

Operating manual Original operating manual



AVERO Premium Plus

Lifting bath tub

Version 2.10 / English

Subject to technical modifications

2020-11-16

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1. Imprint

1.1 Acknowledgement

Dear customer, we would like to express our sincere thanks for the trust you have placed in us by purchasing this BEKA Hospitec GmbH product. Our products are manufactured and tested according to stringent quality criteria.

1.2 Manufacturer's address

	BEKA Hospitec GmbH Am Rübenmorgen 3 35582 Wetzlar Phone: +49(0)641-9 22 22-0 Fax: +49(0)641-9 22-22-20 info@beka-hospitec.de
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1.3 TÜV quality seal

	BEKA Hospitec GmbH is certified according to DIN EN ISO 13485 by TÜV SÜD Product Service GmbH. Therefore, the development, manufacturing, quality assurance and service of our entire product range is subject to high quality standards.
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2. Introduction

2.1 Preface

A correct use of the device is imperatively in order to ensure its proper and safe functioning. Please read the provided operating manual carefully and observe in particular the therein contained safety instructions.

The maintenance, inspection, assembly and installation as well as well as further technical interventions on the product must only be executed by BEKA Hospitec either by specialised companies authorised to this effect by BEKA Hospitec. The operation of the product as well as technical interventions on the product must only be carried out by specially trained personnel.

2.2 Liability and warranty

- On the basis of the information contained in this manual, the publisher accepts no liability for damages resulting from improper, incorrect or inappropriate use of the product. The product must only be operated by persons, who are familiar with the manual and the product as well as the national regulations, laws and prescriptions related to work, safety and accident prevention.
- The manufacturer of the product is only responsible for the safety and the reliability of the product, if regular functional tests and checks are conducted. Operate the product only with original accessories, otherwise the manufacturer's liability will expire.
- In case of technical interventions, such as extensions and fittings to our products, which are not carried out by BEKA Hospitec either by a specialist company authorised by BEKA Hospitec, all warranty rights on the modifications as well as on the device or on the device function, which are related to the modification, shall expire.
- For damages resulting from the use of spare parts and accessories, which are not authorized by the manufacturer, any further liability of the manufacturer shall be excluded.
- Please note that there might be minor differences between the images and explanations contained in this manual and the actually supplied device. Subject to technical modifications and error.
- The product is equipped with "B"-Type applied parts. All exposed, touchable, conductive parts are thereby considered as applied part.

3. Operating manual

3.1 Validity

This operating manual contains information, which is required for the operation and use of the product. In addition to the description of the equipment, the operating manual also includes a number of abstractions and exemplary illustrations. The equipment of the product therefore may differ in part from the descriptions and illustrations. Furthermore, please observe also the manuals with regard to the cleaning and the disinfection as well as the assembly and the disassembly of individual components of the product.

Please read the operating manual and the safety instructions before starting to use the product. Keep the operating manual near the device for future reference.

3.2 Type plate

  BEKA Hospitec GmbH Am Rübenmorgen 3 D- 35582 Wetzlar Tel: +49 (0) 641 / 92 22 0 - 0 Fax: +49 (0) 641 / 92 22 0 - 20 www.beka-hospitec.de			
Typ: AVERO Premium plus		 2017-18	
SN 0104.18.17	  		This image shows the type plate. The type plate is situated on the side of the operating panel. The serial number (SN) shown here, 0104.18.17, is merely an example. In case of queries, please mention the serial number printed on the type plate of your device. <i>Note: Because of legal regulations, it might be required that the article number and the serial number should be computer-readable as well and therefore they might be printed on the type plate in the form of a bar code as well.</i>
REF 910143700	IPX4 		
Voltage Input.: 230V~50Hz	Max Load (SWL): 300kg / 661lbs	Conforms to: CSA B45.5-11 IAPMO Z124-2011	
Power Consumption: 840 VA	Max Patient weight.: 220kg / 485lbs		
short-term operation 2 min ON 18 min OFF			

3.3 Description

In this manual, the product is called bath, lifting bath tub and tub. These names always refer to the same product.

4. Safety

4.1 Intended and appropriate use

The product has been designed for bathing and caring for patients in hospitals and care centres.

The AVERO Premium Plus lifting bath tub may only be used for the specified purpose.

NOTE



The AVERO Premium Plus lifting bath must be used by appropriately trained nurses with adequate knowledge of the care environment, their usual practices and procedures, and in accordance with the guidelines in the instruction manual. In case of doubt, please consult the attending physician.

4.2 Other prescriptions

The product meets the current VDE-prescriptions 0100 and 0100-710. However, have a specialist company check the compliance of your electrical installation with the applicable prescriptions prior to operating and using the product. This requirement is only applicable for Germany. In other countries, other requirements might be applicable. Ask a qualified electrician to proceed with the installation in accordance with the regulations applicable in your country.

4.3 Safety instructions

Please read the following safety instructions prior to using the product. All notes, specifications and warnings mentioned on the device as well as in the present operating manual must be imperatively respected and observed. The manufacturer BEKA Hospitec shall not accept any liability for any damages, failures or faults caused by improper operation or handling.

4.4 List of used safety instructions



Please observe the accompanying documents/operating manual.



Warning Hazardous Area.



Applied part "Type B" to DIN EN 60601-1.



Special waste, no household waste.

The device and the packaging materials never must be disposed of in the domestic waste stream.



CE-label in accordance with the EC-Directive on Medical Devices.



Solely intended for indoor use.



Protection class I



Do not put feet on the frame.

IPX4

Protection against the penetration of liquids: Protection against water splashing from all directions.

4.5 Warnings

Note

- The product may only be operated by trained staff.
- The bath tub may only be used for the specified purpose.
- Protect the product against direct sunlight and heat.
- The equipment is not authorised for use in potentially explosive atmospheres.
- Never exceed the duty cycle or the maximum load.
- Never cover up, over sticker or change the slots and holes of the device.
- Do not operate or store moisture-sensitive device in the vicinity of the bath tub.
- Please ensure that the power supply is always switched on throughout the treatment.
- The operator must ensure that the area above and below the bath tub is free of obstacles that could obstruct the free upward and downward movement of the bath tub.
- In order to prevent any electromagnetic interference (EMC), the simultaneous use of short-wave or microwave therapy device in the immediate vicinity of the device is strictly forbidden. Mobile telephony could also cause interference.
- Route the mains and the connecting cable so that they cannot be damaged. Damaged mains cables could cause fire or lead to electrocution and must not be used.
- The caregivers must protect their skin and eyes against concentrated disinfecting and cleaning products. Use a face mask to protect yourself against aerosols.
- Check prior to each use that all visible parts are intact. The product must not be used if any parts are damaged. Prior to each use of the device and its accessories, the user must check the functional safety and the good condition of the device and its accessories (visual check, functioning).
- The product must be disinfected after each treatment.
- Supervision of the caregiver is required throughout the treatment.
- Please make sure that your feet are not located beside the bath tub before and during the height adjustment procedure.
- Do not stand between the bath tub and an obstacle during the transport procedure.

- Check every month the pressure hoses for leakage, the connections for tightness and the electrical connections (current and equipotential bonding) for cable cracks.
- The tub size reducer must be inserted in the opposite guides.
- Repairs to components of the AVERO Premium Plus lifting bath tub are only authorized by trained expert personnel. Please contact the after-sales service. The opening the device or other accessories will lead to the expiration of all guarantee, warranty and liability claims.
- Please use only original accessories for the lifting bath tub.

WARNING


Prior to each application, the water temperature must be checked manually (without wearing gloves) either with a thermometer.

CAUTION


In case of unusual noises, damages or malfunctions, the product no longer must be used.

WARNING


Any unauthorized repairs, reconstructions and modifications/alterations are not permitted for safety reasons and shall exclude all liability of the manufacturer for the resulting damages.

For damages resulting from the use of spare parts or accessories, which are not authorized by the manufacturer, any further liability of the manufacturer shall be excluded.

5. Transport

Transport the lifting bath tub towards the planned place of installation. Use a lift truck or similar for the transport. Position the bath so that it stands stable and cannot tilt.

5.1 Unpacking the product

To remove the packaging materials, you will need a cutter knife.

NOTE



Take care so as to not damage the product when using tools.
Do not cut with the cutter in the cardboard.

5.1.1 Removing the cardboard

Proceed in the following way to remove the cardboard:

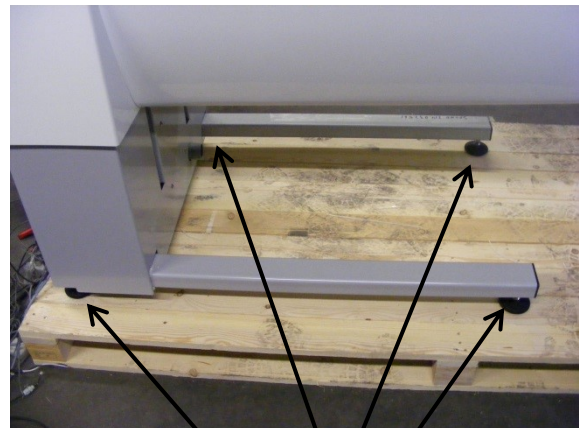
- Cut the strap with the cutter knife
- Remove the strap
- Lift the cardboard up to remove it and put it aside

5.1.2 Loosening the product from the pallet

The bath tub is fixed to the pallet by means of a screw through the base.

Proceed in the following way to loosen the product from the pallet:

- Use a battery-operated screwdriver with suitable bit to unscrew the screw to the left and put it aside together with the washer.
- Repeat this procedure for all four feet.



After all fixations have been removed, you can lift the bath tub from the pallet (at least 2 persons).

Remove the bubble wrap and the stretch film. Please take care not to damage the surface of the bath tub with the tools.



6. Installation

The bath tub is supplied ready for use. Use the level and the wrench (SW 10) to vertically align the bath tub. The tub legs can be screwed in or out to adjust their height. Please make sure that all legs are in contact with the floor and that the bath tub stands stable.

Prior to the assembly of the bath tub, the local connection pipes must be sufficiently flushed before the tilting bath tub is connected. To avoid soiling of the pipes and fittings, dirt filters must be installed on site.

NOTE



To connect the footbath to the water supply, dirt filters must be used on site. Please contact your plumber to this effect.

The bath tub must be connected through $\frac{3}{4}$ " hoses. Please observe the attached connection diagram. The bath tub must be connected by a qualified and competent professional.

6.1 Electrical connection

The connection of the bath tub must be executed in accordance with the technical drawings issued by BEKA Hospitec either the guidelines for the set-up and layout of wet areas and the current VDE standards.

CAUTION



All supply and drain hoses as well as the electrical cables must be installed so as to avoid the danger of tripping.

The AVERO Premium Plus is connected to the power supply network through a shock-proof protective socket featuring the legally prescribed splash guard (IP class), 230 V AC/50Hz, 3 x 1.5 mm², 1.5 KW, 16 Ampere, fault-current circuit breaker 30 mA, equipotential bonding (in Germany) to DIN VDE 0107. The bath tub must be connected by a qualified and competent professional.

6.2 Protective conductor

When protection class I equipment is used, the quality of the protective conductor of the installation is highly important. Please note that in this respect regulations and prescriptions have been specified in many countries by the national authorities.

WARNING



In order to avoid the risk of electroshock, the device only must be connected to a power supply network with protective conductor.

6.3 First start-up

WARNING



The equipment is to be used exclusively in accordance with the accompanying documents.

Only when these conditions are met, the manufacturer considers himself responsible for the impact on the safety, the reliability and the function of the device.

In the event of a new connection of an AVERO Premium Plus lifting bath tub, the technical data must be observed.

WARNING



To prevent scalding, the hot/cold water mixer must be set up in accordance with the local water supply prior to the first use.

Please consult the attached user manual to this effect.

The settings must be documented.

NOTE



In order to ensure a safe functioning and operation, we recommend a regular maintenance and set-up of the thermostatic mixer. These maintenance works are to be carried out by a qualified technician.

Due to the relocation of the AVERO Premium Plus bath tub to another room either changes to the local water supply, a readjustment of the thermostatic mixer could be required.

CAUTION



Should your bath tub be equipped with an optional automatic disinfecting unit, the latter must be set prior to the first use.

Please consult the attached user manual to this effect.

6.3.1 AVERO Premium Plus, floor mounting

The bath tub requires additional fixation in order to avoid tilting. Please observe the images below to this effect.

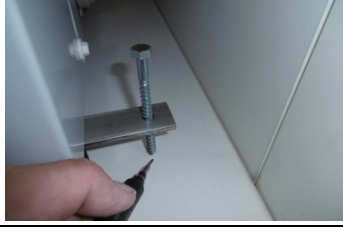
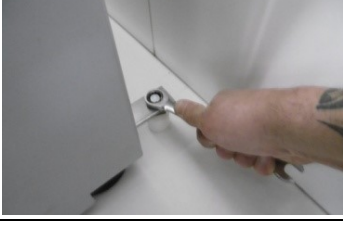
Components:		Tools:	
Image 1:		Image 2:	
Image 3:		Image 4:	
Image 5:		Image 6:	
Image 7:		Image 8:	
Image 9:		Image 10:	
Image 11:		Image 12:	

Image 13:

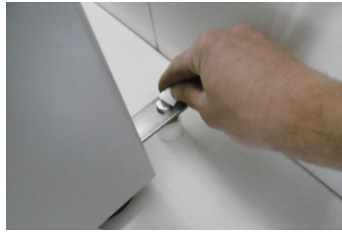


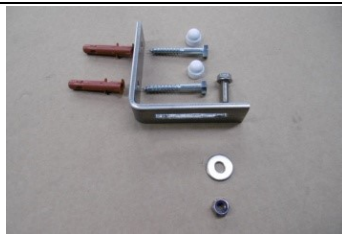
Image 14:



6.3.2 AVERO Premium Plus, wall mounting

The bath tub requires additional fixation in order to avoid tilting. Please observe the images below to this effect.

Components:



Tools:



Image 1:



Image 2:



Image 3:



Image 4:



Image 5:



Image 6:



Image 7:

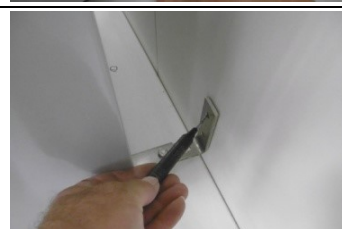


Image 8:



Image 9:

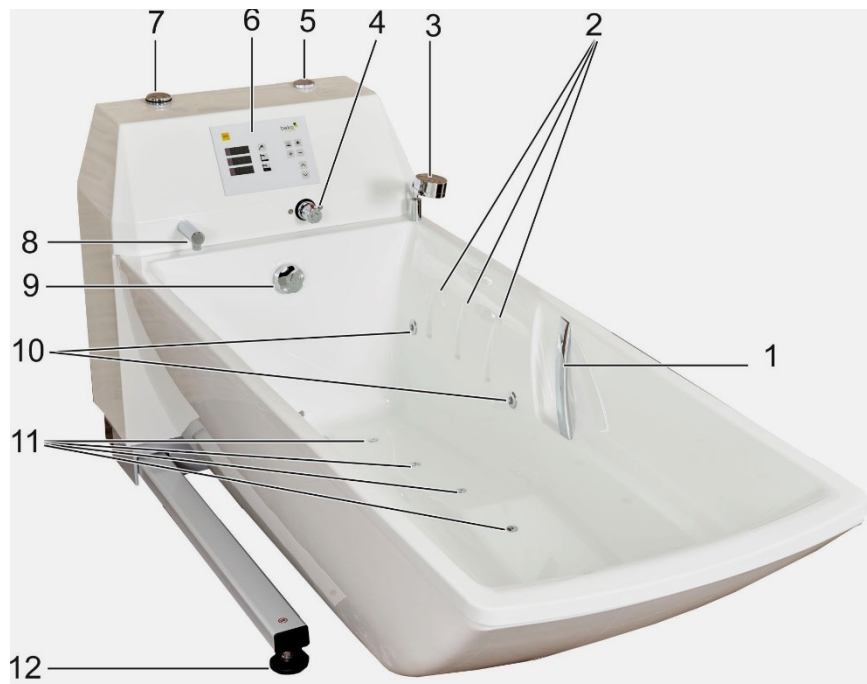


Image 10:

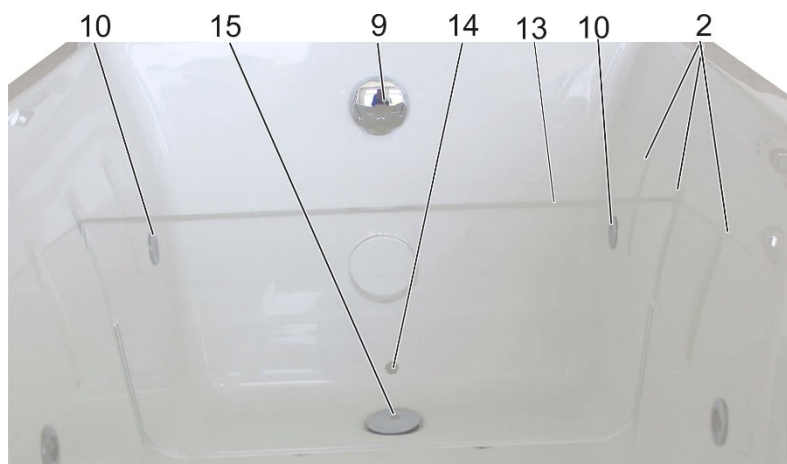


Image 11:		Image 12:	
Image 13:		Image 14:	
Image 15:		Image 16:	
Image 17:			

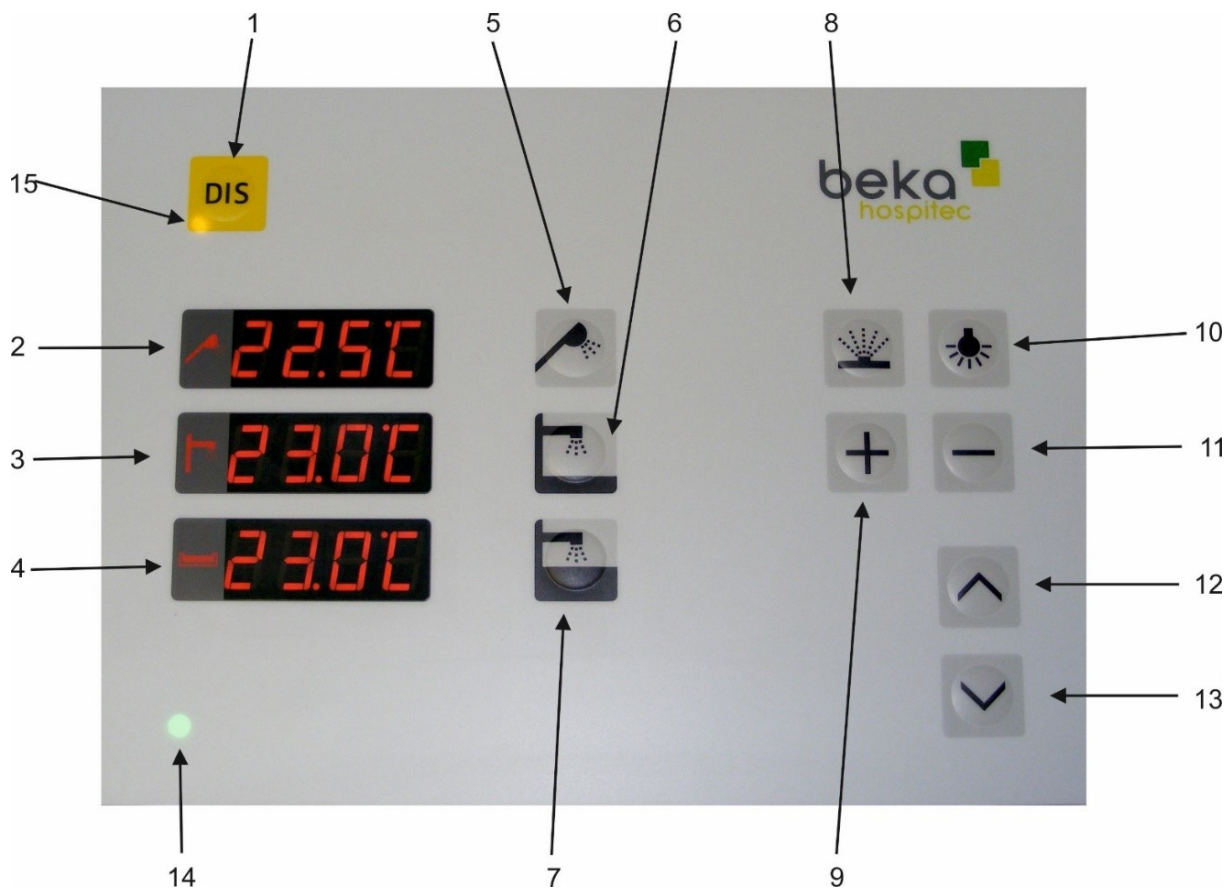
7. Operating elements and their function



N°	Description	N°	Description
1	Tub handle	9	Eccentric operation (for bathtub drain)
2	Longitudinal grooves for inserting the bath size reducer	10	Colour light therapy system (optional)
3	Hand shower	11	Air nozzles (optional)
4	Thermostatic mixer	12	Adjustable tub legs
5	USB-port sound system (optional)	13	Bath tub shortener (optional)
6	Keypad	14	Temperature sensor for the bath water temperature
7	Aromatherapy system screw connection (optional)	15	Eccentric plug with tub outlet
8	Tub inlet		



7.1 Keypad for operating the bath tub functions



N°	Description	N°	Description
1	Disinfection button	9	Button to increase the fan intensity
2	Hand shower temperature display	10	Colour light therapy button
3	Filling temperature display	11	Button to reduce the fan intensity
4	Bath water temperature display	12	Height adjustment button UP
5	Hand shower button	13	Height adjustment button DOWN
6	Filling button (filling height 1)	14	Mains/function LED
7	Filling button (filling height 2)	15	Disinfection LED
8	Air bubble bath system button		

7.1.1 The height adjustment



By means of the buttons “Up” and “Down”, the height of the bath tub can be individually adjusted. If you press the “UP” button, the bath travels up. If you press the “DOWN” button, the bath travels down. When the end-of-travel positions are reached, the travel movement is automatically switched off.

7.1.2 Display (2)/display (3)/display (4)

The integrated digital displays show the following:

- Display (2) = hand shower temperature
- Display (3) = filling temperature
- Display (4) = bath water temperature



The temperature is displayed in steps of 0.5 °C.

If the measured temperature exceeds 42 °C or 45 °C, the message “HOT” is alternately displayed on the screen with the temperature.

The temperature is displayed in the range of 2.5 °C (32.5 °F) to 64.0 °C (99.5 °F).

If the temperature is lower than 2.5 °C, “tLO” is displayed.

If the temperature is higher than 64.0°C, “tHI” is displayed.

7.1.3 Hand shower button (5)



(5) The hand shower is switched on and off by means of button (5).

The hand shower is automatically switched off, when the hand shower's temperature exceeds 42 °C (scalding protection, alternating display with “HOT”).

If the scalding protection is active (temperature display alternates with “HOT”), the hand shower can no longer be switched on with button (5).

In this case, you have to use the following key combinations to switch the hand shower on: Keep button (5) pressed and then press the buttons (8) and (10) simultaneously.

The hand shower can at all times (even when the scalding protection is active) be switched off by pressing button (5).

7.1.4 Button Filling height 1 and Filling height 2

If your bath tub features the “**Automatic water stop**” function, the water supply is automatically stopped when the filling level is reached. For the AVERO Premium Plus lifting bath tub, 2 predefined filling heights can be selected for the bath tub filling.



(6) If you press the button (6), the bath tub will be filled up to the first predefined filling height. *Note: If the first filling height is reached or exceeded, the button has no function anymore.*

(7) If you press button (7), the bath tub will be filled up to the second predefined filling height (max. automatic filling height).

You can cancel the filling by pressing the previously selected filling height again. To restart the filling, press the button of the desired filling height. Note: If the first filling height is reached or exceeded, the button (6) has no function anymore.

NOTE



Bath tub filling: The blue LED flashes *slowly*.
Additional filling: The blue LED flashes *rapidly*.

Once the second filling height is reached, the bath tub can **no longer** be **automatically** filled. In this case, you can add additional water to the tub by manually pressing button (7). *Note: Supervision of the caregiver is required throughout the manual filling.*

Scalding protection:

The bath tub filling is automatically switched off (*optional: double scalding protection*), when the filling temperature exceeds 42 °C (scalding protection, alternating display with “HOT”).

If the scalding protection is active (temperature display alternates with “HOT”), the bath tub filling can no longer be switched on with button (6) or (7).

In this case, you have to use the following key combinations to switch the bath tub filling on: Keep button (6) or (7) pressed and then press the buttons (8) and (10) simultaneously.

The bath tub filling can at all times (even when the scalding protection is active) be switched off by pressing button (6) or (7).

Note!



Caution!

If your bath tub does not feature the “automatic water stop” function, you must shut off the filling of the tub manually.

Press to this effect button 6 or 7.

If you do not shut off the filling of the tub manually, the water will overflow (the filling continues endlessly).

Supervision of the caregiver is required throughout the manual filling.

7.2 Mains/function LED (14)

The LED (14) indicates the status of the bath tub.

The following states and conditions are shown:

LED permanently green	Standby, ready for operation
LED blue, flashing slowly	The water is flowing! (tap or hand shower)
LED blue, flashing quickly	Additional filling activated. The water flow must be switched off manually. Otherwise, the bath tub could overflow.
LED permanently blue	There is water in the tub (disinfection is blocked)
LED alternatively flashes blue - green	Waiting for the purging of the air nozzles (only when the bath tub is equipped with the air spa system)

7.3 Optional functions

If your bath tub features functions such as a disinfection system, a colour light therapy system, a sound system and/or an aromatherapy and air spa system, please observe the attached user manuals as well.

8. Operation

The AVERO Premium Plus lifting bath tub is an ergonomically shaped bath tub in GFK material with a completely closed external cladding.

The lifting bath tub is free standing on three sides and requires only little space.

The height can be freely adjusted between 670 mm - 1020 mm through the keypad.

The inner tub body is ergonomically shaped and provides for a safe yet comfortable ergonomic position because of the integrated armrests and the pre-formed backrest.

The integrated safety handles help the patient to get in and out of the bath tub.

The inner body features mounting fixtures for a tub size reducer.

8.1 Prior to use

Please check the proper state and the functional safety of the system prior to use.

8.2 During use



Press the button “**6 or 7**” of the keypad to fill the AVERO Premium Plus lifting bath tub. If the water has reached the desired height, the filling is automatically stopped. **Note: If your bath tub does not feature the “automatic water stop” function, you must shut off the filling of the tub manually by pressing the button again.**



Note!

Before the patient steps into the bath tub, the water temperature must be checked manually (without wearing gloves) either with a thermometer.

Wheelchair users can be lifted into the AVERO Premium Plus lifting bath tub by means of a mobile lift system or ceiling lift.

The large opening underneath the bath tub provides for direct access with almost any lifting system.



To move the bath tub to the desired height in order to administer the application to the patient smoothly and effortlessly, press one of both buttons (up/down) of the keypad to adjust the height.

If you press the “**Bath tub up**” button, the bath tub travels up. If you press the “**Bath tub down**” button, the bath travels down. When the desired minimum or maximum height is reached, the motor is autonomously switched off.

If the patient desires that his/her body is covered up to his/her shoulders and depending on his/her length, you can add water to the tub.

If the bathing process is finished, turn the eccentric knob (overflow) to drain the water.

You can already start towelling the patient, when he or she is still sitting comfortably in the bath tub.

Help the patient to get out of the bath tub or use a lifting system to lift the patient out of the tub.



Note!

Please make sure that the bath tub is always disinfected and rinsed prior to use it for the next patient.

To that effect, use the integrated disinfection (**optional**) with which your AVERO Premium Plus lifting bath tub is optionally equipped.

9. Cleaning/Disinfection



CAUTION

Make sure that the system is not in operation during the cleaning activities.

Throughout the cleaning operation, no patient must be in the bath tub!

CAUTION

After each treatment, the bath tub must be completely disinfected with a disinfectant. In this way, any cross-contamination is avoided. Strictly respect and observe the manufacturer's instructions for the used disinfectant.

9.1 Cleaning the lifting bath tub

Clean the AVERO Premium Plus with a soft, lint-free cloth, moistened with soapy water or a standard plastic cleaner. Please do not use abrasives to clean the bath tub!

To avoid damages, **no** aerosol cleaners, sprays, abrasive cleaners or solvents must be used to clean the keypad.

Please remember that all warranty claims regarding surface damage will not be accepted, if aggressive cleaning agents are anyhow used.

9.2 Disinfecting the lifting bath tub

You must carefully disinfect and rinse your bath tub after each use to avoid the risk of transmission and infection. For the manual disinfection of the surface, an isopropyl alcohol solution or a customary disinfection aerosol (spray) can be used. The tub body of the AVERO Premium Plus lifting bath tub is in glass-fibre reinforced plastic and can be disinfected with a surface disinfectant (not aggressive).

If your bath tub features an integrated disinfecting system, you can disinfect your tub with the (yellow) disinfecting hand shower. *Please consult the attached user manual to this effect.*

9.3 Sterilising the lifting bath tub

The AVERO Premium Plus lifting bath tub is **not** suitable for sterilization.

10. Checks/tests

In order to ensure a safe use of our AVERO Premium Plus lifting bath tub and the protection of the users and the patients, BEKA Hospitec prescribes an annual safety check.

The execution of the safety checks and maintenance must be documented and proven on request. Please use your inventory register to this effect.

We recommend a simultaneous maintenance of the device in order to conserve its full value.

The checks may only be conducted by adequately trained and qualified experts. The non-observance of this prescription could lead to injuries and jeopardise the safety of the product.

NOTE



In accordance with the UVV (accident prevention) regulations of the German employer's liability insurance association on stationary equipment which is used in special locations or installations, an annual check to the DGUV (German Statutory Accident Insurance Association) Prescription 3 (BGV A3) must be carried out on the AVERO Premium Plus lifting bath tub.

This check is only prescribed for Germany. In other countries, other requirements might be applicable.

WARNING



Do not conduct any cleaning, maintenance or test activities when the bath tub is in use. This could cause danger to the user and the patient.

Measures to be applied	Prior to each use/daily	Weekly	Monthly	Yearly
Check the disinfectant level. (if available)	X			
Clean and disinfect the lifting bath tub.	X			
Perform a functional check of the lifting bath tub.		X		
Conduct a visual inspection of all components, power cables, hoses and the connections.		X		
Check the water inlet and clean if necessary.			X	
We recommend a regular maintenance, safety check and a check to DGUV prescription 3.				X

11. Waste disposal

11.1 Disposal of the packaging material

Please recycle the packaging materials of the product in accordance with the locally applicable regulations and laws. The metal parts as well as the plastic and electronic components must be recycled in accordance with the WEEE.

11.2 Disposal of the product

The expected service life of the lifting bath tub is approx. 10 years. At the end of the product's lifetime, contact your BEKA dealer, who will recycle the product in accordance with the locally applicable regulations and laws.

For an environmentally-sound disposal, the company BEKA Hospitec GmbH will provide more information in its capacity of manufacturer.

Please clean and disinfect the product prior to its disposal as well.

12. Troubleshooting/customer care service

Error occurred	Remedy
The height adjustment of the lifting bath tub is not working.	a) Check if the mains voltage is present. b) Check if the keypad is damaged c) Check if the connecting cable is damaged
The lifting bath tub remains in the top end position.	Check if the mains voltage is present.
The hoisting motor does not run.	Check if the mains voltage is present.
The drive is switched off during the lifting procedure.	a) The maximum load is possibly exceeded (max. patient weight). b) Check if the mains voltage is present. c) Check if the keypad is damaged d) Check if the connecting cable is damaged
The mains LED and temperature indications do not lit.	Check if the mains voltage is present.
Mains voltage fails.	a) Check your mains fuse. b) Check if the cables are damaged
The water does not flow.	a) Check the water supply (local). b) Check the shut-off valves of the cold and hot water. c) Check the filter in the water inlet.
The automatic filling is not working.	Separate the bath tub from the mains and restart it. If no result is obtained, contact the service/after-sales service.
Only hot or cold water flows out of the faucet.	a) Check the water supply. (local). b) Check if the hot and cold water connection are reversed (locally, tub). c) Check if the filter and/or the inlet and outlet taps are clocked.
The water flow rate is too low.	a) Check if the filter and/or the inlet and outlet taps are clocked. b) Check that the flow rate is sufficient for the supply conditions. c) Check if the connecting hoses are buckled.
The faucet leaks water.	Check if the seals are damaged, replace seals if necessary.

The water flows away during the bathing process.	a) Check the water plug and readjust the screw of the water plug if necessary. b) Check the seal for dirt and damages.
The bathing water does not flow away.	a) Check water plug and if necessary, readjust the screw of the water plug. b) Check the seal for soiling and damages.
The disinfecting system is not working.	a) Check if the flowmeter is closed. b) Check the disinfectant tank. c) Check the hose of the disinfectant.
The air spa system is not working.	Check if the mains voltage is present.
The air spa system fails during operation.	a) The air spa system has been used for over 15 minutes. Let the air spa system cool down. b) Overheating due to too high an ambient temperature. Let the air spa system cool down.
The sound system is not working.	a) Check whether the USB-stick is correctly inserted. b) The USB-stick might be defect. Insert a new USB-stick.
The colour light therapy system is not working.	a) Main board defect. Inform the after-sales service. b) Projector defect. Inform the after-sales service.
The lifting bath tub produces unusual noises.	Inform the after-sales service.
The lifting bath tub shows signs of damage.	Inform the after-sales service.

When your lifting bath tub does not function properly and you cannot eliminate the error by means of the remedies listed in paragraph 12 please contact the after-sales services of your dealer either the manufacturer.

	BEKA Hospitec GmbH Am Rübenmorgen 3 35582 Wetzlar Phone: +49(0)641-9 22 22-0 Fax: +49(0)641-9 22-22-20 info@beka-hospitec.de
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13. Appendix

13.1 Technical data

Dimensions and weights

- Length 190:	2230 mm
- Width 190:	820 mm
- Length 170:	2080 mm
- Width 170:	820 mm
- Inner width top 190 / 170:	720 mm
- Inner width bottom 190 / 170:	575 mm
- Height 190 / 170:	966 – 1316 mm
- Stroke height min. 190 / 170:	670 mm
- Stroke height max. 190 / 170:	1020 mm
- Weight without water 190:	approx. 250 kg
- Weight without water 170:	approx. 230 kg
- Filling capacity 190 (without patient):	approx. 220 l
- Filling capacity 175 (without patient):	approx. 190 l
- Patient's weight:	max. 220 kg/485 lbs
- SWL (safe workload):	300 kg / 661 lbs (patient and water)
- Applied part:	Type B
- Protection class:	I

Noise level:

Raising/lowering without load	60 dBA
Air spa system	82 dBA

Button operation:

Button operating force:	5 N
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Electrical data

Rated voltage:	230 V, 50 Hz or 120 V, 60 Hz
Max. power consumption:	840 VA

Operating element

- Accuracy of the display:	+/- 1 °C
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Ambient conditions

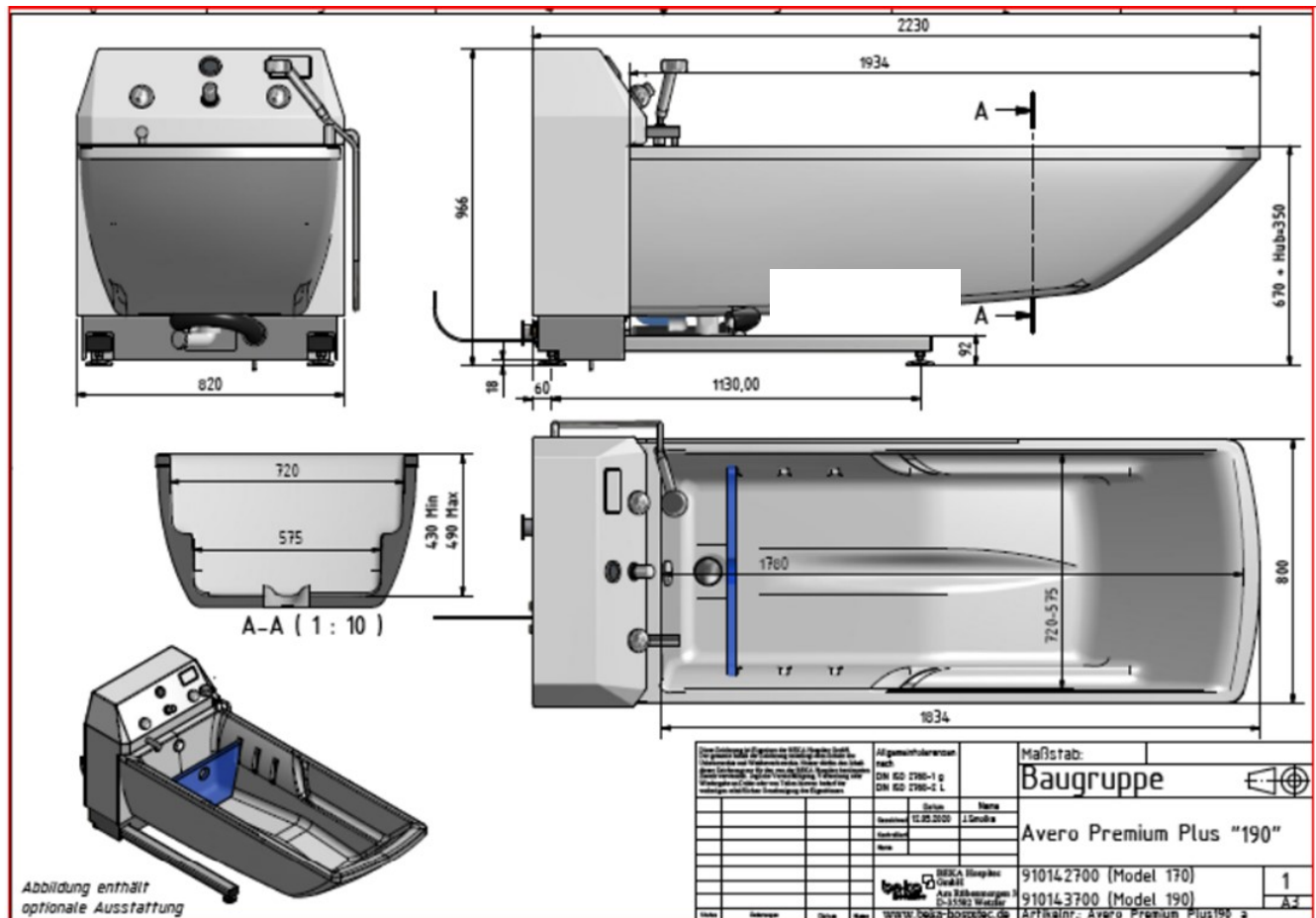
Operation

- Temperature range:	10° C to 40° C
- Relative humidity:	30% to 95%, non-condensing
- Atmospheric pressure:	800 – 1060 hPa

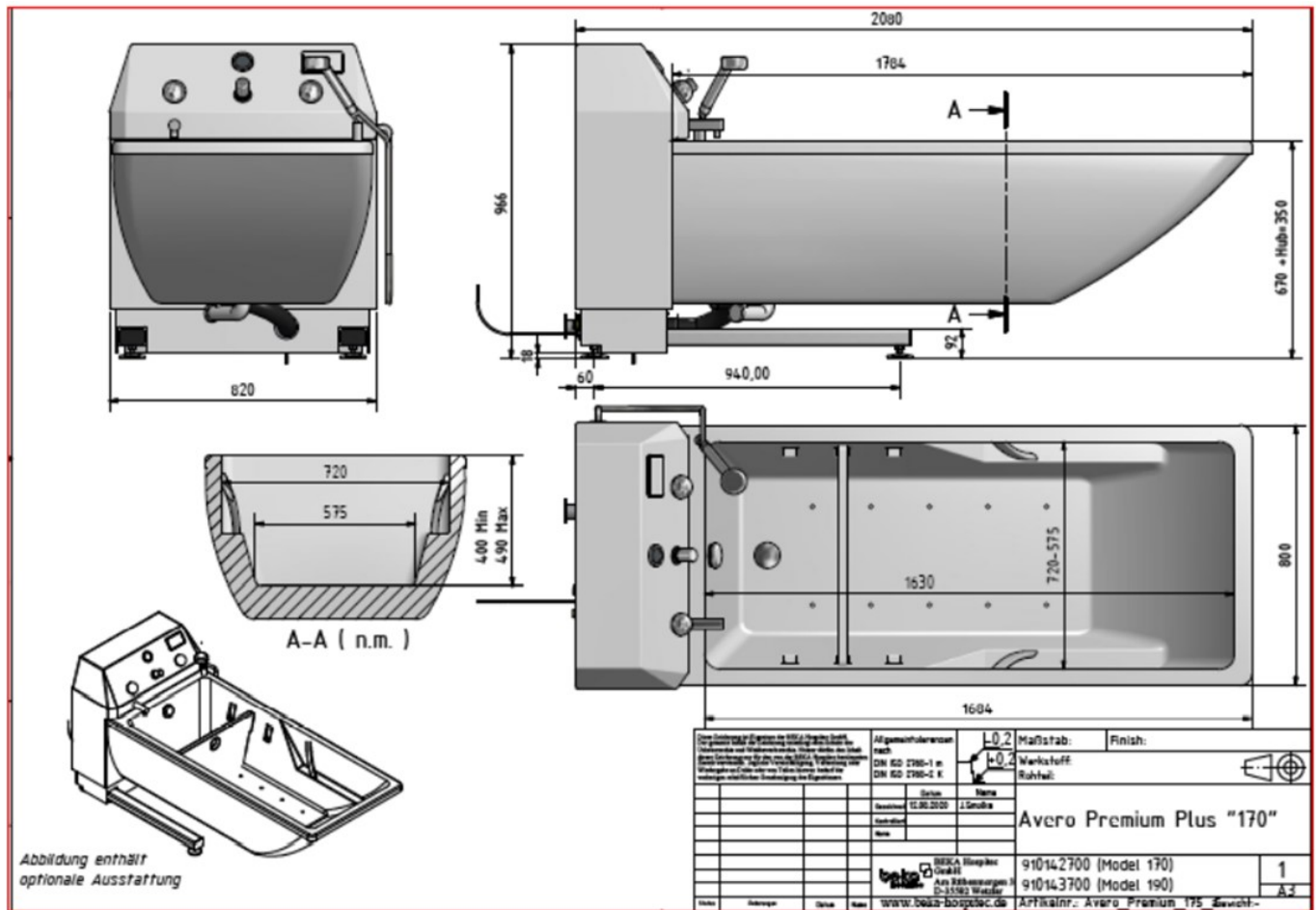
Storage and transport

- Temperature range:	-20° C to 70° C
- Relative humidity:	10% to 80%, non-condensing
- Atmospheric pressure:	800 hPa

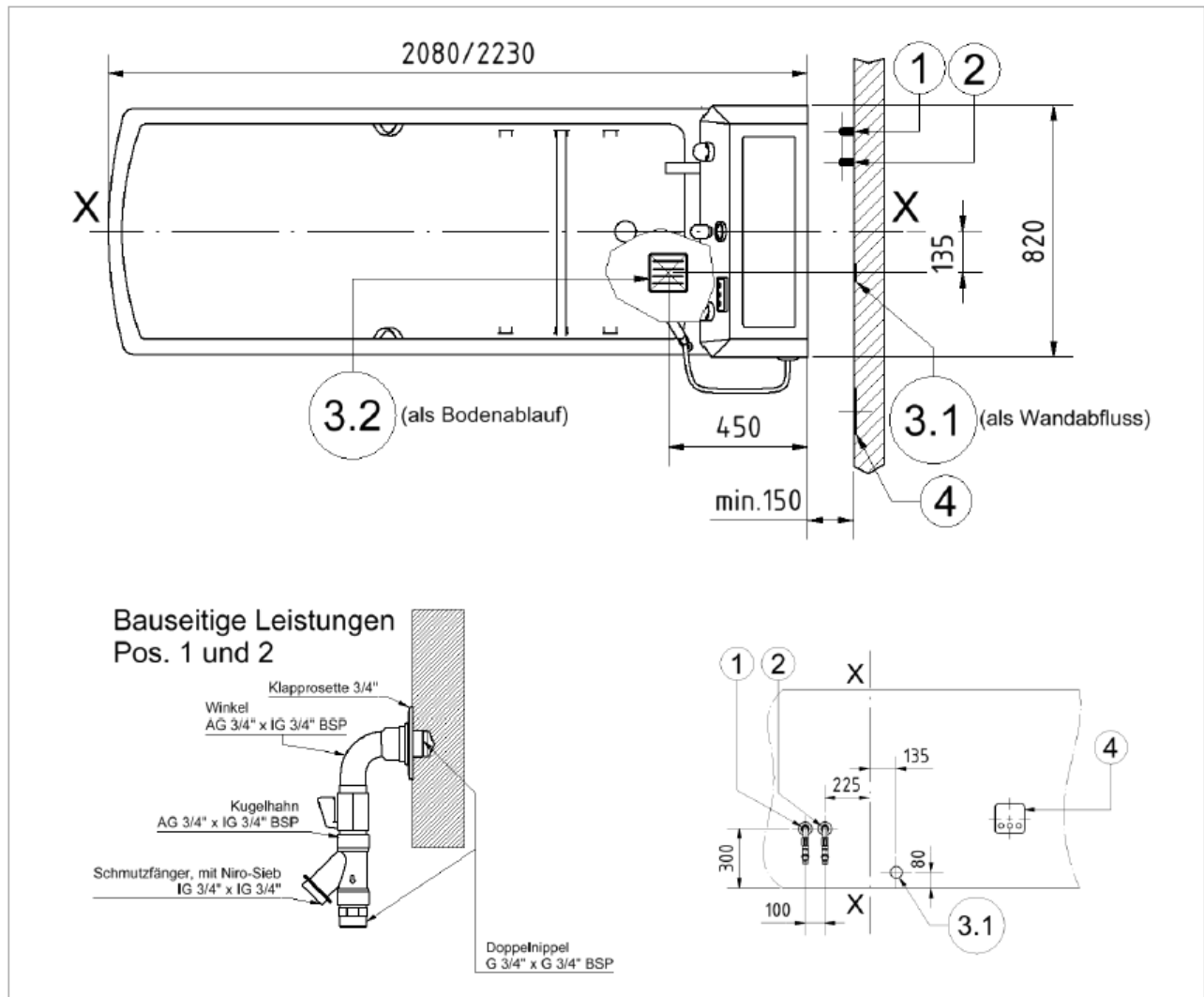
13.2 Dimensions of the AVERO Premium Plus 190



13.3 Dimensions of the AVERO Premium Plus 170



13.4 Wiring diagram



On-site safety measure!

Cold and hot water stop cock. All-pole circuit breaker in the room. Ground fault circuit interrupter max. 30 mA and electrical installation compliant to the prevailing national prescriptions (DIN/VDE standards). Equipotential bonding to DIN VDE 0100.

On-site connections - Sanitary - Electrical

- ① Hot-water connection $\frac{3}{4}$ inch, internal thread flush with the plate. Double nipple, angle 90° , ball valve, dirt trap and flap cover (details, refer to Image, items 1 and 2).
- ② Cold-water connection $\frac{3}{4}$ inch, internal thread flush with the plate, Double nipple, angle 90° , ball valve, dirt trap and flap cover (details, refer to Image, items 1 and 2).
- ③ Option 3.1: as wall drain DN 50, flush with the plate.
- ③ Option 3.2: as floor drain, min. drain capacity always 1 l/s.
- ④ Junction box (at least 16 A. Positioned according to DIN VDE 0100-701).

13.5 Declaration of Conformity



EG-Konformitätserklärung / EC-Declaration of conformity

Der Hersteller / The manufacturer

BEKA Hospitec GmbH
Am Rübenmorgen 3
D-35582 Wetzlar-Dutenhofen

erklären in alleiniger Verantwortung gemäß EG-Richtlinie für Medizinprodukte 93/42/EEG Annex VII,
 dass die folgenden Produkte:
declares under our sole responsibility according to the EG directive for Medical Devices 93/42/EEC, Annex VII that the following products:

Hubbadewanne AVERO Premium Plus 190 / Lifting tub AVERO Premium Plus 190	Artikel Nr. P/N.	810 143 501 910 143 700
Hubbadewanne AVERO Premium Plus 170 / Lifting tub AVERO Premium Plus 170	Artikel Nr. P/N.	810 142 501 910 142 700

den grundlegenden Anforderungen entsprechen und die Voraussetzungen für die CE-Kennzeichnung erfüllen
comply with the essential requirements and fulfill the qualifications of CE mark

Die Bauart des Produktes entspricht Klasse I des Medizinproduktegesetzes (MPG), Regel 12
The product corresponds with Class I Medical Device Directive (MDD), Rule 12

Zur Beurteilung wurden folgende Normen / Richtlinien herangezogen:
The following standards / requirements apply:

EG-Richtlinie 93/42/EEG/ Directive 93/42/EEC		DIN EN ISO 14971:2013
DIN EN ISO 10535:2007		DIN EN 60601-1:2007
DIN EN 12182:2012		DIN EN 60601-1-2:2007

Diese Erklärung trifft auf alle Produkte zu, die nach Ausstellung dieser Erklärung produziert wurden, bis sie
 durch eine andere Erklärung ersetzt wird.
*This declaration applies to all CE marked devices manufactured from the date of issuance until it is either
 superseded by another declaration or withdrawn.*

Technische Änderungen vorbehalten / Technical Changes reserved.

Wetzlar, den 22.05.2017

Robert Deschler
Geschäftsführer

BEKA Hospitec GmbH
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 Amtsgericht Wetzlar, HRB 6207
 info@beka-hospitec.de
 www.beka-hospitec.de

Geschäftsführung
 James Stuart-Smith
 Robert Deschler

Commerzbank AG Wetzlar
 Konto-Nr.: 482176500
 BLZ: 515 400 37
 IBAN: DE60515400370482176500
 SWIFT-BIC: COBADEFF515

13.6 Accessories/additional equipment

Article n°:	Description
910609200	Tub size reducer
910144700	Cleaning system
910131300	Automatic water stop
910131400	Music sound system
910609550	Bluetooth - Music sound system
910131500	Air spa system
910131600	Colour light therapy system
910609150	Aromatherapy system
910150587	Emergency function in case of power failure
910144720	Temperature display for bath water
910144730	Double scalding protection
K9103300	Nina hand shower
K9100363	Shower hose L = 2.3m
K9100951	Disinfectant shower (yellow)
K9100351	Shower hose for disinfection (yellow) L = 2.0m

13.6.1 Spare parts/consumables

Spare parts or consumables are available upon request from your BEKA Hospitec dealer or directly from the manufacturer.

Please note:

You cannot exchange and replace all spare parts by yourself.

The assembly requires the knowhow of a qualified electrician/sanitary specialist.

13.7 Mounting instructions

13.7.1 Replacing the hand shower

Image 1:

The image shows the hand shower with screwed-on shower hose.



Image 2:

Unscrew the sleeve nut of the shower hose.



Image 3:

The image shows the unscrewed hand shower.



Re-assemble in reversed order!

13.7.2 Replacing the shower hose

Image 1 and 2:

The two images show the shower hose and its angle connection to the bath tub.

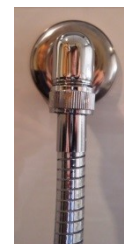


Image 3:

Unscrew the shower hose from the angle connection to the bath tub.

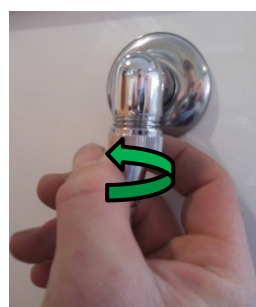
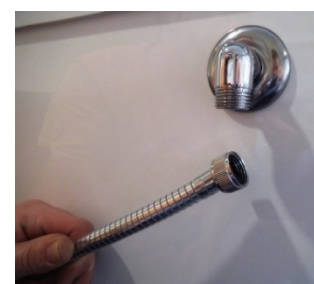


Image 4:

The image shows the shower hose, which is unscrewed from the angle connection.



Re-assemble in reversed order!

13.7.3 Replacing the hand shower support

Image 1:

Required tools:

1 Allen wrench

2.5 mm



Image 2:

The image shows the hand shower support with pin screw.

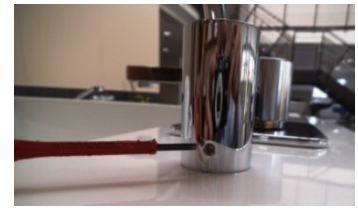


Image 3:

Loosen the pin screw from the hand shower support.

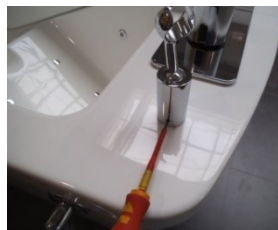


Image 4:

The image shows the loosened pin screw from the hand shower support.



Image 5:

Now remove the hand shower support and replace it by a new one.



Re-assemble in reversed order!

13.7.4 Replacing the disinfectant shower

Image 1:

The image shows the disinfectant shower.

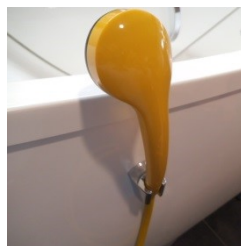


Image 2:

Take the disinfectant shower out of the support.



Image 3:

Unscrew the sleeve nut of the disinfectant hose.



Image 4:

The image shows the disinfectant hose, which is unscrewed from the disinfectant shower.



Re-assemble in reversed order!

13.7.5 Replacing the disinfectant hose

Image 1:

The image shows the disinfectant hose and its angle connection at the tub.



Image 2:

Unscrew the disinfectant hose from the angle connection.



Image 3:

The image shows the removed disinfectant hose.



Re-assemble in reversed order!

13.8 Electromagnetic Compatibility

Electrical medical equipment is subject to special precautionary measures with regard to EMC and must be installed and operated in accordance with the EMC instructions included in the accompanying documents.

For the devices and systems from BEKA Hospitec GmbH, no special measures must be observed.

Portable and mobile HF-communications equipment can interfere with electrical medical equipment.

Guidance and manufacturer's declaration - electromagnetic immunity (Table 201)		
The AVERO Premium Plus been designed for use in the hereafter listed ELECTROMAGNETIC ENVIRONMENTS. The customer or the user of the AVERO Premium Plus must ensure that the appliance is used in such environment.		
Emission measurements	Compliance	Electromagnetic environment - guidelines
High-frequency (HF) emissions to CISPR 11	Group 1	The AVERO Premium Plus uses HF radiation exclusively for internal functions. Therefore, the HF radiation of the device is very low and any interference with adjacent electrical equipment is unlikely.
High-frequency (HF) emissions to CISPR 11	Class B	The AVERO Premium Plus is intended for use in any type of facility including living quarters and those that are directly connected to a public mains network that supplies residential buildings and buildings used for domestic purposes.
Harmonics to IEC 61000-3-2	Class A	
Voltage fluctuations/flicker to IEC 61000-3-3	Compliant	

Guidance and manufacturer's declaration - electromagnetic immunity (Table 202)

The AVERO Premium Plus been designed for use in the hereafter listed ELECTROMAGNETIC ENVIRONMENTS. The customer or the user of the AVERO Premium Plus must ensure that the appliance is used in such environment.

Immunity testing	IEC 60601- Test level	Compliance level	Electromagnetic environment guidance
Discharging of static electricity (ESD) to IEC 61000-4-2	± 6kV contact discharge ± 8kV air discharge	± 6kV contact discharge ± 8kV air discharge	The floor must be in wood, concrete or ceramic tiles. In case of floors in synthetic material, the relevant air humidity must be at least 30%.
Rapid transient interference pulses/burst IEC 61000-4-4	± 2 kV for power supply cables ± 1 kV for input/output cables	± 2 kV for power supply cables not applicable to input/output cables	The quality of the supply voltage should match that of a typical business or hospital environment.
Overvoltage IEC 61000-4-5	±1 kV cable against cable ±2 kV cable against ground connection	±1 kV cable against cable ±2 kV cable against ground connection	The quality of the supply voltage should match that of a typical business or hospital environment.
Voltage drops, short interruptions and voltage fluctuations in the power supply input cables IEC 61000-4-11	<5 % U_T (>95 % drop of U_T) for 0.5 period <40 % U_T (>60 % drop of U_T) for 5 periods <70 % U_T (>30 % drop of U_T) for 25 periods <5 % U_T (>95 % drop of U_T) for 5 s	<5 % U_T (>95 % drop of U_T) for 0.5 period <40 % U_T (>60 % drop of U_T) for 5 periods <70 % U_T (>30 % drop of U_T) for 25 periods <5 % U_T (>95 % drop of U_T) for 5s	The quality of the supply voltage should match that of a typical business or hospital environment.
Current frequency (50/60 Hz) Magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical business or hospital environment.

CAUTION U_T is the mains AC voltage before the application of the test level.

Guidance and manufacturer's declaration - electromagnetic immunity (Table 204)

The AVERO Premium Plus been designed for use in the hereafter listed electromagnetic environments. The customer or the user of the AVERO Premium Plus must ensure that the appliance is used in such environment.

Immunity testing	IEC 60601-Test level	Compliance level	Electromagnetic environment guidance
Conducted HF IEC 61000-4-6	3 Vrms 150 kHz up to 80 MHz	10 Vrms	Portable and mobile HF communications equipment should be used no closer to any part of the AVERO Premium Plus including cables, than the recommended separation distance calculated in accordance with the equation applicable to the frequency of the transmitter.
Radiation HF IEC 61000-4-3	3 V/m 80 MHz up to 2.5 GHz	3 V/m	Recommended separation distance $d=0.35\sqrt{P}$ $d=1.2\sqrt{P}$ 80 MHz up to 800 MHz $d=2.3\sqrt{P}$ 800 MHz up to 2.5 GHz With P as the rated output of the transmitter in Watt (W) in accordance with the manufacturer's specifications and d as the recommended separation distance in meter (m). The field strength of fixed HF-transmitters as determined by an electromagnetic field survey, ^a – should be less than the COMPLIANCE LEVEL in each frequency range. ^b In the vicinity of equipment marked with the following symbol, interference may occur: 

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: This manual could possibly not apply to all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

^a The field strength of fixed RF transmitters, such as base stations of mobile phones and land mobile radios, amateur radio stations, AM and FM radios as well as radio and television broadcast media cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey is recommended. If the field strength measured in the environment where the AVERO Premium Plus is to be used, exceeds the applicable HF compliance level, special care should be taken that a normal operation of the AVERO Viva can be guaranteed. In case anomalies are identified, additional measures could be required, such as a different alignment or a change of the location of the AVERO Premium Plus.

^b In the frequency range from 150 kHz to 80 MHz, the field strength must be less than 10 V/m.

Recommended distance between portable and mobile communications equipment and the AVERO Premium Plus (Table 206)

The AVERO Premium Plus is intended for use in an electromagnetic environment with controlled HF interferences. The customer or the user of the AVERO Premium Plus can avoid electromagnetic interference by respecting and observing the minimum distance between portable and mobile HF telecommunication devices (transmitters) and the AVERO Premium Plus depending on the rated output of the communication device as given below.

Rated output of the transmitter W	Separation distance depending on the transmitting frequency in m		
	150 kHz to 800 MHz $d=0.35\sqrt{P}$	80 MHz to 800 MHz $d=1.2\sqrt{P}$	800 MHz to 2.5 GHz $d=2.3\sqrt{P}$
0.01	0.04	0.12	0.23
0.1	0.11	0.38	0.73
1	0.35	1.2	2.3
10	1.1	3.8	7.3
100	3.5	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the specifications given by the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines could not apply to all situations. The dispersion of electromagnetic waves is affected by absorption and reflection from structures, objects and persons.

13.9 Journal

According to the Medical Device Directive, you are compelled to keep a journal for this device. You can use this journal as template.

Journal

Device: AVERO Premium Plus

Manufacturer: BEKA Hospitec GmbH, Am Rübenmorgen 3, 35582 Wetzlar

Serial number: _____

Date of purchase: _____

Site: _____

Checks and inspection conducted upon the first use:

Date: _____

Evidence of the training session on the functions and the use of the product

Instructor		Trained person	
Name	Date	Name	Signature

Periodic inspection, repair, DGUV-3, safety check, etc.

[illegible]

This image shows a full page of white paper with horizontal dotted lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

