

A close-up photograph of a red diamond band saw blade, showing its textured surface and a small brass-colored pin.

DIAMOND BAND SAWS

Operating instructions

Edition 09/2016

E300 / E310 / E311

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Table of contents

1	Contact addresses	5
1.1.	Address of manufacturer	5
1.2.	Service and ordering of spare parts	5
2	Safety	6
2.1.	General information on safety	6
2.2.	Safety symbols	7
2.3.	Start-up	8
2.4.	Selecting the location	8
2.5.	Operating safety instructions	9
2.6.	Safety instructions for cleaning	11
2.7.	Handling chemical substances and coolant/lubricants	12
2.8.	Cleaning agent	13
2.9.	Use in accordance with the instructions (intended use)	13
3	Description / Overview	14
3.1.	Description	14
3.2.	Overview of device versions	15
4	Equipment configuration	17
4.1.	Band saws	17
4.1.1.	EXAKT 300	17
4.1.2.	EXAKT 310	18
4.1.3.	EXAKT 311	19
4.2.	Motor controller	20
4.2.1.	EXAKT 300 motor controller	20
4.2.2.	EXAKT 310/311 motor controller	21
4.3.	Cooling unit	21
4.3.1.	Cooling connection for closed loop circulation	23
4.3.2.	Cooling connection for continuous operation	24
4.4.	Parallel guides	25
4.5.	Control electronics (cutting technology)	25
4.6.	Accessories	25
5	Installation	26
5.1.	Erecting the band saw	26
5.1.1.	Scope of delivery of EXAKT 300	27
5.1.2.	Erecting the EXAKT 300	27
5.1.3.	Scope of delivery of EXAKT 310/311	28
5.1.4.	Erecting the EXAKT 310/311	28

5.2.	Electrical connection	29
5.3.	Assembling the cutting band	29
5.3.1.	EXAKT 300	30
5.3.2.	EXAKT 310/311	32
5.4.	Adjusting the back position of the cutting band	34
5.4.1.	EXAKT 300 (adjusting with support rollers)	34
5.4.2.	EXAKT 310/311 (adjusting with bottom wheel)	36
5.5.	Adjusting the lower wheel (only for EXAKT 310/311)	36
5.6.	Installing the parallel guide	39
5.7.	Installing the splash and access protection	40
5.7.1.	Plexiglas protection (only for EXAKT 300)	40
5.7.2.	Plastic splash flap	41
5.8.	Connecting the cooling / rinsing circuit	42
5.8.1.	Continuous operation	43
5.8.2.	Closed loop circulation	45
5.8.3.	Applying bore emulsion	46
6	Operation	47
6.1.	Switch on the band saw	47
6.1.1.	EXAKT 300 motor controller	47
6.1.2.	EXAKT 310/311 motor controller	48
7	Care and maintenance	49
7.1.	Care and maintenance plan	50
7.2.	Cleaning the housing	51
7.3.	Checking/cleaning and replacing the cutting band	51
7.4.	Support roller maintenance	52
7.4.1.	Checking/cleaning and replacing the EXAKT 300 support rollers	52
7.4.2.	Checking/cleaning and replacing the EXAKT 310/311 support rollers	53
7.5.	Replacing the yellow flat belt	54
7.6.	Adjusting the lower wheel (only for EXAKT 310/311)	55
7.7.	Coolant	57
7.7.1.	Checking the filling level	57
7.7.2.	Checking the quality	58
7.8.	Cleaning the drain tray	59
8	Remedying malfunctions	60
9	Technical data	61

9.1.	General data	61
9.2.	Bore oils and disinfectants that can be used	62
9.3.	Special voltages	63
10	Spare parts and consumables	64
10.1.	Ordering spare parts	64
10.2.	Consumables	65
10.3.	Spare parts for diamond band saw E 300	67
10.4.	Spare parts for diamond band saw E 310/311	70
11	Index	73
12	Appendix	75
12.1.	Warranty conditions	75
12.2.	Declaration of Conformity	76

1 CONTACT ADDRESSES

1.1. ADDRESS OF MANUFACTURER

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<http://www.exakt.de>

1.2. SERVICE AND ORDERING OF SPARE PARTS

If you have service inquiries or want to order spare parts, please contact the specialist dealer from which you have ordered the device.



Use the order form in the *Spare parts and accessories* chapter to order spare parts.

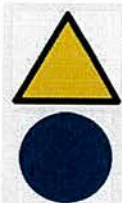
2 SAFETY

2.1. GENERAL INFORMATION ON SAFETY

Each person who is assigned to the installation, start-up, operation and maintenance of the device and its associated components has to have fully read and understood these instructions, and especially the Safety chapter.

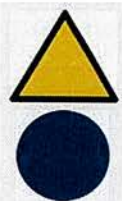
Instruction may have to be provided taking into consideration the professional qualification of the respective persons.

Explanation of the symbols in these instructions:



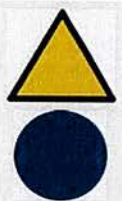
DANGER

Indicates an extremely dangerous situation. Ignoring this instruction results in lethal or severe, irreversible injuries.



WARNING

Indicates an extremely dangerous situation. Ignoring this instruction may result in lethal or severe, irreversible injuries.



CAUTION

Indicates a dangerous situation. Ignoring this instruction may result in minor or medium injuries.








CAUTION




Indicates risk of material damage. Ignoring this instruction may result in damage to property.



Here you will find important background information and explanations within a current context, or status information within a sequence of actions

2.2. SAFETY SYMBOLS

Symbol	Meaning
	Warning of cutting injuries
	Warning of electrical voltage
	Warning of general and non-categorized dangers
	Warning before automatic start-up
	Warning of counter-rotating rollers
	Warning of toxic substances
	Laser class 1 label When using the laser-optical cutting line indication

Symbol	Meaning
	Pull the mains plug
	Wear protective goggles
	Wear protective clothing

2.3. START-UP

There are guide signs on the equipment housing providing you with additional safe operation.

Always observe all safety instructions for your own safety.

Before starting up the device, the operator must be convinced that all safety conditions are met.

Observe the pertinent accident prevention regulations and other generally acknowledged safety and occupational health regulations.

2.4. SELECTING THE LOCATION

The device must be placed horizontally.

The installation location must ensure stability for the device.

Place the device onto a fixed lab bench that can take the weight of the machine (see Chapter, Technical Data).

CAUTION

Do not place any objects on the device.

> Check the cable and plug before connecting the device.

Only connect the device with the connection voltage specified on the type plate and using a correctly installed, earthed socket.

Before connecting, compare the mains voltage with the device voltage specified on the type plate of the device.

When selecting the installation location, observe the corresponding safety instructions and manufacturer's instructions of the fluids and lubricants used and that may be in the vicinity of the device.

2.5. OPERATING SAFETY INSTRUCTIONS

Refrain from any activity that:

- > represents a risk to life and limb of the user or of any other person,
- > impairs the device or any other material assets,
- > impairs the safety and function of the device,
- > does not observe the listed safety instructions.

The device must only be maintained and repaired by persons that have been assigned with these tasks and that have been instructed on the associated risks and dangers, and who are appropriately qualified.



WARNING

Keep the equipment housing closed during operation and only open it to remedy malfunctions and for maintenance work.

Immediately re-attach any missing safety equipment and covers immediately after conclusion of work.



WARNING

There is a risk of injury in the area of the belt pulleys and the drive pulleys for persons with long hair and those wearing open clothing, ties, scarfs, jewelry, bracelets, etc.!

- > The protective cover must be re-attached after replacing the cutting band.
- > Wear tight-fitting clothes for all work and protect long hair with a head covering.
- > Do not wear a tie, scarf, jewelry, bracelet, etc. when replacing the cutting band.



⚠ CAUTION

In contrast to band saws with toothed bands, touching the cutting band for a short time does not result in injuries. However, cutting injuries do occur on longer contact with the cutting band.

Do not reach into the cutting band when it is running.

- > Only clamp or remove workpieces when the diamond band saw is switched off.



⚠ DANGER

Always pull the mains plug when working on live connections.

Carelessness can result in electric shock.



Observe the following when performing maintenance at electrical systems:

1. Disconnect the device.
2. Secure the device from being switched back on.
3. Check for absence of power.
4. Earth and short circuit.
5. Cover any adjacent live parts and secure the danger area.

CAUTION

If the coolant pump is operated for a longer period without fluid, there is a risk of the coolant pump being destroyed.

To prevent the pump from being put into operation unintentionally and therefore running dry, switch off the coolant pump at the separate switch at the rear of the tank.

2.6. SAFETY INSTRUCTIONS FOR CLEANING



WARNING

Pull the mains plug on the device before cleaning.



Unintentional switch-on of the device during cleaning work may result in dangerous injuries to the fingers.

Pull the mains plug on the device before cleaning, or disconnect it from the mains.

- › Never spray the diamond band saw with water to clean it, or clean it with a high-pressure cleaner.



WARNING

Risk of injury and/or entanglement at the idle pulley or support rollers!

There is an acute risk of injury or of entanglement at the idle pulley and/or support rollers when cleaning the device with a running motor.

Only ever clean the device when it is switched off.

Depending on the application, the operator may come into contact with toxic, infectious or radioactive material.

The required safety measures must be taken for the respective application before cleaning and maintenance work. The device must be cleaned or disinfected when necessary before all repairs and maintenance.

2.7. HANDLING CHEMICAL SUBSTANCES AND COOLANT/LUBRICANTS

When handling oil, grease and other chemical substances, observe the respective safety data sheets and instructions for disposal of the respective manufacturer, as well as all local safety requirements.



WARNING

A low quantity of aerosol arises when using bore oils or emulsions.

Make sure this is correctly suctioned off and wear protective goggles.

- > If you come into contact with toxic, infectious or radioactive material, the required safety measures must be taken for the respective application.
- > Clean or disinfect the device before any repair or maintenance.

2.8. CLEANING AGENT

When using cleaning agents, observe the respective safety data sheets and instructions for disposal of the respective manufacturer, as well as all local safety requirements.



WARNING

There is an increased risk of explosion when using explosive or highly flammable cleaning agents.

Do not use any explosive or highly flammable cleaning agents!

2.9. USE IN ACCORDANCE WITH THE INSTRUCTIONS (INTENDED USE)

The device must be used solely as described in the *Description* chapter with the components delivered and approved by EXAKT.

Any use which goes beyond these limits is not regarded as the intended use.

The manufacturer does not accept any responsibility for damage resulting from this; the user/operator himself accepts the full risk in this case.

3 DESCRIPTION / OVERVIEW

3.1. DESCRIPTION

The EXAKT Diamond Band Saw must only be used for cross cutting of the most varied materials and composites, as well as bone tissue and/or soft tissue with or without implants.

If non-fixed or incompletely fixed tissue is cut, fixing agent must be added to the coolant and/or the machine must be disinfected after being used.

The EXAKT cross cut system must not be used for cross cutting with manual feed at an undefined (higher) feeding speed.

Risks may arise when processing ductile materials (e.g. soft aluminum, copper): The cutting band jams, causing it to perhaps tear or the workpiece to be ejected. The machine must only be used with diamond cutting bands from Exakt and never with toothed bands such as those used in a band saw for wood, metals, or similar.

The machine is solely intended for commercial use in the laboratory, and in research and production, and not for household use or for hobby work.

3.2. OVERVIEW OF DEVICE VERSIONS

The devices are delivered with the following various main features, depending on their area of application:

EXAKT 300/310

- > The main difference between the EXAKT 300 and the EXAKT 310 is its performance features; refer to Chapter Technical Data.
- > The possibility of using various curving methods/techniques such as Contact Line (CL) and Contact Point (CP) using various parallel guides.
- > In the CP version, a combined Plexiglas splash and access protection prevents direct access to the **cutting band**, as well as squirting of fluids from the cutting area.
- > The most varied accessories such as laser-optical cutting line indication, automatic positioner, sample positioner with digital micrometer, universal sample holder, vacuum plate.

EXAKT 311

- > The main difference between the EXAKT 311 and the EXAKT 310 is its performance features; refer to Chapter Technical Data.
- > A special parallel guide with a large working area is used due to the expanded cutting length of 380 mm.
- > Drain trays over the entire working area.

	Exakt 300	Exakt 310	Exakt 311
Parallel guides that can be used			
> CL	X	X	X*
> CP	X	X	X*
> Base unit (large bench)	--	--	X
All-purpose control electronics			
> CP	X	X	X*
Accessories			
> Laser-optical cutting line indication	X	X	X
> Automatic positioner	X	X	--
> Digital micrometer	X	X	--
> Universal sample holder	X	X	--
> Vacuum plate.	X	X	--
Splash and access protection			
> Plexiglas	X	--	--
> Plastic splash flap	X	X	X

*Option: Conversion kit to parallel guide for E311

4 EQUIPMENT CONFIGURATION

4.1. BAND SAWS



Refer to the Spare parts and accessories chapter to order spare parts.

4.1.1. EXAKT 300

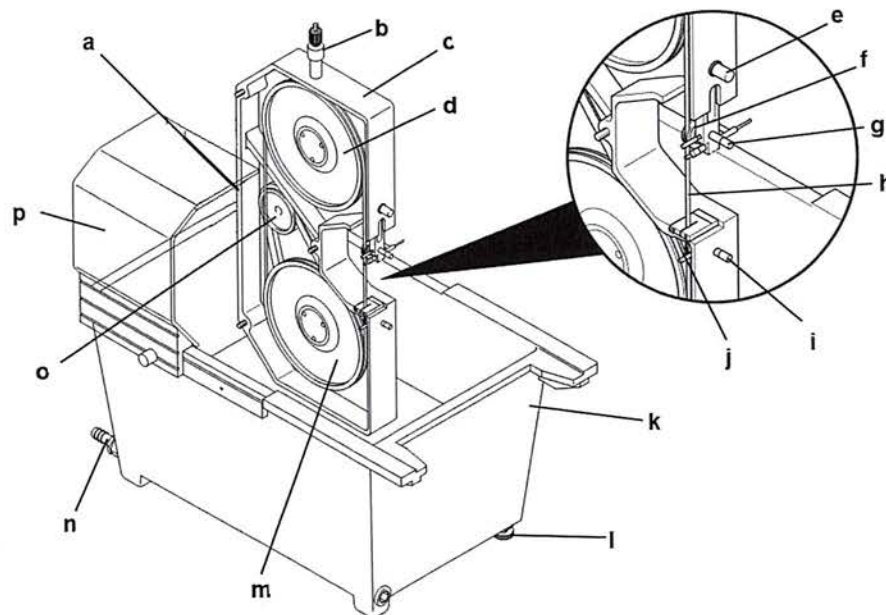


Fig. 1: Equipment configuration EXAKT 300

- | | |
|--|--|
| a Band saw controller
(the motor overload switch / pin-type contact is at the rear) | h Cutting band |
| b Band tension adjustment | i Locking screw for lower support roller |
| c Saw housing | j Lower support roller |
| d Wheel at top | k Tank |
| e Height adjustment for upper support roller | l Adjustable base (2x) |
| f Upper support roller | m Wheel at bottom |
| g Locking screw for upper support roller | n Drain valve |
| | o Drive pulley |
| | p Movable spray protection |

4.1.2. EXAKT 310

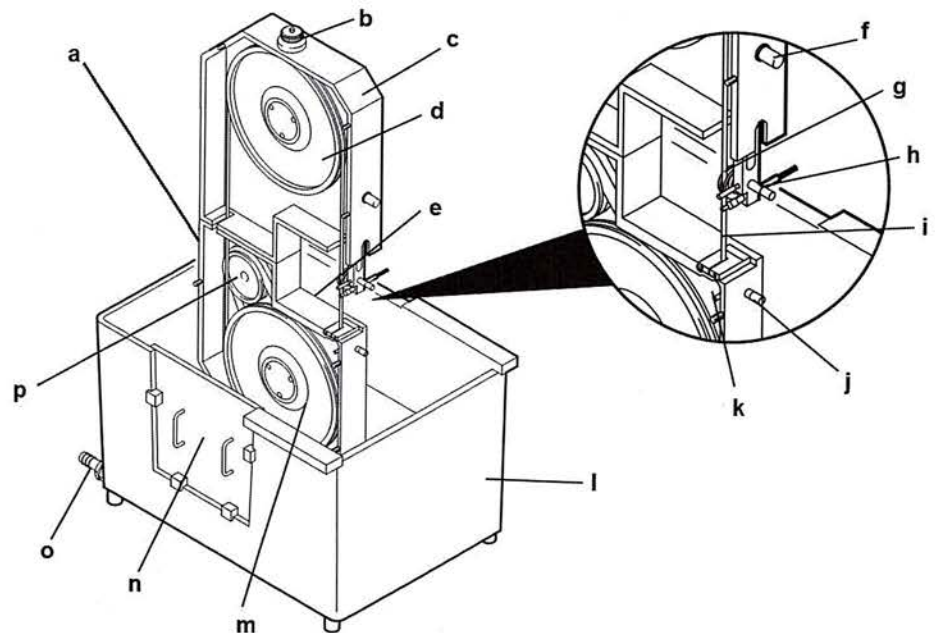


Fig. 2: Equipment configuration EXAKT 310

- | | | | |
|---|--|---|--|
| a | Band saw controller
(the motor overload switch / pin-type contact is at the rear) | h | Locking screw for upper support roller |
| b | Band tension adjustment | i | Cutting band |
| c | Saw housing | j | Locking screw for lower support roller |
| d | Wheel at top | k | Lower support roller |
| e | Wheel adjustment (behind the housing) | l | Tank |
| f | Height adjustment for upper support roller | m | Wheel at bottom |
| g | Upper support roller | n | Maintenance door |
| | | o | Drain valve |
| | | p | Drive pulley |
| | | q | Adjustable base (2x) |

4.1.3. EXAKT 311

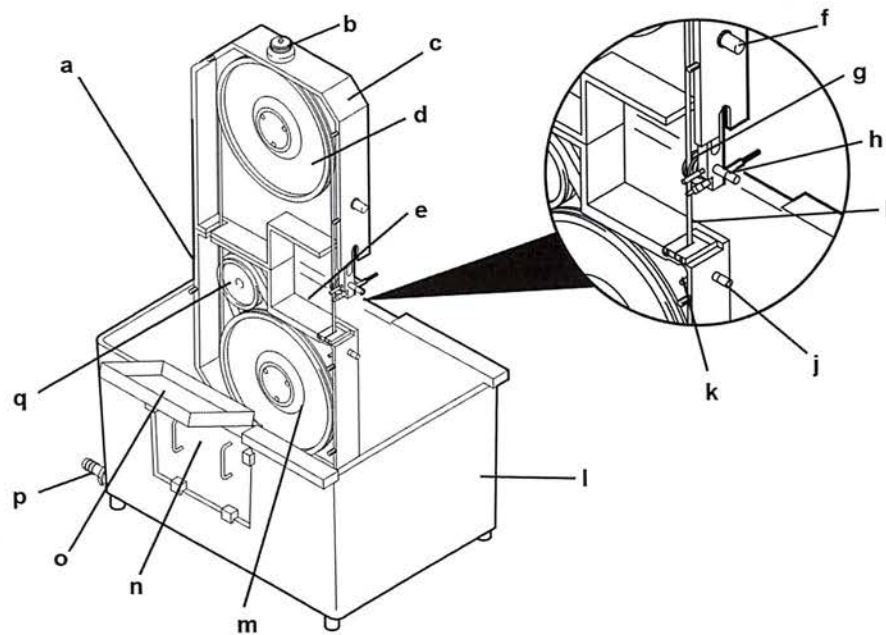


Fig. 3: Equipment configuration EXAKT 311

- | | | | |
|---|--|---|--|
| a | Band saw controller
(the motor overload switch / pin-type contact is at the rear) | i | Cutting band |
| b | Band tension adjustment | j | Locking screw for lower support roller |
| c | Saw housing | k | Lower support roller |
| d | Wheel at top | l | Tank |
| e | Wheel adjustment (behind the housing) | m | Wheel at bottom |
| f | Height adjustment for upper support roller | n | Maintenance door |
| g | Upper support roller | o | Runoff plate |
| h | Locking screw for upper support roller | p | Drain valve |
| | | q | Drive pulley |
| | | r | Adjustable base (2x) |

4.2. MOTOR CONTROLLER

4.2.1. EXAKT 300 MOTOR CONTROLLER

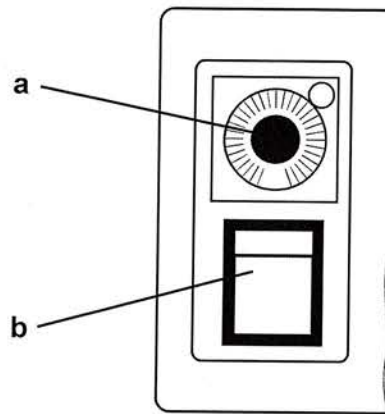


Fig. 4: EXAKT 300 motor controller

a Band speed

- Left stop: Cutting band runs at minimum speed
- Right stop: Cutting band runs at maximum speed

b Main switch On/Off

4.2.2. EXAKT 310/311 MOTOR CONTROLLER

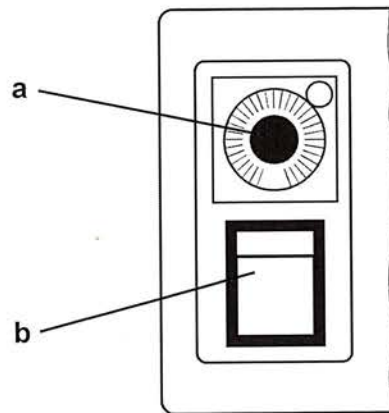


Fig. 5: Motor controller EXAKT 310/311

- a Motor On/Off and band speed
 - Left stop: Motor Off
 - Potentiometer, left stop: Cutting band runs at minimum speed
 - Right stop: Cutting band runs at maximum speed
- b Coolant pump On/Off

4.3. COOLING UNIT

The cooling unit is used for circulating the coolant in the storage tank.

CAUTION

The coolant pump may be damaged if the equipment is run dry.
Never run the coolant pump without coolant.

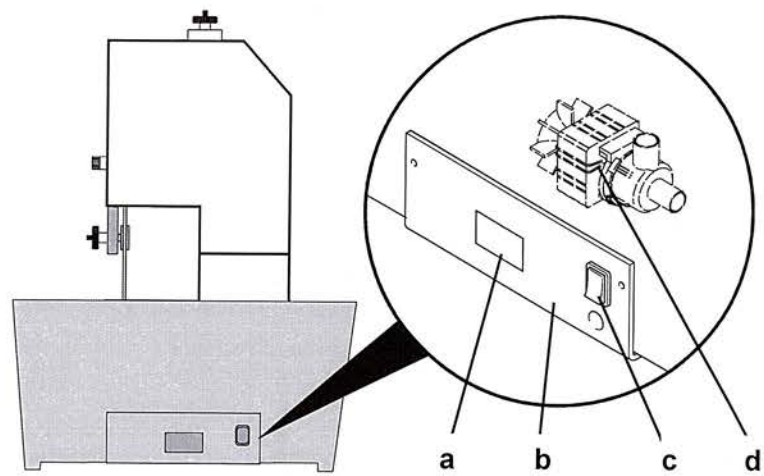


Fig. 6: Coolant pump

- a Type plate
- b Cover for coolant pump
- c On/Off switch of the coolant pump (only EXAKT 300)
- d Coolant pump

4.3.1. COOLING CONNECTION FOR CLOSED LOOP CIRCULATION

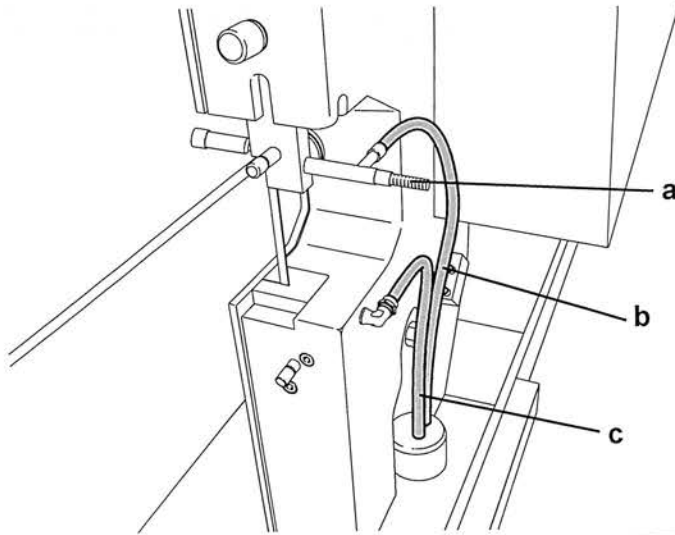


Fig. 7: Hose connection for circulation

- a Coolant control pin
- b Connection to pump for cooling
- c Connection to pump for cleaning hose



The device is connected at the factory for closed loop circulation.

4.3.2. COOLING CONNECTION FOR CONTINUOUS OPERATION

CAUTION

If the drain valve is closed in fresh-water operation, the coolant tank will eventually overflow, resulting in water damages.

Open the drain valve at the coolant tank.

Connect the hose with a contact downwards slope to the drain connection, and lead-off to a basin.

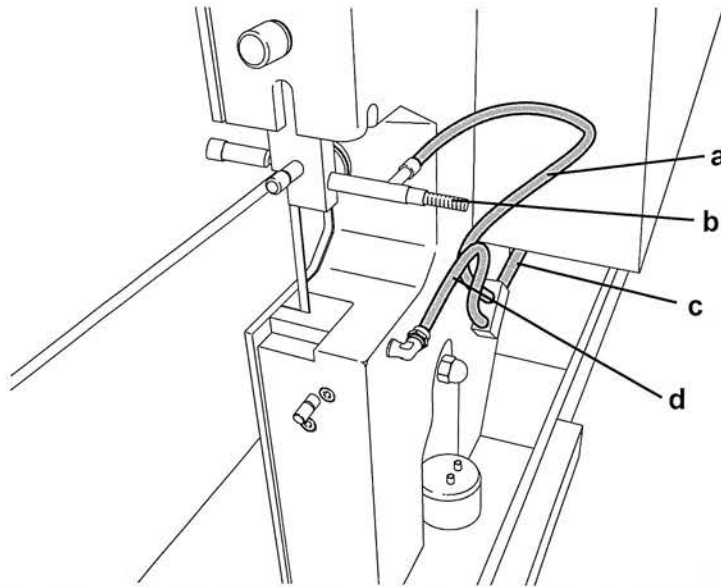


Fig. 8: Hose connection for fresh-water

- a Connection to pump for cooling
- b Coolant control pin
- c Connection for fresh-water inlet
- d Connection to pump for cleaning hose

4.4. PARALLEL GUIDES

Various parallel guides are used, depending on the cutting technology used. A detailed description is contained in the operating instructions of the "Parallel guides".

4.5. CONTROL ELECTRONICS (CUTTING TECHNOLOGY)

A control electronics is used, depending on the cutting technology or parallel guide used.

- > CP controller (Contact Point),

A detailed description of the controller is contained in the operating instructions of the "Parallel guides".

4.6. ACCESSORIES

A comprehensive range of accessories are available for the band saws, such as:

- > Laser-optical cutting line indication
- > Automatic positioner
- > Digital micrometer
- > Universal sample holder
- > Vacuum plate

A detailed description of the accessories is contained in the operating instructions of the accessories

5 INSTALLATION

5.1. ERECTING THE BAND SAW

CAUTION

The cutting band is very sensitive and must therefore be treated with the utmost care.

Only mount the cutting band after completing all preliminary installation work.

CAUTION

Danger from abutting of parallel guides.

Do not erect the band saw in the passageways of rooms.

Maintain sufficient clearance from the wall.

Good location for the cross cut system.

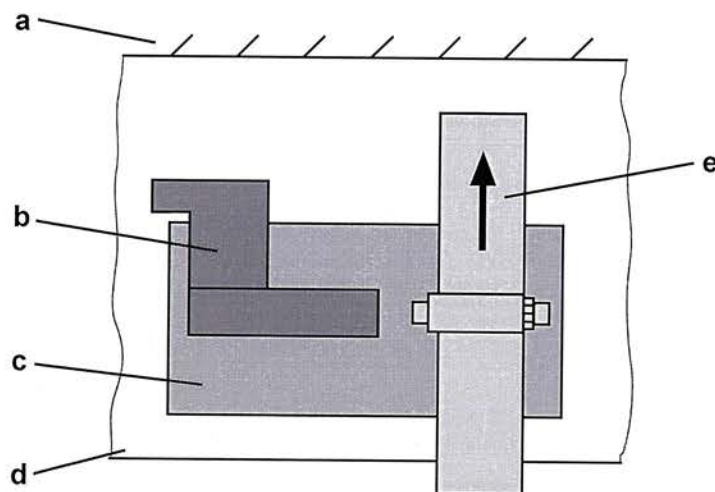


Fig. 9: Working position (view from top)

- a Wall
- b Cutting unit
- c Coolant unit
- d Edge of bench
- e Parallel guide

5.1.1. SCOPE OF DELIVERY OF EXAKT 300

The scope of delivery of the EXAKT 300 Diamond Band Saw is comprised of the following components:

- > Cutting unit with coolant unit
- > Cutting band
- > Parallel guide
- > Clamping device
- > Other accessories

5.1.2. ERECTING THE EXAKT 300

Erect the EXAKT 300 band saw as follows:

1. First place the cutting unit on a suitable lab bench (height approx. 75 cm).
Refer to the "Technical Data" chapter for weight specifications.
2. Align the cutting unit with its adjustable base so that a firm and safe footing is ensured.

5.1.3. SCOPE OF DELIVERY OF EXAKT 310/311

The scope of delivery of the EXAKT 310/311 Diamond Band Saw is comprised of the following components:

- > Cutting unit top section
- > Cutting unit bottom section with coolant unit
- > Cutting band
- > Parallel guide
- > Clamping device
- > Other accessories

5.1.4. ERECTING THE EXAKT 310/311

Erect the EXAKT 310/311 band saw as follows:

1. First place the cutting unit bottom section on a suitable lab bench (height approx. 50 cm). Refer to the "Technical Data" chapter for weight specifications.
2. Align the cutting unit bottom section with its adjustable base so that a firm and safe footing is ensured.
3. Clean the separating area of the two halves of the housing.
4. With the help of a second person, place the top section of the cutting unit onto the bottom section and then tighten initially by hand using the enclosed fixing screws.
5. Align the top section of the cutting unit so that both ends are flush and no offset can be seen at the side.
6. Now firmly tighten the fixing screws.
7. Check once more for a safe and secure footing of the entire band saw and adjust using the adjustable feet if necessary.

5.2. ELECTRICAL CONNECTION

The devices can be delivered in the clamping versions described in Chapter 9.3. Before connecting, compare the mains voltage with the device voltage specified on the type plate of the device.

5.3. ASSEMBLING THE CUTTING BAND

CAUTION

Perfect function is not ensured if you use non-approved cutting bands. Only original EXAKT cutting bands must be used. The manufacturer accepts no liability for any damages caused by non-observance.

CAUTION

The quality of the cutting surface (smoothness and surface quality) depends to a considerable extent on the quality of the cutting band. Always work with the cutting band with utmost care and do not bend it. Store the cutting band correctly. Do not place any objects on the cutting band.

To meet the various requirements, cutting bands with the following features are available.

- > Thickness 0.1 / 0.2 / 0.3 mm
- > Diamond coating of D32 – D181



⚠ WARNING

Installation work must never be carried out when the housing cover is open! Only open the housing cover to mount and clamp the cutting band.

The work described in the following must be carried out by the manufacturer's personnel or by instructed expert staff of the operator.

5.3.1. EXAKT 300

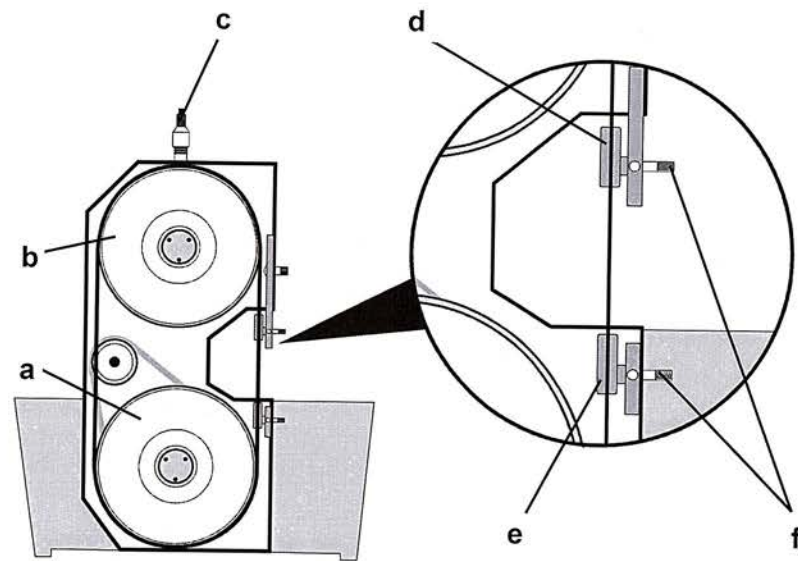


Fig. 10: Placing on cutting band EXAKT 300

1. Remove the front section of the splash protection.
2. Remove the housing cover (3 cap nuts).
3. Make sure that the top (d) and bottom support roller (e) are correct for the thickness of the cutting band. Numbers are punched into the face side of the support rollers:
 - 1 = cutting band thickness 0.1 mm
 - 2 = cutting band thickness 0.2 mm
4. Swing back the upper and lower support roller.
 - Release the fixing screws (f).
 - Swing back the support rollers using the support roller holder.
5. Release the clamping nut (c).
 - The top wheel (b) can be lowered by 5-10 mm.
6. Place the cutting band onto both wheels (a, b).
7. To clamp, turn the clamping nut (c) until the cutting band is slightly clamped.
8. Manually turn the wheels a little.

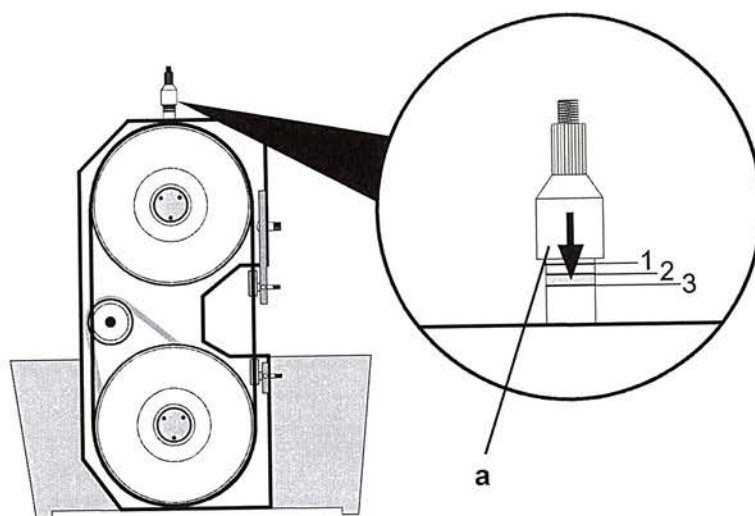


Fig. 11: Clamping cutting band EXAKT 300

9. Turn the clamping nut (a) until the lower edge of the clamping nut is between ring 2 and ring 3 on the connector.



WARNING

There is a risk of entanglement between the belt pulleys and the drive pulleys if you clamp the cutting band when the device is running!

Do not reach into the drive elements when the device is switched on for a short time without protective covers during adjustment work.

- > Wear tightly fit clothing and tie long hair behind your head. Do not wear any jewelry, ties or other clothes that could become entangled.

10. Set the motor controller to the slowest band speed.
11. Briefly switch on the band saw.
The cutting band must center itself on the wheels.
12. Adjust the support rollers as described in chapter "Adjusting the support rollers".
13. Close the housing cover.

5.3.2. EXAKT 310/311

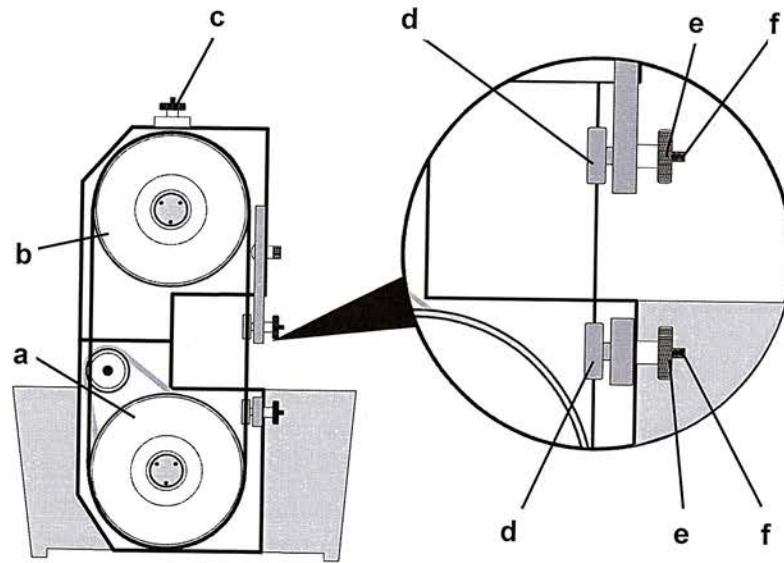


Fig. 12: Placing on cutting band EXAKT 310/311

1. Remove the housing cover (2 x 4 cap nuts).
2. Make sure that the top (d) and bottom support roller (e) are correct for the thickness of the cutting band. Numbers are punched into the face side of the support rollers:
 - 1 = cutting band thickness 0.1 mm
 - 2 = cutting band thickness 0.2 mm
 - 3 = cutting band thickness 0.3 mm
3. Release the clamping nut (c).
 - The top wheel (b) can be lowered by approx. 3 cm.
4. Place the cutting band on both wheels (a, b), at the same time inserting it into the grooves of the support rollers (d).
5. To clamp, turn the clamping nut (c) until the cutting band is aligned straight.
 - The cutting band must be flush to the wheels and the support rollers. If necessary, adjust the support rollers with the screws (f) and fix with the knurled screws (e).
6. Keep turning the clamping nut (c) approx, one turn after the cutting band is aligned straight.
7. Slightly turn the wheels by hand and make sure that the cutting band is not lying in the base of the support rollers.
 - Adjust the support rollers as described in chapter "Adjusting the support rollers".

**⚠ WARNING**

There is a risk of entanglement between the belt pulleys and the drive pulleys if you clamp the cutting band when the device is running!

Do not reach into the drive elements when the device is switched on for a short time without protective covers during adjustment work.

➤ Wear tightly fit clothing and tie long hair behind your head. Do not wear any jewelry, ties or other clothes that could become entangled.

8. Set the motor controller to the slowest band speed.
9. Briefly switch on the band saw.
 - The cutting band must center itself on the wheels.
10. Close the housing cover.

5.4. ADJUSTING THE BACK POSITION OF THE CUTTING BAND

5.4.1. EXAKT 300 (ADJUSTING WITH SUPPORT ROLLERS)

The support rollers are adjusted when the band saw is switched off.

CAUTION

The cutting band must neither be pressed to the side or forwards by the support rollers, see Figure 13 (right).

Otherwise, the cutting band may tear prematurely.

The support rollers must be adjusted so that the course of the cutting band is not influenced by them.

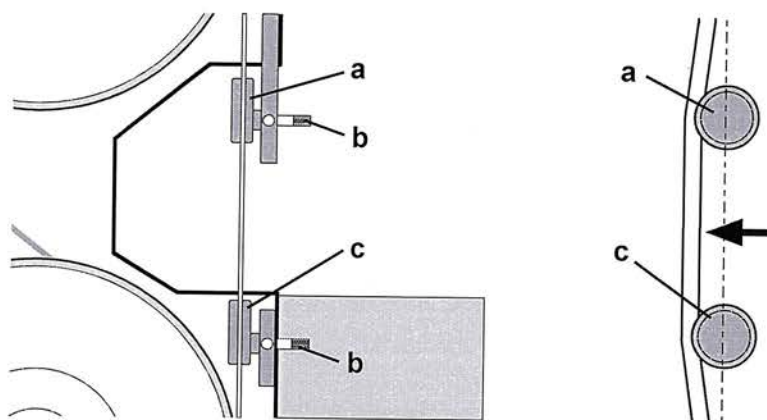


Fig. 13: Adjusting the support rollers for EXAKT 300

1. Top support roller (a)
 - Release the fixing screw and guide the support roller without forcing it to the groove at the rear of the cutting band.
2. Lower support roller (c)
 - The support roller must be guided from below onto the cutting band.
 - Release the fixing screw (b) and guide the support roller without forcing it to the groove at the rear of the cutting band.
3. Check smooth running of the cutting band, first at low speed, then at high speed.

CAUTION

When optimally set, the rear of the cutting band must only lie on the support roller when it is cutting.

After making the adjustment

1. Place the housing cover back on.
 - Place the cover on the stud screw and fix with the cap nuts.
2. Re-attach the splash protection, see Chap. 5.7

5.4.2. EXAKT 310/311 (ADJUSTING WITH BOTTOM WHEEL)

CAUTION

The cutting band must neither be pressed to the side or forwards by the support rollers, see Figure 14 (left).

Otherwise, the cutting band may tear prematurely.

The support rollers must be adjusted so that the course of the cutting band is not influenced by them.

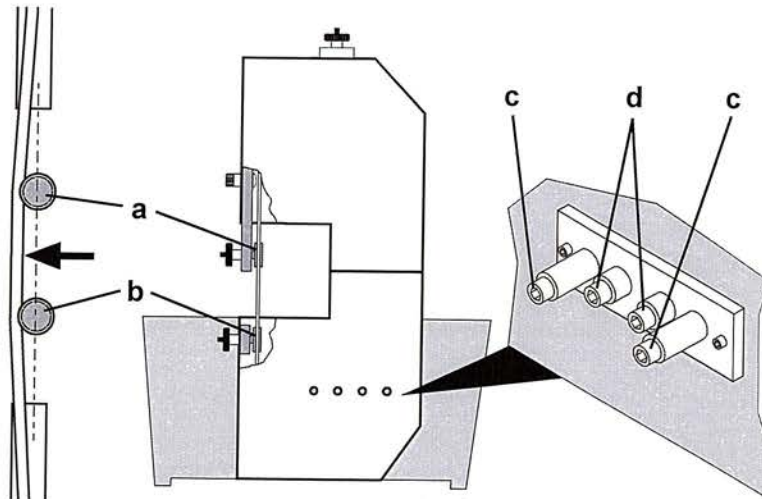


Fig. 14: Adjusting the rear of the cutting band to support rollers EXAKT 310/311

The clearance of the rear of the cutting band to the base of the support rollers is adjusted by adjusting screws (c) and (d) at the rear of the tank.

CAUTION

When optimally set, the rear of the cutting band must only lie on the support roller when it is cutting.

5.5. ADJUSTING THE LOWER WHEEL (ONLY FOR EXAKT 310/311)

The lower wheel of the EXAKT 310 / 311 Diamond Band Saws can be adjusted. This ensures that the diamond cutting band lies cleanly on the wheels and that the required clearance (0.2 – 0.5 mm) from the rear of the diamond cutting band (1) to the support roller (2) is maintained.

This clearance is important because the diamond cutting wheel would otherwise tear due to constant bending forces at the support rollers.

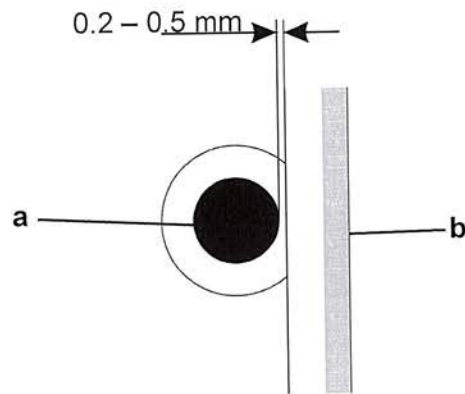


Fig.: 15: Check clearance (play)

Check clearance (play):

1. Switch off the diamond band saw at the main switch and wait until the cutting band stops.
2. Press the cutting band (b) from the front against the support roller (a):
 - There must be a definite clearance of 0.2 – 0.5 mm.
3. A different clearance is adjusted as per the following description.
4. Remove the housing cover (3 cap nuts).

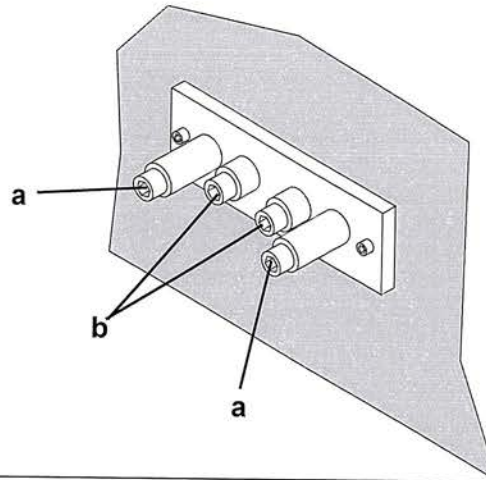


Fig.: 16: Adjust the clearance (play)

Clearance (play) is too large:

The wheel must be positioned inwards (towards the housing).

1. Release both outer screws (a) by approx. 45° counterclockwise.
2. Tighten both inner screws (b) clockwise by approx. 45°.

Clearance (play) is too small:

The wheel must be positioned outwards (away from the housing).

1. Release both inner screws (b) by approx. 45° counterclockwise.
2. Tighten both outer screws (a) clockwise by approx. 45°.
3. Allow the cutting band to settle into its new position by turning a wheel.
Briefly start the diamond band saw
4. Once more check the clearance (play) between the cutting band and the wheel.
5. Repeat the adjustment until the clearance (play) is correct.

If the cutting bands tear too early, the position of the support rollers may have to be corrected.

After making the adjustment

1. Place the housing cover back on.
 - Place the cover on the stud screw and fix with the cap nuts.

5.6. INSTALLING THE PARALLEL GUIDE



Refer to the two separate operating instructions on how to install the parallel guides.

The parallel guide is fixed onto the bearing surface of the coolant tank by two clamping devices.

The parallel guide can be moved on the bearing surfaces of the coolant tank.

1. Clean the bearing surfaces of the coolant tank.
2. Place the parallel guide onto the bearing surfaces.
3. Install the parallel guides as per the instructions in the separate operating instructions.

5.7. INSTALLING THE SPLASH AND ACCESS PROTECTION

5.7.1. PLEXIGLAS PROTECTION (ONLY FOR EXAKT 300)

The Plexiglas splash and access protection is comprised of two parts. It is mounted on a sliding rail at the coolant tank and at the parallel guide.

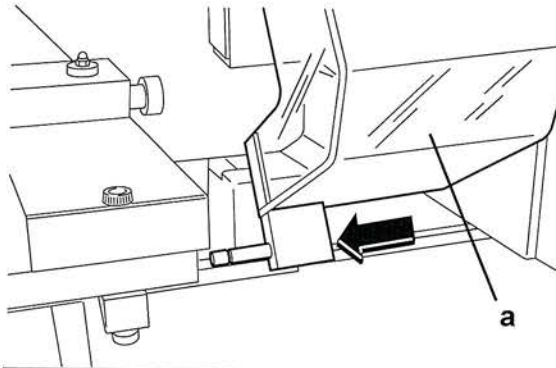


Fig. 17: Installing the rear Plexiglas protection

- > Latch the rear Plexiglas protection (a) with the bolt into the bore hole of the parallel guide.

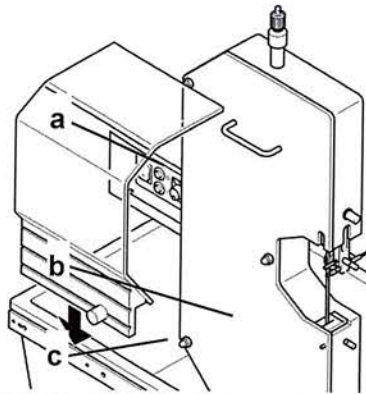


Fig.: 18: Installing the front Plexiglas protection

- > Place the front Plexiglas protection (a) with its contact surface onto the sliding rail (c) and fix with the fixing screw (b).

CAUTION

To operate, first flap the rear section forward and then push the front section to the right. The working area is then completely closed.

5.7.2. PLASTIC SPLASH FLAP

The plastic splash flap splash and access protection is comprised of two Plexiglas panels and three holders with plastic splash flaps. It is mounted onto the attachment rails installed on the band saw housing.

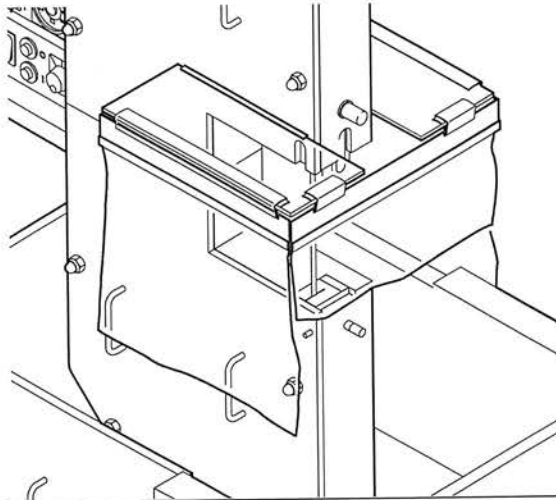


Fig. 19: Installing the front plastic splash flaps

- > Insert a Plexiglas panel in the front attachment rail.
- > Place a holder with plastic splash flaps onto the Plexiglas panel.
- > Insert a Plexiglas panel in the rear attachment rail.
- > Place a holder with plastic splash flaps onto the Plexiglas panel.
- > Place the third holder with plastic splash flaps to the side on both Plexiglas panels.

CAUTION

During operation, make sure that the front and rear plastic splash flaps are hooked into the coolant tank. The working area is then completely closed off.

5.8. CONNECTING THE COOLING / RINSING CIRCUIT

The **cutting band** is cooled and rinsed when cutting. There are two connections for the cooling/rinsing circuit for this. The application area is the main criteria to determine which connection to use.

> Continuous operation

- In continuous operation, the cooling/rinsing circuit is connected to the fresh-water line.
- Continuous operation is used for cutting fresh tissues and samples embedded in plastic and that do not contain any metals or bioceramics (low bacteria formation).

> Closed loop circulation

- In closed loop circulation, the cooling/rinsing circuit is supplied by the integrated coolant pump.
- Bore oil emulsions are mostly used for closed loop circulation. These are particularly advantageous when separating objects with metal implants. Furthermore, the oil component has the effect of reducing wear to **cutting band**.

5.8.1. CONTINUOUS OPERATION

CAUTION

Only push the hoses onto the red tube sockets, but do not fix in place. This can thereby exclude a pressure overload caused by an excessive amount of water. If the permissible pressure is overshoot, the hoses slip off the tube sockets.

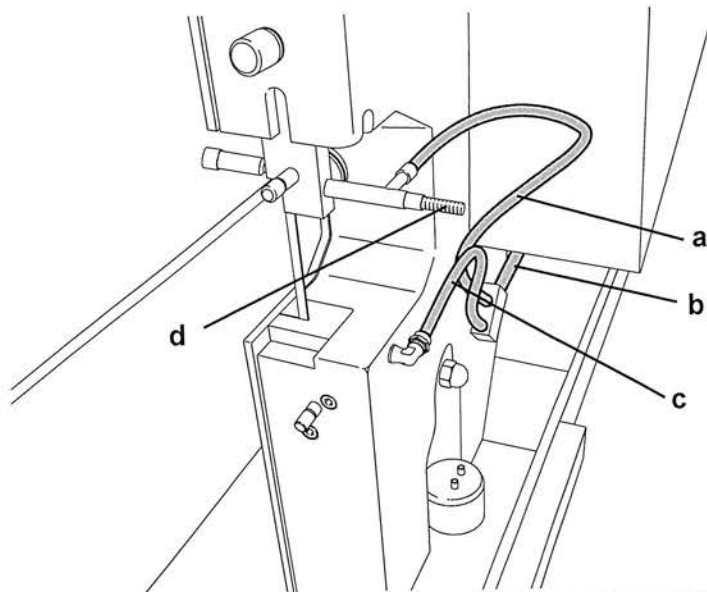


Fig. 20: Hose connection for fresh-water

The internal coolant pump is not required for continuous operation. The connections for continuous operation are on the distribution block on the rear of the housing of the band saw and in the lower area of the coolant tank.

1. Switch off the coolant pump at the separate switch at the rear of the tank.
2. Push the water supply line with a hose (inner diameter 4 mm) onto the red, single tube socket at the distribution block (b) on the rear housing of the band saw.
 - Install an adjustable water tap on site.

CAUTION

The coolant tank overflows if the drain valve is closed or the drain hose is laid incorrectly. This results in damage to the band saw.

In continuous operation, open the drain valve and lay the drain hose at a constant downward slope. There must be no back pressure.

3. Connect the drain hose to the drain valve (see Fig. 1-3) and open the drain valve. The discharged water may have to be specially treated or disposed of, depending on the application (see "Safety" chapter).
4. Place on or change over the hoses for the cooling (a) and cleaning (c) at the two other tube sockets.
5. The coolant quantity is adjusted during cutting with the coolant control pin (d).

5.8.2. CLOSED LOOP CIRCULATION

The band saw is prepared for closed loop circulation. In closed loop circulation, the internal coolant pump circulates the bore emulsion through the cooling/rinsing circuit.

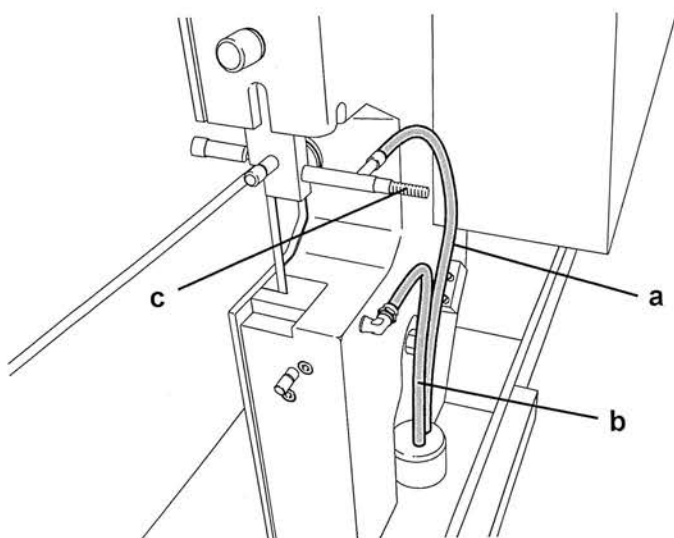


Fig. 21: Hose connection for circulation

CAUTION

If the fill level of the coolant is too low there is a risk of dry running for the coolant pump.

Check the coolant fill level each time after operation. If the coolant fill level is too low then coolant must be refilled.

The cooling/rinsing circuit can be blocked by contaminated coolant.

Check the coolant each time after operation. If the coolant is contaminated, replace all of the coolant and clean the coolant/rinsing circuit.

1. Switch off the coolant pump at the separate switch at the rear of the tank.
2. Place on or change over the hoses for the cooling (a) and cleaning (b) at the two other tube sockets.
3. Close the drain valve.
4. Remove the cover sheets from the floor of the coolant tank.
5. Wind gauze around the insulating plate of the floor of the coolant tank (plastic hole filter) and then re-insert.
6. Apply bore emulsion as per the instructions in the "Applying bore emulsion" chapter.
7. Fill bore emulsion into the coolant tank (filter over the gauze). The coolant level should be just below the cover sheets.
8. Insert the cover sheets from the floor of the coolant tank.
9. Switch on the coolant pump at the separate switch at the rear of the tank.
10. Closed loop circulation is automatically switched on when switching on the band saw.
11. The coolant quantity is adjusted during cutting with the coolant control pin (c).

5.8.3. APPLYING BORE EMULSION

Apply bore emulsion outside the coolant tank. For details of quantity and mixing ratios, see the "Technical Data" chapter.

1. Fill approx. 10 l of water into a suitable container (e.g., large, closed plastic canister).
2. Add the bore oil and mix.
3. Add the disinfectant and mix.
4. Refill bore emulsion into the coolant tank as per the instructions in the 5.8.2 "Continuous operation" chapter, or replace the old bore emulsion.

6 OPERATION

6.1. SWITCH ON THE BAND SAW

6.1.1. EXAKT 300 MOTOR CONTROLLER

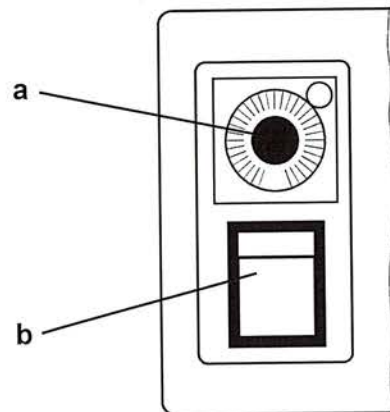


Fig. 22: Motor controller EXAKT 300

a Band speed

- Left stop: Cutting band runs at minimum speed
- Right stop: Cutting band runs at maximum speed

b Main switch On/Off

6.1.2. EXAKT 310/311 MOTOR CONTROLLER

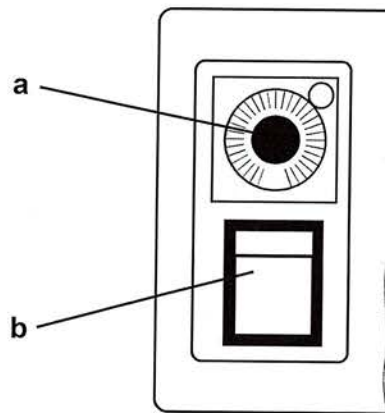


Fig. 23: Motor controller EXAKT 310/311

- a Motor On/Off and band speed
 - Left stop: Motor Off
 - Potentiometer, left stop:
Cutting band runs at minimum speed
 - Right stop: Cutting band runs at maximum speed.
- b Coolant pump On/Off

CAUTION

Slowly increase the cutting band speed, as otherwise the motor overload switch will trigger. The overload switch (black pin-type contact) is at the rear of the motor housing.

7 CARE AND MAINTENANCE

When correctly operated, EXAKT devices are very reliable and only require low maintenance.

To ensure this, the following care and maintenance work must be run in the specified time intervals as per the maintenance plan.



WARNING

You must read the *Safety* chapter before running care and maintenance work!

There is an increased risk of injury if the *Safety* chapter is ignored.

Maintenance must only be carried out by persons that have been assigned with this task and that have been instructed on the associated risks and dangers, and who are appropriately qualified.

- > You must disconnect the device from the mains before running care and maintenance work!
- > Contamination of the coolant may occur for certain applications.



WARNING

Contamination of the coolant may occur for certain applications. The coolant is then infectious and toxic!

The biologically or micro-biologically contaminated coolant must then be correctly disposed of by the operator.

- > Observe the instructions of the manufacturer of the coolant, cleaning agent and disinfectant.
- > Prepare countermeasures such as extraction and personal protective equipment.



Always keep the overall system in a clean condition.

7.1. CARE AND MAINTENANCE PLAN

System	Schedule	Care and maintenance work	Chapter
Diamond band saw	After each use	Check the entire area around the diamond band saw for dirt/contamination, and clean if necessary.	
Cutting band	After each use	Check the cutting band for dirt/contamination and wear and clean/replace if necessary.	7.3
		Check the tension of the cutting band and tighten at the clamping nut if necessary.	5.3
Support rollers	After each use	Check the adjustment of the support rollers to the cutting band and re-adjust if necessary.	5.3.2
		Check the support rollers for dirt/contamination and wear and clean/replace if necessary.	7.4
Coolant	Weekly	Check the coolant fill level and refill coolant if necessary.	7.7.1
		Check the coolant for dirt/contamination, replace all of the coolant and clean the coolant/rinsing circuit if necessary.	7.7.2
Coolant tank	After each use	Check the coolant tank for dirt deposits and clean if necessary.	7.8
		Check the gauze filter at the insulating plate of the floor of the coolant tank (plastic hole filter) and replace if necessary.	7.8
Parallel guide	After each use	Always check for contamination and clean when necessary	See the operating instructions of the parallel guide
Accessories	After each use	Always check the vacuum plate, laser-optical cutting line indication, etc., for dirt/contamination and clean if necessary.	See the operating instructions of the accessories

7.2. CLEANING THE HOUSING



WARNING



Pull the mains plug on the device before cleaning.

Unintentional switch-on of the device during cleaning work may result in dangerous injuries to the fingers.

Pull the mains plug on the device before cleaning, or disconnect it from the mains.

- > Never spray the diamond band saw with water to clean it, or clean it with a high-pressure cleaner.

Do not use any aggressive cleaning agent such as acetone or a nitro solution when cleaning the housing. Cleaning with cleaning solvent or isopropyl alcohol has proven useful in practice.

7.3. CHECKING/CLEANING AND REPLACING THE CUTTING BAND

A worn/contaminated cutting band results in inexact or unclean cutting results. Normally the cutting results show extremely plane cutting surfaces with very low surface roughness.

To meet the various requirements, the cutting band must be checked for dirt and wear each time after use and after product is replaced:

- > Clean a dirty cutting band.
- > Replace a worn cutting band (for this, see Chap.5.3).

7.4. SUPPORT ROLLER MAINTENANCE

7.4.1. CHECKING/CLEANING AND REPLACING THE EXAKT 300 SUPPORT ROLLERS

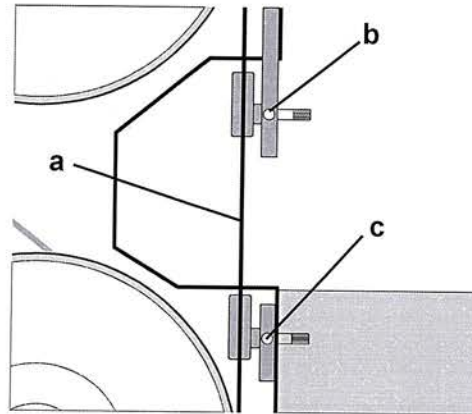


Fig. 24: EXAKT 300 support rollers

1. Remove the cutting band (a).
2. Release the fixing screw (b) from the upper support roller and remove the roller from its holder.
3. Release the fixing screw (c) from the lower support roller and remove the roller from its holder.
4. Using the supplied cleaning sheets, clean deposits from the guide groove of the support roller.
5. Check the support roller for free movement and clean the bearing if necessary or replace the complete support roller with a new one.
 - Remove the screw and washer from the bearing.
 - Pull off the support roller with one bearing.
 - Clean both bearings, only using cleaning solvent.
 - Lubricate both bearing with resin.free lubricating oil (Öl für Stützrollen / Oil for support rollers).
 - Assemble the support roller with intermediate ring, washer and screw.
6. Re-attach the upper and lower support roller.

7.4.2. CHECKING/CLEANING AND REPLACING THE EXAKT 310/311 SUPPORT ROLLERS

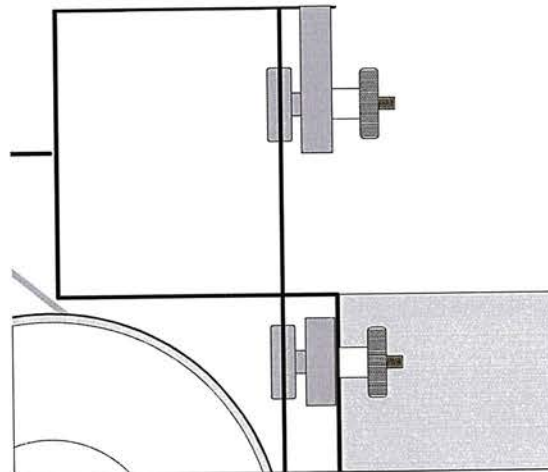


Fig. 25: EXAKT 310/311 support rollers

1. Remove the cutting band (a).
2. Unscrew the fixing screw (c) from the support roller (b).
3. Remove the complete support roller (b) from its holder.
4. Do the same with the lower support roller (d).
5. Using the supplied cleaning sheets, clean deposits from the guide groove of the support roller.
6. Check the support roller for free movement and clean the bearing if necessary or replace the complete support roller with a new one.
 - Remove the screw and washer from the bearing.
 - Pull off the support roller with one bearing.
 - Remove the intermediate ring between the two bearings.
 - Clean both bearings, only using cleaning solvent.
 - Lubricate both bearings with bearing grease of a resin-free lube oil.
 - Assemble the support roller with intermediate ring, washer and screw.
7. Re-attach the upper and lower support roller.

7.5. REPLACING THE YELLOW FLAT BELT

The yellow flat belt ensures smooth running of the diamond cutting band on the wheel. The yellow flat belt is a wear part. How to replace the flat belt on the EXAKT 300 at the lower wheel is shown in the following.

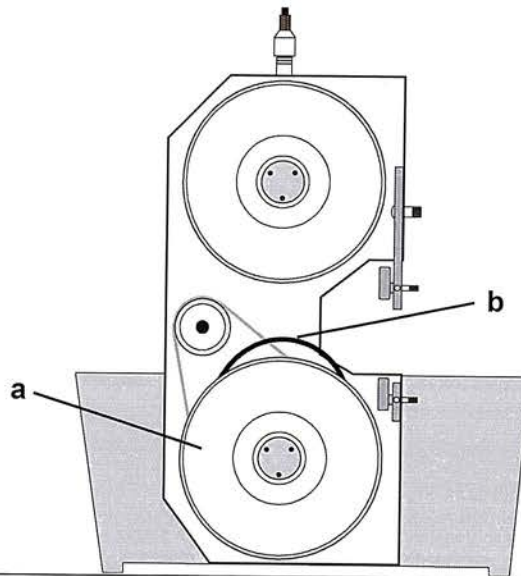


Fig. 26: Replacing on the EXAKT 300

1. Remove the cutting band.
2. Hold the wheel (a).
3. Lift the flat belt (b) with a screwdriver and pull off from the wheel.
4. Clean the fitting groove for the flat belt.
5. First place the new flat belt below and then press it in a circular motion into the nut of the wheel.
6. Place on the cutting band.

7.6. ADJUSTING THE LOWER WHEEL (ONLY FOR EXAKT 310/311)

The lower wheel of the EXAKT 310 / 311 Diamond Band Saws can be adjusted. This ensures that the diamond cutting band lies cleanly on the wheels and that the required clearance (0.2 – 0.5 mm) from the rear of the diamond cutting band (1) to the support roller (2) is maintained.

This clearance is important because the diamond cutting wheel would otherwise tear due to constant bending forces at the support rollers.

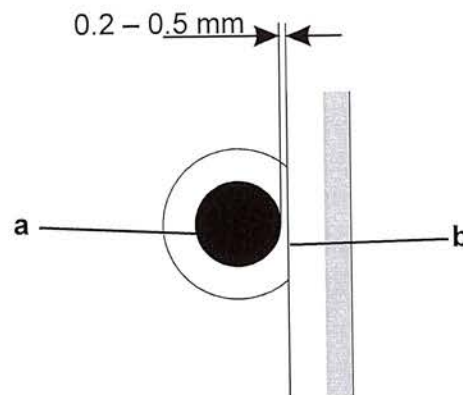


Fig. 27: Check clearance (play)

Check clearance (play):

1. Switch off the diamond band saw at the main switch and wait until the cutting band stops.
2. Press the cutting band (b) from the front against the support roller (a):
 - There must be a definite clearance of 0.2 – 0.5 mm.
3. A different clearance is adjusted as per the following description.
4. Remove the housing cover (3 cap nuts).

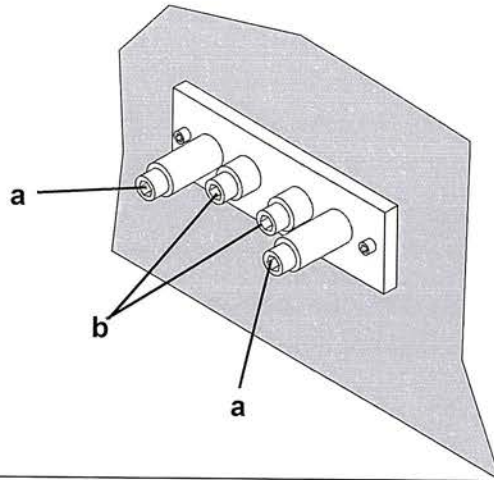


Fig. 28: Adjust the clearance (play)

Clearance (play) is too large:

The wheel must be positioned inwards (towards the housing).

1. Release both outer screws (a) by approx. 45° counterclockwise.
2. Tighten both inner screws (b) clockwise by approx. 45°.

Clearance (play) is too small:

The wheel must be positioned outwards (away from the housing).

1. Release both inner screws (b) by approx. 45° counterclockwise.
2. Tighten both outer screws (a) clockwise by approx. 45°.
3. Allow the cutting band to settle into its new position by turning a wheel.
Briefly start the diamond band saw
4. Once more check the clearance (play) between the cutting band and the wheel.
5. Repeat the adjustment until the clearance (play) is correct.

7.7. COOLANT

7.7.1. CHECKING THE FILLING LEVEL



WARNING

If the fill level of the coolant is too low there is a risk of dry running for the coolant pump.

Check the coolant fill level each time after operation. If the coolant fill level is too low then coolant must be refilled.

1. Switch off the coolant pump at the separate switch at the rear of the tank.
2. Remove the cover sheets from the floor of the coolant tank.
3. Apply bore emulsion as per the instructions in the "Applying bore emulsion" chapter.
4. Fill bore emulsion into the coolant tank (filter over the gauze). The coolant level should be just below the cover sheets.
5. Insert the cover sheets from the floor of the coolant tank.
6. Switch on the coolant pump at the separate switch at the rear of the tank.
7. Closed loop circulation is automatically switched on when switching on the diamond band saw.

7.7.2. CHECKING THE QUALITY



WARNING

Biologically or micro-biologically contaminated coolant is hazardous to health!



Observe the instructions of the manufacturer of the coolant, cleaning agent and disinfectant.



> Dispose of coolant correctly.

> Prepare countermeasures such as extraction and personal protective equipment.

Contamination of the coolant may occur after certain applications. The coolant is then infectious and toxic. The biologically or micro-biologically contaminated coolant must then be replaced and correctly disposed of.

1. Attach a drain hose to the drain valve.
2. Feed the drain hose to a suitable container in which the coolant can be correctly disposed of if necessary.
3. Open the drain valve.
4. Remove the cover sheets from the floor of the coolant tank.
5. Carefully rinse and clean the entire coolant tank with water.
6. Wind new gauze around the insulating plate of the floor of the coolant tank (plastic hole filter) and then re-insert.
7. Close the drain valve.
8. Apply bore emulsion as per the instructions in the "Applying bore emulsion" chapter.
9. Fill bore emulsion into the coolant tank (filter over the gauze). The coolant level should be just below the cover sheets.
10. Insert the cover sheets from the floor of the coolant tank.
11. Switch on the coolant pump.

7.8. CLEANING THE DRAIN TRAY

CAUTION

The cooling/rinsing circuit can be blocked by contaminated coolant.

Check the coolant each time after operation. If the coolant is contaminated, replace all of the coolant and clean the coolant/rinsing circuit.



See "Checking the coolant quality" chapter for instructions.

8 REMEDYING MALFUNCTIONS

Description	Cause	Remedy
Diamond band saw cannot be switched on	Power supply interrupted	Establish the power supply Check the fuse
	Drive belt torn	Replace the belt
	Drive defective	Contact Service
	No function of an electrical module	Contact Service
	Overload of drive / motor overload switch has triggered	Switch off the device at the main switch and press the motor overload switch (black pin switch at the rear of the motor housing).
Drop in fine cutting quality	Dirty / worn cutting band	Clean cutting band and replace if necessary
	Incorrect band speed	Correct the band speed
	Wheel shifted (only for EXAKT 310 and 311)	Adjust the wheel
	Incorrect support roller adjustment	Readjust support rollers
	Dirty / worn support rollers	Clean or replace support rollers
	Worn / defective yellow flat belt	Replace yellow flat belt
	Tension too low at the cutting band	Increase the tension at the cutting band
No coolant/lubricant feed, or feed too low	The separate switch for the coolant pump is switched off	Switch on the coolant pump
	Blocked cooling/rinsing circuit	Clean the cooling/rinsing circuit
	Lines of the cooling/rinsing circuit have popped out	Check / plug in the lines

9 TECHNICAL DATA

9.1. GENERAL DATA

	Unit	300CL	300CP	310CL	310CP	311 CL
Footprint						
Length	mm	1000	1000	1000	1000	1000
Width	mm	800	800	1200	1200	1200
Height	mm	850	850	1350	1350	1350
Speed of cutting band	m/min	10 – 560	10 – 560	10 – 800	10 – 800	10 – 800
Cutting force	N	0.5 – 1.0	0.25 – 1.0	1.0 – 8.0	1.0 – 8.0	1.0 – 8.0
Max. cutting length	mm	140 x 90	100 x 80	270 x 190	180 x 180	380 x 168
Weight approx.	kg	50	50	160	160	180
Filling quantity for coolant	L	Approx . 6	Approx . 610	Approx . 10	Approx . 10	Approx . 10
Working height	mm	350	350	570	570	590
Material of machine parts		Hardened anodized aluminum; stainless steel				
Housing material		Aluminum; oil- and seawater resistant coating				

9.2. BORE OILS AND DISINFECTANTS THAT CAN BE USED

Manufacturer	Name
Bore oil:	ESSO Kutwell 30, 40 or 70 BP Microtrend 239 L
Disinfectant:	Use a suitable disinfectant



WARNING

A low quantity of aerosol arises when using bore oils or emulsions.

Add a disinfectant to the bore oils or emulsions to kill bacteria.

9.3. SPECIAL VOLTAGES

Diamond band saw E300

Voltage in V	Frequency in Hz	Motor power in W
1 x 220-240	50-60	120
1 x 100-115	50-60	120

Diamond band saw E310

Voltage in V	Frequency in Hz	Motor power in W
1 x 220-240	50-60	220
1 x 100-115	50-60	220

Diamond band saw E311

Voltage in V	Frequency in Hz	Motor power in W
1 x 220-240	50-60	220
1 x 100-115	50-60	220

10 SPARE PARTS AND CONSUMABLES

10.1. ORDERING SPARE PARTS

Use this chapter as a fax template to order spare parts. Enter all required data in the following table and send these pages with the ticked spare parts to your specialist dealer.

	Sender	Recipient	
Company			
Surname, first name			
Address			
City/Location			
Telephone			
Fax			
Name of device		Type	
Serial number		Date of purchase	

10.2. CONSUMABLES

General

Article number	Description	Quantity
30910	Öl für Kühlmittelemulsion 1l - <i>Cutting oil 1l cutting-oil</i>	
41500	Objektträger (50x100x2 mm) 25 St. <i>Slide (25x75x1.5mm) 25 pcs</i>	
41510	Objektträger (50x100x1,5 mm) 25 St. <i>Slide (50x100x1.5mm) 25 pcs</i>	
41520	Objektträger (50x100x2 mm) 25 St. <i>Slide (50x100x2mm) 25 pcs</i>	
51000	Technovit 7200 VLC, lichthärtender, 1kg <i>Technovit 7200 VLC, Light curing resin (1 kg)</i>	
51080	Technovit 4000, Pulver, 1 kg <i>Technovit 4000, powder 1,5kg</i>	
51090	Technovit 4000, Kunststoff/ Kaltpolymerisat <i>Technovit 4000, cold curing resin</i>	
51100	Technovit 7210 VLC, Präzisionskleber, 30 ml <i>Technovit 7210 VLC (30ml), Precision-adhesive</i>	
51300	Technovit 7230 VLC, Fixationskleber, 100 m <i>Technovit 7230 VLC (100ml), Fixation-adhesive</i>	
51340	Technovit 9100 neu, 1,1 kg Technovit 9100 Neu kältehärt., Einbettkunststoff (1,9 kg) <i>TECHNOVIT 9100 new, cold polymerization resin</i>	

Diamond band saw E300

Article number	Description	Quantity
34100	Diamant Trennband 0,1 mm D32 <i>Cutting band 0.1mm / D32</i>	
34110	Diamant Trennband 0,1 mm D46 <i>Cutting band 0.1mm / D46</i>	
34120	Diamant Trennband 0,1 mm D64 <i>Cutting band 0.1mm / D64</i>	
34310	Diamant Trennband 0,2 mm D46 <i>Cutting band 0.2mm / D46</i>	
34320	Diamant Trennband 0,2 mm D64 <i>Cutting band 0.2mm / D64</i>	
34330	Diamant Trennband 0,2 mm D91 <i>Cutting band 0.2mm / D91</i>	

Diamond band saw E310 / E311

Article number	Description	Quantity
34410	Diamant Trennband 0,1 mm D64 <i>Cutting band 0.1mm / D64</i>	
34420	Diamant Trennband 0,1 mm D91 <i>Cutting-band 0.1mm/D91 /Macro</i>	
34450	Diamant Trennband 0,2 mm D64 <i>Cutting band 0.2mm / D64</i>	
34460	Diamant Trennband 0,2 mm D91 <i>Cutting band 0.2mm / D91</i>	
34600	Diamant Trennband 0,3 mm D91 <i>Cutting band 0.3mm / D91</i>	
34610	Diamant Trennband 0,3 mm D126 <i>Cutting band 0.3mm / D126</i>	
34620	Diamant Trennband 0,3 mm D151 <i>Cutting band 0.3mm / D151</i>	
34630	Diamant Trennband 0,3 mm D181 <i>Cutting band 0.3mm / D181</i>	

10.3. SPARE PARTS FOR DIAMOND BAND SAW E 300

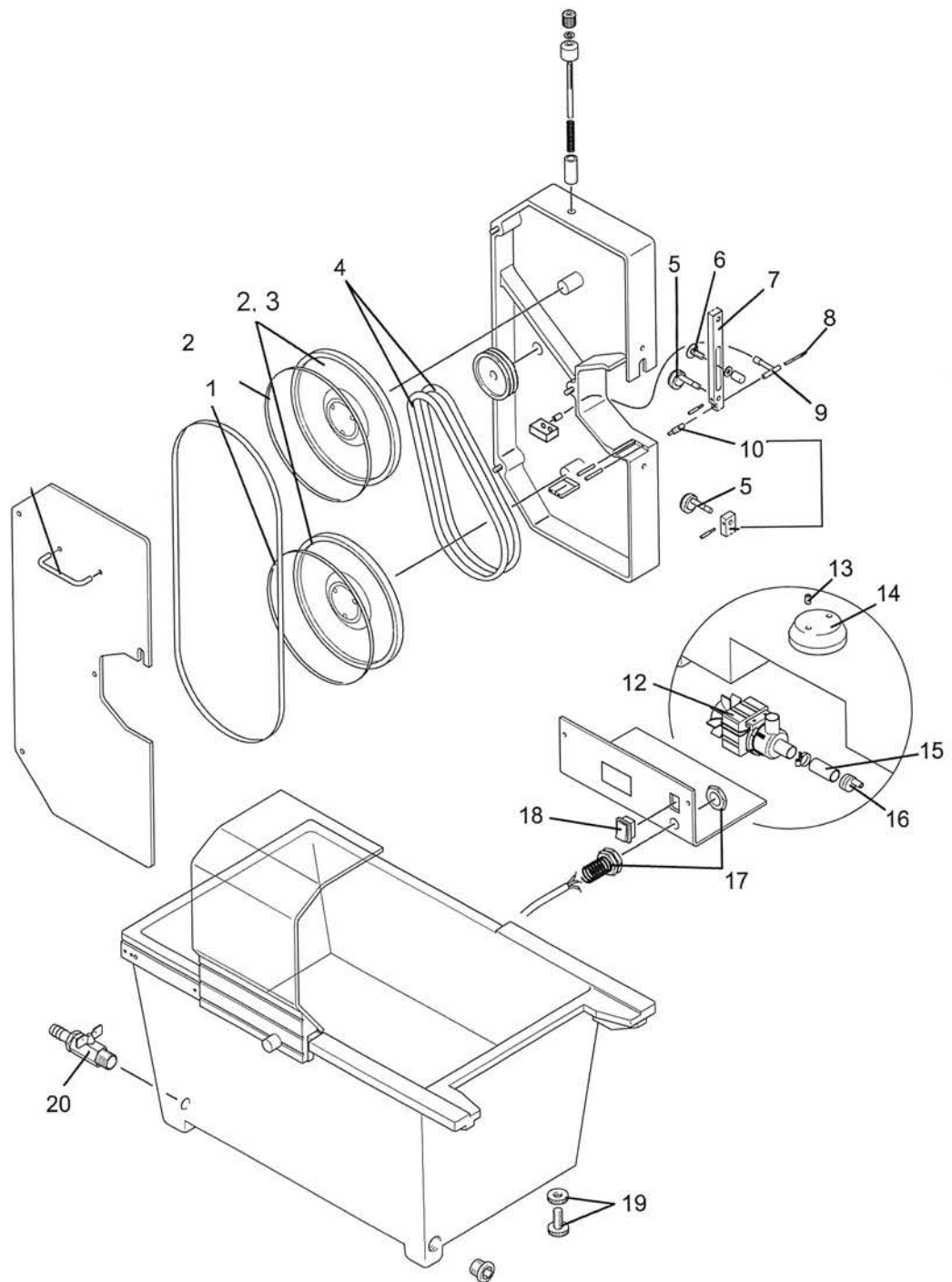


Fig. 29: Diamond band saw E 300

Pos.	Art. No.	Description	Quantity
1	39140	Flachriemen, gelb <i>Flat belt, yellow</i>	
2	39120	Lauftrad/oben komplett m.Kugellagern und gelbem Flachriemen <i>Upper roller complete with ball-bearings and yellow belt</i>	
3	39130	Lauftrad/unten (Riemenscheibe) komplett m.Kugellagern und gelbem Flachriemen <i>Lower roller complete with ball-bearings and yellow belt</i>	
4	39210	Rundriemen für Antrieb 770 mm <i>Round belt for drive 770mm</i>	
5	30510	Stützrollen 0,1 mm (2 Stück) <i>Support roller 0.1mm, 1 set</i>	
	30520	Stützrollen 0,2 mm (2 Stück) <i>Support roller 0.2mm, 1 set</i>	
6	35450	Schlossschraube M8x30 f.Bef. Lagerblock f.obere Stützrolle <i>Mushroom head screw M8x30 f.fixing plastic-block f.upper support roller</i>	
7	30540	Lagerblock f.obere Stützrolle <i>Shifter block f.upper support roller</i>	
8	30650	Kühlmittelregelstift <i>Cooling fluid regulator pin</i>	
9	35560	T-Rohr für Kühlung 300 <i>T-valve for cooling 300</i>	
10	30560	Feststellschraube M5, schwarz für Stützrollen 300 <i>Set screw, black for Support Roller 300</i>	
12	30800	Kühlmittelpumpe 220-230 V <i>Cooling-pump 220-230 V</i>	
	30810	Kühlmittelpumpe 100-110 V <i>Cooling-pump 100-110 V</i>	
13	33260	Aluminium-Röhrchen ø 5x1x14 mm <i>Aluminum-tube 5x1x14mm</i>	
14	30850	Verteiler-Stutzen für Kühlmittelpumpe 300/310	

Pos.	Art. No.	Description	Quantity
		<i>Diverter f.cooling-pump 300/310 (cooling outlet)</i>	
15	30840	Verbindungsschlauch für Kühlmittelpumpe <i>Connecting plastic-hose f.cooling-pump incl. 2 clamps</i>	
16	30860	Schlauchkupplung/Al f.Verb.- schlauch Kühlmittelpumpe <i>Connecting-part/Aluminum f.conn.pl.hose f.c.pump</i>	
17	30390	Knickschutz/komplett <i>Flex-protecting fitting</i>	
18	30820	Schalter/Ein-Aus f.Pumpe <i>Switch On/Off for pump</i>	
19	30780	Justierbarer Fuß für Kühlmittelwanne, komplett <i>Adjustable foot f. reservoir, complete</i>	
20	30710	Ablaufhahn für Kühlmittelwanne / komplett	

10.4. SPARE PARTS FOR DIAMOND BAND SAW E 310/311

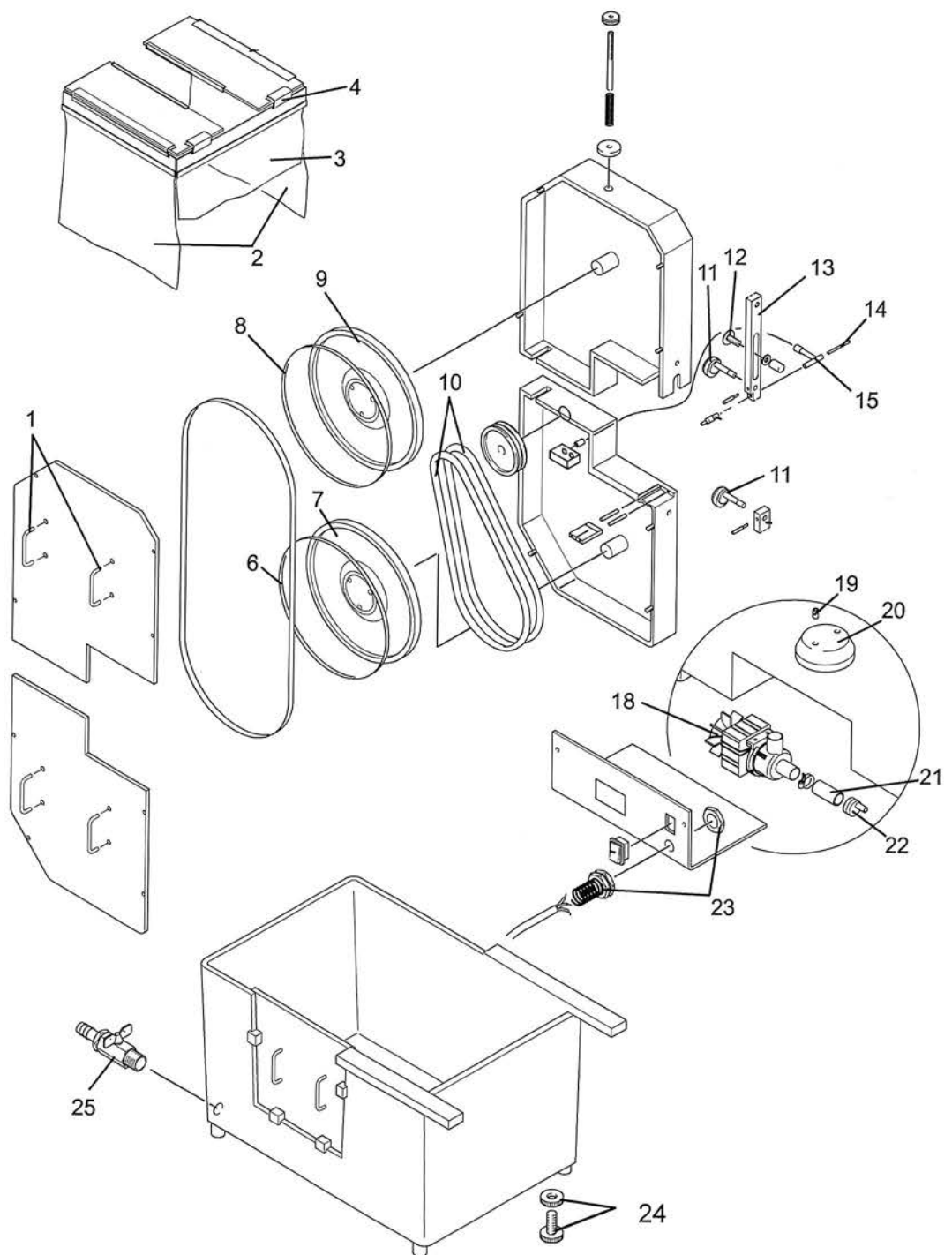


Fig. 30: Diamond band saw E 310

Pos.	Art. No.	Description	Quantity
2-4	36601	Spritzschutz komplett 310 <i>Splash-guard complete 310</i>	
	36604	Spritzschutz komplett 311 <i>Splash-guard complete 311</i>	
3	33603	Satz Folien, Spritzschutz 310 <i>Set of foils, Splash-grd. 310</i>	
	33605	Satz Folien, Spritzschutz 311 <i>Set of foils, Splash-grd. 311</i>	
4	36602	Scheibe, Spritzschutz 310/311 <i>Acrylic plate, Splash-grd. 310/311</i>	
6	36140	Flachriemen, gelb <i>Flat belt, yellow</i>	
7	36120	Laufgrad/unten (Riemenscheibe) komplett m.Kugellagern und gelbem Flachriemen <i>Lower roller complete with ball-bearings and yellow belt</i>	
8	36140	Flachriemen, gelb <i>Flat belt, yellow</i>	
9	36110	Laufgrad/oben komplett m.Kugellagern und gelbem Flachriemen <i>Upper roller complete with ball-bearings and yellow belt</i>	
10	36410	Rundriemen für Antrieb, 1220mm <i>Round belt for drive 1220mm</i>	
11	36510	Stützrollen 0,1 mm (2 Stück) <i>Support roller 0.1mm, 1 set</i>	
	36520	Stützrollen 0,2 mm (2 Stück) <i>Support roller 0.2mm, 1 set</i>	
	36500	Stützrollen 0,3 mm (2 Stück) <i>Support roller 0.3mm, 1 set</i>	
12	38250	Schlossschraube M8x50 f.Bef. Lagerblock f.obere Stützrolle <i>Mushroom head screw M8x50 f.fixing plastic-block f.upper support roller</i>	
13	36250	Lagerblock f.obere Stützrolle <i>Shifter block f.upper support roller</i>	
14	36280	Kühlmittelregelstift 310 <i>Cooling fluid regulator 310</i>	
15	36270	T-Rohr für Kühlung 310	

Pos.	Art. No.	Description	Quantity
		<i>T-valve for cooling 310</i>	
18	36820	Verbindungsschlauch für Kühlmittelpumpe 310 <i>Connecting plastic-hose f. cooling-pump 310</i>	
19	33260	Aluminium-Röhrchen ø 5x1x14 mm <i>Aluminum-tube 5x1x14mm</i>	
20	30850	Verteiler-Stutzen für Kühlmittelpumpe 300/310 <i>Diverter f. cooling-pump 300/310 (cooling outlet)</i>	
21	36820	Verbindungsschlauch für Kühlmittelpumpe /310 <i>Connecting plastic-hose f. cooling-pump /310</i>	
22	30830	Schlauchkupplung <i>Screw-in hose nozzle</i>	
23	30390	Knickschutz/komplett <i>Flex-protecting fitting</i>	
24	30780	Justierbarer Fuß für Kühlmittelwanne, komplett <i>Adjustable foot f. reservoir, complete</i>	
25	36710	Ablaufhahn für Kühlmittelwanne / komplett <i>Drain-tap f. reservoir/compl.</i>	

11 INDEX

A

Accessories	25
Address of manufacturer	5
Adjust the wheel	36, 55
Adjusting the back position of the cutting band	34
Adjusting the lower wheel	36, 55
Adjusting the support rollers	34
Adjusting with the wheels	36
Applying bore emulsion	46
Area of application	14
Automatic positioner	25

B

Blocked cooling/rinsing circuit	45, 59
Bore emulsion	46
Bore oil	46
Bore oils that can be used	62
Bore oils/emulsions	12

C

Care and maintenance work	49
Check the support rollers	52, 53
Clean the support rollers	52, 53
Cleaning	11, 51
Cleaning agent	13
Cleaning the drain tray	59
Closed loop circulation	45
Connection voltage	8
Consumables	65
Continuous operation	43
Control electronics	25
Conventional motor controller	47
Coolant control pin	43, 45
Coolant filling level	57
Coolant pump	21
Coolant quality	58
Cooling connection	23, 45

Cooling connection for continuous

operation	24
Cooling unit	21
Cutting band assembly	29

D

Declaration of Conformity	76
Description	14
Device combinations	16
Device versions	15
Device voltage	29
Digital micrometer	25
Disinfectant	46
Drive rating	63

E

Equipment configuration

EXAKT 300	17
EXAKT 310	18
EXAKT 311	19
Erection	26
EXAKT 300	27
EXAKT 310/311	28

F

Faults	60
--------------	----

G

General safety instructions	6
-----------------------------------	---

H

Handling chemical substances	12
Handling coolant/lubricants	12

I

Installation	26
Plastic splash flap	41
Plexiglas protection	40
Installation location	8
Installing the parallel guide	39

Installing the splash protection.....	40	EXAKT 300.....	27
L		EXAKT 310/311	28
Laser-optical cutting enhancement....	25	Selecting the location	8
M		Service inquiries	5
Mains voltage.....	29	Spare parts	
Motor controller.....	20, 21, 47, 48	Diamond band saw E 310/311	70
O		Diamond band saw E300	67
Ordering spare parts	5, 64	Special voltages	63
P		Start-up	8
Parallel guides	25	Support roller maintenance.....	52
Plastic hole filter.....	46	Switch on the coolant pump.....	46
Plastic splash flap.....	41	T	
Plexiglas protection	40	Technical data	61
R		Type plate	21
Replace the cutting band	51	U	
Replace the rubber belt.....	54	Universal sample holder	25
Replace the support rollers	52, 53	Use in accordance with the instructions (intended use)	13
S		V	
Safety instructions	9	Vacuum plate	25
Safety symbols	7	Voltage versions.....	29
Scope of delivery		W	
		Warranty conditions	75

12 APPENDIX

12.1. WARRANTY CONDITIONS

The manufacturer's guarantee is canceled if the equipment is used incorrectly by:

- > Non-observance of these operating instructions;
- > Use of non-qualified personnel;
- > Unauthorized modifications to the device and its components.

The manufacturer is not liable for any resulting damages.

CAUTION

Impairment of the function of the device by use of incorrect spare parts or lubricants; manufacturer's warranty is canceled!

Correct device function is not guaranteed if non-approved spare parts or lubricants are used, and the warranty is canceled.

Only use original spare parts and lubricants or spare parts and lubricants approved by EXAKT.

12.2. DECLARATION OF CONFORMITY

**EXAKT**

EC Declaration of Conformity

within the meaning of the
EC Machinery Directive (2006/42/EC)

EXAKT Advanced Technologies GmbH
Robert-Koch-Str. 5
D-22851 Norderstedt, Germany
Telephone: +49 40 529 560-0

We herewith declare that, based on its construction and design, the machine described in the following as well as the version thereof released by ourselves commercially, corresponds to all the safety and health requirements of the relevant EU Guideline.

In the event of modifications of the machine not approved by us this certificate loses its validity.

Designation of the machine:

EXAKT 300 / 310 / 311 Diamond Saw

Serial number: From 300-01211, 310-00211, 311-00211
Year of construction: from September 2016

The machine also complies with all regulations of the EMC Directive (2014/30/EC) and the EC Low Voltage Directive (2014/35/EG).

Applied harmonized standards:

DIN EN ISO 14121-1:(2007), EN ISO 12100-2:2003, EN ISO 12100-2:2003

EN 13849-1:2006, EN 954-1

EN 12268:2003

DIN EN 55014-1:05.2012, FCC 15:09.2001, DIN EN 55014-2:06.2009, DIN EN 61000-3-2:03.2010,
EN 61000-3-3:03.2014, DIN EN 61000-4-2:12.2009, DIN EN 61000-4-3:04.2011,
DIN EN 61000-4-4:04.2013, DIN EN 61000-4-5:07.2013, DIN EN 61000-4-6:08.2014,
DIN EN 61000-4-11:02.2005, DIN EN 61000-6-3: 09.2011

EN 60 335-1, EN 60 204-1

VDE 0701

The product complies with the requirements of the German Equipment Safety Law (GSG).

Authorized documentation representative: Bernd Franke

Address of the Authorized documentation representative: See above

Norderstedt,

21.11.2016 Bernd Franke, CEO

Date Signatory and details


Signature of signatory

EXAKT Advanced Technologies GmbH - Robert-Koch-Straße 5 - D-22851 Norderstedt / Germany

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Amtsgericht Norderstedt HRB 5001 - Geschäftsführer: Bernd Franke - Hamburger Sparkasse (BLZ 200 505 50) - Konto Nr. (Int. a/c no.) 1051 213 583

IBAN: DE21 2005 0550 1051 2135 83 - S.W.I.F.T. Code (BIC): HASPDE33XXX



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