

**IMPORTANT! Read and save these instructions. This manual to be left with the equipment.**



# INSTALLATION, OPERATION AND MAINTENANCE MANUAL

B500

Humidification and Evaporative Cooling



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## Information about this operating manual

-  This operating manual allows the safe and efficient use of the Evaporation Humidifier B500 Professional. This operating manual is an integral part of the humidifier and must be stored, readily accessible for the personnel, in close proximity of the device.

This operating manual must be carefully read by the user prior to starting any work. The prerequisite for safe working is to comply with all safety and procedural instructions specified in this operating manual. The local accident prevention regulations and the general safety regulations for the application area of the humidifier also apply.

The illustrations in this operating manual are intended for the basic understanding and can deviate from the actual design.

## FCC compliance statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Copyright**

The content of this operating manual is copyrighted. Their use is allowed, in the context of the application of the device. Any further use is not permitted without written permission of Condair Ltd.

**Customer service**

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# 1 The Evaporation Humidifier B500 Professional

## 1.1 Complete Overview



Fig. 1: Evaporation Humidifier B500

- |                      |                     |
|----------------------|---------------------|
| 1 Filling opening    | 4 Air inlet opening |
| 2 Air outlet opening | 5 Water tank        |
| 3 Control panel      | 6 Cover             |

### Accessories

**i** The following chapters provide only the description of the humidifier's standard version. For the operation and cleaning of the accessories see  Chapter 8 "Accessories" on page 65.

## Scope of supply

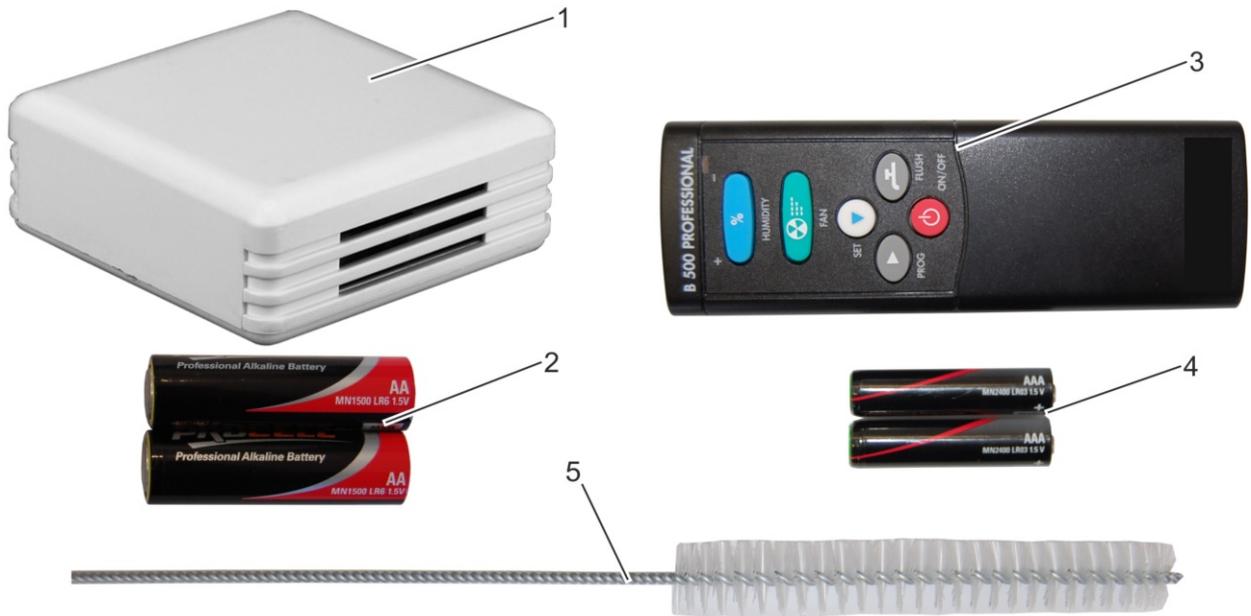


Fig. 2: Scope of supply

Item	Quantity	Name
Fig. 1	1	Evaporation Humidifier B500 Professional, incl. power plug
1	1	Wireless sensor system
2	2	AA batteries for wireless sensor system
3	1	Remote control
4	2	AAA batteries for remote control
5	1	Cleaning brush
	1	Operating manual

### 1.2 Remote control

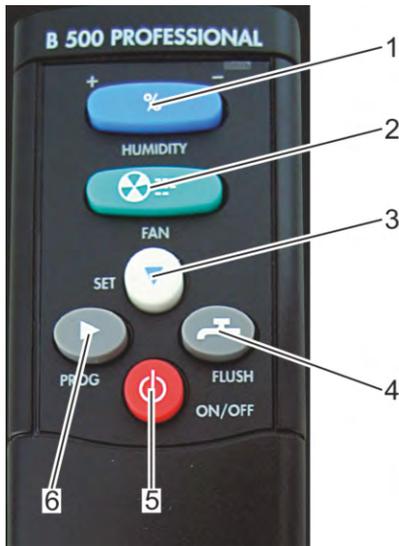


Fig. 3: Remote control

Item	Name	Function
1	[Humidity] rocker switch	Using the [Humidity] rocker switch the target value for the air humidity can be set. By pressing several times or continuously the "+" or "-" area the desired humidity value can be increased or decreased.
2	[Fan] rocker switch	By pressing the "+" or "-" area of the [Fan] rocker switch the fan speed can be increased or decreased. In addition to the automatic level, four other fan speed levels are available.
3	[Set] button	Using the [Set] button individual submenus can be selected in programming mode.
4	[Flush] button	By pressing the [Flush] button the flushing device is started (optional accessory).
5	[ON/OFF] button	By pressing the [ON/OFF] button the humidifier is switched on or off.
6	[Prog] button	By pressing the [Prog] button the programming mode of the humidifier opens.

### 1.3 Wireless sensor system



Fig. 4: Wireless sensor system

The wireless sensor system controls the humidifier automatically. It measures the current air humidity and sends, in intervals of three minutes or in case of a humidity change of more than 3 %, the value to the humidifier. According to the set humidity target value the speed of the fan is then automatically adjusted.

## 1.4 Control panel

The control panel provides information about the state of the device. It provides information about the current water level, the current air humidity value and any possible device malfunctions.

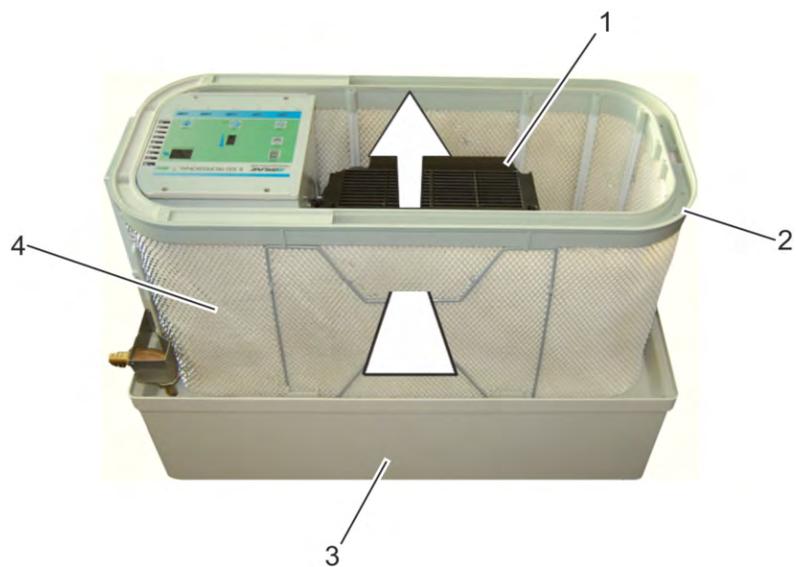


Fig. 5: Control panel

Item	Name	Function
1	[Remote control receiver sensor]	The receiver sensor receives and processes the radio signal of the remote control.
2	[Indication "Water tank empty"]	Lights up when the humidifier's water tank is empty.
3	[Indication "Filter replacement"]	Lights up when the humidifier filter needs to be replaced.
4	[Indication "Water level"]	Shows the level of the water tank in liters/gallons.
5	[Indication "Fan speed level"]	Shows the speed level when the fan is in manual mode.
6	[Indication "Automatic fan"]	Illuminates when the fan is in automatic mode.

Item	Name	Function
7	Display	The following information is shown on the display: <ul style="list-style-type: none"> <li>■ Actual/target value of air humidity</li> <li>■ Menu codes in programming mode</li> <li>■ Error codes during malfunctions</li> </ul>
8	<i>[Malfunction indication]</i>	Lights up when a malfunction of the humidifier is present. Here, observe the error code on the display.

### 1.5 Functional description



*Fig. 6: Functional principle*

The humidifier B500 operates based on the natural principle of evaporation. A water pump continuously delivers water from the water tank (Fig. 6/3) to the oval water channel (Fig. 6/2). The water seeps through the drainage holes inside the channel and moisturizes the evaporation filter (Fig. 6/4).

A fan (Fig. 6/1) inside the humidifier suctions the air in. The air flows through the evaporator filter and is cleaned and humidified at the same time. Then the humidified air is supplied through the air outlet opening on the top back into the room (Fig. 6/arrow).

The humidifier is filled manually via the filling opening at the top face. The device can also be optionally connected to the local water supply. In this case the humidifier is automatically filled; no manual filling required (☞ *Chapter 8 “Accessories” on page 65*).

## 2 Safety

This section provides an overview of all important safety aspects to protect persons and to ensure safe and fault-free operation. Further safety instructions that are task related are in the sections about the individual life phases.

### 2.1 Symbols in this operating manual

#### Safety instructions

In this operating manual the safety instructions are shown by symbols. The safety instructions are introduced by signal words that express the extent of the hazard.



**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



**NOTICE** indicates a possibly dangerous situation which, if not avoided, could result in property and environmental damages.

#### Safety instructions in procedural instructions

Safety instructions may refer to specific, individual procedural instructions. Such safety instructions are embedded in the procedural instructions, so that they do not interrupt the flow of reading when performing the action. The above described signal words are used.

Example:

1. → Loosen the screw.
2. → **⚠ CAUTION! Risk of getting pinched on cover plate!**  
Carefully close cover plate.
3. → Tighten the screw.

#### Tips and recommendations



*This symbol emphasizes useful tips and recommendations as well as information for an efficient and fault-free operation.*

## Further identifications

The following identifications emphasize procedural instructions, results, lists, references and other elements used in this operating manual:

Identification	Explanation
	Step-by-step procedural instructions
	Results of the procedural steps
	Reference to sections in this operating manual and to applicable documentation
	List without set sequence
<i>[Button]</i>	Operating controls (e.g. buttons, switches), display elements (e.g. indicator lamps)

## 2.2 Intended use

The Evaporation Humidifier B500 Professional is used exclusively to humidify the room air in private and professional environment.

Heeding all the information in this operating manual is also part of the intended use.

Any use other than intended use and any use going beyond this use is considered improper use.

**⚠ WARNING**
**Danger from improper use!**

- Only fill the humidifier with normal tap water (max. 30 °C, 86 °F) or with treated water with at least 300 microsiemens. Never fill with distilled water.
- Do not use fragrance or flavoring substances.
- Never operate the humidifier with empty water tank.
- Never operate the device near open water sources.
- Only operate the device on a stable and level surface.
- Never expose the device to excessive heat source.
- Never cover the device.
- Never put anything on the humidifier. This applies in particular for electrical devices or containers which are filled with liquid.
- Never place the device near furnishings, that absorb the water (for example, curtains, wall-paper, carpets).
- Never operate the device in potentially explosive environment.

**Improper use of the Evaporation Humidifier B500 Professional can lead to dangerous situations.**

## 2.3 Symbols on the device

The following symbols and information signs are attached to the device. They relate to the immediate surroundings in which they are attached.

**⚠ WARNING**
**Danger when signs are not legible!**

- Keep all safety signs, warning signs and operating instructions in legible condition.
- Replace damaged signs or decals immediately.

**Over time, decals and signs can get dirty or defaced in any other way, so that risks can not be detected and the necessary operating instructions can not be followed. This may cause injury.**

**"Electrical voltage" sign**



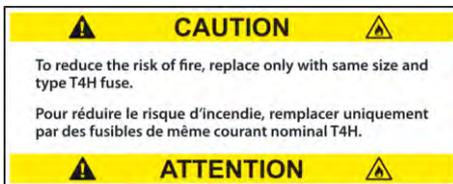
Warning: Dangerous electrical voltage.

**Label "Pull power plug"**



Prior to cleaning tasks and troubleshooting always disconnect the power plug first.

**"Type of fuse" sign**



To prevent fire, replace the fuses only with one of the same size and type.

**Label "Fill here"**



This sign indicates the filling opening of the water tank. Use only this opening for filling the water tank.

**"Cleaning instructions" sign**



The sign at the filling opening provides important instructions for cleaning and care of the humidifier. For detailed instructions on cleaning and care of the humidifier heed [Chapter 6](#) "Cleaning and servicing the humidifier" on page 43.

## 2.4 Safety and Dangers

The humidifier has been designed according to the state of art and according to current safety requirements. However, residual risks still exist, careful handling is required. In the following the residual risks, the thereof resulting conduct and measures are listed.

### Electrical current

**DANGER**

#### **Danger to life from electrical current!**

- Only have qualified electricians perform work on the electronic system.
- Switch off the humidifier immediately and initiate repair, if the power cable is damaged.
- Damaged power cables may only be replaced by the manufacturer or their customer service or a similarly qualified person.
- Keep moisture away from energized parts. This can lead to a short circuit.
- Never submerge the device in water.
- Never direct the outlet openings towards electrical appliances or sockets.
- Always lay the power cable without coming in contact with sources of heat, moisture, oil, sharp objects, sharp edges etc.
- Prior to cleaning tasks and troubleshooting always disconnect the power plug first.
- Never touch the power plug with wet hands.
- When pulling the power plug never pull on the cable but always the plug.
- Never pull the device using the cable.

**Risk of imminent fatal injury from electric shock due to contact with live parts. Damaged insulation or damaged individual components can be dangerous to life.**

## Batteries

**⚠ WARNING**

**Risk of injury from improper handling of batteries!**

- Never try to charge the batteries.
- Never short-circuit the contacts (plus and minus pole) of the battery.
- Never expose batteries to wetness or moisture (rain, salt water, liquids). A moist or wet battery may not be used under any circumstances.
- Never use or store batteries at locations with potentially explosive atmosphere or where high temperatures can occur.
- Never try to sold, to repair, to change shape, to modify or to dismantle batteries.
- Always protect batteries from unauthorized access.
- To prevent fire, overheating, explosion or leakage of fluid never expose the batteries to severe vibration, high weight loading or other harmful effects. Leaking and spilled liquid can ignite.
- Do not swallow batteries. If swallowed accidentally, get medical attention immediately.
- After eye contact with spilled liquid immediately rinse the eye and also under the eyelid with clear water for at least 15 minutes. For this, point the mild water jet directly into the eye and do not rub. Get immediate medical help.
- Avoid skin contact with spilled liquid. In case of accidental skin contact wash affected area with plenty of soap and water.

**When not handling the batteries properly, risk exists that the batteries burst or that noxious liquid leaks from the batteries. The liquid may cause burns when in contact with skin or severe poisoning if swallowed and can cause blindness when contact with the eyes.**

**Children**
 **WARNING**
**Risk of injury for children!**

- Batteries and other small items can be swallowed. Insert the batteries immediately after receiving the humidifier or store unreachable by children.
- Packaging material may not be used for playing. There is an acute danger of suffocation. Packaging materials must be immediately disposed of or stored unreachable by children.
- Always supervise children to ensure that they do not play with the device, or use the device as a climbing aid.

Children are unaware of the dangers in using the humidifier. This can lead to severe injuries.

**Inadequate cleaning**
 **WARNING**
**Health hazard due to inadequate cleaning!**

- Replace the evaporator filter at the latest after four months. Shorten the time interval in case of severe contamination of the ambient air.
- Always comply with the intervals for cleaning described in  *Chapter 6.2 “Cleaning schedule” on page 44.*
- Every 3-4 weeks, completely drain residual water from the water tank and refill water tank again.

Bacteria and germs can be released when not cleaned adequately.

## Over-humidification

**⚠ WARNING****Health hazard due to over-humidification!**

- Do not exceed the recommended value of 50 – 60 % air humidity in living quarters.
- To prevent damage to health, persons with asthma, respiratory diseases or lung problems should consult a physician before using the humidifier.
- Stop using your humidifier and contact your physician if you have respiratory symptoms which you believe are associated with periods of use of your humidifier, even if you are following maintenance directions.

Overly humidified air favors the formation of mildew and harmful germs.

## Proposition 65

**⚠ WARNING****CALIFORNIA Proposition 65**

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

## Water puddles

**⚠ CAUTION****Risk of injury from slipping in water puddles!**

- Place the humidifier on a horizontal surface.
- Immediately mop up water puddles using a rag.

Slipping in water puddles on the floor can cause falls. Falls can cause injuries.

## Tripping

**⚠ CAUTION****Risk of injury by tripping over the power cable!**

- Lay the power cable in a manner that there is no risk of tripping.

Risk of tripping exists if the power cable is not laid properly. This can lead to falls and injuries.

**Wrong location selection**
**NOTICE**

**Risk of property damage due to incorrect placement of the humidifier!**

- Only set up humidifier on moisture-resistant flooring.
- Never place the device near furnishings, that absorb the water (for example, curtains, wall-paper, carpets).

**Should the humidifier be operated on floors that are not moisture-resistant, risk of damage to the floor exists.**

**2.5 Responsibilities of the owner**
**Owner**

The owner is the person who operates the humidifier themselves for industrial or commercial purposes, or pro-vides a third party with the use / application and bears the legal product responsibility for the protection of the user, staff or third parties. If the humidifier is used for commercial or industrial purposes, the following owner obligations must be heeded.

**Obligations of the owner**

If the device is used for commercial purposes, then the owner is subject to the legal obligations of work safety.

In addition to the safety instructions in this operating manual, the valid safety, accident prevention and environmental protection regulations must be adhered to for the application area of the humidifier.

In particular, the following applies:

- The owner must clearly define and regulate the responsibility for installation, operation, trouble-shooting, and cleaning.
- The owner must ensure that all persons who handle the device have read and understood this operating manual.
- The owner must provide the personnel with the necessary protective equipment and instruct that wearing the required protective equipment is mandatory.

- The owner must ensure that the cleaning intervals described in this operating manual are met.
- Always commission and operate the humidifier according to NEC (National Electrical Code, US) or CEC (Canada).

## 2.6 Personnel requirements

### WARNING

#### **Risk of injury due to insufficient qualifications of the staff!**

- **Have all tasks and work performed by qualified personnel.**
- **Always keep unauthorized persons, especially children, away from the device.**

**Work on the humidifier carried out by unqualified persons may result in hazards that can cause serious injuries and significant property damage.**

In this operating manual, the below listed qualifications for the personnel for the various areas of activity are used:

#### **Licensed electrician**

The licensed electrician is, due to many years of knowledge and experience, and their knowledge of the relevant standards and regulations, able to work on electrical equipment and to independently recognize and avoid possible hazards.

They must furthermore provide proof of their professional qualification, attesting to the ability to carry out work on electrical equipment.

The licensed electrician must comply with the applicable legal regulations on accident prevention.

#### **Licensed plumber**

The licensed plumber is trained and certified and knows the standards and regulations for the specific task area in which they operate in.

The licensed plumber can, due to sufficient technical training and experience, perform work on all sanitary equipment and identify potential hazards on their own and avoid.

They must furthermore provide proof of their professional qualification, attesting to the ability to carry out work on sanitary equipment.

**Manufacturer**

Certain work may only be performed by specialized staff of the manufacturer. Other personnel are not authorized to perform such work. To perform the required work, please contact our customer service.

**Operator**

The operator uses and operates the device within the limits of intended use.

If the humidifier is used in a commercial or industrial environment, the operator has to be briefed and trained by the owner about their tasks and potential hazards in case of improper conduct. Tasks that go beyond the handling during normal operation must only be executed by the operator if they are listed in this operating manual and when explicitly entrusted by the owner.

The device may only be operated by persons from whom you can expect that they have the necessary skills and knowledge. Persons (including children) with reduced physical, sensory or mental capabilities may only operate the device under supervision of a person responsible for their safety.

## 2.7 Environmental protection

**NOTICE**

**Danger to the environment due to improper handling of environmentally hazardous substances!**

- **Always heed the notices listed below, for handling environmentally hazardous substances and their disposal.**
- **If environmentally hazardous substances enter the environment by accident, immediately take appropriate measures. When in doubt inform the competent local authority about the damage and ask about the appropriate measures to take.**

**Incorrect handling of environmentally hazardous substances, in particular incorrect disposal, can cause considerable damage to the environment.**

**The following environmentally hazardous substances are used:**

**Batteries**

Batteries contain toxic heavy metals. They are subject to treatment of special refuse and must be deposited at municipal collection points or be disposed of by a specialist company.

### 3 Transport and storage

#### 3.1 Safety instructions for transport and storage

##### Improper transport

**NOTICE**

**Property damage from improper transport!**

- Proceed carefully when unloading the packages upon delivery. Heed all the symbols and instructions on the packaging.
- Always transport packages upright and never throw them.
- Remove the packaging just before the commissioning.
- Never transport the humidifier while it is filled. This could cause water to expel and cause damage to the device or the furnishings.

During improper transport the transport pieces can fall off or fall over. This can cause property damage of significant amounts.

#### 3.2 Symbols on the packaging

The following symbols are attached to the transport packaging:

##### Fragile



Marking on packages that have a fragile or sensitive content.

Treat the package with caution, do not drop it and do not expose it to impacts.

##### Keep dry



Protect packages from wet conditions and keep them dry.

##### Top



The arrow peaks of the symbol indicate the upper part of the package. They should always point upwards to prevent damage to the content.

### 3.3 Storage of packages

Store packages under the following conditions:

- Do not store outdoors.
- Store dry and free of dust.
- Do not expose to aggressive substances.
- Protect from direct sun light.
- Avoid mechanical vibrations.
- Storage temperature: 5 to 40 °C (41 to 104 °F).
- Relative humidity: max. 55%.
- When storing longer than 3 month regularly check the general condition of all parts and the packing. If necessary, refresh or renew the preservative.



*Under certain circumstances, instructions for storage can be found on the packages which go beyond the requirements listed here. Comply with them accordingly.*

### 3.4 Transport inspection

Check the delivery imminently upon receipt for completeness and transportation damage.

When detecting external recognizable transportation damage proceed as follows:

- Do not accept the delivery or only with reservations.
- Record the extent of damage on the transport documents or on the delivery note of the transporter.
- Start a complaint.



*Complain about any defect, as soon as detected. Damage claims can only be filed within the applicable period for complaints.*

### 3.5 Storage when not in use

When the humidifier is not in operation for a longer period of time, proceed as follows:

Personnel: ■ Operator

1. → Drain residual water from the water tank and clean the water tank ( ↪ Chapter 6.3.3 “Cleaning the water tank” on page 49).
2. → Remove the evaporation filter ( ↪ Chapter 6.3.2 “Replacing the evaporation filter” on page 47).
3. → Clean the humidifier ( ↪ Chapter 6.3.4 “Decalcifying the device” on page 50).
4. → Store the humidifier according to the information provided under ↪ Chapter 3.3 “Storage of packages” on page 26.

### 3.6 Transporting the humidifier

**NOTICE**

**Risk of property damage through tipping over of the humidifier!**

- **Whenever possible, move the humidifier along its longitudinal axis.**
- **Before changing the place of installation always empty the water tank.**

**When moving the humidifier transverse to its longitudinal axis, there is the risk of the device tipping over. This can lead to damage of the device or surfaces.**

The humidifier has 4 castors on the bottom side. This allows repositioning of the device by pulling or pushing. Observe the following when the humidifier's place of installation is changed:

- **Whenever possible, move the humidifier along its longitudinal axis (Fig. 7/arrow). For this seize the humidifier at the green marked area (Fig. 7).**



Fig. 7: Moving the humidifier



- If the humidifier is moved transverse to its longitudinal axis, additionally seize it at the bottom side (Fig. 8).

*Fig. 8: Moving the humidifier transverse to its longitudinal axis*

## 4 Commissioning

### 4.1 Safety instructions for the initial commissioning

**⚠ DANGER**

**Danger to life through commissioning a defective device!**

- **Never commission a defective device.**
- **Always check the power cable for damage.**

**Commissioning a defective device can lead to life threatening situations and cause significant property damage.**



*Always commission and operate the humidifier according to NEC (National Electrical Code, US) or CEC (Canada).*

### 4.2 Requirements at the place of installation

In order for the humidifier to operate properly, the following must be heeded when deciding the place of installation:

- Place the humidifier on a level, horizontal surface.
- Ensure air circulation. The air inlet opening and air outlet opening must not be covered.
- Do not place the humidifier in circulation routes or in the pivoting range of doors.
- The clearance to other objects in the vicinity must be at least 10 cm (4 inches) to the side and at least 10 cm (4 inches) on top.
- For ideal functioning the device can be set up in the vicinity of a heat source. However, the direct temperature influence should not exceed 70 °C (158 °F).

On water sensitive flooring additional safety measures must be provided.

### 4.3 Commissioning the humidifier for the first time

To commission the humidifier proceed as follows:

**Preparation**

Personnel: ■ Operator



Fig. 9: Remove cover

1. → Lift the cover of the humidifier upwards and place to the side (Fig. 9).



Fig. 10: Wrong fit of filter

2. → Check device visually for defects and proper fit of the filter.

*i* Ensure that the filter fits against the entire length of the water distribution within the U-shaped rail (Fig. 10). If individual fibers of the filter stick out, water may leak from the device.

3. → Remove the following items from the box at the side:

- Power plug
- Wireless sensor system
- Remote control

4. → Replace cover of device.

**Commissioning the wireless sensor system**

Personnel: ■ Operator



Fig. 11: Open cover

1. → Carefully lift and remove the cover of the wireless sensor system using a small screwdriver.

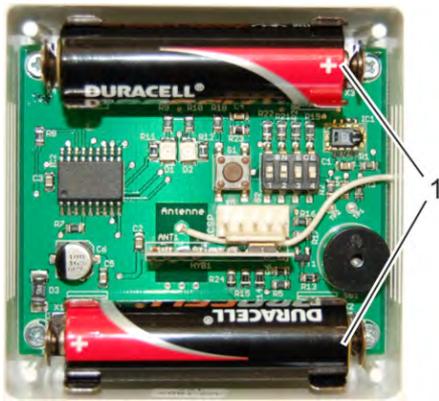


Fig. 12: Insert batteries

2. → Insert the enclosed AA batteries according to the illustration (Fig. 12/1). The plus and minus poles are marked on the board as well as on the battery. The batteries are correctly inserted, if the markings match.

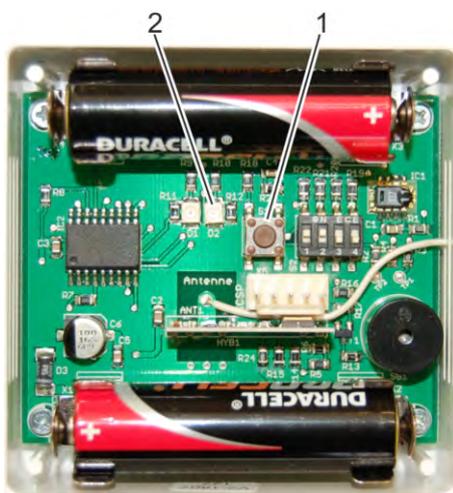


Fig. 13: Check functionality

3. → Check the wireless sensor system for functionality. For this press the black button (Fig. 13/1).
  - ⇒ The LED (Fig. 13/2) briefly lights up, the wireless sensor system is ready for operation. The sound of an alarm indicates that the batteries must be replaced.

### Commissioning the humidifier

Personnel:      ■ Operator

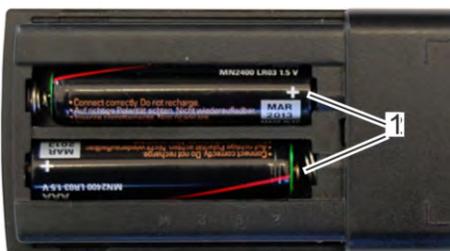


Fig. 14: Insert batteries

1. → Insert the enclosed AAA batteries in the compartment of the remote control (Fig. 14/1). The plus and minus poles are marked in the compartment of the remote control as well as on the battery. The batteries are correctly inserted, if the markings match.
2. → Connect the humidifier's power plug to the power supply.
3. → Fill up the water tank of the humidifier using tap water. For this, proceed as indicated under ↪ *Chapter 5.3 "Filling the water tank" on page 37.*
4. → Switch on the humidifier using the [ON/OFF] button on the remote control.





5. → Enter the desired value for the air humidity using the *[Humidity]* rocker switch ( ↪ Chapter 5.4 “Setting the desired air humidity” on page 39) on the remote control.



6. → Then enter the desired fan speed using the *[Fan]* rocker switch ( ↪ Chapter 5.5 “Regulating the fan” on page 39).

7. → Wait for 10 seconds until the saving process is completed.

⇒ The display read-out jumps back to the actual air humidity value. The humidifier is now ready for operation.

The fan of the humidifier starts, if the set target value is above the actual value.

#### 4.4 Coding the wireless sensor system

**⚠ DANGER**

**Danger to life from electrical current!**

– Prior to opening the device disconnect the power plug.

**Risk of imminent fatal injury from electric shock due to contact with live parts.**

The humidifier and the wireless sensor system are dedicated to each other via coding. The devices are shipped from the factory already encoded. When two or more devices that are in close proximity to one another (0–30 meters, 0–98 feet), a different coding may be necessary.

When several devices are operated in one room, the following options are available:

- Several devices are operated via one sensor. For this, all devices should have the same coding.
- Each device is controlled via a separate sensor. For this, all devices have to be coded differently.

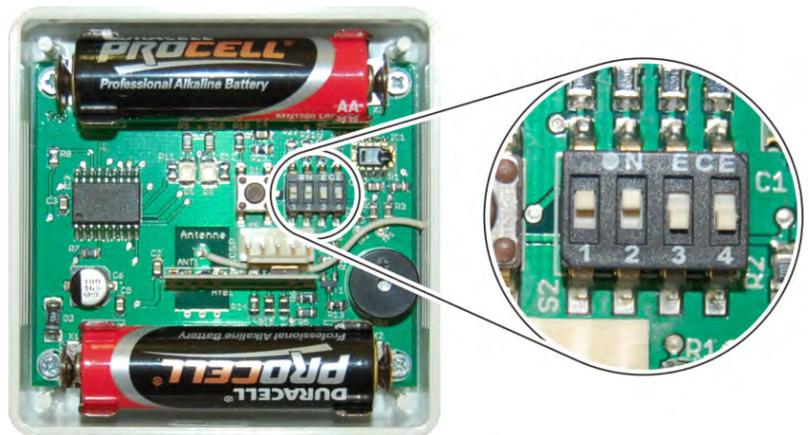


Fig. 15: Slide controls for coding

The slide controls for coding are located on the respective boards of the devices. Per slider there are only the positions "ON = top" and "OFF = bottom". Accordingly there are 16 different coding versions.



*The coding of the humidifier and the associated wireless sensor system must match exactly. Otherwise functioning is not ensured.*

### Coding the wireless sensor system

Personnel:      ■ Operator



Fig. 16: Open cover

1. → **NOTICE!** The electronics of the wireless sensor system are very sensitive. Ensure that you do not touch the electronics and do not damage any components.

Carefully lift and remove the cover plate of the wireless sensor system using a small screwdriver (Fig. 16).

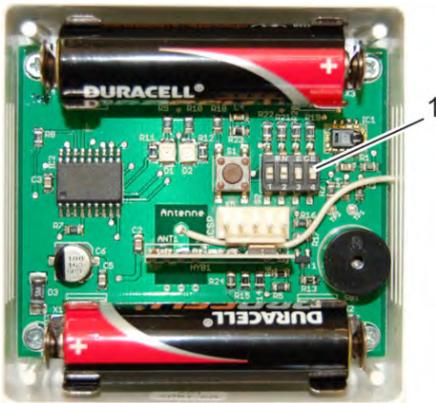


Fig. 17: Coding the wireless sensor system

2. → **NOTICE! Property damage due to short circuit!**  
 – Code the wireless sensor system only with a non-metallic object.

Code the wireless sensor system by setting the slide controls (Fig. 17/1) using a suitable, non-metallic object.

3. → Close the cover plate of the wireless sensor system again.

### Coding the humidifier

Personnel:      ■ Operator



Fig. 18: Remove cover

1. → Switch off device and disconnect power plug.
2. → Lift the cover of the humidifier upwards and place to the side (Fig. 18).

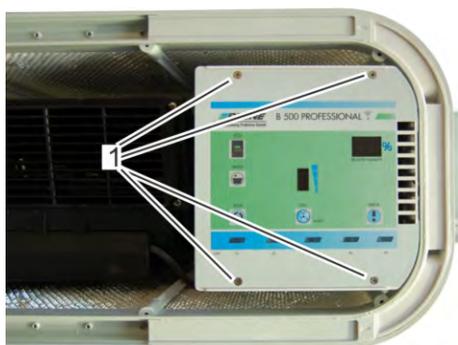


Fig. 19: Loosening the control panel

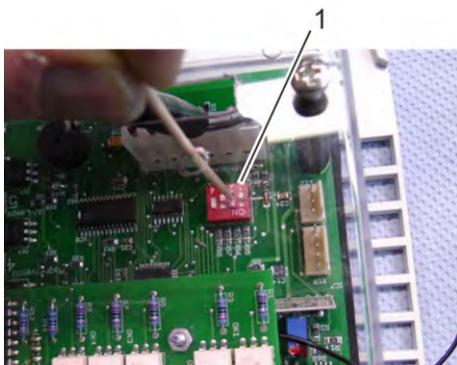
3. → Use a screwdriver to loosen and unscrew the four screws at the top of the control panel (Fig. 19/1) by turning counter-clockwise.



*Fig. 20: Remove the control panel*

- 4.** → **NOTICE!** The electronics of the control panel are very sensitive. Ensure that you do not touch the electronics and do not damage any components.

Remove the control panel and place on the operating side (Fig. 20).



*Fig. 21: Coding the humidifier*

- 5.** → **NOTICE!** Property damage due to short circuit!  
– Code the humidifier only with a non-metallic object.

Coding the humidifier. For this, using a suitable non-metallic object, carefully position the slide controls located on the rear side of the board (Fig. 21/1), in the same position as the ones of the wireless sensor system.

- 6.** → Place the control panel again and fasten using the four screws.  
**7.** → Close cover of the device again.  
**8.** → Check the system functioning. For this, carefully breathe into the housing of the wireless sensor system.

⇒ The actual value indicated on the control panel changes. The wireless sensor system is ready for operation.

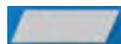
## 5 Operating the humidifier

**i** In this chapter only the operation of the standard version humidifier is described. For the operation of accessory parts head ↪ Chapter 8 “Accessories” on page 65.

**i** Always commission and operate the humidifier according to NEC (National Electrical Code, US) or CEC (Canada).

### 5.1 Indicators on the device

#### Indication "Water level"



The water level is sensed by copper electrodes and indicated by LEDs on the control panel.



If the water supply has been depleted, and the lower level display is reached, the device switches off automatically. About 10 liters (2.5 gallons) of remaining water stay in the device.

The [indication "Water tank empty"] on the display lights up.

#### Indication "Filter replacement"



The device has a filter replacement indicator indicating the need of a filter replacement subject to the run-time of the pump, the water hardness and the fan. In the best case, the filter requires replacement after 98 days, in the worst case a replacement is required after 56 days. This is only a recommendation, the external influences (air pollution) can affect the recommendation positively or negatively. Despite this indication, regular visual inspections for signs of wear of the evaporation filter should be made. For the filter replacement see ↪ Chapter 6.3.2 “Replacing the evaporation filter” on page 47.

#### Indication "Fan speed level"



The speed of the fan is controllable in four levels. The device has additionally an automatic function. The speed level of the fan is indicated via the [Indication "Fan speed level"] at the control panel.



When in automatic function, the device controls the fan speed independently, depending on the required output. This means, any change of air humidity is measured via the wireless sensor system, and the fan speed is increased or decreased accordingly.

## 5.2 Switching on and off

### Switching on

Personnel:  Operator



→ Press the [ON/OFF] button on the remote control.

⇒ The humidifier is switched on.

***i** The wireless sensor system sends a signal only every three minutes. Therefore the error code 05 always appears during switch on. It however, disappears automatically after three minutes at the latest. By breathing on the ventilation slots of the wireless sensor system the process can be accelerated.*

### Switching off

Personnel:  Operator



→ Press the [ON/OFF] button on the remote control.

⇒ The humidifier is switched off.

**⚠ DANGER**

#### **Danger to life from electrical current!**

- **When performing cleaning tasks or during troubleshooting always disconnect the power plug first.**

**The humidifier is not disconnected from power but is in the stand-by mode. The device is still supplied with electricity.**

## 5.3 Filling the water tank

### Improper filling

**⚠ DANGER**

#### **Risk of electrical shock from improper filling!**

- **Carefully pour in water.**
- **Always use a funnel for filling.**

**Improper filling can lead to death or serious injury from electrical shock.**

**NOTICE**

**Risk of property damage from improper filling!**

- Only fill the water tank with normal tap water or treated water with at least 300 microsiemens (max. 30 °C, 86 °F). Never fill with distilled water.
- Fill the water tank on a fluid-resistant surface.
- Do not use flavoring substances.
- Ensure that no water is spilled and enters the device.
- Every 3–4 weeks, completely drain residual water from the water tank and refill water tank again.

Incorrect filling of the water tank can cause malfunctions of the water level indication or defects to the device. In addition, water may leak from the device and result in property damage.



*Devices with an automatic water supply do not required filling the water tank ↪ Chapter 8.1 “Automatic water supply” on page 65.*

Personnel: ■ Operator



1. ↪ Connect the power plug of the humidifier to the power supply and switch on the humidifier.
2. ↪ Open fill flap (Fig. 22/1).
3. ↪ Using a watering can carefully fill the water tank (up to 50 liters / 13.2 gallons).
4. ↪ Close the fill flap again.



Fig. 22: Open fill flap



⇒ The [Indication "Water level"] shows the current fill level (max. 5 bars).

## 5.4 Setting the desired air humidity

### Over-humidifying the air

**⚠ WARNING**

Health risks are present when over-humidifying the air!

- It is recommended to not exceed a value of 50 – 60 % air humidity in living quarters.

Overly humidified air favors the formation of germs and mildew.

Personnel:      ■ Operator



1. → **i** The maximum settable humidity value is 90%.

Press several times or continuously the "+" or "-" area of the *[Humidity]* rocker switch until the desired humidity value is reached on the display of the control panel.

⇒ The entered target value is shown in the control panel display.

2. → Wait for 10 seconds until the saving process is completed.

⇒ The actual humidity value reappears on the display.

## 5.5 Regulating the fan

Personnel:      ■ Operator



1. → Press the *[Fan]* rocker switch.

⇒ The *[indication "Fan speed level"]* on the control panel starts flashing.

2. → Now increase or decrease the fan speed using the "+" and "-" area of the *[Fan]* rocker switch.

⇒ The current fan speed level is shown in the *[indication "Fan speed level"]*.

To activate the fan automatic, proceed as follows:

- > Press the "-" area of the *[Fan]* rocker switch until the last bar on the *[indication "Fan speed level"]* is no longer lit.



- ⇒ The *[Automatic fan indicator]* lights up and the fan now is in automatic mode.

## 5.6 Changing the menu settings

The device offers the possibility, deviating from the factory settings, to make various settings according to your own desire. The visual representation of the menu is done via numbers in the control panel display. The meaning of each number is shown in the table ↪ on page 41.

To change the menu setting, proceed as follows:

Personnel:           ■ Operator



1. —> On the remote control press the *[Prog]* button.
  - ⇒ The number 10 appears on the control panel display (substitutive for the "Set signal tone" menu).

2. —> Press the *[Prog]-* button until the desired main menu is accessed.



3. —> Once the desired main menu lights up on the display, use the *[Set]* button to select the desired sub-menu.
  - ⇒ After a few seconds the value (e.g. 00 or 01) of the setting appears on the display.



4. —> Using the *[Humidity]* rocker switch change the value upwards ("+" area) or down ("- " area).
5. —> Once the change has been performed, wait 10 seconds.
  - ⇒ The display read-out jumps back to the default state (display of the actual humidity value). The changes have been saved.

**i** *If no further settings are performed within 10 seconds, the read-out on the display automatically returns to the default display mode (display of the actual humidity value). The programming process can be aborted at any time by pressing the [ON/OFF] button. In this case the performed changes are lost.*

The following table provides an overview of the menu structure.

**Menu overview**

Main menu	Sub menu	Description	Setting	Comment	Ex works
<b>10</b>		<b>Signal tone setting</b>			
	11	Signal tone active, if water tank empty.	00 = OFF 01 = ON		01
	12	Signal tone active, if UV lamp defective.	00 = OFF 01 = ON	Only on models with UV technology.	01
	14	Signal tone active, if fill amount of water tank $\geq$ 50 liters (13.2 gallons).	00 = OFF 01 = ON	Only on models with automatic water supply.	01
	15	Signal tone active during missing radio signal.	00 = OFF 01 = ON		01
<b>20</b>		<b>Relay setting</b>		The relay settings are only required when connected to a central air conditioning monitoring system.	00
	21	Relay active, if water tank empty.	00 = OFF 01 = ON		00
	22	Relay active, if UV lamp defective.	00 = OFF 01 = ON		00
	24	Relay active, if fill amount of water tank $\geq$ 50 liters (13.2 gallons).	00 = OFF 01 = ON		00

Main menu	Sub menu	Description	Setting	Comment	Ex work s
	25	Relay active during missing radio signal.	00 = OFF 01 = ON		00
	26	Relay switching state (Low = Relay active open, High = Relay active closed)	00 = OFF 01 = ON		00
<b>30</b>					
		<b>General settings</b>			
	31	Flush cycle in days.	00 = OFF (manual) 01 ... 07 days	Only on models with flushing unit.	07
	32	Setting the water hardness.	01 = soft 02 = medium 03 = hard	The water hardness affects the interval of the filter replacement indication.	02
	33	Amount of days until the filter requires replacement.	0 - 98 = Amounts of days	The filter replacement indicator shows in how many days the filter must be replaced (0–98 days). After the filter replacement the value must be set manually back to 98.	98
	34	Operation via external timer or other 115 V switch-on mechanism.	00 = OFF 01 = ON	Humidity target value is set to 90%. The actual value constantly shows 00%. The fan setting is freely selectable.	00
	35	Adjustment/control interval of fan during automatic operation	01 ... 10 min.	Depending on room size.	05

## 6 Cleaning and servicing the humidifier

Humidifiers provide comfort by adding moisture to dry, heated indoor air. To benefit most from the humidifier and avoid product misuse, follow all instructions carefully. Please note that this is an electrical device and requires attention when in use.

In addition, if you do not follow the recommended care and maintenance guidelines, microorganisms may be able to grow in the water within the humidifier's tank.

### 6.1 Safety instructions for servicing

#### Improper cleaning

**⚠ DANGER**

**Danger to life from improper cleaning!**

- Prior to cleaning always disconnect the power plug.
- Always wear protective clothing and goggles when working with lime remover.

**Improper cleaning of the humidifier can cause serious or fatal injuries.**

#### Inadequate cleaning

**⚠ WARNING**

**Health hazard due to inadequate cleaning!**

- Replace the evaporator filter at the latest after four month. Shorten the time interval in case of severe contamination of the ambient air.
- Always comply with the intervals for cleaning described in  *Chapter 6.2 “Cleaning schedule” on page 44.*
- Every 3–4 weeks, completely drain residual water from the water tank and refill water tank again.

**Bacteria and germs can be released when not cleaned adequately.**

## Improper cleaning

**NOTICE**

**Risk of property damage due to improper cleaning!**

- Do not use aggressive cleaning agents such as benzene, abrasive agents or agents containing chlorine that can damage the plastic.
- Always clean on a water-resistant surface.
- Ensure that electronic components do not come in contact with water.
- Prior to recommissioning ensure that the device is dry.

**Improper cleaning of the humidifier can lead to damage on the device as well as the flooring and furnishings.**

## Protective equipment

When using lime remover during cleaning, protective gloves and goggles must be worn.



### **Chemical-resistant protective gloves**

Chemical-resistant protective gloves are used to protect hands from skin-irritating substances.



### **Protective goggles**

The protective goggles are used to protect the eyes from splashes.

## 6.2 Cleaning schedule



*The indicated time intervals apply on normal water quality and normal dust occurrence in the air and can therefore deviate up or down.*

Interval	Maintenance work	Personnel
Daily	Check water level. The device automatically switches off at about 15 liters (4 gallons) of residual water level (not applicable in case of automatic water supply).	Operator
	Check humidity value using the control panel display.	Operator
Monthly	Thoroughly clean the humidifier ( ↗ Chapter 6.3.1 “Monthly cleaning” on page 45).	Operator
Every 3–4 months	Replace evaporation filter ( ↗ Chapter 6.3.2 “Replacing the evaporation filter” on page 47).	Operator
	Replace activated charcoal cleaning filter (optional accessory) ( ↗ Chapter 8.3.2 “Replacing the activated charcoal cleaning filter” on page 70).	Operator
	Clean water tank ( ↗ Chapter 6.3.3 “Cleaning the water tank” on page 49).	Operator
Annually	Perform thorough cleaning of the device using lime remover ( ↗ Chapter 6.3.4 “Decalcifying the device” on page 50).	Operator
	Clean UV degermination system and lime transforming cartridge (optional accessory) ( ↗ Chapter 8.5.1 “Cleaning the UV degermination system and lime transforming cartridge” on page 72).	Operator

## 6.3 Cleaning tasks

### 6.3.1 Monthly cleaning

Personnel:      ■ Operator

**▲ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.



Fig. 23: Remove cover

2. → Lift the cover of the humidifier upwards and place to the side (Fig. 23).
3. → Check the evaporation filter for contamination. In case of severe contamination replace the evaporation filter (↪ Chapter 6.3.2 “Replacing the evaporation filter” on page 47).

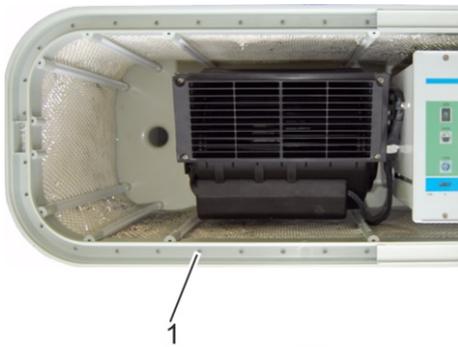


Fig. 24: Clean drainage holes

4. → Check drainage holes of the water distribution (Fig. 24/1) for clogging. Remove residues such as lime or dust using a needle, a screwdriver or wet shop-vac.



Fig. 25: Remove center piece

5. → Lift center piece from the water tank and place on the lateral surface (Fig. 25).
6. → Empty residual water from water tank.
7. → Clean water tank with a sponge.

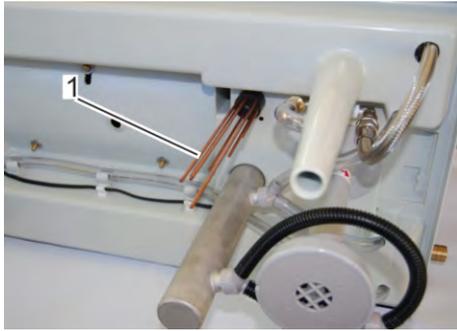


Fig. 26: Clean electrode rods

8. → Check the electrode rods for the water level measuring (Fig. 26/1) for contamination. If required, use a cloth or sponge to remove lime or other residues.
9. → Place center piece back into the water tank and replace cover.
  - ⇒ The monthly cleaning is completed.

## 6.3.2 Replacing the evaporation filter

**i** Spare evaporation filters can be ordered at your local specialized retailer (order number: 1603).

### Remove old filter

Personnel: ■ Operator

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.
2. → Lift the cover of the humidifier upwards and place to the side (Fig. 27).



Fig. 27: Remove cover



Fig. 28: Remove filter bracket

3. → Press filter bracket together and unhinge (Fig. 28).



Fig. 29: Filter removed

4. → Unlatch the attachment hooks from the filter. Then loosen the filter along the water distribution and remove.

### Insert new filter



Fig. 30: Wrong fit of filter

5. → Insert new filter and fasten along the water distribution.

**i** Ensure that the filter fits against the entire length of the water distribution within the U-shaped rail. If this is not the case, water can leak from the device (Fig. 30).

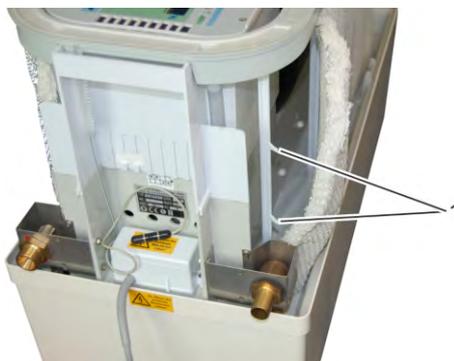


Fig. 31: Fasten filter

6. → Fasten filter on both sides to the attachment hooks (Fig. 31/1).
7. → Check that the filter sits tight in the rail of the water distribution and that no fibers stick out.

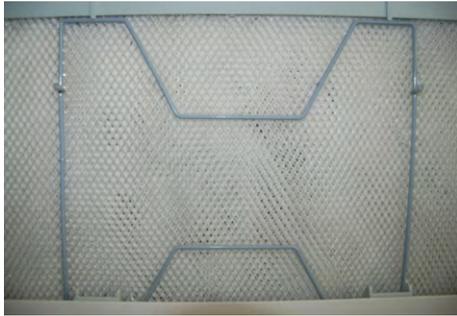


Fig. 32: Insert clamping brackets

8. → Insert clamping brackets again.

*i* Ensure correct fit of the clamping brackets. The filter should not touch the housing, since this can cause water leakage.

9. → Replace cover of humidifier.

### 6.3.3 Cleaning the water tank

Personnel: ■ Operator

Protective equipment: ■ Chemical-resistant protective gloves

■ Protective goggles

Materials: ■ Lime remover

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.

2. → Lift the cover of the humidifier upwards and place to the side (Fig. 33).



Fig. 33: Remove cover



Fig. 34: Remove center piece

3. → Lift center piece from the water tank and place on the side surface (Fig. 34).
4. → Empty residual water from water tank.
5. → Clean the water tank using lime remover. Let the lime remover act for a bit. Here, observe the instructions on the packaging of lime remover.
6. → To avoid lime remover residues, flush water tank thoroughly with tap water.
7. → Place center piece back into the water tank and replace cover.

### 6.3.4 Decalcifying the device

#### Aggressive lime removers

**NOTICE**

**Risk of property damage due to using aggressive lime removers!**

- Use only suitable lime removers.
- Prior to decalcifying, observe the instructions on the packaging of lime remover.
- For decalcifying place the device on a suitable, nonsensitive surface.

**Aggressive lime removers can cause damage to the device and in its surroundings, e.g. flooring.**

#### Preparation

- |                       |  |
|-----------------------|--|
| Personnel:            | ■ Operator                             |
| Protective equipment: | ■ Chemical-resistant protective gloves |
|                       | ■ Protective goggles                   |
| Materials:            | ■ Lime remover                         |

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.
2. → To prevent damage to the surface, place the humidifier on a moisture-resistant flooring.



Fig. 35: Remove cover

3. → Lift the cover of the humidifier upwards and place to the side (Fig. 35).
4. → Remove the evaporation filter (↪ *Chapter 6.3.2 "Replacing the evaporation filter" on page 47*).
5. → To avoid damage to the fan, loosen and pull out the fan plug by pressing the plug clamps. Cover fan with a foil or remove the fan (↪ *Chapter 7.4.2 "Replacing the fan" on page 62*).
6. → Replace the cover.
7. → Dilute the lime remover with about 10 liters (4 gallons) of water, according to the packaging information, and put into the water tank.
8. → Put humidifier back in operation and let it operate for 12 hours in this state.

### Cleaning

- |                       |  |
|-----------------------|--|
| Personnel:            | ■ Operator                             |
| Protective equipment: | ■ Chemical-resistant protective gloves |
|                       | ■ Protective goggles                   |
|                       | ■ Lime remover                         |

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.
2. → Lift the cover of the humidifier upwards and place to the side (Fig. 36).
3. → Remove cleaning brush from side box.



Fig. 36: Remove cover



Fig. 37: Remove center piece

4. → Lift center piece from the water tank and place on the side surface (Fig. 37).
5. → Place a suitable vessel under the pump hoses to collect any possible residual water.

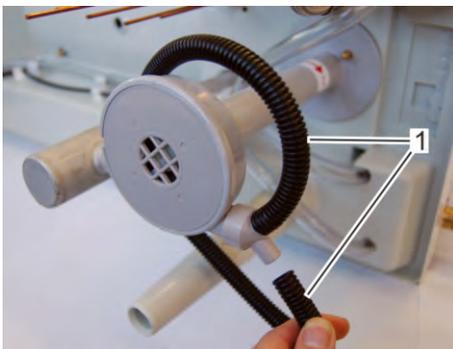


Fig. 38: Take off pump hoses

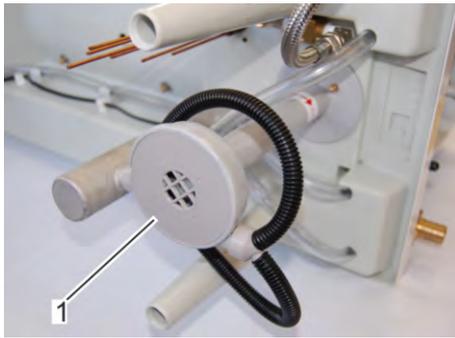
6. → Take off pump hoses (Fig. 38/1).



Fig. 39: Clean pump hoses

7. → Clean pump hoses using the cleaning brush. In case of severe contamination or wear, replace the pump hoses (order no.: 1529).
8. → Reattach pump hoses.

**i** Ensure tight and proper fit of pump hoses. Otherwise water could leak out.



*Fig. 40: Clean pump body*

**9.** ▶ Clean pump body (Fig. 40/1) using a cloth.

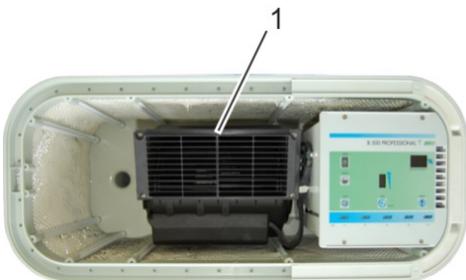


*Fig. 41: Clean copper electrodes*

**10.** ▶ Clean the electrode rods for the water level measuring (Fig. 41/1). Depending on contamination degree use a sponge or a fine sand paper.

**11.** ▶ To avoid lime remover residues in the device, flush water tank thoroughly with tap water.

**12.** ▶ Place center piece back into the water tank and replace cover.



*Fig. 42: Vacuum fan*

**13.** ▶ Vacuum the fan (Fig. 42/1) surface using a suitable vacuum nozzle.

## 7 Detect and remedy malfunctions

### 7.1 Safety instructions for troubleshooting

**DANGER**

**Danger to life from improper troubleshooting!**

- Prior to troubleshooting always disconnect the power plug.
- Only remedy those malfunctions on your own that are described in the following. For all other problems contact the manufacturer.

**Improper troubleshooting can cause serious or fatal injuries.**

### 7.2 Malfunction indication

The Evaporation Humidifier B500 Professional has an independent monitoring system that provides the possibility to quickly and reliably detect errors and respond accordingly.



If a malfunction is present, it is displayed on the malfunction indication on the control panel. The malfunction indication can be combined with an acoustic signal. Thus, in addition to the indication a beep will sound. The user can select this setting themselves. For this refer to

↪ *Chapter 5.6 “Changing the menu settings” on page 40.*



In addition to the malfunction indication an error code appears on the display. The meaning of the respective error codes can be identified using the list in the following.

***i***

*If an error code is displayed, only the [ON/OFF] button as well as the [Prog] and [Set] buttons on the remote control can be used.*

**Error code display**

The following table shows the error codes and the respective solution for the problem.

<b>Error code</b>	<b>Cause</b>	<b>Remedy</b>	<b>Personnel</b>
<b>01</b>	Empty water tank	<ul style="list-style-type: none"> <li>■ Check water level. Top up water tank, if required ( ↗ <i>Chapter 5.3 “Filling the water tank” on page 37</i>).</li> <li>■ Check water level electrodes for contamination and clean if required ( ↗ <i>Chapter 6.3.1 “Monthly cleaning” on page 45</i>).</li> <li>■ Was distilled water used? If yes, top up with faucet water.</li> <li>■ Check connection of water level electrodes.</li> <li>■ If an automatic water supply is used, check it for functionality.</li> </ul>	Operator
<b>02</b>	UV lamp (optional accessory) is defective	<ul style="list-style-type: none"> <li>■ Replace UV lamp ( ↗ <i>Chapter 8.5.2 “Replacing the UV lamp” on page 75</i>).</li> </ul>	Operator
<b>04</b>	Water tank overfilled (only possible on automatic water supply (optional accessory))	<ul style="list-style-type: none"> <li>■ Check functionality of solenoid valve.</li> <li>■ Check water level electrodes for contamination and clean if required ( ↗ <i>Chapter 6.3.1 “Monthly cleaning” on page 45</i>).</li> </ul>	Operator

Error code	Cause	Remedy	Personnel
05	Missing radio signal from wireless sensor system. The receiver on the control panel has not received a signal for a longer period of time.	<ul style="list-style-type: none"> <li>■ Since the wireless sensor system sends a signal only every three minutes, this error always appears when switching the humidifier on. The malfunction indication however, disappears automatically after three minutes at the latest.</li> <li>■ Decrease distance between wireless sensor system and humidifier to max. 30 meters (98 feet). Concrete and steel walls can impair the reception.</li> <li>■ Check functionality of wireless sensor system. If required, replace batteries ( ↪ <i>“Commissioning the wireless sensor system” on page 30</i>).</li> <li>■ Check coding of wireless sensor system ( ↪ <i>Chapter 4.4 “Coding the wireless sensor system” on page 32</i>).</li> </ul>	Operator
09	Several errors occurred at the same time.	<ul style="list-style-type: none"> <li>■ Check the device as for errors 01–05.</li> </ul>	Operator

### 7.3 Error table

Check the following in case the device is still not working properly and no malfunction is present:

Fault description	Cause	Remedy	Personnel
No function, humidifier does not start up.	Device is not switched on.	Switch on device ( ↪ <i>on page 37</i> ).	Operator
	Device is not properly or not at all connected.	Ensure that the power plug of the humidifier is connected to the power supply.	Operator
The [Indication "Water tank empty"] illuminates red.	Water level too low.	Top up water ( ↪ <i>Chapter 5.3 “Filling the water tank” on page 37</i> ).	Operator
	Copper electrodes of the water level indication are dirty.	Clean copper electrodes ( ↪ <i>Chapter 6.3.4 “Decalcifying the device” on page 50</i> ).	Operator

<b>Fault description</b>	<b>Cause</b>	<b>Remedy</b>	<b>Per-sonnel</b>
The humidifier is switched on but the fan is not running.	The air humidity is higher than the set humidity target value.	If required, change target value (☞ <i>Chapter 5.4 “Setting the desired air humidity” on page 39</i> ).	Operator
	Defective fan.	Replace fan (☞ <i>Chapter 7.4.2 “Replacing the fan” on page 62</i> ).	Operator
	Fan plug is defective.	Check cable connection and cable. If required, replace.	Licensed electrician
Device runs, but there is no water in the water distribution.	Pump hoses not properly connected or dirty.	Clean pump hoses and connect properly (☞ <i>Chapter 6.3.4 “Decalcifying the device” on page 50</i> ).	Operator
	The lime transforming cartridge (optional accessory) is clogged.	Clean the lime transforming cartridge (☞ <i>Chapter 8.5.1 “Cleaning the UV degermination system and lime transforming cartridge” on page 72</i> ).	Operator
	Defective pump.	Replace pump (☞ <i>Chapter 7.4.1 “Replacing the pump” on page 59</i> ).	Operator
Water channel is over-flowing.	Drainage holes are clogged.	Clean water distribution and drainage holes (☞ <i>Chapter 6.3.1 “Monthly cleaning” on page 45</i> ).	Operator
Water is leaking from the device.	Water tank is leaking.	Check water tank for damage.	Operator
	Device is standing askew.	Check place of installation and if required adjust (☞ <i>Chapter 4.2 “Requirements at the place of installation” on page 29</i> ).	Operator
	Filter is used up.	Replace filter (☞ <i>Chapter 6.3.2 “Replacing the evaporation filter” on page 47</i> ).	Operator
	Filter not properly inserted.	Check proper fit of filter. Ensure that the filter is placed not too close to the housing and that no fibers stick out.	Operator
	Pump hoses not properly connected or dirty.	Connect pump hoses correctly and if required clean (☞ <i>Chapter 6.3.4 “Decalcifying the device” on page 50</i> ).	Operator

Fault description	Cause	Remedy	Per-sonnel
Device does not react to remote control.	Battery is empty or incorrectly inserted.	Check battery and replace, if required. Ensure the correct polarity ( ↻ <i>“Commissioning the humidifier” on page 31</i> ).	Operator
	Distance between remote control and device is too large.	Decrease distance to maximum 1 meter (3 feet).	Operator
Automatic water supply (optional accessory) does no longer top up water.	Defective auto-matic water supply (optional accessory).	Have the automatic water supply repaired by a licensed plumber or by authorized personnel of the manufacturer.	Licensed plumber Manufacturer
Automatic water supply (optional accessory) is continuously running.	Solenoid valve does not close.	Check water level electrodes for contamination and clean, if required ( ↻ <i>Chapter 6.3.1 “Monthly cleaning” on page 45</i> ).	Operator
	Defective solenoid valve.	Have the solenoid valve replaced. For this, contact your local retailer.	Licensed electrician
The wireless sensor system gives an acoustic signal.	Batteries in the wireless sensor system are empty.	Replace batteries.	Operator
Newly inserted batteries do not work.	Batteries have been wrongly inserted – polarity not respected.	Insert batteries correctly ( ↻ <i>Chapter 4.3 “Commissioning the humidifier for the first time” on page 29</i> ).	Operator
00% appears on the display. Should the target value be adjusted, then 90% appears.	Operation via an external timer is active (menu number 34).	Deactivate operation via an external timer, by changing the value of menu number 34 to 00 ( ↻ <i>Chapter 5.6 “Changing the menu settings” on page 40</i> ).	Operator
A number between 01 and 09 appears on the control panel display. In addition an alarm sounds. Except for the [ON/OFF] button as	The monitoring system of the humidifier has detected a problem.	The meaning of the error and the respective remedy is described under ↻ <i>“Error code display” on page 55</i> .	Operator

Fault description	Cause	Remedy	Per-sonnel
well as the [Prog] and [Set] buttons all buttons on the remote control are blocked.			

## 7.4 Remediating errors

### 7.4.1 Replacing the pump



A new pump can be ordered at your local specialized retailer (order number: 1523).

#### Remove old pump

Personnel: ■ Operator

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.
2. → Lift the cover of the humidifier upwards and place to the side (Fig. 43).



Fig. 43: Remove cover



Fig. 44: Remove center piece

3. → Lift center piece from the water tank and place to the side (Fig. 44).

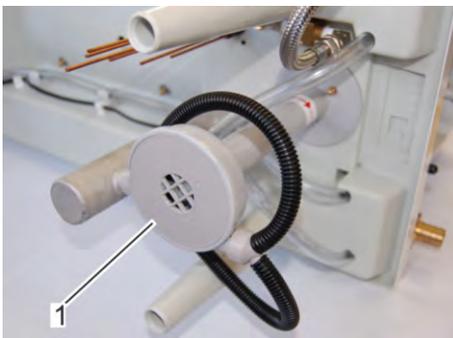


Fig. 45: Water pump

- ⇒ The water pump is located at the bottom on the right side (Fig. 45/1).

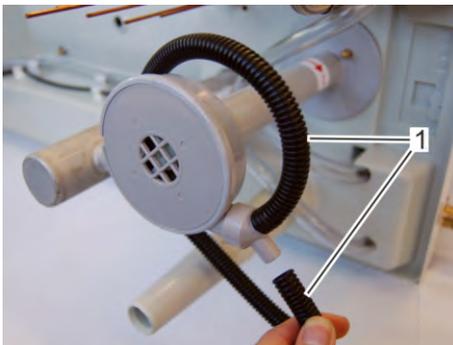
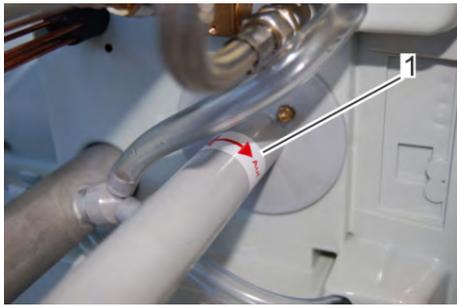


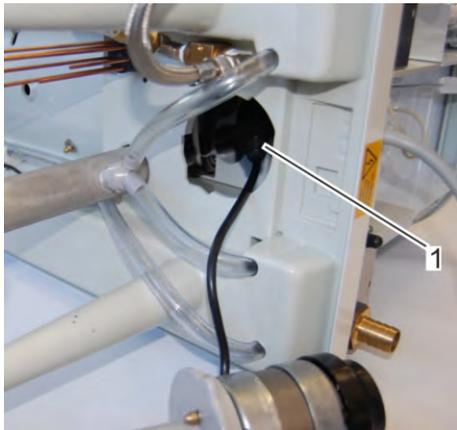
Fig. 46: Take off pump hoses

4. → To collect any possible residual water, place a suitable vessel under the pump hoses (Fig. 46/1).
5. → Take off pump hoses.



*Fig. 47: Loosen water pump*

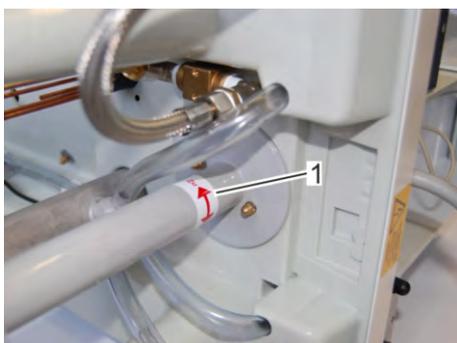
- 6.** → Loosen the water pump towards the right and pull out carefully (Fig. 47/1).



*Fig. 48: Disconnect plug connection*

- 7.** → Disconnect plug connection (Fig. 48/1).

### **Install new pump**



*Fig. 49: Install pump*

- 8.** → Connect plug connection of new pump.
- 9.** → Insert the water pump in the opening and turn in the arrow direction until it latches in and sits tight (Fig. 49/1).

Ensure that the pump cable is not crushed when inserting the pump.



Fig. 50: Attach pump hoses

10. → Reattach pump hoses.

*i* Ensure tight and proper fit of pump hoses. Otherwise water could leak out.

11. → Place center piece back into the water tank and replace cover.

### 7.4.2 Replacing the fan



A new fan can be ordered at your local specialized retailer (Item no.: 1500S).

#### Remove old fan

Personnel:      ■ Operator

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.

2. → Lift the cover of the humidifier upwards and place to the side (Fig. 51).

⇒ The fan is located in the center piece next to the control panel.



Fig. 51: Remove cover



Fig. 52: Removing the fan plug

3. → Loosen and pull out the fan plug by pressing the plug clamps (Fig. 52/1).



Fig. 53: Remove center piece

4. → Lift center piece from the water tank and place to the side (Fig. 53).



Fig. 54: Remove bolts

5. → **NOTICE!** Ensure that the fan does not fall out after the bolts have been removed.

Remove the three bolts located on the bottom side, counter-clockwise and take out completely (Fig. 54/1).

6. → Remove fan.

**Insert new fan**

7. → Insert new fan.

8. → Run the screw threads on the vibration dampers through the holes in the center plate.

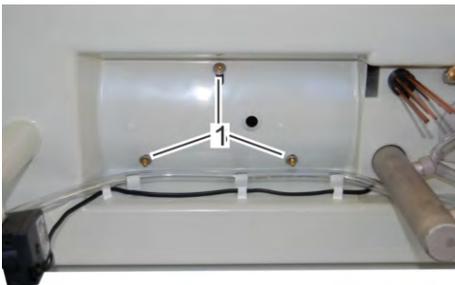
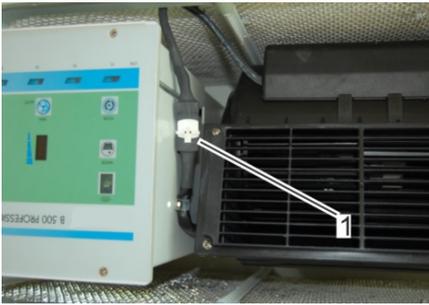


Fig. 55: Tighten fan

9. → Retighten fan at the bottom of the center piece (Fig. 55/1).



*Fig. 56: Connect fan*

- 10.** ➤ Connect fan plug again (Fig. 56/1).
- 11.** ➤ Place center piece back into the water tank and replace cover.

## 8 Accessories

**⚠ WARNING**

**Risk of injury due to using wrong accessories!**

- **Only use original accessories from Condair Ltd. or accessories authorized by Condair Ltd.**
- **Always contact our customer service for any questions.**

**The use of wrong or incorrect accessories may cause harm to the user or damage, malfunctions or total failure.**

In the following the accessory is described that can be ordered in addition to the humidifier's standard version. Some accessories may only be installed by the manufacturer. In this case, contact the manufacturer.

### 8.1 Automatic water supply



*Requirement*

- *Installation of the automatic water supply is done exclusively by the manufacturer. Connecting to a local water supply system is only permissible by an authorized plumber.*
- *The connection of the automatic water supply has to be done without any usage of tools in order to allow easy disconnection for maintenance.*

When connecting the humidifier to the local water supply system, manual filling is not required. Refilling is done by an electronically controlled solenoid valve. It automatically opens the water supply when reaching the minimum water level and stops the water supply as soon as the water tank is full. The device is set to a maximum fill level of 30 liters (7.9 gallons). This means, if the fill level of 30 liters (7.9 gallons) is reached, the water supply stops.

 **WARNING**

**Risk of injury due to unauthorized connection of the humidifier to the local water supply system.**

- Connecting the humidifier to the local water supply system may only be done by an authorized plumber.
- To ensure a stable function of the water supply, do not connect to a supply unit with distilled or treated water.

**Connecting the humidifier to the local water supply system provides risks that can not be assessed by laymen.**

## Operation



An active water supply is indicated by a running light of the LED of the [Indication "Water level"] .

The water supply is controlled via the electrode rods of the water level indicator. For the proper functioning of the water supply, it is necessary to clean the electrode rods monthly and remove limescales ( ↻ Chapter 6.3.1 "Monthly cleaning" on page 45).

## Safety devices

To prevent over-filling, the device switches automatically off when reaching a fill level of 50 liters (13.2 gallons). Here, an acoustic warning signal sounds and the error code 04 appears on the display. If there is a defect in the water supply and the water level does not change after 10 minutes in spite of the opened solenoid valve, the operation is canceled and the error code 01 appears on the display.

## Information for licensed plumbers



*The following information is directed exclusively to licensed plumbers that connect the humidifier to the local water supply system.*

 **NOTICE**

**Risk of property damage due to excessive water pressure!**

- The maximum water pressure may not exceed 1 MPa (145 psi).

**The humidifier can be damaged if the water pressure of the local water supply system is too high.**

Personnel: ■ Licensed plumber

1. → To prevent contamination of the solenoid valve, flush thoroughly the line prior to connecting.
2. → Connect the humidifier, according to the regulations of the local water supply authority, to the local water supply system. Here, adhere to the following points:
  - The material used and the connection must meet the IEC 61770 standard.
  - Always adhere to the regulations of the local water supplier. A backflow preventer might be required.
  - The water supply piping should have a 3/4 inch BSPP end, or use a female 3/4 in BSPP x Male 3/4 in (or 1/2 in) NPT brass adaptor. See Page 81 for schematic diagram.

## 8.2 UV degermination system

### Mercury vapor

**⚠ WARNING**

**Health risk from toxic mercury vapor!**

- When changing the UV lamp always handle carefully to avoid damage to the UV lamp.
- Never dispose of the UV lamp in common household trash. Information about correct disposal can be obtained from the local authorities or from special waste management companies.

**The tube of the UV lamp contains toxic mercury. Inhaling mercury vapors causes a high risk of acute toxicity.**

### Description



*Requirement*

- *Installation of the UV degermination system and the lime transforming cartridge is done exclusively by the manufacturer.*

By the radiation of the water with ultraviolet light, germs and microorganisms in the water are killed off. The water for the humidifier is disinfected and returns back into the water cycle of the device, number of germs reduced.

In addition, the device can be equipped with a lime transforming cartridge that changes the molecular structure of lime so that it can no longer accumulate on the surfaces in the device.

**NOTICE**
**Risk of damage by using softened water!**

- When using a lime transforming cartridge never use softened water.

The use of softened water can cause damage to the lime transforming cartridge.

**8.2.1 Cleaning the UV degermination system**
**Clean UV degermination system**

- |                       |  |
|-----------------------|--|
| Personnel:            | ■ Operator                             |
| Protective equipment: | ■ Chemical-resistant protective gloves |
|                       | ■ Protective goggles                   |
|                       | ■ Lime remover                         |
| Materials:            |  |

**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1. → Switch off humidifier and disconnect power plug.
2. → Lift the cover of the humidifier upwards and place to the side (Fig. 63).



*Fig. 63: Remove cover*



Fig. 64: Remove center piece

3. → Lift center piece from the water tank and place on the side surface (Fig. 64).

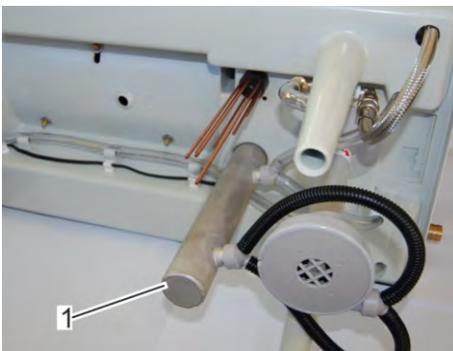


Fig. 65: UV degermination system

- ⇒ The UV degermination system is located below the center plate next to the pump (Fig. 65/1).
4. → Check stainless steel pipe for damage and contamination. If required, remove contamination using a cloth and lime remover.



Fig. 66: Clean pump hoses

5. → Take the pump hoses off the stainless steel pipe and clean using the cleaning brush. In case of severe contamination or wear, replace pump hoses.



*Fig. 67: Cleaning the stainless steel pipe*

6. → **⚠ WARNING! Toxic mercury vapors can escape, if the UV lamp inside the stainless steel pipe is damaged!**

Remove Y-piece made of plastic (Fig. 67/1) from the stainless steel pipe and carefully clean with cleaning brush.

7. → Reattach the pump hoses to the stainless steel pipe.

**i** *Ensure tight and proper fit of pump hoses. Otherwise water could leak out.*

## 8.2.2 Replacing the UV lamp

### **⚠ WARNING**

**Health risk from toxic mercury vapor!**

- When changing the UV lamp always handle carefully to avoid damage to the UV lamp.

The tube of the UV lamp contains toxic mercury. Inhaling mercury vapors causes a high risk of acute toxicity.

### **⚠ CAUTION**

**Injury to the eyes from ultraviolet radiation!**

- Never look in the light of the lamp when switched on.

Unfiltered, direct and indirect UV radiation can damage the skin and eyes.

### **NOTICE**

**Property damage due to incorrect handling of the UV lamp!**

- Only touch the UV lamp at its blue end pieces.
- Do not touch quartz glass with bare hands.
- Gently remove stains with a clean cloth soaked in alcohol.
- Always remove UV lamp slowly and carefully.

The UV lamp is very sensitive. Touching the glass body can greatly reduce the service life. Stains burn into the quartz glass and lead to early failure.

The UV lamp is located under the control panel on the center plate adjacent to the pump motor. To replace this, proceed as follows:

Personnel:           ■ Operator

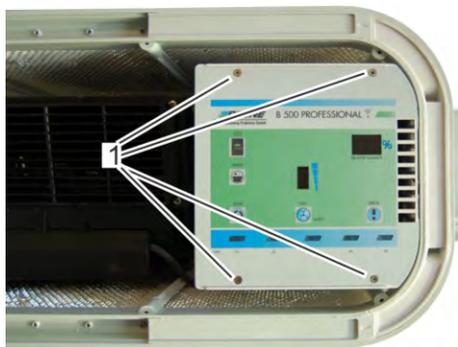
**⚠ WARNING! Risk of electrical shock if the power plug is not disconnected!**

1.  Switch off humidifier and disconnect power plug.



*Fig. 70: Remove cover*

2. → Lift the cover of the humidifier upwards and place to the side (Fig. 70).



*Fig. 71: Loosening the control panel*

3. → Use a screwdriver to loosen and unscrew the four screws at the surface of the control panel by turning counter-clockwise (Fig. 71/1).



*Fig. 72: Remove the control panel*

4. → **NOTICE!** The electronics of the control panel are very sensitive. Ensure that you do not touch the electronics and do not damage any components.

Remove the control panel and place on the operating side (Fig. 72).

- ⇒ The UV lamp is located in a metal housing below the control panel (Fig. 73/1).

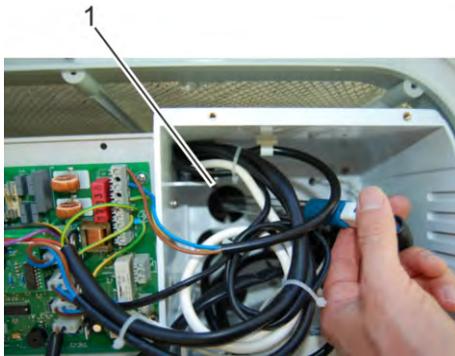


Fig. 73: Pulling out the UV lamp

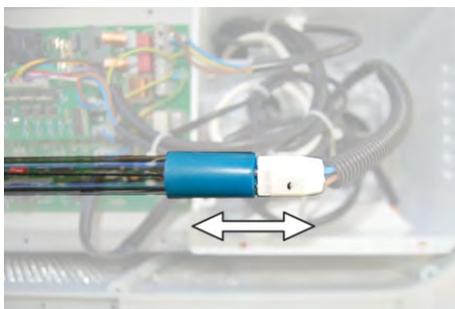


Fig. 74: Remove connection cable

- 5.** → **⚠ WARNING! Danger of poisoning and damage from careless removal of the UV lamp!**

Carefully pull out the UV lamp on the connection cable (Fig. 73).

- 6.** → Only touch the UV lamp at its blue end pieces. Remove connection cable of UV lamp (Fig. 74).
- 7.** → Seize the new UV lamp on the end caps and unpack.
- 8.** → Attach connection cable to the new UV lamp.
- 9.** → Carefully insert the UV lamp into the quartz glass body.
- 10.** → Place the control panel again and fasten using the four screws.
- 11.** → Replace cover of device.

## 9 Spare parts

**⚠ WARNING**

**Risk of injury due to using wrong spare parts!**

- Only use original spare parts from Condair Ltd. or spare parts authorized by Condair Ltd.
- Always contact our customer service for any questions.

### Ordering spare parts

**Using incorrect or faulty spare parts brings dangers to the user and can cause damage, malfunctions or complete failure.**

Spare parts can be ordered at your local specialized retailer or directly from the manufacturer. For the order numbers see ↪ *Appendix A “Parts list” on page 83.*

## 10 Disposing of the humidifier

If no return or disposal agreement was made, have disassembled components recycled:

- Have metals scrapped.
- Send elements made of plastic for recycling.
- Dispose batteries and UV tube as hazardous waste.
- Sort other components acc. to material properties and dispose.

### **NOTICE**

**Danger to the environment due to wrong disposal!**

- **Electronic waste and electronic components must be disposed off by authorized certified companies.**
- **In case of doubt, information about correct disposal can be obtained from the local authorities or from special waste management companies.**

**Wrong disposal can pose risks to the environment.**

## 11 Technical data

### 11.1 Dimensions and weight

Data	Value	Unit
Weight (empty)	about 24 / 53	kg / lbs
Width	755 / 29.7	mm / in
Height	620 / 24.4	mm / in
Depth	365 / 14.4	mm / in
Water tank volume	about 50 / 13.2	l / US gal

### 11.2 Connection values

#### Electrical

Data	Value	Unit
Voltage	115	V
Frequency	60	Hz
Power consumption, maximum	130	W
Fuse, at least	10	A
Maximum water pressure when connecting to the water supply mains	145 / 1	psi / MPa
Minimum water pressure when connecting to the water supply mains	0	psi

### 11.3 Performance data

Data	Value	Unit
Air output up to	900 / 530	m <sup>3</sup> /h / CFM
Evaporation performance up to	2.6 / 5.72	l/h / lbs/h
Evaporation filter surface	3.5 / 37.7	m <sup>2</sup> / sq ft

### 11.4 Operating conditions

#### Environment

Data	Value	Unit
Temperature range	10 – 40 / 50 – 104	°C / °F
Relative humidity	15 – 80	%

### 11.5 Emissions

Data	Value	Unit
Noise emission	32 – 44	dB(A)

### 11.6 Type plate



Fig. 75: Type plate

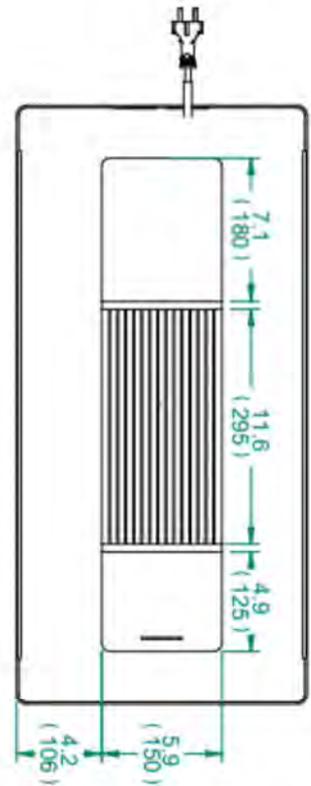
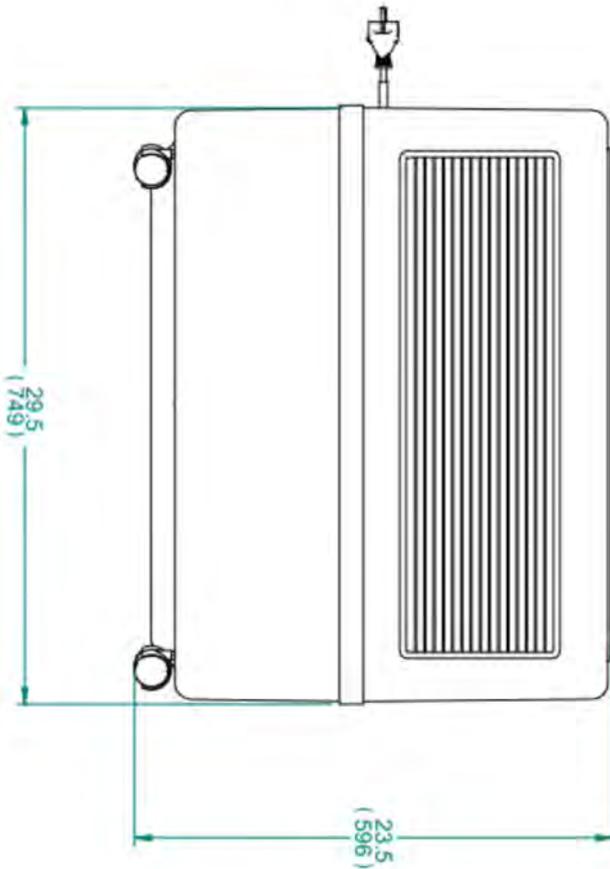
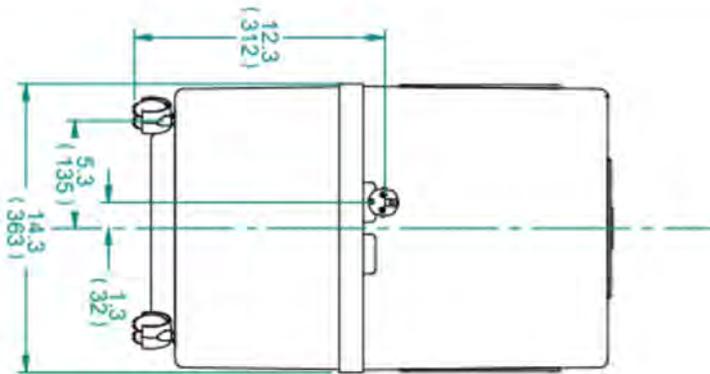
The type plate is located under the cover above the power connection and contains the following information:

- Manufacturer
- Type
- Series
- Serial number
- Electrical power and connection values

## Appendix

## Table of content for the appendices

<b>A</b>	<b>Schematic drawing for B500 water connection .....</b>	<b>81</b>
<b>B</b>	<b>Parts list .....</b>	<b>82</b>



## A Parts list

**⚠ WARNING**

**Risk of injury from disassembling the humidifier!**

- Never disassemble the device on your own.
- Only perform the repairs on your own, which are described in this operating manual.
- For any problem, where the solution is not described in this operating manual, contact the local specialized retailer.

The illustrations and parts list in the following are only intended for specialized retailers. Unauthorized disassembling of the humidifier may cause serious injury.

<b>P/N</b>	<b>Description</b>
2595253	Wireless module (incl. remote) - B500 Spare Part
2595255	B500 Spare pump - Complete
2592657	Y-shaped piece - B500 Spare Part
2587476	UV lamp - 6 W emitter - B500 Spare Part
2592658	Lamp holder/socket - B500 Spare Part
2592659	Quartz dip tube - B500 Spare Part
2591430	Pump body - B500 Spare Part
2591432	Pump cover - B500 Spare Part
2591433	Pump impeller blade - B500 Spare Part
2139429	Circuit board - B500 Spare Part
2139456	Electronic ballast (for UV) - B500 Spare Part
2597057	Plug for magnetic valve AFD B500 w/cable
2139473	B500 Solenoid valve - Complete
2586368	Foam filter
2139320	BIO filter, set of 2 pcs. (evaporation filter)