

OWNER'S MANUAL

BAEHR[®]

BAEHR TEC A2000+

Serial No.: _____

Date of Purchase: _____

PREVENTATIVE MAINTENANCE:

Just like your car - a Podiatry Drill will operate best when serviced regularly.

In consultation with the Manufacturer, Briggate Medical Company recommend that this appliance be sent to us for inspection every:

**18 MONTHS
SERVICE FREQUENCY**

Preventative Maintenance scope:

- dis-assemble and clean
- vacuum motor clean and test
- circuit board inspection/clean
- handpiece clutch inspection/re-build
- handpiece motor testing
- handpiece bearing replacement
- electrical test and tagging



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2**Note to users**

It is imperative that you read these operating instructions carefully before first use and precisely follow the instructions and directions contained within.

These operating instructions form part of the device user agreement. By thoroughly reading them, you will be familiarised fully with the functioning and operation of the device and will therefore be able to recognise and avoid operating errors, dangers and damage.

Please retain these operating instructions in a safe place with the device.

- ✓ Please carefully read through these operating instructions.
- ✓ Please retain these operating instructions in a safe place for future reference – and also in case you ever perform any cleaning work on the device.
- ✓ Please observe all warnings and instructions in these operating instructions and on the device.
- ✓ If you ever clean the device, the power supply must be disconnected fully. Remove the mains plug from the socket. When cleaning / disinfecting, please observe the notes described in chapter 5 and its subchapters.
- ✓ Do not place the device in the vicinity of heat sources such as radiators, air conditioning systems, refrigerators or the like. Please also avoid positioning near to water sources (for example sinks) and / or chemicals. Ensure an appropriately hygienic environment. Place the device on a firm and non-slip base. Avoid positioning on unstable tables, carts or the like. If the device falls, this can cause severe damage and injuries.
- ✓ To guarantee that the device functions reliably, protect it from cold, and also from overheating. Therefore, avoid temperatures below +10° C and above +35° C.
- ✓ If you use an extension lead, make sure that the total power supply is not higher than the capacity of the extension lead. Please bear in mind that we cannot assume any liability for any form of accessories that are not included with the items delivered. This also applies to any consequential damages that may occur.
- ✓ Please avoid:
 - Touching plug contacts with sharp and / or metallic objects.
 - Having water, drinks and other liquids in the direct vicinity of the device.
 - Leaving children unsupervised with the device.
 - Touching the mains plug with wet and / or damp hands.
- ✓ Please do not carry out any repairs on the device yourself, as this will result in the cancellation of the guarantee claim. For all repairs, please contact qualified experts who are authorised to carry these out. If necessary, please ask the manufacturer or the distributor of the device (see label on the device).

- ✓ On the basis of the risk assessment already implemented we have noticed that (electro) magnetic fields can lead to interference. Please therefore switch off all devices and equipment (mobile phones, Wi-Fi etc.) that create or are able to create such fields while using the device. Alternatively, the distance between the A2000 and these devices must be at least 50 cm in order to be able to exclude any functional interference.

Please do not use the device in the following cases, and contact the manufacturer:

- If the power cable / insulation shows signs of damage.
- If the device was exposed to moisture and / or wetness.
- If the device has been dropped and / or if the device housing is damaged.

In the event of lightning strike and / or overvoltage, the device may be damaged. For this reason, we also recommend installing overvoltage protection and removing the plug during a storm and / or after a long period of non-use in order to protect the device from voltage peaks.

Please note the customary specifications for the power supply before connecting the device to the mains.

2.1 Symbols

2.1.1 2.1.1 Symbols in these operating instructions



Warning!

This symbol indicates a danger to humans or the device. This symbol must always be given the utmost attention. Read the corresponding sections especially carefully and adhere very strictly to the specifications.



This symbol provides especially useful advice and gives additional information on operating the device.

CE 0483

CE sign (Communauté Européenne) with the number of the certification authority. A product bearing this label fulfils the requirements of the corresponding EU guideline (the applicable European Standard).

2.1.2

2.1.2 Nameplate with performance figures

Fig. 1
BaehrTec A2000

CE 0483

CE sign (Communauté Européenne) with the number of the certification authority. A product bearing this label fulfils the requirements of the corresponding EU guideline (the applicable European Standard).



Application part of type B

This application part guarantees protection against electric shock due to the compliance of the leakage currents with standards (Type B).



Before first using the device, it is essential to read and follow the operating instructions.



Electrical/electronic waste. Devices with this label must be disposed of properly and must not be put in household waste.



This symbol provides information about which fuse(s) is/are used in the device.



Protection class II

This is a device of protection class II with functional earthing.

ON (max) / OFF (min)

Indicates how the device should be operated.

The following applies to the device:

Operating time: 15 min (maximum)
(minimum)

Break time: 10 min

These permitted operating times correspond to the usual working method in the podiatry/chiropractic sector.








Functional earthing

This symbol provides information indicating that the mains adapter is connected to earth (the label can be found directly on the mains adapter).

2.1.3

2.1.3 Symbols on the packaging

| | |
|---|--|
|  | Transport upright (up = in direction of arrow) |
|  | Protect from impacts! |
|  | Protect from wetness! |
|  | Permitted temperature range: -10°C to +40°C |
|  | Permitted humidity range: 30% to 85% |
| 800 hPa - 1060 hPa | Permitted air pressure: 800 hPa - 1060 hPa |

2.2 Foreword

Dear customer!

We are delighted that you have chosen to purchase this foot care dry technology device. The BaehrTec A2000 boasts technical features that will help to enhance your work.

The BaehrTec A2000 is made from many high-quality aluminium, stainless-steel and plastic parts which are also used in sports car and aircraft construction and thus guarantee the ultimate stability and quality. Furthermore, the micro-processor-controlled electronics ensure maximum power and performance from the electronic components.

In addition, the BaehrTec A2000 has an electronic readjustment for the handpiece motor, which provides power and performance even in the lowest rotation speed range. Try it for yourself – you'll be amazed.

Another highlight is the Easy-Speed concept. Thanks to the instrument illustrations on the controller, setting the engine speed for the instrument currently in use is guaranteed to be child's play (however, this is no substitute for the user checking that the maximum speed for the instrument currently in use is not exceeded).

In addition to the proven Easy-Speed concept, the BaehrTec A2000 also has a colour display which shows you additional information and allows you to change the device settings (e.g. colour background).

Contemporary electronic devices are characterised by their energy-saving features. For this reason, we have consciously decided against a standby mode for the BaehrTec A2000. Therefore, when your device is not required, please turn it off using the main switch, which is located in a user-friendly position on the front of the device. Protect the environment and your purse.

The BaehrTec A2000 gives you the following outstanding advantages:

- very low **weight**
- very low **noise level**
- easy **operation with high operational safety**
- high **performance**, perfectly adapted to the working conditions
- high level of **robustness** (for mobile use)
- high and long-lasting **reliability**
- high **energy-saving potential** (no standby mode)
- **button** on the handpiece

The BaehrTec A2000 foot care device has been made and tested in accordance with strict quality criteria, and it complies with Directive 93/42 EEC for medical devices.

We hope your new device brings you plenty of enjoyment and we wish you every success in operating it.

Your

Gustav Baehr GmbH

2.3 General product description and application

The BaehrTec A2000 foot care device is intended for use in medical foot care. It must only be used by trained professionals.

The BaehrTec A2000 foot care device moves rotating instruments (cutters, grinders etc.). These can be used to strip away hard skin, calluses, nails etc. and remove corns.

In particular, the A2000 foot care device is intended for the following applications:

- for cleansing and milling the nail fold and removing ingrown nails
- to smooth and strip away mycotic and non-mycotic nails
- to polish non-mycotic nails where necessary
- to remove deep callosities or clavi using the hollow cutter
- milling and smoothing the areas around the digit if these are macerated or calloused
- to smooth plantar soles with the twister or the cutting grinder
- to drill through the nail using the round bur or hollow-core drill with teeth in the event of clavi or haematoma of the subungual tissue
- to roughen the nail in preparation for brace correction
- for preparation in the event of whitlow
- to remove severe plate-like callosities

Other types and fields of application are carried out at your own risk, and may conceal dangers. No form of misappropriation is permitted.

Improper use may lead to damage to persons or objects.

The manufacturer cannot be held responsible for damages caused by improper use, unqualified personnel or incorrect operation.



In the event of improper use or if the device is opened, any guarantee claims shall be invalidated.



WARNING: This device must not be modified without permission from the manufacturer.

2.3.1 Operator requirements

This device must only be used by trained and briefed podiatrists, medical chiropodists, doctors or persons in related occupational categories. These people must be familiar with the appropriate mode of operation and have appropriate training.

The operator is obliged to/must ensure that

- only flawless and faultless work equipment is used
- protect himself/herself, the patient and others from danger
- contamination from the device is avoided

2.3.2 Personal and patient protection

- Only use high-quality rotating instruments with standardised shaft (diameter 2.35 mm) from the Baehr product range.
- When using rotating instruments please observe the operating instructions. Above all, observe the manufacturer's information on maximum speeds, cleaning, disinfection and sterilisation.^{III}
- Disinfect, clean and sterilise the instruments after every use.^{III}
- For every change of patients, only use cleaned, disinfected and sterilised instruments in order to avoid potential transmission of illnesses to subsequent patients.^{III}
- Perform a surface disinfection on the handpiece after every use and before every change of patient^{III} (ensure that no disinfectant or other liquids get into the device during this disinfection).
- Disinfect all parts of the device that may have come into contact with contaminating particles after every use and before every change of patient (ensure that no disinfectant or other liquids get into the device during this disinfection).
- During application, operating personnel must wear eye, mouth and nose protection and must also wear protective gloves.
- During application, the operating personnel must ensure that neither hair nor other loose objects such as cloths, cotton wool or the like can come into the area of the rotating tools. A hair net must be worn where necessary.^{III}
- The operating personnel must remember that in working with the rotating instruments, particles may be removed which could potentially splinter. Open and untreated wounds on the patient which are in the direct vicinity of the working area should therefore^{III} be covered in a sterile way in order to protect them from any splintering particles.
- The device must be maintained and cleaned according to the instructions before and after long pauses in use.^{III}
- The device must only be used to operate accessory parts which are approved for the device.^{III}
- The national statutory provisions must be observed during use, in particular.^{III}

the currently applicable work regulations

the currently applicable accident prevention measures

To guarantee constant readiness for operation and preservation of value, the prescribed care work and maintenance services must be performed.

The device must only be repaired using replacement parts approved by the manufacturer and in accordance with the manufacturer's instructions. The recommended maintenance services (after notification, but at the latest within 24 months) and inspection and repair work must only be performed by the manufacturer.

This device must not be modified without the permission of the manufacturer.

2.3.3 Information on electromagnetic compatibility

We would like to point out that due to EN 60601-1 on the electromagnetic compatibility of electromedical devices that:

- medical electrical devices are subject to special precautionary measures in terms of electromagnetic compatibility and must therefore be put into operation in accordance with the requirements of these operating instructions.
- portable and mobile high-frequency communication facilities may affect the functionality of electrical devices.
- in order to fulfil EMC requirements under EN 60601-1, only original cables, accessories and replacement parts may be used.



For the operation of your device, you may only use power cables that have been approved by the manufacturer. If you require a new cable, please contact the manufacturer. Operating the device using a different cable is not permitted.

2.3.4 Safety guidelines

The device is not authorised for operation in potentially explosive areas.

Before every application, the operator must make sure of the functional safety and proper condition of the device.



Improper handling, maintenance and care may lead to premature deterioration and malfunctions.

This can result in a reduced product life.

→ It is therefore important to clean and care for the device regularly and properly and to send the device regularly for service (pay attention to service display or within 24 months at the latest)!

Damaged functional parts can cause damage or injuries to persons or objects. Furthermore this may result in (even greater) damage to your device.



→ It is therefore important to stop your work immediately and disconnect the device from the mains if functional parts are damaged, then contact the service team.



Electromagnetic fields may affect the functionality of implanted systems (e.g. pacemakers).

→ Please therefore ask your patients before the treatment whether they have any such systems fitted.



Due to the complex interactions between electric devices and mobile telephones, it is possible that mobile phones that are switched on may affect the device, even though the device fulfils the applicable requirements relating to electromagnetic fields.



→ Therefore, please do not operate any mobile telephones during your work, and instruct your patients to turn off their mobile phones during the treatment.

→ You should also therefore set aside any electronic devices which may be the source of any interaction (e.g. hearing aids etc.) during operation.

→ Alternatively, the distance between the device and the upper body of the person receiving the treatment must be at least 50 cm in order to be able to exclude any functional interference.



If you put the handpiece down there is risk of injury when reaching for the handpiece. In the event of injuries from used instruments, this may lead to infections.

→ Therefore, ensure that you put down the handpiece safely and do not injure yourself on it.

3 Before first use

3.1 Items delivered

Before first use, you should check that all items have been delivered.

Items delivered:

1 x A2000 controller incl. handpiece (these are firmly connected to each other)

1 x operating instructions

2 x dust bag microfibre (1 bag is already inserted for you)
Art No. 21185

2 x turbine protection filter (1 filter is already inserted for you)
Dimensions: (~ 93 x 78 mm)

2 x sound-insulating fleece (1 filter is already inserted for you)
Dimensions: (~ 48 x 57.5 mm)

2 x coarse filter fleece (1 filter is already inserted for you)
Dimensions: (~ 48 x 57.5 mm)

2 x carbon filter fleece (1 filter is already inserted for you)
Dimensions: (~ 48 x 57.5 mm)

2 x ultra-fine filter fleece (1 filter is already inserted for you)
Dimensions: (~ 48 x 57.5 mm)

4 x carbon filter foam (2 filters are already inserted for you)
Dimensions: (~ 48 x 57.5 mm)

1 x power cable with straight connector
Art No. 20970006

1 x Easy-Clean tool kit for BaehrTec A2000
Art No.40285

1 x damper for handpiece case (set) Art
no. 40286

For more information, please see the section on “Changing the dampers for the handpiece case”.

If your delivery is incomplete, please inform us of this immediately.



Please keep the delivery box along with any packaging accessories. The packaging has been developed for this device and offers the best possible protection during transportation. Therefore, please use the original packaging should you wish to send your device in for service. There shall be no entitlement to guarantee for any damages that are caused due to inadequate packaging during transportation.

3.2 What you must always consider before every use!



It is essential that you read this section with the utmost care! It contains important information on protecting yourself, others and the device from damage!

The term *BaehrTec A2000* used in this section refers both to the controller and the handpiece.

Before use, please check whether the type of current and the mains voltage of the power source are suitable for using the device. Information on the type of current and the mains voltage can be found on the nameplate on the controller.

When setting up the device, ensure that it is placed on a level base, that it cannot fall down and that the extracted air can escape easily.

Ensure that the BaehrTec A2000 remains out of reach of children.

Do not expose the device to direct heat sources (heaters, strong sunlight etc.).



Ensure that the power cable is not damaged due to squeezing, snapping or rubbing on sharp edges. If you notice any damage to the mains cable, please immediately stop working with your device, turn off the main switch and immediately remove the safety plug from the safety socket. To be able to work with the device again, please order a new power cable. For the operation of your device, you may only use power cables that have been approved by the manufacturer. If you require a new cable, please contact the manufacturer. Operating the device using different cables is not permitted.



Under no circumstances should you operate the device with a damaged power cable.



Your device has a detachable connector plug mechanism (see section "Rear view")
Always ensure that you do not set up the device in such a way that it is difficult to separate it.



Do not work with the BaehrTec A2000 in damp areas such as saunas or swimming complexes. Wetness and moisture on the controller can lead to dangerous current leaks, which poses the risk of an electric shock. Disconnect the device immediately from the socket.
Please send the device in for service with a description of the defect.

Please also avoid large differences in external temperature. This may result in moisture (condensation) developing.

Protect the BaehrTec A2000 from frost.

The device must be switched off and disconnected from the mains before carrying out any cleaning/maintenance work.

In the event of damage or malfunction to the device, please immediately remove the safety plug from the socket.

The manufacturer accepts no liability for damages to objects, animals or persons which are caused by incorrect operation of the BaehrTec A2000.


Please ensure that the BaehrTec A2000 and the instruments are always in an immaculate hygienic condition, in order that they do not put your own health or that of others at risk. Find out more in the section "*Care (disinfection)*" of the BaehrTec A2000.

Rings or jewellery worn while working with the device may cause scratches on the handpiece. Such damage is excluded from the guarantee. Whilst working with the device, you should avoid wearing jewellery.

Please only work with the suction turned on in order to suction off any pathogen-containing dust and to prevent the handpiece motor or the handpiece from becoming warm.

Never submerge the device in liquids, and do not suck up any liquids.

If you suck up any cotton wool, paper or the like, this may cause the suction openings in the handpiece to become blocked. This may heavily affect the suction power.

If the symbol for a filter change appears  on the display, it is essential that you change the dust bag (the display can only function reliably if all filters are correctly applied. Therefore, only work with the device if all filters are applied). If you do not do this, the device will switch automatically after approximately half a minute to suction level 3 to prevent any damage to your device (please refer to the section "*Filter change*" for more information on how to change the dust bag and the filter).

Never work with the device if the dust bag or the filter are not inserted, as in such cases, the device may be damaged and the guarantee shall expire.

Warning – risk of injury!



As shown in the illustration, you should avoid “pulling motions” during your work, as this may cause the instruments to slip out. Whilst working, ensure that you do not apply too much pressure to the instrument (burning of the skin).

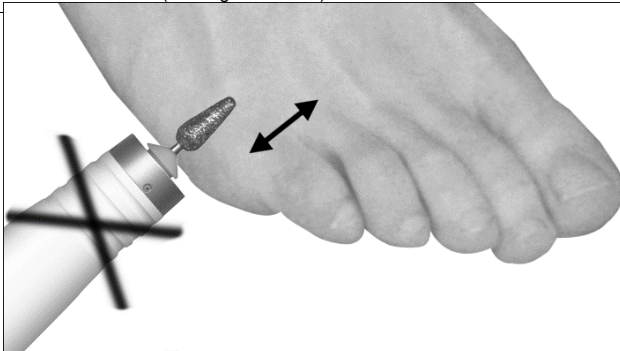


Fig. 2 Incorrect operation

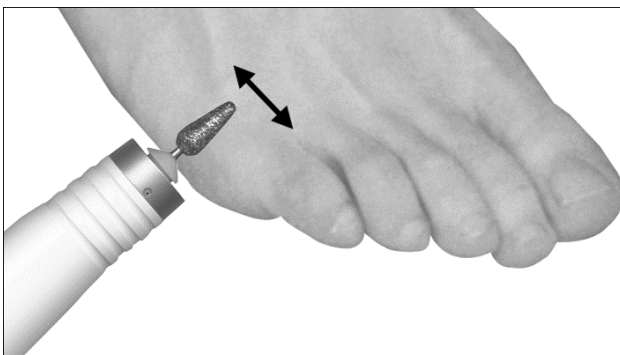


Fig. 3 Correct operation

4 Description of the device**4.1 Description of the controller****4.1.1 Front view****Fig. 4****(1) Controller housing****Main switch: (2) "ON" and (3) "OFF" with corresponding (4) LED****(5) – (12) Push buttons for instrument speeds (6,000 – 40,000 rpm) with the corresponding (5a) – (12a) LEDs****(13) Push button to turn the handpiece motor on/off****Push buttons for handpiece speed: (14) + and (15) - (1,000 rpm)****(16) Push button for instrument operation clockwise/anti-clockwise****(17) Push button "Home"****(18) Push button "Options menu"****(19) Colour display****(20) Push button for operational readiness of suction****(21) - (26) Push buttons for "Suction level" (Levels 1-6)****Push buttons for "Change of suction level": (27) + and (28) -****(29) - (31) Push buttons "Memory"**

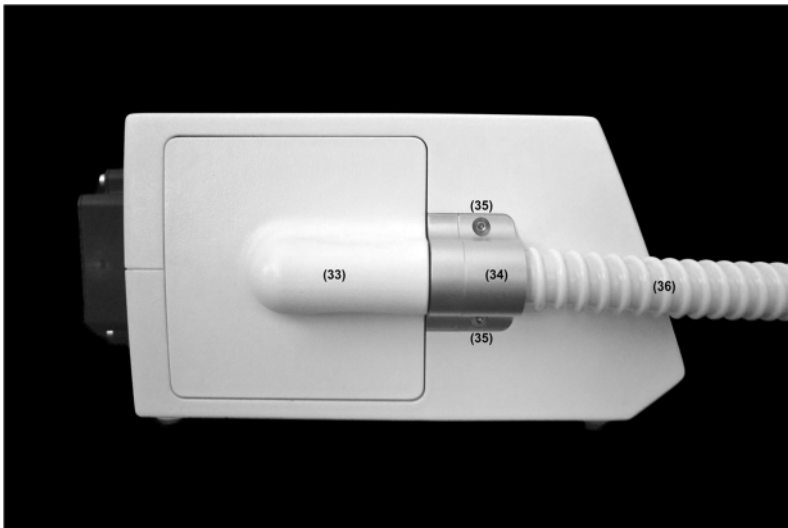
4.1.2 Side view with handpiece holder



Fig. 5

(32) Handpiece holder

4.1.3

Side view with dust bag lid (closed)*Fig. 6*

(33) Dust bag lid with handle

(34) Handpiece outlet

(35) Screws for handpiece outlet
Must only be unfastened by the manufacturer

(36) Suction hose

4.1.4 Side view without dust bag lid and turbine protection filter (open)

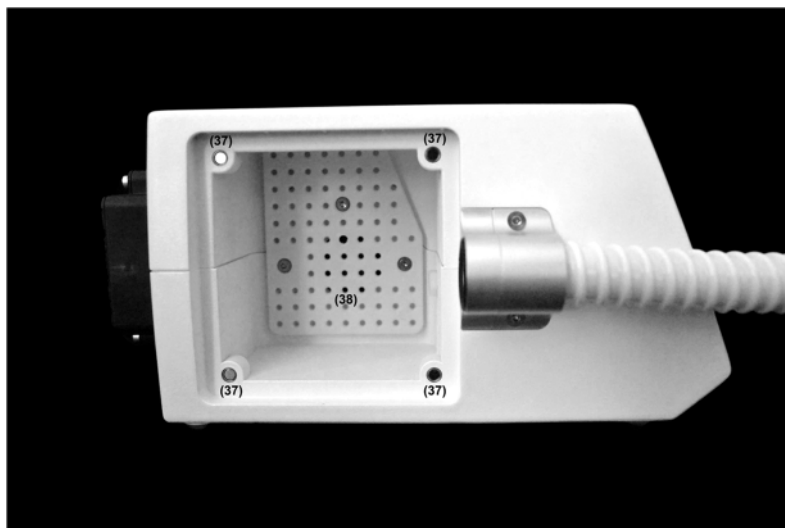
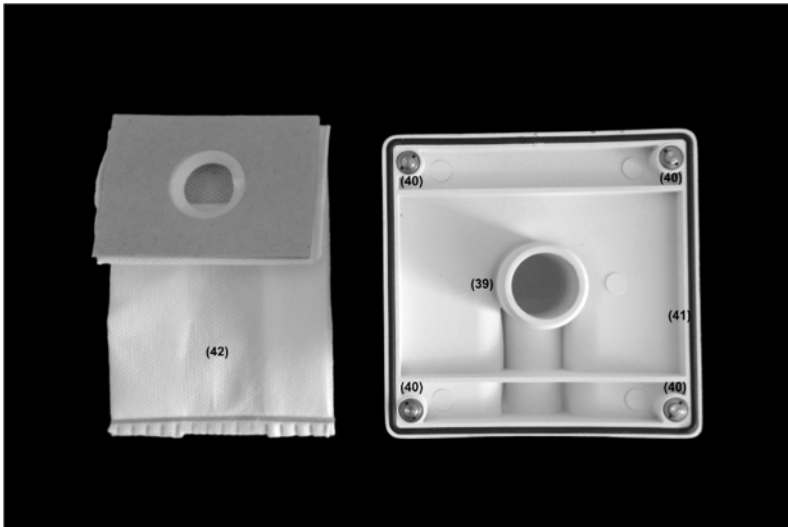


Fig. 7

(37) 4x magnet holder

(38) Filter grille

4.1.5

Dust bag lid (interior)*Fig. 8*

(39) Receptacle for dust bags

(40) Mounting bolts for magnet holder

(41) Rubber seal for dust bag lid

(42) Dust bag

4.1.6 Rear view

Fig. 9



When working from the case, we recommend removing the storage tray from the case in order that the heat created by the device can escape from the case and to avoid potential head build-up.

(43) Filter cassette

(44) Knurled screws

(45) Fuse clip

For microfuses 2x 3.15 A delay (type H)

(46) Power connector

Only connect the connection cable provided or one approved by the manufacturer.

(47a) Nameplate

(47b) Serial no. plate

(48) Connector socket for foot pedal

4.1.7

Underside view*Fig. 10***(49) Housing screws**

All housing screws must only be unfastened by the manufacturer.

(50) Housing seal

As soon as the housing seal is breached or removed, all guarantee claims shall expire.

(51) Rubber feet (4x)

4.2 Description of handpiece



Fig. 11

(36) Suction hose

**(52) Opening for DIN instruments with a shaft diameter of 2.35 mm
(for instruments with a maximum diameter of 12 mm)**

(53) Handpiece case (can be unscrewed)

(54) Handpiece cap

(55) Push button

Max. instrument diameter no greater than 12 mm

Warning: always observe the maximum permissible instrument diameter and the associated maximum permissible top speed of the instrument manufacturer.



Ensure that these are never exceeded under any circumstances, as this may lead to severe injuries to the patient and to the operator. In addition, this may cause the handpiece to vibrate.



Please think of your own safety and the safety of your patient.

**Nur Diamant- und
rostsichere Fräser
verwenden**

(nicht größer als Abb.)

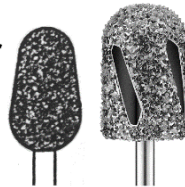


Fig. 12

Do not use any instruments that are larger than those shown on the front panel of the device!

4.3 Description of device connector cable



Fig. 13

(56) Device connector

(57) Cable

(58) Safety plug

4.4 Description of suction system

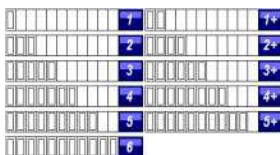
In the development of the suction system of the BaehrTec A2000 we have placed a great deal of emphasis on operating safety and operating speed.

We would therefore like first and foremost to give you an insight into the operation of the suction system.

| | |
|--|---|
| | It is possible to work with the handpiece motor switched on if the suction is disabled. |
| | However, it is not possible to work with the suction enabled, if the handpiece motor is not running. |
| | As soon as the handpiece motor is in operation, the suction will always also automatically be switched on (barely noticeable). We have deliberately chosen to do this because this prevents the handpiece from becoming warm and also ensures that dust created when working is suctioned off to a minimum. |
| | If you do not turn on the suction yourself, we shall describe this in the following as deactivated suction. Please be aware that this is always running, even if you have not turned it on. |

You can set the currently selected suction level with the button **(20)** at any time so that it is **“Not ready for operation”** or **“Ready for operation”**.

“Not ready for operation” means that the suction is not activated while the handpiece motor is running. This will be indicated on the display if the bars in the bar graph are presented as transparent (= suction not ready for operation).



“Ready for operation” means that the suction is activated while the handpiece motor is running. This will be indicated on the display if the bars in the bar graph are filled blue (= suction ready for operation).





If you press button **(20)** while the handpiece motor is running, the suction will immediately be activated/deactivated.

If you press button **(20)** while the handpiece motor is not running, the suction will be turned on or it will remain turned off once you turn on the handpiece motor.



Here, ready for operation does not necessarily mean that the suction is actually active, as the suction only becomes active when the suction is ready for operation and the handpiece motor is **also** in operation.

If the suction is actually active, this will be indicated on the display by two additional symbols.

| | |
|---|--|
|  | <p>This symbol is displayed if the suction is not currently in operation with the suction level you have set (suction off).</p> |
|  | <p>This symbol is displayed if the suction is currently in operation with the suction level you have set (suction on). <i>(Can only appear while the handpiece motor is running).</i></p> |

Therefore, the following situations are possible:

| Handpiece motor | Suction ready for operation | Bar graph on the display | Suction |
|-----------------|-----------------------------|--------------------------|---------|
| Off | No | Transparent | Off |
| Off | Yes | Filled blue | Off |
| On | No | Transparent | Off |
| On | Yes | Filled blue | On |

| | |
|---|---|
|  | <p>This offers you the following advantage: If you set the suction so that it is “not ready for operation”, you can see at all times which suction level you last selected. If you then want to set the suction in the same way, all you need to do is simply press button (20) and the suction will be ready for operation again.</p> |
|  | <p>As soon as you press one of the suction level buttons (21) – (26), (27) or (28), this suction level will immediately be set and will also immediately be “ready for operation”. This means you only ever have to press one button.</p> |

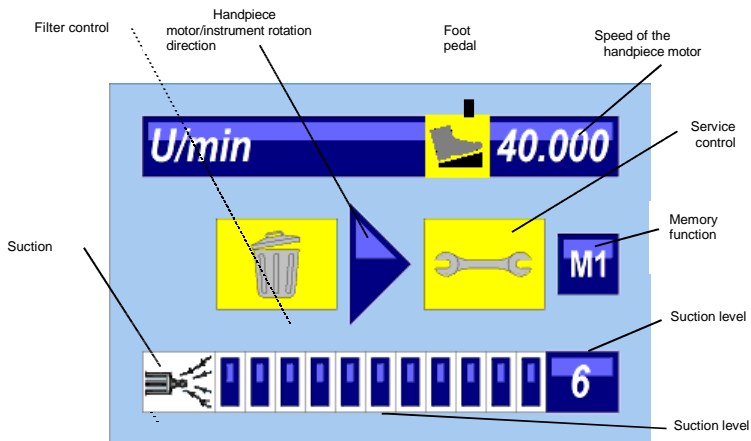
4.5 Colour display

The BaehrTec A2000 has two operating modes, which are indicated to you on the display:

- o Work mode
- o Set-up mode (options menu)

4.5.1 Work mode

As the name suggests, you can operate and work with your device in "Work mode". As soon as you turn on your device, you will automatically be in "Work mode". Here, the following information will be shown to you in the display



Speed of the handpiece motor

Here you will be shown the rotation speed that is currently set for the handpiece motor.

Handpiece motor/instrument rotation direction

The instrument rotation direction is shown in the display



The handpiece motor is in operation when the arrow is shown in blue. When it is not in operation, the arrow is shown as transparent.



Suction

| | |
|--|---|
| | This symbol is displayed if the suction is not currently in operation with the suction level you have set (suction off). |
| | This symbol is displayed if the suction is currently in operation with the suction level you have set (suction on). (Can only appear while the handpiece motor is running). |

For more information, please refer to the previous section.

Suction level

The suction level you have selected will be shown to you here as text and as a bar graph. In the bar graph, you will also see whether the suction is currently activated or deactivated.

For more information, please refer to the previous section.

Filter control



As soon as the pores of the dust bag become blocked (dust bag is full) this will be shown to you in the display using the filter-control symbol. In such a case, you must replace the dust bag. For information on how to change the dust bag, please refer to the section "Changing the dust bag".

Service control



The BaehrTec A2000 has a service interval display. The service interval is 905 hours, and refers to the operating hours of the handpiece motor as of the delivery/the last service. As soon as the service key lights up on the display (or within 24 months; this time interval is not shown to you by the device) **you must** send in your device for service in order to prevent elaborate and costly repairs and to comply with your medical device's inspection requirements in accordance with VDE 0751-1.



The service interval is actually 900 hours. But as your device already has meter readings at the time of delivery, as described in the following section, we have incorporated a buffer of 5 hours for you.

Foot pedal



As soon as the optionally available foot pedal is connected, this symbol will appear on the display.

4.5.2

Set-up mode (options menu)

In the "Set-up mode" you can change settings and retrieve information about your device. As soon as you turn on your device, you will automatically be in "Work mode". Then, in order to exit work mode and reach the options menu, please press the button **(18)**.



For your own safety, it is only possible to exit from the work area and switch to the options menu when the handpiece motor is turned off.







While scrolling through within a menu level, if you press buttons **(14)** and **(15)**, it takes about half a second for the next menu item to be selected. This ensures that you have enough time to get a look at the choices.



Unlike the settings you make in work mode (except memory functions), the settings you make in the options menu will remain even after switching off the device.

The options menu is structured as follows

| Menu level 1 | Menu level 2 | Description |
|--|--|---|
|  Language | - German - English - French - Italian - Japanese - Russian - Spanish | Set the desired language here |
|  Sounds | Different sounds / sounds off | This is where you can set the sound you want to hear when pushing a button or turn sounds off |
|  Colour | Different background colours | Set your desired background colour here |
|  Information | - Operation - Handpiece - Turbine - Service in - Version | - Information on activation period - Handpiece motor operating hours - Operating hours of the turbines - When is the next service due = (When will the service-control display appear) - Version of your A2000 |



Your BaehrTec A2000 goes through various quality controls prior to delivery. Amongst other things, your A2000 will undergo a functional test during this process. Please do not be surprised therefore, if the device already has some meter readings. This is perfectly normal and does not mean that it is a used device.



For reasons of operational safety, we recommend that you do not turn off the sounds!



You cannot make any changes in the Information menu item! This item is for viewing purposes only.



If you exceed the service interval, negative values will appear for "Service in", and the device will count the operating hours that have elapsed since the last service date.

You can navigate through the options menu using the following buttons

- Options menu button **(18)**^{III}
 - ➔ opens the options menu
 - ➔ jumps from menu level 2 to menu level 1 and from menu level 1 back to work mode.
- Buttons for handpiece rotation speed +/- **(14)** and **(15)**^{III}
 - ➔ Scroll up and down within the menu level (cursor)
- Handpiece motor button **(13)**^{III}
 - ➔ Select (Enter) / Access menu level 2
- Home button **(17)**^{III}
 - ➔ Return to work mode

The menu item that you are currently viewing is shown by the magenta-coloured shading.

The settings that have just been made will be indicated to you by the "x" on the right-hand edge of the display.

4.6 Home function (button (17))

This button has two functions:

By briefly pressing the Home button you will be taken directly from the options menu to the Work mode (see section "Work mode").

By pressing this button for approximately 7 seconds, the base settings made by the factory will be restored:

- Speed of the handpiece motor = 6,000 rpm
- Instrument rotation direction = clockwise
- Suction level = 4+
- Language = German
- Sound = Aqua
- Background colour = white

The set-up of the base settings cannot be changed.



By pressing the button for approximately 7 seconds, all settings (including the values of the memory buttons) will revert to the factory settings. The information (meter readings, etc.) will, of course, remain unaffected.

4.7 Memory buttons (buttons (29) - (31))

Your device has three memory buttons which you can use to save your preferred settings in Work mode. These settings will be retained even if you turn off the device.

In order to save settings, please set them (instrument rotation speed, instrument rotation direction and suction level) in Work mode and hold the memory button where you would like to save these settings for more than 4 seconds. Once the settings are saved, you will hear a sound and the respective memory storage space is shown on the display.

In the factory settings, **all** memory buttons are pre-assigned as follows:

- Handpiece motor speed: 6,000 rpm
- Handpiece motor rotation direction: clockwise
- Suction level: 4+



Please note that the settings you have just made will be saved if you press and hold the button for more than 4 seconds. This means that the settings that you may have previously stored on this memory button will be lost.

In order to recall settings that were saved on a memory button, briefly press the desired memory button. The saved settings are then applied. This will be indicated to you on the display by showing the corresponding memory button.



Please note that when briefly pressing the memory buttons, you will only hear a sound once you remove your finger from the button.



The indication of the memory button will only appear on the display if you select the settings via the memory button. If you (accidentally) make settings that are saved to a memory button, you will not be shown on the display that these settings are already stored on a memory button.

4.8 Disconnecting/connecting the dust bag lid to the controller



Before you remove the dust bag lid from the controller or attach it again, turn off the device at the main switch **(3)** and remove the safety plug **(58)** from the socket.

4.8.1 Disconnecting

In order to disconnect the dust bag lid from the controller, please follow these steps:

- 1) Hold the dust bag lid from the handle and lift it from the controller. You will feel a slight resistance when you lift it – this is caused by the magnetic fasteners.

4.8.2 Connecting

To attach the dust bag lid to the controller please proceed as follows:

- 1) First, attach the dust bag lid with the mounting bolts for the magnet holder to the side on which the handpiece outlet is not located.
- 2) Then attach the dust bag lid with the mounting bolts for the magnet holder to the side on which the handpiece outlet is located. The magnets ensure that the dust bag lid is pulled towards the housing and thus closed.



Disconnecting Fig. 14



Connecting Fig. 15



When changing the dust bag, make sure that the dust bag does not pinch between the controller and the dust bag lid. If this should be the case, remove the dust bag lid once again and make sure that the dust bag is not pinched when closing.



Before you close the dust bag lid and resume your work, always make sure that the turbine protection filter (rectangular) is inserted and that you have attached an undamaged dust bag correctly in the receptacle (39) for the dust bag (42), so that no impurities can enter the turbine and damage the device.

4.9

Changing the filter



We recommend changing the dust bag, as well as all filters regularly and at least every four weeks, in order to prevent excessive germ build-up. Think of your health!

Before we describe the process of changing the filter, we would like to give you a brief insight into the filter system used in the BaehrTec A2000.

1st filter: dust bag

This filter has been proven in many suction systems to this day. It filters out the majority of dust particles. It is affordable, not too large, and must therefore be changed more often than a large dust bag. **This has the great advantage that you do not have a build-up of organic dust and pathogens in your filter system for too long.** The dust bag is located in the suction chamber on the receptacle (39) for the dust bag (42).

If you need additional dust bags, you can order microfibre dust bags (Art No. 21185) like those contained in the delivery.

2nd filter: turbine protection filter

This filter prevents larger parts entering the turbines (e.g. if you have forgotten to install a dust bag). The turbine protection filter is located in the filter chamber on the grille.

3rd filter cassette

The filter cassette includes several different fleeces with different properties:

- **Sound-insulating fleece**
This fleece ensures that the suction noise is reduced and thus contributes to the comfortable volume of the A2000.
- **Coarse filter fleece**
This fleece filters coarser particles from the extracted air
- **Carbon filter fleece**
This fleece ensures that most odours are neutralised.
- **Ultra-fine filter fleece**
This fleece filters ultra-fine particles from the extracted air.
However, this fleece is also responsible for filtering viruses and bacteria from the extracted air (maximum separation rate 99.99 %).
- **Carbon filter foam**
This fleece also ensures the neutralisation of odours.

For information on how to change the fleeces of the filter cassette, please refer to the section *“Changing the filter cassette”*.



Before you change any of the filters, please turn off the device at the main switch **(3)** and remove the safety plug **(58)** from the socket.




Used filters must not be cleaned and the dust bags must not be emptied and then re-used. Always use fresh filters and a new dust bag for each filter change.



Please put used filters in the residual waste. It is preferable to discard this in a press-fastening bag.

4.9.1 Changing the dust bag

In principle, the dust bag must be changed immediately once the symbol for a dust bag change  lights up on the display.

If the icon for a dust bag change lights up, the suction system will no longer be fully powerful. If you do not heed this indication, the device will switch automatically within 30 seconds back to suction level 3. This prevents the device from being damaged.

To change the dust bag, please proceed as follows:

- 1) Turn off the device at the main switch and disconnect it from the power supply.
- 2) Disconnect the dust bag lid from the controller (see section *“Disconnecting/connecting the dust bag lid to the controller”*).
- 3) Remove the old dust bag from the receptacle **(39)**.
- 4) Clean the filter chamber and the dust bag lid each time you change the dust bag in order to guarantee proper suction power and to prevent germ formation. Think of your health!



For cleaning, we recommend the Baehr cloths Art. No. 11000.

- 5) Push the dust bag carefully with the opening on the receptacle **(39)**, until the (cardboard) reinforcement of the dust bag locks into the slot on the dust bag lid.



Make sure that you do not damage the dust bag when sliding it on and that you do not bend the seams.

- 6) Place the dust bag lid back on the controller (see section *"Disconnecting / connecting the dust bag lid to the controller"*).

4.9.2 Changing the turbine protection filter



The turbine protection filter and all other filters must be replaced immediately if you have been working with your BaehrTec A2000 without a dust bag (if you forgot) or if a dust bag has burst.

To change the turbine protection filter, please proceed as follows:

- 1) Turn off the device at the main switch and disconnect it from the power supply.
- 2) Disconnect the dust bag lid from the controller (see section *"Disconnecting/connecting the dust bag lid to the controller"*).
- 3) Remove the old turbine protection filter from the suction chamber.
- 4) Clean the suction chamber, the dust bag lid, the grille and the magnetic fasteners on the controller and the dust bag lid during each filter change.



For cleaning, we recommend the Baehr cloths Art. No. 11000.

- 5) Place a new turbine protection filter on the grille.

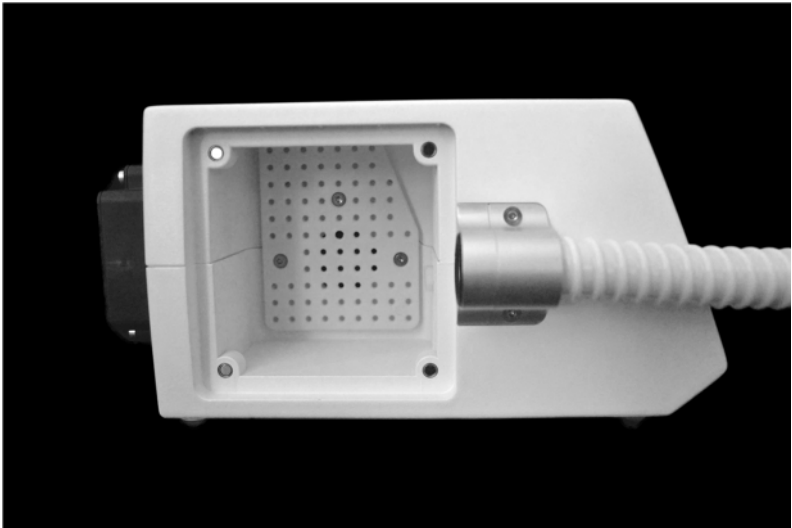



Fig. 16

- 6) Place the dust bag lid back on the controller (see section "Disconnecting/connecting the dust bag lid to the controller").

4.9.3 Changing the filter cassette

You must change the turbine protection filter and all other filters if you have installed a new dust bag and the symbol  for a dust bag change still lights up. You should also change the turbine protection filter and the other filters if you believe that the symbol for a dust bag change has lit up too early after successfully changing the dust bag. In principle, we recommend changing the filter cassette regularly, and at least every four weeks.

To change the filter cassette, please proceed as follows:

- 1) Turn off the device at the main switch and disconnect it from the power supply.
- 2) The filter cassette can be released from the device by turning both knurled screws **(44)** anti-clockwise until the filter cassette easily comes away from the back of the device.

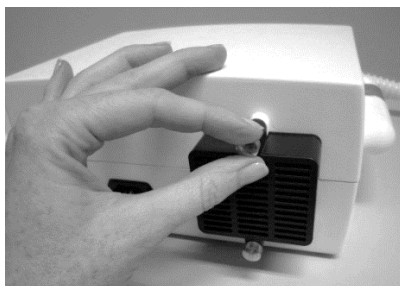


Fig. 17

- 3) Remove the filter cassette (**43**) and clean the exhaust duct on the controller using Baehr cloths Art. No. 11000.
- 4) Remove the knurled screws from the filter cassette and open it by pulling the filter cassette grille from the base of the filter cassette. Pull the filter cassette grille straight upwards and out, so that the bolts that connect the filter cassette grille with the base of the filter cassette do not break.

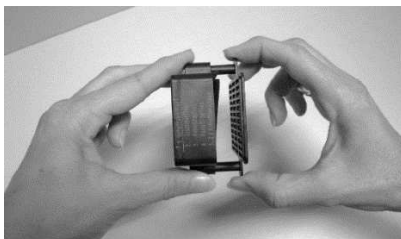


Fig. 18

- 5) Now change the inner fleeces in the order indicated on the outside of the filter cassette and then put them back into the filter cassette. Next, put the filter cassette grille back into the base of the filter cassette.



Fig. 19

- 6) Change the sound-insulating fleece as well and insert it as described on the outside of the filter cassette.



Fig. 20

- 7) Attach the knurled screws and position the filter cassette on the controller. Turn the knurled screws clockwise until you feel a slight resistance.

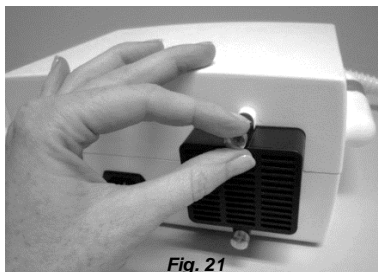


Fig. 21

Warning! Please do not turn the knurled screws too far or overtighten them.

4.10 Start-up

1. Make sure that there is a dust bag in your BaehrTec A2000. To do this, you must disconnect the dust bag lid from the controller (see section *"Disconnecting/connecting the dust bag lid to the controller"*). On the receptacle (39) on the inside of the dust bag lid, a dust bag is pushed on as far as the stop. In addition, the turbine protection filter is located in the suction chamber. If everything is in order, connect the dust bag lid back onto the controller (see section *"Disconnecting"* / *"connecting the dust bag lid to the controller"*). If the dust bag is missing, you must insert a new dust bag before working with the device (see section *"Changing the dust bag"*). Now connect the dust bag lid back onto the controller (see section *"Disconnecting/connecting the dust bag lid to the controller"*).
2. Please ensure that the device has a secure footing, does not fall down and cannot be torn down, and that the extracted air can escape easily. Turn the main power switch (3) off.
3. Plug the supplied device connection cable (57) with the device connector (56) into the device socket (46).
4. Plug the Schuko plug (58) into a proper Schuko socket.
5. Now, turn on the BaehrTec A2000 at the main switch (3). After a short LED check, the "Power ON" LED (4) and the LED for the largest instrument (6,000 rpm) (5) will light up.

The following things are set after each power on:

- o Handpiece motor rotation direction = clockwise
- o Handpiece speed = 6,000 rpm (LED lights up)
- o Handpiece motor = OFF
- o Suction level = 4+
- o Suction = ready for operation
- o Suction = off (as handpiece motor = off)

These settings will also be shown to you accordingly on the display. The BaehrTec A2000 is now ready for operation.

- Now hold the handpiece in one hand and plug an instrument with a shaft diameter of 2.35 mm as far as possible into the opening for DIN-instruments (52). The head of the instrument must not be larger than that shown on the front panel (max. 12 mm).



Never use instruments with an oily, worn or bent shaft. Otherwise, it cannot be guaranteed that your instrument can be held firmly in the handpiece!



Caution – risk of injury! Never try to insert instruments in the opening (52) or pull them out while the handpiece motor is running. Instruments can only be changed when the handpiece motor is switched off.



The instrument heads shown on the front panel should serve as guidance to find out the maximum speed for your instruments. However, before you work with an instrument, be sure to follow the manufacturer's instructions on the permitted maximum speed. The maximum speed specified there must not be exceeded under any circumstances. This poses a danger of injury and the danger that your device could be damaged.

- Now select the permitted maximum speed for the instrument you currently want to work with. The instrument heads depicted (max. diameter) and the associated speed should help you to quickly and safely find the permitted maximum speed for your instruments. **The permitted maximum speed must not be exceeded under any circumstances;** otherwise the instrument or the handpiece may be damaged. It can also cause injury due to broken instrument heads. The correct permitted maximum speed for the instrument you currently want to use can be found by comparing the instrument diameter with instrument heads shown. Once you have found a match, press the illustrated instrument head that you have found to be correct. The permitted **maximum** speed is now set. The speed is shown in the display. Lower speeds are generally permitted for all of the instruments.

WARNING: This is a speed recommendation. Please refer to the data sheet of the instrument manufacturer to find out the permitted maximum speed of the instrument. The permitted maximum speed must not be exceeded under any circumstances; otherwise the instruments or the handpiece may be damaged. It can also cause injury due to broken instruments.



The speed ranges 6,000 and 10,000 rpm for instruments with a diameter of 12 mm (grinding caps/DiaTWISTER) are not intended for removing calluses, but rather **for smoothing** calluses (with little pressure).



To remove calluses, you should select instruments (grinding caps/DiaTWISTER) with a diameter of 10 mm for speed ranges 15,000 or 20,000 rpm.

8. You can now turn on the handpiece motor using the push button **(13)** on the controller or the push button **(55)** on the handpiece. The arrow in the display will now be filled blue. The instrument will now turn clockwise at the speed you have selected. You can now change the motor speed of the handpiece by pressing the push buttons **(5) – (12)**, but this must not exceed the permitted maximum speed for the instrument used. The selected speed is shown in the display. Using the buttons **(14)** and **(15)** you can change the instrument rotation speed in steps of 1,000.

When changing the motor speed in steps of 1,000 (button **(14)** or button **(15)**), please bear in mind that the maximum permissible instrument size also changes as soon as you reach the next defined maximum speed using the keys **(5) – (12)**. This will be indicated to you by the blue LED in the instrument area **(5a) – (12a)**. The actual speed will be indicated on the display **(19)**.



E.g.

The speed is set to 6,000 rpm. Now press the button **(14)** until you reach the next predefined speed (10,000 rpm = button **(6)**) using the buttons **(5) – (12)**. The LED for 10,000 rpm will now light up automatically **(6a)**. This warns you that a different maximum instrument diameter must now be used.



The instrument heads shown on the front panel should serve as guidance to find out the maximum speed for your instruments. However, before you work with an instrument, be sure to follow the manufacturer's instructions on the permitted maximum speed. The maximum speed specified there must not be exceeded under any circumstances. This poses a danger of injury and the danger that your device will be damaged.



The maximum speed for the instrument currently in use must not be exceeded.



Make sure that you do not block the handpiece motor by overloading it. This may be the case, for example, if your instrument gets caught in something (such as a towel) while working. If this happens, switch off your device as soon as possible at the main switch or disconnect it from the mains as soon as possible. As soon as the device is disconnected from the mains, remove the blockage and check your device for damage (e.g. instrument or handpiece damaged). Only reconnect the device to the mains and turn it on again if you do not find any damage. Now, check your device at a handpiece speed of 6,000 rpm with a small instrument (max. diameter of 7 mm) and carefully test the entire speed range step-by-step. If you do not notice anything here, you may continue your work carefully.

9. You can change the suction level using the push buttons **(21) – (26) or (27) or (28)**. The selected suction level is shown on the display.



As soon as the handpiece motor is in operation, the suction will also always be turned on automatically (barely noticeable). We have deliberately chosen to do this because this prevents the handpiece from becoming warm and also ensures that dust created when working is suctioned off to a minimum.

10. Switch the suction function to "Not ready for operation", and therefore off, using the push button **(20)**.

11. You can turn the handpiece motor on/off using the push button **(13)** on the controller or the push button **(55)** on the handpiece.



Please note that the suction is automatically switched off as soon as you turn off the handpiece motor.

12. You can switch the direction of the handpiece motor to anti-clockwise or clockwise using the push button **(16)**. This is shown on the display when the arrow indicating the direction of rotation points in the other direction.



Changing the direction of rotation is also possible while the handpiece motor is running.

13. You can make changes
- before the handpiece motor is in operation
 - ➔ when turning on the handpiece motor, the device functions with the pre-set values
 - while the handpiece motor is in operation
 - ➔ the changed settings will take effect immediately

14. If the display shows the symbol for a dust bag change, it is time to change the dust bag. In this case the suction system will no longer be fully powerful. If you do not heed this indication, the suction will switch automatically within 30 seconds back to level 3. This prevents the device from being damaged. (For information on how to change the dust bag, please refer to the section "*Changing the dust bag*").

We are convinced that after just a short time, you will be able to work safely and correctly with your BaehrTec A2000 and we wish you every pleasure and success in your work!

4.11 Accessories

The following accessories are optionally available for your BaehrTec A2000:

4.11.1 Foot pedal

You can purchase a foot pedal (Art No. 23000001) for the BaehrTec A2000. Using this foot pedal, you can adjust the speed continuously from 6,000 rpm to 40,000 rpm.

Operating the device with the foot pedal is identical to the functioning without the foot pedal except for two aspects:

- The foot pedal symbol will be shown on the display
- Whilst the foot pedal is connected, the speed of the handpiece motor is controlled exclusively by the foot pedal (if you activate the foot pedal, you will see the speed of the instrument currently attached on the display). Here, you can use the buttons **(5)** – **(12)** to set the maximum speed that you wish to reach when fully depressing the foot pedal. The keys **(14)** and **(15)** can also be used whilst operating the device with the foot pedal. This also allows you to set the maximum speed. Please note that the maximum speed you set will not be visible until you completely depress the foot pedal.



We have incorporated this maximum speed limit when operating using the foot pedal for your safety. When working with the foot pedal, it is even more important that you bear in mind the maximum permissible speed of the instrument you are using.

Think of your safety. Therefore, set the maximum speed before you work with the instrument and check it each time you change instruments.

Only the original Baehr foot pedal may be used with the BaehrTec A2000.



No other foot pedals are approved for use with the BaehrTec A2000.

Therefore, never connect other foot pedals, as this may cause your device to function incorrectly and you may put yourself and others in danger.

Furthermore, it could cause damage to your device.

Make sure that you never spill liquids on the foot pedal or use the foot pedal on wet surfaces. If fluids should get into the foot pedal, do not use it under any circumstances!



Please send the foot pedal in for service.

Therefore, never connect a damp or wet foot pedal, as this may cause your device to function incorrectly and you may put yourself and others in danger.

Furthermore, it could cause damage to your device.

5

Service and maintenance

5.1

Safety information



Never perform cleaning work or change a filter on a device that is still connected to the mains.



Before sending in the device, it is essential that you remove the dust bag!



Only send in your device in an immaculate hygienic condition. Any cleaning works will always be charged.



Due to safety regulations, you are required to carry out an individual risk assessment for your electronic devices. On this basis you are obliged to have your devices inspected. We recommend having your devices inspected once a year.



Always send in your device with the original power cable.

5.2 Maintenance (disinfection)

For cleaning, we recommend the Baehr cloths Art. No. 11000 or a non-alcohol-based surface disinfectant.



Do not use any acids, strong alkalis, solvents or corrosive agents for cleaning.



When using disinfectants there may be a slight lightening or dulling of surfaces. However, this will have no effect on the function or the safety of the device.



Never immerse the device in water or any other liquids, as this poses a risk of electric shock.

Clean the handpiece daily. To do this, use a small brush or a toothbrush, as well as the Baehr cloths (Art No. 11000).



We recommend changing the dust bag and all filters regularly and at least every four weeks (even if the filter display does not indicate a filter change), in order to prevent excessive germ build-up. Think of your health.

5.3 Guarantee

The guarantee shall last 24 months.

There is no liability for defects and their consequences which are caused by natural wear and tear, improper cleaning, care or maintenance, non-observance of regulations for operation, maintenance or connection, contaminants in the air supply, unusual or prohibited chemical or electrical influences, unless they are the fault of the supplier.

Wearing parts are in particular: Handpiece ball bearings, clamping device for the instruments, handpiece motor bearing, as well as cable break.

The colour fastness of plastics and paints is not covered by the guarantee. The same applies to cable breaks

Damage to the device which is caused by improper handling or falling is not covered by the guarantee.

There is no liability for defects and their consequences which are the result of improper intervention or modifications made by the customer or by third parties that were not approved beforehand by the supplier.

5.4 Recycling/disposal

Waste devices must be disposed of as electronic waste and do not belong in the household waste. Please refer to the country-specific particularities for this. The resulting waste must be recycled or disposed of in a way that is not hazardous to humans or the environment. Please note the applicable national provisions here.

The device is subject to the EC Directive 2002/96 on waste electrical and electronic equipment (WEEE). Therefore, we would like to point out that the device must be disposed of in line with these special requirements within Europe.

5.5

Self-help in the event of malfunctions

| Fault | Cause | Solution |
|--|---|---|
| Controller not functioning | <ul style="list-style-type: none"> ▪ Main switch off ▪ Controller not connected to the mains ▪ Connection socket has no power ▪ Power cable not correctly contacted (plugged in) ▪ Fuse(s) not working (see 5.5.1 Changing fuses) | <ul style="list-style-type: none"> ▪ Turn on main switch ▪ Connect the device to the mains ▪ Connect the device to a functional socket ▪ Plug device connector correctly into the device socket ▪ Check main fuses and replace if necessary <p>Before checking the fuses, it is essential that the device is turned off and disconnected from the mains.</p> |
| Filter indicator is lit up. | <ul style="list-style-type: none"> ▪ Handpiece is blocked ▪ Dust bag is full ▪ Turbine protection filter in suction box is blocked ▪ Filter cassette is blocked | <ul style="list-style-type: none"> ▪ Unscrew front panel and clean the handpiece. <p>It is essential that the device is turned off and disconnected from the mains beforehand!</p> <ul style="list-style-type: none"> ▪ Change dust bag ▪ Change turbine protection filter ▪ Change filter in cassette |
| Low suction power and the device gets hot | <ul style="list-style-type: none"> ▪ Filter check ignored ▪ Handpiece is blocked ▪ Dust bag is full ▪ Turbine protection filter in suction box is blocked ▪ Filter cassette is blocked ▪ Exhaust is blocked ▪ Dust bag lid is not properly closed ▪ Seal has slipped from the duct on the controller or the handpiece outlet has become dirty or is defective | <ul style="list-style-type: none"> ▪ Regularly check for the filter check display ▪ Unscrew the front panel and clean the handpiece. <p>It is essential that the device is turned off and disconnected from the mains beforehand!</p> <ul style="list-style-type: none"> ▪ Change dust bag ▪ Change turbine protection filter ▪ Change filter in cassette ▪ Please ensure that the extracted air can escape easily from the back of the device ▪ Properly close the dust bag lid ▪ Check seals and replace if necessary. Clean the filter box, seal groove and dust bag lid. |

| Fault | Cause | Solution |
|--|--|--|
| Instruments do not hold in place | <ul style="list-style-type: none"> ▪ Permitted maximum speed for the instrument in use has been exceeded ▪ Instrument shaft worn ▪ Instrument shaft bent ▪ Instrument not correctly inserted into the clamping device ▪ Cream, ointment, or similar on the instrument shaft ▪ Working pressure too high on the instrument ▪ Pulling motions during work | <ul style="list-style-type: none"> ▪ Only work up to the maximum permitted speed of the instruments used ▪ Check the instrument shaft and use a new instrument if necessary ▪ The instrument must be replaced ▪ Push the instrument completely into the clamping device as far as the stop ▪ Clean the instrument. Work with small instruments until larger instruments start to clamp securely again. During operation, always make sure that the handpiece tip and the instruments are clean. ▪ Reduce pressure ▪ Avoid pulling motions |
| Suction turbine switches to suction level 3 during operation | Dust bag, turbine protection filter and filter cassette are full, device switches automatically to suction level 3 in order to avoid damage due to rising temperature. | Change all filters and the dust bag and make sure that the extracted air can escape easily from the back of the device. |
| Handpiece vibrates; handpiece is loud with instruments inserted | <ul style="list-style-type: none"> ▪ Maximum permitted speed for instrument in use is exceeded, ▪ Instrument is defective (bent, shaft worn, etc.) | <ul style="list-style-type: none"> ▪ Only work up to the maximum permitted speed of the instrument used ▪ Use new instruments. |
| Push-button on handpiece jams or is difficult to operate | The handpiece or the handpiece button is dirty | Clean the push-button |

If one of these faults still persists despite having followed this information, please send the unit to the customer service team.

In addition, please get in touch with the manufacturer for each fault / each malfunction in cases of doubt.

5.5.1 Changing fuses



The microfuses are used to protect your device from damage caused by high currents.

Warning: only these fuses are permitted for the A2000 device:
2X microfuse, 3.15 A delay (Type H)

Switch off your device at the main switch and disconnect the device from the mains. Use a screwdriver to open the fuse compartment on the device socket.

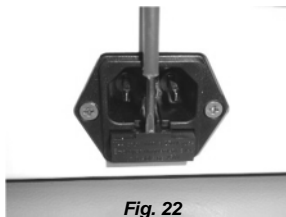


Fig. 22

Replace the microfuses in the compartment.

Now push the compartment back into the device socket. Make sure that the compartment snaps into place in the device socket. Reconnect the power cable to the controller.

If your device still does not work, please send it to us for service.



Fig. 23

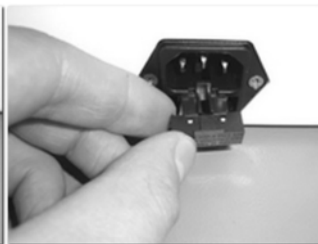


Fig. 24

5.5.2 Cleaning the handpiece button

If your handpiece button is dirty, or the button no longer functions correctly, then proceed as follows:

Switch off your device at the main switch and disconnect the device from the mains.

Take the button pusher between your thumb and forefinger and pull it out from the button housing.



Fig. 25

Clean the button pusher and the button housing with a brush.

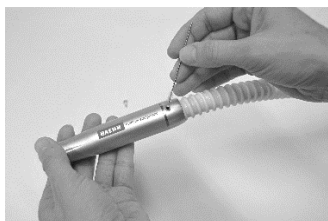


Fig. 26

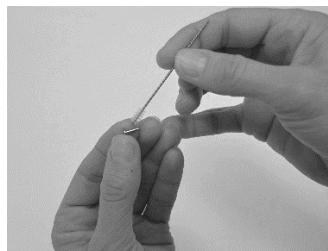


Fig. 27

Next, wipe the button pusher and button housing with Baehr quick surface disinfectant (Art No. 11015).



Fig. 28

Apply a little oil with a cotton swab to the button pusher and reinsert it into the button housing.

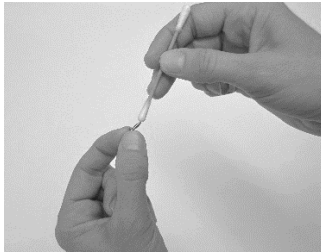


Fig. 29

Check that the functioning is back to normal by pushing the button pusher with your finger.

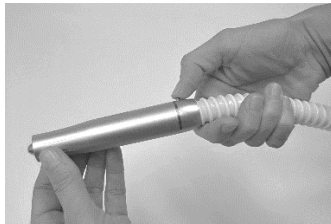


Fig. 30

5.5.3 Changing the dampers for the handpiece case

If you notice that the handpiece motor no longer sits comfortably in the handpiece case, this means that the dampers for the handpiece case are worn.

To change the dampers for the handpiece case, please proceed as follows:

Switch off your device at the main switch and disconnect the device from the mains.

Unscrew the handpiece case from the handpiece cap.



Fig. 31



Fig. 32

Take the nine dampers for the handpiece case from the slots on the handpiece motor (possibly using a pair of tweezers) and dispose of these properly.



Fig. 33

Now reinsert the new dampers for the handpiece case. Make sure that you insert the three black dampers in the middle row.

Insert the six green dampers in the outer storage rows. Press all of the dampers once again afterwards.



Fig. 34

Now screw the handpiece case back onto the handpiece cap.



Fig. 35

6

Technical specifications
BaehrTec A2000

| | |
|---|---|
| Medical device | Class 2A in accordance with EC Directive 93/42 Medical devices |
| EMC test | Under EN 60601-1 |
| Operating voltage | 110 – 240 V AC voltage |
| Frequency | 50 – 60 Hz |
| Micromotor speed range | 6,000 – 40,000 rpm adjustable |
| Accuracy of the speeds | 6,000 – 10,000 rpm, tolerance +/- 20 % 10,000 – 40,000 rpm, tolerance +/- 10 % |
| Power consumption | Max. 150 W |
| Micromotor voltage | 24 V |
| Working voltage | 28 V |
| Controller dimensions (W x D x H) in mm (without handpiece outlet, without handpiece holder and without filter cassette) | 220 x 195 x 110 |
| Controller weight | Approx. 2,100 g |
| Handpiece dimensions (W x min. diameter x max. diameter) in mm | ~117 x ~19 x ~24 |
| Handpiece weight | Approx. 99 g |
| Dust bag lid weight | Approx. 70 g |
| Ambient temperature (operation) | +10° - +35° C |
| Storage temperature | -5° - +40°C |
| Humidity | 30% - 85 % |
| Permitted air pressure | 800 hPa - 1060 hPa |
| Max. vacuum (suction level 1) with filter and dust bag | - 35 m/bar +/- 10% |
| Max. vacuum (suction level 1+) with filter and dust bag | - 40 m/bar +/- 10% |
| Max. vacuum (suction level 2) with filter and dust bag | - 55 m/bar +/- 10% |
| Max. vacuum (suction level 2+) with filter and dust bag | - 62 m/bar +/- 10% |
| Max. vacuum (suction level 3) with filter and dust bag | - 67 m/bar +/- 10% |
| Max. vacuum (suction level 3+) with filter and dust bag | - 75 m/bar +/- 10% |
| Max. vacuum (suction level 4) with filter and dust bag | - 80 m/bar +/- 10% |
| Max. vacuum (suction level 4+) with filter and dust bag | - 85 m/bar +/- 10% |
| Max. vacuum (suction level 5) with filter and dust bag | - 90 m/bar +/- 10% |
| Max. vacuum (suction level 5+) with filter and dust bag | - 97 m/bar +/- 10% |
| Max. vacuum (suction level 6) with filter and dust bag | - 105 m/bar +/- 10% |
| Fuse | 2x microfuse, 3.15 A delay (Type H) |
| IP Protection Class 30 | Not protected against water Protection against penetration from solid foreign bodies with a diameter of > 2.5 mm |
| Volume Measurement conditions: Device from the front; distance 1m; dust bag inserted; turbine protection filter inserted; filter cassette mounted, handpiece relocated 1m from the controller and covered with hood. Extracted air flows freely, not discharging in the direction of the sound-level measurement device. Handpiece speed: 6,000 rpm | 48 db to 55 db +/- 10% |

Subject to visual and technical changes.




| Guidelines and manufacturer declaration – ELECTROMAGNETIC EMISSION | | |
|---|------------|--|
| The BaehrTec A2000 model is intended for operation in the ELECTROMAGNETIC ENVIRONMENT specified below. The customer or the user ⁽¹¹⁾ of the BaehrTec A2000 model should ensure that it is used in such an environment. | | |
| Emission measurements | Compliance | ELECTROMAGNETIC ENVIRONMENT – Guidelines The BaehrTec A2000 model uses HF energy solely for its internal FUNCTIONING. Its HF emission is therefore very low and it is unlikely that there will be interference for neighbouring electronic devices. The BaehrTec A2000 model is intended for use in all establishments, including living areas and those directly connected to a PUBLIC WATER SUPPLY that also supplies buildings used for residential purposes. |
| HF emissions according to CISPR 11 | Group 1 | |
| HF emissions according to CISPR 11 | Class B | |
| Harmonics under IEC 61000-3-2 | Class A | |
| Voltage fluctuations/ flicker under IEC 61000-3-3 | Fulfilled | |

⁽¹¹⁾ National footnote: Here, user is meant in the sense of a "RESPONSIBLE ORGANISATION".

| Guidelines and MANUFACTURER DECLARATION –ELECTROMAGNETIC STABILITY | | | |
|---|--|--|---|
| The BaehrTec A2000 model is intended for operation in the ELECTROMAGNETIC ENVIRONMENT specified below. The customer or the user ⁽¹³⁾ of the BaehrTec A2000 model should ensure that it is used in such an environment. | | | |
| STABILITY TESTS | IEC 60601-TEST LEVEL | COMPLIANCE LEVEL | ELECTROMAGNETIC ENVIRONMENT – |
| ELECTROSTATIC DISCHARGE (ESD) under IEC 61000-4-2 | ± 6 kV Contact discharge ± 8 kV air discharge | ± 6 kV Contact discharge ± 8 kV air discharge | Floors should be made from wood or concrete or covered with ceramic tiles. If the floor is covered with synthetic material, the relative humidity must be at least 30 %. |
| Electrical fast transient/bursts under IEC 61000-4-4 | ± 2 kV For power supply lines ± 1 kV For input and output lines | ± 2 kV For power supply lines ± 1 kV For input and output lines | The quality of the supply voltage should correspond to that of a typical commercial or hospital environment. |
| Surge voltages under IEC 61000-4-5 | ± 1 kV Voltage outer cable – outer cable ± 2 kV voltage outer cable – earth | ± 1 kV Voltage outer cable – outer cable ± 2 kV Voltage outer cable – earth | The quality of the supply voltage should correspond to that of a typical commercial or hospital environment. |
| Voltage dips, Short interruptions and fluctuations of the supply voltage according to IEC 61000-4-11 | < 5 % U_t for 1/2 period (> 95% dip) 40 % U_t for 5 periods (60 % dip) 70 % U_t for 25 periods (30 % dip) < 5 % U_t for 5 s (> 95% dip) | < 5 % U_t for 1/2 period (> 95% dip) 40 % U_t for 5 periods (60 % dip) 70 % U_t for 25 periods (30 % dip) < 5 % U_t for 5 s (> 95% dip) | The quality of the supply voltage should correspond to that of a typical commercial or hospital environment. If the user of the BaehrTec A2000 model requires continuous FUNCTIONING even in the event of disruptions in the energy supply, we recommend supplying the BaehrTec A2000 model from an uninterruptible power supply or a battery. |
| Magnetic field at a supply frequency of (50/60 Hz) under IEC 61000-4-8 | 3 A/m | 3 A/m | The magnetic fields of both mains frequencies should correspond to typical values such as those found in commercial or hospital environments. |

⁽¹³⁾ National footnote: Here, user is meant in the sense of a "RESPONSIBLE ORGANISATION".

| Guidelines and MANUFACTURER declaration – ELECTROMAGNETIC STABILITY | | | |
|--|---|---|--|
| The BaehrTec A2000 model is intended for operation in the ELECTROMAGNETIC ENVIRONMENT specified below. The customer or the user ¹¹⁵⁾ of the BaehrTec A2000 model should ensure that it is used in such an environment. | | | |
| STABILITY tests | IEC 60601-TEST LEVEL | COMPLIANCE level | ELECTROMAGNETIC ENVIRONMENT – Guidelines |
| <p>Conducted HF disturbances under IEC 61000-4-6</p> <p>Radiated HF disturbances under IEC 61000-4-3</p> | <p>3 V effective value 150 kHz to 80 MHz</p> <p>3 V/m 80 MHz to 2.5 GHz</p> | <p>3 V effective value</p> <p>3 V/m</p> | <p>Portable and mobile radios are used no closer to the BaehrTec A2000 model, including the wires, than the recommended protective distance calculated based on a suitable equation for the transmission frequency.</p> <p>Recommended protective distance:</p> $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.3 \sqrt{P} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$ <p>With P as the nominal power of the transmitter in watts (W) according to the information of the transmitter manufacturer and d as the recommended protective distance in metres (m).</p> <p>In accordance with an investigation on site,^a the field strengths of fixed transmitters is lower than the COMPLIANCE LEVEL^a at all frequencies.</p> <p>Interference is possible in the vicinity of devices marked with the following symbols.</p>  |
| <p>NOTE 1 At 80 MHz and 800 MHz, the higher value applies.</p> <p>NOTE 2 These guidelines may not apply in all situations. The distribution of electromagnetic waves is affected by absorption and reflections from buildings, objects and people.</p> | | | |
| <p>^a Field strengths of fixed transmitters, such as base stations for mobile phones and Land Mobile Services, amateur stations, AM and FM radio and television channels, cannot be predicted theoretically with accuracy. In order to ascertain the ELECTROMAGNETIC ENVIRONMENT as a result of stationary HF transmitters, an investigation of the location is recommended. If the measured field strength at the location of the BaehrTec A2000 model exceeds the above COMPLIANCE LEVEL, the BaehrTec A2000 model must be monitored terms of its normal operation at every application location. If any unusual features are observed, it may be necessary to take additional measures, such as realigning or relocating the BaehrTec A2000 model.</p> <p>^b Over the frequency range from 150 kHz to 80 MHz the field strength is less than 3 V/m.</p> | | | |

¹¹⁵⁾ National footnote: Here, user is meant in the sense of a "RESPONSIBLE ORGANISATION".

| Recommended protective distances between portable and mobile HF communications devices and the BaehrTec A2000 | | | |
|---|---|--------------------|--------------------|
| The BaehrTec A2000 model is intended for operation in an ELECTROMAGNETIC ENVIRONMENT in which radiated HF disturbances are controlled. The customer or the user of the BaehrTec A2000 model can help to prevent electromagnetic interference by complying with minimum distances between portable and mobile HF communications equipment (transmitters) and the BaehrTec A2000 model, as recommended below according to the maximum output power of the communications equipment. | | | |
| Nominal power of the transmitter <i>W</i> | Protective distance according to transmitter frequency m | | |
| | 150 kHz to 80 MHz | 80 MHz to 800 MHz | 800 MHz to 2.5 GHz |
| | $d = 1,2 \sqrt{P}$ | $d = 1,2 \sqrt{P}$ | $d = 2,3 \sqrt{P}$ |
| 0.01 | 0.12 | 0.12 | 0.23 |
| 0.1 | 0.38 | 0.38 | 0.73 |
| 1 | 1.2 | 1.2 | 2.3 |
| 10 | 3.8 | 3.8 | 7.3 |
| 100 | 12 | 12 | 23 |
| For transmitters whose nominal power is not specified in the above table, the distance can be determined using the equation belonging to the respective column, where <i>P</i> is the nominal power of the transmitter in watts (W) according to the indication of the transmitter manufacturer. | | | |
| NOTE 1 To calculate the recommended protective distance from transmitters in the frequency range of 80 MHz to 2.5 GHz an additional factor of 10/3 was used in order to reduce the likelihood that a mobile/portable communication device accidentally brought into the PATIENT area leads to interference. | | | |
| NOTE 2 These guidelines may not apply in all situations. The distribution of electromagnetic waves is affected by | | | |

7

Spares/accessories

- Baehr cloths
Art No.: 11000
- Baehr cloths refill bag
Art No.: 11001
- Baehr quick surface disinfectant
Art No.: 11015
- Baehr alcohol
Art No.: 11032
- Replacement filter set for A2000
Art No.: 22734
- Brushes
Art No.: 34916
- Easy-Clean tool kit for BaehrTec A2000
Art No.: 40285
- Damper for handpiece case (Set)
Art No.: 40286
- Power cable case, short for BaehrTec A2000
Art No.: 40796
- Power cable with straight connector
Art No.: 20970006
- Foot controller for BaehrTec A2000
Art No.: 23000001

CE 0483

Contact address & manufacturer

Gustav Baehr GmbH
Max-Eyth-Str. 39
D-71332 Waiblingen
Tel.: 07151 95 90 20
Fax: 07151 1 84 44
www.baehrshop.de



Notes



Notes



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