Guarantor for
Mobility and Independence

LENA Operating Instruction

CE

Manufacturer Serial No. .....

HORCHER GmbH - REHA SYSTEME

Dear Customer

We like to thank you for your confidence in our Lift as well as your choice in buying a Horcher GmbH LENA Lift Bathtub.

Please read this manual carefully and familiarize yourself with the instructions mentioned in this manual.

EC-Declaration of Confirmity

Is done in compliance with Annex VII of the Councel Directive 93/42/EG of 14 June 1993 concerning medical devices

We, the Horcher GmbH, Philipp-Reis-Str.3, 61130 Nidderau declare that the

Lift bathtub „LENA“

Serial Number: .....

Is in compliance with the essential Requirements of the Council Directive 93/42 EG 14 June 1993 Annex 1.

Nidderau, 04/06/1996

Horcher GmbH
Managing Director Stefan Horcher

The „LENA “ – Patient Bathtub Lift helps achieving greater mobility especially in private homes, hospitals and in Senior Citizens homes.
We are sure that you have in your possession now a Bathtub Lift with the highest standard available.

It is truly our pleasure “helping you to achieve greater mobility” and independence in your daily living activities.

For a convenient access in to the Bathtub, with this Bathtub LIFT you have the option to raise or lower the patient to the right working height.

Safety Instructions

Please acknowledge the following safety instruction carefully!

- ! Before utilizing the Bathtub Lena please familiarize yourself with the operating instructions. It is essential that every user has knowledge of the operating instructions before utilizing the Lena Bathtub.
- ! Do not operate the LENA Bathtub if you notice any kind of defect.
- ! Only authorized and experienced personal from the Horcher GmbH are allowed to repair the LENA Bathtub.
- ! Utilizing the bathtub other then described or using unauthorized assessories is prohibited.
- ! Not following one or more of the above mentioned instruction will void any Warranties and Guarantees through the Horcher GmbH.
- ! Don’t use any kind of coarse scouring powder!! This will damage or scrape the surface on the bathtub.
- ! Never use a dry cloth to remove the dust always use a damp cloth.
- ! The max. permissible body weight is 175 KG. Extending the max weight continuously can result in damaging the motor. Should the patient exiced the max body weight we can install a motor with a higher lifting capacity.
- ! With a body weight of 130 kg in the empty LENA Bathtub we can ensure that a stable setting is assured. If the patient weights more, then there is no stability and the bathtub could tilt.
- ! Do not lower or raise the Lena Bathtub if the patient is not seated safely and correctly.

Table of contens

1. Where the LENA Bathtub Lift can be utilized ?

Since 1986 we the Horcher GmbH have developed a variety of Lift Systems, such as mobile patient Lifts and ceiling Lifts. In 1992 we extended our Lift System and added the LENA Bathtub Lift. During that time we have developed a very high technical standard for efficiency and reliability. Since that time we have equipt a lot of families, professionals in private residences, hospitals, senior citizens homes and rehabilitation areas with our Lift systems.

Please read this instruction booklet carefully and become familiar with the operating and technical instructions as well. It is essential that you aquire the knowledge of handling the LENA Bathtub.

2. Assembly Instructions:

2.1 Included in the delivery package.

The LENA bathtub Lift is delivered to you fully assembled from the manufacturer. The only installation and connection that have to be done is to hook up the cold and warm water supply and the electrical wiring which should only be done through authorized personal or from the Horcher GmbH.

2.2 Transportation

During the transportation through a forwarding agent please assure that the LENA Bathtub is not in danger of being damaged from rough handling, sharp corners from other merchandise, and so on. The LENA Bathtub should only be covered with soft materials such as blankets and papers. Do not trop any hard parts in the bathtub this might cause damage to the surface.

2.3 Installation

The body of the bathtub and the control panel are made out of fiber glass and the lining is of powder coated aluminum.

The motor sits in strong steel construction which runs smoothly in a ball bearing profile
The linar actuator has a synchronizing mechanism with an isolated coating and is maintenance free.

Included material for the installion of the Lena

Four adjustable integrated legs

Water connection:	Heat resisting high pressure hose each ½" for warm and cold water, (for LENA 230 = ¾")
Water drainage:	The floor drainage must have a DN 75 diameter with an odor trap.
Water pressure:	2 - 6 Bar
Water supply:	with a build in thermostat and separate filling valve for the bathtub and the shower to ensure patient safety.

3. Assembly instruction

Please acknowledge the technical drawings and information..

a The four anti skid adjustable legs can be turned to the height you need should the floor be uneven. Please level the bathtub by applying the level to the rim of the bathtub and adjust any difference.

B Warm- and cold water connections..

On the back side of the bathtub you will find two ½" water hoses with attached valve nut for the connection to the water outlet in the wall.

Warm water connection = left / red

Cold water connection = right / blue

Connect the two ½" flexible hoses from the bathtub to your wall connection.

It is recommended that you install a shut off valve between your house outlet and the bathtub connection.

Important: Connect and shorten the spiral hose so as they can not bend.
Please make certain that the hose is not in the way when the bathtub is being lifted or lowered, and that the hose to the drain cannot be disconnected

c Electrical connections.

The power connection and the safety box are located on the back side and underneath the cover of the bathtub. (see attached drawing 3). Now connect the charger to the loading station on the bathtub and tighten with attachment nut . The 10 AT glass fuse has to be set in to the fuse holder. Now you can connect the loading station to the electrical outlet. The LENA Bathtub Lift is ready to function.

Important: Make sure that the length of the loading cable is sufficient for the up or down movement. The loading cable has to be connect at all times even if you do not use the Bathtub Lift. Install the loading station outside of the bathroom.

d About 4 weeks after the installation you have to check and fasten the nuts again. Further more a yearly inspection is recommended. Also the nuts should be checked at least once every month to make sure that they are tight.

A test run can be started now that everything is installed and connected. In the area where the bathtub is installed make sure all the hoses are connected properly and they can move with out any interruption.

4 Using the Lena Bathtub Lift

4.1 Thermostat.

The manufacturer has equipped the thermos with a safety lock and preset the thermostat to 38°C water temperature. Should the actual water temperature vary from the preset temperature then a correction is necessary.

Correcting the temperature gage

1- Open the outlet and turn the scale to 38°C let the water run (see temperature gage)

2- Loosen screw from the cover plate and turn temperature scale till it shows 38° C.

3- Now replace the cover plate and tighten screw .

!!! Attention!!! If the temperature setting is changing this can cause delays in the registration of the temperature gauge. Please check the water temperature after changing the setting and make sure the water has the right temperature so that the patient does not get scald or hurt in any way.

4.2. Temperature setting.

Die Temperature setting is limited through a safety lock which is set to 38° C . If a higher setting is required this can be done by pushing the red safety button.

4.3. Disinfecting.

Pushing the safety latch on the back side of the bathtub to the left will allow you to open the sliding door.
Now you can remove the plastic bottle for the disinfecting fluid which you can be filled with different fluids. Replace the plastic bottle and insert the silicon hose on the left side of the bottle you will see a regulation switch which can be set to the amount needed to disinfect the bathtub. The disinfecting is regulated through a scale with a flow control which can be regulated through the black button..
The disinfecting unit is optional and is not included

4.4 Bathtub divider

This insert for the Lift Bathtub Lena is optimum and very helpful to accommodate to the different sizes of the patient.

4.5. UP /Down function.

On the top of the bathtub you will find the control panel with the Up / Down knobs which are water resistant. As long as you have your finger on the UP or down knob the lift will move in that direction. Removing your finger the lift will stop. The Bathtub can be stopped at any height you desire.
After each use we recommend that you lower the Bathtub Lift again.

4.6. Black buffer

On the side of the Bathtub Lena is a black buffer zone where you can drive a mobile Lift close to the Bathtub to Lift the patient into the Bathtub. This buffer is so constructed for use of the MONA and the NINA Lifts, so as not to scratch and damage the side of the Bathtub. When moving the patient towards the bathtub please make certain that you aim for the puffer zone.

5 Cleaning the LENA Bathtub

After each use please clean the Bathtub LENA with a non scouring oil dissolving detergent. The acrylic surface is dirt resistant so it is easy to clean. Please use a soft cloth or sponge to clean the surface of the Bathtub. !! **Never ever use scouring powder** !! This will damage the acrylic surface.

Important: When using bath oil such as chamomile oil or other types of colored oil's it is important that you empty and clean the Bathtub right away, otherwise a layer of oil and color will build up and will be hard to remove.

Due to hard water a calcium build up can happen. To remove the calcium deposit just use regular household vinegar. However do not use, I repeat do not use the calcium remover for electrical appliances. You will damage the acrylic surface.

Us a wet sponge or cloth if the Bathtub should be dusty.

Repairing the glass fiber

Scratches in the glass fiber Bathtub?

Should you by any chance have scratched the acrylic surface of the Bathtub due to the wrong cleaning agent then this can be easily remedied.

The damaged area has to be sanded down with water resistant abrasive paper in the following order. Start with the granulate 240, 320, 400 and then use the 600 grain to wet sand the area. . Sand the area down until it is smooth to the touch or until you see it is evenly sanded. Now take a soft cloth or cotton and apply a clear car polish (without wax) to the smoothened area, polish as long as needed to cover the damaged area until you have a high shine.

7 Service- Warranty and maintenance information

All mechanical parts of the Horcher model LENA Bathtub Lift have a two year warranty. Providing such defect is the result of poor craftsmanship or inherent defect in component material and not the result of improper use or handling.

The “Horcher GmbH ” sole responsibility under this warranty shall be either to repair, replace or correct, at it’s option. The repair or replacement of the Lift shall constitute

8 Technical data:

Art-Nr. 300-0 **LENA 200**	**Art-Nr. 300-1** **LENA 200** **Battery**	**Art-Nr. 300-3** **LENA 230** **Battery**	**Art-Nr. 300-4** **LENA 230**	**Dimensions:**
2000 x 800 mm	2000 x 800 mm	2300 x 1000 mm	2300 x 1000 mm	Outside L / W
1550 x 585 / 625 mm	1550 x 585 / 625 mm	1750 x 685 mm	1750 x 685 mm	Inside L / W
670 - 1070 mm	670 - 1070 mm	700 – 1100 mm	700 - 1100 mm	Lift
160 Liter	160 Liter	240 Liter	240 Liter	Water Volume
Prim. 230V/AC Sec. 24 V/DC	Prim. 230V/AC Sec. 24 V/DC	Prim. 230V/AC Sec. 24 V/DC	Prim. 230V/AC Sec. 24 V/DC	Voltage:
max. 240 W	max. 240 W	max. 240 W	max. 240 W	Amperage
10 AT	10 AT	10 AT	10 AT	Fuse:
120 kg klein,	120 kg klein,	155 kg groß	155 kg groß	Weight:

9 Detailed assembly

Detailed equipment list for the Lena Bathtub Lift:

1 Complete hose system in 5-layers compound hose UNICOR
1 Set chrome fittings after DIN 4109
1 Special – water inlet
1 Patient – shower head ½“ with safety spiral hose and hand shower
1 Digital -Thermometer to control the water temperature for the water inlet
2 Formed arm rest
2 Plastic hand hold
1 Divider for the different length of patients
1 Plug for 220 V the main electrical supply, FI-safety switch fuse is needed.

Color: Standard color white RAL 9010, special color by request.

Additional equipment (optional) :

Art-No. 300-101 Disinfecting-unit intern

Build in the Lift Bathtub LENA is a stop valve and a mesuaring device for the disinfecting. Completely furnished with bottle holder and an extra bottle of 1000 ml. disinfecting also included a disinfecting hand shower (red handle) and fixture.

Art.-No. H 300-103 Water level control and – shut of switch

See operation instruction

Control panel:

- Knob with four different water level adjustments or stop before the water level is reached. Button to start the automatic water level.
- Handling:

  Starting to fill the bathtub to the level you desire, you first have to adjust the knob which is located over the start button and turn it to the desired level

  Position 0 ..... out (no function)
  Position 1 ..... lower level
  Position 2 ..... middle level (water level needed for the hydraulic)
  Position 3 ..... highest level

  Once you have the level setting you desire you can than hit the **Start** button and hold it for **about three seconds**. This delay in the control panel is important because it stops the unintentional release of the automatic control. Now the water level will be regulated over the electrical control. When the programmed water level is reached the water shuts of automatically. If the automatic setting you programmed is not desired then just turn the knob to the position you need and the water shuts off. Should you desire to fill the bathtub up some more all you have to do is move the knob to the level you need and hit the start button again.

To fill the Bathtub manually you can use the hand valve. Please do not forget that you have to have this hand valve closed when your are using the automatic control.

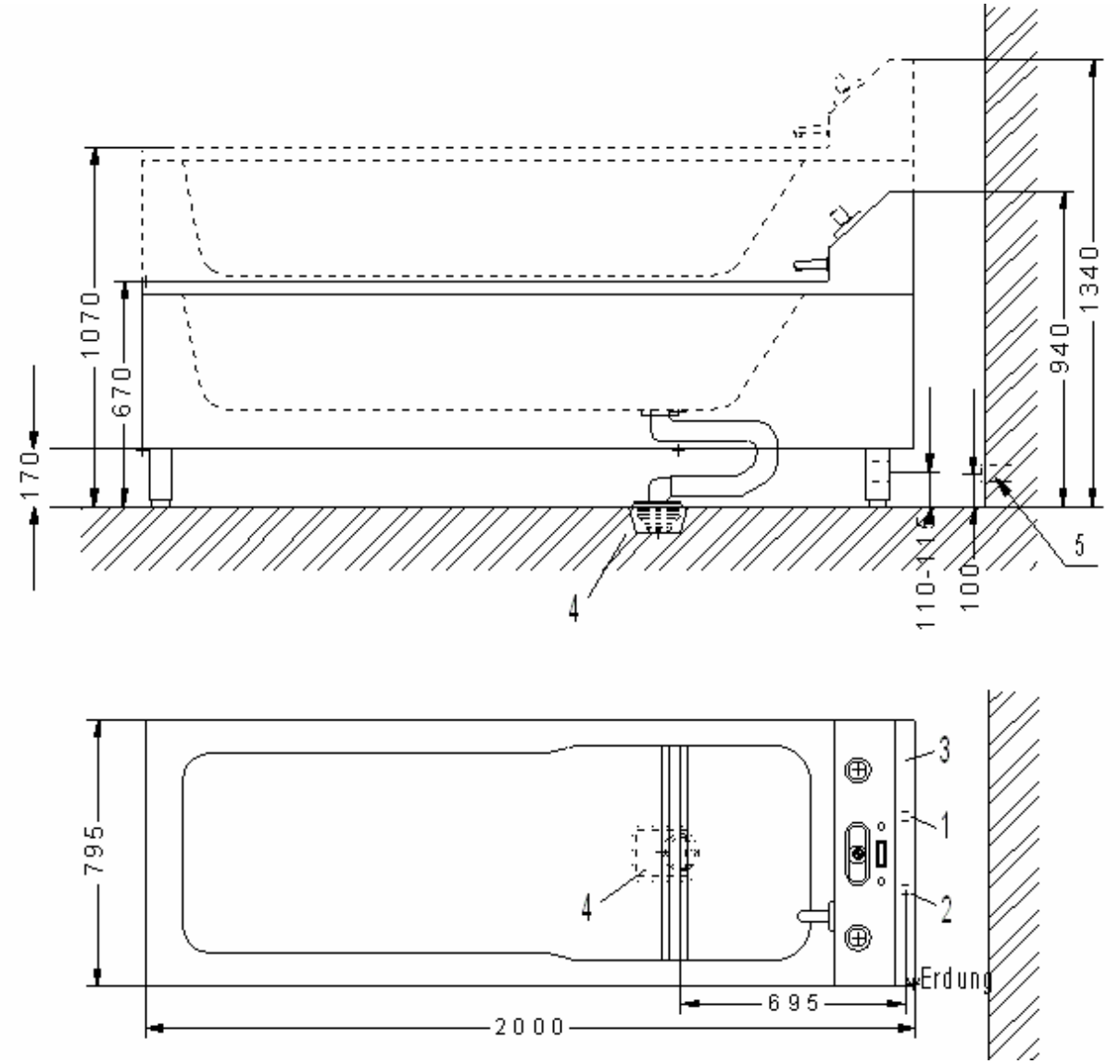
10 Technical Information

Material comparison : Glass fiber strengthen plastic (GFK) - ACRYL
Acrylic is a type of the old plexi glass and in toady's use has been practically superseded. With this new way of the construction for acrylic Bathtub the manufacturer
takes the acrylic sheet which gets heated up in the oven when it is hot enough then the sheet will be sucked in the form through vacuum and brought into the form that is needed to form the bathtub. The rim is about 6-8mm thick and the plate is reduced on the bottom to about 0,2-0,5 mm. The form can not be used in this way. That's why the fiber glass (synthetic plastic material) is applied to the outside of the tub. Since the regular acrylic is not water vapor resistant but the new GFK (synthetic plastic material with polyester resin) is. Please be careful don't trop any hard parts in to the bathtub as for instance the drain outlet or any other parts that you need to install the bathtub. The surface could get damaged or very fine laceration could also damage the acrylic layer. The Acrylic is homogen and hard and not a flexible material and colored thoroughly. If applying to much pressure to the material when tighten a screw or the faucet this might cause fine laceration to the surface which can then be mended by sanding the top layer and applying synthetic resin.
GFK is a glass fiber strengthened polyester resin. Using the passive form and applying in layers the glass fiber and then the polyester resin until the desired thickness has been reached. The color layers are relatively thin and the surface has not been sealed with the GELCOAT coating. The damage can be repaired and made unvisable with a coat of the color and the resin The GFK (synthetic plastic material with the polyester resin) is the most used modern material now days and has emitted the BAKELIT and the ACRYL in the technical areas.

Du to the strengthening of the glass fiber quality and the elastic of the material. This material can be used in almost any area such as modern Air planes puffers on cars even on some race cars. The regular ACRYL would not withstand the requirements which are in demand now day's. All the discussion and argumentation are done in a despair from the manufacturer in the industry or their suppliers to sell the regular glass fiber. On both the GFK as on the glass fiber the damage can be easily remedied. But with the GFK is easier done then with the glass fiber and hardly

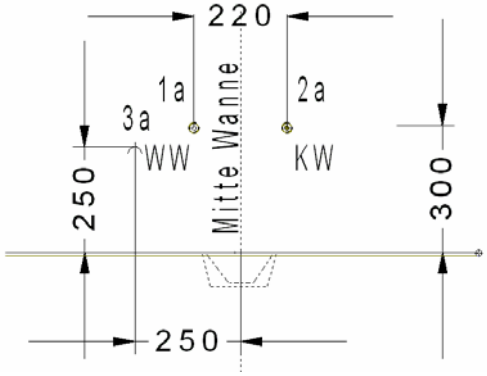
noticeable. With the GFK you have a more elastic fiber which is harder to damage not even with a hammer. The chassis of a car are also not colored thoroughly but you can repair them easily and without any great expenditure.

11 Installation of the Bathtub Lift LENA



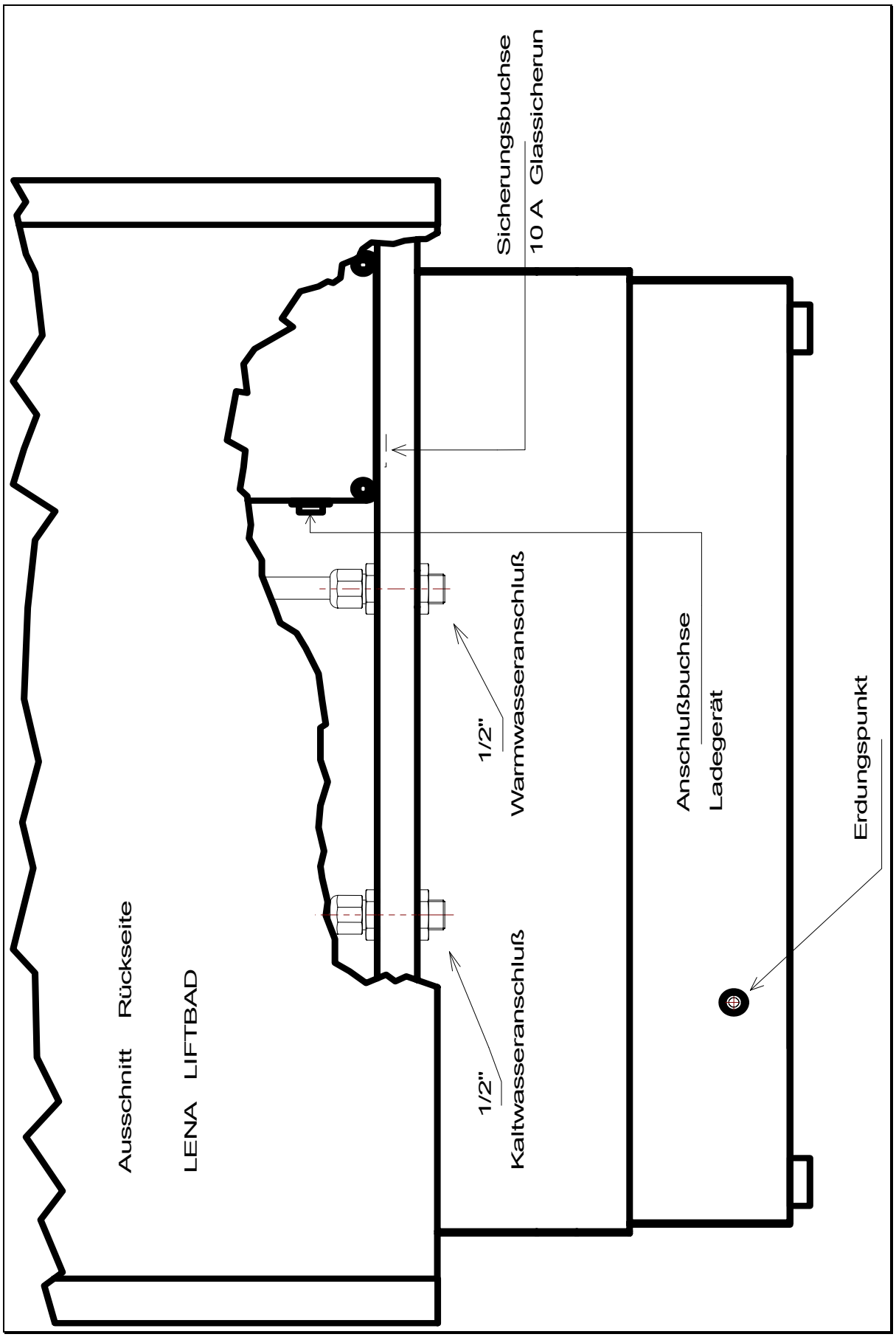
Instruction for the installation of the bathtub

1 – Cold water hose 1/2" floor level (1a. wall level)
(3/4" LENA 230)
2 – warm water hose 1/2" floor level (2a. wall level)
3 (3/4" LENA 230)
4 – electrical supply with floor or wall hock up (3a. 3-phase electrical junction box) 220V, 50Hz, 0,25kW, 1 A, cable length 1,5m, 1,5 qmm
4 – Drainage 50 (odor lock in the bathtub)
5 – Drainage behind the bathtub wall HT 50
(odor lock in the bathtub)



Safety measurements

Cut off cock for cold and warm water
Cut off switch
Fault-voltage protective switch max. 30mA
Electric installation DIN IEC/VDE


Ausschnitt Rückseite
LENA LIFTBAD
Sicherungsbuchse
10 A Glassicherun
1/2"
Warmwasseranschluß
1/2"
Kaltwasseranschluß
Anschlußbuchse
Ladegerät
Erdungspunkt

Medical Product LENA

Inventory-No. _____

Product _____

Type _____

Serial No. _____

Manufacturere / Importer _____

Supplier _____

Date of Installation _____

Location _____

A Inventory-No.

_____

Quality Inspection

Date: _____
by: _____

Inservice

Manager / Officer _____

Date	Manufacturer	Name des eingewiesenen Verantwortlichen	Signature

B Inventory-No _____

Users

Datet	Trainer	Trainee	Signature

C Inventory-No. _____

Safety Check

Date	Technician	Result	Remarks

D **Inventory-No.** _____

Repairs

Date	Technician	Description of repairs