topex®

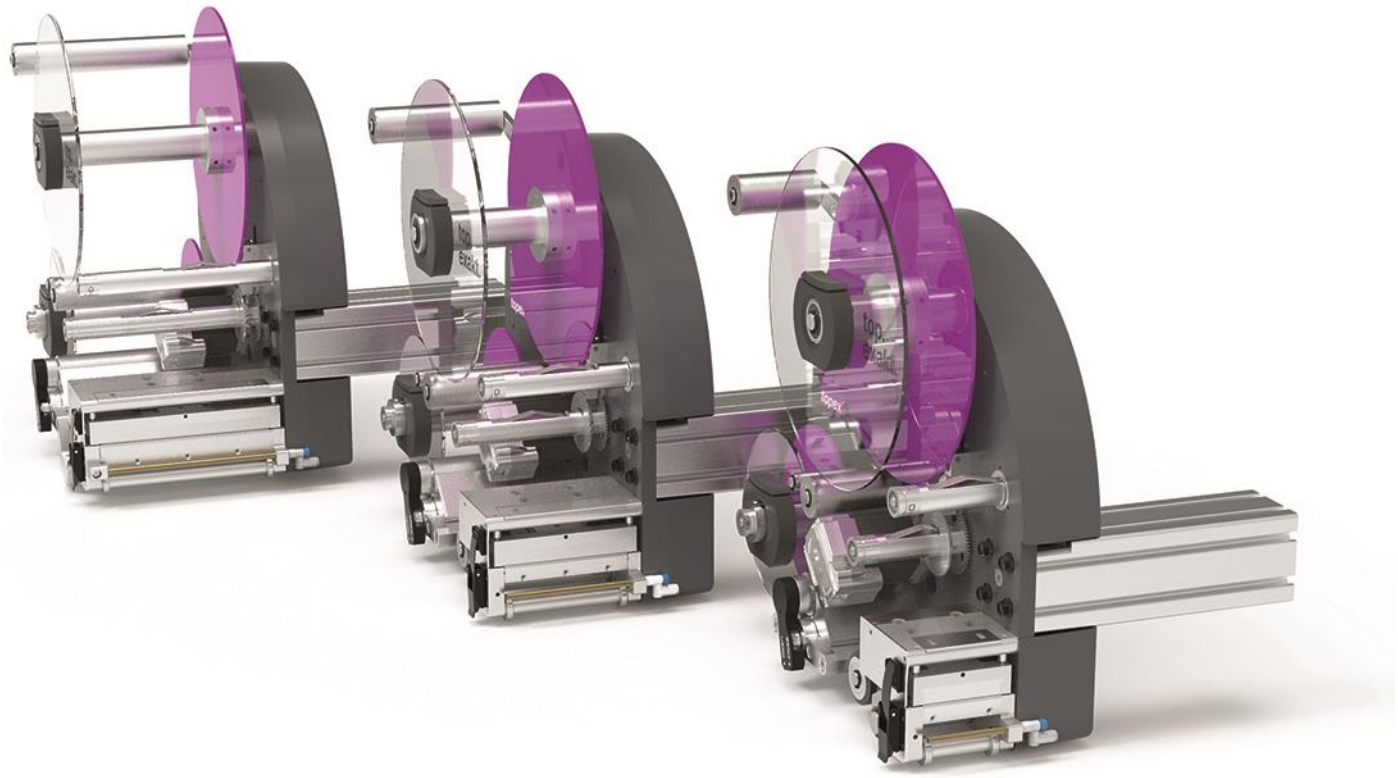
OPERATING INSTRUCTIONS

Version 2

Keep for future use

Thermal Transfer Printer

topex 7000



topex GmbH • Daimlerstraße 2 • D-73268 Erkenbrechtsweiler • Germany • **www.topex.de**

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1 BASIC DATA

1.1 MANUFACTURER'S ADDRESS

Address	topex GmbH Daimlerstraße 2 D – 73268 Erkenbrechtsweiler
☎	+49 (0)7026 / 9316 - 0
Email	zentrale@topex.de
Internet	www.topex.de

1.2 SERVICE / SPARE PARTS ORDERING

Fill find your contact under the following link:
https://www.topex.de/kontakt/ansprechpartner

1.3 EC DECLARATION OF CONFORMITY OR EC DECLARATION OF INCORPORATION

The EC of incorporation within the meaning of the EC machinery directive is enclosed as a separate part of the technical documentation.

1.4 DOCUMENT INFORMATION

In the sense of the EC machinery directive, these operating instructions are:

original operating instructions	☒
a translation of the original operating instructions	☐

Storage

These operating instructions always must be kept at the machine. It always must be ready at hand.

1.5 OPERATING INSTRUCTIONS

Version	2
Creation date	20 December 2023
Last change	26 March 2024

1.6 DEVICE MODELS

Type	Variants
topex 7000	7054-12-300 7108-12-300 7162-12-300 R for right-hand and L for left-hand model
Control unit topex 7200 / 7250	Version 5.xx

1.7 FURTHER APPLICABLE DOCUMENTS

All documents supplied also apply. They must be observed in addition to this manual for the safe use of the machine.

1.8 LABELLING OF THE THERMAL TRANSFER PRINTER

The rating plate is located on the front of the base plate. The thermal transfer printer meets the Machinery Directive 2006/42/EC

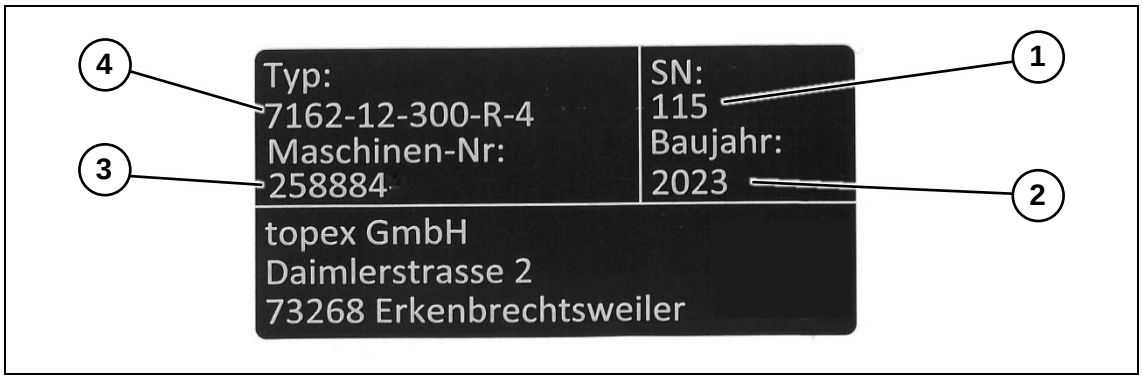


Figure 1 Rating plate - example

Pos.	Designation	Pos.	Designation
1	Serial number	3	Machine number (order number)
2	Year of build	4	Type

2 GENERAL

2.1 PURPOSE OF THE DOCUMENT

The purpose of these operating instructions is providing you as the operator with data for the entire machine in a compressed form in one manual.
You will receive information on

- Working method,
- Operation,
- Safety notes,
- Maintenance, cleaning, and servicing.

Furthermore, you will receive information on the residual risks at the machine and on how to behave to keep from getting into any dangerous situations. These warning notes are valid everywhere on the machine.

Detailed information on maintenance and servicing work on the individual components can be found in the operating instructions of the respective manufacturers.

Information
The operating manual must be supplemented by instructions based on existing national provisions on accident prevention and environmental protection.

The manual must be read and applied by everyone who is charged with the work described below at the machine, such as

- **operation**, including equipment, troubleshooting in the course of work, removal of production wastes, care, disposal of operating and auxiliary substances,
- **servicing** (maintenance, inspection, repair) and/or
- **Transport**

2.2 TARGET GROUP

Information
The machine must only be operated by instructed and authorised staff.
The operating staff must only operate the machine and clean it within a specified scope. Any other work, such as troubleshooting or fault removal, is not part of the operating staff's tasks.
Additional requirements, qualifications and competences that are necessary for special work can be found in the respective chapter.

2.3 STORAGE

Information
The operating instructions always must be kept at the machine and always must be ready at hand.

2.4 SETUP AND SCOPE OF THE DOCUMENTATION

These operating instructions describe the topex 7000 thermal transfer printer.
The thermal transfer printer is intended for integration into industrial systems. The operating instructions are part of the project-specific documentation folder.
Further documentation on the control unit and project-specific equipment (e.g., handling system) can also be found in the documentation folder. They are not part of these operating instructions.

The operating instructions cannot contain all detail information on all possible build versions, since this would get too cluttered. In particular, it cannot consider every imaginable case of setup, operation, or maintenance. Accordingly, the operating instructions essentially only contain such notes that are required for qualified staff at intended use of the machine in industrial areas of use; see VDE 0105-100:2009-10.
If anything in this area is unclear, in particular if any product-specific detail information is missing, inquire from topex GmbH or its authorised partner to answer any questions. Please generally indicate the machine number or device type designation.

It is recommended to use the support and services of topex GmbH or its authorised partners for special tasks. These are particularly

- planning,
- assembly,
- commissioning, and
- service tasks (e.g., for general work, long-term storage and preservation of machines, setup and aligning of machines or installation measures).

2.5 ILLUSTRATION TYPES

Illustration	Severity
Safety note	shows facilities or steps that protect the operator and the environment from danger
Observe note	indicates things to be observed for safe and proper operation
1	indicates the action steps for the operator as a numbered list
Figure XX (italics)	Figure, number, and title
see chapter XXX / Figure XX	Text highlighted in grey indicates a cross-reference. By holding down the Ctrl key and clicking the left mouse button, you go to the relevant place in the pdf document.

2.6 SPECIAL NOTES

Information

These operating instructions must be treated confidentially. It must only be used by authorised persons in your company. Provision to third parties is forbidden. Please transfer the manuals to the purchaser as well if you sell the machine.
Note that the contents of the topex operating instructions and the production documentation are not part of any former or existing agreement, promise or legal relationship or supposed to change these.
Any obligations of topex GmbH result from the respective purchase agreement, which also contains the complete and solely valid warranty provisions. These contractual warranty provisions shall not be expanded or limited by the statements in this manual and documentation.
The information in these operating instructions has been reviewed with care. Nevertheless, we cannot assume any liability for errors.
Any information and notes on operation and maintenance is provided under consideration of our previous experience and insights, according to our best knowledge. We shall be liable for any errors or omissions under exclusion of further claims in the scope of the warranty obligations that we entered into. Claims to damages, no matter the legal reason from which such claims are derived, are excluded.
Translations are also made to the best of our knowledge. We cannot assume any liability for translation errors; even if the translation is completed by us or at our order. The German text alone remains relevant. You can receive from us on request.
The texts, figures and drawings will not always correspond to the scope of delivery of the main contract. The drawings are not always made in the indicated scale.

3 BASIC SAFETY PROVISIONS

Objective

Information
This chapter lists safety notes that are generally valid and to be generally observed. Specific action and situation-related safety notes are listed before the corresponding action step or in the chapter of the operating instructions that describes the situation.

3.1 GENERAL

3.1.1 Observe the notes in the operating instructions.

- The basic prerequisite for safety-compliant handling and interference-free operation of the machine is knowledge of the basic safety notes and the safety provisions.
- These operating instructions contain the most important notes in order to operate the machine safety-compatibly.
- These operating instructions, in particular the safety notes, must be observed by all persons who work on the machine.
- Additionally, the rules and accident prevention provisions must be observed for the respective site of use.

3.1.2 Obligations of the operator

The operator commits to only letting such persons work on the machine who

- are familiar with the basic provisions on work safety and accident prevention and that are instructed in handling of the machine,
- have read the safety chapters and warning notes in these operating instructions or are informed of their contents, have understood the contents, and confirmed it by signature.

3.1.3 Obligations of the staff

All persons who are charged with work on the machine commit before starting work

- to observe the provisions on work safety and accident prevention,
- to read the safety chapter and warning notes in these operating instructions or to be informed of its contents and to confirm by signature that they have understood the safety chapter and the warning notes.

topex GmbH will answer any remaining questions.

3.2 SYMBOL AND NOTE EXPLANATIONS

- Observe these notes.
- Do not expose yourself to these dangers.

3.2.1 Meaning of the signal words

The following table shows the classification and meaning of the signal words in safety instructions and warnings.

Signal word	Severity	Consequences of non-observance
⚠ **DANGER**	Imminent danger	Irreversible severe injuries or death
⚠ **WARNING**	Possible dangerous situation	Severe injuries or death
⚠ **CAUTION**	Possible dangerous situation	Minor injuries
ATTENTION	Possible property damage	Damage to the machine or environment

3.2.2 Layout of the safety instructions and warnings

Formal layout of the safety instructions and warnings.

Signal word

Nature of the danger, its source, and possible consequences of non-observance

► Measures to avert the danger.

3.2.3 Layout of information notes and hints

Formal layout of the hints and information.
This information facilitates handling of the machine and helps you with operation, maintenance, and cleaning, as well as with avoiding damage to the machine.

Hints or information
This symbol indicates information that contributes to a better understanding.

3.2.4 Symbols for warnings

Symbol	Explanation	Symbol	Explanation
	Warning: counter-rotating rollers		Warning of danger point
	Warning of dangerous voltage		

3.2.5 Symbols for protective equipment

Symbol	Explanation	Symbol	Explanation
	Wear a hairnet		

3.3 ORGANISATIONAL MEASURES

- Keep the operating instructions at hand at the site of use of the machine at all times.
- Observe the generally valid legal and other binding provisions on accident prevention and environmental protection in addition to the operating manual and instruct all persons charged with the work accordingly.
- Supplement the operating manuals with instructions, including supervision and reporting obligations, to consider operational special features.
- Observe the recognised rules for work safety.
- The persons charged with work on the machine must have read the operating instructions and specifically this chapter "Safety" before starting their work. This shall also apply to persons who only work on the machine occasionally.
- Regularly check safety- and danger-conscious work of the staff under observation of the operating instructions.
- If necessary or required by provisions, use personal protective equipment.
- Necessary personal protective equipment must be provided by the operator.
- Keep all safety and danger notes on the machine completely legible and replace them if necessary.
- Check all available safety devices at regular intervals.
- Do not make any changes, attachments and conversions at the machine that may impair safety without the manufacturer's consent. This shall also apply to installation and setting of safety devices and valves, as well as to welding of load-bearing parts.
- Spare parts must comply with the technical requirements specified by the manufacturer. This shall only be ensured in case of genuine spare parts.
- Do not make any changes to the operating system or the operating program.
- Comply with the deadlines required or specified in the operating instructions for maintenance.
- You as the operator must report any faults and damage.
- Indicate the qualification and requirements to the training of users and the requirements to product-specific training (responsibility, control).
- Chapter 3.7 "Personnel selection and qualification – overview" stipulates who is allowed to perform what work. The chapters also show directly who is allowed to perform the necessary work in this chapter.

3.4 WARRANTY

3.4.1 General

Our "general sales and delivery conditions" generally apply. These are available to the operator at the latest at conclusion of the contract.
Warranty and liability claims in case of injury and property damage are excluded if due to one or several of the following causes:

- Non-intended use of the machine.
- Operation of the machine with defective safety devices or improperly installed or non-functional safety and protective devices.
- Improper installation, commissioning, operation, and servicing of the machine.
- Non-observation of this operating manual or non-observation of the notes in the operating instructions regarding transport, storage, installation, commissioning, operation, and maintenance of the machine.
- Unauthorised constructional changes to the machine and its components, e.g., exchange of a motor for a stronger one, changing of load-bearing parts, etc.
- Improperly performed repairs.
- Deployment of insufficiently qualified staff.
- Disasters from the effects of foreign bodies and force majeure.

3.4.2 Conversions and spare parts

Independent conversions of the machine and changes to the programs may

- endanger persons,
- cause damage to the machine.

Therefore:

- Do not perform any changes, attachments, or conversions at the machine without the manufacturer's consent. This shall specifically apply to welding on load-bearing parts.
- Do not change or supplement any electrical/electronic components without the manufacturer's consent, since the electromagnetic behaviour of the machine may be impaired by this.
- Conversion or changes to the machine are only permitted upon written coordination with the manufacturer!
- All unauthorised conversions of the machine and any program changes not documented in these operating instructions are forbidden!
- Electrical parts and machine parts that are not in an impeccable condition must be replaced at once.
- Use only genuine spare parts and accessories authorised by the manufacturer. Use of other parts revokes liability for the resulting consequences.
- There is no guarantee that externally procured parts will be designed and produced stress- and safety-compatibly.

We expressly note that unauthorised constructional, technical, or process-technical changes to the machine, its control software or use will cause the warranty to expire.

3.4.3 Repairs

Request service staff from topex GmbH or its authorised partners for any repairs.
If the operator's staff performs any repairs directly, observe the notes in these instructions in all items.

topex GmbH assumes no liability and warranty for any damage and operating faults as a consequence of non-observation of this manual or improper repairs by the operator's staff.

Coordinate with topex GmbH if anything is unclear or if any complications occur. This may prevent larger damage.

When performing repairs, use
- only impeccable tools,
- only genuine spare parts,
- the notes in these instructions.

3.5 USER ASSESSMENT/PRODUCT OBSERVATION

We regularly update these operating instructions. By making suggestions for improvement, you can help us design the operating instructions more and more user-compatibly.

Since we want to offer safe products at the latest state of the art in future as well, inform us without delay of any
- faults at safety devices,
- faults in machine operation,
- changed settings,
- problems when handling the machine,
- accidents or near-accidents.

We will contact you then in order to discuss the safety and working method of the machine.

Information
Reporting accidents or near-misses is a very important contribution to improving the machine.

3.6 SAFETY RULES AND PROTECTIVE DEVICES

3.6.1 Basic safety rules

- Operate the machine only when all safety devices are fully functional and all protective covers are installed.
- Ensure before activating the machine that no one can be endangered by the starting machine.
- Check the machine for outwardly recognisable damage and function of the safety devices at least once per day.

3.6.2 Dangers from electrical voltage and power

- Have work at the electrical supply only performed by an electrician.
- Regularly check the electrical equipment of the machine. Remove any loose connections and defective cables at once.
- Always keep the electrical control cabinet (if available) closed. Access is only permitted to authorised staff with keys or tools.

3.6.3 Dangers from electromagnetic fields

- The electromagnetic behaviour of the machine can be impaired by supplements or changes of any kind.
- Therefore, do not make any changes or supplements to any electrical/electronic components without the written consent of topex GmbH.

3.6.4 Safety devices

- Before every start-up of the machine, all safety devices must be professionally installed and functional.
- Safety devices must only be removed
  - after standstill and
  - securing against reactivation of the machine, e.g., disconnection of the machine or installation of a padlock to the main switch.
- Any safety devices that have been removed by the operator must be reinstalled properly at delivery of partial components.

3.6.5 Machine control

- Only instructed staff must operate the control unit.
- The electrical control cabinet (if available) must only be opened by persons who
  - have electrotechnical training,
  - have been authorised by the operator.
- Only instructed operating staff and commissioners must work at the operating and display element.

3.6.6 Noise at the thermal transfer printer

The continuous sound pressure level emitted by the thermal transfer printer is less than 70 dB(A).

3.7 PERSONNEL SELECTION AND QUALIFICATION – OVERVIEW

- Work at the machine must only be performed by reliable staff. Observe the legally permitted minimum age.
- Only use trained and instructed staff.
- Clearly specify the responsibilities of the staff for operation, setup, maintenance, and servicing.
- Staff to be trained, instructed, introduced or in the scope of general training must only work on the machine under the continuous supervision of an experienced person.
- Work on
  - electrical equipment of the machine must only be performed by an electrician or by instructed persons under the management and supervision of an electrician according to the electronic rules.
  - pneumatic equipment of the machine must only be performed by a specialist or by instructed persons under the management and supervision of a specialist according to the pneumatic rules.

Work	Instructed persons	Person with technical training	Person with electrotechnical training	topex GmbH and authorised partners
Transport	X	X	X	X
Setup	X	X	X	X
Make supply connections	--	X	X	X
Commissioning	X	X	X	X
Setup, setting	X	X	X	X
Operation	X	X	X	X
Operational maintenance	X	--	--	X
Troubleshooting	--	X	X	X
Fault removal mechanical	--	X	--	X
Fault removal electrical	--	--	X	X
Servicing	X	X	X	X
Decommissioning	--	X	X	X
Storage	--	X	X	X
Disposal	--	X	X	X

Key: **X** ... permitted **--** ... not permitted

4 SPECIAL SAFETY NOTES

4.1 OPERATING PHASES

4.1.1 Normal operation

Operate the workstation only:

- if all required safety devices and protective covers are available
- under constant supervision, or ensure the matching monitor function

4.1.2 Maintenance / servicing, fault - prerequisites

- Perform the prescribed maintenance and cleaning work on time.
- Observe the information on the exchange of parts.
- Regularly check the safety devices of the machine.
- Maintenance and fault removal must only be performed by trained staff.
- For all maintenance and cleaning work:
  - power down the machine / check that there is no voltage
  - vent the pneumatic system (at the maintenance unit)
  - apply a warning sign against reactivation.
- Check loosened screw connections for tight fit.
- Check after completing your maintenance work,
  - that all safety devices are attached,
  - that the safety devices work properly.

4.1.3 Cleaning the machine and disposal

Turn off the control unit before any cleaning, maintenance, and repair work.
Handle and dispose of any used substances and materials appropriately, in particular when working with cleaning agents.

4.2 SYMBOLS AT THE MACHINE

Observe all safety notes directly attached to the machine.
Keep them completely legible.

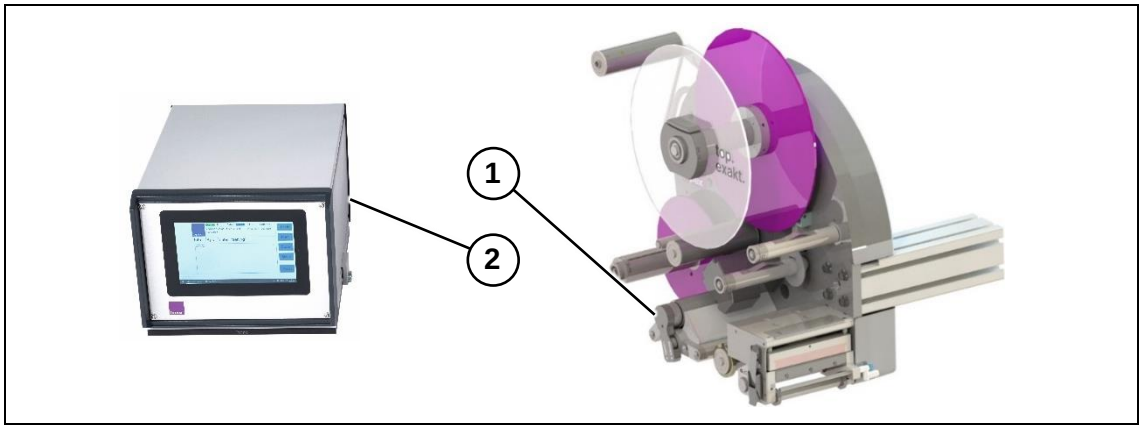


Figure 2 Positions of the symbols on the machine

Pos.	Symbol	Explanation
1		Warning: counter-rotating rollers
2		Warning of dangerous voltage

4.3 SAFETY DEVICES

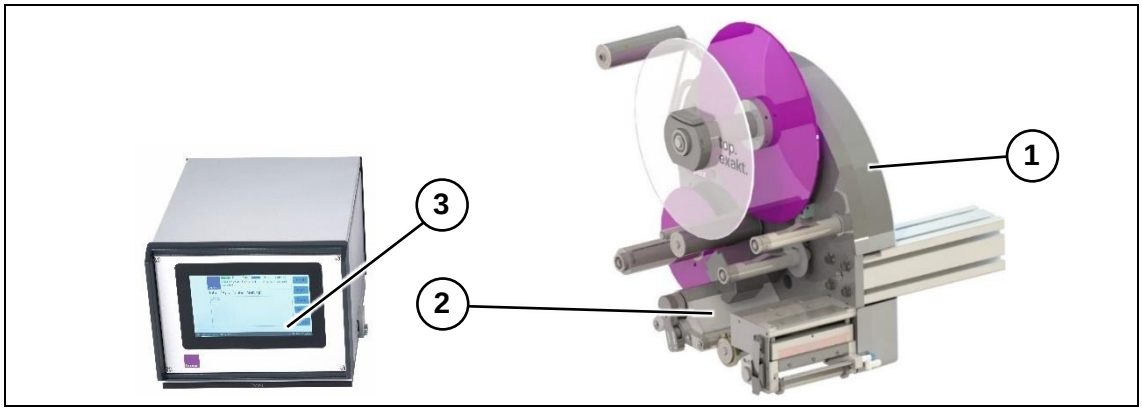


Figure 3 Safety devices

Pos.	Safety device	Explanation
1	Base plate cover	protects from moving parts
2	Safety guard friction	prevents reaching into any counter-rotating rollers of the friction
3	Monitor	the warning and fault messages are displayed here

4.3.1 Separating guard

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

- ► Operate the machine only with properly working safety devices!
- ► Shut down the machine at once if you find any defective or ineffective safety device.
- ► You as the operator are responsible for this.

Function

The protective cover is set up as to prevent reaching in.

4.4 SPECIAL DANGERS IN HANDLING THE MACHINE

The machine was subjected to a safety inspection. Construction and model of the machine comply with the state of the art and the recognised safety-technical rules. All required safety and protective devices are available.
Nevertheless, non-intended use may:

- cause danger to the life and limb of personnel or third parties,
- endanger the machine and other property values of the operator,
- impair the machine's function.

Faults, in particular those that impair safety, must be removed at once!

Operate the machine only:

- in a safety-technically impeccable condition,
- for intended use,
- if the user has the necessary safety and danger-awareness, and
- under observation of the operating instructions.

All persons who are involved with installation, commissioning, operation, switching/conversion, and maintenance must:

- have the required qualification and
- observe these operating instructions precisely.

It is about your safety!

4.4.1 Danger areas

Danger areas are:

- friction
- the electrical parts at the machine,
- movement areas of the linear axis (if available)
- movement areas of the pneumatic elements

In these areas, permanently present dangers or unexpectedly appearing dangers occur.

Special safety provisions apply.

4.4.2 Danger sources

Dangers result from:

- voltage and electrical current
- electromagnetic radiation
- mechanical friction movements
- movements of the pneumatic elements (if available)

This may cause danger to the health of persons.

4.4.3 Residual risks

Residual risks are risks that cannot be

- completely removed by constructional measures or
- that cannot be reduced to an acceptable scope or
- that cannot be removed by protective devices.

They are always present.

Detailed information on the residual risks and also possibilities to prevent dangers are provided by the warning notes and notes in the individual sections or with the respective work.

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

► Operate the machine only with properly working safety devices!

► Shut down the machine at once if you find any defective or ineffective safety device.

► You as the operator are responsible for this.

⚠ DANGER

Touching live components and the electrical control cabinet poses a risk of serious injury or death due to electric shock.

- ► Never open the electrical control cabinet.
- ► Never work on any live parts.
- ► Have work performed by an electrician only.

⚠ WARNING

There is a risk of serious injury from being and crushed by the drive barrels.

- ► Only operate the machine with properly functioning safety devices.
- ► Wear tight-fitting clothing.
- ► Tie back long hair (wear a hairnet if necessary)
- ► Do **not** wear protective gloves
- ► Before working on the machine, switch off the electrical supply voltage and secure it against accidental reactivation.

Residual risks associated with the handling option:

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to moved parts.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Set up devices and aids in the work space of the machine so that they can be reached well from the operator's side.

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to pneumatic / electric movements.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Only reach into the work space for equipment, removal and cleaning.
- ► Remove objects that would impair movement of the axes.

5 PRODUCT DESCRIPTION

Objective

- Inform the user on the intended use of the product.
- Inform the user on non-intended use and foreseeable misuse.

5.1 INTENDED USE

Safe operation of the machine is only ensured at intended use.

- Automatic printing and dispensing of adhesive labels.
- The materials must be approved by topex and comply with the order specific data.

Any other or additional use is deemed non-intended and is abuse of the machine. topex GmbH shall not be liable for any damage that results from any other or additional use. The risk shall be assumed by the user alone.

Intended use also includes:

- operation of the machine with all safety devices,
- observation of the operating instructions,
- compliance with the maintenance measures,
- compliance with the ambience conditions

Furthermore, observe:

- The machines are designed for integration into existing systems in an industrial environment.
- Do not operate the machine in explosive/potentially explosive areas.

Foreseeable misuse

- Processing products/materials that do not comply with the above specifications.
- Processing products/workpieces of larger dimensions or living things.
- Operation of the machine in an explosive atmosphere.
- Influence of vibrations during operation.

5.2 TECHNICAL DATA

General data	
Execution	• Adjustable label tape guide • Spring-loaded pendulum arm with brake • Stepper motor • Left- or right-hand model
Installation option	Position independent
Label synchronization, automatically via sensor	• Optical via fork light barrier IGS63B/6.3 • Via special sensors for alternative materials
Control devices	Transfer film end
Dimensions (L x W x H) incl. transport frame	Approx. 600 x 600 x 700 mm
Weight of thermal transfer printer (without customised attachments)	Approx. 19.5 kg
Production speed	Depending on the products to be labelled and the label size
Noise	< 70 dB(A)
Voltage supply	24 V DC from control unit
Interface	
Voltage supply	Power, 24 V DC
Data line to the thermal transfer printer	Data
I/O interface for connection to a superordinate control unit	I/O
Printer	
Printing technology	• Thermo-Direct • Thermal transfer
Print width	• 7054-12-300 -> 54 mm • 7108-12-300 -> 108 mm • 7162-12-300 -> 162 mm
Print speed	Max. 125 mm/s
Print resolution	12 dot/mm (300 dpi)
Printhead	Thermal strip, quick-change

Labels	
Materials	• Adhesive labels according to the order specific data • Special materials only after approval by topex
Label formats	• min. 10 x 4 mm • topex approval required
Label spacing	Min. 6 mm for full-surface prints
Max. outside diameter of label rolls Topex 7000, all types	• 300 mm (standard) • 400 mm • 500 mm
Label roll core diameter	• 76 mm • 100 mm • 150 mm
Max. liner width	• 70 mm • 110 mm • 170 mm
Transfer film	
Materials	Adapted to labelling material
Max. length	450 m
Core diameter	25.4 mm
Ambience conditions	
for the thermal transfer printer (without labels)	
Temperature	5 … 35 ° C
Air humidity	10 … 80% non-condensing
for labels	See label specification
for transfer films	See transfer film specification
Pneumatic connection	
Pressure	5 … 6 bar
Air temperature	Approx. 10 … 40 ° C
Quality	Dry, oil-free, filtered

5.2.1 Control options

- Up to three PLC plug-in circuit boards for the sequence control of a handling (optional)
- Stepper motor control for max. 3 stepper motors, for electrical handling systems (optional)
- Memory expansion
- Font generator for converting true type fonts into the printer format
- Conversion of the following formats into print sequences, depending on customer requirements:
  - Zebra ZPL
  - CAB

  A dongle must be plugged into the control unit to activate this option, see operating instructions: **Control unit topex 7200 / 7250**

5.2.2 Optional PC programs

Top term:
Terminal program supporting the data transfer between PC and control unit. See operating instructions for more details: **Control topex 7200 /7250.**

TopTerm RemoteControl:
Graphical user interface for creating handling PLC programs. Requires an optional I/O card for the PLC on the control unit. See operating instructions for more details: **Control topex 7200 /7250.**

Top label:
Graphical user interface for creating label layouts for printing.

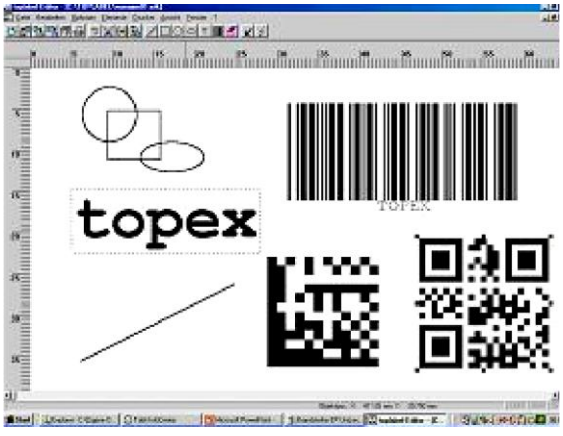


Figure 4 Creation of label layouts with toplabel, example

5.3 WORKPLACE

The machine can be installed in superordinate systems. It automatically operates in normal operation.
The thermal transfer printer must be easily accessible for exchanging the rolls of labels and thermal transfer film.

5.4 LUBRICANTS AND CLEANING AGENTS

ATTENTION

There is a risk of damage to the product and components due to the use of lubricants.

► The components of the machine require no lubricants.

- Only clean the machine with common household cleaners, but not with any acid, lye, or solvent-containing agents.
- Do not use compressed air or high-pressure cleaners!

5.5 DELIVERY CONDITION

- The machine is covered in foil and enclosed in a wooden crate to protect it from the weather.
- The machine is screwed to the pallet for transport protection.

6 SETUP AND FUNCTION

6.1 MECHANICAL SETUP

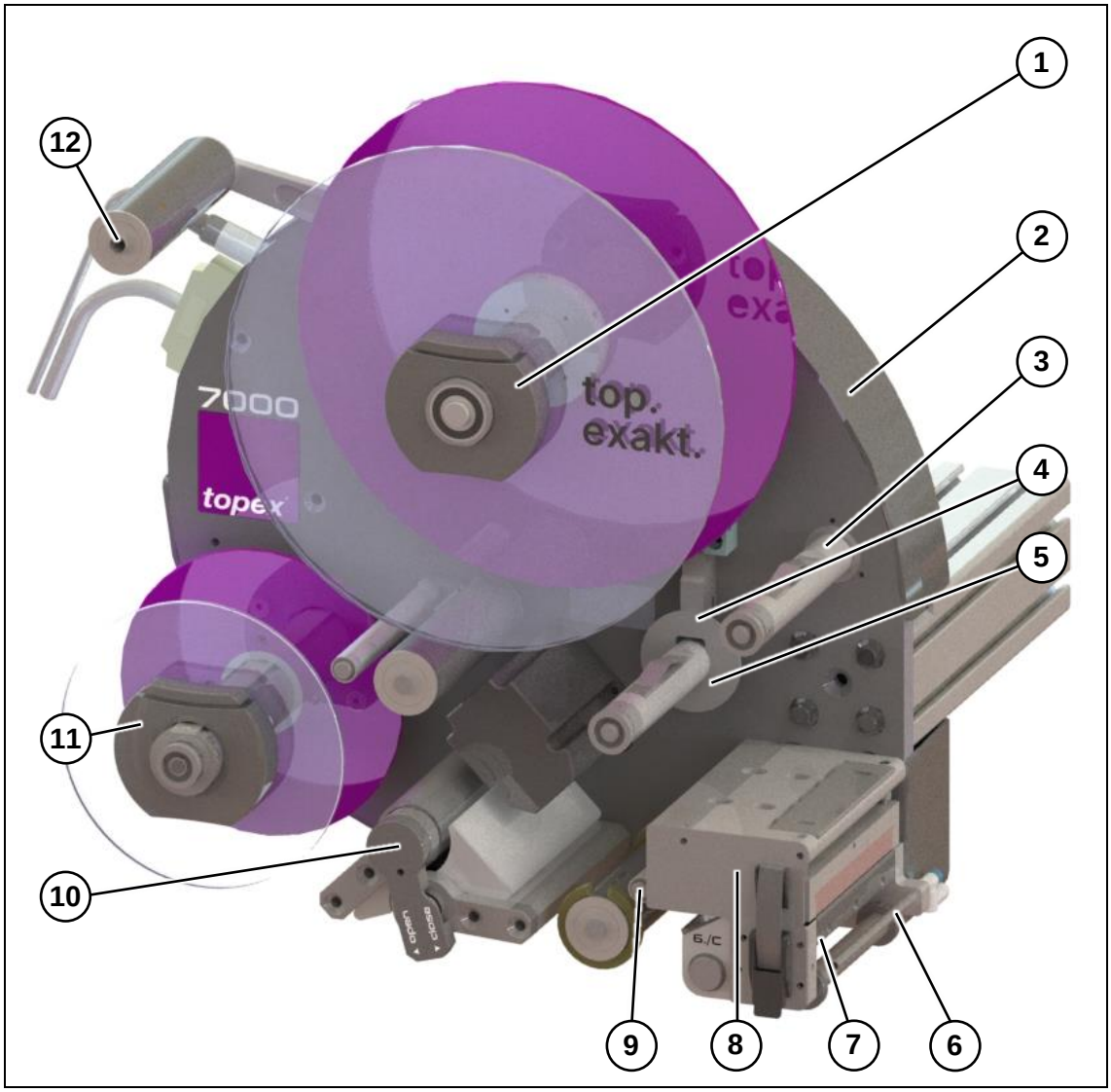


Figure 5 Overview printer (left-hand model)

Pos.	Designation	Pos.	Designation
1	Label roll unwinder	7	Dispensing edge
2	Base plate	8	Printhead with thermocouple
3	Transfer film take-up	9	Label synchronisation sensor
4	Sensor transfer film end	10	Drive unit
5	Transfer film unwinder	11	Liner take-up
6	Auxiliary air	12	Pendulum arm with brake

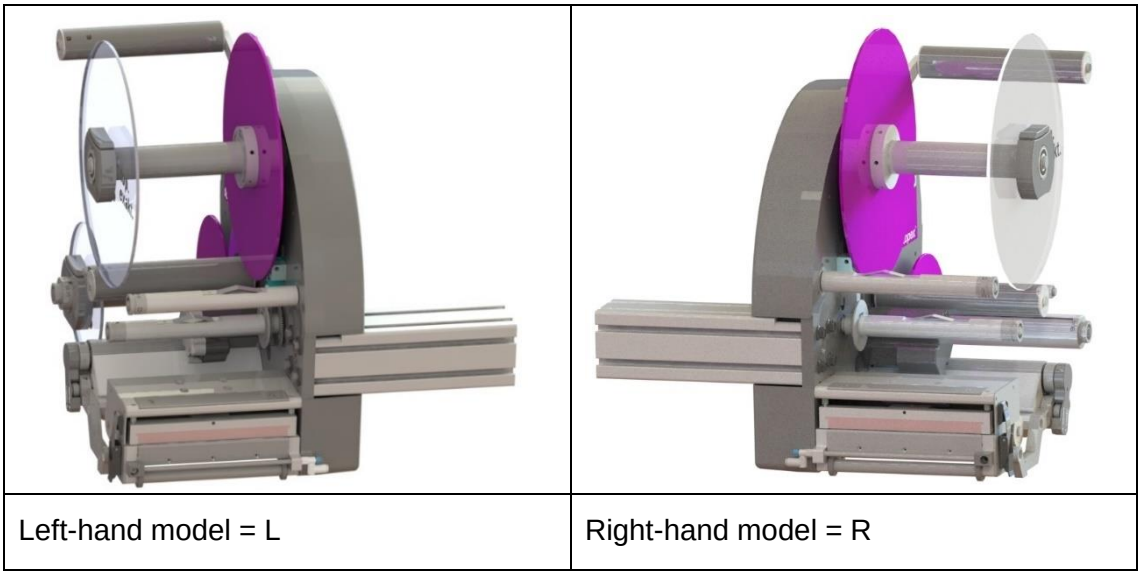
6.2 FUNCTION DESCRIPTION

The thermal transfer printer unrolls prefabricated labels, prints the desired label layout on them, and transfers them synchronously to a handling system at the dispensing edge.
The empty label liner and the used transfer film are rolled up. The course for the label tape is indicated by numbers on the rolls (see Figure 14).

6.3 ASSEMBLY DESCRIPTION

6.3.1 Left- or right-hand model

The thermal transfer printer can be designed as a left-hand or right-hand printer.



Left-hand model = L	Right-hand model = R

Figure 6 Left-hand and right-hand models

- During the dispensing process of the left-hand model, the labels move on the left of the base plate towards the operator, who is standing in front of the dispensing edge and looking towards the thermal transfer printer.
- During the dispensing process of the right-hand model, the labels move on the right of the base plate towards the operator, who is standing in front of the dispensing edge and looking towards the thermal transfer printer.

6.3.2 Drive unit / friction

A stepper motor is used to drive the thermal transfer printer. The motor drives the drive roll, the take-up for the label liner and the take-up for the transfer film via belts located in the housing on the back of the thermal transfer printer. Decisive for the forward pull of the label tape is the drive roll with the friction roller, which generates the counter pressure.
A spring-loaded pendulum arm with brake (brake belt) is located on the unwinder axis for the label web. The braking effect is automatically adjusted, depending on the tractive force on the pendulum arm.

Adjustable friction clutches are located on the axes of the liner take-up and the transfer film take-up and unwinder.

6.3.3 Label rolls

The label rolls can be wound with the labels facing in or out.
The roll core of the thermal transfer printer is interchangeable and depends on the rolls used.
Information on the labels, possible roll core types and liner widths can be found in chapter 5.2 Technical data.

6.3.4 Transfer film rolls

The transfer film rolls can be wound with the pigmentation in or out.
Information on the transfer films can be found in chapter 5.2 Technical data.

6.3.5 Print widths and roll diameters

The print width depends on the width of the thermal strip.
Variants with different print widths and roll diameters:

Type designation	Print width	Roller diameters
7054-12-300	54 mm	300 mm
7108-12-300	108 mm	300 mm
7162-12-300	162 mm	300 mm

6.3.6 Label printing

A transfer film is specifically heated by a thermal strip in the printhead and pressed against the label surface by a counter pressure roller in the thermal transfer process. The transfer film releases ink onto the label surface.

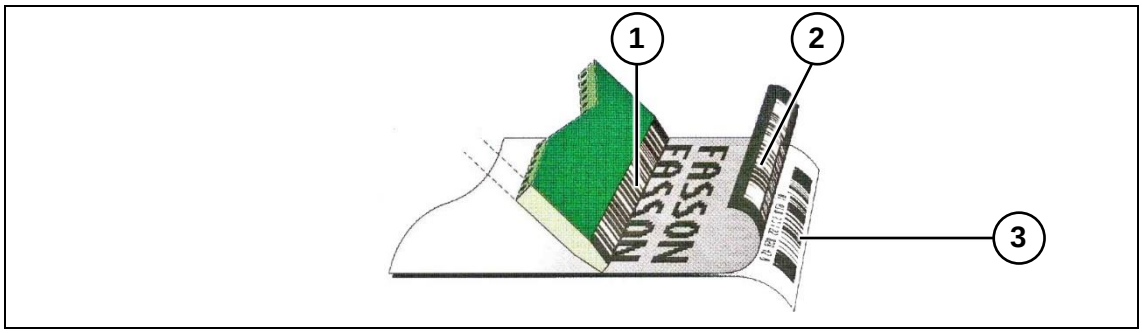


Figure 7 Principle of thermal transfer printing

Pos.	Designation	Pos.	Designation
1	Thermal strip	3	Print carrier material, e.g., label
2	Transfer film		

Thermal strips of different widths are used depending on the required print width. The data for label printing can be created as a label layout in advance and saved in a file. The printing data will be loaded into the control unit. The signals for printing are transmitted to the printhead synchronised with the label feed.
Various character sets, barcodes, monochrome logos, and graphic elements such as lines and circles can be printed.

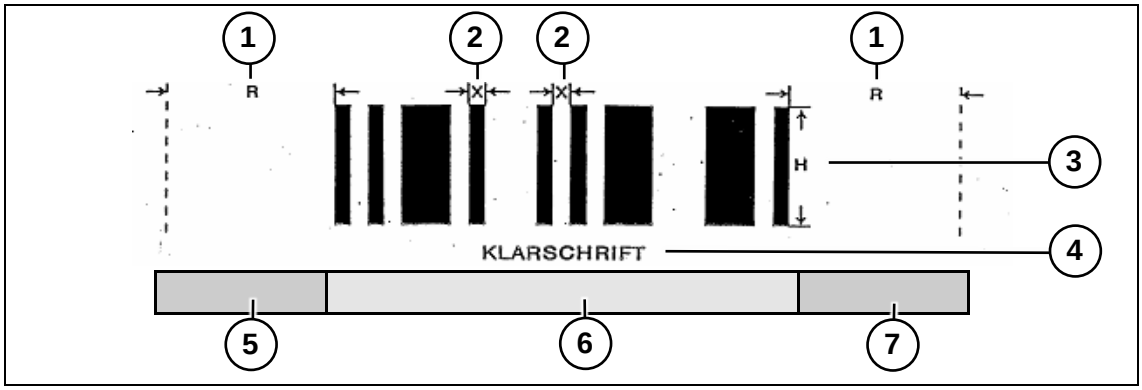


Figure 8 Principle of thermal transfer printing

Pos.	Designation	Pos.	Designation
1	Calm zone R	5	Start signal
2	Module width X for narrow element, line, or gap	6	User information
3	Height H of the barcode	7	Stop sign
4	Barcode information in plain text		

6.3.7 Interfaces on the thermal transfer printer

For operation, the labelling machine is connected to the topex 7200 /7250 control unit via a connection cable. The control unit also supplies the electrical energy for the stepper motor and the printhead.

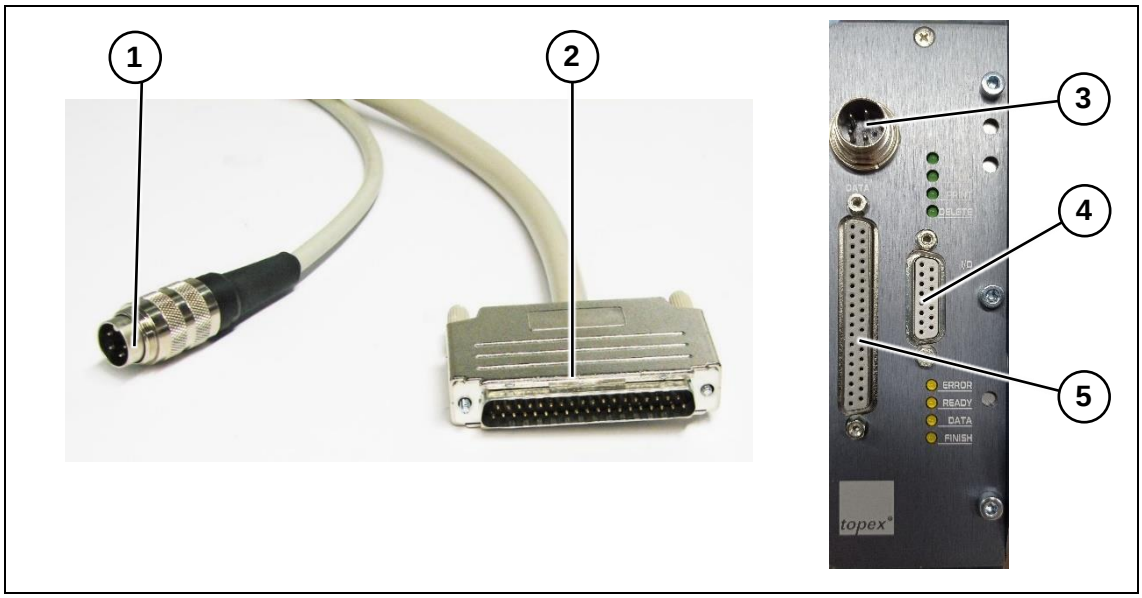


Figure 9 Control unit interfaces

Pos.	Designation	Pos.	Designation
1	Power supply connection 24 V DC	4	I/O interface
2	Connection data and control lead	5	Data interface (DATA)
3	Power supply 24 V DC (Power)		

- Voltage supply
  - Connection designation on the thermal transfer printer: Power
  - Connection designation on the control unit: 24 V

- Data and control line
  - Connection designation on the thermal transfer printer: Data
  - Connection designation on the control unit: PrnCtrl

- I/O interface - for connecting to a superordinate control (24 V, potential-free). Only to be used if a control unit without optional PLC card is used.
  - Connection designation on the thermal transfer printer: I/O

LEDs that indicate the status of interface signals.

Designation	Assignment
LED **LABEL**, green	from light barrier for label synchronisation
LED **FOIL**, green	from the light barrier for the thermal transfer film (on the printer)
LED **PRINT**, green	from I/O interface pin 6
LED **DELETE**, green	from I/O interface pin 7
LED **ERROR**, yellow	to I/O interface pin 13
LED **READY**, yellow	to I/O interface pin 11
LED **DATA**, yellow	to I/O interface pin 10
LED **FINISH**, yellow	to I/O interface pin 9

6.3.8 Sensors

- A sensor for label synchronisation will report the position of the labels and the gaps to the control system. This is a prerequisite for synchronous dispensing.
  Sensor type fork light barrier for transmitted light, type IGS 63B.
- A sensor for the end of the transfer film monitors a cogwheel on the transfer film unwind (tooth/gap sequence).
  Sensor type fork light barrier for transmitted light.

6.3.9 topex standard handling (optional)

	
Left-hand model = L	Right-hand model = R

Figure 10 Handling (optional)

The handling takes up and positions the push-on unit. It is equipped with a pneumatic mini slide. This will take over the travelling movement from the dispensing edge. The label is pressed onto the product by a pneumatic linear drive.
The work and home positions of the units are scanned via sensors.

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to moved parts.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Set up devices and aids in the work space of the machine so that they can be reached well from the operator's side.

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to pneumatic / electric movements.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Only reach into the work space for equipment, removal and cleaning.
- ► Remove objects that would impair movement of the axes.

6.3.10 Quick-change unit (optional)

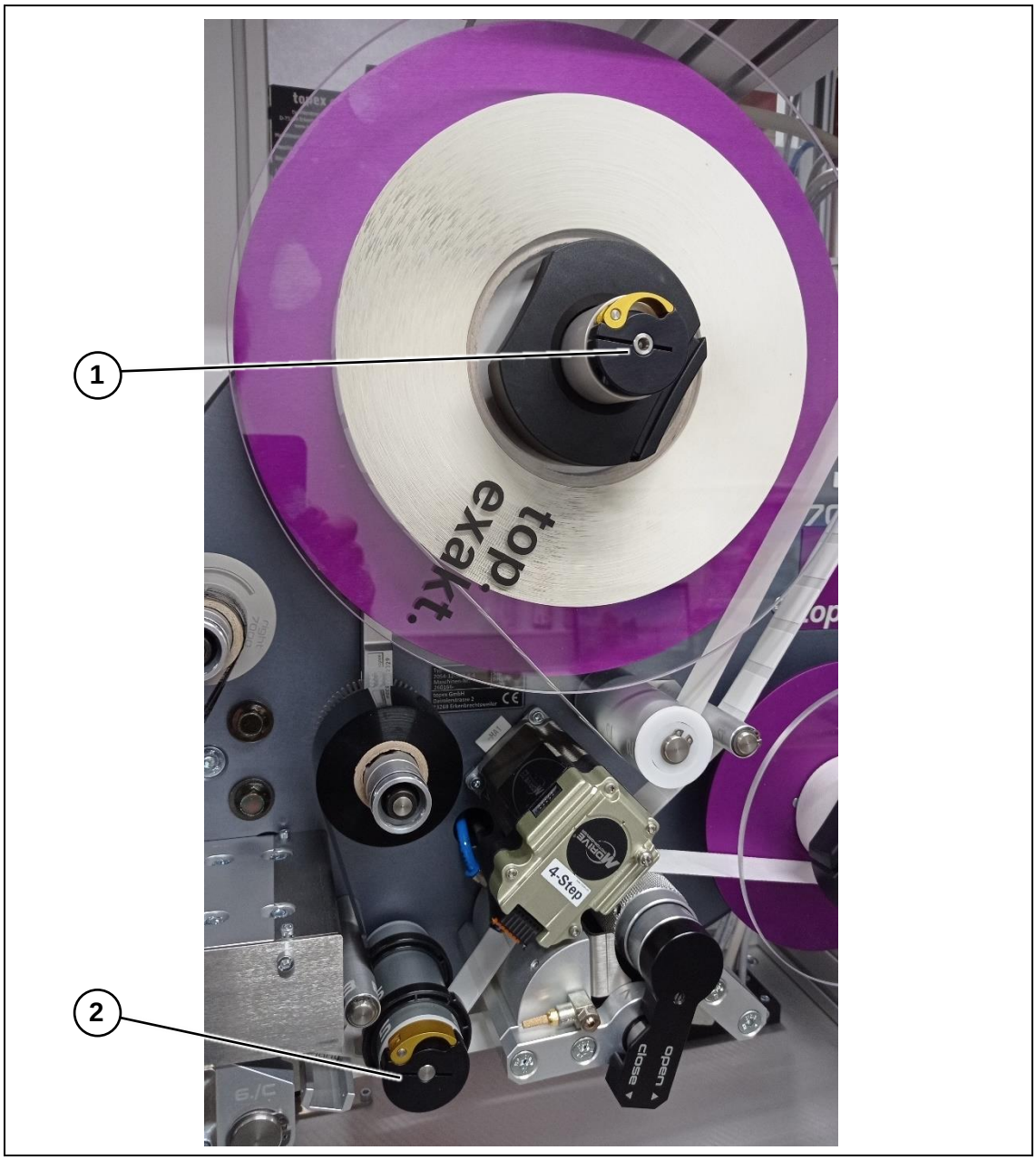


Figure 11 Quick-change unit (optional)

The unwinding label roll can be completely removed from the axle after opening the quick-release fastener (1) in the special version with quick-change units (optional). The deflecting roller (2) is equipped with a quick-change unit at the same time.

6.3.11 Control unit topex 7200 / 7250

All versions of the topex 7000 thermal transfer printer use the topex 7200 control. The control consists of the control unit and the associated firmware. It is used to position the stepper motor and to control the printhead. The control unit is operated via a touch panel. The operation is menu-driven. Depending on the scope of functions, the topex 7200 control may include a PLC for handling control. The control unit has two TCP/IP interfaces for integration into a network.
A programming tool is available for creating PLC programs, which provides predefined blocks, see operating instructions: **Control topex 7200 /7250.**

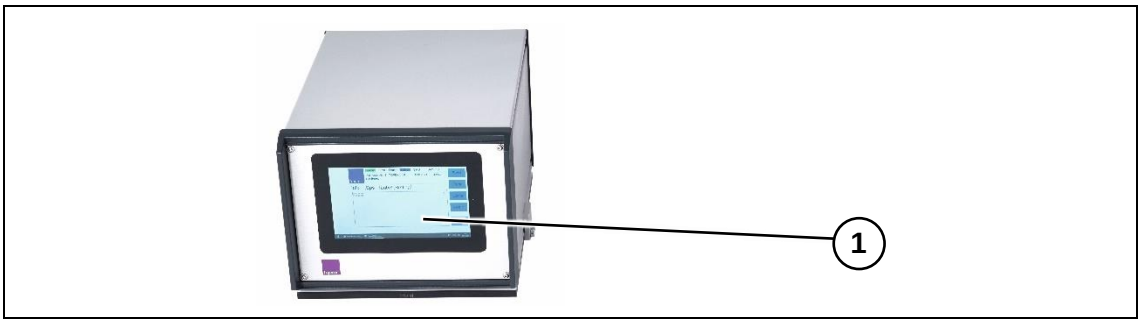


Figure 12 topex 7200 / 7250 control

Pos.	Designation
1	Touch panel

6.3.12 Executions with different functional scope

Control unit topex 7200- standard control unit	
topex 7200	for topex 7000 thermal transfer printers
Options (optional)	
• S • SS • SSS • Z • M • W	• with PLC card • with two PLC cards • with three PLC cards • interface for external communication (Zebra etc.) • motor card • worker software
Additions can be combined	
Firmware	
Version 5.xx	

Information

For further information on the assignment of the interfaces and the operation of the control unit, see **operating instructions of topex 7200 /7250 control**.
More detailed information on the control commands and printer functions can be found in the **programming manual for the topex 7200 control unit**.

7 TRANSPORT AND SETUP

Objective:
Explaining the prerequisites for safe transport, setup and/or installation in an existing machine.

7.1 SAFETY PROVISIONS

⚠ WARNING

The machine or machine parts falling down pose a risk of serious injury.

- ► Never stay below a suspended or lifted load.
- ► Observe other persons as well.

⚠ WARNING

During transport there is a risk of serious injury due to the machine tipping.

- ► Use suitable transport equipment and aids.
- ► The minimum age for personnel is 18 years.
- ► All personnel must be authorised and instructed.
- ► All personnel must be sufficiently trained for the means of transport used, e.g., forklift.
- ► The centre of gravity of the machine is not central; secure the machine against accidental movements.

⚠ WARNING

The machine and the movable units may move during transport, therefore posing a risk of severe injury.

- ► Secure the machine against accidental movements with suitable aids, e.g., with a belt.

Clear away all objects or machines that stand around at the machine and around it.

- Clear away all installation material still present.
- Observe possible tripping points and tripping hazards. Place cables so as to avoid tripping points.
- Clean the machine so that no contamination or foreign bodies can enter the machine, i.e., remove all loose parts from the machine.

7.2 REQUIREMENTS TO THE EXECUTING STAFF

The requirements for the personnel who performs the work can be found in chapter 3.7.

7.3 PACKING

- The machine is delivered on a pallet to prevent damage to the machine or fatal injuries during transport.
- The machine is covered in foil and enclosed in a wooden crate to protect it from the weather.
- If required, individual machines can be mounted on a transport frame by topex.
- The machine will be fixed to the pallet base.
- Machine control as well as various attachments / cables / pneumatic elements are packed separately in a cardboard box / case and fastened to the pallet.

8 COMMISSIONING AND OPERATION

- The machine may only be used for its intended use.
- Before activating the machine, read about the correct behaviour in case of faults.
- Carry out functional checks before activating the machine:
  - on all protection devices,
  - on the emergency stop switches of the superordinate system.

8.1 SAFETY NOTES

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

► Operate the machine only with properly working safety devices!
► Shut down the machine at once if you find any defective or ineffective safety device.
► You as the operator are responsible for this.

⚠ DANGER

Touching live components and the electrical control cabinet poses a risk of serious injury or death due to electric shock.

► Never open the electrical control cabinet.
► Never work on any live parts.
► Have work performed by an electrician only.

⚠ WARNING

There is a risk of serious injury from being pulled in and crushed by the drive barrels.

► Only operate the machine with properly functioning safety devices.
► Wear tight-fitting clothing.
► Tie back long hair (wear a hairnet if necessary)
► Do **not** wear protective gloves
► Before working on the machine, switch off the electrical supply voltage and secure it against accidental reactivation.

Is the handling option part of the machine:

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to moved parts.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Set up devices and aids in the work space of the machine so that they can be reached well from the operator's side.

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to pneumatic / electric movements.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Only reach into the work space for equipment, removal and cleaning.
- ► Remove objects that would impair movement of the axes.

8.2 REQUIREMENTS TO THE EXECUTING STAFF

The requirements for the personnel who performs the work can be found in chapter 3.7.

8.3 INSTALLATION OF THE CONTROL UNIT

Information

For further information on the assignment of the interfaces and the operation of the control unit, see **operating instructions of topex 7200 /7250 control**.
More detailed information on the control commands and printer functions can be found in the **programming manual for the topex 7200 control unit**.

- Ensure that the maximum permissible mains voltage is not exceeded.
- Check the fuses on the IEC connector.
- Check the settings of the selected data interface COM1 (RS232) or LAN1(TCP/IP). Standard settings see **operating instructions of topex 7200 /7250 control**.
- Ensure sufficient air supply to the control. The air supply is supported by a fan at the rear.
- Ensure that the cables have adequate cross-sections to avoid excessive losses and overheating in the cables.
- Always disconnect the control unit power supply before mounting or dismounting the connection cables of the thermal transfer printer.
- Mount the connection cables, see block diagram Figure 13.
- Check that the connectors are firmly locked to prevent bad contacts from destroying the control.
- Check the motor connections and the inputs and outputs.

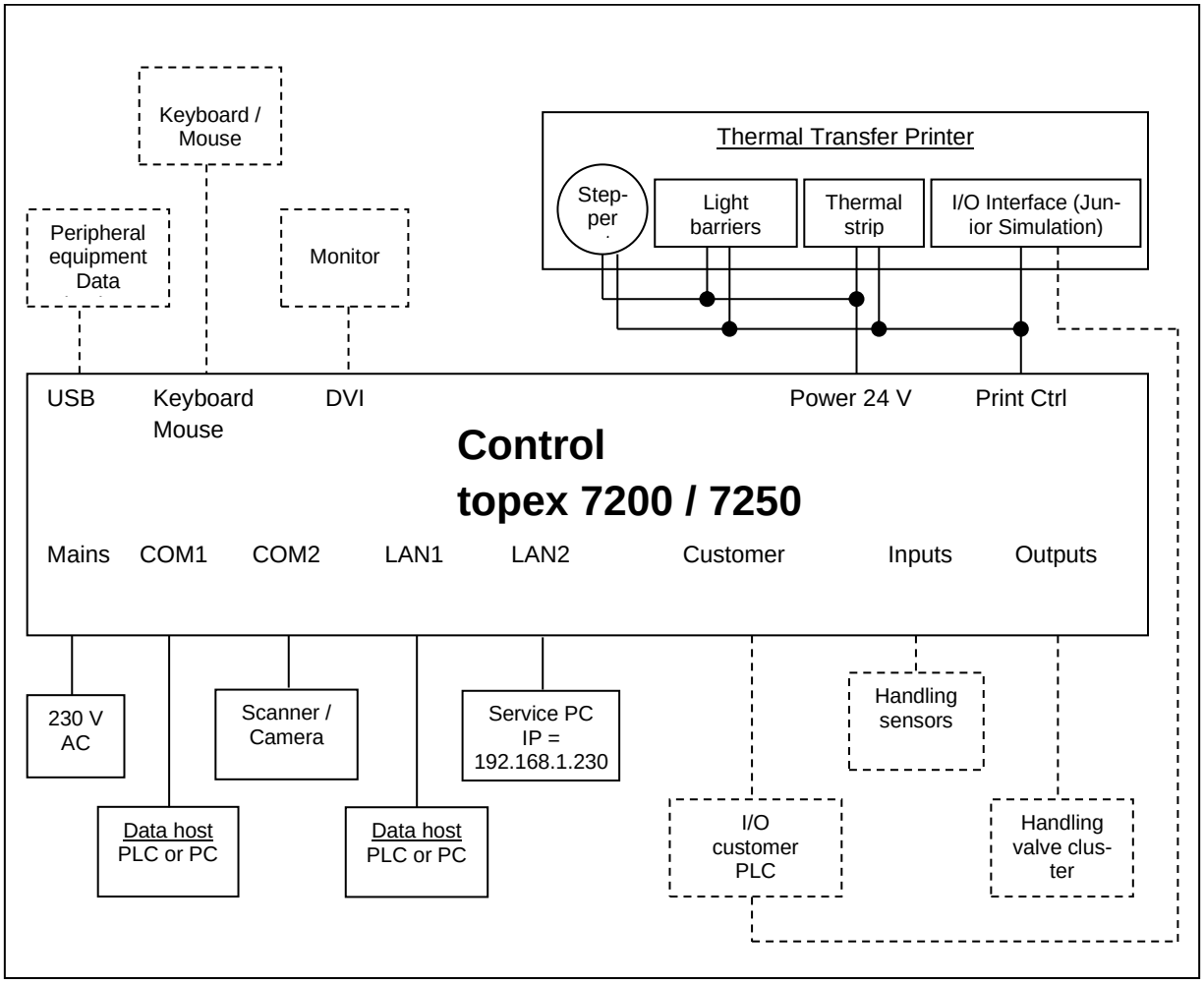


Figure 13 Block diagram of the topex 7200 /7250 control

Information
Optional devices are indicated by dashed lines.

8.4 INSERTING / REPLACING THE MATERIAL ROLLS

Objective:

- Removing and inserting the label roll
- Removing and inserting the transfer film roll

8.4.1 Labelling of the rolls

The rolls in contact with the label material are numbered from 1 to 9. The rolls in contact with the transfer film are labelled with letters from A to D.

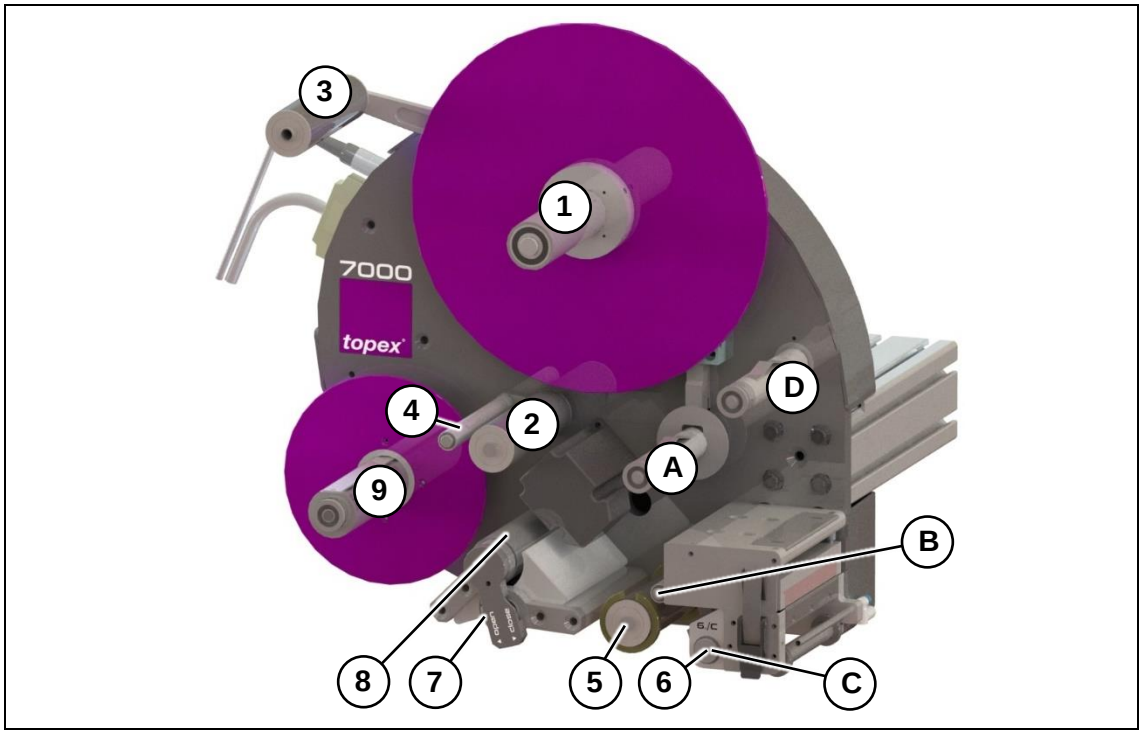


Figure 14 Labelling the rolls

The take-up and unwinding rolls of the transfer film (Figure 14, items A and D) are fitted with stop rings. The stop ring of roll A is labelled with the corresponding running direction and version (wound inwards - Figure 15, pos. 1 or wound outwards - Figure 15, pos. 2) see threading sketch enclosed with this documentation.

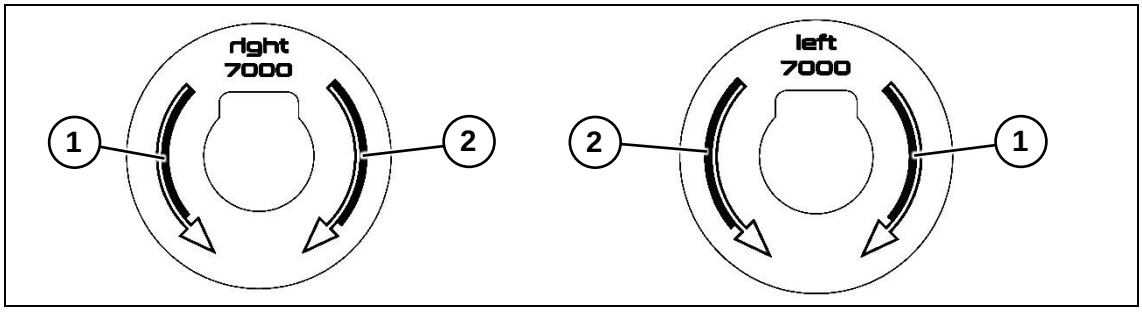


Figure 15 Stop ring for the transfer film (right / left)

Unwinding (Figure 14, pos. 1) of the label roll is provided with a core support. This is labelled with the corresponding running direction and version. (wound inwards - Figure 16, pos. 2)

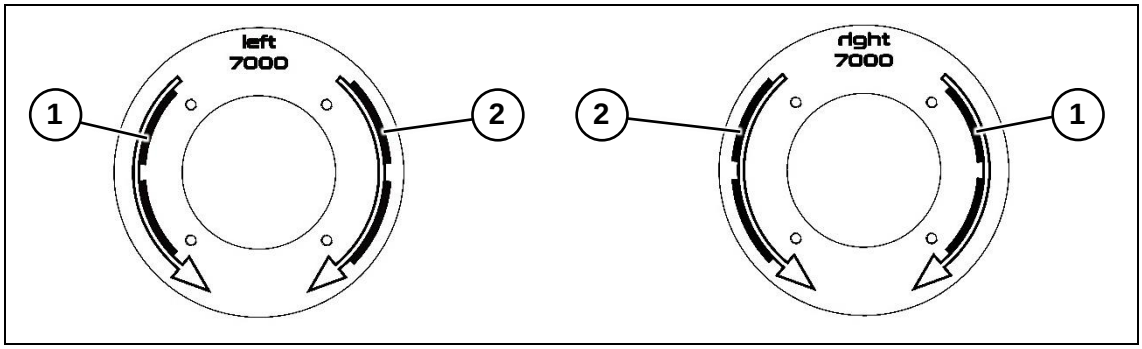


Figure 16 Core support for the label roll (right / left)

8.4.2 Removing the label roll

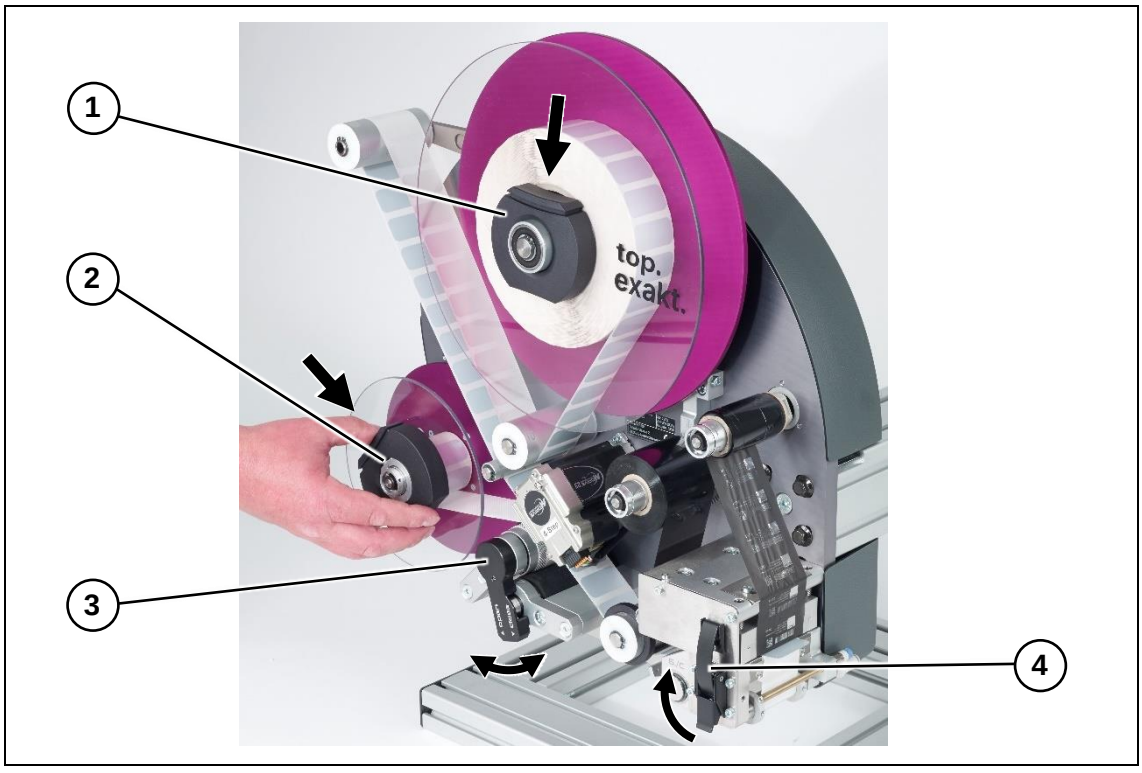


Figure 17 Removing the label roll

1 Switch off the thermal transfer printer on the control unit.

2 Remove the front flanged wheel (Figure 17, pos. 1) of the label unwinder by pressing and holding the clamping ring.

3 Lift the friction roller by releasing the lever (Figure 17, pos. 3) in the direction of the arrow.

4 Open the printhead by loosening the clamping device (Figure 17, pos. 4).

5 Remove the front flanged wheel (Figure 17, pos. 2) of the liner take-up by pressing and holding the clamping ring.

6 Remove the label roll from the roll core.

7 Remove the liner from the liner take-up.

Information
Check the deflecting rollers for contamination and wear, see chapter 10.4.

8.4.3 Inserting the label roll

Information
Refer to the threading sketch enclosed with this documentation.

1 Place the label roll on the roll core. The labels must point in the right direction.

2 If necessary, adjust the roll.

3 Remove the labels at the beginning of the liner, between the dispensing edge and the liner take-up.

4 Pull the label tape forward to the liner take-up according to the threading sketch. Please note the roll numbering (see Figure 14)

5 Push the tape end through the clamping plate of the liner take-up until it is caught during rewinding.

6 Place the front flanged wheels (Figure 17, pos. 1 + 2) on the roll cores by holding the clamping.

7 Close the printhead on the clamping device (Figure 17, pos. 4).

8 Put the friction roller back in place by locking the clamping lever (Figure 17, pos. 3) of the drive unit.

Information
Figure 18 shows the open friction lever under pos. 1 and the closed friction under pos. 2.

9 Switch on the thermal transfer printer at the control unit.

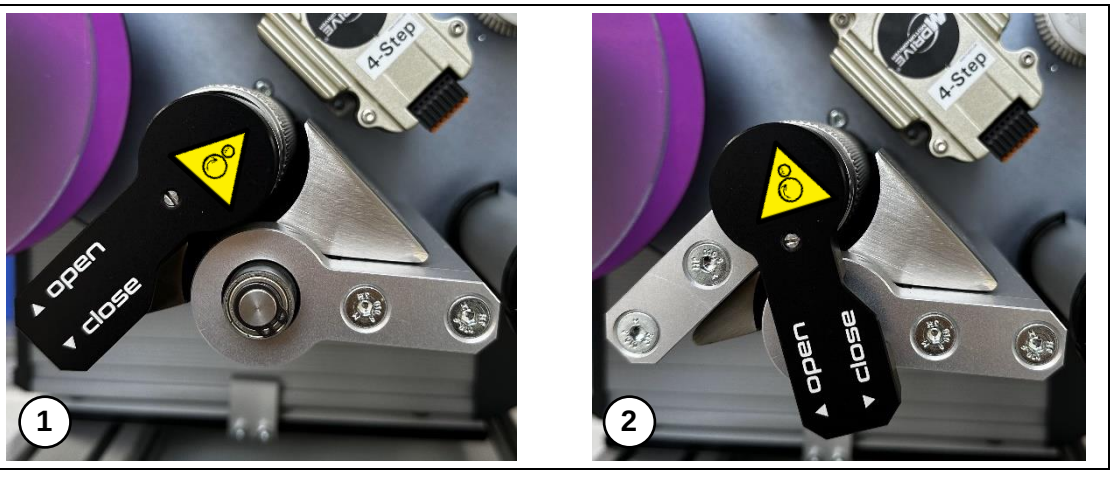


Figure 18 Closing the friction lever

8.4.4 Changing the transfer film roll

Information
Refer to the threading sketch enclosed with this documentation.

1 Open the printhead on the clamping device (Figure 17, pos. 4).
2 Remove the remaining transfer film from the thermal transfer printer (if available).
3 Remove the wound transfer film from the take-up (if available).
4 Place the empty cardboard sleeve on the transfer film take-up from the unwinder to the stop ring.

Information
Check the deflecting rollers for contamination and wear, see chapter 10.4.

5 Insert the new transfer film according to the threading sketch. Observe the labelling of the rolls from A-D (see Figure 14) and the labelling on the stop ring (see Figure 15).
6 Place the transfer film on the winding core and attach it by manually winding it up a few turns.
7 Close the printhead on the clamping device (Figure 17, pos. 4).
8 Turn the unwinder back slightly to tension the transfer film.

8.4.5 Placing labels in dispensing position

A calibration run must be performed to bring the labels into the correct dispensing position:

1 Press the **Calibr** button on the touch panel of the control unit.

ATTENTION

There is a risk that the dispensing edge and the drive will stick together due to the pre-dispensed labels.

► Remove the pre-dispensed labels.

2 The machine is ready for use again.

Information
Eliminate any faults on the machine caused by missing labels in the same manner.

8.5 CHANGING THE ROLL CORE (ONLY WITH QUICK-CHANGE UNIT OPTION)

If a different label size is used, the roll cores must be changed and the tape realigned if necessary.

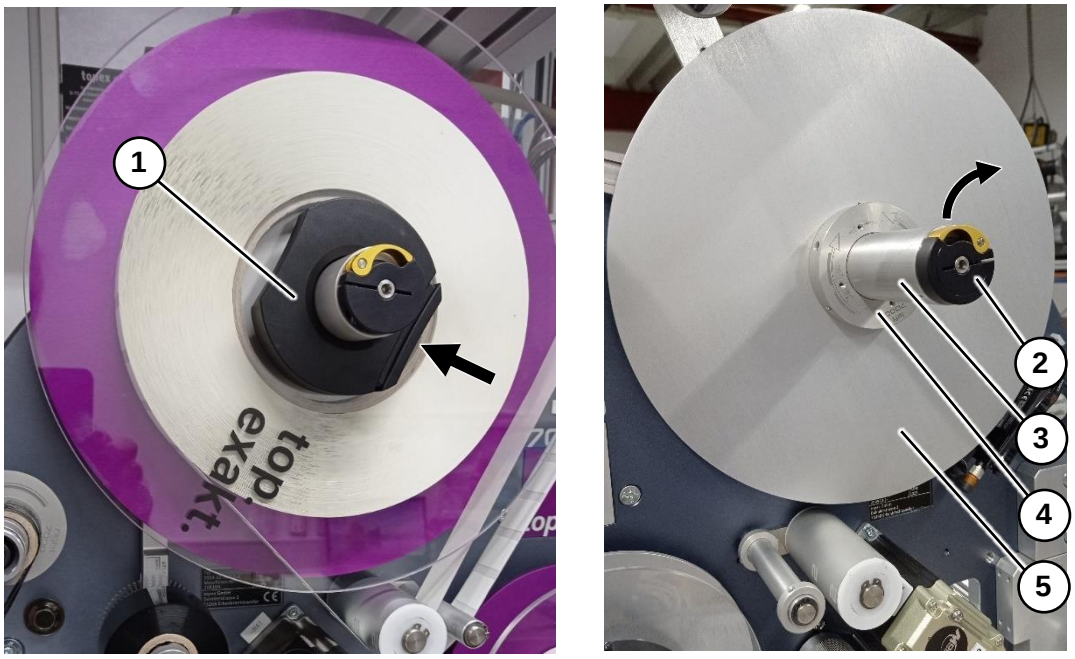


Figure 19 Replacing the roll core

Pos.	Designation	Pos.	Designation
1	Clamping ring with flanged wheel	4	Core support
2	Clamping ring quick-change unit	5	Rear stop disc
3	Roll core		

Changing the roll core / Adjusting the guide rings

1. Switch off the thermal transfer printer on the control unit.
2. Remove the front flanged wheel (Figure 19, pos. 1) of the label unwinder by pressing and holding the clamping ring.
3. Open the lever of the clamping ring (Figure 19, pos. 2) on the quick-change unit.
4. You can now entirely remove the entire roll core, core support and rear stop disc unit (Figure 19, pos. 3 + 4 + 5).
5. Apply the new unit and align it.
6. Adjust the guide rings on the deflecting rollers to the new material.
7. Switch on the thermal transfer printer at the control unit.

8.6 SETTING THE SENSOR

If the format/material is changed or a sensor is replaced, its position and sensitivity must be reset.

Information
Please refer to the sensor data sheets in the sub-suppliers documentation folder.

8.6.1 Optical fork light barrier for label synchronisation IGS63B

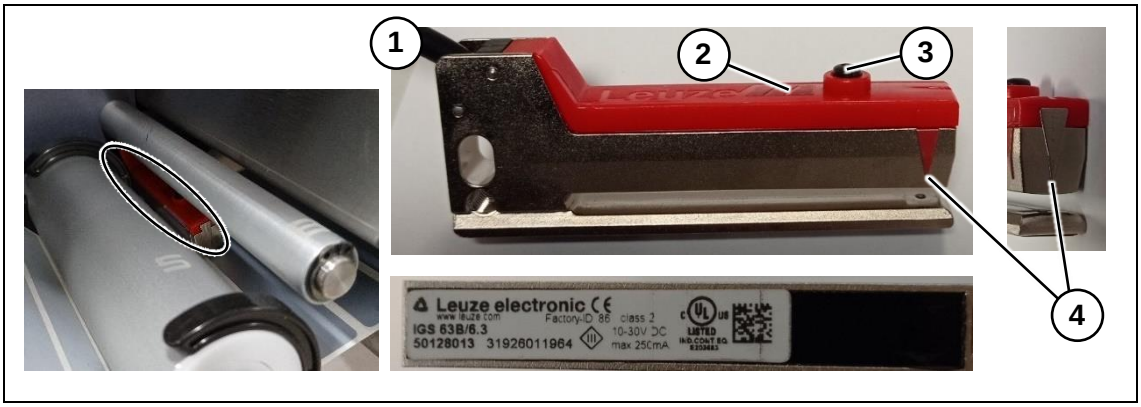
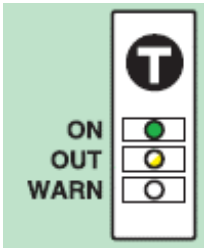


Figure 20 Optical fork light barrier IGS63B

Pos.	Designation	Pos.	Designation
1	Connection cables	3	Teach button with potentiometer
2	Indicator diodes	4	Markings for the optical axis: Notches on front and bottom

- Set the sensor perpendicular to the belt so that the optical axis of the sensor is at least 1 cm inside the labels. For round labels, set exactly to the centre of the label (largest diameter).



LED ON – green = ready for operation
LED OUT – yellow = switching output
LED WARN – red = warning output

Figure 21 Extract from the Leuze operating instructions

Information
The sensor settings are described in the operating instructions "BA_Leuze_IGS63B" (in the Subcontractors / Leuze folder).

- Select the "Teach-in "Standard" (level 1)" sensor setting:
  Press the teach button (Figure 20, pos. 3) for 2 seconds.

LED **ON** – green and LED **OUT** – yellow **flash simultaneously** 3 times per second. Feed a few labels through the sensor ("Calibr" button). Briefly press the button again to end teaching. LED **WARN** – red is off when teaching is completed without errors.

- Then, a calibration run is necessary (see operating instructions for topex 7200 / 7250 control, "Calibr" button).
- Compare the values of the calibration run displayed in the control unit with the actual values.
  LAB = Label height
  GAP = Label gap

Information
The values should not deviate more than ± 0.3 mm.
If necessary, readjust the light barrier and check the result with a new calibration run (see chapter 8.4.5).

8.6.2 Optical sensor / transfer film end

The optical axis of the sensor must be set to the teeth / gaps of the gear wheel on the transfer film unwinding.
It is not usually necessary to readjust the position or sensitivity.

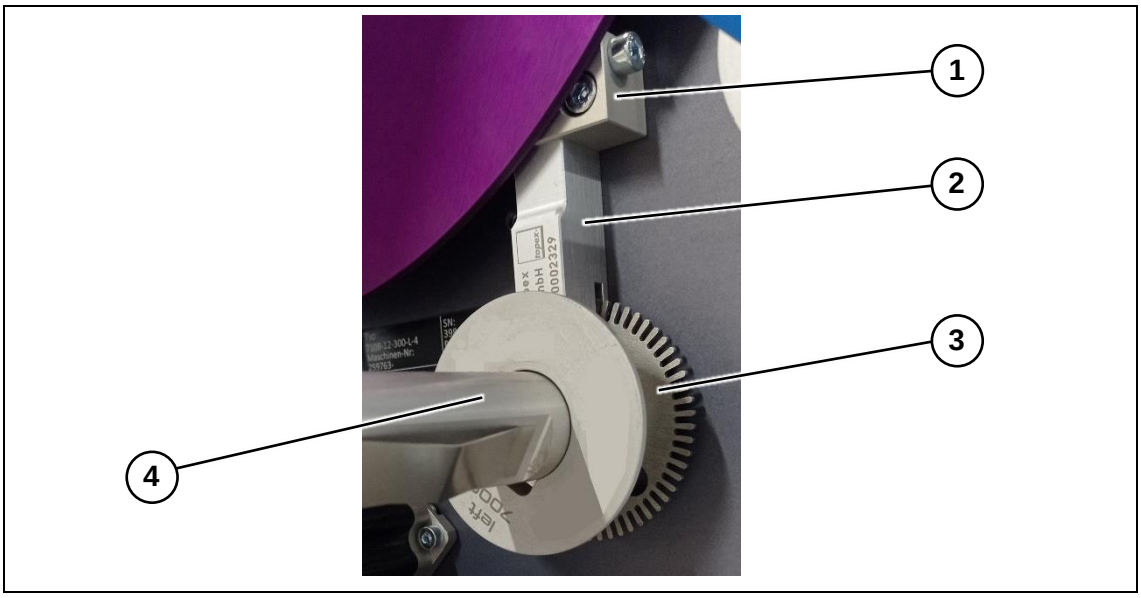


Figure 22 Sensor / transfer film end

Pos.	Designation	Pos.	Designation
1	Retaining block	3	Gear wheel
2	Sensor	4	Transfer film unwinding

8.7 ACTIVATION

8.7.1 Inspecting before activation

- Make sure that all protective covers are properly attached.

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

► Operate the machine only with properly working safety devices!

► Shut down the machine at once if you find any defective or ineffective safety device.

► You as the operator are responsible for this.

- Check that the thermal transfer printer is correctly set up for the labelling task.
- Send unauthorised persons away from the thermal transfer printer.

8.7.2 Procedure

- Activate the compressed air.
- Switch on the power supply, e.g., at the main switch.
- Switch on the control unit via the rocker switch.
- If necessary, change the settings of the control unit.
- Move the thermal transfer printer into dispensing position, see chapter 8.4.5
- Start automatic mode.
- Check the print and labelling for correct function sequence and correct positioning.

Information

Ensure that the clamping device on the printhead is closed.
Ensure that the clamping lever on the friction is closed.

8.8 SWITCHING OFF

There are various methods for switching off the thermal transfer printer, that also depend on the switch-off time.

8.8.1 Switching off for a longer interruption of operation

- Switch off the control unit of the thermal transfer printer.
- Deactivate the superordinate system.
- Disconnect the compressed air supply.
- Switch the main switch of the superordinate system to the off position or disconnect the control unit from the power supply by pulling the mains plug.
- Release the pressure on the printhead to relieve the counter pressure roller.

8.8.2 Switching off in a hazardous situation with emergency stop button

If the thermal transfer printer is integrated into a superordinate system with an emergency stop circuit, it can be stopped in dangerous situations by pressing an emergency stop button.
Before resuming operation of the thermal transfer printer, you must

- eliminate the fault,
- unlock the emergency stop button,
- reset the fault messages,
- bring the thermal transfer printer into dispensing position.

9 FAULTS

Contents

- Error messages at system level, with plain text on the touch panel
- Error messages on the PLC programme if a PLC programme is activated in the control unit.

9.1 SAFETY NOTES

- Prevent unauthorised persons from accessing the vicinity of the machine's working area.
- First, secure all operating media, e.g., compressed air, against accidental commissioning.
- Switch the thermal transfer printer to no voltage.
- Secure the thermal transfer printer against accidental reactivation. If necessary, lock the main switch of the superordinate system and remove the key.

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

► Operate the machine only with properly working safety devices!
► Shut down the machine at once if you find any defective or ineffective safety device.
► You as the operator are responsible for this.

⚠ DANGER

Touching live components and the electrical control cabinet poses a risk of serious injury or death due to electric shock.

► Never open the electrical control cabinet.
► Never work on any live parts.
► Have work performed by an electrician only.

⚠ WARNING

There is a risk of serious injury from being pulled in and crushed by the drive barrels.

► Only operate the machine with properly functioning safety devices.
► Wear tight-fitting clothing.
► Tie back long hair (wear a hairnet if necessary)
► Do **not** wear protective gloves
► Before working on the machine, switch off the electrical supply voltage and secure it against accidental reactivation.

Is the handling option part of the machine:

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to moved parts.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Set up devices and aids in the work space of the machine so that they can be reached well from the operator's side.

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to pneumatic / electric movements.

- ► Do not support yourself in the work space.
- ► Avoid dangerous places.
- ► Only reach into the work space for equipment, removal and cleaning.
- ► Remove objects that would impair movement of the axes.

9.2 REQUIREMENTS TO THE EXECUTING STAFF

The requirements for the personnel who performs the work can be found in chapter 3.7.

9.3 FAULTS AND REMEDIES

9.3.1 General faults

Fault	Cause	Remedy
Machine does not react when switched on	Mains plug unplugged from control unit	Plug in mains plug
	Rocker switch on the control unit switched off	Switch on rocker switch
	Superordinate main switch switched off	Switch on main switch
	Incorrect connection between machine and control	Check connecting lines and cables and retighten if necessary
	Unit fuses on control unit defective	Check fuses and replace if necessary
Uneven or pale print, poor printout on label	Thermal strip damaged	Print status report
		Check dot pattern
		Replace the thermal strip in case of a dot error; see chapter 10.5.5.4
	Thermal strip dirty	Clean the thermal strip with a cleaning pen
	Thermal strip setting not correct	Adjust the thermal strip anew, see chapter 0
	Counter pressure roller run in	Replace the counter pressure roller, see chapter 0
The control unit does not respond to external data communication	Interface parameters on the control unit are not correct	Check the settings of the data interface: COM1 (RS232) or LAN1 (TCP/IP)
		If necessary, adjust interface parameters, see operating instructions for the **topex 7200 / 7250 control unit**
	Data line faulty	**RS232:** Check data line Swap RS232 send and receive line pins 2+3 if necessary
		• **TCP/IP:** Check the cable for damage. • Check the settings of the data interface: IP address / port 9100. • Perform TCP/IP ping

Fault	Cause	Remedy
	Control faulty	Correct positioning and control sequences using the **programming manual - topex 7200 control unit**.
Labels are not dispensed completely	Dispensing position set incorrectly	Check the "Stop Adjust" parameter in the "Setup – Device" control unit menu, see **topex 7200 / 7250 control unit operating instructions**
	Clamping lever on the friction not closed	Close the clamping lever on the friction
	Liner wrapped around the transport roller	Remove liner
	Sensor defective	Replace sensor
	Clamping lever on printhead not closed	Close the clamping lever on the printhead
	Counter pressure roller in printhead stiff	Clean the counter pressure roller and check the bearing
	Punching between labels is missing	Replace label roll
	Brake belt on pendulum arm worn	Replace the brake belt
Labels are not dispensed	No data in the printer	Check data transmission
	Clamping lever on the friction not closed	Close the clamping lever on the friction
	Drive motor does not transport	Check the timing belt
		Replace the drive motor
		Check connection cable
		Check the label parameters of the control
Transfer film constantly burns through	Temperature too high	Correct temperature setting, see **operating instructions for topex 7200 / 7250 control unit**
	Take-up core for transfer film does not transport	Friction coupling of the transfer film take-up set too weak
		Friction coupling of the transfer film unwind set too strong
		Check drive belt
General malfunction due to pressure drop	System pressure too low (main air not monitored)	Increase system pressure to 6 bar

Fault	Cause	Remedy
Vacuum error display on the control unit - see **operating instructions of topex 7200 / 7250 control**	• No vacuum on the punch • Label not sufficiently held by vacuum • System pressure too low	• Contamination or defect on vacuum pump or ejector nozzle: clean, replace if necessary • Check label position on punch • Check vacuum plate for tight fit, tighten if necessary • Pressure springs tired, replace • Clean vacuum lines • Vacuum valve does not switch on: clean, replace if necessary • Vacuum dust filter contaminated: clean, replace if necessary • Auxiliary air set incorrectly: readjust
	Vacuum control not switched	Clean, reset or replace vacuum control.
	Vacuum holes are not fully covered by the label	The thermal transfer printer must be re-synchronised by dispensing and removing 3-4 labels after an extended standstill
Label incorrectly dispensed on the pressure punch	Adjustment of thermal transfer printer to pressure punch not correct	Readjust thermal transfer printer
		Check pressure punch for tight fit, tighten if necessary
		Replace tired pressure springs
Pneumatic cylinder not moving into home or work position in time	Limit switch misaligned or defective	Readjust the limit switch, replace if necessary
	Air hose disconnected	Remove air hose blockades
	Cylinder jammed	Release cylinder, replace if necessary
	Solenoid valve does not switch	Clean solenoid valve, replace if necessary
	System pressure too low	Increase system pressure to 6 bar

9.3.2 Error messages at system level

With plain text display on the touch panel.

Information

For more details, see **operating instructions of topex 7200 / 7250 control**.
More detailed information on the control commands and printer functions can be found in the **programming manual for the topex 7200 control unit**.

Fault	Cause	Remedy
Label does not exist / WARNING 016	There was an attempt at loading a label that is not saved in the printer.	Save the required label in the printer.
Font does not exist / WARNING 060	A font that has been configured for a text field is not available in the printer.	Save the desired font in the printer. Change the font type of the text field
Barcode type incorrect / WARNING 061	The control sequence for the barcode to be printed is incorrect	Correct the spelling of the barcode type
Barcode data incorrect / WARNING 069	The parameters for the barcode to be printed do not correspond to the specification	The correct barcode parameters can be found in the **programming manual - topex 7200 control unit**
Character error / WARNING 001	A character was received via the serial interface that does not correspond to the printer specification.	Check interface parameters Check control sequences
Error download / ERROR 087	An error has occurred while downloading files. • The connection cable is not plugged into COM1. • The connection cable is defective. • The interface parameters of the transmitting PC are incorrect.	• Check COM interface • Check the connection to the printer (cable, interface parameters)
Download timeout / ERROR 088	The download of files has exceeded the defined time. For causes, see Error download.	For remedy, see Error download
Compileerror / ERROR 091	The PLC interpreter is programmed incorrectly. This error can only appear when the PLC interpreter is changed and is recognised during commissioning	Check the programming of the PLC interpreter

Fault	Cause	Remedy
Runtimeerror / ERROR 092	Cause see Compileerror	For remedy, see Compileerror.
loCard Error	The I/O card used to implement the printer functions is defective. (connection "Print Ctrl" on the control unit)	Check the I/O card for correct seating in the PCIex slot, replace if necessary
Transfer film / ERROR 201	The sensor for the transfer film does not provide any feedback Causes: • Transfer film is torn (heating time may be too long) • Sensor for transfer film monitoring is defective	• Replace sensor for transfer film • Re-thread the transfer film • Check the heating time
Paper jam / ERROR 203	The label feed is faulty.	Check whether the clamping lever on the friction is closed
	The light barrier for detecting the label gap is set incorrectly	Reset the label sensor
	The stepper motor of the label feed is defective	Replace stepper motor
No labels / ERROR 204	Label synchronisation cannot be performed due to the missing signal from the fork light barrier.	Reset or clean the label sensor, replace if necessary
		Then perform a calibration run
	Label material inserted incorrectly.	Observe threading sketch
COM error / ERROR 210	Hardware defect in one of the serial interfaces	Replace the control unit entirely
	If the data and scanner interface refer to the same port	Check interface parameters

9.3.3 Error messages in the PLC programme (optional)

Only if a PLC program is activated in the control unit.

Information

For more details, see **operating instructions of topex 7200 / 7250 control**.
More detailed information on the control commands and printer functions can be found in the **programming manual for the topex 7200 control unit**.

Fault	Cause	Remedy
Timeout cyl. WP	The respective cylinder has not reached its operating position	Check compressed air (6 bar)
	Compressed air too low	Check compressed air (6 bar)
	End position limit switch defective or incorrectly set	Set or replace the end position limit switch
Timeout cyl. HP	The respective cylinder has not reached its home position. For cause, see timeout cyl. WP	For remedy, see timeout cyl. WP
Timeout TopCam Timeout Datalogic Timeout Sick Timeout Leuze	The reader was unable to read the code	Check print quality
	No printout	Check the mechanical setting of the thermal strip
	Poor print quality	Change heating time parameter
	Scanner / camera outside the reading range	Readjust scanner / camera mechanically
	The scanner is configured for the wrong barcode type	Adapt scanner configuration to barcode
	The barcode / data matrix code reported back by the scanner / camera does not correspond to the current print content	Check scanner configuration. Generally, all barcodes on the label are compared to the scanner's read result
	The configuration of the scanner does not correspond to the number of barcodes printed on the label	The number of barcodes to be analysed must correspond to the number on the label
Wrong barcode content	Transmitted data do not correspond to the code format	Check print data sequence

Fault	Cause	Remedy
Special input timeout	The special input can be programmed with a timeout, i.e., if the object in the step chain is active, this input must carry the "High" signal for an adjustable time	Check the condition that is monitored with the special input
Vacuum error	• The label is not dispensed properly onto the punch • Vacuum valve defective • Vacuum control set incorrectly • Vacuum punch leaking	• Check the setting of the printer to the dispensing edge • Adjust auxiliary air if necessary • Replace vacuum valve • Set the vacuum control • Check vacuum punch for leaks See also chapter 9.3.1, Vacuum fault display on the control unit
Label on punch	The label was still on the label punch when the pressure cylinder was retracted	Check the pressing position on the workpiece / product
		Testi the vacuum holes
		Clean the vacuum punch
No home position	There was an attempt of starting the automatic system although no home position was available	Move the machine to the home position: • PLC menu Menu / Service / Home position • via reset input
Label lost	The label has come off the punch during the application process	Check vacuum
	The label could not be removed from the liner material	Check the label material and dispensing position
Emergency stop NOK	The emergency stop circuit has been interrupted	Close the emergency stop circuit and then acknowledge the fault

10 SERVICING / MAINTENANCE

Objective

- Restoration of the target condition.
- Operational maintenance is an aid in order to contribute to smooth and efficient processes in production.

Information
Please refer to the maintenance plan, which is part of this technical documentation.

10.1 SAFETY NOTES

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

- ► Operate the machine only with properly working safety devices!
- ► Shut down the machine at once if you find any defective or ineffective safety device.
- ► You as the operator are responsible for this.

⚠ DANGER

Touching live components and the electrical control cabinet poses a risk of serious injury or death due to electric shock.

- ► Never open the electrical control cabinet.
- ► Never work on any live parts.
- ► Have work performed by an electrician only.

⚠ WARNING

There is a risk of serious injury from being pulled in and crushed by the drive barrels.

- ► Only operate the machine with properly functioning safety devices.
- ► Wear tight-fitting clothing.
- ► Tie back long hair (wear a hairnet if necessary)
- ► Do **not** wear protective gloves
- ► Before working on the machine, switch off the electrical supply voltage and secure it against accidental reactivation.

- Prevent unauthorised persons from accessing the vicinity of the machine's working area.
- First, secure all operating media, e.g., compressed air, against accidental commissioning.
- Switch the thermal transfer printer to no voltage / Check that there is no voltage.
- Secure the thermal transfer printer against accidental reactivation. If necessary, lock the main switch of the superordinate system and remove the key.

ATTENTION

There is a risk of damage to the machine if the wrong cleaning agents are used.

- ► Do not use dilutions, acids or basic solutions as cleaning agent, not even in low concentrations.
- ► Do not use compressed air or high-pressure cleaners for cleaning.
- ► Only use the given specified materials.

ATTENTION

There is a risk of damage to the thermal strip if the hard objects are used.

- ► Do not use any hard objects such as knives or screwdrivers to clean the thermal strip.
- ► Ensure that no hard objects, such as metal shavings, get onto the dot strip.

10.2 REQUIREMENTS TO THE EXECUTING STAFF

The requirements for the personnel who performs the work can be found in chapter 3.7.

Information

Repairs may only be carried out by trained and authorised specialised personnel. Our service will gladly we at your disposal for this purpose. You can find the address in chapter 1.2.

10.3 MAINTENANCE INTERVALS / TWO-SHIFT OPERATION

Maintenance interval	Component	Executing activity
at shift change	Drive roll	Check for wear and contamination, clean or replace if necessary see chapter 10.4
	Deflecting rollers / Friction roller	Check for contamination, clean if necessary, see chapter 10.4
	Printhead – Thermal strip	Check for contamination, clean if necessary, see chapter 10.4
	Print head – counter pressure roller	Check for wear and contamination, clean or replace if necessary see chapter 10.4
	Punch support (optional)	Check for contamination, clean if necessary, see chapter 10.4
	Vacuum control - Ejector nozzle (optional)	Check for contamination, clean if necessary, see chapter 10.4
	Fork light barrier	Check for contamination, clean if necessary, see chapter 10.4
when changing label rolls	Printhead – Thermal strip	Check for contamination, clean if necessary, see chapter 10.4
	Fork light barrier	Check for contamination, clean if necessary, see chapter 10.4
	Drive roll	Check for wear and contamination, clean or replace if necessary see chapter 10.4
	Deflecting rollers / Friction roller	Check for contamination, clean if necessary, see chapter 10.4
	Label unwinder – brake function	Check function, adjust if necessary see chapter 10.4
for transfer film change	Couplings – transfer films take-up and unwinder	Check coupling function, readjust coupling on ring if necessary see chapter 10.5
annually	Drive – Round belt	Replace, see chapter 10.5
	Drive – Timing belt	Replace, see chapter 10.5
	Drive roll	Replace, see chapter 10.5
annually / as required	Label unwinder – Brake belts	Replace, see chapter 10.5.2
as required	Belt	Remove stuck labels

10.4 CLEANING THE MACHINE

Keep the machine clean.

10.4.1 Position of the components to be cleaned

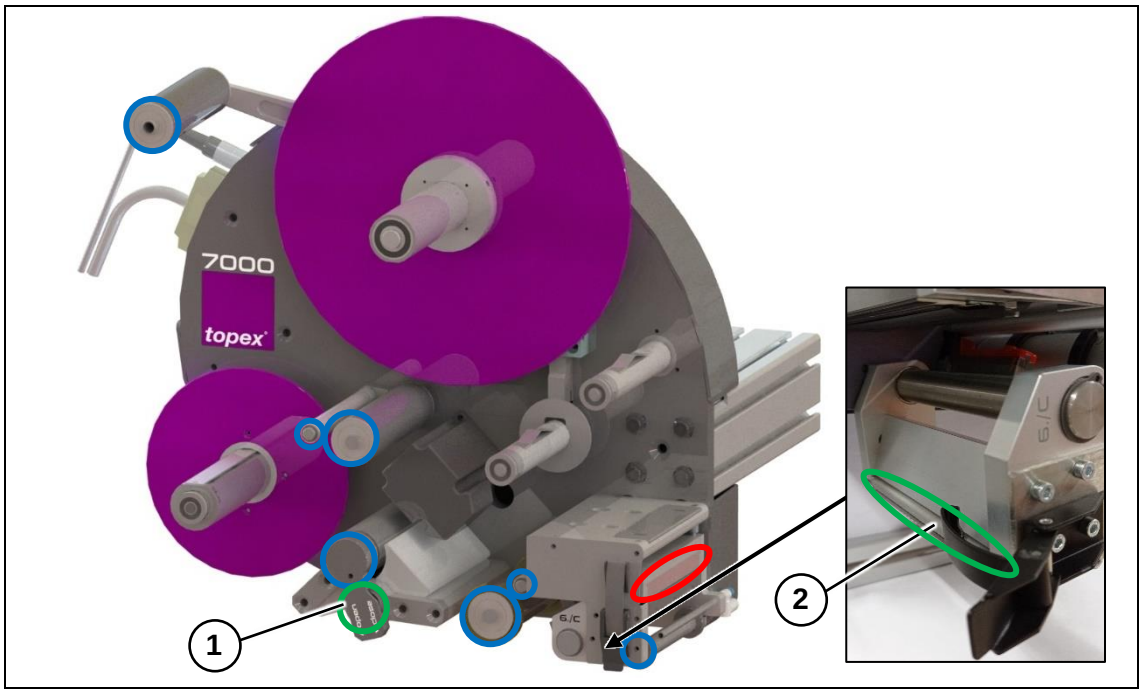


Figure 23 Cleaning

Position	Cleaning agents	Designation
Deflecting rollers / Friction roller / Punch (optional) **blue marking**	Label remover	topex KWN0052
Thermal strip **red marking**	Cleaning pen	topex KMS00033
Drive roll (1) Counter pressure roller (2) **green marking**	Barrel cleaner	topex 11536

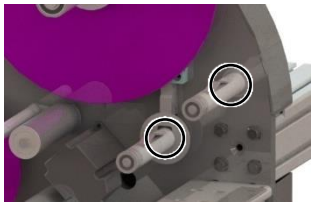
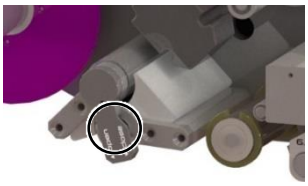
⚠ CAUTION

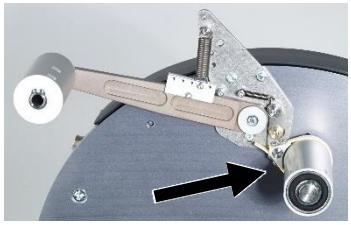
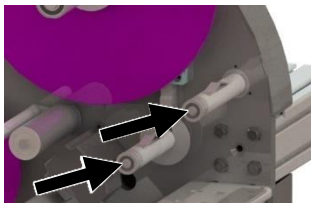
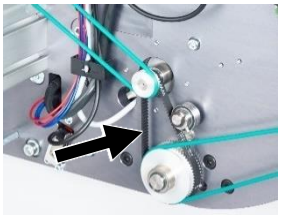
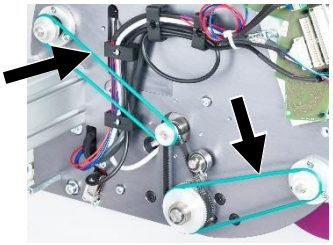
Observe the notes of the manufacturer by all means.

10.4.2 Cleaning the optical sensors

Free all optical sensors from dirt and contaminations. Use a soft, dry cloth **without** cleaning agent.

10.5 MAINTENANCE WORK

Designation	Position	Work to be carried out
Label roll		Replace label roll See chapter 8.4
Transfer film roll		Change the transfer film roll See chapter 8.4.4
Thermal strip		Clean with cleaning agent See chapter 10.4.1
Fork light barrier for label synchroni-sation		• Check for paper residues and contamination. • Clean if necessary, see chapter 10.4. • Reset the switching value when changing the label type and in the event of faults, see chapter 8.6
Drive roll		• Check for grip and contamina-tion • Clean if necessary, see chapter 10.4.
Friction roller		• Check for smooth running, contamination, and wear. • Clean if necessary, see chapter 10.4.

Designation	Position	Work to be carried out
all deflecting rollers / pendulum arm		• Check for contamination and make sure it can be easily moved • Clean if necessary, See chapter 10.4
Brake / label unwinder		• Check the braking function of the pendulum arm, readjust if necessary, see chapter 10.5.3 • Replace brake belt if necessary, see chapter 10.5.2
Coupling / transfer film winding and unwinding		Check the coupling function and adjust the ring if necessary: • Clutch film unwinding = brake coupling: Set the tension tight enough to prevent creasing. • Film rewind coupling = pull coupling: Set the tension low enough to keep the labels from being "pulled" on the thermal strip, otherwise the print image will be blurred or label synchronisation will be affected.
Timing belt		• Replace, see chapter 10.5.1
Round belt		• Replace, see chapter 10.5.1

10.5.1 Opening access to the drive side

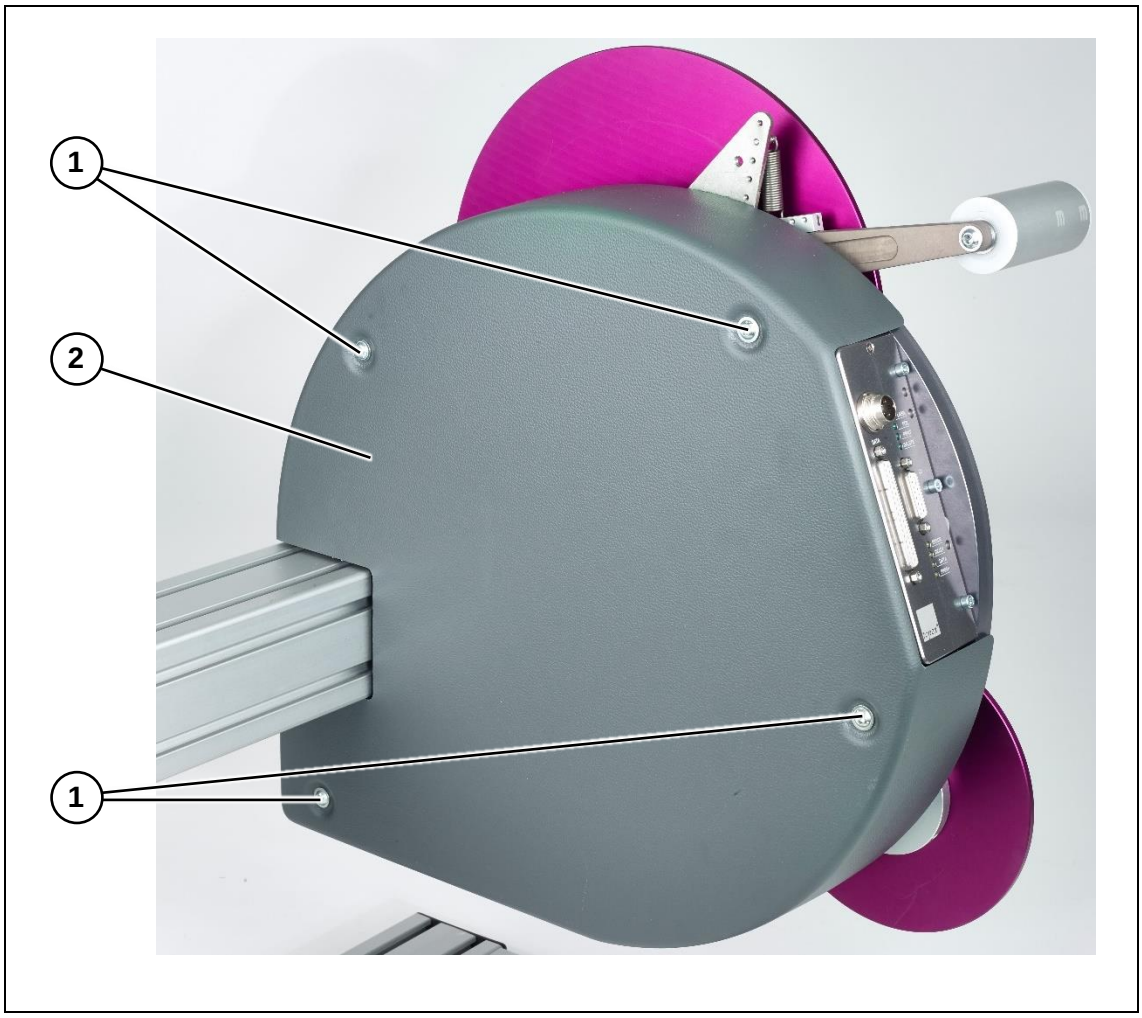


Figure 24 Housing of the thermal transfer printer

You must remove the rear panel of the housing to access the drive side, e.g., to change the timing belts.

Proceed as follows:

1 Loosen the 4 screws (1).

2 Remove the rear panel of the housing (2).

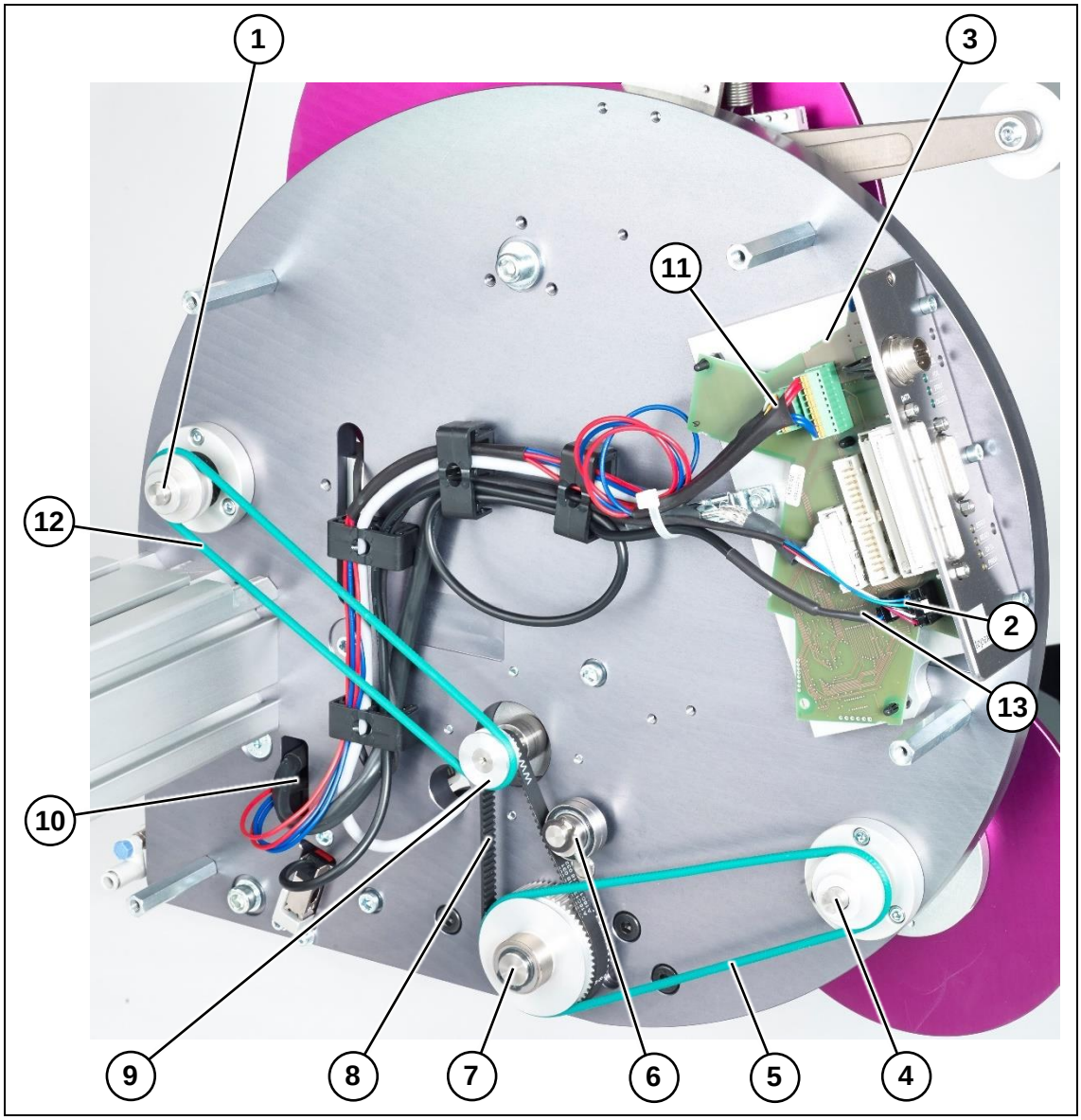


Figure 25 Rear without protective cover

Pos.	Designation	Pos.	Designation
1	Axis transfer film take-up	8	Timing belt for transport roller
2	Connection sensor film end transfer film	9	Drive motor axis
3	Interface circuit board	10	Printhead connections
4	Axis liner take-up	11	Motor connection
5	Round belts for liner take-up	12	Round belts for transfer film take-up
6	Belt tensioner, eccentrically mounted	13	Label sensor
7	Transport roller axis		

10.5.2 Replacing the brake belt

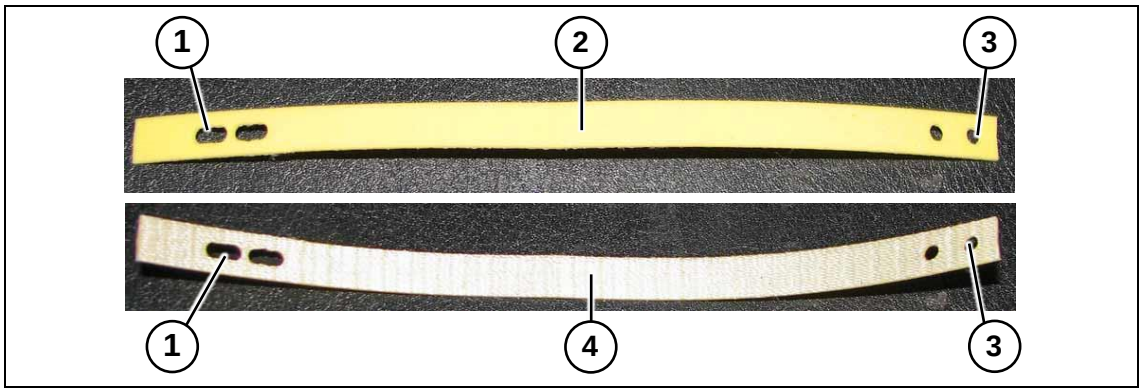


Figure 26 Brake belt

Pos.	Designation	Pos.	Designation
1	Oblong holes	3	Round holes
2	Inside, brake side	4	Outside

The brake belt has a fin structured (yellow) side (Figure 26, pos. 2). It must be placed insides towards the axis (brake side). The coarse structured side (Figure 26, pos. 4)must be turned outside. The brake belt has two round holes (Figure 26, pos. 3) at one end and two oblong holes (Figure 26, pos. 1) at the other end.

Remove the flanged wheel, the adjusting ring, and the stop disc to change the brake belt.

Information

Measure the distance between the base plate and the stop disc. Record the measured value. Or mark the position of the adjusting ring on the unwinding roller.

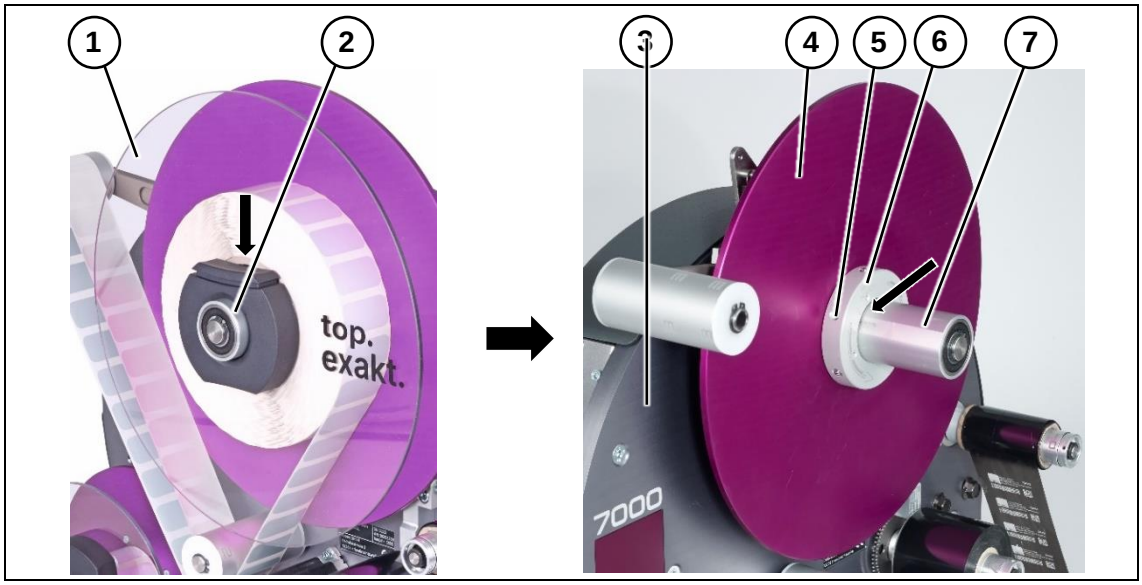


Figure 27 Label unwinding

Proceed as follows:

1 Remove the flanged wheel (Figure 27, pos. 1) of the label unwinding by pressing and holding the clamping ring (Figure 27, pos. 2).

2 Measure the distance between the base plate (Figure 27, pos. 3) and the stop disc (Figure 27, pos. 4). Record the measured value. Mark the position of the adjusting ring (Figure 27, pos. 6) on the unwinding roller (Figure 27, pos. 7) (see arrow).

3 Loosen the screws (Figure 27, pos. 5) on the adjusting ring (Figure 27, pos. 6).

4 Pull the stop disc (Figure 27, pos. 4) and the adjusting ring (Figure 27, pos. 6) off the unwinding roller (Figure 27, pos. 7).

Information
Swivel the pendulum arm upwards to the stop to relieve the load.

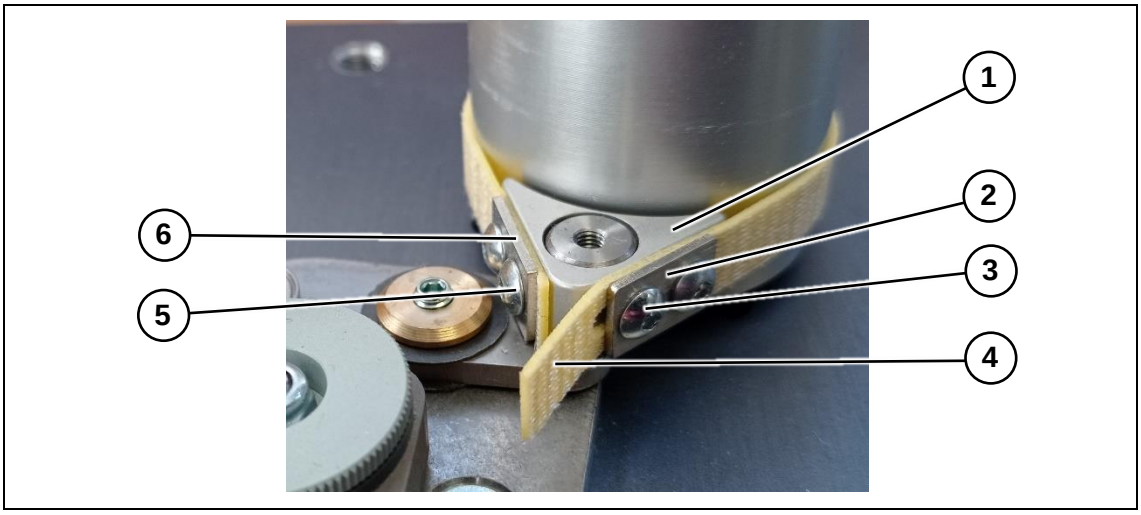


Figure 28 Brake belt - installation

Pos.	Designation	Pos.	Designation
1	Belt block	4	Belt end
2	Clamping plate, oblong holes	5	Screws
3	Screws	6	Clamping plate, round holes

5 Remove the clamping screws (Figure 28, pos. 3 + 5) on the belt block (Figure 28, pos. 1) and remove the clamping plates (Figure 28, pos. 2 + 6) with the brake belt.

6 Fasten the end of the new brake belt to the round holes (Figure 26, pos. 3) using the clamping screws (Figure 28, pos. 5) between the clamping plate (Figure 28, pos. 6) and the belt block (Figure 28, pos. 1). The finely structured (yellow) side (Figure 26, pos. 2) is in contact with the belt block (Figure 28, pos. 1).

7 Pull the brake belt around the unwinding roller (Figure 27, pos. 7).

8 Insert the brake belt end (Figure 28, pos. 4) with the oblong holes under the clamping plate (Figure 28, pos. 2).

9 Mount the bottom clamping plate (Figure 28, pos. 2) with clamping screws (Figure 28, pos. 3) without tightening it. It must still be loose.

10 Pull the brake belt end (Figure 28, pos. 4) outwards for pre-tensioning and then tighten the clamping screws (Figure 28, pos. 3) of the clamping plate (Figure 28, pos. 2).

11 Test the brake action.

12 Place the stop disc (Figure 27, pos. 4) on the unwinding roller (Figure 27, pos. 7). Observe the correct position as described under item 2.

13 Place the adjusting ring (Figure 27, pos. 6) on the unwinding roller (Figure 27, pos. 7) and fasten it with the screws (Figure 27, pos. 5).

14 Place the flanged wheel (Figure 27, pos. 1) on the unwinding roller (Figure 27, pos. 7) by pressing and holding the clamping ring (Figure 27, pos. 2).

10.5.3 Readjusting the brake tension on the pendulum arm

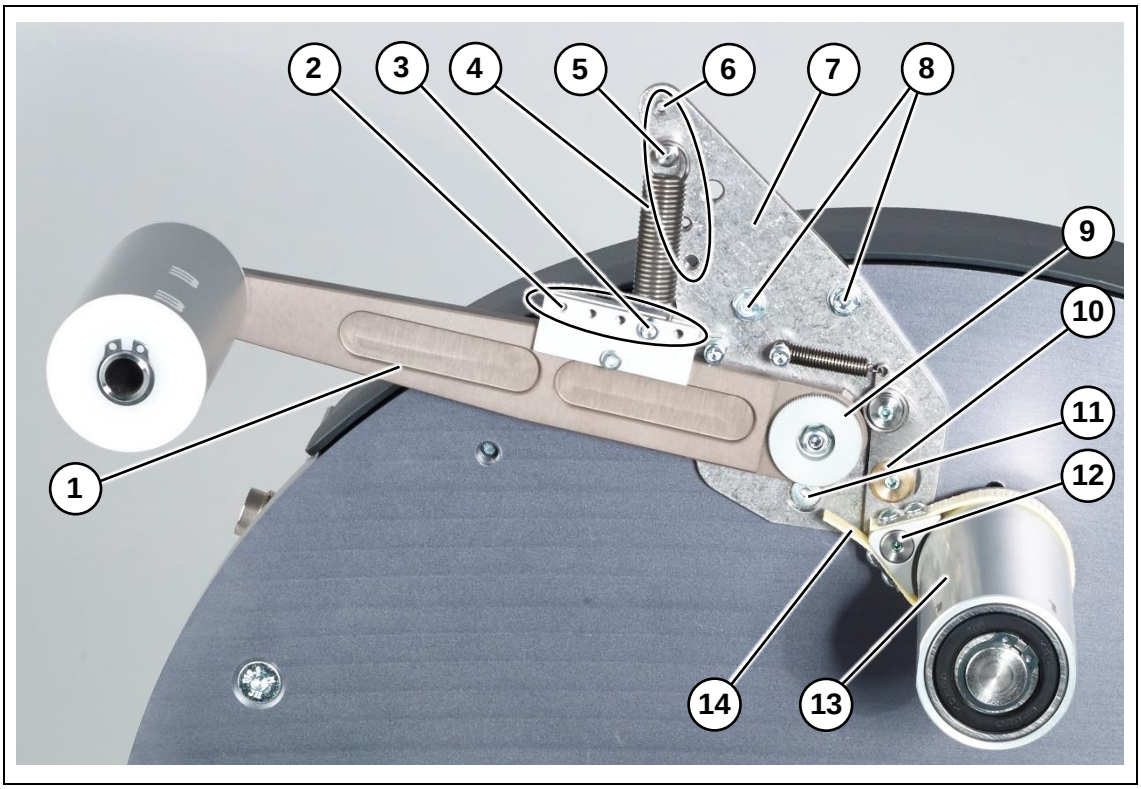


Figure 29 Overview pendulum arm suspension (example)

Pos.	Designation	Pos.	Designation
1	Spring-loaded pendulum arm	8	2 clamping screws
2	Horizontal bores on aluminium bar	9	Eccentric rounding on pendulum arm
3	Spring suspension, screw	10	Lever
4	Spring on pendulum arm	11	Flat head screw, rotation axis of pendulum arm mounting
5	Spring suspension, bolt	12	Belt block
6	Tapped bores, vertical	13	Label unwinder roll
7	Pendulum arm mounting	14	Brake belt

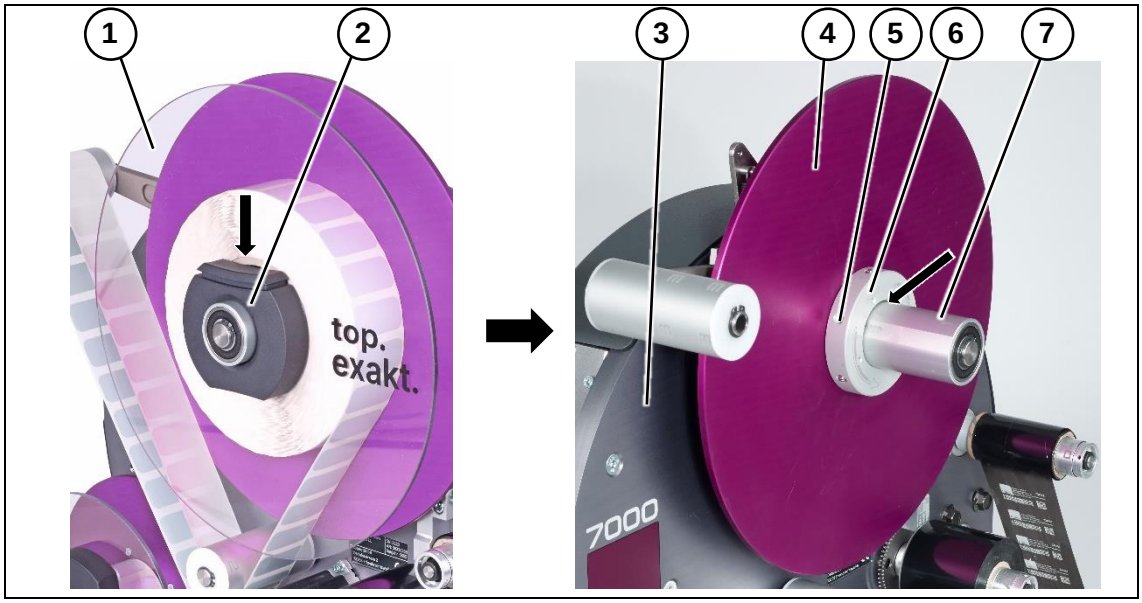


Figure 30 Label unwinding

1 Remove the flanged wheel (Figure 30, pos. 1) of the label unwinding by pressing and holding the clamping ring (Figure 30, pos. 2).

2 Measure the distance between the base plate (Figure 27, pos. 3) and the stop disc (Figure 30, pos. 4). Record the measured value. Mark the position of the adjusting ring (Figure 30, pos. 6) on the unwinding roller (Figure 30, pos. 7) (see arrow).

3 Loosen the screws (Figure 30, pos. 6) on the adjusting ring (Figure 30, pos. 7).

4 Pull the stop disc (Figure 30, pos. 4) and the adjusting ring (Figure 30, pos. 6) off the unwinding roller (Figure 30, pos. 7).

10.5.3.1 Fine adjustment by turning the pendulum arm mounting

When the pendulum arm bracket (Figure 29, pos. 7) is turned, the eccentric rounding (Figure 29, pos. 9) at the rear of the pendulum arm will act on the lever (Figure 29, pos. 10). The lever actuates the belt block (Figure 29, pos. 12). This tensions or loosens the brake belt.

Proceed as follows:

1 Loosen the two hexagon clamping screws (Figure 29, pos. 8).

2 The pendulum arm mounting (Figure 29, pos. 7) can now be swivelled around its rotation axis (Figure 29, pos. 11).

3 Swivel the tip of the suspension towards the label roll (Figure 29, pos. 13) to achieve a stronger braking effect.

4 Swivel the tip of the suspension away from the label roll (Figure 29, pos. 13) to achieve a weaker braking effect.

5 Then retighten the two hexagonal clamping screws (Figure 29, pos. 8).

10.5.3.2 Adjusting the spring suspension on the pendulum arm

The spring (Figure 29, pos. 4) on the pendulum arm has adjustable suspensions at both ends.
The spring suspension (Figure 29, pos. 5) is vertically adjustable via several tapped bores in the sheet metal of the pendulum arm mounting (Figure 29, pos. 7). Horizontal adjustment of the spring suspension (bottom Figure 29, pos. 3) is possible via several holes (Figure 29, pos. 2) on the plastic moulding.

Proceed as follows:

1. Unhook the spring (Figure 29, pos. 4).
2. Move the screw on the plastic strip (Figure 29, pos. 3) or the screwed bolt of the spring suspension (Figure 29, pos. 5).
3. If the spring stroke is extended, the spring's tractive force (Figure 29, pos. 4)increases. The pendulum arm springs less. **=>** The brake action is stronger.
4. If the spring stroke is reduced, the spring's tractive force decreases. The pendulum arm springs more. **=>** The brake action is weaker.
5. Put the spring (Figure 29, pos. 4) back in place and test the brake action.

10.5.4 Measures for poor print quality

You can perform the following measures to improve print quality:

Examination	Measures
Check the mechanical tension of the transfer film and adjust the coupling rings of the transfer film take-up and unwinding as required.	The inner drive shaft of the transfer film take-up should rotate faster than the outer cover.
	The torque of the friction coupling of the transfer film take-up must be high enough to wind up the ribbon tightly.
	The braking effect on the friction coupling of the transfer film unwinding system must prevent the transfer film from sagging.
Check the thermal strip and its mounting. For disassembly of the thermal strip, see chapter 10.5.5.4	The thermal strip must not be contaminated. Clean it if necessary.
	The pressure pieces must not be set too strong and must be set in parallel. Check the contact pressure (see chapter 10.5.5.3) and adjust it if necessary.
Check the alignment on the thermal strip to the counter pressure roller.	The dot line of the thermal strip must be above the top dead centre of the counter pressure roller.
	The dot line of the thermal strip should be aligned parallel to the counter pressure roller.
	After loosening the bracket including the thermal strip, you can readjust it (see chapter 10.5.5.4)
	Replace the thermal strip if it is very dirty or has been mechanically damaged.
Check the counter pressure roller in the lower part of the printhead.	The counter pressure roller must rotate smoothly.
	The counter pressure roller must not be dirty, clean it, and replace it if necessary.
	The surface of the counter pressure roller must not be damaged.
You can set the print speed and heating power in the control unit under the menu item "Setup" – "Quality".	

Information

For more details, see **operating instructions of topex 7200 / 7250 control**.
More detailed information on the control commands and printer functions can be found in the **programming manual for the topex 7200 control unit**.

10.5.5 Printhead settings

10.5.5.1 Opening the printhead

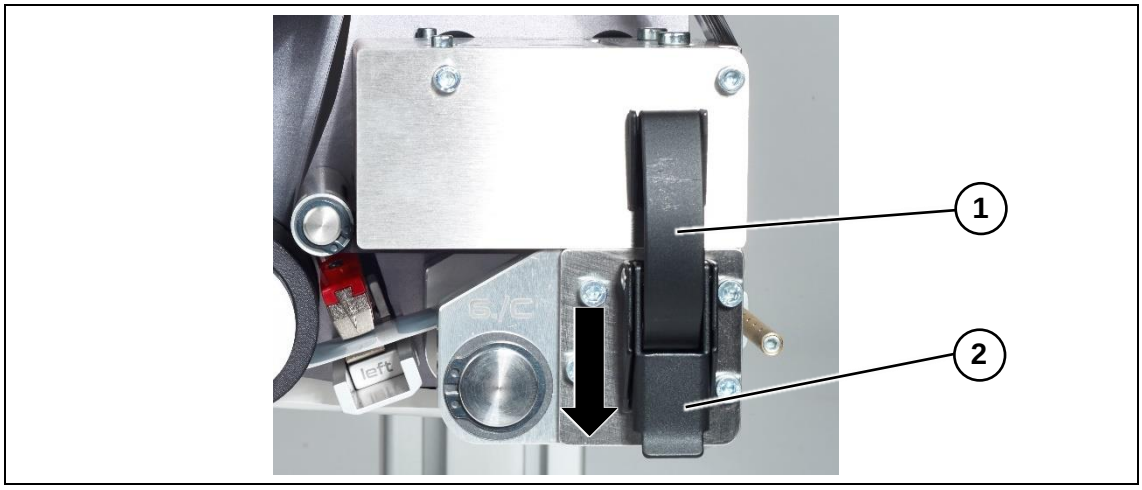


Figure 31 Opening the printhead

Open the locking lever (2) on the clamping lock (1) and fold down the lower part of the printhead.

10.5.5.2 Adjustment of the dot strip to the counter pressure roller

Figure 32 Printhead with thermal strip pulled out – view from above

Figure 33 Printhead front view

1 Loosen the holder (Figure 32, pos. 4) of the thermal strip (Figure 32, pos. 5) by opening the 4 Allen screws (Figure 32, pos. 1).

2 You can move and turn the thermohead by turning the two outer Allen screws (Figure 33, pos. 1).

Information

Use a 2.5 mm Allen key to adjust the screws evenly.
Clockwise rotation moves the printhead towards the dispensing edge, anti-clockwise rotation moves the printhead away from the dispensing edge.
If set correctly, the dot line must be at the highest point of the counter pressure roller (dot line is approx. 5 mm from the edge of the printhead cassette).
The dot line must be in parallel to the counter pressure roller.

3 Briefly release the pressure on the printhead before a print test by opening and closing it again (see Figure 31).

10.5.5.3 Contact pressure setting

There are 2 spring-loaded pressure pieces (Figure 32, pos. 3) in the printhead mounting plate, which are used to adjust the contact pressure.

1 Use an Allen key to remove the two grub screws (Figure 32, pos. 2), which are used for the lock.

Information

This lock is not required for self-locking, spring-loaded pressure pieces.

2 Adjust the two spring-loaded pressure pieces (Figure 32, pos. 3) **evenly**. Hold them firmly against twisting and lock them with the two grub screws (Figure 32, pos. 2).

10.5.5.4 Disassembly and assembly of the thermal strip

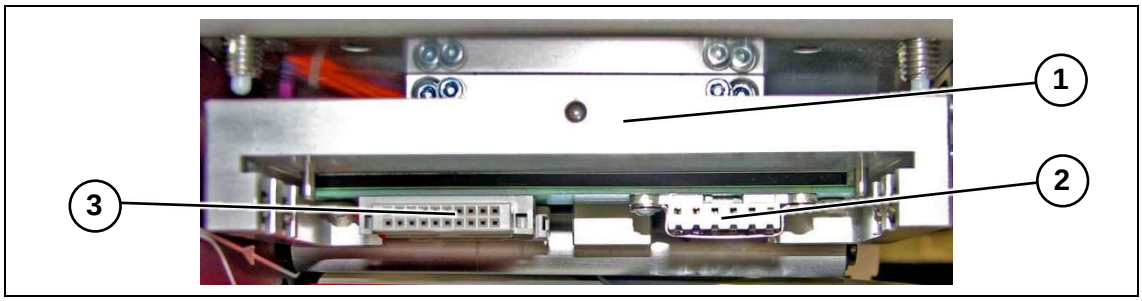


Figure 34 Mounting the thermal strip with printhead

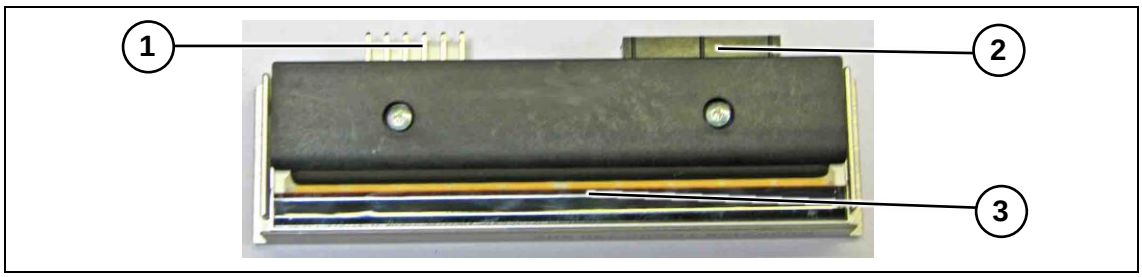


Figure 35 Thermal strip, dot strip facing upwards

Disassembly

1 Switching off the control unit.

2 Open the printhead.

3 Pull the thermal strip forwards out of the holder (Figure 32, pos. 5). You must overcome the resistance of the two plug connectors (Figure 35, pos. 1 and 2) for this.

Assembly

1 Insert the thermal strip (Figure 32, pos. 5) into the grooves of the bracket (Figure 32, pos. 4) with the dot strip facing downwards.

2 Push the thermal strip (Figure 32, pos. 5) entirely into the holder (Figure 32, pos. 4) so that the plug connectors snap into place.

3 Close the printhead using the clamping lock (Figure 31, pos. 1).

4 Switch on the control unit.

5 Press the **PRINT** button to start a test print.

10.5.5.5 Aligning the guide strip for the transfer film

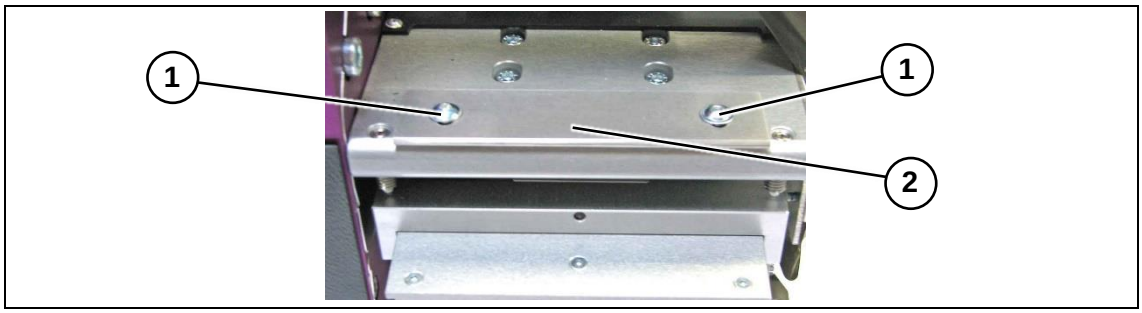


Figure 36 Aligning the guide rail

The transfer film is deflected at the guide bar for rewinding (Figure 36, pos. 2) after the printing process. It must be aligned so that the transfer film is guided to the take-up cleanly and without creases.

1 Slightly open the two fastening screws (Figure 36, pos. 1) of the guide rail (Figure 36, pos. 2).

2 Adjust the guide rail (Figure 36, pos. 2) if necessary.

3 Tighten the two fastening screws (Figure 36, pos. 1) of the guide rail (Figure 36, pos. 2) again.

11 DECOMMISSIONING / DISPOSAL

Objective

- Professional preparation for storage.
- Maintenance of the target condition of the machine during storage.

Information

Decommissioning and storage are among the work to be performed very rarely.

⚠ DANGER

Missing safety devices or safety devices without function pose a risk of serious injury or death.

► Operate the machine only with properly working safety devices!
► Shut down the machine at once if you find any defective or ineffective safety device.
► You as the operator are responsible for this.

⚠ DANGER

Touching live components and the electrical control cabinet poses a risk of serious injury or death due to electric shock.

► Never open the electrical control cabinet.
► Never work on any live parts.
► Have work performed by an electrician only.

⚠ WARNING

The exposed moving rolls pose a risk of serious injury by entanglement.

► Operators with long hair must wear a hair net for safety reasons.
► Do not wear loose clothing (ties, scarves, wide sleeves, ...).

Residual risks associated with the handling option:

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to moved parts.

► Do not support yourself in the work space.
► Avoid dangerous places.
► Set up devices and aids in the work space of the machine so that they can be reached well from the operator's side.

⚠ WARNING

There is a risk of serious injury to hands, arms, and head due to pneumatic / electric movements.

► Do not support yourself in the work space.
► Avoid dangerous places.
► Only reach into the work space for equipment, removal and cleaning.
► Remove objects that would impair movement of the axes.

11.1 REQUIREMENTS TO THE EXECUTING STAFF

The requirements for the personnel who performs the work can be found in chapter 3.7.

11.2 TEMPORARY DECOMMISSIONING

- If necessary, wait until the machine is in home position.
- First, secure all operating media, e.g., compressed air, against accidental recommissioning.
- Switch the thermal transfer printer to no voltage.
- Secure the thermal transfer printer against accidental reactivation. If necessary, lock the main switch of the superordinate system and remove the key.
- Remove the label roll.
- Clean the entire machine with a lint-free cloth soaked in cleaning agent (see chapter 10.4)
- Protect all bare parts from corrosion by applying a thin layer of oil.
- Release the pressure on the printhead to relieve the counter pressure roller.
- Release the friction on the clamping lever.

11.3 FINAL DECOMMISSIONING / DISPOSAL

- If necessary, wait until the machine is in home position.
- First, secure all operating media, e.g., compressed air, against accidental recommissioning.
- Switch the thermal transfer printer to no voltage.
- Secure the thermal transfer printer against accidental reactivation. If necessary, lock the main switch of the superordinate system and remove the key.

11.3.1 Material groups

Sort metals, non-metals, composites, and auxiliary substances by types and dispose of them in an environmentally friendly way.

11.3.2 General

Observe environmental compatibility, health risks, disposal provisions and your local options for disposal as prescribed. For more detailed information, contact your district's waste management office.

12 INDEX

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