

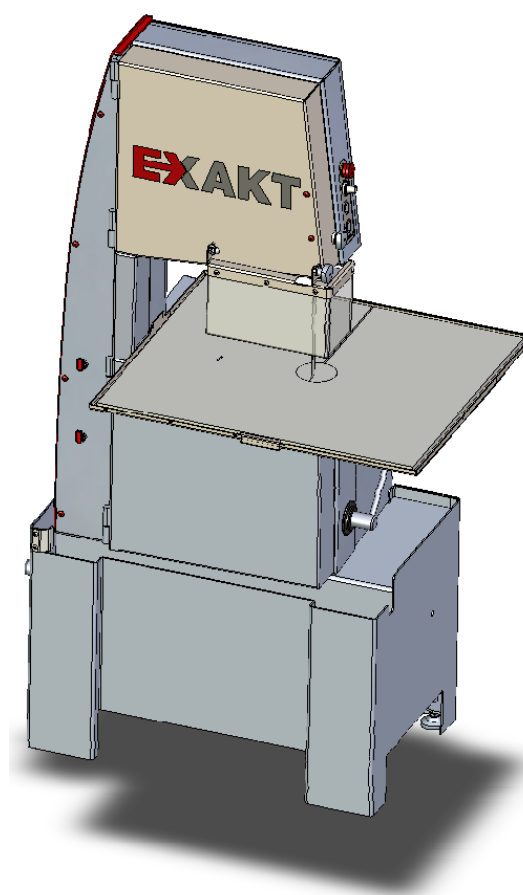


Operating instructions

Diamond Pathology Saw

EXAKT 312

Edition 10_2010 - 38891EN-900-AB



It is imperative you read the operating instructions prior to placing the unit in operation for the first time! Follow safety instructions!

Translation of original operating instructions (for the end user)

E English

EXAKT Advanced Technologies GmbH
Robert-Koch-Strasse 5
22851 Norderstedt
Germany

Tel: +49 (0)40 52 95 60-0

Fax: +49 (0)40 5 24 99 59

E-mail: info@exakt.de

<http://www.exakt.de>

Imprint:

Operating instructions EXAKT 312

1st issue April 2010

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Layout: WBS/TR06

Text layout: WBS/TR06

Illustrations: EXAKT Advanced Technologies GmbH, WBS/TR06

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Contact addresses

Manufacturer's address:

EXAKT Advanced Technologies GmbH

Robert-Koch-Strasse 5

22851 Norderstedt

Germany

Tel: +49 (0)40 52 95 60-0

Fax: +49 (0)40 5 24 99 59

E-mail: info@exakt.de

<http://www.exakt.de>

Dealer's address and service address:

Note:

In case of enquires related to service and to order spare parts, please contact the dealer from whom you purchased the unit.

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1 Safety

1.1 General safety instructions

Every individual who is tasked with setting up, placing in operation, operation, maintenance and care of the EXAKT 312 and the related components must have read and understood these instructions, in particular the *Safety* chapter.

If necessary instruction must be provided taking into account the specific qualifications of the related individual.

It is imperative all safety instructions are followed for your safety.

Prior to placing the unit in operation, the operator must ensure all safety-related conditions are met.

Note *The applicable accident prevention regulations and generally applicable health and safety regulations are to be followed.*

Refrain from any action that:

- places the life and limb of the user or third parties at risk,
- causes degradation of the unit or other items,
- impairs the safety and the function of the unit or
- disregards the safety instructions stated.

The unit may only be maintained by individuals who are familiar with the unit and informed about the hazards, and who have the necessary qualifications.



Risk of electric shock!

Mains cable damage can result in serious injuries or death due to an electric shock and cause damage to the unit.

- ▶ Never place the EXAKT 312 in operation with a damaged mains cable.
- ▶ Always check mains cable for damage.
- ▶ Protect mains cable against heat, aggressive liquids and sharp edges.
- ▶ Lay mains cable so that it cannot be damaged.
- ▶ Keep mains cable away from water.
- ▶ Use a splash-proof mains socket.

Have a damaged mains cable replaced by a service engineer.



Danger – very powerful permanent magnets!

Mortal danger for individuals with heart pacemakers due to magnetic fields.

- ▶ Individuals with heart pacemakers must keep away from magnetic fields.

**Danger – biological contamination!**

Contaminated samples and contaminated water can cause infections.

- ▶ Always wear the stipulated protective clothing and safety glasses for work with the EXAKT 312.
- ▶ Use suitable disinfection methods in accordance with applicable statutory provisions and guidelines, and the hygiene regulations.
- ▶ Dispose of waste water, cleaning agents and used protective clothing in accordance with applicable statutory provisions and the hygiene regulations.

**Risk of entanglement!**

Hair and items of clothing can become entangled in the rotating cutting band.

- ▶ Wear tight-fitting clothing during all work.
- ▶ Protect long hair with headgear.

**Warning – cuts!**

Cuts may be caused on contact with the moving cutting band.

- ▶ Do not touch the cutting band in operation.
- ▶ Ensure you are standing firmly and the working area is clear.

**Warning – risk of slipping!**

Injuries due to slipping.

- ▶ Keep the floor around the EXAKT 312 as dry as possible.
- ▶ Wear non-slip shoes.

**Warning – very powerful permanent magnets!**

Risk of injury due to crushing.

- ▶ On opening and closing the doors, do not grasp the edge of the door.

**Attention – incorrect mains voltage!**

If the mains voltage is incorrect, the EXAKT 312 may be damaged.

- ▶ Only connect the EXAKT 312 to the mains voltage stated on the type plate.

**Attention – damage due to very powerful permanent magnets**

Hazard due to magnetic fields for

- magnetic data carriers
- electronic equipment
- ▶ Electronic equipment and magnetic data carriers are to be kept away from magnetic fields.

**Attention – damage due to incorrect accessories and spare parts!**

The usage of accessories and spare parts that have not been recommended by EXAKT can impair the safety and function of the EXAKT 312. Any warranty and/liability on the part of EXAKT for damage

caused by accessories or spare parts that have not been recommended is excluded.

- ▶ Use only accessories and genuine spare parts recommended by EXAKT.

1.2 Safety devices

The safety devices on the EXAKT 312 comply with the statutory requirements and are aimed at preventing injury or damage.

Emergency-stop pushbutton

The emergency-stop pushbutton is used to stop the cutting band motor within approx. 4 seconds in case of danger.

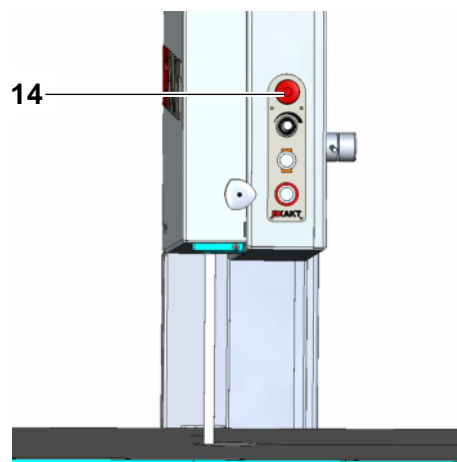


Abb. 1 Emergency-stop pushbutton

In case of danger:

- ▶ Press the emergency-stop pushbutton **14**.
- ▶ Rectify malfunction.
- ▶ Pull out the emergency-stop pushbutton **14** to unlock.
- ▶ Press the acknowledge button.

The interrupted circuit is closed again. However, the cutting band does not re-start automatically.

- ▶ To start the cutting band, press the start button.

Nip guard

The nip guards protect against unintentional entanglement in the rotating pulleys.

Acknowledge button

After any action that interrupts the safety circuit on the EXAKT 312, the

acknowledge button must be pressed prior to restarting the EXAKT 312.

Door lock

An electronically controlled safety circuit ensures the pulleys stop automatically within 6 seconds on opening the doors.

Lockable main switch







By attaching a padlock the EXAKT 312 can be secured against unauthorised usage.

2 About these instructions

In these operating instructions graphic symbols help you to use all functions correctly and optimally.

2.1 Warning and danger symbols

The symbols listed below warn of a possible risk of injury as well as damage.



Symbol	Term	Significance
	General safety notice	Warns of risk of injury and damage due to improper operation.
	Mains voltage	Warns of injuries and damage due to electric shock.
	Biological contamination	Warns of harm to the health due to biological contamination.
	Hand injuries	Warns of hand injuries, e.g. crushing.
	Powerful permanent magnets	Warns of damage due to very powerful permanent magnets.
	No entry for individuals with heart pacemakers	Forbids individuals with heart pacemakers to enter the area around the permanent magnets.

2.2 Significance of signal words

The signal words listed here identify the severity of the possible source of a hazard.

Signal word	Significance
Danger!	Disregard will result in very serious injuries or death.
Warning!	Disregard can result in serious injuries and even death.
Caution!	Disregard can result in minor or moderate injuries.
Attention!	Disregard can result in damage.

2.3 Conventions

Symbol	Significance	
Note	Important note	This symbol identifies important additional information.
	Tool	This symbol indicates that a certain tool or consumable is required.
•	Bullet-point list	Properties of the unit or individual components are given as a list of points.
▶	Instructions	Instructions prompt you to do something in the sequence stated.
	Disposal	Information on the disposal of packaging material, wearing parts and faulty parts of the unit.

3 Description of function

The following subjects are described in this chapter:

- Correct use
- Application
- Special properties
- Features

3.1 Correct use

Permanently setup engine-powered band saws are used in medical pathology for quickly cutting tissue samples and artificial implants for histological studies.

The diamond pathology saw EXAKT 312 is designed as a cutting band system for cutting fresh animal and human tissue, bones and implants as per the safety instructions and in accordance with the relevant standards. The EXAKT 312 is only of limited suitability for cutting implants made of ductile substances (e.g. soft aluminium, copper), as the chip clearance on the cutting band can quickly become clogged on cutting such materials.

The EXAKT 312 is only intended to be used in medical pathology. In this application only the original components supplied may be used. Any other usage beyond that stated is considered incorrect use. The manufacturer is not liable for resulting damage. The risk is borne solely by the user.

3.2 Application

The EXAKT 312 has been developed for use in medical pathology. Users are doctors, scientists and specialist medical personnel.

3.3 Special properties

Currently, band saws with toothed saw bands, as are used in the meat processing industry, are used in pathology. They involve a high risk of injury. The EXAKT 312 stands out compared to these band saws due to:

- a lower risk of injury in case of unintentional contact with the cutting band
- high cut quality, even on bones with implants
- a lower risk of infection due to water flushing/cooling of the cut
- easy cleaning and disinfection

3.4 Features

The EXAKT 312 is equipped with the following parts as standard:

- Integrated, adjustable water flushing/cooling
- Height-adjustable cutting band guide
- Cutting band speed control
- Splash guard
- Safety devices:
 - Emergency-stop pushbutton
 - Nip guard
 - Acknowledge button
 - Door lock
 - Lockable main switch

4 Description of the unit

The following subjects are described in this chapter:

- Scope of delivery
- Optional accessories
- An overview of the EXAKT 312

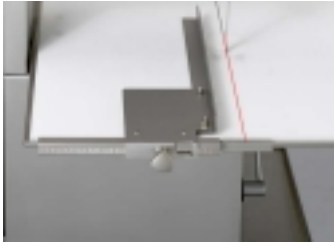



4.1 Scope of delivery



The scope of delivery of the EXAKT 312 diamond pathology saw includes the following components:

- Saw base unit
- Cutting band (as required)
- Work plate (plastic)
- Work table tray with support
- Run-off plate
- Cutting band guide, work table
- Door, top
- Door, bottom
- Pulley, top, with yellow belt (pulley, bottom, is pre-assembled)
- Water supply hose incl. clips
- Water drain hose incl. clips
- Splash guard (1 x)
- Double open-end spanner AF 14/17
- Screwdriver size 4
- Hexagon key set
- Spirit level
- Operating instructions

4.2 Optional accessories

To make the work easier, the following accessories can be ordered for the EXAKT 312 (for order numbers see section **13.3 Optional accessories**):

Accessory	Description
<p>Rip fence</p> 	<p>For straight and parallel cuts on tissue samples a rip fence can be installed on the work table.</p>
<p>Line laser</p> 	<p>To align the cutting plane on the sample with the aid of the laser projection of the saw blade plane.</p>
<p>Cleaning gun</p> 	<p>For intermediate cleaning and rinsing of the work plate after use, we recommend a cleaning gun. The cleaning gun is connected to the water supply connection. When not in use it is placed in a holder on the base.</p>
<p>Castor set</p> 	<p>A castor set eases the transport of the saw base unit to the installation location. The castors can be locked once the unit is setup.</p>

<p>Table illumination</p> 	<p>A LED-ledge gives permanent illumination of the work table. Optimum illumination of the sample during cutting with low energy consumption (approx. 5W)</p>
<p>Large splash guard</p> 	<p>Better cover of the sample especially for large samples or when working with high cooling flush. Very good protection against spraying water by a large plexiglass plate additionally with flexible plastic foils. Retrofit at each machine can easily done by the operator.</p>
<p>Additional diamond cutting band for cutting implants</p>	<p>On cutting implants the cutting band will wear very quickly. It is recommended to use separate cutting bands for cutting implants and for cutting fresh samples.</p>
<p>Whetstone</p>	<p>With some samples the cutting band will clog very quickly. The cutting band can be cleaned quickly and conveniently using the whetstone.</p>

4.3 An overview of the EXAKT 312

Front view

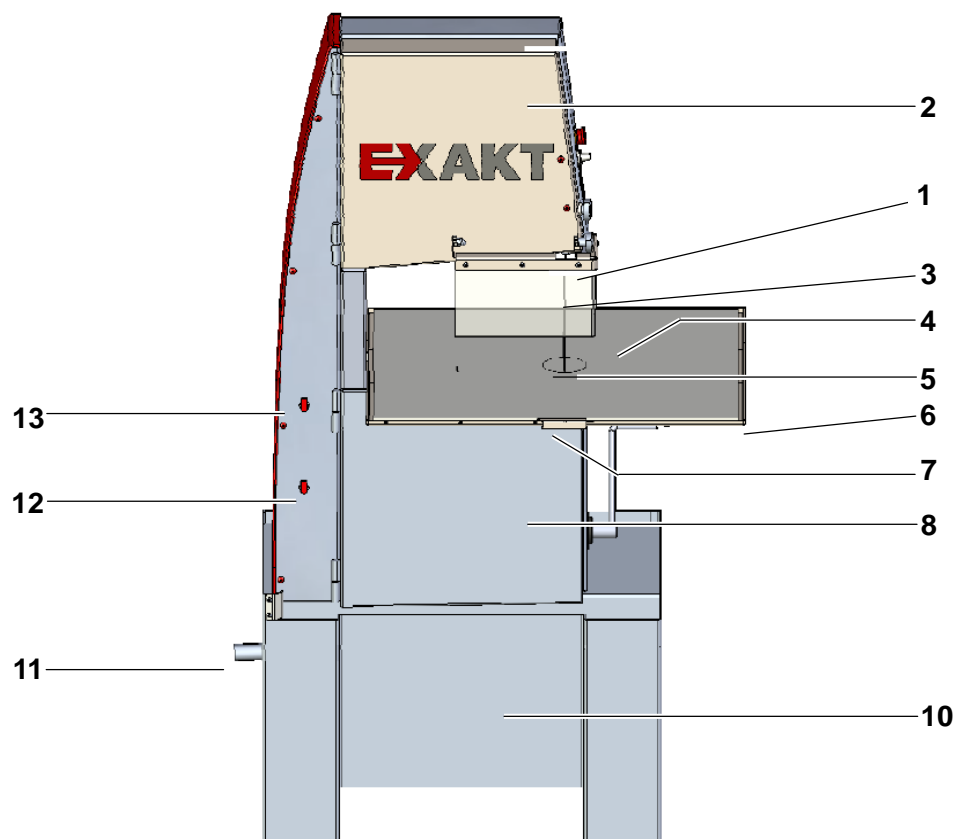


Abb. 2 Front side of unit

- | | | | |
|----------|--|-----------|---|
| 1 | Splash guard | 8 | Door, bottom |
| 2 | Door, top | | |
| 3 | Cutting band | 10 | Drain pan to drain off the waste water |
| 4 | Work plate (plastic) | 11 | Drain nozzle for the water drain hose |
| 5 | Cutting band guide, work table | 12 | Flush water control to control the amount of flush water |
| 6 | Work table tray to drain off the waste water | 13 | Cooling water control to control the cooling water flow rate |
| 7 | Run-off plate , connected under the work table tray | | |

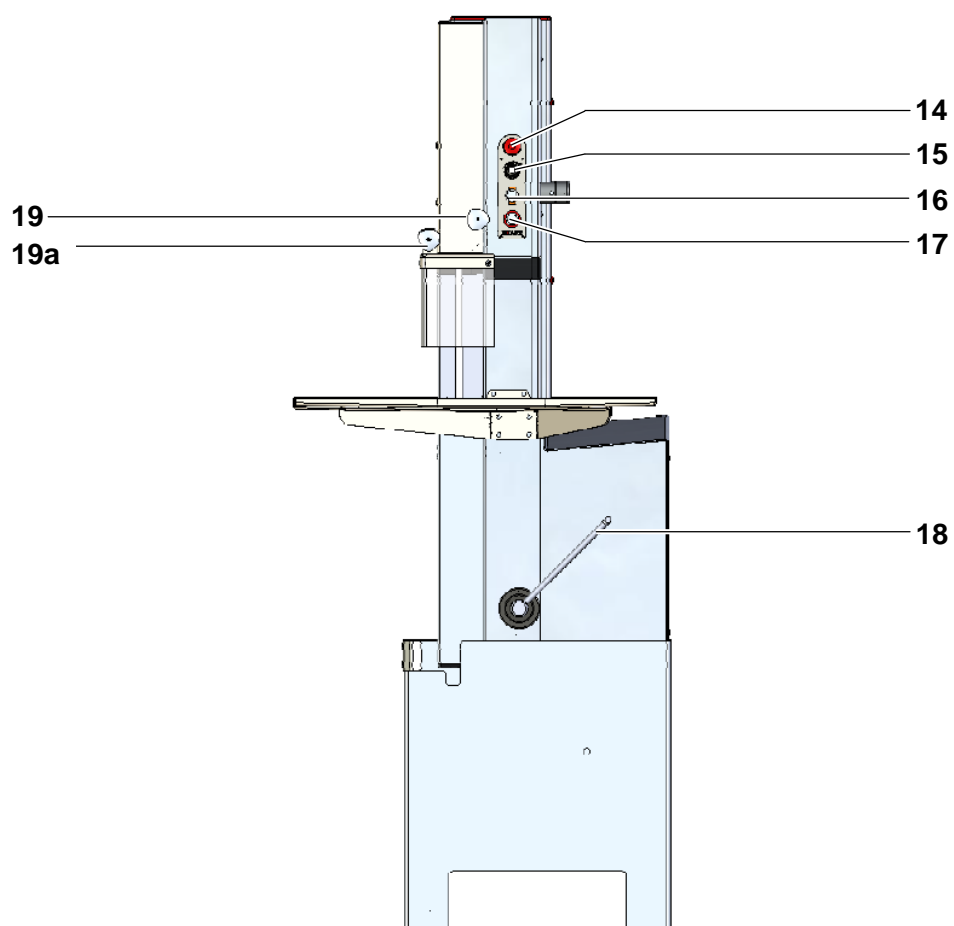
Right side view

Abb. 3 Right side of unit

- 14 Emergency-stop pushbutton** to stop the cutting band within approx. 4 seconds
- 15 Cutting band speed control**
- 16 Start button** to start the cutting band
- 17 Stop button** to stop the cutting band after 6 seconds
- 18 Tensioning lever** for tensioning and relieving the tension on the cutting band
- 19 Clamping bolt** for the top cutting band guide
- 19a Clamping bolt** for the splash guard

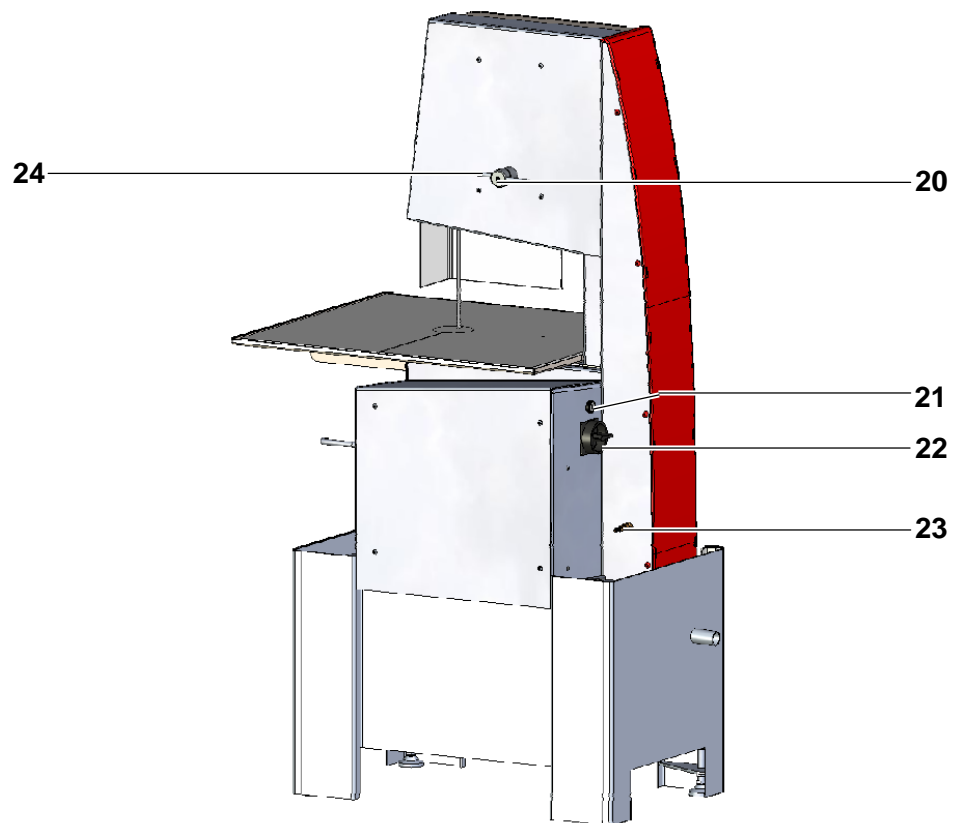
Rear and left side view

Abb. 4 Rear and left side of unit

- 20** **Adjusting lever (outer)** to adjust the pulley for cutting band centring
- 21** **Acknowledge button** to restart the unit after interruption
- 22** **Main switch** to switch on and off the mains voltage
- 23** **Water connection** for cooling and flushing
- 24** **Locking lever (inner)** to lock the pulley setting

Front view, doors removed

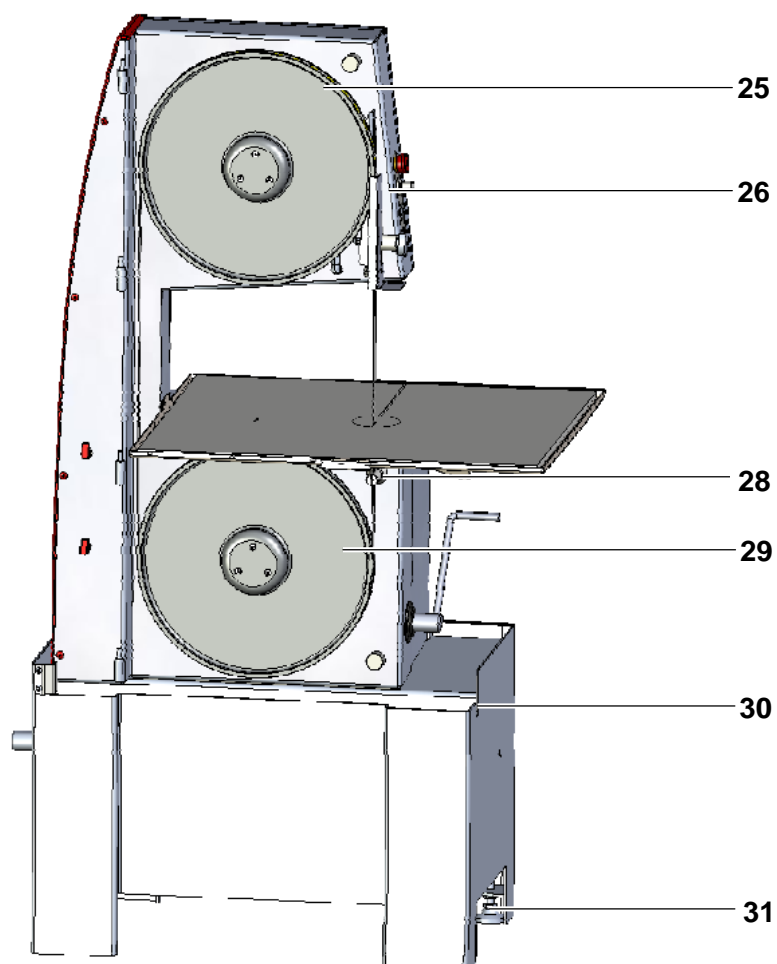


Abb. 5 Front of unit, open

- 25 Pulley, top**
- 26 Cutting band guide, top, with nip guard**
- 28 Cutting band guide, bottom**
- 29 Pulley, bottom**
- 30 Holder for cleaning gun (option)**
- 31 Adjustment foot on each leg**

5 Installation

The following subjects are described in this chapter:

- Transport
- Installation location
- Installing the EXAKT 312
- Assembly of the unit
- Connection to water and power supply

5.1 Transport



Danger!

Moving the saw base unit with its weight of 150 kg can cause crushes and back injuries.

- ▶ Always use a sack barrow to transport the saw base unit and get the help of a colleague.
- ▶ Push the sack barrow under the saw base unit and tip back.
- ▶ Transport the saw base unit to the installation location using the sack barrow.

5.2 Installation location

On selecting the location ensure the EXAKT 312 diamond pathology saw is setup in a laboratory that meets the relevant hygiene and safety regulations.

Discuss the selection of the location for the EXAKT 312 with the laboratory safety officer.

For safe operation and cleaning of the EXAKT 312 the following points must be taken in account on selecting the location:

- Setup the EXAKT 312 on a flat, non-slip surface
- Do not setup in a place with a large number of people passing by
- Select location with sufficient space on all sides for operation and cleaning
- Ensure there is adequate lighting at the installation location – the EXAKT 312 does not have its own light source

The installation location must give access to a water connection, drain and power supply with splash-proof socket.

Note *The drain nozzle on the EXAKT 312 is at a height of 330 mm. To ensure waste water can flow away, there must be a continuous gradient to the drain.*

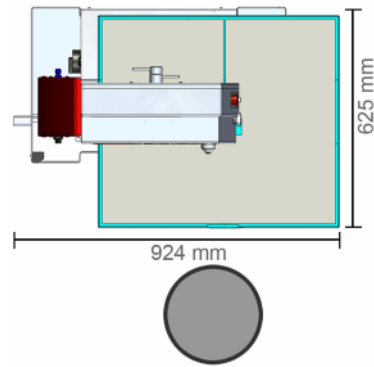


Abb. 6 Top view – dimensions and workplace EXAKT 312

5.3 Installing the EXAKT 312



You will need an open-end spanner AF 17 and the spirit level supplied to be able to undertake this step.

The EXAKT 312 diamond pathology saw is setup as follows:

- ▶ Place the EXAKT 312 on a flat surface.
- ▶ Adjust the adjustment feet using the open-end spanner AF 17 to level out any unevenness.
- ▶ Place the spirit level on the base plate longitudinally and cross-wise to check the EXAKT 312 is level.
- ▶ Re-adjust adjustment feet if necessary.

5.4 Assembly of the unit

The following subjects are described in this section:

- Assembly of the work table, 1st part
- Fitting the top pulley
- Fitting the cutting band
- Centring the cutting band
- Fitting the doors
- Assembly of the work table, 2nd part
- Mounting the splash guard

Assembly of the work table, 1st part

- Fitting the work table tray



You need an open-end spanner AF 14 for the 6 collared nuts.

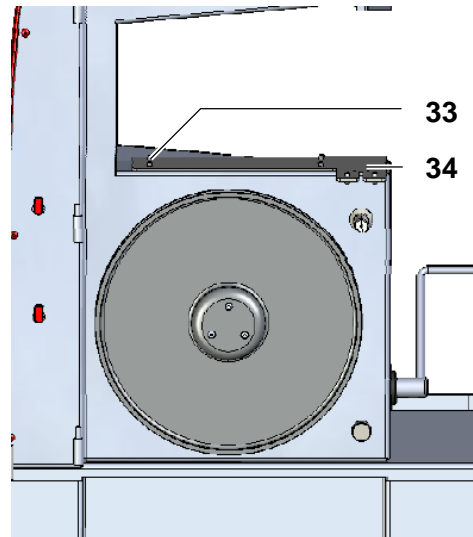


Abb. 7 Base unit with base plate

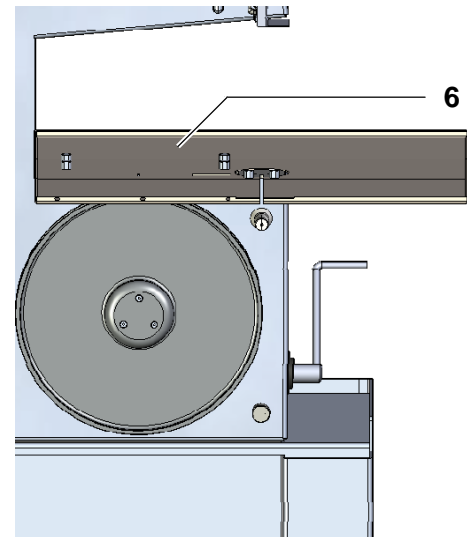


Abb. 8 Work table tray mounted on base plate

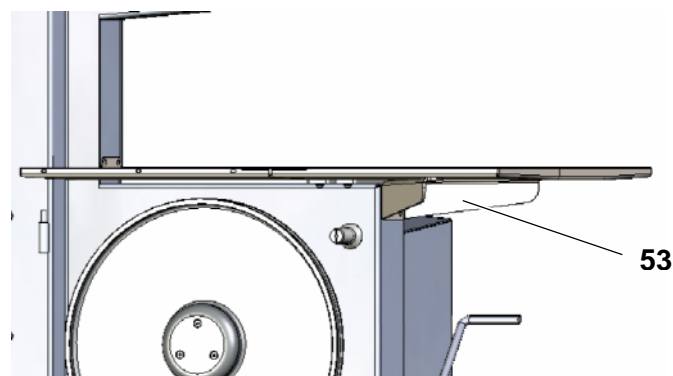


Abb. 9 Tray support fitted

- ▶ Place the work table tray **6** on the base plate **34** of the saw base unit so that the screw holes in the tray are over the studs **33** on the base plate.
- ▶ Fasten the work table tray using the collared nuts supplied.
- ▶ Fit the tray support **53** using the pre-assembled screws. After fitting the work plate, fix so that the work plate is in good contact at the edge.

Fitting the top pulley

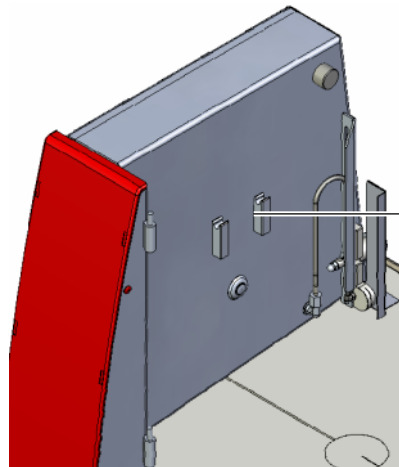


Abb. 10 Pulley mount

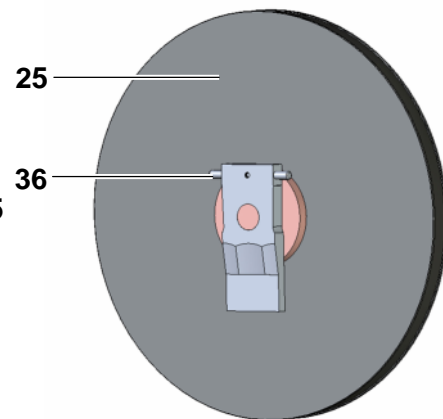


Abb. 11 Rear view of the pulley with cross-pin at top

- ▶ Hold the top pulley **25** with the cross-pin **36** at the top.
- ▶ Place the cross-pin **36** in the pulley mount **35** on the saw base unit.

Fitting the cutting band



Caution – injuries and damage due to untensioned cutting band!

An untensioned cutting band can jump off the pulleys when the EXAKT 312 starts and cause injuries or damage.

- ▶ It is imperative you conclude the *Fitting the cutting band* work step with the tensioning of the cutting band.
- ▶ Always check the position of the tensioning lever prior to starting the EXAKT 312.



Attention – damage due to incorrect cutting bands!

The use of cutting bands that have not been recommended by EXAKT can impair the safety and function of the EXAKT 312.

- ▶ Only fit the recommended original EXAKT diamond cutting bands.
- ▶ Never fit toothed cutting bands, as these are unsuitable for the EXAKT 312 and will jeopardise safety.



Attention – damage to the cutting band!

The cutting band can be rendered unusable.

- ▶ Do not kink the cutting band.
- ▶ Carefully hold up the folded cutting band to unfold it.
- ▶ Do not place objects on the cutting band.
- ▶ On fitting the cutting band, always ensure there is an intact yellow belt on the pulleys (see section **9.4 Annual maintenance**).

Note *The following cutting bands are suitable for the EXAKT 312:*

Item number	Cutting band
34621	Cutting band 0.3/D151/E312

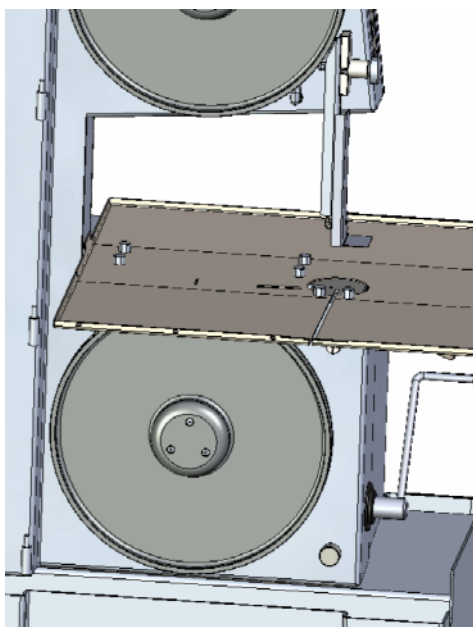


Abb. 12 Preparing to fit the cutting band

- ▶ Remove work plate (plastic), cutting band guide, work table and run-off plate.

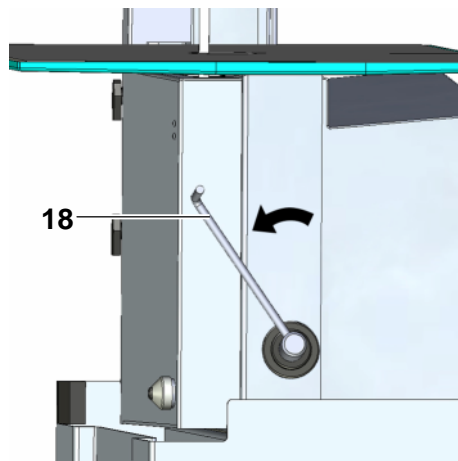


Abb. 13 Cutting band relieved

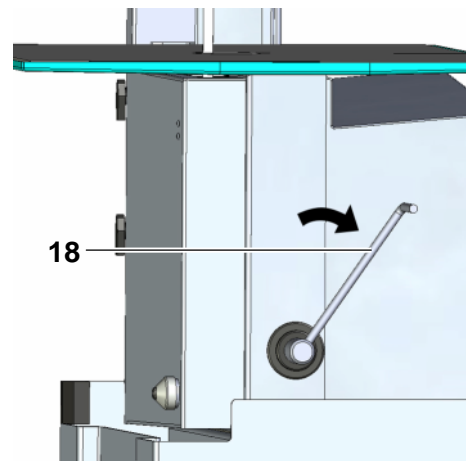


Abb. 14 Cutting band tensioned

- ▶ Pull tensioning lever **18** on the saw base unit forward (toward the user) so that the bottom pulley is moved upward.

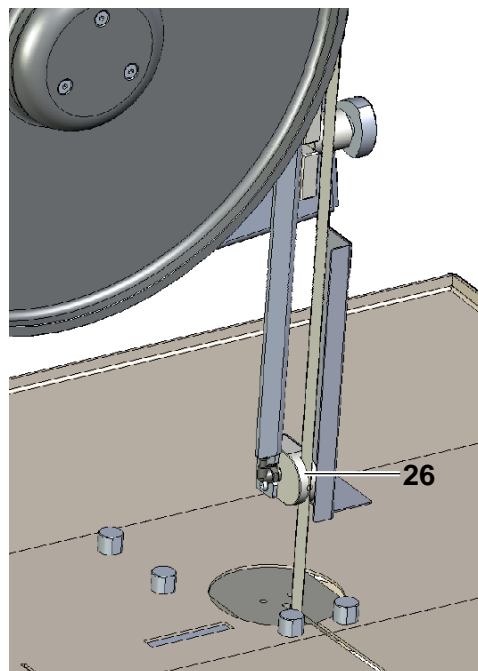


Abb. 15 Cutting band in top cutting band guide

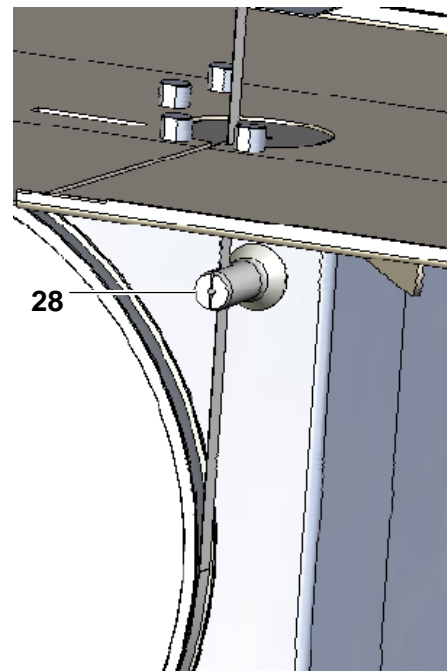


Abb. 16 Cutting band in (bottom) cutting band flushing (guide)

- ▶ Carefully unfold the folded cutting band.
- ▶ Guide the cutting band through the slot on the work table tray.
- ▶ Place the cutting band over the top pulley with the diamond-coated side to the front.
- ▶ Place the cutting band in the top cutting band guide **26**.
- ▶ Place the cutting band in the bottom cutting band guide **28**.
- ▶ Manually centre the position of the cutting band on the bottom pulley.
- ▶ Slowly push tensioning lever **18** to the rear to the stop to tension the

cutting band.

- ▶ Manually turn the top pulley clockwise to pre-centre the cutting band on both pulleys.

Centring the cutting band

The cutting band centres itself on the pulleys. For exact centring of the band, there is an adjusting lever and a locking lever on the rear of the EXAKT 312 diamond pathology saw.

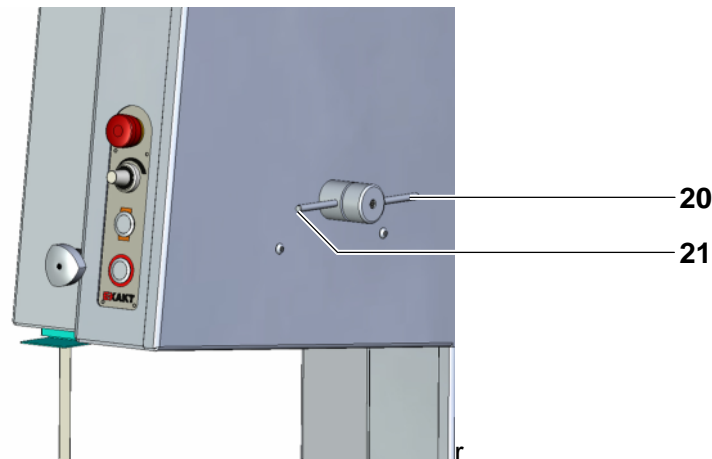


Abb. 17 Locking lever and adjusting lever for the top pulley

- ▶ Turn the locking lever **21** (inner lever) counter-clockwise and in this way unlock the setting.
- ▶ Manually turn pulley clockwise.
- ▶ At the same time adjust the adjusting lever **20** (outer lever).
 - If you turn the adjusting lever clockwise, the pulley is tilted to the rear and the cutting band is positioned further forward on the yellow belt on the pulley.
 - If you turn the adjusting lever counter-clockwise, the pulley is tilted to the front and the cutting band is positioned further back on the yellow belt.
- ▶ Check the centring on the bottom pulley.
- ▶ Adjust the centring of the cutting band on both pulleys at the top pulley as required.
- ▶ Tighten locking lever clockwise to secure the setting.

Fitting the doors



Warning – very powerful permanent magnets!

Risk of injury due to crushing.

- ▶ On opening and closing the doors, do not grasp the edge of the door.

The doors on the EXAKT 312 are simply hung in the angles on the saw base unit. A permanent magnet is used as a door catch.

Note *An electronically controlled safety circuit ensures the pulleys stop automatically within 6 seconds on opening the doors. Nevertheless, ensure the main switch is switched off during all maintenance and cleaning work!*

- ▶ Hang the bottom door in the bottom angles on the saw base unit.
- ▶ Hang the top door in the top angles on the saw base unit.
- ▶ Close doors carefully.

Assembly of the work table, 2nd part

- Push in work plate
- Fit the work table's cutting band guide
- Fit run-off plate

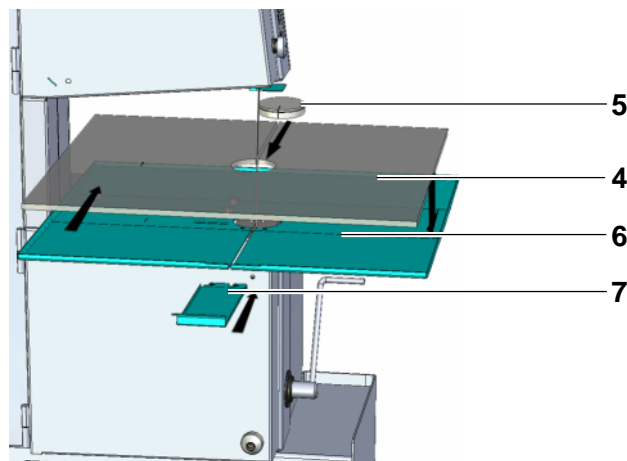


Abb. 18 Assembly of the work table

- ▶ Carefully push the work plate 4 from the front along the cutting band into the work table tray 6. During this process the guide grooves on the work plate must slide over the collared nuts.

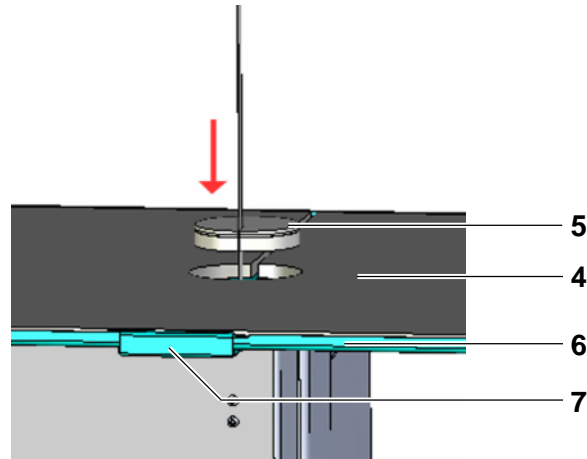


Abb. 19 Band guide, work table

- ▶ Insert the work table's cutting band guide **5** from above into the work plate – the slot opening points to the front.

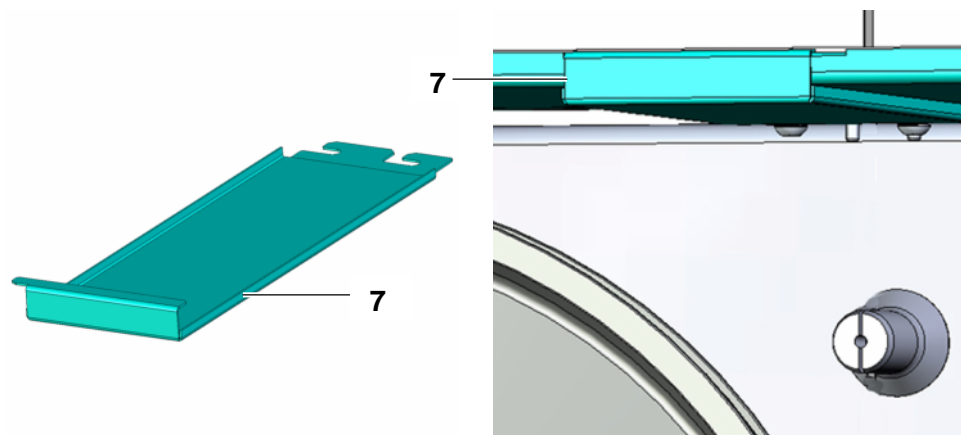


Abb. 20 Run-off plate

Abb. 21 Run-off plate fitted

- ▶ Attach the run-off plate **7** under the work table tray **6**. While doing so slide the run-off plate into the guide grooves provided.

Mounting the splash guard

Note *There are mounting lugs on the top door for the splash guard. A splash guard for the front is included in the scope of delivery. The splash guard comprises a stainless-steel bracket with a Makrolon screen:*

- ▶ Fit the splash guard to the mounting lugs. Fix using the locking knob on the splash guard.

5.5 Connection to water and power supply

Connecting the EXAKT 312 to the drainage system

The EXAKT 312 diamond pathology saw is supplied with loose water supply and drain hoses. The following section describes how to connect the EXAKT 312 to the water supply.

Note *If the internal laboratory hygiene regulations, for example for infectious material, stipulate special post-disinfection for the waste water, the water drain hose can discharge into a suitable container. Otherwise the water drain hose is connected directly to the drainage system.*



You need a screwdriver and two clips per hose.

- ▶ Push clips onto both ends of the water drain hose.
- ▶ Push the water drain hose onto the drain nozzle on the EXAKT 312.
- ▶ Push over the clip and tighten using a screwdriver.
- ▶ Push the other end of the water drain hose onto the drain.
 - The drain nozzle on the EXAKT 312 is at a height of 330 mm. To ensure waste water can flow away, there must be a continuous gradient to the drain.
- ▶ Push over the clip and tighten using a screwdriver.

Connecting the EXAKT 312 to the water supply

- ▶ Push clips onto both ends of the water supply hose.
- ▶ Push the water supply hose onto the water connection on the EXAKT 312.
- ▶ Push over the clip and tighten using a screwdriver.
- ▶ Push the other end of the water supply hose onto the water supply.
- ▶ Push over the clip and tighten using a screwdriver.

The EXAKT 312 has been connected to the water supply.

Connecting the EXAKT 312 to the power supply



Risk of electric shock!

Mains cable damage can result in serious injuries or death due to an electric shock and cause damage to the unit.

- ▶ Never place the EXAKT 312 in operation with a damaged mains cable.
- ▶ Always check mains cable for damage.
- ▶ Protect mains cable against heat, aggressive liquids and sharp edges.
- ▶ Lay mains cable so that it cannot be damaged.
- ▶ Keep mains cable away from water.
- ▶ Use a splash-proof mains socket.

Have a damaged mains cable replaced by a service engineer.



Attention – incorrect mains voltage!

If the mains voltage is incorrect, the EXAKT 312 may be damaged.

- ▶ Only connect the EXAKT 312 to the mains voltage stated on the type plate.

- ▶ Connect the mains plug to a splash-proof socket.

The EXAKT 312 has been connected to the power supply.
The installation of the EXAKT 312 is now complete.

6 Placing in operation for the first time

The following subjects are described in this section:

- Undertaking a test run
- Ending a test run

To be able to place the EXAKT 312 diamond pathology saw in operation, the unit must be connected to the water and power supply, and the installation must be complete (see section 5 *Installation*).

Before it is possible to start routine work, a test run must be undertaken to check the centring of the cutting band.

6.1 Undertaking a test run

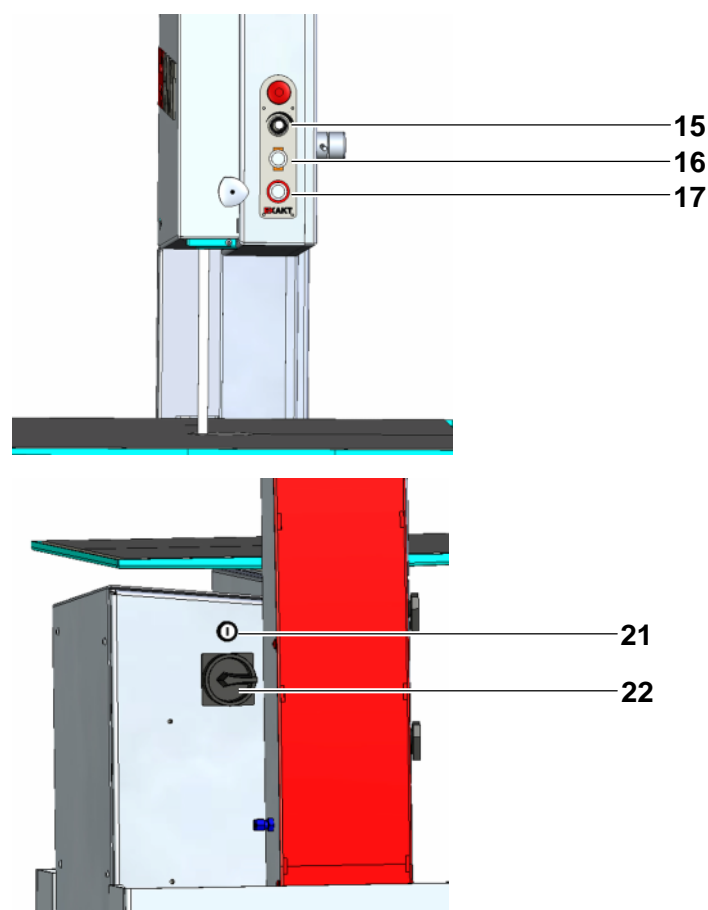


Abb. 22 Switches for placing in operation

- ▶ Set the cutting band speed control **15** to minimum speed (counter-clockwise stop).
- ▶ Switch on the main switch **22**.
- ▶ The cutting band must be fitted properly and both doors closed.
- ▶ Press the acknowledge button **21**.

The EXAKT 312 is ready for operation.

- ▶ Press the start button **16** and increase the cutting band speed to approx. 30%.

Leave the EXAKT 312 to run for around half a minute so that the cutting band can centre itself.

6.2 Ending a test run

- ▶ Press the stop button **17**.

6.3 Checking the cutting band centring

Note *Only open the top door once the cutting band has come to a complete stop.*

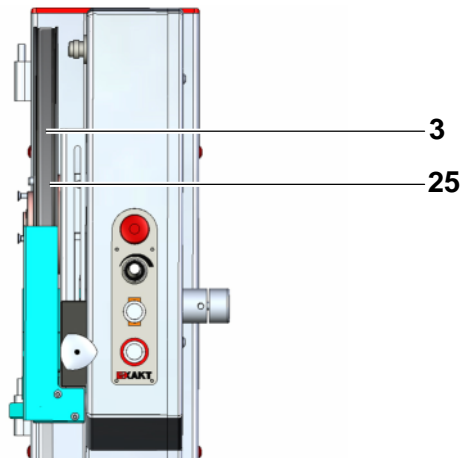


Abb. 23 Visual inspection of the cutting band centring

- ▶ Open top and bottom door.
- ▶ Make visual inspection.

The cutting band **3** must be centred on the top and bottom pulley **25**.

Note *Should the cutting band not be centred, see section Centring the cutting band in chapter 5 Installation.*

- ▶ Close doors.

7 Routine operation

The following subjects are described in this chapter:

- Preparing routine operation
- Undertaking routine operation
- Ending routine operation

7.1 Preparing routine operation



Warning – risk for the health due to biological contamination!

Contaminated samples and water can cause infections.

- ▶ Always wear the stipulated protective clothing and safety glasses for work with the EXAKT 312.
- ▶ Use suitable disinfection methods in accordance with applicable statutory provisions and guidelines, and the hygiene regulations.



Warning – injuries!

You may suffer injuries while working with the EXAKT 312.

- ▶ Do not touch the cutting band in operation.
- ▶ Wear safety glasses.
- ▶ Wear tight-fitting clothing during all work.
- ▶ Protect long hair with headgear.

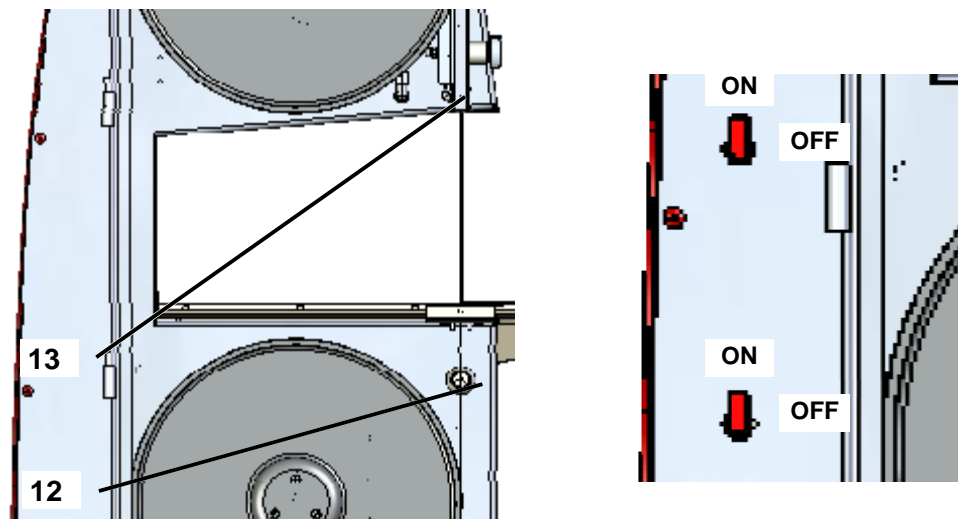


Abb. 24 Setting the water controls

For an optimum cutting result, the cooling and flushing of the cutting band is important. The cooling water should run along the cutting band.

- ▶ Open the water supply.
- ▶ Adjust the flush water flow rate at the flush water control 12. Note: It is recommended to fully open the flush water control and to adjust the flow rate at the water supply valve. This method will prevent excess water pressure in the system. Then control as necessary at the flush water control.
- ▶ Adjust the cooling water flow rate at the cooling water control 13. Note: Just a minimum coolant flow rate is generally adequate. It is to some extent also possible to work without a supply of cooling water, as enough water is left on the cutting band by the bottom flush nozzle. A low cooling water flow rate will prevent heavy splashing during cutting.

Note *If due to statutory hygiene regulations you must collect the waste water in a separate container, only use the cooling water control. In this way the amount of waste water will be kept as low as possible.*

- ▶ Switch on the main switch 22.
- ▶ Press the acknowledge button 21.

7.2 Undertaking routine operation

Adjusting the height of the top cutting band guide



Danger – risk of injury!

You may suffer injuries if you adjust the top cutting band guide with the cutting band running.

- ▶ Switch off the EXAKT 312.
- ▶ Wait until the cutting band has come to a stop.

For an optimum cutting result, the top cutting band guide can be adjusted to the height of the sample.

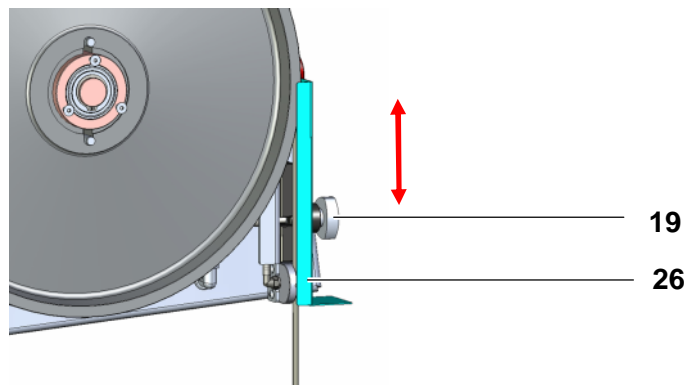


Abb. 25 Setting the top cutting band guide

- ▶ Place the sample on the work table in front of the cutting band.
- ▶ Undo the clamping bolt 19 of the top cutting band guide.

- ▶ Set the top band guide **26** to the height of the sample.
- ▶ Tighten the clamping bolt **19** of the top cutting band guide.

Adjusting the cutting band speed

To ensure an optimum cutting process and a clean cut, the cutting band speed can be adjusted as required.

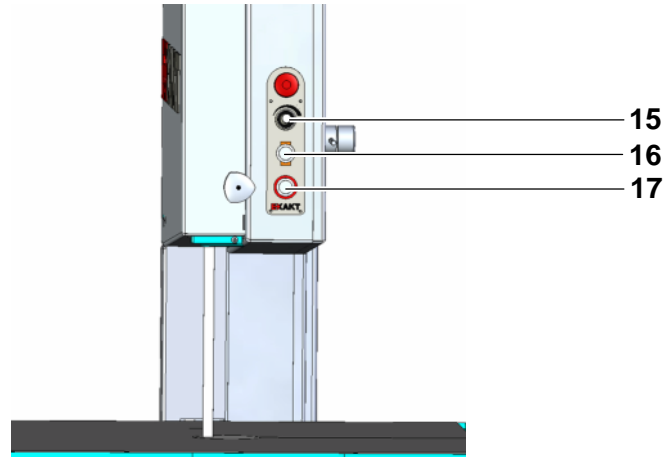


Abb. 26 Setting the cutting band speed

- ▶ Set the required cutting band speed at the cutting band speed control 15.

Cutting the sample



Danger!

If the EXAKT 312 is used improperly, injuries and damage may be caused.

- ▶ Always cut samples separately.
- ▶ Always press the sample onto the work plate during cutting.
- ▶ Do not tilt the sample.
- ▶ Do not slow down the cutting band by applying pressure to the side.
- ▶ Do not exert excessive feed force, as otherwise the cutting band may be damaged or could come off the pulleys. The cutting band guides and the bottom cutting band flushing could also be damaged as a result.

After setting the cooling and flush water flow rate, the cutting band speed and the top cutting band guide, you can start cutting the samples.

- ▶ Press the start button **16**.
- ▶ Cut the sample after the cutting band has started up.

If possible cut the sample in one pass.

Ending the cutting process

Once you have cut the sample, end the cutting process as follows:

- ▶ Press the stop button **17**.

7.3 Ending routine operation

On completion of all cutting tasks, undertake the following steps:

- ▶ Press the stop button **17**.
- ▶ Shut off the cooling water supply at the cooling water control **13**.
- ▶ Shut off the flush water supply at the flush water control **12**.
- ▶ Switch off the main switch **22**.
- ▶ Clean the EXAKT 312, see chapter *8 Cleaning*.
- ▶ Shut off the water supply.

8 Cleaning

The following subjects are described in this chapter:

- General cleaning instructions
- Cleaning agents
- Cleaning schedule
- Cleaning in accordance with hygiene regulations
- Cleaning and pre-disinfecting
- Disinfecting
- Re-fitting removed components

8.1 General cleaning instructions

Regular thorough cleaning is necessary after cutting fresh tissue due to the high risk of infection.

Note *Read and follow the following safety instructions before starting the cleaning work. Cleaning work may only be carried out by appropriately instructed personnel.*

8.2 Cleaning in accordance with hygiene regulations



Danger – electric shock!

Death or serious injuries may be the consequence.

- ▶ Prior to all cleaning work, set the main switch to OFF and unplug the mains plug.
- ▶ Secure against unintentional placing back in operation by others.



Warning – risk of slipping!

Injuries due to slipping.

- ▶ Keep the floor around the EXAKT 312 as dry as possible.
- ▶ Wear non-slip shoes.



Danger – biological contamination!

Risk of infection.

- ▶ Dispose of waste water, cleaning agents and used protective clothing in accordance with applicable statutory provisions and the hygiene regulations.

During cleaning follow the related statutory provisions in your country.

Adapt the cleaning process to the hygiene regulations applicable in your laboratory.

The various tasks of the cleaning process are described in the following sections.

8.3 Cleaning schedule

Always keep the working area of the EXAKT 312 in a clean condition. The following table provides an overview of all cleaning tasks required with recommendations for the cleaning intervals.

Applicable guidelines and hygiene regulations are to be followed as a matter of priority.

Consumables used during cleaning and contaminated waste water are to be disposed of in accordance with the applicable hygiene plan of the laboratory in which the EXAKT 312 is setup.

Part	Cleaning interval	Components to be cleaned
Work table	After each use.	<ul style="list-style-type: none"> • Work plate • Work table tray • Run-off plate • Cutting band guide, work table
Cutting band	After each use.	<ul style="list-style-type: none"> • Cutting band • Cutting band guide, top/bottom
Pulley top/bottom	After each use.	<ul style="list-style-type: none"> • Pulley • Guide groove • Belt, yellow
Housing	After each use.	<ul style="list-style-type: none"> • Housing • Inside of doors • Outside of doors • Splash guards • Nip guards • Drain pan
Cutting band guide	After each use.	<ul style="list-style-type: none"> • Cutting band guide with its individual components
Hoses	At your discretion and based on level of soiling.	<ul style="list-style-type: none"> • Water drain hose • Water supply hose • Cooling water hose

8.4 Cleaning agents



Attention – damage!

Damage to the external surfaces due to cleaning agents containing chlorine and aggressive cleaning agents.

- ▶ Do not use disinfectants containing chlorine or aggressive disinfectants such as acetone or nitro thinner.
- ▶ Only use alcohol-based disinfectant.

You can use the disinfectants usually found in laboratories, provided they are alcohol-based, such as:

- disinfection spray
- instrument disinfectant

8.5 Cleaning and pre-disinfecting

Remove the soiling that has accumulated on all parts of the unit during use prior to disinfection.

Cleaning the work table and external housing

- ▶ Clean the top of the work plate with cellulose wipes.
- ▶ Clean all external surfaces.

Pre-disinfecting the external and internal housing

- ▶ Pre-disinfect all external surfaces.
- ▶ Open top and bottom door.
- ▶ Pre-disinfect all internal surfaces.

Pre-disinfecting the work table



Attention – damage!

The cutting band can get damaged.

- ▶ Carefully pull work plate out of the work table tray along the cutting band.

The work table comprises several components which have to be removed one after the other for cleaning.

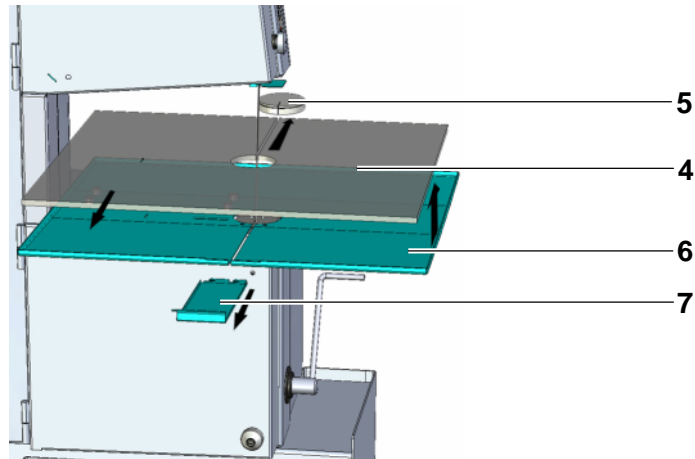


Abb. 27 Work table components

- ▶ Lift the work plate **4** and pull it out of the work table tray **6**.
- ▶ Clean the rear side.
- ▶ Pre-disinfect both sides of the work plate.
- ▶ Press the cutting band guide upwards **5** out of the work plate, clean and pre-disinfect.
- ▶ Clean the work table tray and pre-disinfect.
- ▶ Pull out the run-off plate **7** under the work plate tray.
- ▶ Clean the run-off plate and pre-disinfect.

8.6 Disinfecting

Disinfecting the cutting band



Attention – damage to the cutting band!

The cutting band can be rendered unusable.

- ▶ Do not kink the cutting band.
- ▶ Do not place any objects on the removed cutting band.

Once all components have been cleaned and pre-disinfected, they can be disinfected. Prior to disinfection the cutting band must be removed as follows:

- ▶ Pull the tensioning lever forward to relieve the cutting band tension.
- ▶ Carefully remove the cutting band.
- ▶ Fold the cutting band as follows:

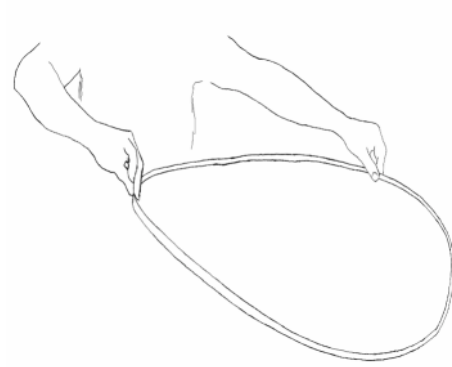


Abb. 28 How to hold

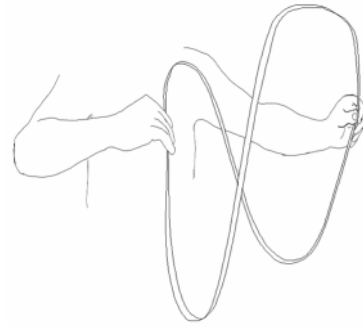


Abb. 29 Turn into a figure of eight

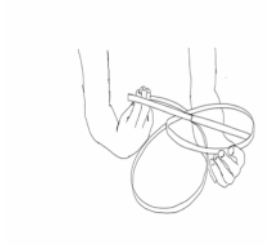


Abb. 30 Push together



Abb. 31 Cutting band folded

- Hold the cutting band in a loose circle using both hands.
Left hand: thumb on the inside, index and middle finger on the outside.
Right hand: thumb on the outside, index and middle finger on the inside.
- Turn the cutting band into a figure of eight.
- Turn the finger tips together in the direction of the body.
With this movement the cutting band forms a triple ring.
- ▶ Place the folded cutting band in a disinfectant solution for disinfecting.
- ▶ Disinfect the top and bottom cutting band guide.

Disinfecting the top pulley

The top pulley comprises several components which have to be removed one after the other for disinfection.

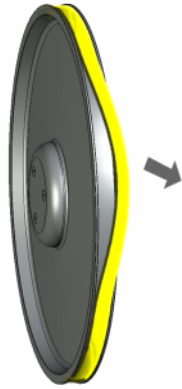


Abb. 32 Belt, yellow

- ▶ Lift the top pulley out of the mounting and disinfect the rear side.
- ▶ If necessary, change the yellow belt, see section *9.4 Annual maintenance*.
- ▶ Disinfect the guide groove and the yellow belt.

The top pulley has now been disinfected.

Disinfecting the bottom pulley

The yellow belt on the bottom pulley can also be cleaned with the work table fitted. The cleaning slot passes through all the components of the work table.

- ▶ If necessary, remove the yellow belt, see section *9.4 Annual maintenance*.
- ▶ Disinfect the guide groove and yellow belt.
- ▶ Fit the yellow belt.

The bottom pulley has now been disinfected.

Disinfecting the cutting band guide

The cutting band guide can be removed from its bracket for cleaning and disinfecting.

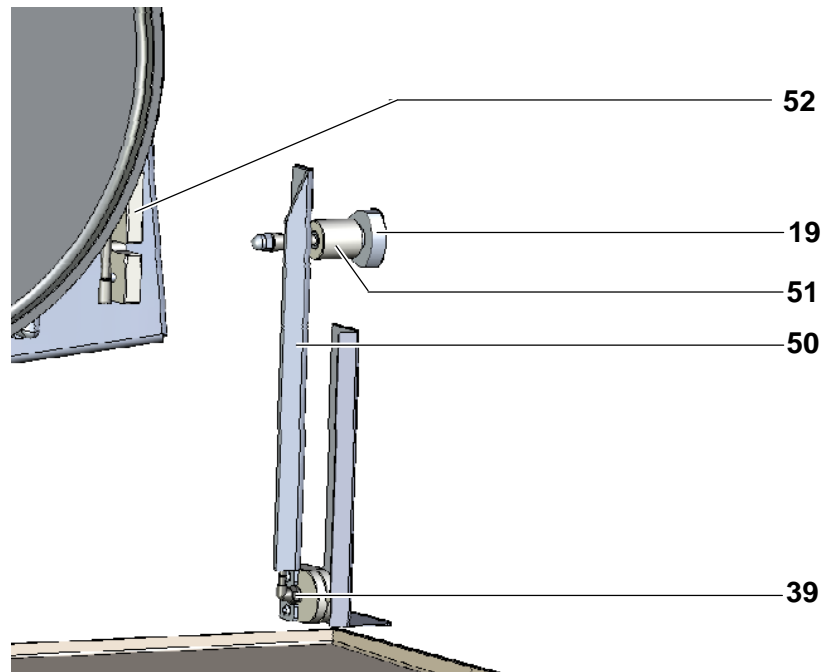


Abb. 33 Cutting band guide removed

- ▶ Completely undo the clamping bolt of the cutting band guide **19** (counter-clockwise).
- ▶ The slide **50** can now be removed from the bracket **52** to the left and then to the front. For this purpose the nut **51** (of the clamping bolt) must be moved slightly to the left to clear the bracket.
- ▶ If necessary pull the hose off the elbow fitting **39** to be able to better disinfect the cutting band guide.
- ▶ Re-fit in the reverse order of removal.

The cutting band guide has now been disinfected.

Disinfecting the internal and external housing

- ▶ Disinfect all internal and external surfaces.
- ▶ Remove the splash guard and soak in disinfectant solution.
- ▶ Then rub the splash guard dry.

8.7 Re-fitting removed components

Re-fit the components in the following order:

- Cutting band guide
- Pulley, top
- Cutting band
- Work plate
- Cutting band guide, work table
- Run-off plate
- Splash guard

For a detailed description, see chapter *5 Installation*.

9 Maintenance



Danger – electric shock!

Death or serious injuries may be the consequence.

- ▶ Prior to all maintenance work, set the main switch to OFF and unplug the mains plug.
- ▶ Secure against unintentional placing back in operation by others.



Danger – biological contamination!

Contaminated samples and contaminated water can cause infections.

- ▶ For work in the laboratory, wear stipulated protective clothing and safety glasses.

EXAKT units are, provided they are operated properly, reliable and low maintenance.

At regular intervals the components should be checked by visual inspection.

9.1 Maintenance after each use

Cutting band

A worn and/or soiled cutting band will result in messy and inaccurate cutting results. The results of the cutting are in general extremely smooth cut surfaces with very low surface roughness.

To be able to meet the different requirements, the cutting band must be checked for soiling and wear prior to each use and on each sample change.

Cleaning a soiled cutting band

Cleaning a soiled cutting band using a whetstone

- ▶ Open the water supply.
- ▶ Open the cooling water control.
- ▶ Open the flush water control.
- ▶ Switch on the EXAKT 312.
- ▶ Make a cut into the whetstone using a low feed force.

The soiled cutting band will be cleaned by the cut into the whetstone.

Replacing a damaged cutting band

Removing the cutting band

- ▶ Lift the work plate and pull forward out of the work table tray.
- ▶ Remove the run-off plate
- ▶ Position the cutting band guide at the bottom
- ▶ Open the doors and remove.
- ▶ Pull the tensioning lever on the saw base unit forward (toward the user) so that the bottom pulley is moved upward.

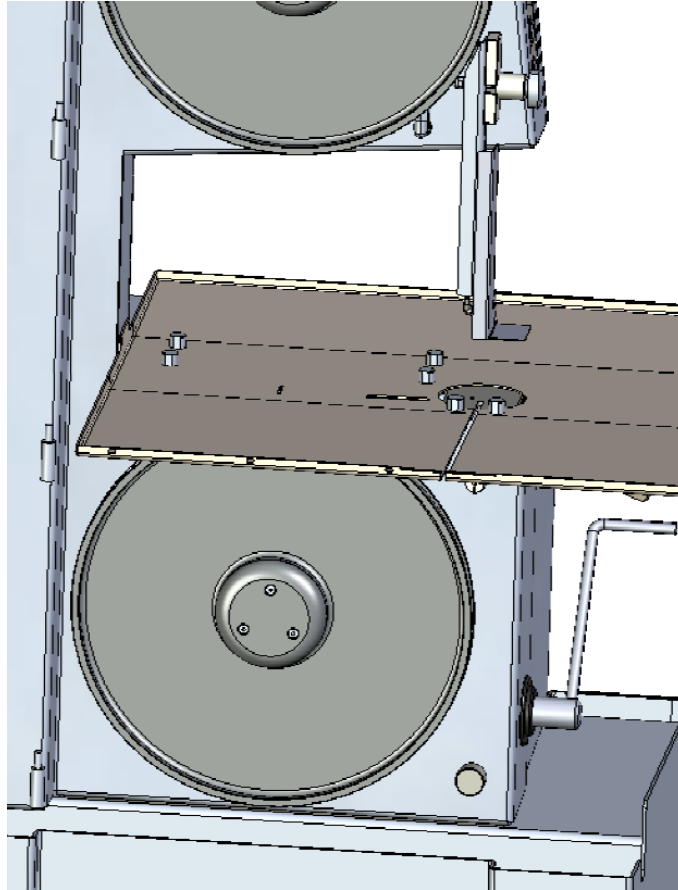


Abb. 34 Preparations for removing the cutting band

- ▶ Carefully remove the cutting band.

Fitting the cutting band



Attention – damage due to incorrect cutting bands!

The use of cutting bands that have not been recommended by EXAKT can impair the safety and function of the EXAKT 312.

- ▶ Only fit the recommended original EXAKT diamond cutting bands.
- ▶ Never fit toothed cutting bands, as these are unsuitable for the EXAKT 312 and will jeopardise safety.

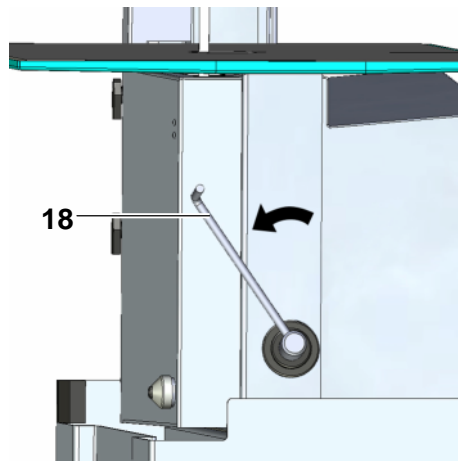


Abb. 35 Cutting band relieved

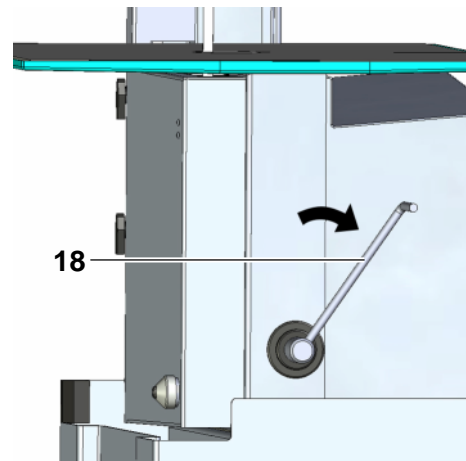


Abb. 36 Cutting band tensioned

- ▶ Pull the tensioning lever **18** on the saw base unit forward (toward the user) so that the bottom pulley is moved upward.

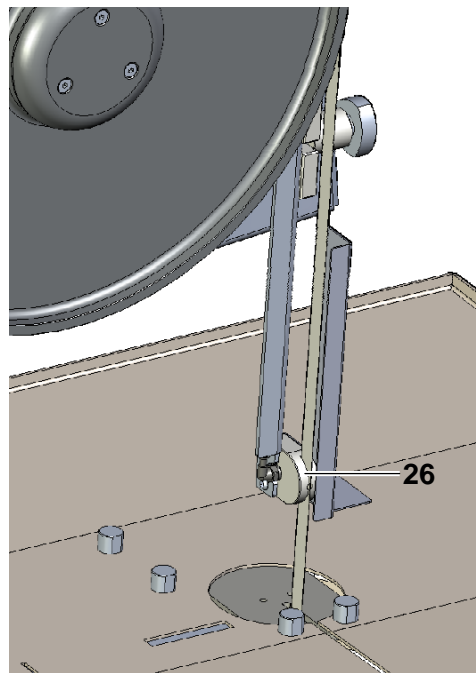


Abb. 37 Cutting band in top cutting band guide

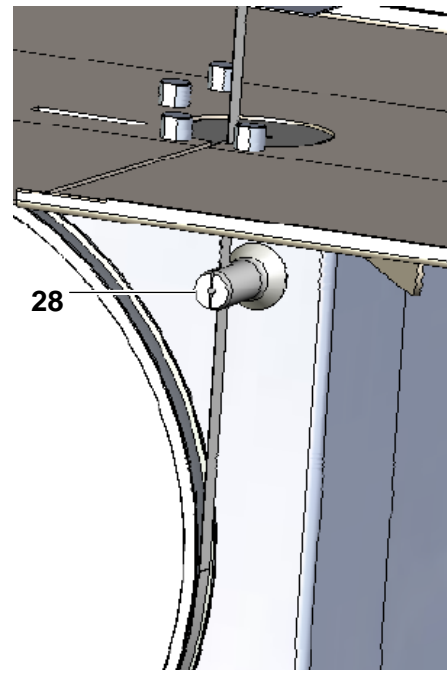


Abb. 38 Cutting band in bottom cutting band guide

- ▶ Carefully unfold the folded cutting band.
- ▶ Guide the cutting band through the slot on the work table tray.
- ▶ Place the cutting band over the top pulley with the diamond-coated side to the front.
- ▶ Place the cutting band in the top cutting band guide **26**.
- ▶ Place the cutting band in the bottom cutting band flushing (guide) **28**.
- ▶ Manually centre the position of the cutting band on the bottom pulley.
- ▶ Slowly push the tensioning lever **18** backward to the stop to tension

the cutting band.

- ▶ Manually turn the top pulley clockwise approx. 5-10 x to centre the cutting band on both pulleys. During this process pay attention to correct running of the pulleys and the cutting band guides!
- ▶ Close the doors.
- ▶ Carefully move the work plate along the cutting band and place in the work table tray.

Checking cutting band guides

Band guide, top

- ▶ Open the top door.
- ▶ Check the top cutting band guide for damage.

Cutting band guide, work table

- ▶ Check the cutting band guide of the work table for damage.
- ▶ Check the cutting band guide of the work table for correct seating in the work table.

Cutting band flushing, bottom

- ▶ Open the bottom door.
- ▶ Check the bottom cutting band guide of the band flushing for damage.

Remove foreign bodies

Drain pan

- ▶ Open the bottom door.
- ▶ If necessary remove foreign bodies.

9.2 Weekly maintenance

Checking the cooling water flow

Cooling water system

- ▶ Open the top door.
- ▶ Open the water supply.
- ▶ Open the cooling water control.
- ▶ Check the cooling water flow rate at the top cutting band guide.

Checking the flush water flow

Flush water system

- ▶ Open the bottom door.

Attention! On opening the control, water will splash horizontally out of the saw!

- ▶ Open the water supply.
- ▶ Open the flush water control.
- ▶ Check the flush water flow rate at the bottom cutting band guide.

9.3 Maintenance every six months

Checking the cooling water hose

Cooling water hose

Regular replacement of the cooling water hose is recommended to prevent soiling.

- ▶ Open the top door.
- ▶ Check the cooling water hose for leaks.
- ▶ Replace if necessary.

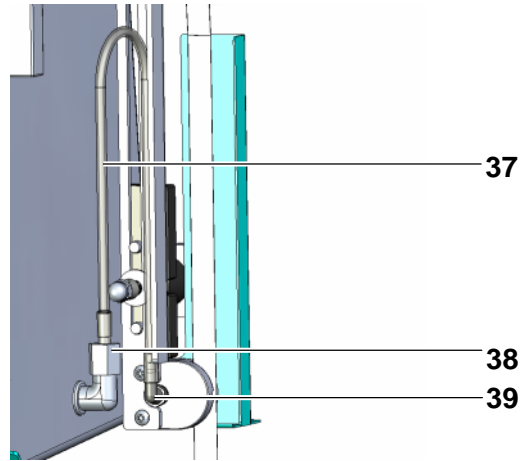


Abb. 39 Cooling water hose with connection

Replacing the cooling water hose

Replacing the cooling water hose

Preparation

- ▶ Open the top door.
- ▶ Remove the nip guard.
- ▶ Remove the cutting band.
- ▶ Remove the top pulley.

Replacing the cooling water hose

- ▶ Undo union nut on the bulkhead fitting **38**, pull off the cooling water hose **37** and remove the sleeve from old hose.
- ▶ Pull the cooling water hose off the elbow fitting **39**.
- ▶ Fit the union nut over the new cooling water hose.
- ▶ Fit the sleeve in the new hose
- ▶ Fit the cooling water hose to the bulkhead fitting and tighten the union nut.
- ▶ Fit the cooling water hose to the elbow fitting.

Checking the fitting for leaks

- ▶ Open the water supply.
- ▶ Open the cooling water control.
- ▶ Check the fitting for leaks and re-tighten if necessary.

Assembly

- ▶ Fit the top pulley, cutting band and nip guards.
- ▶ Close the top door.

The cooling water hose has been replaced.

Aligning the EXAKT 312

Checking the EXAKT 312 is level

- ▶ Adjust the adjustment feet using the open-end spanner AF 17 to level out any unevenness.
- ▶ Place the spirit level on the base plate longitudinally and cross-wise to check the EXAKT 312 is level.
- ▶ Re-adjust adjustment feet if necessary.

See section *5.3 Installing the EXAKT 312*.

Checking the mains cable

Mains cable

- ▶ Check the mains cable for damage.
- ▶ Have the mains cable replaced by a service engineer if necessary.

9.4 Annual maintenance

It is recommended to change the yellow belt at least once a year. On changing the yellow belt, it is recommended to have a colleague help with the fitting, as the new yellow belt will be stronger.

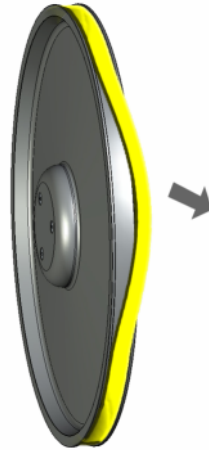


Abb. 40 Lifting the yellow belt

Replacing the yellow belt

Replacing the yellow belt

- ▶ Remove the cutting band.
- ▶ Hold the pulley.
- ▶ Carefully lift the yellow belt using a screwdriver and pull off the pulley.
- ▶ Clean the guide groove of the yellow belt.
- ▶ Fit the new yellow belt at the bottom first, pull up over the pulley and press into the groove on the pulley.
- ▶ Fit the cutting band.

Checking the electrical system and safety circuit

Electrical system and safety circuit

Have the check undertaken by a service engineer.

9.5 Maintenance as required

Replacing a faulty fuse

Replacing a fuse



Danger – electric shock!

Death or serious injuries may be the consequence.

- ▶ Prior to replacing the fuse, set the main switch to OFF and unplug the mains plug.
- ▶ Secure against unintentional placing back in operation by others.
- ▶ Only use 8 A/T fuse.



You will need a 3 mm hexagon key

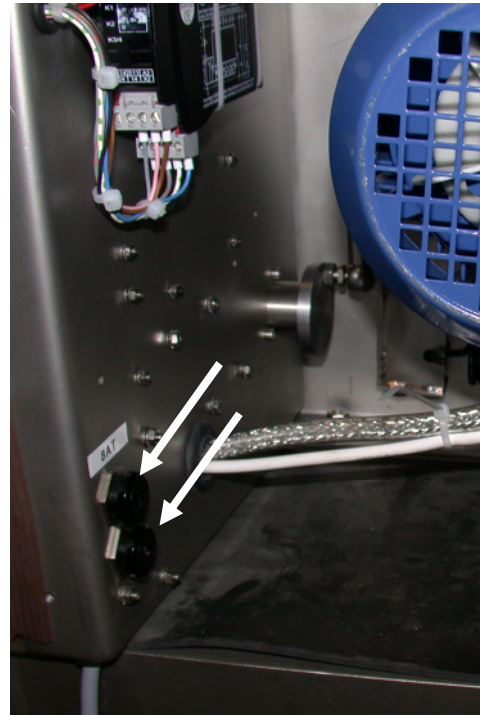
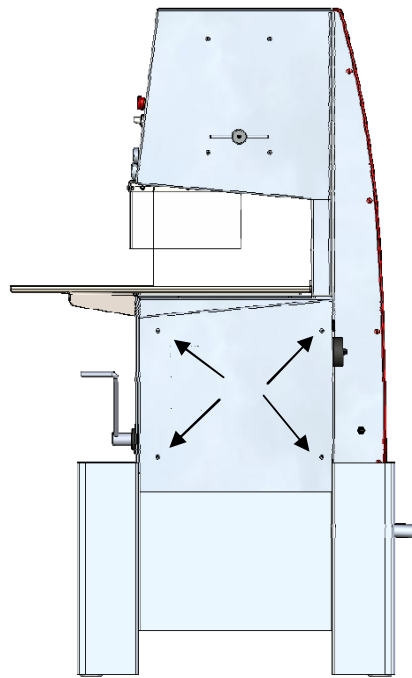


Abb. 41 Replacing a fuse

- ▶ Remove table and tray (to make it easier to subsequently fit the seal between the housing and motor cover).
- ▶ Remove the seal
- ▶ Unscrew the motor cover (4 screws M5) on the rear using the hexagon key.
- ▶ Replace the faulty 8 A/T fuse(s).
- ▶ Re-fit the motor cover.

Undertaking a function check

- ▶ Plug in the mains plug.
- ▶ Set the main switch to ON.
- ▶ Press the acknowledge button.
- ▶ Press the start button.

The cutting band should now start.

10 Faultfinding and troubleshooting

Fault description	Cause of fault	Fault rectification
The EXAKT 312 cannot be started.	The main switch is not switched on.	▶ Set the main switch to ON.
	The acknowledge button has not been pressed.	▶ Press the acknowledge button.
	The doors are not closed.	▶ Close the top and/or bottom door. ▶ Press the acknowledge button.
	The emergency-stop pushbutton is pressed.	▶ Pull out the emergency-stop pushbutton to unlock. ▶ Press the acknowledge button.
	The electronic speed control has a fault (e.g. overload).	▶ Press the stop button for approx. 3 sec. ▶ Start the motor again.
	The fuse is faulty.	▶ Check the fuse, replace if necessary (see section 9.5 <i>Maintenance as required</i>).
	The mains cable is faulty.	▶ Check the mains cable and if necessary have it replaced by a service engineer.
	The mains plug is not plugged in.	▶ Plug in the mains plug. ▶ Set the main switch to ON. ▶ Press the acknowledge button.
	No power at socket.	▶ Check the socket.
	The building fuse is faulty.	▶ Check the building fuse.

Fault description	Cause of fault	Fault rectification
The cut quality is dropping.	The cutting band is soiled.	<ul style="list-style-type: none"> ▶ Clean the cutting band. See section <i>Cleaning a soiled cutting band</i> using a whetstone in chapter 9 <i>Maintenance</i> .
	The cutting band is worn.	<ul style="list-style-type: none"> ▶ Replace the cutting band. See chapter 9 <i>Maintenance</i> .
	The yellow belt is soiled.	<ul style="list-style-type: none"> ▶ Clean the belt. See chapter 8 <i>Cleaning</i> .
	The yellow belt is faulty.	<ul style="list-style-type: none"> ▶ Replace the belt. See section 9.4 <i>Annual maintenance</i> .
	Incorrect cutting band speed.	<ul style="list-style-type: none"> ▶ Correct the cutting band speed. See chapter 7 <i>Routine operation</i> .
The cutting band does not cut.	The cutting band has been installed the wrong way around.	<ul style="list-style-type: none"> ▶ Fit the cutting band with the diamond-coated side to the front (toward the user).
No cooling/flush water.	The water supply is shut off.	<ul style="list-style-type: none"> ▶ Open the water supply.
	The water supply is blocked.	<ul style="list-style-type: none"> ▶ Clean the water supply.
	The cooling water control is shut off.	<ul style="list-style-type: none"> ▶ Open the cooling water control. See chapter 7 <i>Routine operation</i> .
	The flush water control is shut off.	<ul style="list-style-type: none"> ▶ Open the flush water control. See chapter 7 <i>Routine operation</i> .
Waste water does not drain away.	The drain is blocked.	<ul style="list-style-type: none"> ▶ Clean the drain nozzle. ▶ Check/clean the work table tray. See chapter 8 <i>Cleaning</i> .
	The drain is higher than the drain nozzle.	<ul style="list-style-type: none"> ▶ Provide an adequate gradient.

11 Disposal

11.1 Disposing of packaging



The packaging of the EXAKT 312 comprises cardboard, polystyrene and plastic sheet. To dispose of the packaging, follow the regulations for your communal waste disposal system.

11.2 Disposing of unit



Within the EU this symbol indicates that this product is not allowed to be disposed of in household waste at the end of its service life. Old units contain valuable materials that should be sent for recycling to protect the environment and the health of the public against uncontrolled waste disposal. Please therefore dispose of old units via suitable collecting systems or send the unit for disposal to the dealer from whom you purchased it. The dealer will then send the unit for recycling.

Electrically operated equipment is disposed of in accordance with national rules, which are based on the EU directive 2002/96/EC on waste electronic and electrical equipment (WEEE).

In accordance with this directive, equipment in the business-to-business sector, to which this product belongs, supplied after 13.08.2005 is no longer allowed to be disposed of in communal waste disposal systems. During disposal follow the related statutory provisions in your country. As the regulations vary from country to country, we recommend you contact your dealer or supplier if disposal is necessary.

In Germany the marking obligation has been in force since 23.03.2006. The manufacturer must offer an appropriate means of return for all equipment supplied from 13.08.2005.


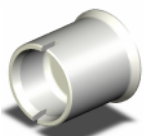

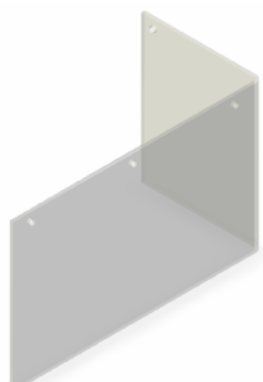
12 Technical data

Dimensions	EXAKT 312
Unit dimensions width x height x depth	924 x 1527 x 625 [mm]
Weight	150 kg
Working height	Approx. 900 mm
Cut height	Max. 210 mm
Cut width	Max. 350 mm
Pulley diameter	390 mm
Cutting band speed	Approx. 200-1200m/min
Connection voltage/frequency	1x 230 V / 50 Hz
Special voltage	1x 200-208V / 50-60Hz
Drive power	0.75 kW to max. 1.1 kW
Maximum current consumption	6 A
Electrical connection (connector type)	Earthed, international connector type F or CEE 7/4
Diameter of cooling water connection	7.6 mm
Height of cooling water connection	562 mm
Diameter of drain	28 mm
Height of drain	330 mm
Max. cooling water pressure	2 bar


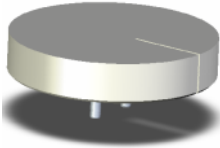
13 Spare parts and consumables

You can order all spare parts, consumables and accessories from your dealer.

13.1 Spare parts list, EXAKT 312 diamond pathology saw

Item number	Description
36370	Main fuse, 8 A/T
38204	Cutting band guide for band flushing, bottom 
38205	Flushing sleeve, band flushing incl. 2 screws 
38206	Hose, water cooling incl. sleeve 
38208	Screen, splash guard 

13.2 Consumables

Item number	Description
34621	Cutting band 0.3 mm D151/E312
36140	Band, yellow, for pulleys
38200	Cutting band guide, top 
38202	Cutting band guide, work table 
34950	Whetstone

13.3 Optional accessories

Item number	Description
38070	Cleaning gun
38072	Rip fence
38074	Laser-optical cut orientation E312
38078	Castor set
38080	Table illumination
38082	Large splash guard

14 Glossary

Term	Description of function
Run-off plate	Connected under the work table to guide the waste water.
Whetstone	Tool made of ceramic; the cutting band is cleaned by cutting into the whetstone.
Cutting band guide	Device to ensure the cutting band runs quietly and also to ensure a clean cut.
Nip guard	Device to protect against unintentional reaching into the rotating pulleys.
Adjusting lever	Lever for adjusting the cutting band centring on the top pulley.
Locking lever	Lever for securing the position of the adjusting lever.
Belt, yellow	Tape to protect the pulleys and the cutting band against damage.
Cooling water control	Control to set the cooling water flow rate.
Emergency-stop pushbutton	Button for switching off the EXAKT 312 within approx. 4 seconds in case of emergency.
Cross-pin	Pin on the top pulley for mounting on the saw base unit.
Acknowledge button	Button for activating the circuit on the start of operation and after interruptions.
Cleaning slot	Cut-out in the work table for cleaning the bottom yellow belt using the cleaning tool.
Cleaning tool	Tool for cleaning the yellow belt.
Saw base unit	The EXAKT 312 without any of the components supplied with it.
Visual inspection	Direct visual inspection of individual parts and settings without tools.
Tensioning lever	Lever for tensioning and relieving the cutting band.
Splash guard	Device to protect the user against water splashes.
Flush water control	Control to set the flush water flow rate.
Cutting band	Stainless-steel band with diamond coating for cutting samples.

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16 Declaration of conformity

EC declaration of conformity

in accordance with the:
EC Machinery directive (2006/42/EC)

Herewith we:

EXAKT Advanced Technologies GmbH

Robert-Koch-Str. 5

D-22851 Norderstedt

Telephone: +49(0)40 529 560-0

declare that, due to its design and type of construction and in the version placed on the market by us, the machine identified below complies with the applicable essential health and safety requirements of the EC directives.

This declaration will be rendered void in case of modification of the machine without our agreement.

Name of the machine:

EXAKT 312 diamond pathology saw

Serial number: from 312-00013

Year of manufacture: from 2010

The machine also complies with all the provisions of the EMC directive (89/336/EEC) and Low voltage directive (73/23/EEC).

Harmonised standards applied:

EN 61000-6-2, EN 61000-6-4

EN 60 335-1, EN 60 204-1

VDE 0701

The product complies with the requirements of the German Gerätesicherheitsgesetz (law on product safety).

Person authorised to compile documentation: **Ulf Köpke**

Address of the person authorised to compile documentation: see above

Norderstedt,

22.04.2010 Ulf Köpke, Head of Development

Date

Signatory and position

Signature

