly and can snap off if they are cut and cause severe injury.

- Wear protective glasses and gloves.
- Stand to the side outside of the hazard zone

Hazard from falling parts.

- Wear protective footwear.

The transport will be arranged by a Technician of the Bluhm Weber Group or by authorized specialists.

Remove the packaging material and the transport securing devices only at the site of use, and transport the labeling system in its original packaging to the labeling site. If the labeling system is not secured, it can tip over easily when transported.

Requirements

- The labeling system is packed when delivered (with possible exceptions), that is
    - It is standing on a pallet
    - It may be wrapped with stretch film
    - It may be secured with additional straps and the plate feet may be screwed to the pallet
- Access ways to the machine are sufficiently dimensioned and not blocked.

Required equipment

- Suitable means transport (double pallet trucks or forklifts with a minimum capacity of 1500 kg). When using a forklift, drive slowly.
- Use a steel strapping cutter to remove the straps
- A crescent wrench for the transport securing devices.

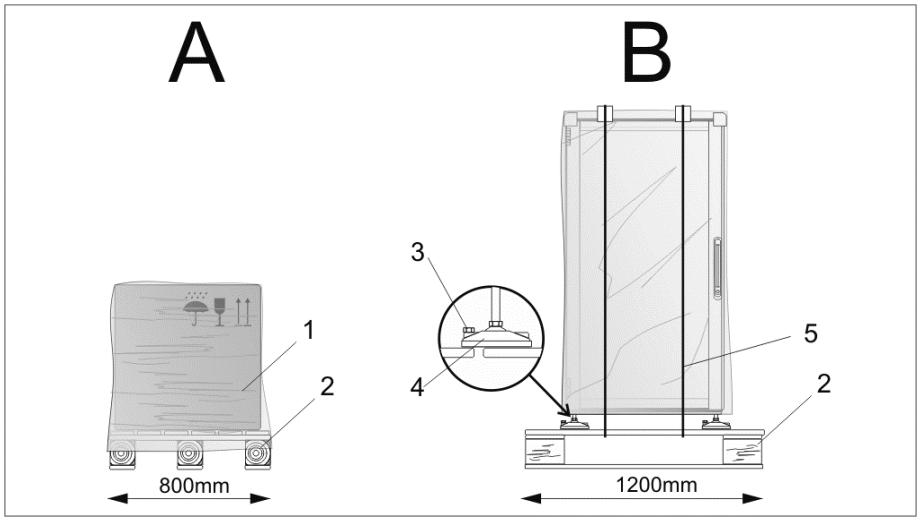


Fig. 4-1: Examples of packaging

No.	Description
A	PACKAGING EXAMPLE CARDBOARD
B	PACKAGING EXAMPLE: SWITCH CABINET
1	PROTECTIVE FOIL
2	PALLET
3	TRANSPORT SECURING SCREW
4	RUBBER FEET
5	STRAP

Instruction

Use the following procedure to transport each labeling system to its site of use.

Step	Procedure
1	Transport the labeling system to its site of use (within 3 m). The labeling system is precisely positioned during installation by a technician from the Bluhm Weber Group.
⚠ WARNING	The straps are secured tightly and can fly back when they are cut and cause injury.
2	Remove any film and straps (if available).
3	Remove all transport securing devices from the rubber feet.

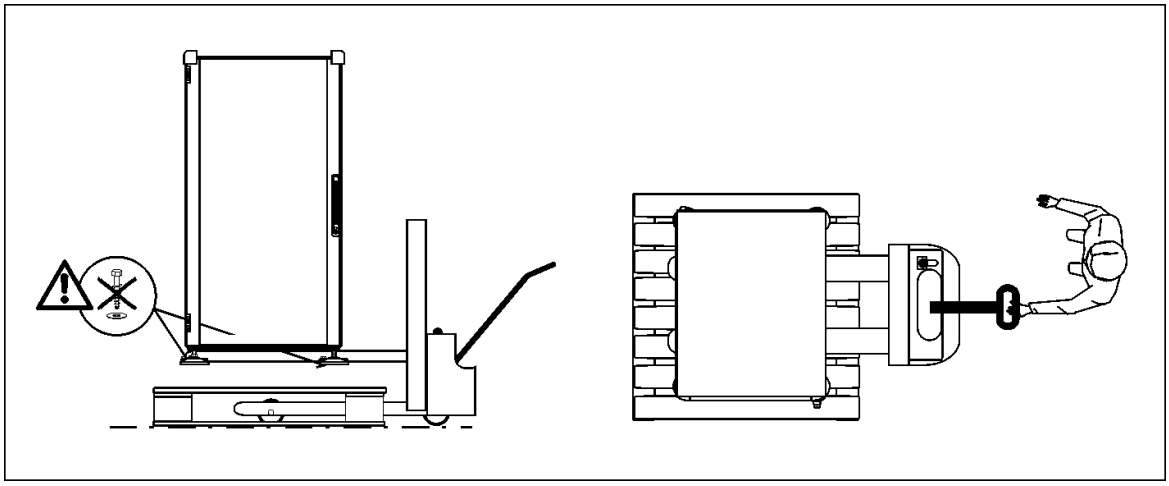


Fig. 4-2: Lift the machine from pallet

4	Lift the labeling system with a double pallet truck or forklift from the pallet as shown.
5	Before startup, remove all transport securing devices (identified red tie wrap).

Storage conditions

The conditions for storing a labeling system are the same as those of normal operation. For details see the chapter: "Specifications".

Instruction

Store the labeling system securely as follows

Step	Procedure
1	*2 Remove the label material from the system
2	Transport the system to its storage location. For securing and transporting the labeling system, follow the safety instructions in the above section "Transportation and unpacking".
3	To protect from dust, cover the labeling system with a cotton or paper cloth. To prevent the formation of condensate, do not use film.
4	Before restarting the labeling system, check the system.

5. Description of the labeling station

Function and Field of Application of the Labeling System

The labeling station Geset 121 is used to label cylindrical products automatically.

The products are fed manually or by the (customer‘s) conveying system at the infeed of the labeling station.

The products are transported to the vertically positioned peeler blade of the labeling station. As soon as the product light barriers detect a product, a label is applied laterally onto the product. Finally the product is rotated by the wrap belt. Thus the label is pushed onto the product and completely labeled.

The outlet forwards the products to the customer’s storage. Here the products are removed.

Complete overview

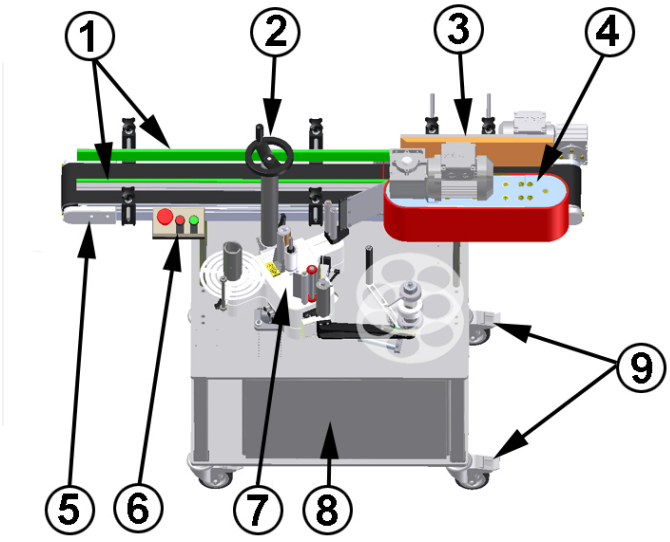


Fig. 5-1: Overview of system

Pos.	Description
1	SIDE GUIDING
2	HEIGHT ADJUSTMENT TO LABELER
3	FOAM RUBBER PLATE
4	WRAP BELT
5	BASIS BELT
6	SWITCH CABINET
7	LABELER
8	SWITCH CABINET
9	TRANSPORT ROLLS WITH BRAKES

6. Installation and initial startup

Safety instructions

CAUTION **Hazards from actively controlled movements**.

 RISK OF INJURY FROM CRUSHING!

The movements of the machine are motor-driven by an automatic controller.

– Maintain a distance from moving parts.

CAUTION **Danger of being pulled in by rotating elements.**

 DANGER OF BEING PULLED IN!

Rotating elements at the machine, backing rewinder, label feed, *²conveyor belt, *² transport chains and *²top conveyor are driven by a motor.

– Do not stick anything in, on or between the moving parts.

CAUTION ***² Danger due to compressed air.**

 HEALTH HAZARD!

Whipping compressed air hoses, thrown parts or uncontrolled moving parts can cause injury.

The compressed air connection may only be connected to a compressed air supply that is secured against compressed air overstepping. When connecting the compressed air, the pneumatically powered components move to its home position.

– Maintain a distance from pneumatically moved components.
– If work has to be performed at pneumatic components, the system has to be bled and secured against resetting.
– Before connecting the compressed air, check to ensure that all pneumatic connections are correctly seated and secure if necessary.

---

*² Only if system has the appropriate features

Installation

Continuous operation with minimal wear and downtime can only be ensured when the system is installed properly. Fine adjustments to the conditions of use are essential when installing the system. To make these fine adjustments, detailed professional knowledge is necessary that arises from experience with labeling systems.

This required professional knowledge cannot be completely communicated by the operating instructions; therefore a technician from the **Bluhm Weber Group** needs to perform the installation or accept the labeling system in a final inspection. The warranty does not cover damage or consequential damage arising from improper installation lacking the necessary fine adjustments.

Requirements at the installation site

- An enclosed and clean room.
- Flat, solid base; any unevenness may not exceed 5 mm when stands from the Bluhm Weber Group are used.
- Sufficient bearing capacity: 1,500 kg/m².
- Low vibration environment.
- Sufficient lighting: 500 Lx.
- No direct exposure to sunlight or a radiator.
- The machine may not be operated within electrostatic or magnetic fields. This can cause the controls to malfunction.
- A proper energy supply (electricity and compressed air) according to the chapter, "Specifications".

Placing the labeling system

- The labeling station has to be adapted to the customer’s conveying system in position and height. The height of the system parts has to be ergonomically designed according to the user’s requirements.
- The installed position must allow sufficient access for users and service technicians. In particular at all times, the mains switch / plug must be freely accessible to disconnect the power supply
- Make sure that all fasteners are sufficiently tight.
- Observe all of the items under "Intended use".

Setting up the labeling system

Requirements

- The labeling system must be completely installed.
- The labeling system is unpacked and prepared (see the chapter: "Transportation") near the labeling site.
- The connections for the compressed air and electricity are close to the labeling site (maximum distance of 1.5 m) as specified in the chapter: "Specifications."
- The base is solid, level and flat.

Required equipment

- Wrench
- Spirit level

Instruction

Set a labeling system up as follows

Step	Procedure
1	Move the labeling system to installation site. Move labelers without rolls piece by piece diagonally. Consider all points for "Placing the labeling system" on page **33**.
2	Adjust the labeling system with an air lever by the adjustable feet horizontally. (With rolls, the brakes have to be locked).

Connecting the labeling station

The labeling station requires electricity and compressed air to work. For details see the Chapter: "Specifications".

Connection to supply voltage

Safety instructions

CAUTION

Hazards from actively controlled movements.

RISK OF INJURY FROM PULLING IN AND CRUSHING!

Immediately after turning on, several system parts make a reference run or move to its home position!

– Maintain a distance from driven system components.

Requirements

- Power supply according to "Specifications" is installed close to or (max. 1,5 m distant) from the labeling site.
- Main switch is in OFF/ 0-position
- Power cabling is available

Instruction

Please connect the labeling system with the power supply as follows.

.

Step	Procedure
1	Connect the power voltage cable with the power socket.
CAUTION	**Risk of injury from pulling in and crushing!** Immediately after turning on, several system parts make a reference run or move to its home position! – Maintain a distance from driven system components.
2	Turn on the main switch.
3	Turn on the machine and control the running directions of the drives. If the drives run against the intended driving direction, turn off the system immediately. The electrical rotating field has to be turned in this case by an electrician.
4	Stop the labeling station and turn off the main switch.

*2 Connecting to compressed air

Safety instructions

CAUTION

***2 Danger due to compressed air.**

HEALTH HAZARD!

Whipping compressed air hoses, thrown parts or uncontrolled moving parts can cause injury.

The compressed air connection may only be connected to a compressed air supply that is secured against compressed air overstepping. When connecting the compressed air, the pneumatically powered components move to its home position.

- Maintain a distance from pneumatically moved components.
- If work has to be performed at pneumatic components, the system has to be bled and secured against resetting.
- Before connecting the compressed air, check to ensure that all pneumatic connections are correctly seated and secure if necessary.

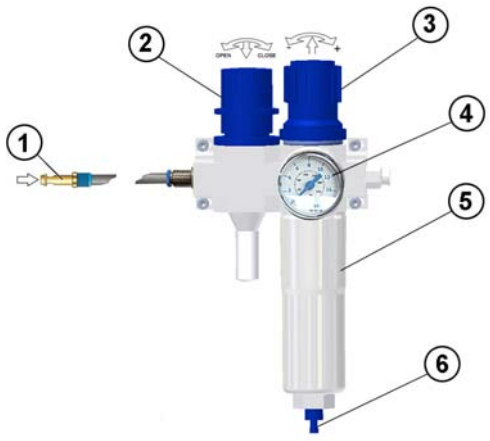
CAUTION

Hazards from actively controlled movements.

RISK OF INJURY FROM CRUSHING!

When the compressed air is connected, it may be possible that system parts may extend or retract.

- Maintain a distance from moving parts.



No.	Description
1	COUPLING PLUG
2	SHUTTER VALVE
3	REGULATOR BUTTON
4	COMPRESSED AIR MANOMETERr
5	COLLECTION BOWL
6	DRAIN VALVE

Fig. 6-1: Filter-Regulator-Manometer-Combination

*2 Only if system has the appropriate features.

Requirements

Compressed air supply (KS4-CK-6 coupling) according to "Specifications" is next to the labeling site (max. 1.5 m distant).

Service fittings, connecting line with a KS4-CK-6 coupling jack and pneumatic hose (see the accessories box).

Connect the labeling system to the compressed air as follows.

Step	Procedure
1	Assure that the shutter valve is in CLOSE-position.
2	Connect the coupling plug (1) of the compressed air connection line with the connection fitting of the compressed air supply.
⚠CAUTION	**Risk of injury from crushing!** When connecting the compressed air, the pneumatically driven parts move to its home position. Maintain a distance from pneumatically powered system parts.
3	To turn on the compressed air, the shutter has to be in OPEN-position. If an adjustment of the compressed air should be necessary, please see steps 4-6.
4	Pull out the regulator button (3).
5	Adjust the air pressure to required value (standard value 5 bar). Push therefore the button counter clockwise (direction of arrow "+") to increase the input pressure or push the button clockwise (direction of arrow "-") to decrease the input pressure.
6	Push down the button (3) of the regulator for interlock.

7. Adjustment and initial operation of labeling system

Safety instructions

CAUTION

Hazard from actively controlled movements.

 RISK OF INJURY FROM CRUSHING!

The applicator movements are motor-driven by an automatic controller.

– Maintain a distance from moved parts.

CAUTION

Danger of being pulled in by rotating elements.

  DANGER OF BEING PULLED IN!

Rotating elements at the machine, backing rewinder, label feed, *²conveyor belt, *² transport chains and *²top conveyor are driven by a motor.

– Do not stick anything in, on or between the moving parts.

CAUTION

***² Danger due to compressed air.**

 HEALTH HAZARD!

Whipping compressed air hoses, thrown parts or uncontrolled moving parts can cause injury.

The compressed air connection may only be connected to a compressed air supply that is secured against compressed air overstepping. When connecting the compressed air, the pneumatically powered components move to its home position.

– Maintain a distance from pneumatically moved components.
– If work has to be performed at pneumatic components, the system has to be bled and secured against resetting.
– Before connecting the compressed air, check to ensure that all pneumatic connections are correctly seated and secure if necessary.

---

*² Only if system has the appropriate features.

Adjustment and initial operation

The labeling system has to be re-adjusted at initial operation or at a product change. In following adjustment table all required working steps are listed.
Use the adjustment table as checklist and perform the necessary works for each purpose in mentioned order. The works that are in need of an explanation are described in this chapter.

Requirements

- Control about product transport.
- One or more sample products.
- Labeling system is connected to power.
- Triggering of labeling is possible by product sensor or I/O-interface.

Instruction

Please put the labeling system into operation as follows.

Further information about the single steps are mentioned on following pages.

*[2] Only if system has the appropriate features.

Adjust side guidance

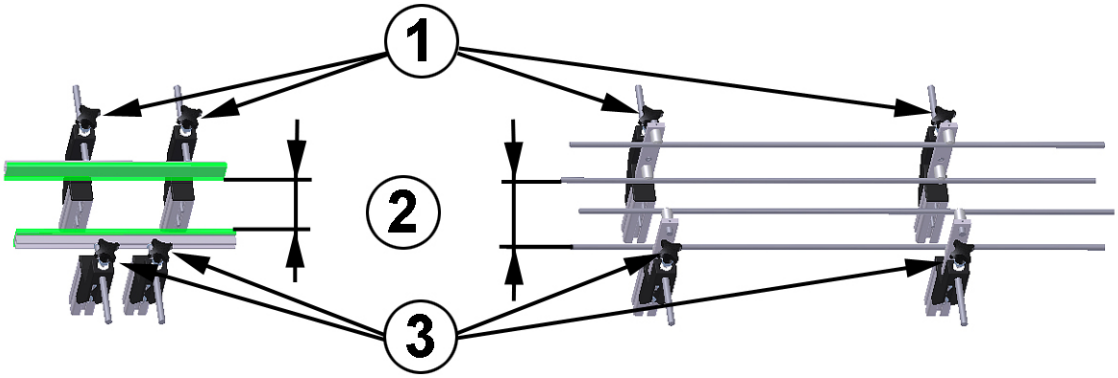


Fig. 7-1: Side guidances

No.	Description
1	STAR GRIP SIDE GUIDANCE OPERATOR'S SIDE
2	SIDE GUIDANCE DISTANCE
3	STAR GRIP SIDE GUIDANCE DRIVE SIDE

The side guidances are adjusted by star grips.
The side guidances at the wrap belt's side are fixed ex-factory and cannot be adjusted later on in production operation.
The guidances have to be adjusted that between product and side guiding is a crack of appr. 1-1,5 mm per side.

Requirements

- System is turned off.
- Product feed is interrupted.
- One sample product.

Please adjust the side guidances as follows.

Step	Procedure
1	Loosen the star grips.
2	Open the side guidances.
3	Place one sample product between the side guidances.
4	Adjust the side guidances in a distance of 1-1,5mm to the product. (In inlet passage this distance can be adjusted larger.)
5	Tighten the star grips.
6	Check the adjustment by moving a sample product through the side guidances. The sample product has to slide easily through the guidance at each passage.

Change peeler blade

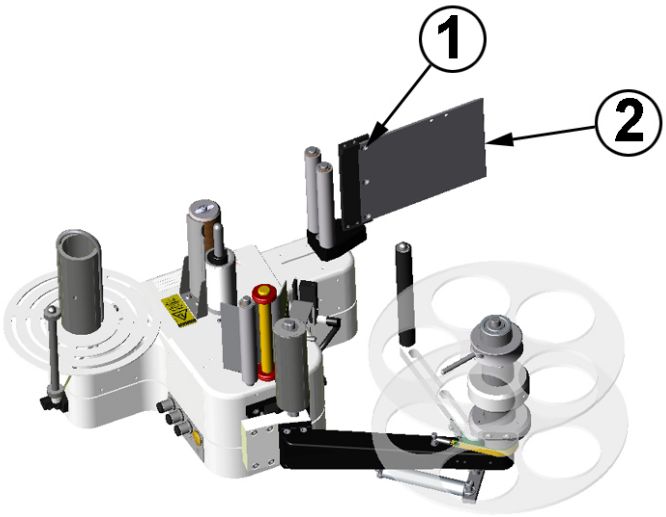


Fig. 7-2: Change peeler blade

Pos.	Description
1	SCREWS FOR PEELER BLADE'S BRACKET
2	PEELER BLADE

The peeler blade depend on product and label width. That is the reason why the appropriate peeler blade has to be changed according to product and label. During assembling, please consider that the bevel of the peeler blade shows in direction of the product. The peeler blade has to be aligned in a distance of appr. 1 - 3 mm to the product.

Requirements

- Power and compressed air supply is turned off.
- No transportation of products.

Instruction

Please change the peeler blade as follows.

Step	Procedure
1	Loosen the screws to the peeler blade's bracket and remove the peeler blade.
2	Tighten the appropriate peeler blade with the screws at the peeler blade's bracket. Observe that the bevel of the peeler blade shows in direction of the product.

Pitch peeler blade (Gimbal adjustment)

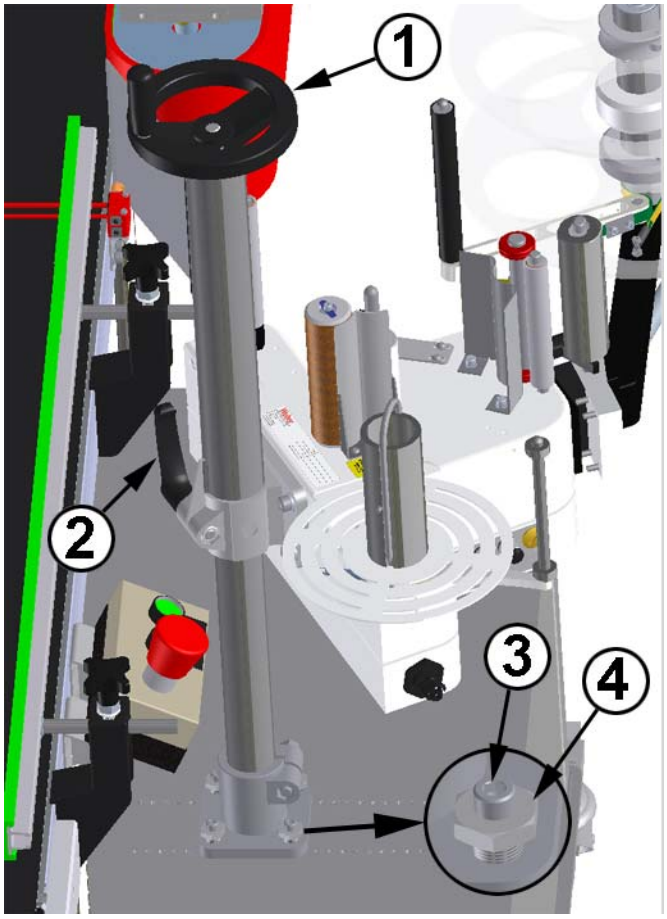


Fig. 7-3: Gimbal adjustment

Pos.	Description
1	HANDWHEEL FOR HEIGHT ADJUSTMENT OF LABELER
2	CLAMPING SCREWS
3	LOCKING SCREWS FOR LATERAL INCLINATION
4	LOCKING BOLT FOR LATERAL INCLINATION

The height position of the label on the product is adjusted by alignment with the handwheel.

With the adjustment bolts to lateral inclination, the longitudinal- and lateral inclination of the labeler and thus the peeler blade to product are adjusted. The peeler blade has to be aligned parallel to product. To adjust the longitudinal- and lateral inclination, the clamping screws can be easily loosened and after adjustment they can again be tightened steadily again after adjustment. This adjustment was arranged during start-up by Bluhm Weber and is not necessary during production operation.

Requirements

- Power and compressed air supply is turned off.
- No transportation of products.

Instruction

Please adjust the height of the peeler blade as follows.

Step	Procedure
1	Loosen the clamping lever slightly.
2	Adjust with the handwheel the height of the peeler blade.
3	Tighten the clamping lever.

Requirements

- Power and compressed air supply is turned off.
- No transportation of products.

Instruction

Please adjust the longitudinal- and lateral inclination as follows.

Step	Procedure
1	Loosen the locking screws slightly.
2	Adjust the longitudinal- and lateral inclination with the locking bolt.
3	Tighten the locking screws.

Insert label roll in labeler

Please consider that for each labeler for the respective product the right label roll is loaded.

Further information on adjustment of the labelers is described separately in provided manual.

Insert label liner in labeler

Label liner is thread according to sticked thread diagram. The thread diagram can be found in the section of the peeler blade.

Further information on adjustment of the labelers is described separately in provided manual.

*²Wrap belt (Wrap around labeling)

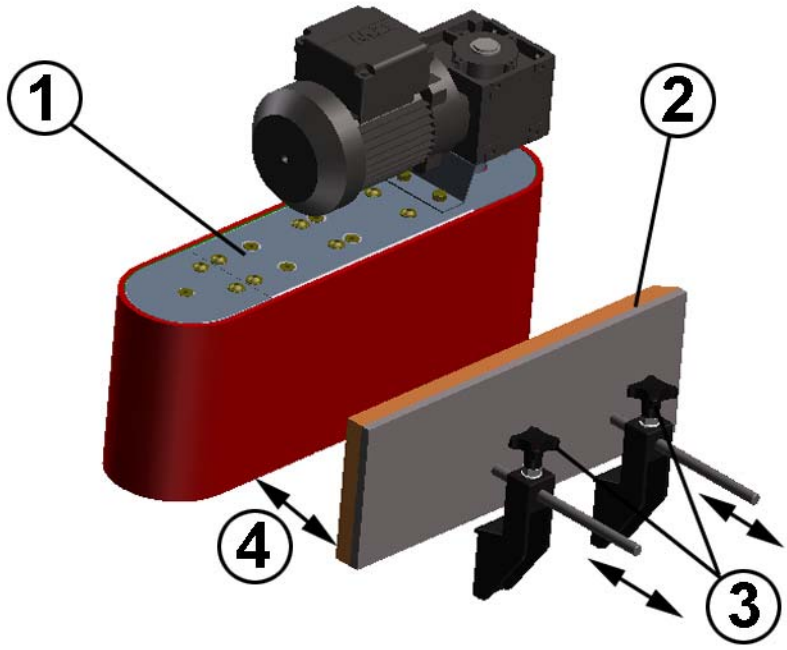


Fig. 7-4: Wrap belt

Pos.	Description
1	WRAP BELT
2	FOAM RUBBER PLATE
3	CLAMPING TO ADJUSTMENT OF FOAM RUBBER PLATE
4	DISTANCE WRAP BELT TO FOAM RUBBER PLATE

The foam rubber plate is adjusted to the product at wrap-around labelings of cylindrical products. At side labelings, the foam rubber plate is swung away from the product.

The foam rubber plate pushes the applied label onto the product at wrap-around labelings and brakes the product one-sided. Together with the wrap belt, the product is rotated. Then the label is wrapped onto the product and pushed onto strongly sticking.

Depending on product and labels, foam rubber plates of different heights are used. The foam rubber plate is aligned to the product width by means of the clamping. The foam rubber plate should include the product appr. 5mm deeply.

Requirements

- Power and compressed air supply is turned off.
- No transportation of products.
- One sample product.

Instruction

Please adjust the foam rubber plate for **wrap-around labeling** as follows.

Step	Procedure
1	Install the foam rubber plate that is suitable for the product.
2	Put one sample product between wrap belt and foam rubber plate.
3	Move the foam rubber plate closely next to the product by means of the clamping.

Please adjust the foam rubber plate for **side labeling** as follows.

Step	Procedure
1	Move away the foam rubber plate from the product by means of the clamping.

Move label position in transport direction forward or backward

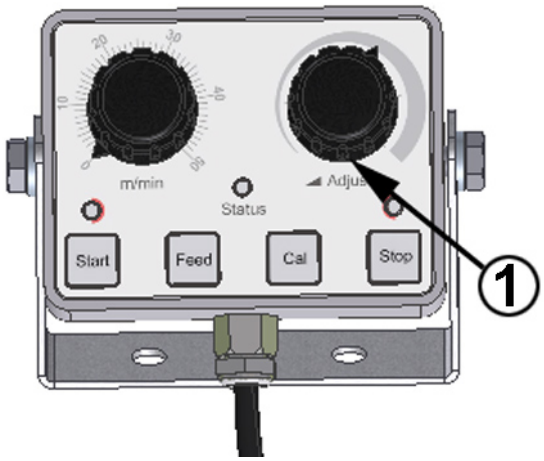


Fig. 7-5: Delay time Alpha Compact

Pos.	Description
1	POTENTIOMETER ADJUSTMENT TIME DELAY ALPHA COMPACT

The labeling procedure is introduced by the product sensor. If the sensor detects a product, the label application is started after an adjusted delay time. The adjustable delay time is used for positioning the label onto the product. A mechanical adjustment of the product sensor is thus not necessary. At the Alpha Compact the time delay is adjusted at operator panel by the potentiometer [Adjust].

Requirements

- Labeling station is ready for operation.
- Control about product feed.

Instruction

Please adjust the starting point for labeling as follows.

Step	Procedure
1	Start the station.
2	Feed the sample products to the station.
3	Adjust with the potentiometer [Adjust] the starting point for labeling.
4	Stop the product feed.
5	Stop the labeling station.

Correct adjustments after labeling result

You are able to draw conclusions from the labeling result to the necessary adjustments.

Product with good labeling result

Fig. 7-6: Product with good labeling result

Error-description:

The label is wrinkle-free, exactly and always at the same position on the product.

A correction is not necessary.

Product with wrinkles in label

Fig. 7-7: Product with wrinkles in label

Error-description:

The label has wrinkles.

Instruction

Please correct the labeling result as follows:

Step	Procedure
1	The application speed of the label is too high. Reduce the applying speed.

Product with beveled label

Fig. 7-8: Product with beveled label

Error-description:

The label is beveled on the product.

Instruction

Please correct the labeling result as follows:

Step	Procedure
1	The inclination of the peeler blade is wrong. Correct the inclination of the peeler blade.
2	*2 Pusher brush, *2 squeegee, *2 pusher roller brake the product too strong. Check the contact pressure.
3	The top conveyor does not transport the products sufficiently. Check the distance from top conveyor to product.

8. Operation

Safety instructions

CAUTION

Hazard from actively controlled movements.

 RISK OF INJURY FROM CRUSHING!

The applicator movements are motor-driven by an automatic controller.

- Maintain a distance from moving parts.

CAUTION

Danger of being pulled in by rotating elements.

  DANGER OF BEING PULLED IN!

Rotating elements at the machine, backing rewinder, label feed, *2conveyor belt, *2 transport chains and *2top conveyor are driven by a motor.

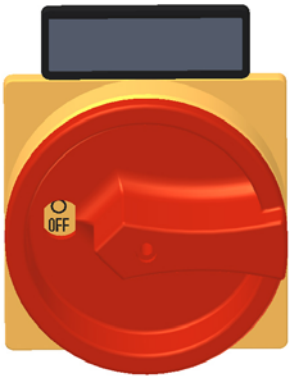
- Do not stick anything in, on or between the moving parts.

Operating- and display elements

Turn on and off machine

The main switch of the machine is located at the switch cabinet's front. To turn the machine on, turn the main switch to [ON]-position (clockwise).

Fig. 8-1: Main switch on



To turn the machine off, turn the main switch to [OFF]-position (counter clockwise).

Fig. 8-2: Main switch off

Operator panel

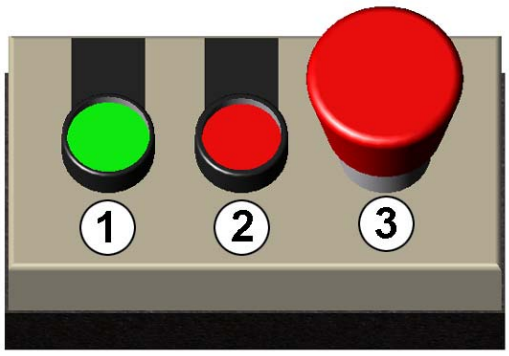


Fig. 8-3: Operating and display elements

Pos.	Description
1	GREEN ILLUMINATED BUTTON SYSTEM ON
2	RED BUTTON SYSTEM OFF
3	EMERGENCY STOP PUSHBUTTON

Turn on labeling operation

The automatic operation is used to label products:

Requirements

- Labeling system is turned off.
- Material rolls at labeling system loaded and threaded.
- Labeling system is connected to power and compressed air.
- System was put into operation (see chapter „Adjustment and initial operation of labeling system“).

Instruction

Please turn on the labeling system for operation as follows.

Step	Procedure
1	Turn on the main switch.
⚠CAUTION	**Hazard from actively controlled movements!** The conveying system starts to move by pushing the [Start] – button. – Maintain a distance from moving parts.
2	Push the [START] –button at the labeler.
3	Push the [SYSTEM ON] –button at the operator’s panel.
4	Add the products to the labeling system.
5	Remove the products at outlet.

Turning off the system

NOTICE **When turning off the system for several hours, the label web must be removed from the applicator.**

Turning off the system is used to terminate production operation.

The label material running around the deflection rollers is curved which can cause problems with the operation mode. This characteristic of the labels as well as the retained curvature depend on the material which can vary significantly between the different print media. The ambient conditions such as high temperatures and humidity enhance this effect

Requirements

- Labeling system is turned on.
- Material rolls at labeling system loaded and threaded.
- Labeling system is connected to power and compressed air.
- System was put into operation (see chapter „Adjustment and initial operation of labeling system“).

Instruction

Please turn off the labeling system as follows.

Step	Procedure
1	If possible, run the system empty.
2	Stop the labeling station with the button [SYSTEM OFF].
3	Stop the labeler with the [STOP] – button.
4	Turn off main switch.
5	Remove products and put them away.
6	Remove label material and roll from labeling system and put them away.
7	Clean system and labeling system.

Putting the system out of service

If the system is put out of service longer than 4 weeks, please arrange following steps:

Requirements

- System was turned off like described in chapter “Turning off the system“.

Instruction

Step	Procedure
1	Disconnect power- and *²compressed air supply.
2	Transport the system to its storage location like described in chapter „Transport and unpackaging“.
3	Protect the system from dust by a cotton or linen cloth.
4	Air-condition the storage location according to chapter „Specifications“.

*² Only if system has the appropriate features.

Acknowledge errors

After a failure (e. g. roll end at labeling system), the error has to be acknowledged for a new startup of the labeling system.

Requirements

- Labeling system is turned on.
- Material rolls at labeling system loaded and threaded.
- Labeling system is connected to power and *2 compressed air.
- System was put into operation (see chapter „Adjustment and initial operation of labeling system“).

Instruction

Please acknowledge the errors at the labeling station as follows. .

Step	Procedure
1	Remedy the error’s cause.
⚠CAUTION	**Hazard from actively controlled movements!** A labeling cycle is triggered by pushing the [Start] – button. – Maintain a distance from moving parts.
2	Push the [START] –key at the labeler.

9. Maintenance

Safety instructions

WARNING

Hazard from direct or indirect contact with voltage-conducting parts.

DANGER TO LIFE!

– Disconnect the labeling system from the mains voltage before working on it.

CAUTION

***² Hazard from residual compressed air in the pneumatic components.**

Whipping compressed air hoses, thrown parts or uncontrolled moving parts can cause injury.

– Disconnect the labeling system from the compressed air supply before working on the labeling system.

CAUTION

Danger to health from the improper use of lubricants and cleaners.

HEALTH HAZARD!

The instructions in the manufacturer's current safety data sheets for the specific lubricants and cleaners that are used must be observed along with the applicable safety and disposal regulations

NOTICE

Repairs and servicing may only be performed by electrician when the device is turned off (voltage-free) according to UVV 7.0 § 2 Para.3. Jobs that must be performed when the electrical power and compressed air are still on may only be done by trained experts who are aware of the associated hazards and regulations (such as AuS).

NOTICE

The machine functions must be continuously monitored.

Unusual noise or movements (such as bucking, hammering, etc.) are indicative of malfunctions and must be investigated

Inspection- and maintenance list

Requirements

- The labeling station is without power (no electrical power or compressed air)
- The product is not being transported

All maintenance works at the system have to be documented. Due to individual production conditions, discrepancies may arise that render it necessary to correct the mentioned intervals accordingly.

Daily servicing (after approximately 8 hours of operation)

Run. No.	Work to be arranged		Measurement Test statistic Lubricant
1	Examine machine for outside perceivable defects and damages. **Operating Personnel**		Perceivable damages
2	Arrange controls:		Function, condition, adjustment values
	Operator panels and -elements:	Visual inspection.	
	Controllers.	Visual- and function inspection.	
	Expert		
3	Safety check! Push emergency stop pushbutton and main switch. Machine has to turn off and stop immediately when one of the emergency pushbuttons is pushed or if you turn the MAINSWITCH to position "0". **Electrician, Expert**		Function
	Covers have to be installed and with inserted nuts. **Expert**		Function, installation
	The safety notes have to be placed **Electrician, Expert**		Availability
	The switch cabinets have to be locked safely. **Electrician, Expert**		Locking
	Visual control: In an on the machine there may not stored any parts that do not belong to the system. **Expert**		Order

Weekly servicing (after approximately 40 hours of operation)

Run. No.	Work to be arranged	Measurement Test statistic Lubricant
1	Motors: Clean cooling webs. Check bearing for noise. **Expert**	Contamination, exceptional noises
2	Clean all guidings. **Expert**	Contamination
3	Dedust sensors with a smooth cloth or brush. **Electrician**	Function, contamination
4	*²Clean fan (switch cabinets etc.). **Electrician**	Contamination
5	*²Clean conveyor belts and chains. **Operating Personnel**	Contamination
6	*²Check adjustment of conveyor belts and chains. **Expert**	Function
7	*² Drain condensate at maintenance unit. **Operating Personnel**	Drain condensate.
8	*²Clean operating screen. **Operating Personnel**	Contamination

Quarterly servicing (after approximately 500 hours of operation)

Run. No.	Work to be arranged	Measurement Test statistic Lubricant
1	Check the cable inlets of the end position switchs, initiator, plug-in connector, terminal box and motors. **Electrician**	Wear
2	Switch cabinet, terminal boxes: • Check guards for humming noise. • Visual inspection of the main power input and cable connections. • Check wiring channel and protection against contact. • Check wiring information for completeness. • Clean cabinet housing inside and components with vacuum cleaner. **Electrician**	Function Perceivable damages. Outside contamination.
3	Check end position switch and initiators. **Electrician**	Function
4	Check display equipment and operator keys for function. **Electrician**	Function

*² Only if system has the appropriate features.

Annual servicing (after approximately 2000 hours of operation)

Run. No.	Work to be arranged	Measurement Test statistic Lubricant
1	Emergency stop and safety circuit. Arrange visual- and function inspection, document inspection. **Electrician**	Function.
2	Main power supply: check isolation and grounding. **Electrician**	Function.
3	Drive and drive motors: change lubricant. **Expert**	Lubricant. See also the appropriate remarks of the manufacturer.

Inspection

Errors and wear can early be perceived and remedied by the inspection before it leads to damages.

Requirements

- The labeling station is without power (no electrical power or compressed air)
- The product is not being transported

Instruction

Please arrange the inspection as follows.

Step	Procedure
1	Check the roll-and revolving bearing for free run.
2	Control the rolls for measure and rotation accuracy.
3	Control the pusher brushs, pusher rollers and peeler blade for wear.
4	Contol the guiding rails for wear.
5	Check all moving and rotating machine parts for free room of motion, clearance and fixed hub.
6	Check all lines, tubes, screw connections, valves, cylinders and motors for impermeability and fixed hub.
7	*[2] Check chains for correct tension, wear and elongation.
8	Check the tooth-and transport belts for correct tension and wear (fractures and lacerated edges).
9	Check the transport belts for correct tape run.
10	Check all drive gears for correct meshing (wear, contamination).
11	Clean all sensors.
12	*[2] Check all working pressures and correct them if applicable.
13	Check motors and drives for noise, vibrations and overheating.
14	Check the emergency-stop device for function.

*[2] Only if system has the appropriate features.

Maintenance light sensor and light barrier

Safety instructions

CAUTION

Unintended system start.

HEALTH HAZARD!
When cleaning the light sensors and light barriers, it may be triggered an accidentally reaction of the labeling station due to approaching or touching.

– Turn off the labeling station before cleaning.

NOTICE

Damages due to incorrect detergents.

RISK OF DANGER TO PROPERTY
The light sensors and barriers may be damaged when cleaning with compressed air, steam cleaner, aggressive dissolvers or scrubbing agents.

– Do not use aggressive dissolvers or scrubbing agents and do not use any tight objects for cleaning.

To guarantee a trouble-free run of the labeling station, keep the optic of the light sensors and light buttons free of dust and grease. Use for cleaning a smooth, lint-free cleaning cloth.

Requirements

- The labeling station is without power (no electrical power)
- The product is not being transported

Required equipment

- Smooth, lint-free cleaning cloth.

Instruction

Please clean light barriers and – sensors as follows.

Step	Procedure
1	Mop optics and reflectors with a cleaning cloth.

Maintenance instruction conveying systems

Safety instructions

CAUTION

Danger of being pulled in by rotating elements.

HEALTH HAZARD!

The check of the web run has to be arranged at running system under load.

– Do not stick anything in, on or between the moving parts.

General description of the conveying system

All rolls have to be adjusted possibly parallel and right-angled to the belt axis.

The correction of the belt run is adjusted by the drive- and deflection rollers. The adjustment should be arranged at the rolls, at which the belt starts up. In contrast to the belt drive, where as a consequence of round disks and really high circumferential velocity the belt moves to the highest location, for belt straps. The following is valid: the belt moves to the side of the minor voltage.

Normally, a belt has to be retensioned during running-in time several times and the belt run has to be corrected. Then a belt strap runs efficiently under standard operating conditions. Deposits at the rollers influence the belt leveling. Particularly at the bottom side of the strap, dirt, wastage and other small parts may reach the roller and may cause deposits. This influences the lateral belt leveling. Therefore a regular cleaning of the system, especially of the belt run bed, is necessary. Therefore the belt is slightly lifted and the track bed is cleaned. If required, the belt tension has to be decreased to lift the belt.

Check transport belts

Requirements

- The labeling station is without power (no electrical power)
- The product is not being transported

Instruction

Please check the drive belt and the transport belts as follows.

Step	Procedure
1	Remove foreign particles and excessive contamination, particularly in the section of the deflection- and drive rollers.
2	Check the drive belts and transport belts for any damage.
3	Inspect the drive rollers and deflection rollers for excessive wear.
4	Jerkily run is an indication for clamping units or for too low belt tension. Check if the drive belts and the transport belts run without jerk.
5	Check if the deflection- and drive rollers align and inspect the wear of possibly available flanged wheels.
6	Check that the transport belts do not run laterally.
7	Check the distance to other machine parts.
8	Check oil- and grease lubrication at the flange bearings and at the drive motor block and renew according to maintenance instructions.

Retensioning the strap and the drive chain

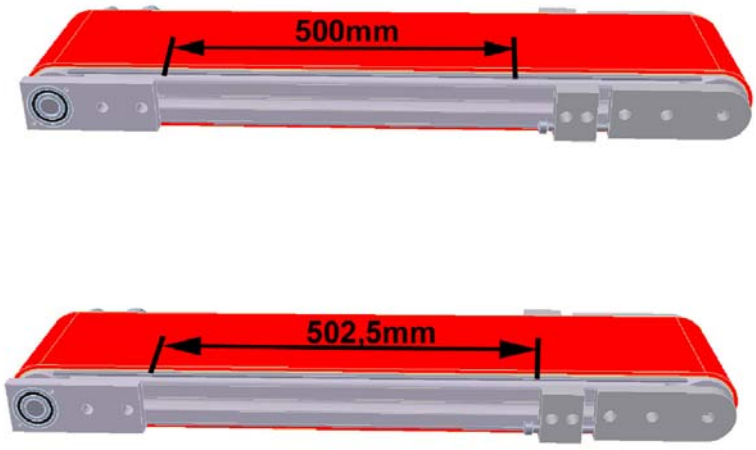


Fig. 9-1 Retension transport belt

The pull-in step of the conveying strap at the drive roller results from friction. To resolve the sliding resistance of the conveying strap that depends on load, a particular tangential force is required at the drive roller. So that this tangential force can be generated at the drive roller, a special belt pretensioning is necessary. The dimension of the belt pretensioning depends on frictional coefficient between conveying strap and driving cylinder as well as on angle of deflection of the conveying strap. The belt pretensioning is generated by readjusting of the threaded spindle at the clamping fixture or at longer systems by weight-loaded or spring-weighed clamping fixtures. The belt pretensioning should not be larger as the faultless pull-in step of the conveying strap of the drive roller requires.

Guiding value of the belt tension is **0,5% expansion** of the transport belt.

Requirements

- The labeling station is without power (no electrical power or compressed air)
- The product is not being transported

Instruction

Please adjust the web tension as follows.

Step	Procedure
1	Apply two markings at the surface of the transport belt in a maximum distance (e. g. 500mm).
2	Calculate the required expansion of the belt (e.g. expansion: 500mm +0,5%=2,5mm).
3	Tension the transport belt with the clamping fixture until the distance between the markings is larger by the calculated value (e. g. 500mm+2,5mm = 502,5mm).

Belt run correction

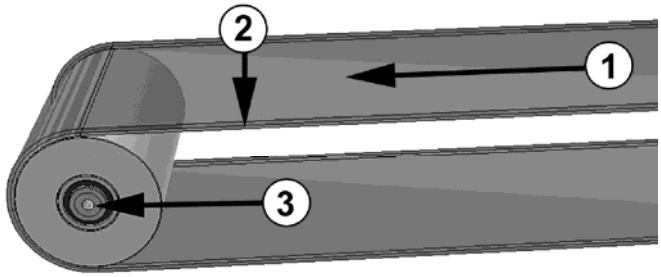


Fig. 9-2 Adjust transport belt

Nr.	Description
1	TRANSPORT DIRECTION
2	DIRECTION IN WHICH THE TRANSPORT BELT RUNS.
3	ADJUSTMENT DIRECTION OF THE DEFLECTION ROLLER TO BELT RUN CORRECTION.

All rolls involved in belt run should be equipped possibly parallel exactly right-angled to belt axis.

The correction of the belt run should be arranged at rolls at which the strap seizes from a longer, without deflection influenced propagation.

Requirements

- No transportation of products.
- Emergency stop push-button is unlocked.
- Labeling station is connected to power and *²compressed air.
- Labeling station was put into operation (see chapter „Adjustment of labeling station and start-up“).

Instruction

Please adjust the belt run as follows..

Step	Procedure
⚠CAUTION	**Health hazard!** Checking the belt run has to be arranged at running system under load. Do not stick in, at or between moving parts.
1	Start transport belt.
2	Tension deflection roller at side slightly, to which the transport belt runs.
3	Transport belt should run some time.
4	Control belt run and correct it again if necessary.

Exchange of rollers

The durability of the drive rollers performed in the anti-friction bearings depend on load and conveying speed.

It is normally sufficiently for an operating time of 4-5 years. After this time it is practical to replace the bearings or rollers.

Clean drive belts and transport belts

Safety instructions

WARNING

Hazard from direct or indirect contact with voltage-conducting parts.

DANGER TO LIFE!

– Disconnect the labeler from the mains voltage before working on it. Pay attention that the electrical components do not get wet.

If extraordinary plenty of deposits or foreign objects are available, the drive belts and the transport belts should be cleaned and the foreign objects should be removed.

We recommend a frequent cleaning. If the label rests stick strongly, please use the Bluhm Weber label remover article number 21800771.

Observe that electrical components do not get wet.

Spare parts

Safety instructions

WARNING

Hazard from incorrect spare parts!

DANGER!

Incorrect or faulty spare parts can impair safety and cause injury or damage to the machine.

– Only use original spare parts or parts that are specifically approved by the Bluhm Weber Group.

Wiring diagram

The wiring diagram is included in switch cabinet.

10. Troubleshooting

Safety instructions

CAUTION

Hazards from actively controlled movements.

 RISK OF INJURY FROM CRUSHING!

The movements of the labeling system are motor-driven by an automatic controller.

- Maintain a distance from moving parts.

CAUTION

Danger of being pulled in by rotating elements

 DANGER OF BEING PULLED IN!

Rotating elements at the machine, backing rewinder, label feed, conveyor belt are driven by a motor.

- Do not stick anything in, on or between the moving parts

Instructions for arranging the elimination of errors address to trained technicians.

If a failure occurs and a danger to persons or properties exists, push immediately the E-Stop push button. Never remove seized parts or foreign materials with your hands. Use suitable resources.
If the service personnel are not able to eliminate the errors, please address to our Service Hotline.

Remedy of defects

In this chapter, possible error causes and their elimination are described.

Failures at the Labeling system

Failure	Cause	Remedy
Low Label Prewarning	The label material runs out.	Exchange the label material in due time.
Label End	The label material has run out.	Load new label material.
Failure Web Break	Label web is torn.	Load new label web, control label web mobility. Adjust light barrier to new label web.

Failures at the Labeling System

Failure	Cause	Remedy
Powered motor is not operating.	Connection power is missing.	Check connection power.
	Fuse defect.	Replace fuse.
Label web is not transported.	Transport roller or friction roller stick together with labels.	Clean transport roller resp. friction roller.
	Friction rollers have no contact to each other.	Push friction rollers against each other.
	Contact pressure of friction rollers is too low.	Re-adjust contact pressure.
Label web runs through.	Label detection is not correctly adjusted.	Adjust label detection.
	Light barrier is dirty.	Clean receiver and transmitter of the light barrier.
Faulty Labeling.	Applying pulse is adjusted wrongly.	Check adjustment of product detection.
Extraordinary Noises.	Foreign material (tool etc.) is in system. Loose parts.	Remove foreign material, check mountings.

11. Index

12. EC Declaration of conformity

DE **EG-KONFORMITÄTSERKLÄRUNG**
GB EC-DECLARATION OF CONFORMITY
FR DECLARATION DE CONFORMITE CE

Weber Marking Systems GmbH
Maarweg 33
D-53619 Rheinbreitbach

DE **Wir erklären in alleiniger Verantwortung, dass die Maschine:**
GB We declare under our sole responsibility that the machine:
FR Nous déclarons sous notre responsabilité exclusive que la machine:

Geset 121

DE	Seriennummern von:		bis	
GB	Serial number from:	323003112	to:	324000000
FR	Numéros de série du:		au:	

DE **auf das sich diese Erklärung bezieht, folgenden Bestimmungen und Richtlinien entspricht:**
GB to which this declaration relates corresponds to the regulations and directives.
FR que concerne cette déclaration, est conforme aux directives et réglementations suivantes:

2006/42/EG
2004/108/EG
2006/95/EG

DE **Bevollmächtigter für die Zusammenstellung der relevanten technischen Unterlagen:**
GB The person authorised to compile the relevant technical documentation:
FR Personne mandatée pour élaborer la documentation technique concernée:

Lutz Krämer
Maarweg 33
D-53619 Rheinbreitbach

Rheinbreitbach, 11. Juni 2012

Andreas Bluhm / Prokurist/ *Authorized Officer /* signataire autorisé