TRANSLATION OF THE ORIGINAL VERSION

CE

# Operating Manual

## Band Resaws with Roller Conveyor and Feed Unit

## TBS 800R and TBS 900R

| | |
|---|---|
| ***Machine Type:*** | **Band Resaws TBS 800R and TBS 900R** |

**Reinhold Beck Maschinenbau GmbH**
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Tel.: +49 (0) 7576 / 962 978 - 0 | Fax: +49 (0) 7576 / 962 978 - 90
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**Reinhold Beck Maschinenbau GmbH**
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# Handover Certificate

| | |
|---|---|
| **Machine type:** | |
| **Machine no.:** | |
| **Construction year:** | |
| **Customer address (location of the machine):** | |
| **Name:** | |
| **Street:** | |
| **Postcode/City:** | |
| **Phone:** | |
| **E-mail:** | |

**Warranty:**

On the basis of our Terms and Conditions of Sale, Delivery and Payment of the respective current status, we assume a warranty of **12 months**, calculated from the day of delivery, for material defects and defects of title in connection with the delivery for the above-mentioned machine.

**Warranty claims:**

Warranty claims against **R. Beck Maschinenbau GmbH** are only valid if this handover declaration has been completed, signed and handed over to **R. Beck Maschinenbau GmbH** and the machine has been properly put into operation.

**Important:** Please read and follow the instructions in chapter ⇨ 1 ”**Liability and Warranty**“.

**Confirmation of the buyer:**

- ✓ The machine described above was purchased by the buyer.
- ✓ The machine was handed over with the corresponding operating manual, edition: _____
- ✓ The contents of the operating manual are acknowledged by the buyer.
- ✓ Persons who are commissioned to work on this machine will be provided with the operating manual and will receive safety training.

| Name and position | Date | Signature of the customer |
|---|---|---|
| _____ | _____ | _____ |

| Address of the dealer (company stamp): | The machine, including the operating manual, was handed over to the buyer and installed according to the specifications in the operating manual. |
|---|---|
| | Date: _____ Signature - Customer Service: _____ |

**Space for notes:**

**Reinhold Beck Maschinenbau GmbH**
Im Grund 23, DE 72505 Krauchenwies
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|---|---|---|
| Name and position | Date | Signature of the customer |

| | |
|---|---|
| Address of the dealer (company stamp): | The machine, including the operating manual, was handed over to the buyer and installed according to the specifications in the operating manual.<br><br>_____ _____<br>Date Signature - Customer Service |

# Table of Contents

# List of Figures

Revisions:

| Revision | Editor | Modification | Date |
|---|---|---|---|
| 000 | AG | Original manual translated | 07.12.2022 |
| 001 | AG | Recommended lubricant added to section ⇨ 12.3. | 18.12.2024 |

# 1 Liability and Warranty

When purchasing a machine or work equipment (hereinafter referred to as "machine"), the General Terms and Conditions of Sale and Delivery of Reinhold Beck Maschinenbau GmbH generally apply. These are provided to the purchaser or operator at the latest when the contract is concluded.

| | |
|---|---|
| ☝ | ***IMPORTANT NOTE:** Liability and warranty claims shall only commence from the point in time at which the signed handover certificate (see ⇨ page 3 resp. page 5) from the dealer and/or end customer for the delivered machine has been submitted to Reinhold Beck Maschinenbau GmbH in written form.* |

Liability and warranty claims for personal injury and property damage are generally excluded if they are due to one or more of the following causes:

- Commissioning of the machine without prior machine instruction by an authorised and adequately trained specialist who is familiar with the function and dangers of the machine.
- Electrical connection as well as repair and/or maintenance work on electrical components by personnel who do not have the appropriate qualifications.
- Connection and repair and/or maintenance work on hydraulic or pneumatic components by personnel who do not have the appropriate qualifications.
- Non-observance of the instructions in the operating manual, in particular the chapter “Safety”.
- Improper use or operation in an unauthorised area of application.
- Improper assembly, commissioning, operation and maintenance of the machine.
- Unauthorised conversions or modifications to the machine or additional components.
- Operating the machine without using all the protective equipment available for the operation.
- Inadequate monitoring and maintenance of the machine components and protective devices.
- Continuing to operate the machine when faults, damage or defects are present.
- Processing materials that do not correspond to the machine's area of application.
- Carrying out operations that are not permitted for the machine supplied.
- Use of tools that are not permitted for the machine supplied.
- Operating the machine outdoors or in damp, wet or potentially explosive environments.
- Operation of the machine outside permissible ambient temperatures or humidity.
- Grossly negligent behaviour when handling or operating the machine.
- Impact by foreign bodies, e.g. stones, metal parts, etc.
- Improperly carried out repairs.
- Catastrophic events due to force majeure.

# 2 Introduction

The purpose of this document is to acquaint the user with the machine and enable him to use it to the full extent of its intended capabilities. Additionally it contains important information to operate the machine safely, properly and economically.

Observance of the manual helps to avoid hazards, reduce repair costs and downtimes and increase the reliability and service life of the machine.

Furthermore, this operating manual serves to supplement instructions based on national regulations for accident prevention and environmental protection.

*Figure 1: Bandsaw blade*

| | |
|---|---|
| | ***This operating manual must always be available at the place of use of the machine. It must be read and followed by every person who is assigned to work on the machine, e.g.***<br>• *during operation, including set-up, troubleshooting in the work process, removal of production waste and maintenance,*<br>• *during maintenance (servicing, inspection, repair)*<br>• *and/or during transport.)* |

Apart from the operating manual and the legally binding accident prevention provisions applicable in the country and place of use, the recognized technical regulations for safe and proper work must also be observed.

## 2.1 Legal Notice



## 2.2 Illustrations

All photos, figures and graphics contained in this document are for illustration and better understanding only and may differ from the current state of the product.

# 3 Symbols

## 3.1 General Symbols

| *Symbol* | *Meaning* |
|---|---|
| ☝ | Indicates passages within this operating manual that must be particularly observed in order to prevent malfunctions or damage to the machine. |
| ⇨ | Refers to chapters, sections, or figures within this document. |
| ☞ | Refers to an external document or a third-party source. |

## 3.2 Symbols in Safety Instructions

| *Symbol* | *Safety Instruction* |
|---|---|
|  | General danger symbol, which requires the highest attention!<br>*Failure to observe may result in damage to the equipment, serious injury or even death.* |
|  | Warning of possible danger from forklift traffic!<br>*Non-observance may result in life-threatening injuries.* |
|  | Warning indicates a possible hazard under suspended loads!<br>*Non-observance may result in life-threatening injuries.* |
|  | Warning indicates a possible fall hazard!<br>*Non-observance of these instructions may result in serious injuries.* |
|  | Warning indicates a possible cutting hazard!<br>*Risk of personal injury and possibly additional damage to equipment.* |
|  | Reference to the obligation to wear protective gloves!<br>*Non-observance of these instructions may result in personal injury.* |
|  | Reference to the obligation to wear hearing protection!<br>*Non-observance of these instructions may result in personal injury.* |
|  | Reference to the obligation to wear protective goggles!<br>*Non-observance of these instructions may result in personal injury.* |
|  | Reference to the obligation to wear a respiratory protection mask!<br>*Non-observance of these instructions may cause breathing difficulties and lung damage.* |
|  | Reference to the obligation to wear safety shoes!<br>*Non-observance of these instructions may result in personal injury.* |
|  | Possible dangerous crushing hazard in the area of stationary objects!<br>*Risk of personal injury and possibly additional equipment damage.* |
|  | Reference to a possible crushing hazard!<br>*Non-observance increases the risk of injury to hands and fingers!* |
|  | Reference to a possible danger due to ejecting parts!<br>*Danger of life-threatening personal injury and possibly additional damage to property.* |
|  | Reference to a possible danger of impact!<br>*Danger of life-threatening personal injury and possibly additional damage to property.* |
|  | This symbol warns of the dangers of electric voltage!<br>*Failure to observe may result in damage to the equipment, serious injury or even death.* |
|  | Fire hazard! Do not smoke and do not ignite open fire. |
|  | Access for unauthorized persons prohibited!<br>*Risk of personal injury and possibly additional equipment damage.* |
|  | This safety notice indicates a possible dangerous pull-in hazard!<br>Wearing loose clothing, jewellery as well as long untied hair is prohibited!<br>*Risk of personal injury and possibly additional damage to property.* |

# 4 General

This band resaw was produced by Reinhold Beck Maschinenbau GmbH according to the current state of the art and placed on the market as a complete machine. All legal and normative regulations were observed.

The heavy-duty band resaws type TBS 800R and TBS 900R with their 80 mm wide saw blades ensure precise and perfectly straight cuts of the best quality when ripping larger cross-sections in solid wood.

The main features are the stable construction and the precisely coordinated functional elements.

*Figure 2: Processing on the band resaw*

The special bandsaw blade guide is complemented by the feed unit included as standard. The band resaws enable the processing of large workpieces. Nevertheless, the finest cuts are possible with the highest precision. The machines each have a roller conveyor with modular safety device and emergency stop rip cord as well as a central control system.

Typical areas of use are in particular applications in the field of raw wood and timber construction.

## 4.1 Structure and Function

- The machine stand is designed in a shapely, modern and torsion-free double-chamber welded steel construction.
- The band resaw is driven by a powerful 11 kW three-phase motor.
- Optionally, the machine can also be supplied with an even more powerful 15 kW motor.
- The massive flywheels are made of solid cast steel, finely turned and balanced.
- The 70 mm wide band saw wheels are made of ground cast steel (crowned 0.2 mm in the centre) and are equipped with dust and resin wipers.
- The saw blade width of the bandsaw blades to be used is 80 mm. The bandsaw blade is guided by special sliding guides above and below the table. The guide above the table must not be lowered any further than just above the height of the feed unit.
- The fence to the left of the band saw blade is a roller fence that serves as a rip fence as well as for cutting dimension adjustment. The upper roller unit can be adjusted to the workpiece height.
- Both band saw wheel doors are protected by internal safety switches with mechanical locking.
- Manual height adjustment of the integrated saw blade guard is via handwheel with locking pinion.
- The workpieces are fed via a stable feed unit. The feed rate can be adjusted in 10 steps. A version with infinitely variable feed rate is also available as an option. The feed is transmitted by a helically toothed and hardened steel roller. A rubberised roller is also available as an option.
- The feed unit can be swivelled in and out pneumatically via a mobile foot switch.
- The surface of the solid steel machine table is finely planed.
- The aluminium table insert is replaceable.
- The machine has quickly accessible emergency stop devices at all working positions.
- The machine is equipped with all necessary safety devices.

## 4.2 Standard Equipment

- Special sliding bandsaw blade guide (top) with guard
- Special sliding bandsaw blade guide (bottom)
- Integrated blade tension indicator
- Band saw blade cleaning and micro-lubrication via metered liquid tank and felt cover
- Dynamically balanced band saw wheels made of ground cast steel (cambered in the centre 0.2 mm)
- Roller fence with protective cover, adjustable to workpiece height
- Feed unit with 10-step feed rate adjustable by 2-step switch and V-belt reversal
- Movable foot switch for swivelling the feed unit in and out
- Steel feed roller with helical teeth, hardened
- Fine-planed steel machine table with infeed and outfeed roller table
- Infeed roller conveyor adjustable in height, dimensions L x W = 900 x 825 mm
- Outfeed roller conveyor with 1000 mm length (also height adjustable)
- Replaceable aluminium table insert
- Bandsaw wheels made of solid cast steel, finely turned and balanced
- Dust and resin wipers on the bandsaw wheels
- Doors protected by internal safety switch with mechanical locking
- Three-phase motor (11 kW) with mechanical motor brake, main switch and motor protection switch
- Push-button control with automatic star-delta start and emergency stop button
- Operating tools
- CE-compliant and GS-tested design

## 4.3 Options and Accessories

- Feed unit with infinitely variable feed speed 2.0 m/min to 30 m/min
- Reinforced drive motor for saw drive with 15 kW (instead of 11 kW)
- Customised roller conveyor length for infeed and outfeed
- Rubber-coated feed roller (instead of steel roller)
- Bandsaw blades suitable for the machine
- Visual saw blade tension control
- Spare belt for the drive motor

The article numbers for special accessories and optional components can be found in chapter ⇨ 16.

## 4.4 Target Group and Previous Experience

This operating manual is intended for the operating and maintenance personnel of the machine. The operating personnel is to be determined by the operator and must further meet the following requirements:

- Basic technical knowledge (e.g. apprenticeship as carpenter, machine fitter, etc. and/or practice in operating woodworking machines)
- Reading and understanding these operating and maintenance instructions

In order to acquire the knowledge required to operate this machine, the operator must ensure the following measures:

- Product training for every operator (also possible external personnel)
- Regular safety instruction

## 4.5 Training of the Personnel

All machine operators must be adequately trained in the operation and maintenance of the machine. In detail, the training must include the following:

- General rules for using the machine, for proper operation, correct setting of the machine, fences, feed unit and all protective devices.
- Proper handling of the workpieces during the machining process.
- The personnel must be informed about hazards, risks and appropriate protective measures.
- The personnel must be trained in the area of regular checks of the protective devices.
- Personnel must be trained in the use of protective devices.
- Personnel must understand and comply with the applicable safety regulations.

## 4.6 Requirements for the Operators

- The bandsaw machine may only be operated by trained personnel who have also read this manual.
- Inspection, maintenance, cleaning and repair may only be performed by technical specialists with product-specific training and mechanical and/or electrical training.
- Specialists with product-specific training are to be commissioned and held responsible for planning and checking the work.
- The national protective regulations for employees must be observed .
- The operator is responsible for the safe use of the machine.
- The legal minimum age must be observed.

## 4.7 Accident Prevention

To avoid accidents, the following rules must be observed for operation:

- Prevent unauthorized persons from gaining access to the machine.
- Consider the instructions in section ⇨ 5.4 “Danger Areas on the Band Resaw”.
- Keep unauthorized persons away from the danger areas.
- Repeatedly inform present other persons about existing residual risks (see section ⇨ 5.1.7).
- Conduct and record regular training & instruction for persons who must be in the area of the machine.
- New employees must be trained internally to work on a thickener and this training must be documented.

## 4.8 General Safety Regulations

In general, the following safety regulations and obligations apply when using the band resaw:

- A band saw machine may only be operated in perfect and clean condition.
- It is forbidden to remove, change or bypass any protective, safety or monitoring equipment.
- It is forbidden to modify or change the band resaw without the written approval of the manufacturer / supplier.
- Malfunctions or damage must be reported to the operator immediately. These must be rectified immediately and repaired if necessary.
- Only original spare parts may be used for repairs.
- All protective, safety and monitoring equipment must be regularly checked and maintained by the operator.
- Only instructed, trained or qualified persons may work on this machine.
- Maintenance work must be carried out and documented in accordance with the maintenance instructions.
- After maintenance or repair, the machine may only be started with all protective devices fitted. A responsible person must be defined for this purpose who checks that the guards are properly fitted.
- For the operation of a band resaw, the respective national protective regulations for workers as well as the national safety and accident prevention regulations apply.

# 5 Safety

## 5.1 Basic Safety Instructions

Woodworking machines can be dangerous if used improperly. Therefore, observe the safety instructions listed in this chapter and the accident prevention regulations of your employer's liability insurance association!

| | |
|---|---|
|  | ***The manufacturer accepts no liability for damage and malfunctions resulting from failure to observe these operating instructions.*** |

The band resaw includes all safety devices resulting from the regulations, the standards, the accident prevention regulations and the state of technology.

### 5.1.1 Area of Application and Intended Use

| | |
|---|---|
|  | ***The machine may only be operated on a level, firm surface with a minimum load-bearing capacity of 1,500 kg/m².*** |

| | |
|---|---|
|  | ***Improper use can lead to danger to persons and to a defect or damage to the machine.*** |

#### 5.1.1.1 Machining Solid Wood

The two band resaws TBS 800R and TBS 900R are used exclusively for ripping / sawing solid wood with at least two (saw-rough) surfaces lying at right angles to each other. During processing, the solid wood must be positioned so that one (saw-rough) surface rests on the machine table and the other (saw-rough) surface rests against the roller fence. The term "ripping" refers to the machining of the solid wood in fibre direction.

#### 5.1.1.2 Processing glued Solid Wood (Laminated Beams)

In addition, both bandsaw models are also suitable for ripping / sawing glued solid wood (so-called laminated beams). The term "ripping" refers to the processing of the glued laminated beam in the longitudinal direction.

#### 5.1.1.3 Workpiece loading and removal

Workpiece feeding and removal is done manually, which also includes the use of a hoist. The workpieces are fed to the bandsaw blade via an automatic feed unit.

| | |
|---|---|
|  | ***Any processing of other materials requires prior consultation with the manufacturer and his express consent.*** |

Intended use also includes connection of the machine to an adequately dimensioned extraction system and compliance with the operating, maintenance and servicing conditions specified in this operating manual.

Any other use is considered improper and is prohibited.

### 5.1.2 Environmental Conditions

The machine is not suitable for operation outdoors or in potentially explosive atmospheres.

- permissible ambient temperature: +5 to +40° C.
- permissible operating height: max. 1000 m above sea level.
- permissible humidity: max. 90 %

### 5.1.3 Machinable Workpiece Cross-Sections

Solid wood and laminated beams may only be processed with the band resaw if the cross-sectional dimensions correspond to the following ranges:

| ***TBS 800R*** | ***TBS 900R*** |
|---|---|
| Cutting width: 25 - 785 mm | Cutting width: 25 - 880 mm |
| Cutting height: 25 - 460 mm | Cutting height: 25 - 580 mm |

### 5.1.4 Machinable Workpiece Lengths

Only workpieces that can be placed on the machine table and safely positioned there until they are transported by the feed unit may be processed. After machining, the workpiece must remain safely behind the bandsaw blade (removal side). The workpiece length is generally to be selected in such a way that tipping and falling down is prevented. Otherwise, the infeed or outfeed side must be extended with a corresponding table extension or additional roller conveyor.

You can find more roller conveyors on beck-maschinenbau.com/en/products/roller-measuring-conveyors/.

**Important:** No cuts may be made across the grain or across the longitudinal direction (cross-cuts).

### 5.1.5 Usable Bandsaw Blades

The bandsaw blade to be mounted must correspond to the intended machining with regard to its material, design and tooth shape. The following bandsaw blades can be used for the two band resaw models:

| ***TBS 800R*** | ***TBS 900R*** |
|---|---|
| Saw blade length: 5730 mm | Saw blade length: 6260 mm |
| Saw blade width: 80 mm | Saw blade width: 80 mm |

| | |
|---|---|
|  | ***Only the band saw blades recommended by the manufacturer are permitted as tools.*** |

| | |
|---|---|
|  | ***Always use well-sharpened saw blades.*** |

Suitable bandsaw blades for your machine can be found in chapter ⇨ 16 “Options and Accessories”.

### 5.1.6 Modifications and Conversions to the Machine

| | |
|---|---|
|  | ***Unauthorised conversions and modifications to the machine are strictly prohibited for safety reasons. This will invalidate the CE declaration of conformity! The manufacturer is not liable for any resulting damage. The risk for this is borne exclusively by the operator/user.*** |

## 5.1.7 Residual Risks

The machine is built according to the latest state of the art and the recognised safety rules. Nevertheless, the use of the machine may cause danger to life and limb of the user or third parties or damage to the machine and other equipment. Due to the construction of the machine, the following residual risks can occur even when used as intended and despite compliance with all relevant safety regulations:

| | |
|---|---|
|  | Reading and applying the operating manual is mandatory for the operating personnel. |
|  | Be alert to possible crushing hazards:<br>a) when transporting the machine by forklift truck → between forks & pallet / machine<br>b) when picking up the machine → between machine / pallet and floor<br>c) when lowering the machine → between machine and fixed equipment |
|  | Be alert to possible crushing hazards when lowering the machine (from the cargo pallet to the floor) with a forklift truck or overhead crane. |
|  | Make sure that no objects fall from the forklift truck / crane.<br>Do not leave any objects / tools on the machine. |
|  | It is strictly prohibited to ride on the machine during a lifting operation (with the indoor crane or forklift). There is a danger of falling! |
|  | Unauthorised persons are not allowed to enter the installation area of the machine (responsibility of the operator). |
|  | Be aware of possible tripping and slipping hazards on the floor. Prevent possible hazards by keeping the floor dry and clean and by using anti-slip floor coverings around the machine. |
|  | Be aware of the danger from falling objects such as workpieces, tools or similar. Therefore, wear safety shoes, especially when transporting and setting down the machine. |
|  | Pay attention to the existing danger of being cut by the bandsaw blade. Never reach into the running bandsaw blade! Use pushing devices for short and thin workpieces. Wear protective gloves when changing the saw blade. |
|  | Be aware of the danger of snow from chips and splinters and never remove them from the danger area by hand. Use suitable aids, e.g. hand brushes. |
|  | Danger of cutting and drawing in! Do not clean the bandsaw blade or bandsaw wheels with a brush or scraper held in your hand while the machine is running. |
|  | Danger of cutting and drawing in! In case of a broken bandsaw blade or belt, wait until the machine has come to a complete standstill and only then open the separating safety device. |
|  | Be aware of a possible danger of being drawn in by moving machine parts or tools. This can cause pieces of clothing or hair to be caught. Always wear tight-fitting clothing and a hair net if necessary. Generally avoid jewellery, loose clothing and untied long hair. |
|  | Danger from electric shock! There are hazards when working on the electrical system.<br>This work must only be carried out by qualified personnel! |
|  | Danger from electric shock! It is strictly forbidden to bypass safety devices (e.g. safety switches). |
|  | Electrical equipment must be maintained and cleaned regularly. |
|  | Pay attention to the danger of crushing on workpiece guides and moving machine parts. |
|  | Make sure that no unauthorised persons are in the area of the machine. |
|  | Danger from electric shock! It is strictly forbidden to bypass safety devices (e.g. safety switches). |
|  | Be aware of the risk of injury from flying tool parts in the event of tool breakage.<br>Therefore wear protective goggles. |
|  | Be aware of the risk of injury from flying workpiece parts and chips, splinters and dust coming out of the machine. Therefore wear protective goggles. |
|  | Be aware of the increased noise emission and wear hearing protection. |
|  | Be aware of the increased dust generation. Use the extraction system and wear a dust mask if necessary. |

| | |
|---|---|
|  | The emergency stop buttons and devices must always be freely accessible and must not be blocked. Check the function of the emergency stop devices daily (before commissioning the system). |
|  | Be aware of the dangers that can occur when working with compressed air. |
|  | Danger from ejecting parts (e.g. in case of tool breakage)! Avoid being in the danger zone to the right of the saw blade. A cracked bandsaw blade can dangerously fling out and cause the most serious injuries. |
|  | Fire hazard due to wood dust in connection with flying sparks and/or open fire! |

### 5.1.8 Observe the Environmental Protection Regulations

During all work with the machine, the environmental protection regulations, obligations and laws for waste avoidance and proper recycling and/or disposal applicable at the place of use must be observed. This applies in particular to installation, repair and maintenance work involving substances that could pollute the groundwater (e.g. hydraulic oils and cleaning agents and liquids containing solvents). In any case, prevent them from seeping into the ground or entering the sewage system.

| | |
|---|---|
|  | ***Store and transport the above-mentioned hazardous substances only in suitable containers. Avoid leakage of hazardous substances by using suitable collection containers. Ensure that the above-mentioned substances are disposed of by a qualified disposal company.*** |

### 5.1.9 Organisational Measures

- ⚠ Always keep this operating manual within easy reach and at the place of use of the machine.
- ⚠ In addition to the operating manual, observe and instruct on generally applicable legal and other binding regulations for accident prevention and environmental protection.
- ⚠ Supplement the operating manual with further instructions, including supervisory and reporting duties, to take account of special operational features (e.g. with regard to work organisation, work processes, personnel employed).
- ⚠ Before starting work on the machine, the person responsible for its operation must have read the operating instructions, especially the chapter ⇨ 5 “Safety”. It is too late during work! This applies in particular to personnel who only occasionally work on the machine, e.g. during set-up or maintenance.
- ⚠ Check that work is carried out in a safety-conscious and hazard-conscious manner and in compliance with the operating manual.
- ⚠ Operators must not wear open long hair, loose clothing or jewellery (including rings). There is a risk of injury, e.g. by getting caught or drawn in.
- ⚠ Observe the safety instructions and danger warnings on the machine and keep them complete and in legible condition.
- ⚠ In case of safety-relevant changes to the machine or its operating behaviour, shut down the entire system immediately and report the fault to the responsible office/person.
- ⚠ Use personal protective equipment as necessary or required by regulations.
- ⚠ Do not make any modifications, additional attachments or conversions to the machine without the manufacturer's approval! This will compromise safety and invalidate the manufacturer's warranty and any liability claim. The same also applies to the installation and adjustment of safety devices and valves and to welding work on load-bearing part.
- ⚠ Spare parts must meet the technical requirements specified by the manufacturer. The exclusive use of original spare parts ensures this. Therefore, only use original spare parts from the manufacturer.
- ⚠ Observe the fire alarm and firefighting possibilities. Make the location and operation of fire extinguishers (fire class ABC) known. Do not use water!

### 5.1.10 Personnel Selection and Qualification - Basic Duties

⚠ The machine design and operation is intended for right-handers.

⚠ The machine is intended for operation by a single person. Other persons in the vicinity of the machine must maintain an appropriate safety distance.

⚠ Work on the machine may only be carried out by reliable personnel. Observe the legal minimum age!

⚠ Only use trained or instructed personnel. Clearly define the responsibilities of the personnel for operating, setting up, maintaining and repairing!

⚠ Ensure that only authorised personnel work on the machine!

⚠ Only allow personnel to be trained, instructed or undergoing general training to work on the machine under the constant supervision of an experienced person.

⚠ Work on pneumatic equipment may only be carried out by qualified personnel.

⚠ Work on the electrical equipment of the machine may only be carried out by a qualified electrician or by untrained persons under the direction and supervision of a qualified electrician in accordance with the electrotechnical regulations.

## 5.2 Safety Equipment

The machine is equipped with all necessary safety devices. These include:

- Complete protection of the saw blade over its entire length.
- The saw blade guard is manually adjustable in height and covers the saw blade from all four sides, preventing hands from entering the danger zone.
- The toothed rack for the height adjustment of the blade guard has a clutch that prevents it from falling down during adjustment.
- The workpiece is fed via a feed unit and a roller fence so that the operator's hands are kept out of the dangerous cutting area.
- The roller fence has a protective cover for the bandsaw blade exposed on this side.
- When opening the doors, the power supply to the motor is automatically interrupted.
- Internal safety switches prevent unintentional opening of the doors. The safety switches must be manually unlocked before a wheel or belt change so that doors can be opened (see section ⇨ 11.2). However, the motor brake can still be released via the brake release switch. Restarting the bandsaw drive is only possible again after locking the switches beforehand.
- The feed unit has an internal safety switch that shuts down the machine when the cover is opened to change the belt and puts the machine into complete emergency stop status.
- The saw blade guide is equipped with a transparent protective cover to provide the operator with a clear view of the cutting area. At the same time it serves partially as splinter protection.
- The band resaw is equipped with and mechanical motor brake that brings the saw blade to a standstill within 10 seconds in the event of a power interruption.
- The blade tension indicator points out the correct tension of the blade in relation to its width.
- The machine is equipped with an emergency stop button at all working positions and at the removal table.
- The front roller table on the feed side is equipped with an emergency stop ripcord.
- In front of the band saw blade there is a switch bracket that puts the machine in an emergency stop state.
- Warning lights in the control panel signal pneumatic pressure drop and an overloaded drive motor.

## 5.3 Safety Instructions for Specific Phases of Operation

| | |
|---|---|
| ⚠ | ***Defects and damage to the machine are to be reported immediately after detection.*** |
| ⚠ | ***Any mode of operation that compromises safety is prohibited!*** |
| ⚠ | ***Sufficient lighting (at least 500 lux) around the machine must be ensured!*** |

### 5.3.1 Before starting Work

⚠ Wear personal protective equipment (safety goggles, safety shoes, ear protection, dust mask) and close-fitting clothing and, if necessary, a hair net! Take off watches, necklaces and other jewellery.

⚠ Only operate the machine when it is in working order and in a safe condition. Before starting work on the machine, check the machine at least once per shift for externally visible damage and defects. Report any changes that have occurred (including changes in operating behaviour) immediately to the responsible office or person. If necessary, stop the machine immediately and secure the machine against being switched on again.

⚠ The machine must be connected to an effective extraction system before initial start-up. This requires a flow rate of at least 20 m/s for dry chips and 28 m/s for moist chips (18 % moisture or more).

⚠ Before starting sawing work, clean the workpiece support surfaces of the roller conveyors and the machine table and remove all objects and tools from the support surfaces of the tables.

⚠ Use only sharp, crack-free and sufficiently set bandsaw blades.

⚠ Check that the saw blade is correctly aligned on the band saw wheels.

⚠ Check the saw blade guide for correct adjustment (back roller, lateral guide blocks).

⚠ Always position the saw blade guard as far down as possible.

⚠ Make sure that the cut for the saw blade in the table insert is as narrow as possible.

⚠ The floor must be level, sufficiently non-slip and free of debris.

⚠ Keep the floor in the area of movement around the machine free of tripping hazards.

⚠ The working area must be sufficiently illuminated by local lighting.

⚠ If gloves are required for workpiece handling, they must be fingerless.

⚠ Put on protective gloves when changing the band saw blade.

⚠ Provide containers for waste pieces.

### 5.3.2 Normal Operation

⚠ **Guards:** Take measures to ensure that the machine can only be operated in a safe and functional condition. Only operate the machine when all guards and safety-related devices such as

- detachable guards,
- emergency stop devices,
- noise insulations,
- extraction system

are available and functional

All available protective equipment must always be used during work.

⚠ **Workpiece:** Before the operation, check the workpiece for

- foreign inclusions
- knots
- twists (contortions)

and other irregularities.

⚠ **Workpiece feeding:** Always use the feed unit and the opposite roller fence to feed the workpiece. Ensure good workpiece support for long or wide workpieces. For workpieces which, due to their dimensions, cannot rest securely on the support surfaces of the infeed and outfeed sides, appropriate table extensions or additional roller conveyors must be used. Do not machine unshaped workpieces that cannot be placed safely on the machine table due to their surface condition.

⚠ **Cutting dimension:** Set the desired cutting dimension via the millimetre scale of the roller fence.

⚠ **Workpiece height:** If necessary, adjust the roller fence to the height of the workpiece to be machined.

⚠ **Bandsaw blade:** Only use a bandsaw blade that is suitable for the respective operation and material. Never use damaged or blunt bandsaw blades. Check the bandsaw blades regularly for damage and defects. Replace damaged, defective or blunt band saw blades immediately.

⚠ **Sawing operation:** Do not start sawing until the bandsaw blade has reached full speed.

⚠ **Sawing area during operation:** Never try to remove splinters, chips or other parts from the sawing area while the machine is running! Never remove splinters and chips by hand!

⚠ **Saw blade guard:** During machining, always lower the upper saw blade guide and saw blade guard only to just above the height of the feed unit.

⚠ **Table inserts:** Damaged or frayed table inserts must be replaced immediately.

⚠ **Workpiece removal:** If a second person is working on the band resaw to remove processed workpieces, this person may only be in the "removal area" of the machine (see ⇨ Figure 14).

⚠ **Braking time after power off:** The band resaw is equipped with a mechanical motor brake. If the brake no longer brakes within the prescribed braking time (< 10 seconds), the customer service must be informed immediately.

⚠ **Work interruptions:** Switch off the machine even during short work interruptions! Never leave the machine running unattended!

⚠ **Completion of the work:** Loosen the saw blade tension, close the stopcock for the lubricant supply and lower the saw blade guard only to just above the height of the feed unit.

⚠ **Leaving the machine:** Before leaving the machine, switch off the main switch and wait for the machine to come to a standstill. Lock the main switch! Never leave the machine unattended and unsecured.

⚠ **Behaviour in the event of a saw blade crack:** Immediately after the saw blade has broken, switch off the saw blade drive and the feed. Wait until all band saw wheels have come to a complete standstill before taking any further action. Only the lower wheel is braked! It is therefore essential to follow the procedure described in section ⇨ 14.2.

### 5.3.3 Special work within the Scope of Maintenance Work as well as Troubleshooting in the Workflow

⚠ Observe maintenance and inspection activities prescribed in the operating manual!

⚠ These activities, as well as all other repair work, may only be carried out by qualified personnel!

⚠ For all work concerning operation, production adjustment, conversion or setting of the machine and its safety-related equipment as well as maintenance and repair, observe switch-on and switch-off procedures according to the operating manual and instructions for maintenance work!

⚠ Secure the machine against unexpected restarting during maintenance and repair work.

- **Lock the main switch with a padlock!**

⚠ Always tighten screw connections that have been loosened during maintenance and repair work!

⚠ If it is necessary to dismantle safety equipment during set-up, maintenance and repair, the safety equipment must be reassembled and checked immediately after completion of the maintenance and repair work!

⚠ Ensure safe and environmentally friendly disposal of operating and auxiliary materials (e.g. oils) and replacement parts (e.g. electronic components)! Refer to chapter ⇨ 17 "Disassembly and Scrapping".

### 5.3.4 Noise

Certain instructions must be followed to avoid an increase in the noise level:

- Sawdust falling between the wheel and the saw blade can cause vibrations that can increase the noise level.
- Only original saw blades with a correct and clean weld must be used.
- The saw blade must be correctly adjusted for the intended work and suitable for the material.

## 5.4 Hazardous Areas on the Band Resaw

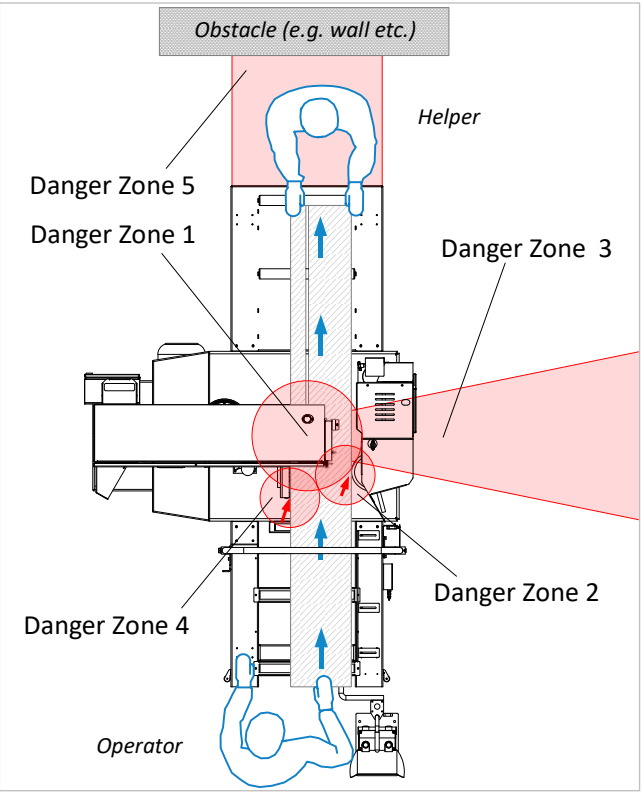


*Figure 3: Hazardous areas on the band resaw*

A wide variety of hazards can arise on a band resaw. Particular attention should be paid to the danger zones listed in this section.

Here, there is an acute potential for danger, ranging from minor to severe injuries and even death!

| | |
|---|---|
| **Danger Zone 1**  | Bandsaw blade<br>• Cutting hazard<br>• Entanglement hazard |
| **Danger Zone 2**  | Feed unit<br>• Crushing hazard<br>• Entanglement hazard |
| **Danger Zone 3**  | Machine side (right)<br>• Danger of ejection (tool breakage) |
| **Danger Zone 4**  | Roller fence<br>• Crushing hazard<br>• Entanglement hazard |
| **Danger Zone 5**  | Removal area<br>• Crushing hazard<br>• Impact hazard |

**Danger Zone 1** → Danger of being drawn in when bandsaw blade is running

- Acute danger of being drawn in 120 mm around the saw blade.
- Never reach into this area with your hands when the machine is running!
- Lower the saw blade guard only to just above the height of the feed unit.
- Never remove the protective cover of the roller fence!
- Take off watches, jewellery, scarves etc. and do not wear loose clothing and/or loose hair.
- Do not wear gloves! Only wear protective gloves when changing the saw blade.

**Danger Zone 2** → Danger of drawing in and crushing between workpiece and feed unit

- Keep hands out of this area when the feed unit is running!
- Take off watches, jewellery, scarves etc. and do not wear loose clothing and/or loose hair.

**Danger Zone 3** → Danger to face and body from cracked saw blade

- A cracked bandsaw blade can eject in this area in a life-threatening manner.
- Avoid being in the danger zone to the right of the saw blade resp. machine.

**Danger Zone 4** → Danger of drawing in and crushing between workpiece and roller fence

- Keep hands out of this area when the feed unit is running!
- Take off watches, jewellery, scarves etc. and do not wear loose clothing and/or loose hair.

**Danger Zone 5** → Crushing hazard for body and limbs and risk of people being knocked over

The processed workpiece is constantly fed out of the removal side of the band resaw by means of automatic feed unit. If there is an obstacle on the workpiece removal side, there is a risk of impact and crushing for a person located there. Always keep the removal area clear and do not place any obstacles, e.g. walls, material trolleys, forklift trucks, etc. in the danger zone.

| | |
|---|---|
| ⚠ | ***Only use bandsaw blades that are in perfect condition or correctly welded, ground and set. Damaged bandsaw blades must be replaced immediately.*** |

Please note the additional information on all other possible hazards in section ⇨ 5.1.7 “Residual Risks”.

# 6 Machine Data

## 6.1 Technical Specifications

| | ***Model TBS 800R*** | ***Model TBS 900R*** |
|---|---|---|
| Wheel dimensions | 2 x Ø 800 mm (70 mm wide) | 2 x Ø 900 mm (70 mm wide) |
| Wheel crowning | 0.2 mm (centre) | 0.2 mm (centre) |
| Cutting height | max. 460 mm | max. 580 mm |
| Cutting width | max. 785 mm | max. 880 mm |
| Saw blade length | max. 5730 mm | max. 6260 mm |
| Saw blade width | 80 mm | 80 mm |
| Feed unit (standard) | 2.5 - 40 m/min (10-step) | 2.5 - 40 m/min (10-step) |
| Feed unit (optional) | 2.0 - 30 m/min (variable) | 2.0 - 30 m/min (variable) |
| Operating pressure for feed | 6 - 8 bar | 6 - 8 bar |
| Air consumption | 30 l/min | 30 l/min |
| Table size | 1200 x 925 mm | 1350 x 925 mm |
| Table height | 930 mm | 1015 mm |
| Motor (standard) | 11 kW / 15 HP (400V / 50 Hz) | 11 kW / 15 HP (400V / 50 Hz) |
| Motor (optional) | 15 kW / 20 HP (400V / 50 Hz) | 15 kW / 20 HP (400V / 50 Hz) |
| Protection class | IP 54 | IP 54 |
| Motor brake | mechanical | mechanical |
| Saw blade speed | 1800 m/min | 1820 m/min |
| Dimensions (see also ⇨ 7): | H x W x D = 2484 x 1635.5 x 2729 mm | H x W x D = 2653 x 1801.5 x 2729 mm |
| Spare requirement: | H x B x T = 2500 x 2640 x 4730 mm[1] | H x B x T = 2700 x 2810 x 4730 mm[1] |
| Suction nozzles: | 2 x Ø 120 mm | 2 x Ø 120 mm |
| Recommended overall connection: | Ø 160 mm | Ø 160 mm |
| Air speed at the port: | min. 20 m/s | min. 20 m/s |
| Minimum volume flow: | 1440 m³/h at 20 m/s | 1440 m³/h at 20 m/s |
| Negative pressure at the port: | approx. 950 Pal at 20 m/s | approx. 950 Pal at 20 m/s |
| Weight: | approx. 820 kg | approx. 920 kg |


*Figure 4: Name plate*

**Manufacturer:**

**Reinhold Beck Maschinenbau GmbH**
Im Grund 23
72505 Krauchenwies (Germany)
Phone: +49 (0) 7576 / 962 978 - 0
Fax: +49 (0) 7576 / 962 978 - 90
Email: info@beck-maschinenbau.de

**Correspondence in case of service**

In case of technical problems, please contact your dealer or the manufacturer's service department. In correspondence or during a telephone call regarding the purchased machine, please have the following data ready:

- Manufacturer number of the machine
- Voltage and frequency
- Year of manufacture of the machine
- Detailed description of the fault
- Detailed description of the type of machining
- Operating time of the machine in working hours
- For questions about the electrical system, the information on the name plate of the machine is also required.

[1] Depending on the local development and the length of the workpieces to be machined (refer to section ⇨ 8.6)

## 6.2 Emission Levels

### 6.2.1 Noise Information

The values given are emission levels and therefore do not necessarily represent safe workplace values. Although there is a correlation between emission and immission levels, it cannot be reliably deduced whether additional precautionary measures are necessary or not.

Factors that may affect the current immission level at the workplace include the duration of exposure, the nature of the workspace, other noise sources, etc., e.g. the number of machines and other activities in the vicinity. The permissible workplace values can also vary from country to country.

However, this information should enable the user to make a better assessment of hazard and risk.

### 6.2.2 Noise Emission Values

The specified measured values were determined acc. to the machine-specific European standard **EN 1807-1**.

| ***Sound power level*** | |
|---|---|
| Idle: | 93 dB(A) |
| Machining: | 104 dB(A) |

The **DIN EN ISO 3746** standard was used to determine the sound power levels.

| ***Workplace-related emission value*** | | |
|---|---|---|
| Work position 1 (working area) | Idle: 78 dB(A) | Idle: 91 dB(A) |
| Work position 2 (removal area) | Machining: 79 dB(A) | Machining: 96 dB(A) |

The **DIN EN ISO 11202** standard was used to determine the workplace-related emission values.

**Uncertainty allowance K = 4 dB(A)**

***As soon the noise emission values of the machine partly exceed 85 dB(A), a suitable hearing protection must be provided to the personnel!***

For both the sound power levels and the workplace-related emission values, the supplement of **CEN TC 142** to the above-mentioned standards was used.

### 6.2.3 Dust Emission Values

If the machine is correctly connected to a sufficiently powerful extraction system (air speed min. 20 m/s in the overall connection), it can be assumed that the 2.0 mg/m³ limit value for wood dust at the workplaces will be permanently complied with.

To ensure that the chips extracted at the point of origin and the dust are transported on to the collection system, the conveying speed of the extracted air must be 20 m/s for dry chips and 28 m/s for moist chips (moisture 18% or more).

***The pressure drop at each extraction point should not exceed 1500 Pa. Otherwise, this could mean that the machine is not compatible with the extraction system.***

# 7 Dimensions

## 7.1 TBS 800R Side and Top View

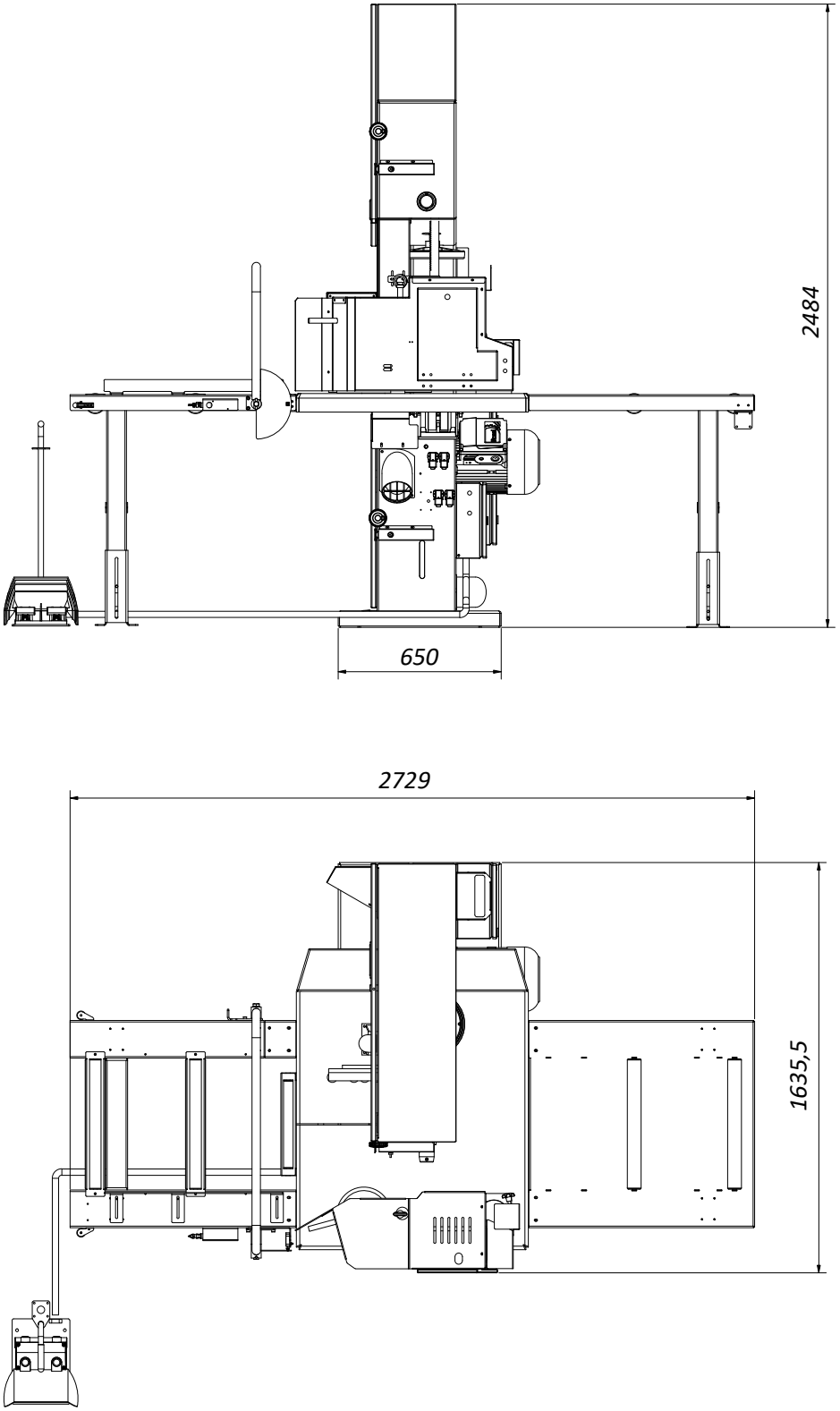


*Figure 5: Side and top view TBS 800 R*

*Subject to design and dimensional changes!*

## 7.2 TBS 800R Front View

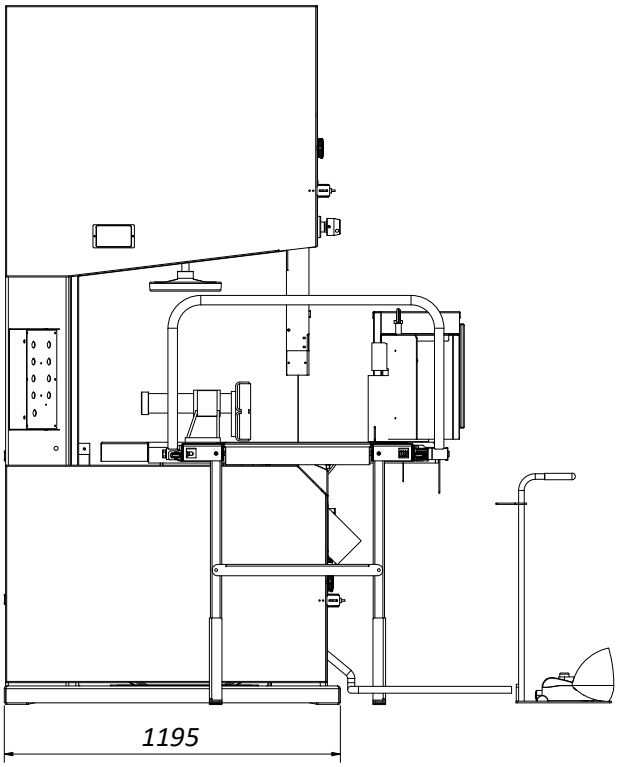


*Figure 6: Front view TBS 900R*

*Subject to design and dimensional changes!*

## 7.3 TBS 900R Side and Top View

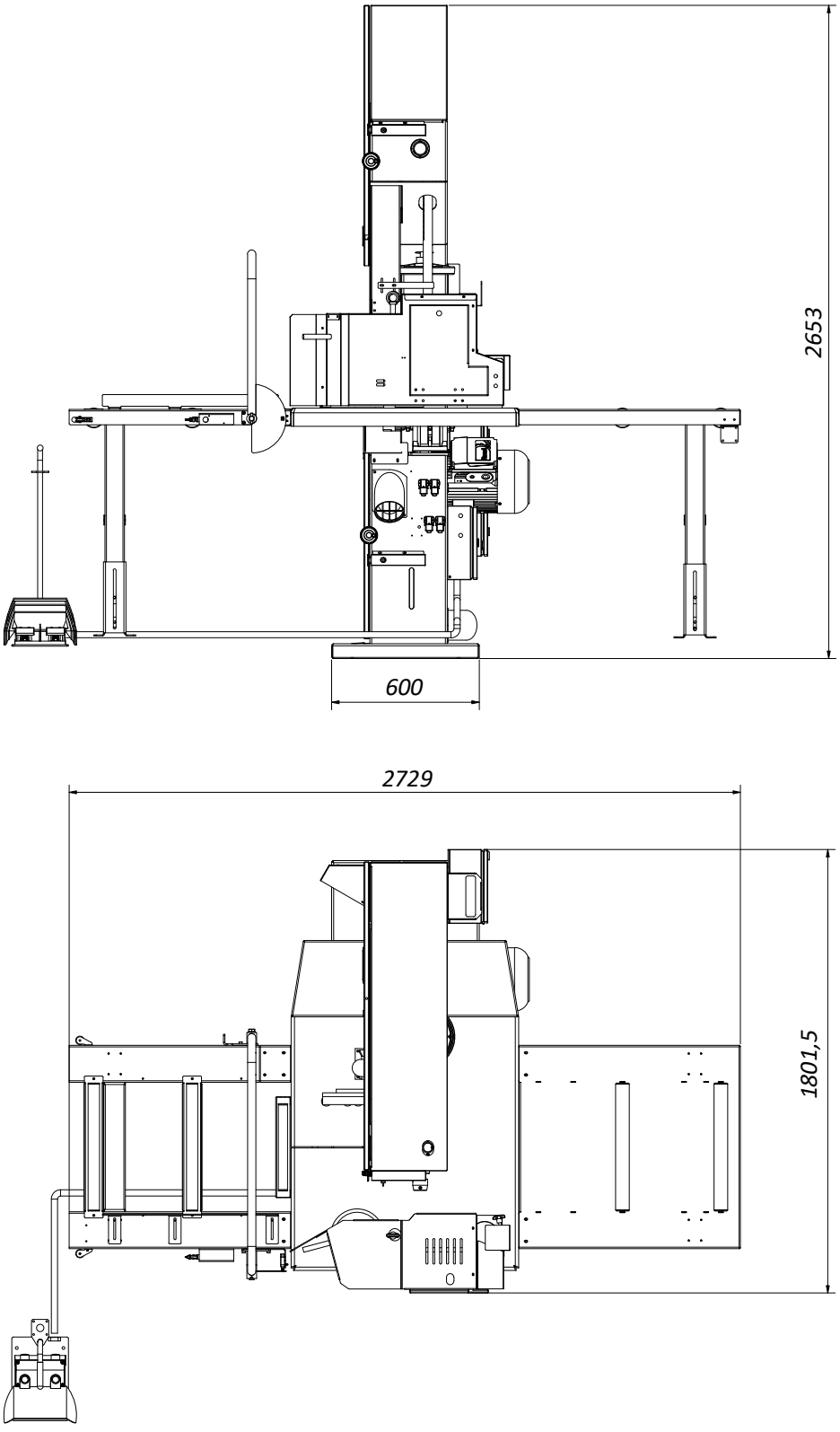


*Figure 7: Side and top view TBS 900 R*

*Subject to design and dimensional changes!*

## 7.4 TBS 900R Front View

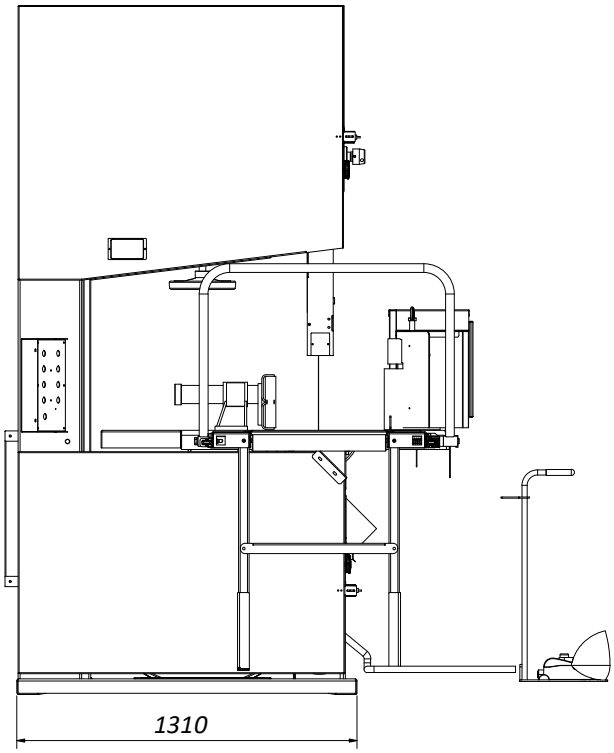


*Figure 8: Front view TBS 900R*

*Subject to design and dimensional changes!*

# 8 Installation and Connection

## 8.1 Check Delivery Conditions

Check the consignment for completeness and possible transport damage. In case of transport damage, please keep the packaging and inform the shipping company and the manufacturer immediately! Later complaints cannot be accepted.

## 8.2 Transport to the Installation Site

| | |
|---|---|
|  | ***The fork length of the forklift truck resp. pallet truck must be <u>at least 1.20 m</u>!*** |

| | |
|---|---|
|  | ***Danger to life when using a forklift truck! Keep a sufficient distance from the forklift truck and watch its speed. Vehicles with combustion engines also produce toxic exhaust gases. Wear a breathing mask if necessary.*** |

- The machine is delivered upright on a transport pallet and is bolted to the bottom of the pallet. The centre of gravity of the machine is approximately in the middle of the transport pallet. The transport height of the band resaw is approx. 2500 mm (TBS 800R) or approx. 2700 mm (TBS 900R) plus pallet height.
- Move a pallet truck between the pallet timbers and lift the pallet only a few centimetres. Move the fork of the pallet truck as shown in ⇨ Figure 9.
- Now move the machine to the immediate vicinity of the installation site.
- Remove all bolt fastenings of the machine required for transport from the pallet.
- Then drive a forklift truck under the machine from the front and lift it only a few centimetres.
- Carefully lift the band resaw off the pallet with the forklift truck and place it on two squared timbers that are high enough to allow a pallet truck to drive under the centre of the machine.
- Then drive under the machine with the pallet truck, lift only a few centimetres and move to the final installation site. For further procedure refer to section ⇨ 8.3.


*Figure 9: Transporting the machine*

| | |
|---|---|
|  | ***Ensure safe transport and pay attention to the existing risk of tipping due to the relatively high centre of gravity of the transport unit on the pallet!*** |

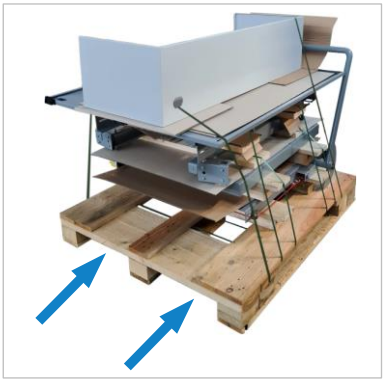

*Figure 10: Additional components*

Supplied additional components such as the two roller conveyor tables, the feed emergency stop bracket as well as the upper machine cover and band saw door are supplied on a separate pallet for transport reasons.

- Also move this pallet with a pallet truck or a forklift truck to the place of installation of the machine.
- There you unpack all the components and fit them to the machine.
- The fitting of the roller conveyor tables and the upper machine cover as well as the upper band saw door is carried out according to section ⇨ 8.5.

## 8.3 Machine Installation

Ensure that there is sufficient space around the machine. To ensure that maintenance, repair, inspection and cleaning work can also be carried out without obstructions, a free space of at least 1.0 m must be allowed on all four sides of the machine (including roller conveyors) when setting up. The effective space requirement also depends on the length of the workpieces to be machined.

- A foundation is not required. For safe operation of the machine, the floor of the installation site must have a load-bearing capacity of at least 1500 kg/m$^2$.
- Level any uneven floors before installing the band resaw.
- The bare parts of the machine are greased to protect them from corrosion. Carefully degrease the parts protected against rust with petroleum or benzine.
- After installation, the machine must be levelled using the four M12 grub screws (**N**) in the machine base. To do this, use an Allen key 6 and a machine spirit level.
- The machine base as well as the feet of the roller conveyor tables are provided with mounting holes (M), which enable fastening to the floor surface. For this purpose, use heavy-duty dowels Ø = 12 mm.

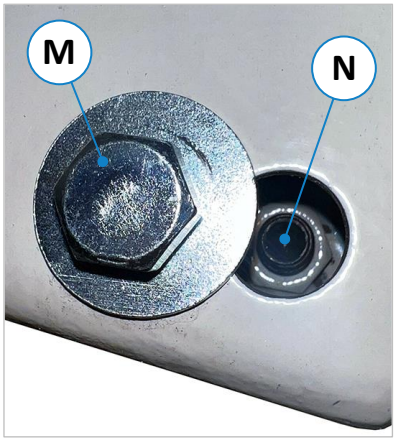


*Figure 11: Machine installation*

| | |
|---|---|
|  | ***Be aware of possible <u>crushing hazards</u> when placing the machine (from the pallet to the floor) by means of a forklift truck. Pay particular attention to your hands and feet and wear <u>safety shoes</u> and <u>protective gloves</u> as a precaution.*** |
|  | ***Danger to life when using a forklift truck! Keep a sufficient distance from the forklift truck and watch its speed. Vehicles with combustion engines also produce toxic exhaust gases. Wear a breathing mask if necessary.*** |
|  | ***It is essential that the machine is level! Check with spirit level!*** |
|  | ***Dispose of the packaging material in an environmentally friendly way!*** |
|  | ***Do not use nitro thinner for cleaning. Painted surfaces of the machine can be damaged.*** |
|  | ***Fire hazard! Do not smoke and do not light an open fire.*** |

- Now fit the two roller conveyor tables on the front and rear machine sides (procedure see section ⇨ 8.7.2) and adjust the height on the table feet via the screws (**H**) flush with the machine table top (⇨ Figure 17).
- Also align the roller conveyor tables correctly to the machine table using a machine spirit level.

## 8.4 Temporary Storage

If the machine is not put into operation immediately after delivery, it must be stored carefully in a protected place. Carefully cover the entire machine so that neither dust nor moisture can penetrate. The bare, non-surface-treated parts (e.g. the cast iron tabletop) are provided with a preservative. This must be checked regularly for effectiveness and renewed if necessary.

Ambient storage conditions: Temperature range: 5° C to +40° C | relative humidity: max. 90 %.

## 8.5 Lashing in a Transport Vehicle

For later transport in a transport vehicle, the band resaw must be properly bolted via the boreholes in the base, upright on a pallet and lashed to the floor of the transport vehicle with at least two lashing straps.

| | |
|---|---|
| ⚠ | • ***A separate lashing strap must be used for each lashing and tensioned individually!***<br>• ***The machine must not be transported lying down!***<br>• ***The pallet must be additionally secured against slipping in the vehicle!***<br>• ***Secure the machine additionally with suitable aids against tipping over!*** |

**The responsibility for safe loading is borne by the respective shipper!**

Please note the following when lashing in the transport vehicle:

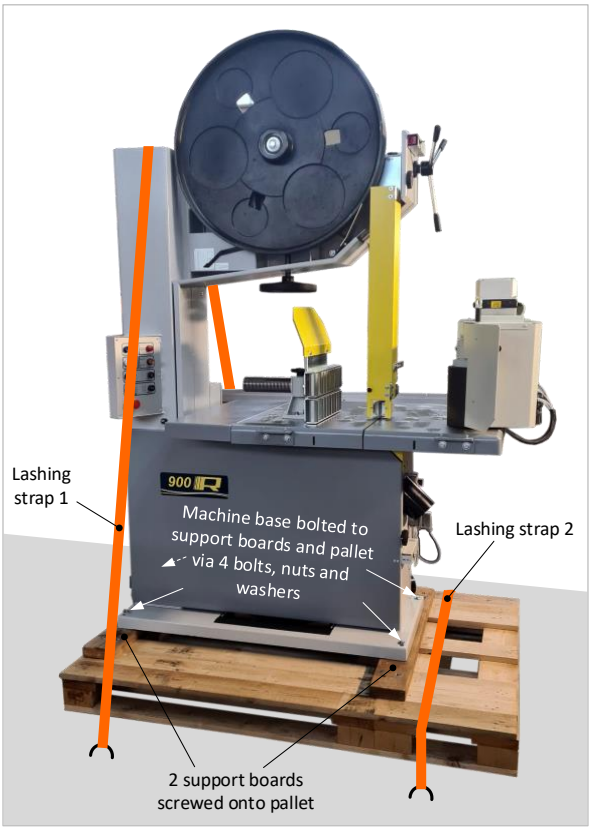


*Figure 12: Lashing the machine*

- The loading area of the transport vehicle must always be clean and dry.
- The lashing straps used must be suitable for the total weight of the machine (see section ⇨ 6.1).
- Fastening on the loading area is done by lashing down: This means that the transport pallet is secured by frictional locking. The load is pressed so firmly onto the loading surface that it can no longer slip. The clamping tool should have a high STF value at the frictional connection, e.g. long-lever ratchets.
- In addition, anti-slip mats should be used to provide even more safety.
- The ideal lashing angle (α) for tie-down lashing is 83° to 90°. Therefore, the lashing straps should pull downwards approx. vertically. As the angle decreases, the pretensioning force of the lashing is reduced.
- Observe the permissible total weight of the transport vehicle.
- Ensure that the permissible axle loads of the transport vehicle are observed. The load must be distributed evenly on all axles of the vehicle.

- **Important note:** When screwing the band resaw to the pallet, make sure that only screws of sufficient length and high stability are used.
- Additional components such as the two roller conveyor tables as well as the upper machine cover and upper bandsaw door must be packed separately and lashed down on an additional transport pallet (see ⇨ Figure 13).
- This also applies in general to all other components and loose parts that cannot be securely fastened to the machine.

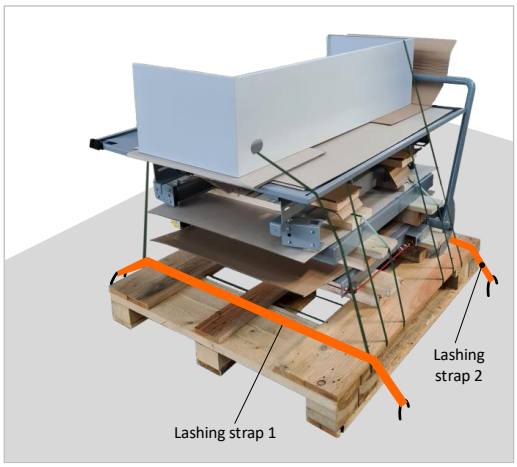


*Figure 13: Lashing additional components*

## 8.6 Requirements for the Working Area

The effective space requirement depends on the external dimensions of the machine (see chapter ⇨ 7) and the dimensions of the workpieces to be processed. In general, provide sufficient space around the machine and also calculate the space required for setting work, the operating and auxiliary personnel as well as for the infeed and outfeed of long workpieces.

- Choose a suitable location for the machine and consider the working positions shown in ⇨ Figure 14.
- The bandsaw is always to be operated from the position designated as the "**working area**" (see lower position in ⇨ Figure 14).
- Another working position is provided at the take-off roller table for the take-off of the workpieces for a supplementary assistant. It is designated as the "**removal area**" (see upper position in ⇨ Figure 14). This is not absolutely necessary for the intended use.
- Based on the external dimensions in chapter ⇨ 7, the possible workpiece dimensions and the calculated space for feeding and removing the workpieces, a free space of at least 1.0 m must be ensured around the machine.
- In addition, consider the existing hazardous areas (refer to section ⇨ 5.4).
- Sufficient lighting (min. 500 lux) must be ensured. The lighting must not dazzle and a stroboscopic effect must be avoided.
- Make sure that the floor can support the load of the machine; the machine must be levelled via the four M12 grub screws in the machine base.
- The chosen location must ensure connection to the electrical network, to the extraction system and to the compressed air supply.

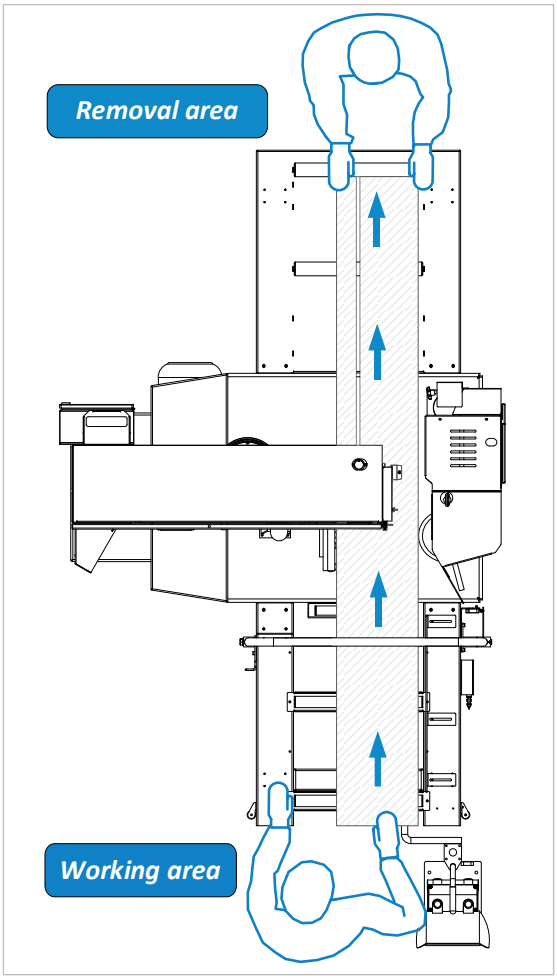


*Figure 14: Working positions on the band resaw*

## 8.7 Pre-Assembly

The bandsaw machine is largely pre-assembled on delivery. Only a few components need to be assembled at the installation site, as they have to be shipped on a separate pallet for transport reasons (see ⇨ Figure 10).

### 8.7.1 Fitting the upper Machine Cover and Bandsaw Door

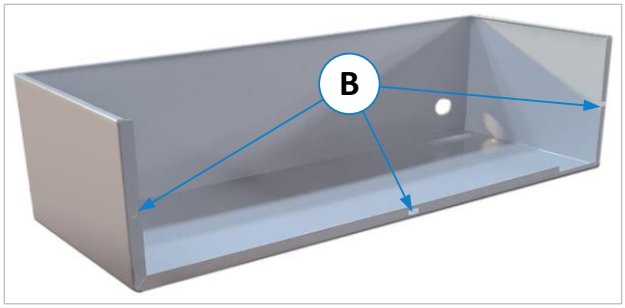


*Figure 15: Fit top machine cover*

- On the delivered band resaw, the top cover must still be fitted and fastened with the three screws supplied via the three mounting holes (**B**).
- In addition, the upper bandsaw door must be inserted into the hinges and secured with the locking screw above the lower hinge.

| | |
|---|---|
| ⚠ | ***When mounting the upper bandsaw door, make sure that the pin of the door safety switch (see section ⇨ 11.2) is inserted into the slot of the door.*** |

### 8.7.2 Attaching the Roller Conveyor Tables to the Machine

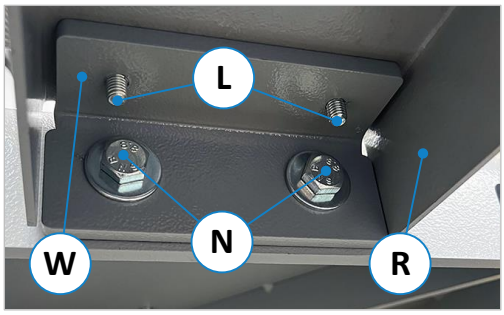


*Figure 16: Mounting the roller conveyor tables*

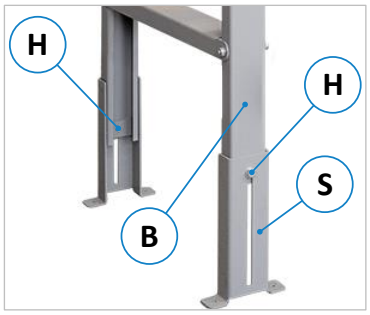


*Figure 17: Mounting the table legs*

The roller conveyor table for the feed side must be mounted on the front side of the machine and the roller table for the removal side must be mounted on the rear side of the machine.

- First mount the two table legs (**B**) and feet (**S**) on the side of the two roller conveyor tables facing away from the machine.
- Place the support surfaces of the roller conveyor tables (**R**) facing the machine side on the support angles (**W**) of the machine. Then fasten the table supports with the supplied pan-head screws (**L**).
- Adjust the height of the tables via the screws (H) so that they are flush with the machine table and align them parallel with a machine spirit level. By loosening the screws (N), the table supports can be aligned on the machine side via the integrated slotted holes in the machine.
- The electrical connection of the emergency stop devices for the roller conveyor tables is made according to section ⇨ 8.8.3.

## 8.8 Electrical Connection

### 8.8.1 Connecting the Power Supply

| | |
|---|---|
| | ***The electrical connection must be carried out by an authorised electrician!*** |

The electrical circuit diagrams are located in the control cabinet on the right rear side of the machine.

**Please observe the nominal voltage 400 VAC / 50 Hz (3 phases / N / PE)!**

- Ensure that the motor voltage (as indicated on the motor plate) matches the mains voltage.
- The supply cable (see section ⇨ 8.8.2) is inserted into the cable duct through the cable gland at the bottom of the control cabinet.
- Connection to the mains (3 phases) is made directly at the main switch in the control cabinet (see figure on the right). The 3 phases are to be connected to the main switch terminals "**L1**", "**L2**", and "**L3**".
- The protective earth wire (yellow/green) is to be connected to the terminal marked "**PE**".
- Then close the cable gland again so that it is dust-tight.

*Figure 18: Control cabinet*

| | |
|---|---|
| | ***The fault loop impedance and the suitability of the overcurrent protection device must be checked at the installation site of the machine!*** |

| | |
|---|---|
| | ***Important: Check the correct running direction of the bandsaw blade!*** |

→ The teeth must run downwards and point towards the operating side (machine front).
If the running direction is incorrect, the connections of the phase lines "**L1**" and "**L2**" must be interchanged.

| | |
|---|---|
| | ***Observe the VDE regulations and the regulations of the local power supply company.*** |

### 8.8.2 Supply Cable and Back-up Fuse

**Cu, 5-core, the cross-section must be determined on site by a qualified electrician!**

The electrical wiring and connection must be carried out by a specialist in accordance with the applicable regulations of the local power supply company as well as the VDE and EN regulations. We recommend the use of a rubber cable type H07RN-F, whereby additional measures must be taken to protect against mechanical damage.

**Carry out the connection via on-site back-up fuses:**

| *11 kW Motor (standard)* | *15 kW Motor (option)* |
|---|---|
| 32 A slow | 50 A slow |

**Please note:** Only if the connection is carried out by an authorised electrician can a guarantee be given for the motor. In the event of a complaint, the electrician must confirm in writing that he has connected the machine in accordance with the regulations.

### 8.8.3 Connections for Emergency Stop Devices and Feed Unit

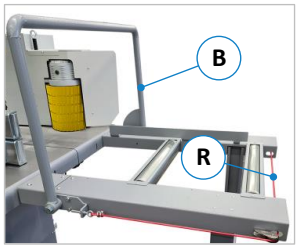


*Figure 19: Infeed table*

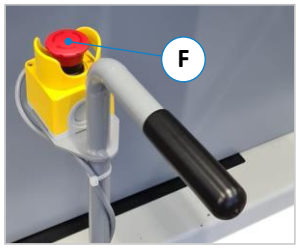


*Figure 20: Foot switch*

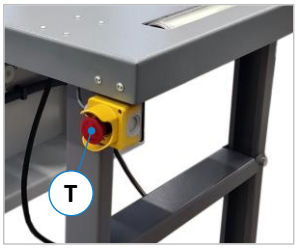


*Figure 21: Removal table*

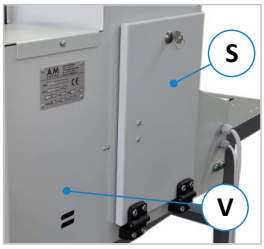


*Figure 22: Feed unit flap*


*Figure 23: Machine plugs*

After fitting, the emergency stop devices of the roller conveyor tables still have to be connected to the machine. The connections are made by plugging the respective machine plugs into the corresponding machine sockets on the right-hand side of the machine according to the following plug arrangement.

**Plug arrangement:**

- **X2** = Power supply (**V**) for feed unit (normally already connected)
- **X3** = Emergency stop button (**T**) mounted on the side of the removal table
- **X4** = Emergency stop switch (**S**) for feed unit flap (normally already connected)
- **X5** = Emergency stop switch bracket (**B**) mounted centrally on infeed table
- **X6** = Emergency stop rip cord (**R**) mounted centrally on infeed table

**Note:** The emergency stop button (**F**) of the foot switch is already connected to the control cabinet via fixed cables.

For details on the operation of the emergency stop devices, see section ⇨ 9.3.

| | |
|---|---|
| ☝ | ***Make sure that the cables are laid neatly and without tripping and, if possible, fix them with cable ties (e.g. on the table legs or frames underneath the roller conveyor tables).*** |

## 8.9 Pneumatic Connection

To establish the swivel function of the feed unit, the machine must be connected to an external compressed air supply. <u>This operation must be carried out by a qualified technician</u>!

**Compressed air quality:**

- The quality of the compressed air must comply with the standard ISO 8573-1:2010.
- In the case of central air treatment, water and oil particles must be separated via pre-filters and dryers downstream of the compressor.
- In the case of decentralised air treatment, a 40 µm filter must be used after the compressor.

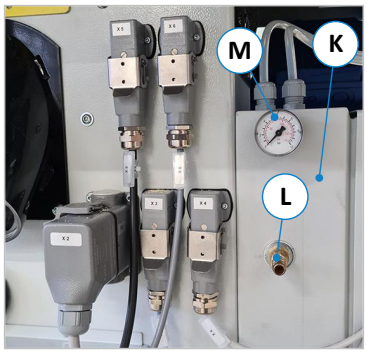


*Figure 24: Pneumatic connection*

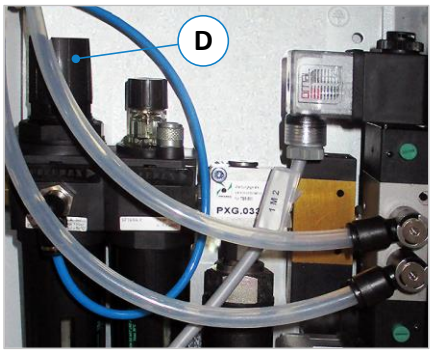


*Figure 25: Pressure control valve*

**Compressed air connection:**

- The air connection is made via the quick coupling (**L**), which is located at the front of the side control box (**K**) for pneumatic equipment.
- The maintenance unit for the pneumatics and the pressure control valve (**D**) are housed in the control box (**K**).

- Once the connection has been made, open the side door of the control box (**K**).
- Pull the pressure control valve (**D**) up and set the operating pressure by turning the valve and reading the manometer (**M**) → <u>Set operating pressure to min. **6 bar**</u> (permissible 6 - 8 bar).

## 8.10 Connecting the Extraction System

- The band saw machine must be connected to an effective extraction system on site.
- The two suction nozzles (**A**) of the machine have an outer diameter of 120 mm.
- Lead both connections to the total connection of Ø 160 mm and use fixed piping if possible.

| | |
|---|---|
| | ***When flexible suction hoses are used, they must be flame-retardant.*** |
| | ***When the machine is switched on, the extraction system must start automatically.*** |

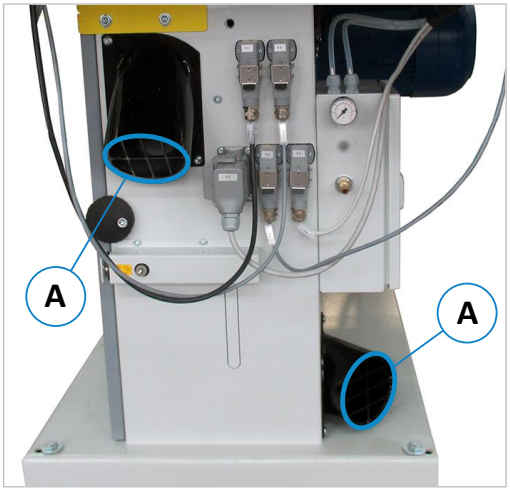


*Figure 26: Suction nozzles*

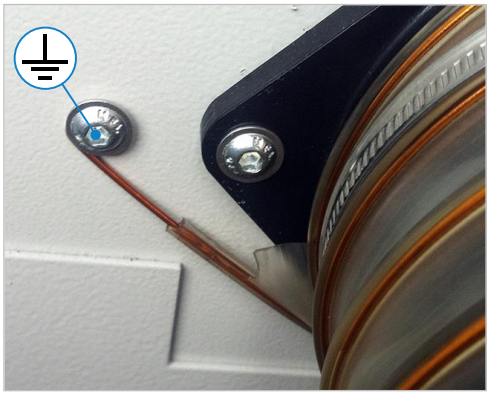

*Figure 27: Earthing example for suction hose*

- Please ensure that the piping for the extraction connection is aerodynamic. This will ensure optimum conditions for the extraction system.
- All parts of the extraction system, including the hoses, must be included in the earthing measure (see earthing example in ⇨ Figure 27).
- After merging the two suction connections to form the overall connection Ø 160 mm, a negative pressure of approx. 950 Pa can be expected there at an air speed of 20 m/s. This is an important parameter for the choice of the extraction system and its performance.

- For safe transport of the chips and dust collected by the extraction system, a minimum air velocity in the total connection Ø 160 mm of 20 m/s for dry chips and 28 m/s for moist chips (moisture 18 % or more) is required.

| | |
|---|---|
| | • ***The air velocity must be checked before initial commissioning and after significant changes.***<br>• ***The extraction system must be checked daily for obvious defects after initial commissioning and monthly for effectiveness.*** |

- If the machine is properly connected to the extraction system, it can be assumed that the wood dust assessment value will be complied with (permanently and safely).

| | |
|---|---|
| | ***The pressure drop at each extraction point should not exceed 1500 Pa. Otherwise, this could mean that the machine is not compatible with the extraction system.*** |

### 8.10.1 Automatic switching of the Extraction System

Two signal generator lines for automatic switching of the extraction system can be connected to the terminals **83** and **84** of the contactor **-Q2** (see wiring diagram).

| | |
|---|---|
| | ***The connection must be carried out by an authorised electrician!*** |

# 9 Components and Controls

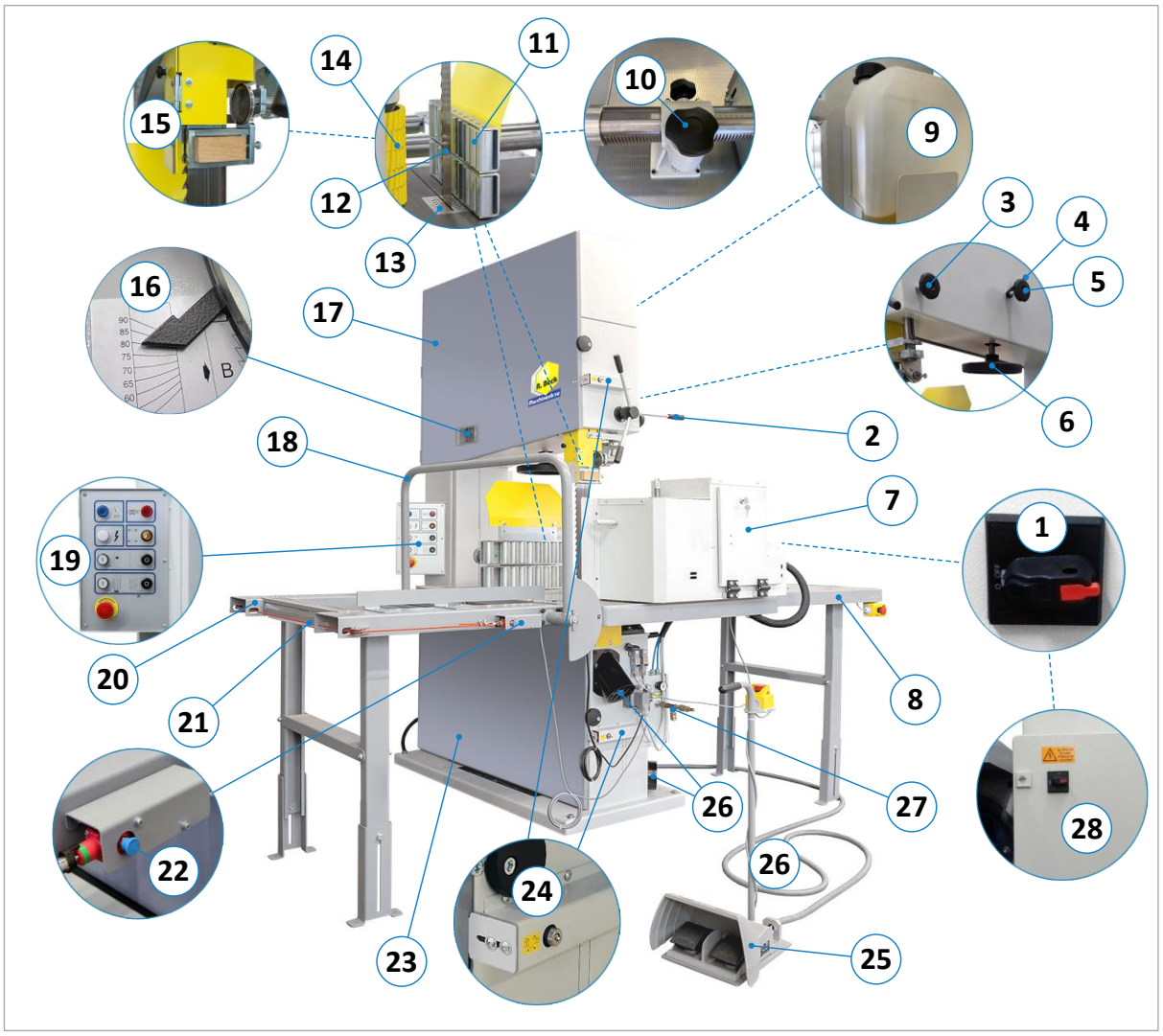


*Figure 28: Components and controls*

| Pos. | Description | Pos. | Description |
|---|---|---|---|
| **1** | Main switch (lockable) | **15** | Upper band saw blade guide |
| **2** | Height adjustment lever for saw blade guard | **16** | Blade tension indicator |
| **3** | Clamping wheel for height adjustment lever (**2**) | **17** | Upper bandsaw wheel door |
| **4** | Clamping for upper wheel adjustment lever (**5**) | **18** | Emergency stop switch bracket |
| **5** | Upper wheel adjustment star grip | **19** | Control panel with operating switches |
| **6** | Adjusting wheel for blade tension | **20** | Front roller conveyor table (infeed side) |
| **7** | Feed unit | **21** | Emergency stop rip cord |
| **8** | Rear roller conveyor table (removal side) | **22** | Reset button for rip cord (**21**) |
| **9** | Lubricant reservoir | **23** | Lower bandsaw wheel door |
| **10** | Setting wheel for roller fence position | **24** | Door safety switch |
| **11** | Roller fence with protective cover | **25** | Foot switch “swivel feed roller” |
| **12** | Bandsaw blade (accessory) | **26** | Suction nozzle (right and rear) |
| **13** | Aluminium table insert | **27** | Compressed air connection for feed unit (**7**) |
| **14** | Feed roller of feed unit (**7**) | **28** | Switch cabinet with main switch (**1**) |

## 9.1 Main Switch

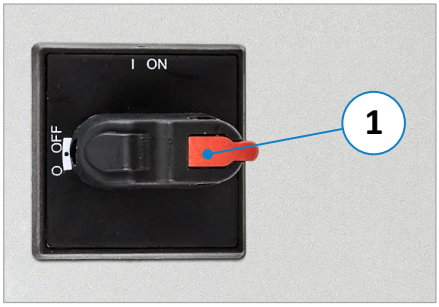


*Figure 29: Main switch of the machine*

The main switch (**1**) is integrated on the right rear side in the control cabinet door. The power supply to the machine is switched on and off by turning it to the top or left.

- Left position = **OFF**
- Top position = **ON**

During adjustment, maintenance and repair work as well as when leaving the machine, the switch can be secured with a padlock against unauthorised switching on.

## 9.2 Control Panel

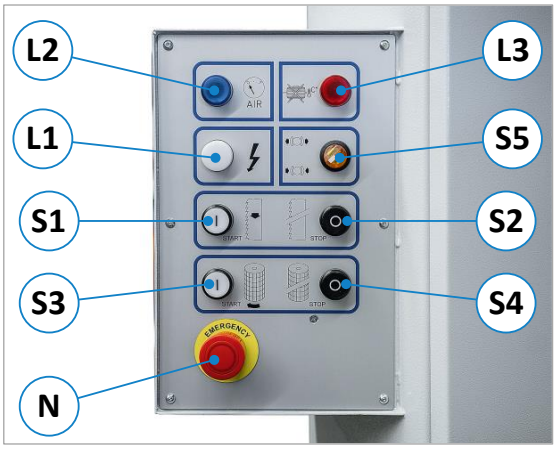


*Figure 30: Machine control panel*

| *Pos.* | *Machine control panel* |
|---|---|
| **S1** | Push button “Start bandsaw drive” |
| **S2** | Push button “Stop bandsaw drive” |
| **S3** | Push button “Start feed drive” |
| **S4** | Push button “Stop feed drive” |
| **S5** | Rotary switch + Control light “Brake released” |
| **N** | Emergency stop pushbutton (self-locking) |
| **L1** | Control light “Ready for operation” |
| **L2** | Warning light / acknowledgement button „AIR“ |
| **L3** | Warning light “Motor protection switch tripped” |

## 9.3 Control and Warning Lights

| *Pos.* | *Functional description* |
|---|---|
| ***S5*** | The brake release switch has an integrated control light. As soon as the switch is turned to the upper position “**Brake released**”, it lights up orange and signals that the brake has been released. The switch enables manual rotation of the bandsaw wheels when changing the saw blade. **Note:** The brake release switch is only functional when the main switch (**1**) is switched on. |
| ***L1*** | Lights up white after switching on the main switch (**1**) and signals readiness for operation. |
| ***L2*** | The combined warning light and acknowledgement button lights up blue in the event of faults in the compressed air supply (e.g. pressure drop). The indicator light is also on when the compressed air supply has already been restored after a brief malfunction. Therefore, the fault must generally be acknowledged by pressing the button. **Note:** When the machine is switched on via the main switch, the warning light lights up for a few seconds and goes out again as soon as the machine is ready for operation. |
| ***L3*** | Lights up when one of the two motor protection switches has tripped (e.g. when the drive or feed motor is overloaded). |

## 9.4 Emergency Stop Devices

In case of emergency or in a hazardous situation, the machine can be put out of operation at the respective working positions via various emergency stop devices.

Actuation of an emergency stop device brings the motor to a standstill (braking time < 10 sec), the power supply is switched off and the automatic feed unit is stopped.


*Figure 31: E-stop control panel*

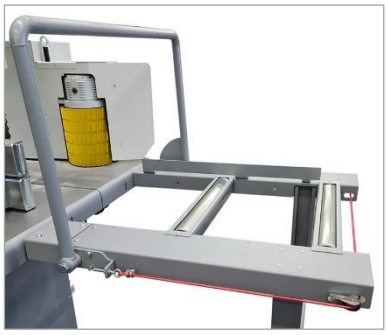

*Figure 32: E-stop bracket and ripcord*

*Figure 33: E-stop on foot switch*

*Figure 34: E-stop for feed unit flap*

*Figure 35: E-stop on removal table*

To be able to restart the machine, the hazardous situation must be rectified and the corresponding emergency stop device must be unlocked resp. reset (see the ⇨ following sections for details).

### 9.4.1 Functionality of the Emergency Stop Buttons

The emergency stop devices on the control panel (⇨ Figure 31), foot switch (⇨ Figure 33) and removal table (⇨ Figure 35) are classic impact switches. When actuated, the machine is set to the emergency stop state and the corresponding impact button is mechanically interlocked.

→ To be able to restart the machine, unlock the button by turning or pulling it.

### 9.4.2 Functionality of the Emergency Stop Bracket

The emergency stop switch bracket on the infeed side is mounted directly in front of the bandsaw blade.

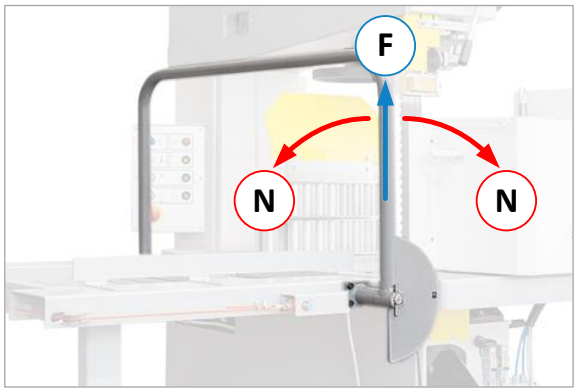


*Figure 36: Positions of the emergency stop bracket*

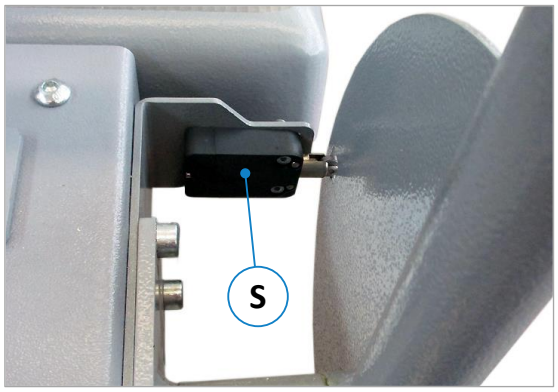


*Figure 37: Emergency stop position switch*

- The switch bracket allows sawing operation when it is in its centre position (**F**), see ⇨ Figure 36.
- The emergency stop situation is triggered by the emergency stop position switch (**S**), see ⇨ Figure 37.
- As soon as the bracket is pulled forward or pushed back, the position switch (**S**) is triggered. The machine is set to the emergency stop state (**N**), see ⇨ Figure 36.

→ To be able to restart the machine, return the bracket back to its central position (**F**).

### 9.4.3 Functionality of the Emergency Stop Ripcord

The emergency stop ripcord is arranged around the outer edge of the roller conveyor table on the infeed side.

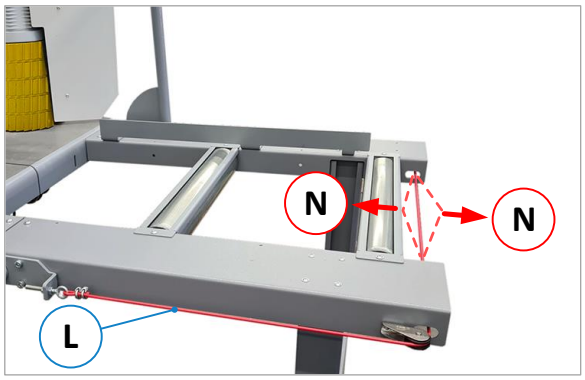


*Figure 38: Actuate emergency stop rip cord*

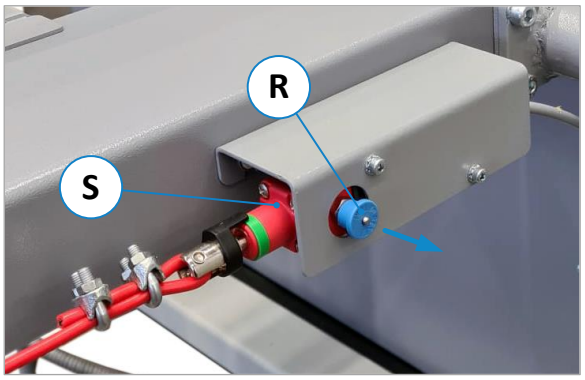


*Figure 39: Reset emergency stop state*

- The emergency stop situation is triggered by the ripcord switch (**S**), see ⇨ Figure 39).
- As soon as the ripcord (**L)** is pulled forward by hand or pushed backwards with the body, the ripcord switch (**S**) trips and the machine is set to the emergency stop state (**N**), see ⇨Figure 38).
- An emergency stop state (**N**) also occurs in the event of loss of ripcord tension or breakage.

→ To be able to restart the machine, pull out the reset button (**R**).

## 9.5 Foot Switch for the Feed Unit

The foot switch (**F**) and the emergency stop button mounted on the carrying handle (**T**) are already permanently connected to the machine via the control cabinet in the state of delivery.

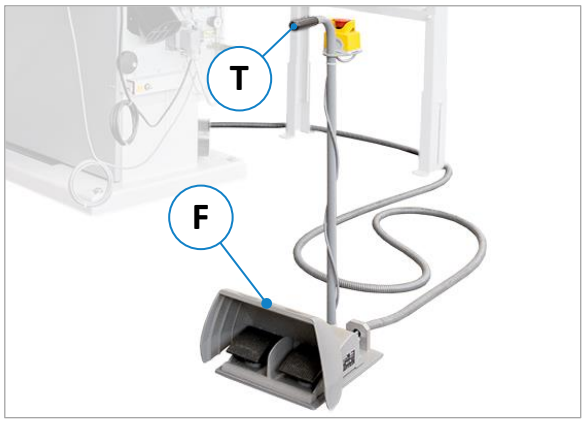


*Figure 40: Movable foot switch unit*

By means of the foot switch (**F**), which can be placed freely on the workshop floor via the carrying handle (**T**), the feed device can be swivelled in and out pneumatically.

- Place the footswitch (**F**) in an easily accessible position in the “working area” (see ⇨ Figure 41) on the infeed side of the machine.

### 9.5.1 Function of the Foot Control Pedals

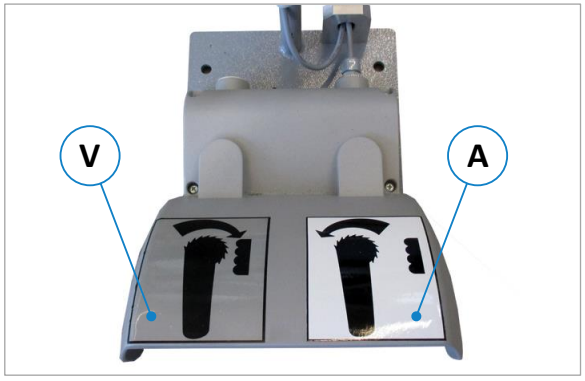


*Figure 41: Function of the foot control pedal*

The foot control paddles shown in ⇨ Figure 41 have the following function:

- Foot pedal (**V**) → Swivel in the feed unit (close for automatic feed of the workpiece)
- Foot pedal (**A**) → Swivel out the feed unit (open to place or remove the workpiece).

# 10 Commissioning

**Before commissioning, carefully read and observe the operating manual and the chapter ⇨ 5 “Safety”.**

***Before switching on, always ensure that***

- *the floor around the machine is clean and free of parts and workpieces lying around,*
- *no loose parts are lying on the workpiece support surface and all tools have been removed,*
- *the compressed air supply is connected and an operating pressure of 6 - 8 bar is set,*
- *the bandsaw blade is well sanded and correctly positioned on the bandsaw wheels,*
- *the stopcock for the lubricant supply is open and there is enough lubricant,*
- *the desired feed rate is set and the feed unit is switched off,*
- *the feed unit is in the outer position (open to place the workpiece),*
- *the foot switch for the feed swivel is placed in a suitable position,*
- *all bandsaw doors are closed and the door safety switches ( ⇨ 11.2) are locked,*
- *there are no objects on the bandsaw wheels,*
- *the safety guards are fitted in accordance with the regulations,*
- *the extraction system is connected and in working order,*
- *the saw blade tension is correctly adjusted,*
- *the drive belts are well tensioned*
- *and no persons are present in a danger zone of the machine.*

## 10.1 Switching the Machine ON and OFF

### 10.1.1 Start the Bandsaw Drive

- Make sure that the brake release switch (**S5**) is in the lower “**Not active**” position.
- Turn on the main switch (**1**) on the right rear side of the machine (position “**I**”).
- Start the bandsaw drive with the push button (**S1**) and wait until the bandsaw has reached full speed.

***The machine can only be started when the brake release switch (S5) is in the “Not active” position!***

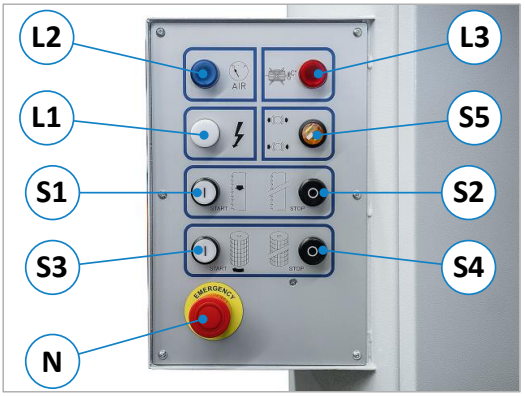


*Figure 42: Switching the machine on/off*

### 10.1.2 Stop the Bandsaw Drive

- Switch off bandsaw drive with push button (**S2**).
- Switch off the main switch (**1**) on the rear of the machine (position “**O**”).
- Before leaving the machine, close the stopcock for the lubricant supply (see ⇨ Figure 83).

### 10.1.3 Brake Release Switch

The brake release switch (**S5**) is used to release the motor brake so that the bandsaw wheels can be turned manually when mounting a new bandsaw blade.

- Turn on the main switch (**1**) on the right rear side of the machine (position “**I**”).
- Turn brake release switch (**S5**) to the upper position ↻
  → The motor brake is released
  → The brake release switch lights up

## 10.2 Frequent switching ON and OFF in succession

Avoid switching on and off several times in quick succession, as a bandsaw machine is not designed to be switched on and off constantly. This may cause an overload, which will trip the fuses or the motor protection device. Due to the high flywheel mass, frequent switching on and off can also damage the mechanical motor brake. The built-in motor brake is designed for a maximum of 10 braking operations per hour.

| | |
|---|---|
| ☝ | ***Switching on and off several times in short intervals can cause damage to the machine and/or the motor brake.*** |

# 11 Settings and Operation

## 11.1 Basic Factory Setting

The machine is precisely adjusted and extensively tested before delivery. The bandsaw wheels are adjusted at the factory using the adjustment points (**J**) provided on the machine, see ⇨ Figure on the right.

| | |
|---|---|
| ⚠ | ***The adjusting screws at the adjustment points (J) must not be manipulated under any circumstances. Otherwise the bandsaw wheels will no longer be correctly aligned with each other. This can cause the bandsaw blade to break.*** |


*Figure 43: Factory adjustment points*

Adjustment of the adjustment points (**J**) is reserved exclusively for Reinhold Beck Maschinenbau GmbH factory technicians! In case of doubt or problems with the machine, please contact our customer service department.

**Note:** The adjustment screws are also protected against unauthorised opening with a red lacquer. If the screws are nevertheless adjusted without authorisation, any guarantee for the repair of the resulting damage is invalidated in this respect.

## 11.2 Door Interlock with Safety Switches

To prevent unintentional door opening during operation and the associated dangers, the machine is equipped with a safety switch on each of the two doors.

| | |
|---|---|
| ☝ | ***The doors of the bandsaw can only be opened if the safety switches have been unlocked with the knurled nuts (R) beforehand. To be able to restart the machine afterwards, the safety switches must be locked again.*** |

**Unlock:** To open the door, the knurled nut (**R**) on the respective safety switch must be turned fully clockwise ↻ up to the stop so that the threaded pin (**G**) protrudes completely from the housing of the switch.

→ The door is unlocked and can be opened.
→ The brake release switch function is retained.

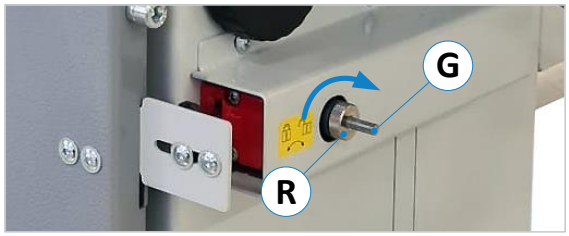


*Figure 44: Safety switch - door unlocked*

**Lock:** After closing the door, the safety switch must be locked again. To do this, turn the knurled nut (**R**) on the safety switch fully counter-clockwise ↺ until the grub screw (**G**) disappears completely into the knurled nut again.

→ Only then the machine can be started again.

*Figure 45: Safety switch - door locked*

## 11.3 Inserting and Tensioning a Bandsaw Blade

To ensure safe working without incidents, the bandsaw blade must be mounted and adjusted properly. To install the bandsaw blade of your choice (only the blade length and width are specified), proceed as described below.

| | |
|---|---|
|  | ***Cutting hazard! Always wear protective gloves when changing the bandsaw blade!*** |

### 11.3.1 Presettings

- The main switch (**1**) of the band resaw (refer to ⇨ Figure 29) must be switched on (position "**I**")
  → The white control light (**L1**) goes on.
- The compressed air supply is switched on and an operating pressure of 6 to 8 bar is set.
  → The blue control light (**L2**) must be off.
- The brake release switch (**S5**) must be turned upwards to the "**Brake released**" position → The switch lights up.
  → The bandsaw wheels can now be turned manually.
- Then unlock the two door safety switches according to section ⇨ 11.2 and open both doors.
  → It must no longer be possible to start the machine, because the door safety switches are activated.

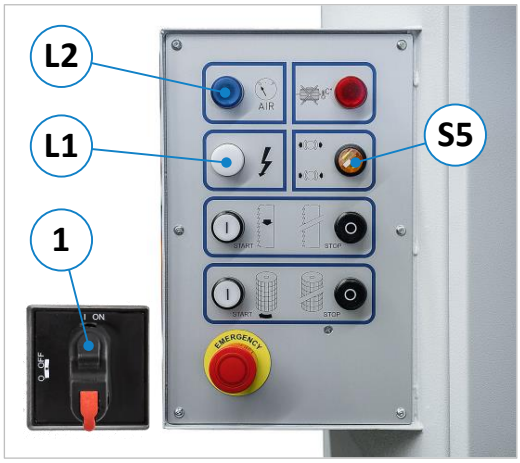


*Figure 46: Operating switches for saw blade change*

| | |
|---|---|
|  | ***The doors of the bandsaw can only be opened if the safety switches have been unlocked beforehand with the knurled nuts (R), see section ⇨ 11.2. Before the machine can be started again, the safety switches must first be locked.*** |

### 11.3.2 Making the Bandsaw Blade accessible

First dismantle the conveyor roller on the feed side by first removing the cover plate and then lifting out the conveyor roller. Then put the conveyor roller aside and secure it against rolling away.

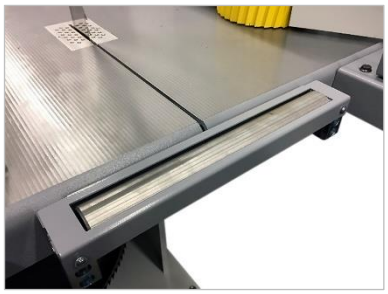

*Figure 47: Conveyor roller mounted*

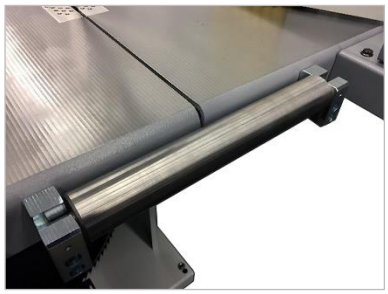

*Figure 48: Cover plate removed*

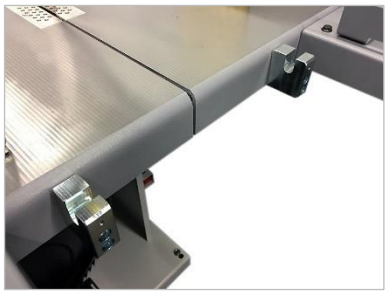

*Figure 49: Conveyor roller removed*

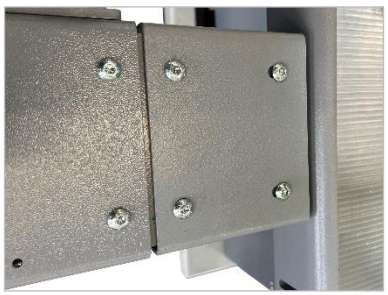

*Figure 50: Bridge plate mounted*

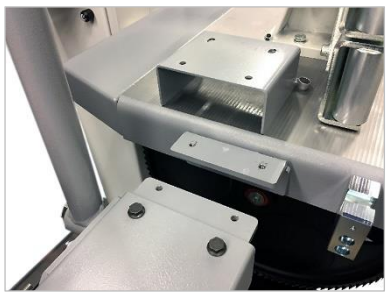

*Figure 51: Bridge plate removed*

*Figure 52: Slot enabled*

Dismantle the bridge plate of the machine table to the feed roller conveyor (see ⇨ Figure 50 and ⇨ Figure 51) by removing the four screws. Then open the latch on the underside of the machine table to enable the slot (see ⇨ Figure 52). The new bandsaw blade is inserted via this slot.

### 11.3.3 Installing a Bandsaw Blade

| | |
|---|---|
| ☝ | ***The installation of a new bandsaw blade is made much easier if you involve a second person. This way the bandsaw blade can be placed on top and bottom at the same time.*** |

First set the upper bandsaw wheel with the handwheel (S) for saw blade tension (see ⇨ Figure 57) to the lowest position so that the new saw blade can later be placed without tension. If an installed bandsaw blade needs to be replaced, it is then de-tensioned and can be removed.

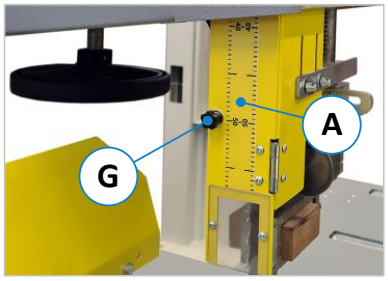


*Figure 53: Open the guard cover*

Open the front cover (**A**) of the saw blade guard by loosening the handle screw (**G**).

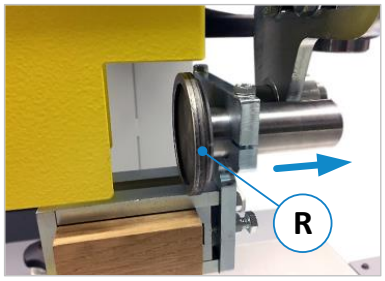


*Figure 54: Back roller*

Then check the position of the back roller (**R**) → It must be moved to the back (see arrow).

*Figure 55: Insert saw blade (top)*

Place the new bandsaw blade on the upper and lower bandsaw wheels assisted by a second person.

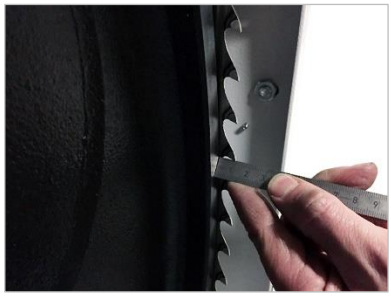

*Figure 56: Measure tooth protrusion*

Position the saw blade on the bandsaw wheels so that the teeth protrude approx. 8 - 10 mm from the front edges of the wheels.

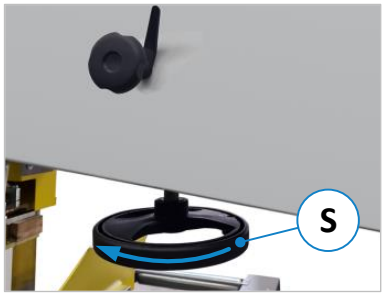


*Figure 57: Tension the bandsaw blade*

Tension the new bandsaw blade via handwheel (**S**) by carefully turning it in the direction of the arrow (see also sticker on the machine).

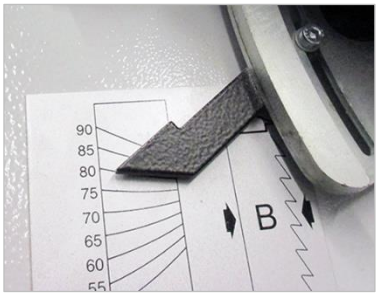


*Figure 58: Saw blade tension indicator*

Tension the inserted saw blade until the pointer reaches the value 80 on the scale, which corresponds to a saw blade width of 80 mm.

| | |
|---|---|
| ☝ | ***Observe the correct mounting direction when inserting the bandsaw blade!***<br>***→ The teeth must point downwards and towards the operating side (machine front side).*** |

### 11.3.4 Adjusting the Saw Blade Run

*Figure 59: Adjusting the saw blade run*

- Now turn the upper bandsaw wheel until the position of the saw blade on the wheels no longer changes.
- The inclination of the upper bandsaw wheel is set at the factory so that the position of the bandsaw blade changes only slightly when the upper wheel is turned.
- The bandsaw blade should now be positioned on the wheels so that the tips of the teeth protrude approx. 8 - 10 mm from the front edge of the wheel over the entire length of the saw blade (as shown in ⇨ Figure 56).

- If the position of the bandsaw blade deviates from this position, then the inclination of the upper bandsaw wheel must be corrected (for detailed procedure see ⇨ next page).

| | |
|---|---|
| ☝ | ***Manual turning of the band saws possible with activated brake release switch (S5).*** |

### 11.3.5 Correcting the Saw Blade Inclination

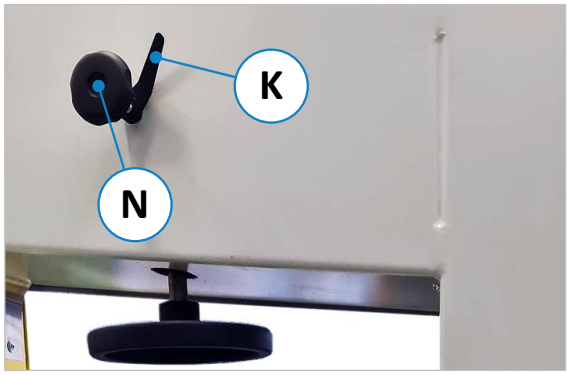


*Figure 60: Correcting the saw blade inclination*

- Loosen the clamping lever (**K**) and incline the upper band saw wheel forward or backward according to the current position of the band saw blade by turning the star grip (**N**) clockwise or counterclockwise.
- Change the setting only slightly and check the changed position of the band saw blade by turning the upper wheel. The upper wheel must always be turned until the position of the bandsaw blade on the bandsaw wheel no longer changes.
- As soon the position of the saw blade on the wheel is set correctly, tighten the clamping lever (**K**) again.

### 11.3.6 Attaching the Suction Aid Board

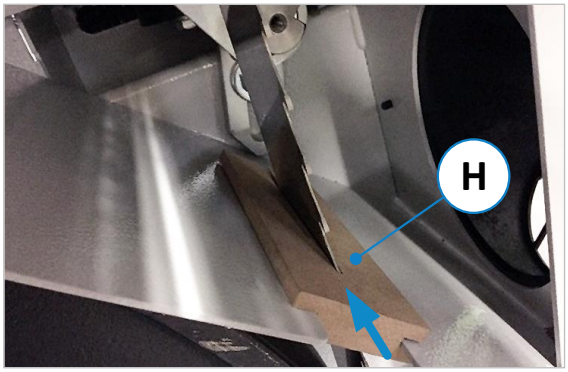


*Figure 61: Attaching the suction aid board*

The slotted wooden board (**H**) serves as an additional suction aid at the lower bandsaw wheel.

- Slide the wooden board (**H**) onto the suction nozzle holder which exits from the right-hand side of the machine (as shown in ⇨ Figure 61).

### 11.3.7 Checking and adjusting the Lower Bandsaw Blade Guide

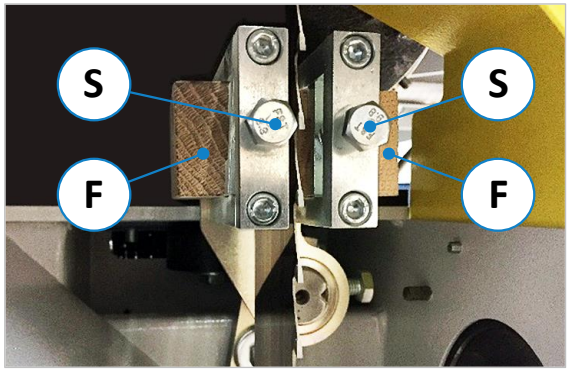


*Figure 62: Lower saw blade guide*

- Check the gap between the lateral guide blocks (**F**) and the bandsaw blade.
- The lateral gap between the two guide blocks (**F**) and the bandsaw blade must be approx. 0.5 mm.
- If the gap is deviating, loosen the two screws (**S**) and correct positions of the guide blocks (**F**) with a 0.5 mm feeler gauge.

**Before checking and adjusting the <u>upper</u> bandsaw blade guide, carry out the following steps:**

- Close both bandsaw doors and lock the two door safety switches according to section ⇨ 11.2 by turning the knurled nuts anticlockwise ↺.
- Close the front guard cover of the upper bandsaw blade guide (see ⇨ Figure 53).
- Then adjust the upper bandsaw blade guide according to the following section ⇨ 11.2.

### 11.3.8 Checking and adjusting the Upper Bandsaw Blade Guide

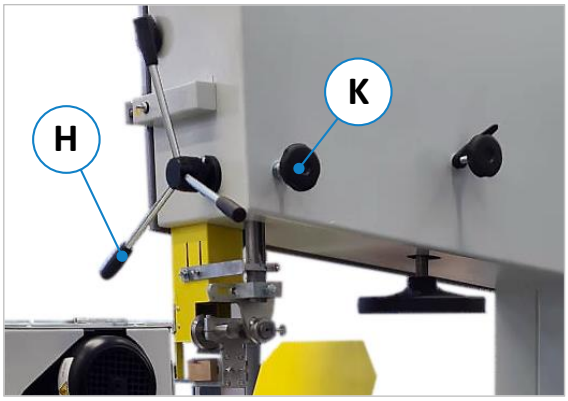


*Figure 63: 3-arm height adjustment lever*

- Loosen the clamping wheel (**K**) on the rear of the machine.
- Adjust the bandsaw blade guide to the lowest position by turning the height adjustment lever (**H**).
- Then tighten the clamping wheel (**K**) again.

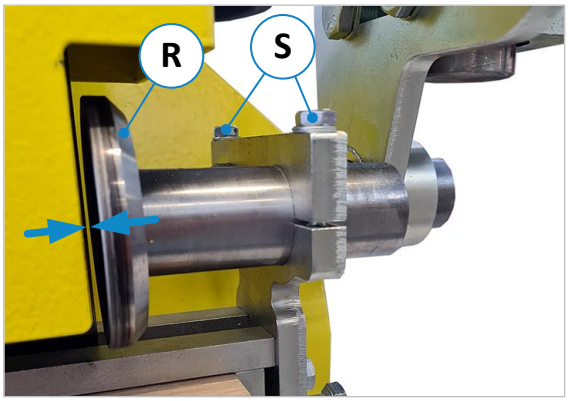


*Figure 64: Adjusting the back roller*

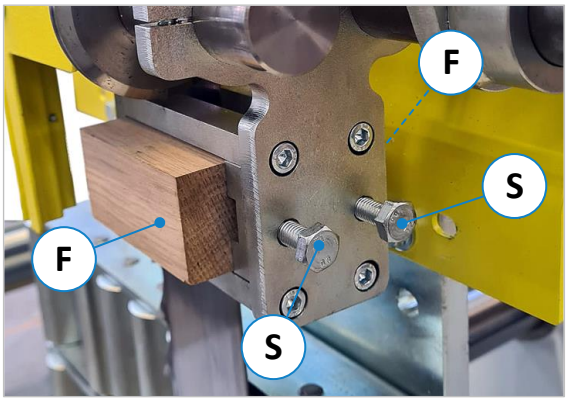


*Figure 65: Adjusting the lateral guides*

- Check the gap between the back roller (**R**) and the back of the bandsaw blade (approx. 0.5 mm).
- If the gap is deviating, loosen the two screws (**S**) and correct the position of the back roller (**R**) with a 0.5 mm feeler gauge.

- Check the gap between the lateral guide blocks (**F**) and the bandsaw blade (approx. 0.5 mm).
- If the gap is deviating, loosen the two screws (**S**) and correct the positions of the guide blocks (**F**) with a 0.5 mm feeler gauge.

- Complete the bandsaw blade installation with a test run of the bandsaw.

| | |
|---|---|
| ⚠ | ***The band resaw should never be started before all guards are in good working order and in the protective position.*** |

- Start the bandsaw blade drive with increased attention so that you can stop the drive immediately in case of irritations (e.g. uneven running of the saw blade, etc.).

## 11.4 Adjusting the Height of the Saw Blade Guard

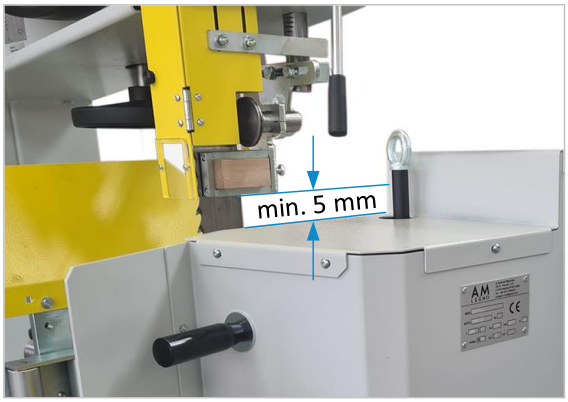


*Figure 66: Danger of collision at the saw blade guard*

Always position the saw blade guard as close as possible to the upper edge of the workpiece. **Important:** Due to the risk of collision, the saw blade guard and the upper saw blade guide must not be fitted below the upper edge of the swivelling front part of the feed unit.

→ The distance must be at least 5 mm

| | |
|---|---|
| ⚠ | • ***<u>Danger of collision</u> between the saw blade guard and the feed unit!***<br>• ***The saw blade guard must be <u>at least 5 mm</u> above the feed unit!*** |

## 11.5 Optional Components

### 11.5.1 Visual Saw Blade Tension Monitoring

When equipped with this option, there is an indicator panel above the central control panel of the band resaw with a green and a red indicator light.


*Figure 67: Visual saw blade tension monitoring*

- The green control lamp lights up as soon as the saw blade is tensioned ready for operation.
- The red indicator light lights up as soon as the saw blade is too loose or not tensioned at all.
  → The bandsaw blade must be tensioned
  → Afterwards the green control lamp must light up

**Functionality:** The limit switch (**E**) shown in ⇨ Figure 68 triggers the red control light as soon as the saw blade tension is insufficient or not present.

**Please note:**

- This option is explicitly <u>not</u> used to adjust the saw blade tension, but only indicates insufficient or missing saw blade tension. The saw blade tension must still be adjusted using the handwheel (see ⇨ Figure 57) and the saw blade tension indicator (**A**).
- The function of the red indicator light is not integrated in the emergency stop chain, i.e. the bandsaw drive can still be started.

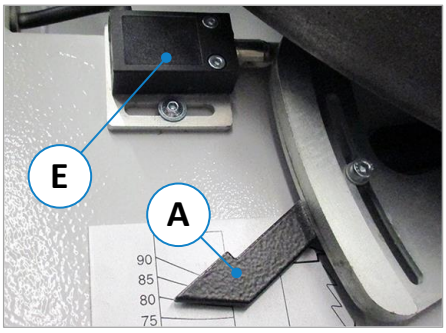


*Figure 68: Limit switch for saw blade tension*

The article number for this option can be found in section ⇨ 16.3 “Miscellaneous Accessories”.

### 11.5.2 Table Tilting Device

With the optional table tilting device, the machine table of the band resaw can be tilted by up to 22.5° via a toothed rack. The tilt is adjusted by means of a hand crank and reading scale located on the rear of the machine below the table top.

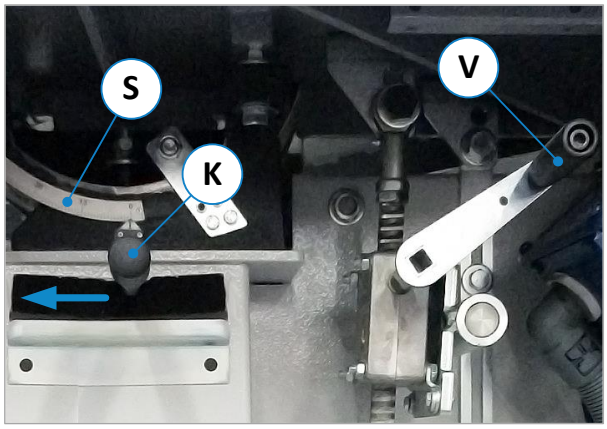


*Figure 69: Table tilting device*

**Setting the tilt angle:**

- First loosen the clamping of the table by swivelling the clamping lever (**K**) all the way to the left (see direction of arrow in ⇨ Figure 69).
- Set the desired tilt angle for with the hand crank (**V**) and by reading the angle scale (**S**).
- Fix the set position by swivelling the clamping lever (**K**) back to the initial position to the right.

The article number for this option can be found in section ⇨ 16.3 “Miscellaneous Accessories”.

# 12 Working with the Band Resaw

The band resaw must be ready for operation with the bandsaw blade mounted according to your choice. The installed bandsaw blade must be suitable for the respective operation.

| | |
|---|---|
| ⚠ | ***The band resaw should never be started before all guards are in good working order and in the protective position.*** |

## 12.1 Roller Fence

The roller fence (**R**), already mounted in the state of delivery, serves to guide the workpiece on the opposite of the feed unit and to set the cutting dimension for machining.


*Figure 70: Roller fence and feed unit in use*

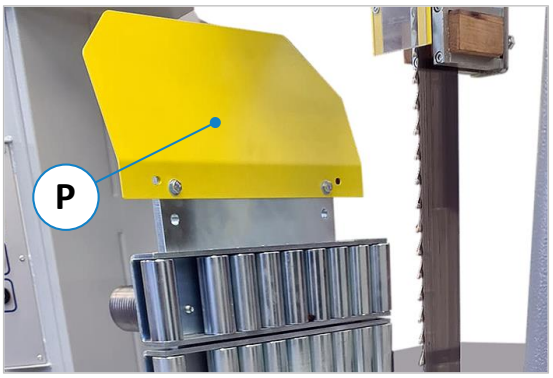


*Figure 71: Protective cover on the roller fence*

Since the bandsaw blade guard may only be lowered just above the height of the feed unit, the bandsaw blade is open and unprotected on the side of the roller fence. For this reason there is a protective cover (**P**) on the top of the roller fence, which covers the open area of the bandsaw blade.

| | |
|---|---|
| ⚠ | ***When working with the roller fence, pay attention to the hazardous areas in ⇨ Figure 3.*** |

### 12.1.1 Workpiece Height and Cutting Dimension

| | |
|---|---|
| ⚠ | ***<u>Turn off the main switch</u> and carry out settings only when the saw blade is stationary!*** |

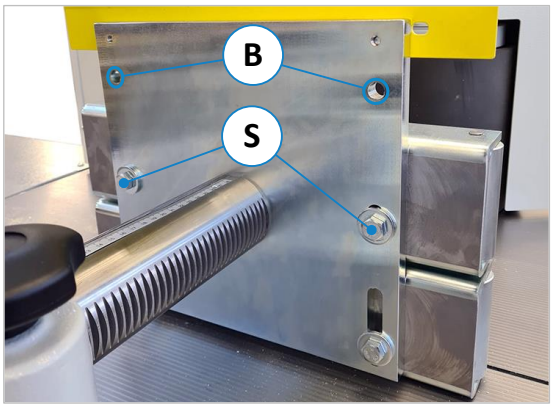


*Figure 72: Adapt fence to workpiece height*

- Before starting work, check that the fence corresponds to the height of the workpiece.
- If necessary, change the position of the upper roller unit. To do this, remove the screws (**S**) and fit the roller unit via the two empty holes (**B**).

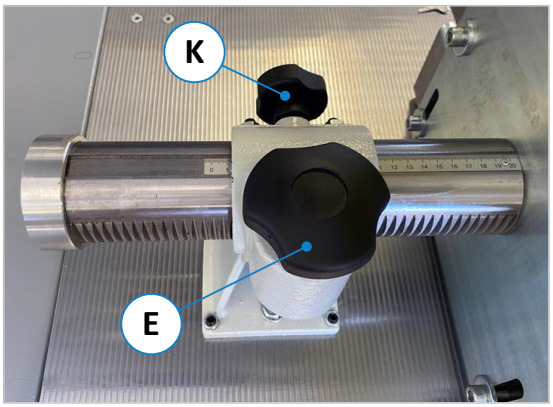


*Figure 73: Set the cutting dimension*

- To set the desired cutting dimension on the roller fence, loosen the clamping wheel (**K**).
- Set the cutting dimension via the setting wheel (**E**) and the millimetre scale. Afterwards fix the set position with clamping wheel (**K**).

## 12.2 Feed Unit

The feed unit of the bandsaw is used to automatically transport the workpiece to the bandsaw blade. By actuating the respective pedal on the foot switch (see section ⇨ 9.5) the feed unit is pneumatically moved to the lateral workpiece surface so that the workpiece can be transported by the feed roller.

Two feed units are available:

**Standard**

*Figure 74: Standard feed unit (10-step adjustable)*

- Feed unit with a pole-changing drive motor (two-step). The feed unit has a 5-stage gearbox for 10 fixed feed rates between 2.5 and 40 m/min.
- The selection of the feed rate is made by belt reversal and a two-stage rotary switch.

**Option**

*Figure 75: Optional feed unit (infinitely variable)*

- Frequency-controlled feed unit with stepless adjustment via FI. This feed unit allows variably adjustable feed rates from 2.0 to 30 m/min.
- The feed rate is set via an adjusting wheel on the frequency inverter.

| | |
|---|---|
| ⚠ | ***When working with the feed unit, pay attention to the hazardous areas in ⇨ Figure 3.*** |

**Remark 1:** The feed roller is made of steel as standard on both feed unit variants. A feed roller with rubber coating is also available as an option. You will find the article number for this in the section ⇨ 16.3.

**Remark 2:** The ☞ manufacturer's operating manual for the feed unit is enclosed with the machine on delivery.

### 12.2.1 Switching the Feed Drive ON and OFF

The power supply for the feed drive is switched on via the central control panel.

**Pre-conditions:**

- The main switch (**1**) must be switched on and the operation control light (**L1**) must be on.
- The brake release switch (**S5**) must be turned to the lower "**inactive**" position (normal operation).
- The compressed air supply must be established (operating pressure 6 - 8 bar) and the blue control light (**L2**) "**AIR**" must be off.

**Switching the feed drive on and off:**

- Press push button (**S3**) → Start feed unit
- Press push button (**S4**) → Stop feed unit

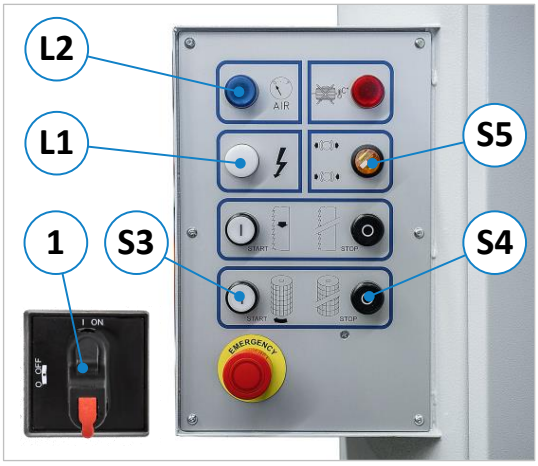


*Figure 76: Control switches for the feed drive*

**Additional note:** The 10-step standard feed unit can also be turned off via the 2-stage switch on the rear side of the feed unit (workpiece removal side).

## 12.2.2 Setting the Feed Rate

### 12.2.2.1 Standard Feed (10 steps)

The feed rate of the standard feed unit is determined by the belt position of the five-stage gear and by turning the rotary switch (see ⇨ Figure 79) to the position "**1**" or "**2**".

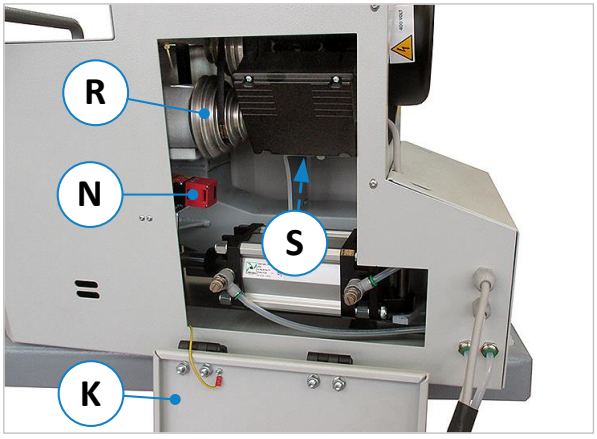


*Figure 77: Pulleys with access flap open*

- To gain access to the pulleys (**R**), open the flap (**K**) on the back of the feed unit (the key is included in the delivery).
- To prevent unauthorised switching on of the machine during setting, the internal safety switch (**N**) puts the machine into the emergency stop state when the flap is open.

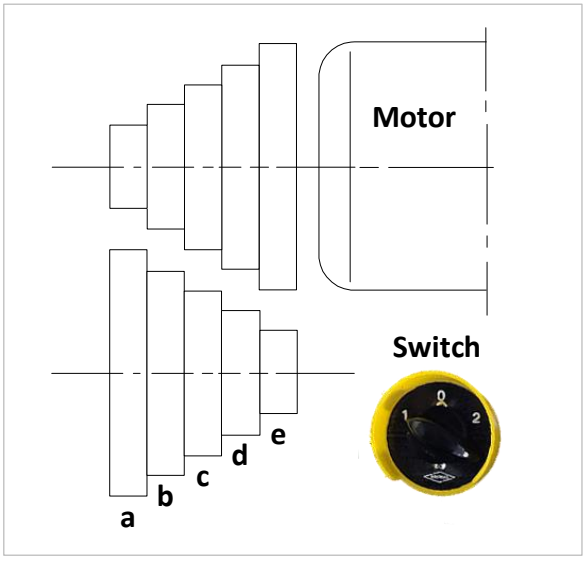


*Figure 79: V-belt positions for feed rate*

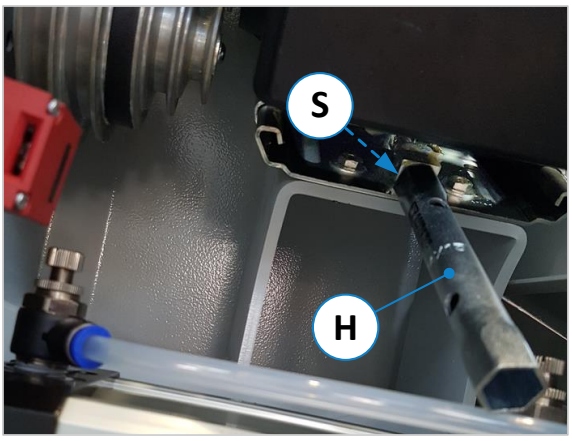


*Figure 78: Loosen V-belt tension*

- Before setting, the tension of the V-belts on the feed motor must be loosened.
- Use the supplied 14 x 15 mm socket spanner (**H**), place it on the hexagon head screw (**S**) at the bottom centre of the motor and loosen the V-belt tension.

  The feed rate is set according as follows:

| *Pos.* | *Switch position 1* | *Switch position 2* |
|---|---|---|
| **a** | 2.5 m/min | 5 m/min |
| **b** | 4 m/min | 8 m/min |
| **c** | 7 m/min | 14 m/min |
| **d** | 12 m/min | 24 m/min |
| **e** | 20 m/min | 40 m/min |

**After setting:**

- Use the socket spanner (**H**) to restore the V-belt tension.
- Close the access flap (**K**) again.

All other data, information and settings for the 10-step feed unit can be found in the enclosed original ☞ manufacturer's operating manual.

### 12.2.2.2 Optional Feed Unit (variable)


*Figure 80: Setting wheel for variable feed rate*

With the optional feed unit with infinitely variable gearbox, the speed is set via the setting wheel (**E**) on the frequency inverter.

- Setting range from 2.0 to 30 m/min

All further data, information and settings for the variable adjustable feed unit can be found in the enclosed original ☞ manufacturer's operating manual.

### 12.2.3 Selecting the correct Feed Rate

| | |
|---|---|
| ☝ | ***A feed rate that is too high overloads the bandsaw drive, increases the wear of the bandsaw blade and leads to a poorer cutting result.*** |

Start with a rather low feed rate, check the set speed live while sawing and examine the subsequent cutting result. Only when you are sure that a higher feed rate is justifiable, you can successively increase the feed rate.

**Note:** This recommendation applies equally to the 10-step and variable feed unit.

## 12.3 Bandsaw Blade Lubrication

During operation with the band resaw, a lubricating film must be ensured between the wheel running surfaces and the inside of the bandsaw blade. For this purpose, the machine has an automatic lubricant supply and a lubricant reservoir located on the top of the right rear side of the machine.

**Recommended lubricant:** Silicone-free lubricant for woodworking machines, type "**WAXILIT 22-74**".

### 12.3.1 Functionality of the Bandsaw Blade Lubrication

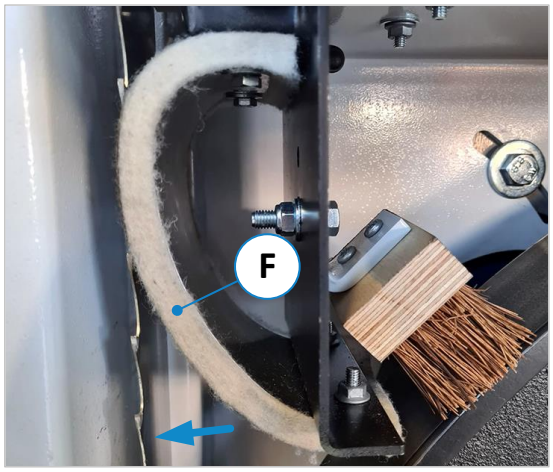


*Figure 81: Felt for bandsaw blade lubrication*

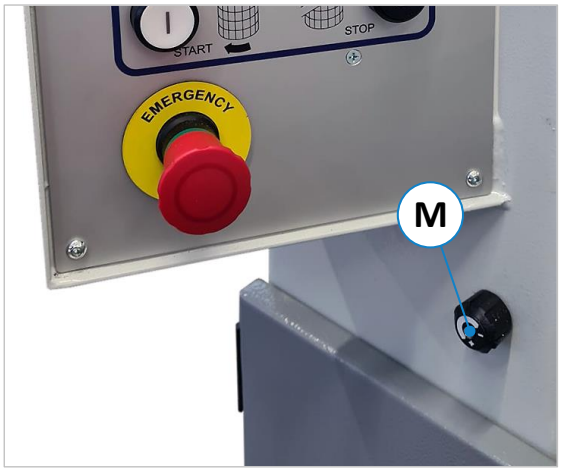


*Figure 82: Adjusting wheel for the lubricant quantity*

- The automatic lubricant feed permanently saturates the lubrication felt (**F**) with lubricant by wetting the inside of the bandsaw blade.

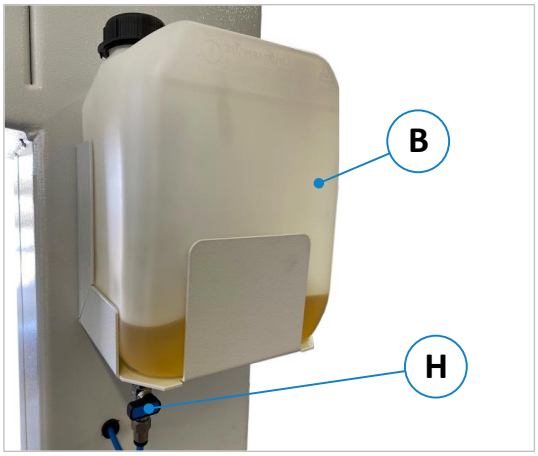


*Figure 83: Lubricant reservoir with stopcock*

- The amount of lubricant applied to the bandsaw blade via the lubrication felt (**F**) can be adjusted with the adjusting wheel (**M**), which is located below the control panel.
- After a test run of the bandsaw, check whether the inside of the bandsaw blade is sufficiently wetted with lubricant. It is sufficiently wetted when there is a light film of lubricant there.
- **Important:** The lubricant quantity is too high if lubricant drops form on the bandsaw blade.
- The lubricant reservoir (**B**) is located on the right-hand rear side of the machine.
- The stopcock (**H**) allows the lubricant supply to be interrupted, e.g. if the machine is not used for a longer period of time.

| | |
|---|---|
| ☝ | ***Always close the stopcock (H) after finishing work, otherwise the lubricant supply will continue and lead to undesirable drop formation on the bandsaw blade.*** |

## 12.4 Sequence of Workpiece Machining

*Figure 84: Set the cutting dimension on the roller fence*

- With the machine still switched off, set the cutting dimension on the roller fence and adapt the upper part of the roller fence to the workpiece height if necessary (see ⇨ 12.1.1.).

*Figure 85: Switch on bandsaw drive and feed unit*

- Now switch on the bandsaw blade drive and the feed drive (for controls see Figure 28).

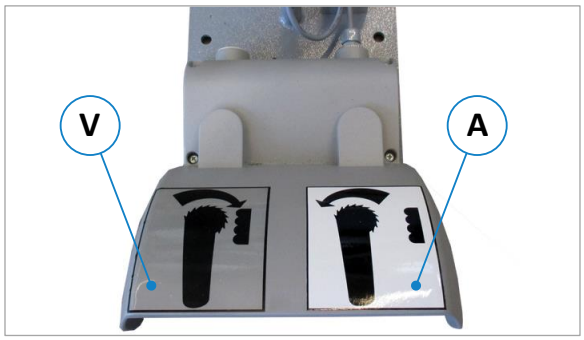


*Figure 86: Place the foot switch to the working position*

- Always place the foot switch for swivelling the feed unit within easy reach at the operating side (infeed side) of the machine (see ⇨ Figure 14).
- If the feed unit is still swivelled in (closed) at this moment, press the right foot pedal (**A**) to open it.

*Figure 87: Place the workpiece and guide it to the fence*

- Place the workpiece on the infeed table's roller conveyor and slowly push forward until the left long side rests against the roller fence → However, the workpiece must not yet touch the bandsaw blade!

*Figure 88: Swivel in the feed unit for machining*

- Now press the left foot pedal (**V**) to swivel in the feed unit to the lateral workpiece surface and start the sawing operation → The workpiece is transported to the saw blade and cut.

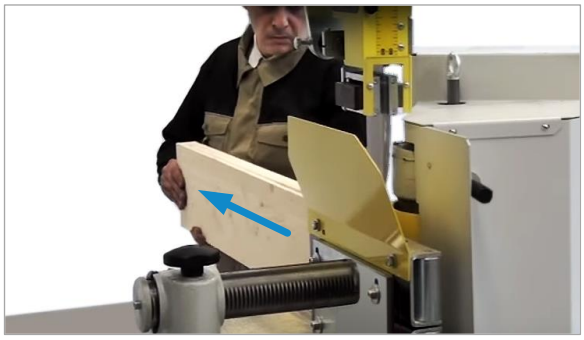

*Figure 89: Remove workpiece parts on the removal side*

- Remove the two separated workpiece parts from the roller conveyor of the removal table. Do not place another workpiece on the infeed side until both cut workpiece parts have been removed.
- After finishing the sawing process, open the feed roller again by by pressing the right foot pedal (**A**).
- Always switch off the machine and the feed unit at the end of work or during work interruptions.
- Close the stopcock of the lubricant supply when leaving the machine or at the end of work.

# 13 General Instructions for Use

## 13.1 Bandsaw Blades

Bandsaw blades must be handled carefully so that they are not damaged. Untensioned bandsaw blades must be folded into a multiple circle without kinks and secured while not in use. They are to be kept stored in a safe and dry area. Always store bandsaw blades on a surface that cannot damage the teeth of the blade. Before use, they must be checked for damaged teeth and cracks.

- To avoid cracking, tensioned bandsaw blades must be kept adequately protected.
- It is recommended that two people work together to change the band saw blade.
- A suitable transport device is advantageous for transporting tensioned, wide bandsaw blades.
- The saw blade width, tooth shape and tooth pitch must be selected according to the thickness and nature of the workpiece.
- The saw blade must be correctly welded, ground and set. If this is not the case, the saw blade must be renewed (details can be found in the sections ⇨ 11.3 and ⇨ 15.5).
- The feed rate must not be set too high.

***Cutting hazard! Always wear protective gloves when changing the bandsaw blade!***

If these basic rules are not observed, the following problems may occur:

- Overload / overheating of the motor
- Poor work result / unclean cut
- Saw blade cracks / damages
- Poor performance

Blade cracks are the most common problems that occur with a bandsaw. They are mostly dependent on the saw blade. They are not caused by the machine, provided it is set according to the operating manual and has not been changed. The section ⇨ 14.3 “Troubleshooting” lists the main causes and suggestions for preventing saw blade cracks.

## 13.2 Use of the Machine

- Always lower the adjustable guard on the bandsaw blade only to just above the height of the feed unit.
- For all activities involved, observe all safety regulations in chapter ⇨ 5, and in particular the existing residual risks in section ⇨ 5.1.7 and hazardous areas in section ⇨ 5.4.

## 13.3 Completion of the Work

- Switch the machine and the feed unit off again when interrupting or after finishing work.
- Put the machine back into a clean condition after finishing your work and observe the instructions in the chapter ⇨ 15 “Maintenance and Inspection”.
- Always close the stopcock for the lubricant supply at the end of work, otherwise it will continue to run and lead to the undesired formation of drops on the bandsaw blade.

# 14 Troubleshooting

| | |
|---|---|
|  | • ***Before any troubleshooting, switch off the main switch and secure with a padlock.***<br>• ***After each troubleshooting, all guards and safety devices must be put back into operation and checked for functionality.*** |

Only carry out troubleshooting work if you are familiar with the operation of the machine and if you are authorised and have received safety training. Work on the electrical equipment of the machine may only be carried out by a qualified electrician. Work on the pneumatic equipment may only be carried out by trained specialists.

Before carrying out troubleshooting work, switch off the machine and, if necessary, secure it against unauthorised restarting. Keep the working area tidy and clean even during troubleshooting work.

If protective devices have been removed during the troubleshooting work, it is essential that they are reinstalled and checked for proper function after the troubleshooting work has been completed.

Proceed systematically when searching for the cause of a malfunction. If you are unable to find the fault or to remedy the malfunction, contact our customer service department (phone number: 0049 7576 / 962 978 - 90).

Before you call us, please follow these steps:

- Make a note of the type, machine number and year of production (see nameplate).
- Keep this operating manual (and any circuit diagrams) to hand.
- Describe the fault to us in detail so that a competent remedy can be found.

## 14.1 Behaviour in the Case of a Power Failure

If an unexpected power failure occurs during workpiece machining, proceed as follows:

- Wait for the bandsaw blade to come to a standstill. The motor brake should bring the band saw blade to a standstill within 10 seconds.
- If it makes sense, e.g. if the cut that has already been made is still short, pull the workpiece back until the bandsaw blade is no longer in the kerf.
- If it is better to leave the workpiece in its current position, clarify the causes of the power failure and restore the power supply (if possible).
- When the power supply is restored, resume work by starting the bandsaw drive and the feed driver.

## 14.2 Behaviour in the Case of Saw Blade Breakage

| | |
|---|---|
|  | ***Note that in the event of a saw blade breakage, the bandsaw blade drive and the feed drive remain switched on.*** |

- Therefore, switch off the bandsaw blade drive and the feed drive immediately after the blade breakage.

| | |
|---|---|
|  | ***Also note that the upper bandsaw wheel will run out without braking in the event of a saw blade break. The run-down time until complete standstill can take several minutes.*** |

- Only open the access doors to the bandsaw wheels for changing the bandsaw blade when you are sure that the bandsaw wheels have come to a standstill (the upper wheel runs out without braking).
- To change the bandsaw blade, proceed as described in section ⇨ 11.3.

## 14.3 Faults, Causes and Remedies

| Fault | Possible Cause | Remedy |
|---|---|---|
| Band resaw does not start | No voltage | → Check connections (electrician!) |
| | Backup fuse defective | → Replace fuse (electrician!) |
| | Main switch defective | → Replace switch (electrician!) |
| | Push button for drive defective | → Replace push button (electrician!) |
| | Motor defective | → Replace motor |
| | Drive belt broken | → Replace belt |
| | Brake release switch is activated | → Deactivate brake release switch |
| | Bandsaw door(s) not closed | → Close the door(s) |
| | Door safety switch(es) not locked | → Lock switch(es) (⇨ 11.2) |
| | Emergency stop push button is pressed | → Unlock the E-stop button |
| | Emergency stop bracket is activated | → Set the bracket to the mid-position |
| | Emergency-stop ripcord is activated | → Pull out reset button |
| | Emergency-stop ripcord is torn | → Remedy & pull out reset button |
| | Access flap of the feed unit open | → Close the flap of the feed unit |
| | Compressed air supply not available | → Restore compressed air and confirm with the "**AIR**" button |
| Motor gets very hot | Overload or defective motor | → Contact customer service |
| Machine whistles or squeals when starting up | Drive belt too loose | → Retension V-belts (⇨15.6) |
| Motor brake no longer brakes within 10 seconds | a) Brake pads are worn<br>b) The brake is defective | → Contact customer service |
| Machine vibrates strongly | Machine stands unevenly | → Level the machine (⇨ 8.3) |
| | Drive wheels dirty / damaged | → Clean / replace wheels |
| Feed unit does not start | Push button for feed drive defective | → Replace push button (electrician!) |
| | Feed unit / feed motor defective | → Contact customer service |
| Feed motor whistles or squeals on start-up | Drive belt for feed too loose | → Retension V-belts (⇨ 12.2.2) |
| Feed unit does not swivel in and out | Compressed air supply not available | → Restore compressed air and confirm with the "**AIR**" button |
| | Operating pressure too low | → Set the operating pressure (6-8 bar) and confirm with the "**AIR**" button |
| | Foot switch defective | → Replace foot switch |
| Saw blade is strongly braked during machining | Drive belt slipping | → Retension V-belts (⇨ 15.6) |
| Bandsaw blade drifts off | Bandsaw blade tension too low | → Tension the blade (⇨ 11.3) |
| | Upper blade guide set too high (too far away from the workpiece) | → Lower the sawblade guide to just above the height of the feed unit |
| | Upper and lower blade guides are not adjusted correctly | → Adjust the lateral guide blocks (top and bottom) and the back roller (top) correctly (for details see sections ⇨ 11.3.7 / ⇨ 11.3.8) |
| | Saw blade blunt or worn out | → Replace saw blade (⇨ 11.3) |
| | Feed rate too high | → Reduce feed rate |
| | Insufficient contact pressure of the feed roller to the workpiece | → Check air pressure (6-8 bar) |

Continuation on ⇨ next page

Faults, causes and remedies - continuation

| Fault | Possible Cause | Remedy |
|---|---|---|
| Bandsaw blade breaks | Bad welded joint | → Replace saw blade (⇨ 11.3) |
| | Saw blade guide badly adjusted, the back roller presses against the blade | → Adjust band saw blade guides correctly (⇨ 11.3.7 / ⇨ 11.3.8) |
| | Feed rate too high | → Reduce feed rate |
| | Saw blade blunt or badly set | → Replace saw blade (⇨ 11.3) |
| | Bandsaw blade cracked | → Replace saw blade (⇨ 11.3) |
| | Resin residues or similar on the blade/wheels | → Replace saw blade (⇨ 11.3) and clean the bandsaw wheels |
| Running surfaces of band-saw wheels are dirty | The scraper and cleaning elements are not in contact with the bandsaw wheels | → Place wheel wipers/brushes correctly to the bandsaw wheels |
| | The wiping and cleaning elements are defective, damaged or worn | → Replace wheel wipers/brushes |
| Bandsaw blade lubrication insufficient or bandsaw blade not lubricated | Lubrication felt worn | → Replace lubricating felt |
| | Stopcock to the lubricant reservoir is closed | → Open stopcock |
| | Lubricant reservoir is empty | → Fill up the lubricant reservoir |
| Cutting course is crooked | Bandsaw blade is blunt | → Replace saw blade (⇨ 11.3) |
| | Saw blade guide incorrectly adjusted | → Adjust bandsaw the blade guides (refer to ⇨ 11.3.7 / ⇨ 11.3.8) |

# 15 Maintenance and Inspection

| | |
|---|---|
|  | ***Before any maintenance and inspection work is carried out, chapter ⇨ 5 "Safety" must be read carefully and observed!*** |

| | |
|---|---|
|  | ***Before maintenance and repair work, switch off the main switch and lock it with a padlock!*** |

Operational malfunctions caused by insufficient or improper maintenance can result in very high repair costs and long machine downtimes. Regular maintenance is therefore essential.

- Regularly check that your band resaw is in perfect condition.
- Clean the machine daily and the supporting surfaces of the machine table and the roller conveyors always after finishing work. Cleaning the machine with compressed air is prohibited!
- Maintenance work on electrical and pneumatic equipment only by qualified personnel!
- Inspect electrical equipment/components weekly for externally visible damage and have them repaired by a qualified electrician if necessary.
- Immediately remove and replace damaged protective devices. Never work with damaged parts!
- If protective devices have been removed during maintenance work, it is essential to remount them immediately afterwards and check that they are functioning properly.
- The extraction system must be checked for obvious defects before initial commissioning and daily, and its effectiveness must be checked monthly.
- The air velocity to the extraction system must be checked before the initial commissioning and after significant modifications.
- Do not use the machine until these conditions are met.

Due to the different operating conditions, it is not possible to determine in advance how often a wear check, inspection or maintenance is required. Inspection intervals are to be determined appropriately according to the respective operating conditions.

## 15.1 Checking the Bandsaw Blade

Check the condition of the bandsaw blade daily before starting work and at regular intervals. To do this, switch on the main switch of the machine by turning it to position "**I**" and set the brake release switch to the position "**Brake released**".

Open the upper door and turn the bandsaw blade on the upper bandsaw wheel. Check the condition of the bandsaw blade along its entire length. If the bandsaw blade is no longer sufficiently sharp or if damage such as cracks is visible in places, the blade must be replaced immediately. To do this, proceed as described in section ⇨ 11.3r.

You will find suitable bandsaw blades for your machine in the sections ⇨ 16.1 (TBS 800R) and ⇨ 16.2 (TBS 900R).

| | |
|---|---|
|  | ***Cutting hazard! Always wear protective gloves when changing the bandsaw blade!*** |

## 15.2 Checking the Table Insert

The table insert reduces the table opening of the band saw machine to a minimum and ensures stable guidance of the saw blade with its narrow cut. Therefore, check the table insert regularly for mechanical damage and cracks. In addition, the cut for the bandsaw blade should generally be as narrow as possible resp. in a completely undamaged condition.

| | |
|---|---|
|  | ***Defective or damaged table inserts must be replaced immediately!*** |

- Only use original table inserts from the machine manufacturer (material: AlMgSi1).
- The dimensions of the table insert for both TBS models are L x W x H = 140 x 90 x 10 mm.
- The insert must be at table level and must not protrude above the table surface.

## 15.3 Lubrication of the Machine

The machine itself does not require lubrication. All ball bearings are maintenance-free and the bandsaw blade is lubricated automatically via the integrated bandsaw blade lubrication (see section ⇨ 12.3).

- It is only necessary to check all sliding or rolling parts weekly for smooth running and, if necessary, lubricate them with a thin-bodied oil.
- Please follow the lubrication instructions for the feed unit (see ☞ separate operating manual).

## 15.4 Maintenance and Lubrication of the Saw Blade Guides

### 15.4.1 Maintenance

- Check the back roller of the upper bandsaw blade guide daily before starting work for smooth running and lubricate it if necessary (for procedure reefer to section ⇨ 15.4.3).
- Regularly clean the bandsaw blade guides from sawdust, splinters, resin or other dirt.

### 15.4.2 Lubricating bare Steel Parts

The bare steel parts of the guides should be kept smooth-running and rust-free by occasional light oiling. Recommended oil: “special oil 1059”, content: 5 bottles à 20 ml, order number: 3215

### 15.4.3 Lubricating the upper Back Roller

The bearing of the back roller (**R**) for the upper bandsaw blade guide should be lubricated every six months with a few drops of “special oil 1059”. Depending on the frequency of use and the stress, a shorter lubrication interval should be selected.

- For lubrication, put a few drops of the special oil into the running surface of the roller axle (see ⇨ Figure 90).

| | |
|---|---|
| ⚠ | ***Important note*: Never use grease to lubricate the roller axle bearings!** |

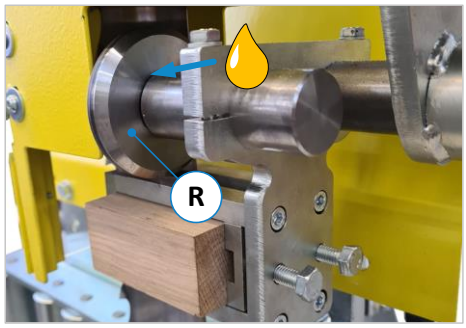


*Figure 90: Lubricating the upper back roller*

## 15.5 Miscellaneous Maintenance Intervals

| Interval | Component(s) | Measure |
|---|---|---|
| **Before start of work** | Bandsaw blade | Check for sharpness, cracks, damage and replace bandsaw blade if necessary |
| | Bandsaw blade tension | Check and adjust if necessary |
| | Bandsaw blade guides | Check and adjust if necessary |
| | Back roller (top) | Refer to section ⇨ 15.4.1 at the top of this page |
| | Compressed air supply | Correct the pressure if necessary, check/drain maintenance unit |
| | Lubrication / lubricant supply | Check lubrication function, refill reservoir if necessary |
| | Feed unit | Set the feed rate and check the foot switch function |
| | Extraction system | Check for function, defects and leaks |
| **After end of work** | Machine and roller conveyors | Remove wood residues, chips, clean workpiece support surfaces |
| **Weekly** | Wheel wipers / brushes | Check effectiveness of scrapers, brushes |
| | Shut-off devices | Check the function of all emergency stop devices |
| | Door safety switches | Check function of both door safety switches |
| | Drive belts of the bandsaw | Check for tension / wear and retension / replace if necessary |
| | Drive belt of the feed unit | Check for tension / wear and retension / renew if necessary |
| **Monthly** | Motor brake | Check braking time until bandsaw blade standstill (< 10 s) |

**Important:** Please also adhere to the maintenance intervals for the feed unit (see ⇨ separate operating manual).

## 15.6 Tensioning the Drive Belts

| | |
|---|---|
| | ***The main switch (1) must be switched on so that the wheels can be turned manually.*** |

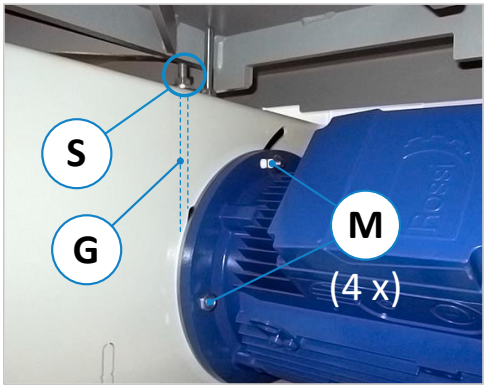


*Figure 91: Tensioning the drive belts*

- Turn the brake release switch upwards ("**active**" state) .
- Unlock the door safety switch for the lower bandsaw door according to section ⇨ 11.2 and open the door.
- Slightly loosen the 4 fastening screws (**M**) on the motor (spanner size = 19 mm).
- Tighten the tensioning nut (**S**) on the threaded rod (**G**) with an open-end spanner SW17 until the correct belt tension is achieved (see also ⇨ Figure 92).

**Checking the tension:** It must be possible to push the belt(s) through by hand between the two axles by approx. 10 mm.

- Tighten the four motor screws (**M**) again.
- Then close the lower bandsaw door again and lock it with the safety switch (see ⇨ 11.2).

**Note:** Retensioning of already installed belts can also be done with deactivated brake release switch

## 15.7 Replacing the Drive Belts

The corresponding belt types and article numbers can be found in section ⇨ 16.3 "Miscellaneous Accessories".

| | |
|---|---|
| | ***The main switch (1) must be switched on so that the wheels can be turned manually.*** |

| | |
|---|---|
| | ***Only V-belts with the same cross-section and length may be used.***<br>***In the event of a belt change, always renew all V-belts at the same time.*** |

| | |
|---|---|
| | ***<u>Cutting hazard</u>! Always wear protective gloves when changing the bandsaw blade!*** |

- Turn the brake release switch upwards ("**active**" state).
- Unlock the safety switches according to section ⇨ 11.2 and open both bandsaw doors.
- Loosen and remove the bandsaw blade (**B**). For details see procedure in section ⇨ 11.3.
- Loosen the four motor screws (**M**) and the tensioning nut (**S**) on the threaded rod (**G**) so that the drive belts are loosened (see procedure in ⇨ Figure 91).
- Remove the hexagon head screw (**N**) with a SW 19 spanner and take off the washer (**U**) from the wheel hub (see ⇨ Figure 92).
- Gently pull out the lower bandsaw wheel. Be careful, the wheel is very heavy!
- Remove old belts and insert new belts in the bandsaw wheel pulleys.

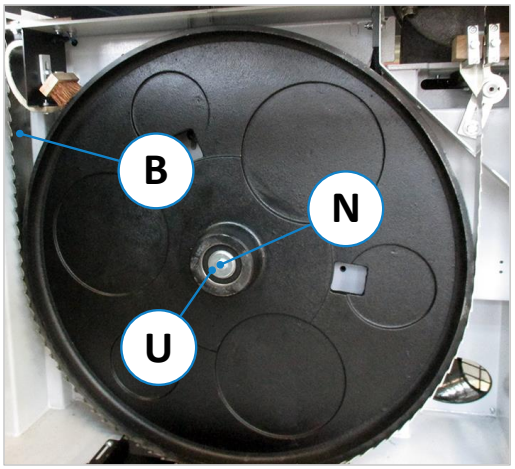


*Figure 92: Replacing the drive belts*

- Mount the lower wheel and insert the saw blade (**B**) according to section 10.3.
- Tension the V-belts according to section ⇨ 15.6 and tighten the four motor screws (**M**) again.
- Close the doors and lock them with the safety switches (procedure see ⇨ 11.2).

## 15.8 Checking the Main Motor Brake

Check the brake function of the main motor monthly. If the machine no longer comes to a standstill within 10 seconds when braking, contact our customer service.

# 16 Options and Accessories

## 16.1 Bandsaw Blades for TBS 800R

| Article | Description | Art. No. |
|---|---|---|
| **BAND SAW BLADE** | Length 5726 x 80 x 0,9 mm \| tooth pitch 14 mm \| tooth form NV \| face angle 10° \| tooth height 6,5 mm crowned \| ready to cut (minimum order 3 pieces). | 5421 |
| **BAND SAW BLADE** | Stellited length 5725 x 80 x 0.9 mm \| tooth pitch 25 mm \| tooth form PV \| face angle 18° \| tooth height 8.5 mm \| kerf 2.0 mm crowned (minimum order 3 pieces). | 5422 |
| **BAND SAW BLADE** | Stellited length 5730 x 80 x 0.9 mm \| tooth pitch 30 mm \| tooth form PV \| face angle 18° \| tooth height 8.5 mm \| cutting kerf 2.0 mm crowned (minimum order 3 pieces). | 5423 |

## 16.2 Bandsaw Blades for TBS 900R

| Article | Description | Art. No. |
|---|---|---|
| **BAND SAW BLADE** | Length 6244 x 80 x 0,9 mm \| tooth pitch 14 mm \| tooth form NV \| face angle 10° \| tooth height 6,5 mm crowned \| ready to saw (minimum order 3 pieces). | 5424 |
| **BAND SAW BLADE** | Stellited length 6250 x 80 x 0.9 mm \| tooth pitch 25 mm \| tooth form PV \| face angle 18° \| tooth height 8.5 mm \| Cutting kerf 2.0 mm crowned (minimum order 3 pieces). | 5425 |
| **BAND SAW BLADE** | Stellited length 6240 x 80 x 0.9 mm \| tooth pitch 30 mm \| tooth form PV \| face angle 18° \| tooth height 8.5 mm \| Cutting kerf 2.0 mm crowned (minimum order 3 pieces). | 5426 |

## 16.3 Miscellaneous Accessories

| Article | Description | Art. No. |
|---|---|---|
| **ROLLER FEED UNIT WITH VARIABLE FEED RATE** | Infinitely variable feed unit from 2.0 to 30 m/min (instead of 10 fixed speeds). | 5415 |
| **FEED ROLLER RUBBER COATED** | Instead of the standard steel roller. | 4280 |
| **REINFORCED MOTOR** | 3-phase motor with 15 kW instead of 11 kW standard motor. | 5413 |
| **TABLE TILTING DEVICE** | With rack and pinion gear adjustable up to 22.5° via crank handle. | 5411 |
| **VISUAL SAW BLADE TENSION MONITORING** | With 2 indicator lights (green = tension ok / red = loose). | 5429 |
| **TBS 800R DRIVE BELT** | V-belt A51 13x1300 mm (3 pieces required) | 0345.6086 |
| **TBS 900R DRIVE BELT** | V-belt SPZ x 1600 mm (4 pieces required) | 0345.0371 |
| **SPECIAL OIL 1059** | For lubricating the upper back roller (contents 5 x 20 ml) | 3215 |

You can find more roller conveyors on beck-maschinenbau.com/en/products/roller-measuring-conveyors/.

| | |
|---|---|
| ⚠ | ***Only use original bandsaw blades, accessories and spare parts specified by the manufacturer. The use of other accessories or spare parts can cause injury to persons and damage to the machine. The manufacturer accepts no liability for any damage resulting from the use of non-prescribed accessories and spare parts or additional components from third parties!*** |

# 17 Disassembly and Scrapping

When dismantling and scrapping the machine, the current EU regulations or the respective regulations and laws of the country of operation, which are prescribed for proper dismantling and disposal, must be observed. The aim is to dismantle the machine and its various materials and components properly, to recycle all possible parts and to dispose of non-recyclable components in the most environmentally friendly way.

| | |
|---|---|
|  | ***Please pay particular attention to***<br>• *the dismantling of the machine in the working area*<br>• *proper dismantling of the machine and accessories*<br>• *a safe and proper removal of the machine*<br>• *proper separation of all components and materials.* |

When dismantling and disposing the machine, the laws and regulations in force at the place of use concerning health and environmental protection must be observed.

| | |
|---|---|
|  | ***Remove all residues of oil, grease and other lubricants and have them disposed of properly by a qualified disposal company.*** |

When separating, disposing of or recycling the machine materials, comply with the environmental protection laws in force at the place of use regarding the disposal of industrial solid waste toxic and hazardous waste.

| | |
|---|---|
|  | • ***Hoses and plastic parts as well as other components that are not made of metal must be dismantled and recycled or disposed of separately.***<br>• ***Electrical components such as cables, switches, connectors, transformers, etc. must be removed and (if possible) recycled or otherwise disposed of in a qualified manner.***<br>• ***Pneumatic and hydraulic parts such as valves, solenoid valves, pressure regulators, etc. must be removed and (if possible) recycled or otherwise disposed of in a qualified manner.***<br>• ***Dismantle the base frame and all metal parts of the machine and sort them according to material type. Metals can be melted down and recycled.*** |

In the event of improper disposal of lubricants, the following residual risks to the environment and health exist:

| | |
|---|---|
|  | ***Pollution of the environment by seepage into groundwater or sewage system.*** |
|  | ***Poisoning of the personnel contracted for the disposal.*** |

**Note:** The disposal of lubricants considered toxic and hazardous must be carried out in accordance with the regulations and laws in force at the respective place of use. Only qualified disposal companies that have the appropriate permits for the disposal of used oil and lubricants are to be commissioned with the disposal.

# CE EU - Declaration of Conformity

in accordance with the EU Machinery Directive 2006/42/EC Annex II A

**The manufacturer,**

Reinhold Beck Maschinenbau GmbH
Im Grund 23
D-72505 Krauchenwies

Phone: +49 (0) 7576 / 962 978 - 0
Fax: +49 (0) 7576 / 962 978 - 90

hereby declares that the manufactured machine

***BAND RESAWING MACHINE TBS 800 R / TBS 900 R***

Machine-No.: .....

Year of manufacture: .....

in the version provided complies with the following directives:

- **Machinery Directive 2006/42/EC**
- **EMC Directive 2014/30/EU**

Applied harmonized standards, especially:

- **EN 1807-1**

The notified body (0392)

**DGUV Test**
**Prüf- und Zertifizierungsstelle Holz**
**Fachbereich Holz und Metall**
**Vollmoellerstraße 11**
**70563 Stuttgart (Germany)**

has carried out an EC type-examination for the above machine.

Type Examination Certificate No.: HO 181019

Mr. Andreas Ganter, Graf-Stauffenberg-Kaserne, Binger Str. 28 | Halle 120.
72488 Sigmaringen (Germany), is authorised to compile the technical documentation.

Krauchenwies, 18.12.2024

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R. Beck

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Reinhold Beck
Managing Director