

User Manual

for

NORA Alu



Version V 2.10 E
Subject to technical modifications
2018.04.18

Dear Customer,

Thank you for purchasing this BEKA Hospitec GmbH product. Our products are manufactured and tested according to stringent quality criteria. A correct use of the device is imperatively in order to ensure its proper and safe functioning. Please read the content of this operating manual before starting to use the product.

Please observe the safety instructions in particular!



Please note that there might be minor differences between the images shown in this manual and the actually supplied device. Subject to technical modifications and error.

Should you have any questions or require more information about your device, please contact us by phone either by fax.

Our collaborators will be glad to help you.



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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1. Introduction

Dear Customer,

Please observe the following:

1. Please read the provided operating manuals carefully and thoroughly.
2. Use the device only for the intended application.
3. The device may only be operated by trained staff.
4. Electrical installations are to be carried out by specialist companies only, in accordance with the currently applicable VDE-regulations (German association of electricians).
5. Servicing, maintenance operations and safety checks may only be performed by either BEKA Hospitec or by specialist companies authorized to this effect by BEKA Hospitec.
6. Assembly operations, extensions, modifications, or repairs may only be performed by either BEKA Hospitec or by specialist companies authorized by BEKA Hospitec.

In case of technical interventions, such as extensions and fittings to our devices, which are not carried out by BEKA Hospitec either by specialist companies authorized by BEKA Hospitec, all warranty rights on the modifications as well as on the device or on the device functions, which are related to the modification, shall expire.

Liability and warranty

The manufacturer of the device is only responsible for the safety and the reliability of the device, if:

- a. the installation has been carried out by authorized staff
- b. the space concerned complies with the current VDE-regulations

and if the following conditions are met:

- c. the device is only used as per the intended purpose
- d. the functional tests are performed periodically

Manufacturer contact details:



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2. Designations

In this operating manual, the name for the stand-up and raising aid “NORA Alu” is “NORA Alu”.

2.1 Symbols and pictograms used in this manual



Please observe the accompanying documents/operating manual.



Warning Hazardous Area.



Applied part “Type B” to DIN EN 60601-1.



Do not push/pull the motor.
Do not push/pull the sling bow.



Special waste, not household waste.
The device and the packaging materials never must be disposed of in the domestic waste stream.



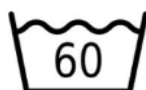
CE-label in accordance with the EC-Directive on Medical Devices.



Solely intended for indoor use.



Protection class II.



Washing temperature max. 60 °C.
Normal cycle.



Do not bleach.



Line dry



Do not tumble dry.



Do not iron.



Professional wet clean.
Gentle cycle.

2.2 Type plate

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Type:		
NORA Alu		2016-27
SN 2816124357 REF 921071000	    IPX4	
Operating Voltage: 24 V DC	Max Patient weight (SWL): 200 kg / 441 lbs	
Power Consumption Lifter: Max. 240VA	for charging use only BEKA- charger Art.-No.: 921070702	
<small>Int. : 10%, Max. 2 min. / 18 min.</small>		

This image shows the type plate.

The type plate is located at the column support of the stand-up and raising aid

The shown serial number (**SN**) 2816124357 is just an example.

In case of queries, please mention the serial number printed on the type plate of your Nora Alu.

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 as well in the form of a barcode.

3. Unpacking and Assembling

3.1 Required Tools

To remove the packaging materials, you will need:

Cutter knife



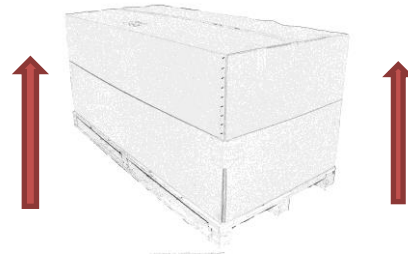
3.2 Removing the Cardboard

Cut the strap with the cutter knife and remove the strap.

Note: Do not cut in the cardboard, as this could damage the surface of the NORA Alu!



Lift the cardboard up to remove it and put it aside.



3.3 Releasing the NORA Alu from the Pallet

Both sides of the NORA Alu are strapped to the pallet.

Remove the screws and the straps.

Please take care not to damage the NORA Alu when unscrewing the screws.

Please make sure that the parking brakes of the castors are disengaged.



Parking brake

After removal of all fixations and disengagement of the parking brakes of the castors, you can ride the NORA Alu from the pallet.

Remove the foil bag. Please take care not to damage the surface of the NORA Alu with the tools.

The accessories for your NORA Alu are included in the supplied cardboard box.

4. Installation

Dear Customer,

- Before you start to use our products, your electrical installation must be checked in accordance with the relevant VDE-regulations 0100 and 0100-710.

This requirement is only applicable in Germany.

In other countries, other requirements might be applicable.

Ask a qualified electrician to install the wall charging unit in accordance with the regulations applicable in your country.

- **Electrical Connection for Power Cable and Wall Charging Unit**

The socket must meet the requirements of VDE 0100 and 0100-710.

- **Installation**

The NORA Alu is supplied ready for use.

4.1 Electrical Connection of the NORA Alu

The NORA Alu is equipped with a 24V-battery system. A power connection, which is compliant to the VDE regulations, is required for the charger cable as well as the wall charging unit. In operation, the NORA Alu is mains-independent.

4.2 Start-up and Operation (electrical motor/battery unit)

The NORA Alu is equipped with a 24V-electrical motor. This motor is self-locking and therefore protected against lowering of the sling bow in case of malfunction or failure. The battery of the NORA Alu must be completely charged before starting to use the device.

Please check that the emergency stop switch is released (unlatched). To unlatch, turn the emergency stop switch clockwise until it has released.

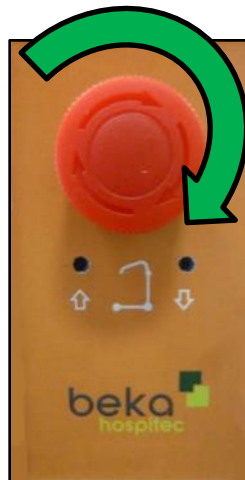
NOTE:



The battery must be completely charged prior to the first use of the NORA Alu

(charging time approx. 4 hours).

Please check that the emergency stop switch is released prior to moving the sling bow.



The emergency stop switch is released by turning the button to the right (i.e. clockwise).

5. Operating the NORA Alu

5.1 Fields of application

The NORA Alu has been designed for raising and transferring patients and residents. The patient is raised from a sitting position. The NORA Alu is to be used exclusively for the indoor transport of residents on level floorings.

5.2 Duration of Treatment

The NORA Alu is designed for a short-term use and any contact with injured skin must be avoided.

Note

No side effects associated to the treatments are known.

Please observe the contra-indications mentioned in Paragraph 5.3.

5.3 Contra-indications

The NORA Alu must **not** be used for the following persons:

- Double-sided leg amputees; the patient must be able to stand stable on one leg
- Stroke patients
- Epilepsy patients

WARNING:



- Residents suffering from:
- Osteoporosis
 - Spine disorders/spinal damage
 - Osteogenesis imperfecta
 - Mental confusion
 - epileptic attacks

may only be treated with the NORA Alu in consultation with the attending physician.

Please observe also the safety instructions listed in the following paragraph.

6. Safety instructions



Please read the following safety instructions prior to using the NORA Alu. 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 GmbH shall **not** accept any liability for any damages, failures or faults caused by improper operation or handling.

• Operating Manual



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

- The NORA Alu may only be used for the specified purpose.
- In case of unusual noises, damages or malfunctions, the NORA Alu no longer must be used.
- The product may only be used and operated by trained staff.
- Check prior to each use that all visible parts are intact. The NORA Alu must not be used if any parts are damaged.
- The product must be disinfected after each use.
- Avoid slippery surfaces and thresholds.
- Do not move the NORA Alu over sloping or uneven floors.
- The NORA Alu is exclusively fit for indoor use.
- 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 (e.g. visual check, functioning, etc.).
- Supervision of the caregiver is required throughout the treatment.
- Make sure that the sling form and size match the resident's body.
- Check prior to lifting that all clips are correctly and properly attached.
- Only trained staff is authorized to use slings.
- Please respect and observe the weight specifications for each sling.
- Check prior to each lifting operation whether the help of a second assistant is required.
- Each lifting or transport procedure must be adequately planned in order to ensure an optimal protection for the caregiver and the resident.
- Please check before and during the height adjustment procedure that your feet are not located in the area of the castors neither in the resident's area.
- Do not stand between the NORA Alu and an obstacle during the transport procedure.
- During the movement of NORA Alu, the carrier frame must be closed.
- Please check that no one grabs in the hazardous areas (bow, carrier frame) especially during the adjustment procedure - **risk of crushing**.
- Please make sure that the patient seizes the handles provided to that effect with both hands during the transfer or transport.
- Do not lift the resident higher than is necessary.
- Engage the parking brakes of the wheelchair's castors etc. to ensure a safe lifting and positioning of the resident. Make sure that the parking brakes of the NORA Alu are engaged when lifting and positioning the patient.

- Keep the transport of the patient as short as possible
- Do not push/pull the motor to operate the NORA Alu and do not expose the NORA Alu to lateral forces in any way whatsoever
- Never leave the patient standing in the NORA Alu without supervision
- Make sure that the patient cannot tilt forward or sideward when he/she is being lifted.
- The NORA Alu is not authorized for use in potentially explosive atmospheres.
- Never exceed the duty cycle or the maximum load.
- Make sure that the battery is charged in a well-ventilated room.
- When the battery is charging, the NORA Alu must not be used.
- Please use the safety belt to fix the patient's legs prior to lifting.
- Check the applied sling for visual damages prior to using it.

- **Ventilation**

Never cover up, over sticker or change the slots and holes of the device.

- **Maintenance**

Make sure that the maintenance/inspection of the product is regularly executed in combination with a safety check. The intervals for the prescribed safety check are fixed in section 13.

- **After-sales Service**

Should the NORA Alu be defect and the problem cannot be resolved by means of one of the measures described in section 14, please contact the after-sales service of your BEKA dealer either the manufacturer:



BEKA Hospitec GmbH

Am Rübenmorgen 3 • 35582 Wetzlar

Phone: +49(0)641-9 22 20 - 0

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- **Cleaning**

Do not use any aerosol cleaner to clean the NORA Alu.

- The caregivers must protect their skin and eyes against concentrated disinfecting and cleaning products.

The instruction manual of the applied disinfecting product must be observed.

Instructions for cleaning and disinfection can be found in section 11.

- **Repairs**

Repairs to components of the NORA Alu are only authorized by trained expert personnel. Please contact the after-sales service.

Opening the device or other accessories by persons, who are not authorized to this effect by BEKA Hospitec GmbH, will lead to the expiration of all guarantee, warranty and liability claims.

- **Safety checks**

The NORA Alu is subject to a **12-month** “safety check” (SC). The intervals are fixed in section 13.

- In order to preserve the value of the device, we recommend an annual maintenance of the NORA Alu.

- **Duty of care**

Please check the proper state and the functional safety of the system prior to use. Never insert foreign bodies in the device.

- **Accessories**

Use only original accessories for the NORA Alu.

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.

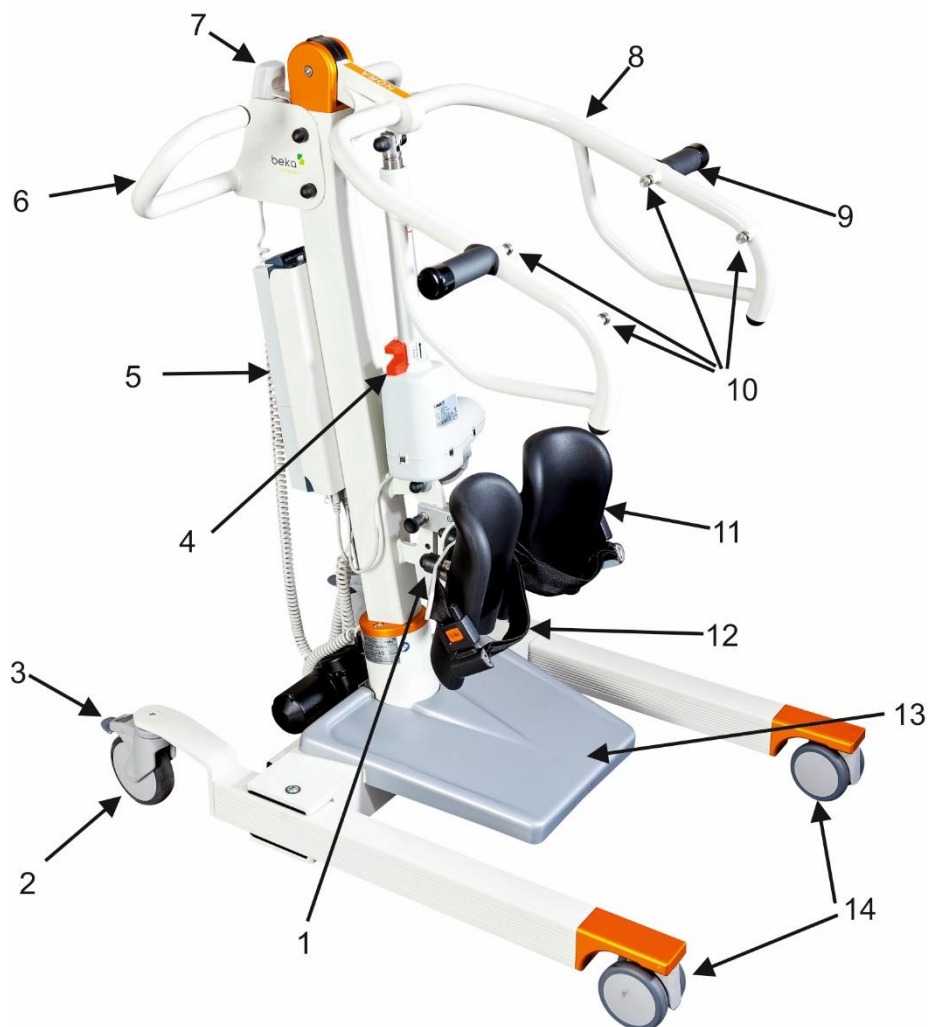
- **Applied part**



The NORA Alu are equipped with “B”-Type applied parts.

All exposed, touchable, conductive parts are thereby considered as applied part.

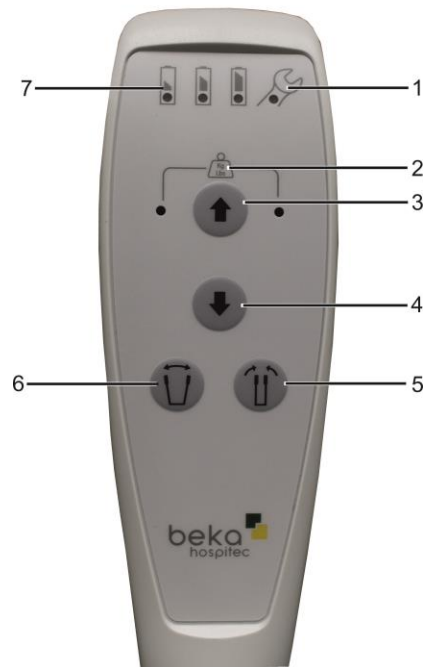
7. Operating Elements of NORA Alu



No.	description	No.	description
1	Height adjustment of the knee pads	8	Sling bow
2	Rear castors	9	Handles
3	Parking brake	10	Sling attachment points
4	Emergency lowering system	11	Knee pads
5	Control unit with battery	12	Safety belt for the legs
6	Bow	13	Footplate
7	Handset	14	Front castors

7.1 Handset

(Also refer to chapter 9)



No.	description	No.	description
1	Service/SC due	5	Closing the carrier frame
2	max. weight reached	6	Spreading the carrier frame
3	Up command	7	Battery charge status
4	Down command		

7.2 Explanation of the LED-indications on the Handset



Green LED: battery full, no charging required (100-50%)



Yellow LED: battery requires charging (50-25%)



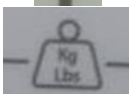
Red LED: battery requires charging (less than 25%)

When you push a button, an audible signal will be emitted.



Service indication (orange LED flashes).

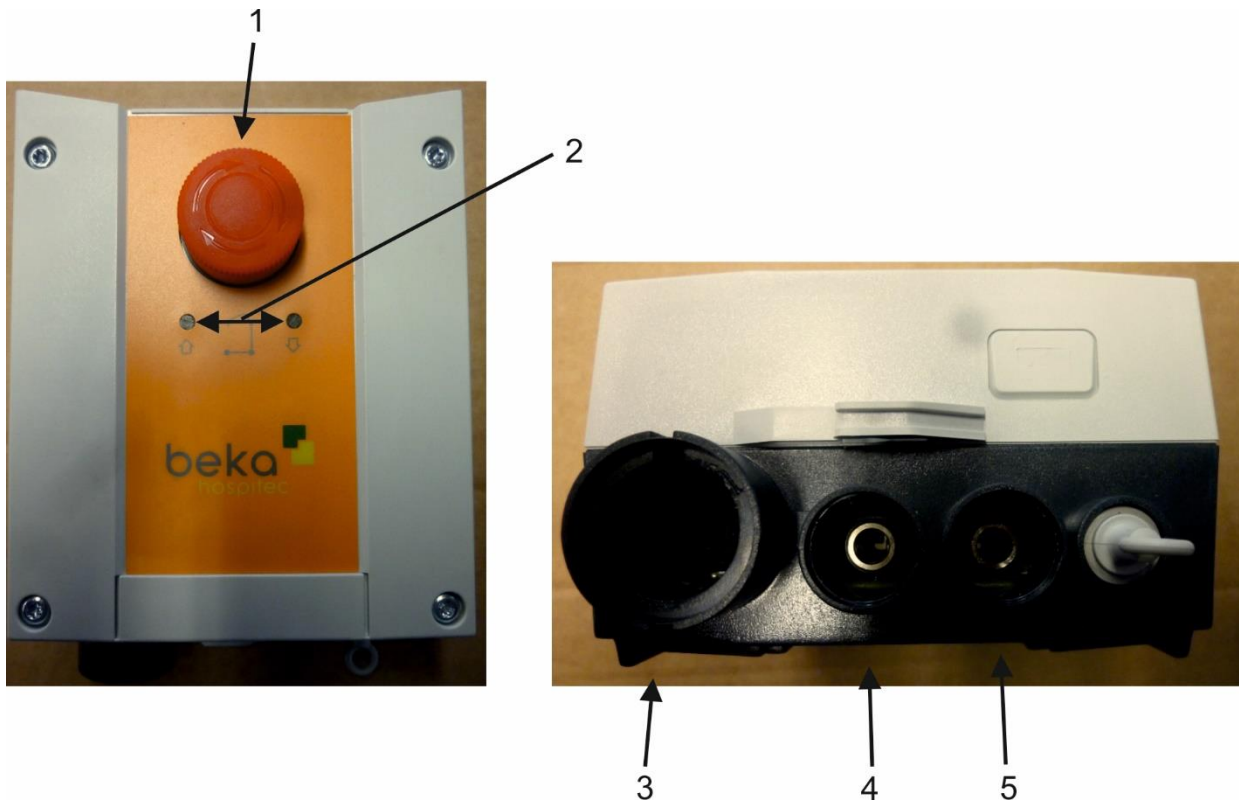
Please have your NORA Alu checked!



Orange LED, overload, max. weight of 200/187 kg exceeded

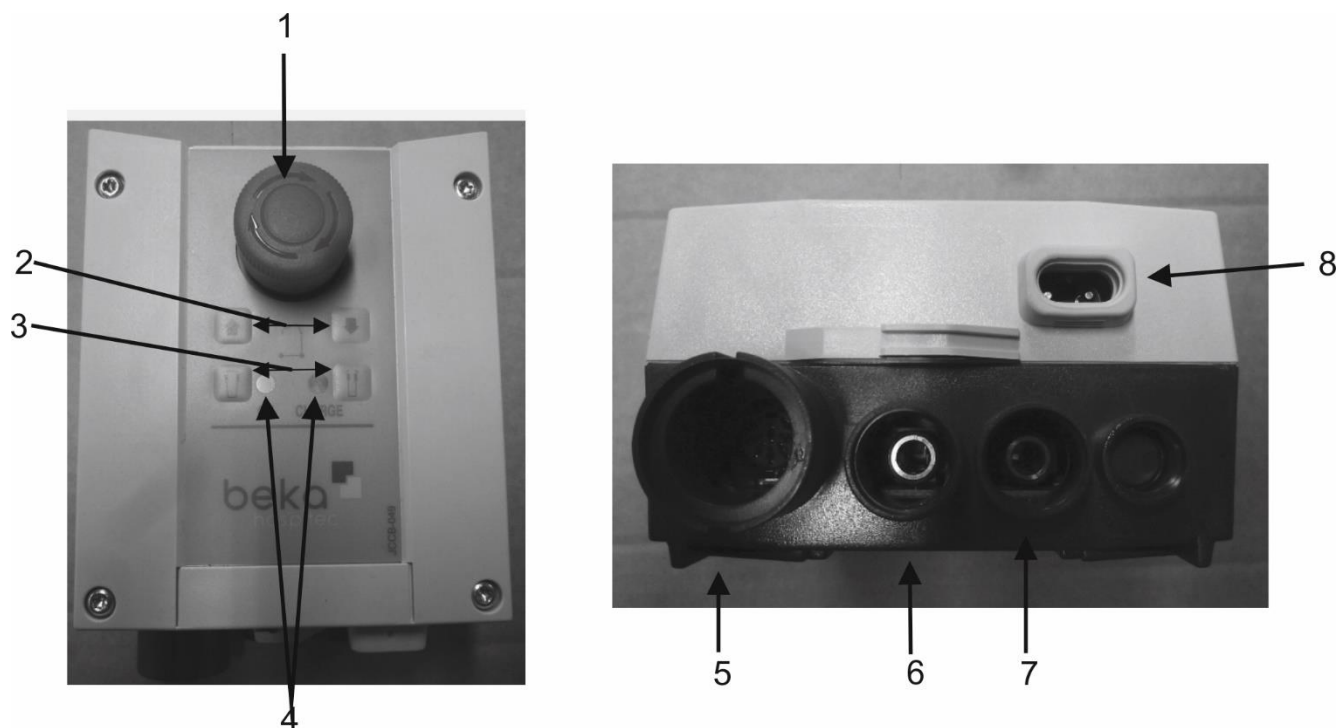
7.3 Connections and Functions of the Control Unit

7.3.1 European Control Unit



No.	description	No.	description
1	Emergency stop switch	3	Handset connection
2	Electrical emergency lowering system in case of failure of the handset	4	Lifting motor connection
		5	Spreading motor connection

7.3.2 Canadian Control Unit



No.	description	No.	description
1	Emergency stop switch	5	Handset connection
2	Electrical emergency lowering system in case of failure of the handset	6	Lifting motor connection
3	Adjustment of the spreading in case of failure of the handset	7	Spreading motor connection
4	Power and charging indicator	8	Charger cable connection

Explanation of the LED-indications



Green LED

The LED is on when the control unit is supplied with voltage through the power cable.



Yellow LED

The LED is on when the battery is charging.

Note: The battery can only be charged if the emergency stop switch is not actuated!

7.4 24V-Battery Unit

The NORA Alu is equipped with a 24V-battery.

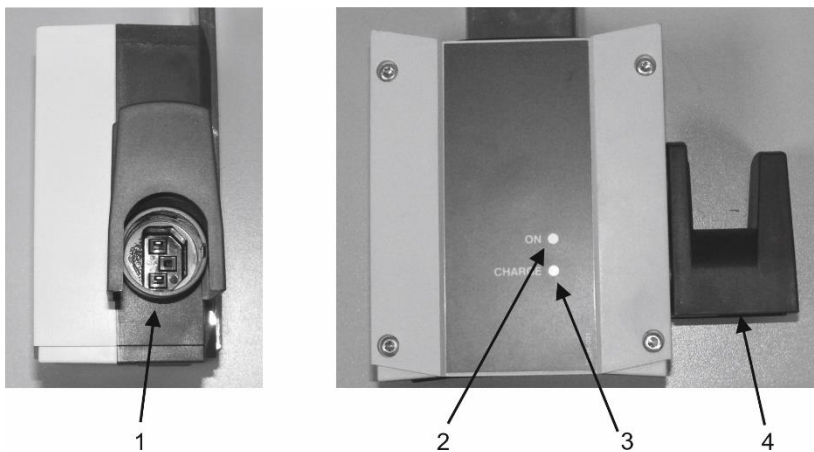
Please proceed as described in section 16.5 to remove the battery.



7.5 External Charging Unit/Wall Charging Unit

The external charging unit (wall charging unit) is a switch-mode charger and is supplied ready assembled (on a mounting rail). It can be installed on any suitable wall. The required power cable is included in the delivery.

The charging time for the battery units is approx. 4 hours.



No.	description	No.	description
1	Charger cable connection	3	Charging LED
2	Power LED	4	Cable Holder (option)

Explanation of the LED-indications



Green LED

The LED is on when the control unit is supplied with voltage through the power cable.



Yellow LED

The LED is on when the battery is charging.

8. Sling Operating Manual

Important note:

The normal service life of BEKA-slings is approx. 36 months from the date of production (marked on the sling). The specified service life is only applicable, when the BEKA-slings are cleaned, maintained and inspected in accordance with the instructions contained in the following documentation.

8.1 Prior to use

The slings must be checked before and after each use and, if necessary, be washed in accordance with the manual. This is prescribed in particular to reduce the risk of infections to an absolute minimum, in the event that the same equipment is used for other residents or patients.

Prior to each use, a thorough check of the sling including the straps and the fastening clips is imperatively required. If the sling or the straps would be frayed, cut-in or damaged, or the clips would be damaged, the sling no longer must be used.

Please make sure that a sling of the correct size is used for the resident.

Prior to lifting the patient or the resident, the situation must be assessed by a qualified employee or a therapist. This also applies to care-dependent persons with limited or reduced shoulder mobility or for patients who are unable to hold themselves with one or both hands.

To use the NORA Alu, the patient or resident must have the ability to stand on their own.

8.2 During Use

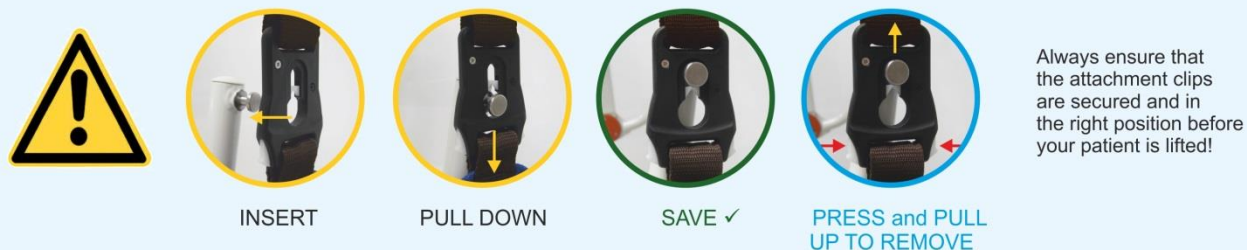
Check that the sling attachment points at the NORA Alu match the sling clips.

Check that the sling is not twisted when attaching the sling. Always check that the sling clips are correctly attached prior to and during the lifting procedure and that they are tensioned while supporting the patient's weight. Check that the sling is not too tight and that the patient's arms are outside the sling.

Please take extreme care when using the sling and encourage the patient to hold on tight to the handles of the bow.

Note: Safe Attachment of the Clips in the Support

How to attach the attachment clips correctly to the attachment lugs on the spreader bar!



Safe Attachment of the Slings



Step 1

Lower the support arms carefully, using the handset control, until the sling attachment hooks on the support arms are close enough to connect the sling attachment loops.

Step 2

Pull up the sling loop and lead it along the attachment hook.

Step 3

Ensure the sling loops are pulled well down onto the attachment hooks (see final position)!

Always check that the clips or the slings are secured and located in the right position before your start lifting your patient!

8.3 After Use

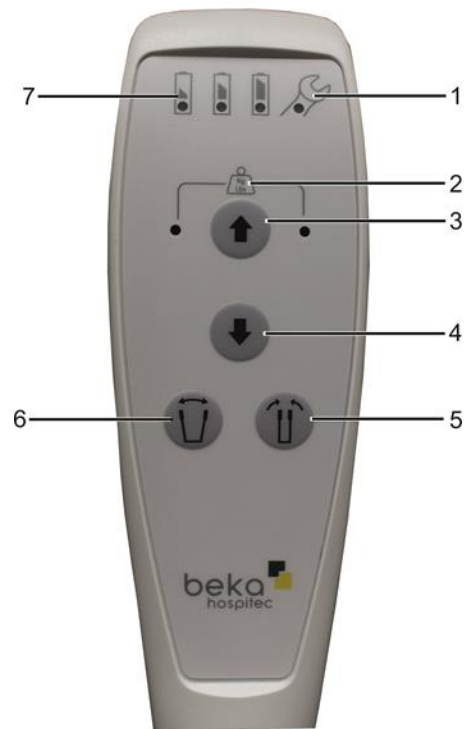
For the washing, the slings are classified as accessory of the NORA Alu and therefore as medical device. The slings may be cleaned and disinfected in accordance with the manufacturer's instructions.

During the washing and drying, no mechanical pressure must be applied, such as dry press, rotary iron. This could damage the sling parts and impair the operation and the safety of the sling or even destroy the sling.

The sling straps and the slings must be checked and, if required, cleaned after each use. The washing temperatures must not exceed the temperature specified on the sling. Please use common household detergents only. Do not iron hot. The plastic clips must be checked for possible damages after each wash.

9. Handset

The different functions of the NORA Alu can be realized by means of the handset. The sling bow can be raised or lowered and the carrier frame can be spread or closed. When the maximum weight is reached, a LED (MAX) is on and the control unit is switched off. In addition to that, the handset indicates the charging state of the battery. If the service LED flashes, the set operating time is reached. Please have your NORA Alu checked!



No.	description	No.	description
1	Service/SC due	5	Closing the carrier frame
2	max. weight reached	6	Spreading the carrier frame
3	Up command	7	Battery charge status
4	Down command		

10. Operating the NORA Alu

The sling bow of the NORA Alu is raised or lowered by means of the handset, which is included in the delivery. The directions of motion are indicated by symbols on the handset.

The rear castors are equipped with parking brakes.

When lifting a patient/resident, the parking brakes of the castors must be engaged to avoid any uncontrolled movement of the NORA Alu.

Travel path

Please make sure that the travel path of the NORA Alu is not restricted by objects. Remember also that the maximum height is limited to 1781 mm. Please take extreme care when passing through doors.

During the movement of NORA Alu, the carrier frame must be closed.



Avoid slippery surfaces and thresholds.

10.1 Sling bow

The sling bow of the NORA Alu has four sling attachment points to enable shorter patients to stand safely and comfortably as well.

The sling bow of the NORA Alu has two sling attachment points.



-  Default sling attachment point
Attach sling with **sling clip1**
-  Optional sling attachment point for patients and residents **shorter than 160 cm**



10.2 Kneepads

The integrated, flexible, height-adjustable knee pads are individually adaptable to the patient. The leg safety belts (individually adjustable) are equipped with quick-release fasteners (cf. the safety belt in motor vehicles, PRESS to open). When lifting the patient, the leg safety belts must be closed.



10.3 Raising the patient from a chair or the bed (sitting position)

Please proceed in the following way to raise a patient from a chair or the bed (patient in sitting position):

1. To raise the patient from the bed, set the patient upright in the bed and turn him/her so that the feet touch the ground and the patient has a stable sitting position.
2. Wrap the backside of the sling around the patient and fasten the clip fastener of the belly part. Please make sure to use the correct sling size adjusted to the patient and check that the patient's arms are located outside the sling.
3. Spread the legs of the carrier frame and lower the bow completely.
4. Position the NORA Alu in front of the patient and adjust it so that the patient's legs are in knee pads and form a right angle with the thighs. The patient's feet must be located in the middle of the footplate.
5. Lock the castors of the NORA Alu and engage the parking brakes.
6. Tighten and fasten two leg safety belts.
7. Raise the sling bow to the required height to attach the sling to the sling attachment points of the sling bow.
8. Suspend the sling in the sling attachment points. Please check that the sling is correctly attached (also refer to section 0 Safe Suspension of the Clips in the Holder).
9. You can now raise the patient/resident.
10. Please make sure that the patient seizes the handles provided to that effect with both hands during the transfer or transport.
11. The lowering of the NORA Alu is enhanced when the carrier frame is not spread.
12. Disengage the parking brakes prior to the transport.



10.4 Raising the patient from a wheelchair

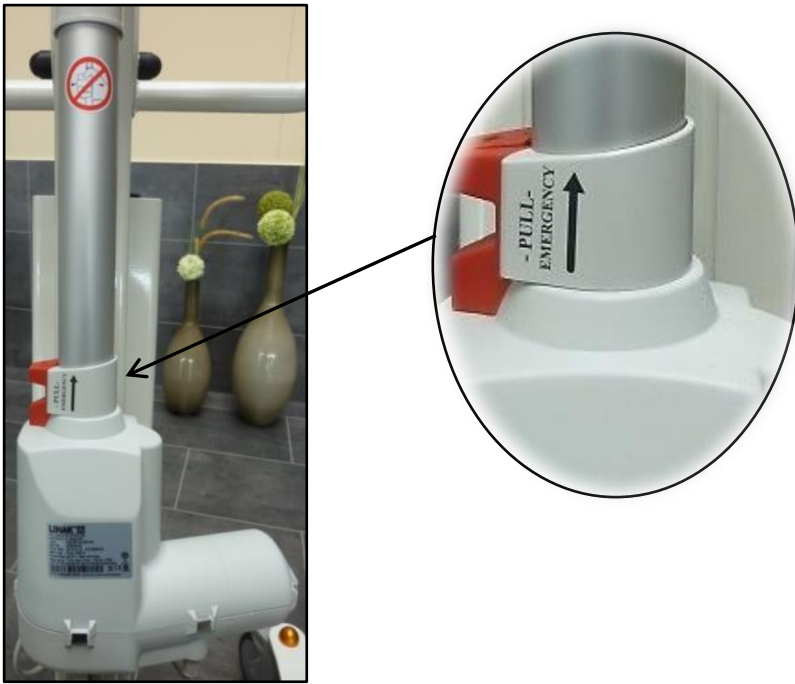
Please proceed in the following way to raise a patient from a wheelchair:

1. Engage the parking brakes of the wheelchair.
2. Wrap the backside of the sling around the patient and fasten the clip fastener of the belly part. Please make sure to use the correct sling size adjusted to the patient and check that the patient's arms are located outside the sling.
3. Spread the legs of the carrier frame and lower the bow completely.
4. Position the NORA Alu in front of the patient and adjust it so that the patient's legs are in knee pads and form a right angle with the thighs. The patient's feet must be located in the middle of the footplate.
5. Lock the castors of the NORA Alu and engage the parking brakes.
6. Tighten and fasten two leg safety belts.
7. Raise the sling bow to the required height to attach the sling to the sling attachment points of the sling bow.
8. Suspend the sling in the sling attachment points. Please check that the sling is correctly attached (also refer to section Safe Suspension of the Clips in the Holder).
9. You can now raise the patient/resident.
10. Please make sure that the patient seizes the handles provided to that effect with both hands during the transfer or transport.
11. The lowering of the NORA Alu is enhanced when the carrier frame is not spread.
12. Disengage the parking brakes prior to the transport.

10.5 Manual Emergency Lowering System

Activating the Emergency Lowering System:

1. Slide the red safety lock upwards in the direction of the arrow (PULL-EMERGENCY label).
2. Now, the motor is lowering slowly.
3. The motor stops, when the safety lock is positioned back in its normal position = release the safety lock.



NOTE:



The emergency lowering system is only operational when a load or weight acts on the bow!

As soon as the patient is standing upright autonomously, the bow must be “pressed down”.

NOTE:

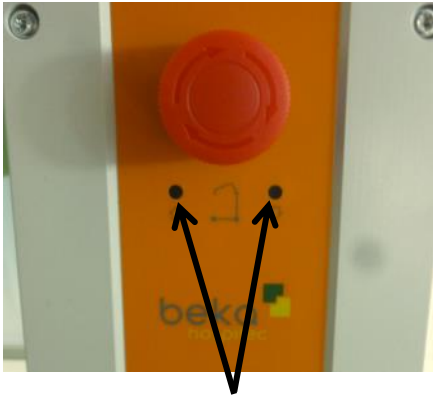


The emergency lowering mechanism must not be treated with oil, grease or any other lubricant, as this could cause the emergency lowering mechanism to run too smoothly!

In case of a failure of the emergency lowering system, a reset by the manufacturer is required.

10.6 Electrical Emergency Lowering System

Should your handset be defective or present a malfunction and provided that the battery still has sufficient voltage, you can raise or lower the sling bow by means of the buttons located on the control unit.



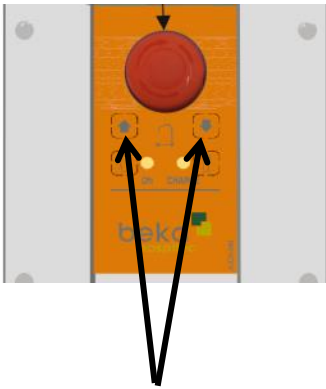
Buttons of the control unit (European version)

Insert a ballpoint or a similar object into the holes to actuate the buttons.

The sling bow is raised or lowered.

Note:

The buttons of the Canadian version of the control unit can be activated manually.



Buttons of the control unit (Canadian version)

10.7 Emergency stop switch

When the emergency stop switch is pressed, the electrical motors are immediately disconnected from the power supply. The motors are immediately stopped. The emergency stop switch should be used only in case of immediate danger to the resident or the caregivers.

The emergency stop switch can also be used to reduce discharging of the battery in case of intermediate storage.

By pressing the emergency stop switch, you can lock the NORA Alu, thus making any unauthorized use of the NORA Alu more difficult.

Turn the button in the direction of the arrow to unlock.



NOTE:



In the Canadian version of the control unit, the battery can only be charged when the emergency stop switch is not actuated!

10.8 Motor Safety Measures

The control of the electrical motor is equipped with an overload protection, which is autonomously switched off in case of overload. The motor will only be operational again after a short waiting time. The cooling-off time of the motor amounts to 18 minutes depending on the ambient temperature.

NOTE:



Opening the motor will result in expiration of the warranty.

The intermittent operation of the motor is not a defect, but is only for your own safety.

10.9 Impact and Jamming Protection (hoist motor)

The electrical motor (hoist motor) features an integrated impact and jamming protection (freewheeling). This feature avoids jamming, pinching and/or crushing dangers when the sling bow of the NORA Alu strikes or encounters an obstacle. The motor runs free until the obstacle is removed or the NORA Alu is removed from the obstacle.

After the obstacle has been removed, the sling bow could start lowering autonomously. Therefore, you must immediately release the button of the handset as soon as you have noticed that an obstacle has been encountered.

10.10 Contact Persons for Technical Information

For technical information and in case of questions regarding the use of your NORA Alu, please contact your dealer or the manufacturer:



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11. Cleaning/Disinfection

11.1 Cleaning

Clean the NORA Alu with a soft, lint-free cloth. For thorough cleaning, use a cloth moistened with a mild soap solution. You can use a cloth moistened with an isopropyl alcohol solution for the disinfection.

To avoid damages to the NORA Alu, **no** abrasive cleaners or solvents must be used to clean the control unit.

Caution:

**Make sure
that during the cleaning
the system is not operational!**

WARNING:

**After each treatment, the NORA Alu must be completely
disinfected with a disinfectant to avoid cross-
contamination.**

Caution:

**Use disinfectants only when the NORA Alu is not in use.
Strictly respect and observe the manufacturer's
instructions for the used disinfectant. Avoid direct
contact with the concentrated product. If necessary, use
gloves and safety glasses to protect your skin and eyes.**

The NORA Alu can be cleaned with a damp cloth and a normal cleaning agent for plastics. For the disinfection of the surface, an isopropyl alcohol solution or a customary disinfection aerosol (spray) can be used.

11.2 Disinfection

You must carefully disinfect your NORA Alu after each use to avoid the risk of infection.

Caution:

Disinfect the NORA Alu only when the patient/resident has left the NORA Alu. Strictly respect and observe the manufacturer's instructions for the used disinfectant. Avoid direct contact with the concentrated product. If necessary, use gloves and safety glasses to protect your skin and eyes.

11.3 Sterilization

The NORA Alu is **not** suitable for sterilization.

12. Waste Disposal

12.1 Disposal of the packaging material

The expected service life of the NORA Alu is approx. 8 years. Please recycle the packaging materials of the NORA Alu in accordance with the locally applicable regulations and laws.

12.2 Disposal of the Product

At the end of the product's service life, contact your BEKA dealer, who will recycle the NORA Alu 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 NORA Alu prior to its disposal as well.


13. Prescribed Inspections & Checks

In order to ensure a safe use of the NORA Alu and the protection of the users and the patients/residents, BEKA Hospitec prescribes an annual safety check.

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

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

The checks may only be conducted by the manufacturer either by specialists authorized by the manufacturer.

	<p>Caution:</p> <p>In accordance with the UVV (accident prevention) regulations of the German employer's liability insurance association on mobile 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 NORA Alu.</p>
---	--


This check is only prescribed for Germany.

In other countries, other requirements might be applicable.

Daily/prior to each use: Cleaning, disinfecting.

Weekly checks: Visual checks of all components, power cables and electrical connections, functional test, clean castors if necessary.

Annual checks: Safety check, maintenance, DGUV Prescription 3.

	<p>Caution:</p> <p>Do not conduct any cleaning, maintenance or test activities when the NORA Alu is in use. This could cause danger to the user and the patient/resident.</p>
---	---

13.1 Prior to each use

To ensure a safe and failure-free operation, the following checks must be carried out prior to each use:

- Visual check of the NORA Alu (external damages and wear-and-tear).
- Check that no screws of the NORA Alu are missing or loose.
- Check the functioning of the NORA Alu.
- Check the proper functioning of the sling bow.
- Check the proper functioning of the handset (up/down, spreading)
- Check the emergency lowering system.
- Check the smooth running of the castors.
- Check the slings for damages.
- Check the battery charging state.

13.2 Maintenance and Care of the 24-Volt Battery

The battery and the control box must not be opened by the customer.

Repairs may be carried out only either by BEKA Hospitec or by companies authorized to this effect by BEKA Hospitec. Recharge a discharged battery as soon as possible. This increases the lifetime of the battery. Batteries stored in the warehouse/stock must be recharged every 6 months (a possible deep discharge may destroy the battery). The battery's lifetime basically depends on the charge (number of lifting cycles) and the charging state. It can be up to 5 years. Have defective or worn out batteries, and defective charging units in general, replaced.

In case of questions regarding the checks and to find a competent partner to conduct the checks, please contact your BEKA Hospitec dealer or BEKA Hospitec GmbH.



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14. Troubleshooting and After-sales Service

14.1 Help for Troubleshooting

Problems with the NORA Alu	Remedy
The travel adjustment and the spreading of the carrier frame of the NORA Alu do not function.	<ul style="list-style-type: none"> a) Check if the emergency stop switch is released or pressed. b) Check that the cables of the control box are correctly plugged in. c) Check the battery's charging state. d) Remove the battery and check the contacts for damage.
The NORA Alu remains in the top end position.	<ul style="list-style-type: none"> a) Check if the emergency stop switch is released or pressed. b) Check the battery's charging state. c) Use the electrical emergency lowering feature (see 10.6) to lower the patient/resident. d) Use the mechanical emergency lowering feature (see 10.5) to lower the patient/resident. e) Push the "down" button on the handset and simultaneously press down the bow. Contact the after-sales service.
The carrier frame motor does not run.	<ul style="list-style-type: none"> a) Check if the emergency stop switch is released or pressed. b) Check that the control box is correctly plugged in. c) Check the battery's charging state (replace with fully charged battery).
Heavy going, sluggish operation of the drive despite fully charged battery.	<ul style="list-style-type: none"> a) Battery low. Charge the battery. b) The maximum load is exceeded (max. patient weight). c) The battery has reached the end of its lifetime. Replace the battery.
The control box emits a "beep" signal when operated.	Battery low. Charge the battery.
The handset does not work.	<ul style="list-style-type: none"> a) Check the connector at the cable of the handset. b) Check the battery's charging state (replace with fully charged battery).
The up and down buttons of the handset do not respond.	<ul style="list-style-type: none"> a) Check if the emergency stop switch is released or pressed. b) Check the battery's charging state (replace with fully charged battery). c) Check that the cables of the control box are correctly plugged in.
The castors produce loud noises.	Clean or replace the castors
The NORA Alu produces unusual noises.	Inform the after-sales service.
The NORA Alu is damaged.	Inform the after-sales service.
The orange Service LED on the handset flashes.	Safety check required, inform the after-sales service.

Problems with the Charging Unit	Remedy
The charging unit does not work.	a) Remove the battery pack and check the contacts for damage. b) Check the mains plug.
The charging unit is connected to the power outlet, but the operating display is not lit.	a) Check that the charging unit is connected to a power outlet. b) Check that the power outlet is supplied with power. c) Check the power outlet fuse. d) Remove the battery and check for damage.
Problems with the Battery	Remedy
The battery is placed correctly, but the indicator lights are not lit.	Inform the after-sales service.
The indicator light does not go out after multiple hours of charging.	The battery must be replaced. Inform the after-sales service.
The battery installed in the charging unit indicates that it is fully charged. However, when placed in the NORA Alu, just a few lifting cycles are possible.	The battery must be replaced. Inform the after-sales service.
When the handset is actuated, an acoustic signal is emitted and the indicator light (red) is on.	Check the battery's charging state.

14.2 After-sales Service

When your NORA Alu does not function properly and you cannot eliminate the error by means of the remedies listed in paragraph 14.1, please contact the after-sales service of your dealer either the manufacturer.



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15. Appendix

15.1 Technical Data

Dimensions and weights

- Length:	102.7 cm
- Internal width of the closed carrier frame:	62.0 cm
- External width of the closed carrier frame:	70.0 cm
- Internal width of the spread carrier frame:	89.7 cm
- External width of the spread carrier frame:	104.4 cm
- External width at the handle:	73.0 cm
- Min. height:	116.8 cm
-Max. height:	178.1 cm
- turning circle	120,0 cm
- Weight without packaging:	approx. 51 kg
- Safe Working Load (SWL):	max. 200 kg (NORA Alu)

Electrical data

- Voltage supply:	24 V DC
- Power:	240 VA
- Protection class:	Class II
- Applied part:	Type B
- Operating mode:	Short-term operation
- Power consumption	Max. 10 Amp.

Ambient conditions

Operation	
- Temperature range:	10° C to 40° C
- Relative humidity:	30% to 75%, non-condensing
- Atmospheric pressure:	800 – 1060 hPA
Storage and transport	
- Temperature range (stand-up and raising aid):	-40° C to 70° C
- Temperature range (battery):	-15° C to 40° C
- Relative humidity:	10% to 80%, non-condensing
- Atmospheric pressure:	500 – 1100 hPA

External wall charger:

- Power Supply	100V – 240 V ~ (AC) /50 /60 Hz
- Power Output:	24 V (DC)
- current consumption:	I in max. 400 mA
- Fuse:	T1,25 A / 250V
- Protection class:	IPX 5

Battery:

- battery type	Lead acid battery
- Power Output:	24 V (DC)
- capacity:	2,9 Ah
- Output current:	Iout max 10A
- Protection class:	IPX 5

Additive for control box with integrated charger

- Power Supply	100V – 240 V ~ (AC) /50 /60 Hz
- Power Output:	24 V (DC)
- current consumption:	I in max. 400 mA
- max. Power consumption:	10 Watt
- Fuse:	T1,25/250V

Manufacturer:

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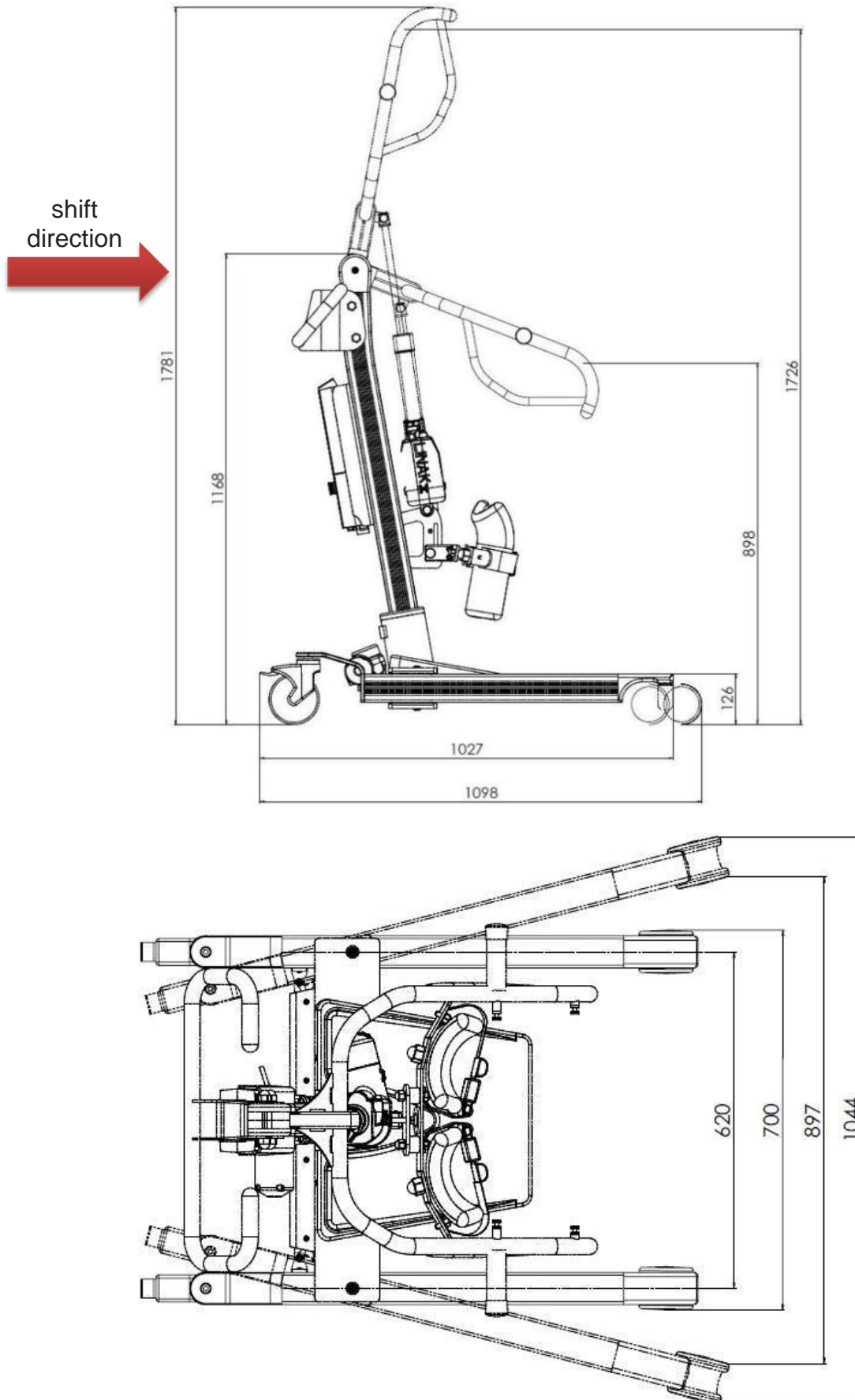
15.2 Versions of the NORA NORA Alu

Description	Art. n°	Note
NORA Alu, incl. wall charger	921071000	Europe
NORA ALU IL (incl. dual control box with on-board charging)	921071008	Canada / USA
NORA Alu (incl. 2 x batteries, wall charger and dual controls)	921071018	Canada / USA

Please note: the slings are not included in the delivery of the basic version of our NORA Alu!

15.3 Dimensions of the NORA Alu

(All dimensions in mm)



15.4 Declaration of Conformity



EG-Konformitätserklärung / EC-Declaration of Conformity

Der Hersteller / *The manufacturer*

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

erklärt in alleiniger Verantwortung gemäß EG-Richtlinie für Medizinprodukte 93/42/EWG Annex VII,
dass die folgenden Produkte
*declares under sole responsibility according to the EU Medical Device Directive 93/42/EEC, Annex VII that
the following products*

NORA Classic	Artikel Nr. P/N.	921070000/ 921070008/ 921070018
NORA Alu	Artikel Nr. P/N.	921071000/ 921071008/ 921071018
NORA Eco	Artikel Nr. P/N.	921075000

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

Die Bauart der Produkte entspricht Klasse I des Medizinproduktegesetzes (MPG), Regel 12.
The products correspond with Class I Medical Device Directive (MDD), Rule 12.

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

EG-Richtlinie 93/42/EWG/ Directive 93/42/EEC		DIN EN ISO 14971:2013
DIN EN 10535:2007		DIN EN 60601-1:2013
DIN EN 12182:2012		DIN EN 60601-1-2:2016

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 its issuance on until it is
either superseded by another declaration or withdrawn.*

Technische Änderungen vorbehalten / *Technical changes reserved.*

Wetzlar, den 01.11.2017

Robert Deschler
Geschäftsführer

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James Stuart-Smith
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Commerzbank AG Wetzlar
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BLZ: 515 400 37
IBAN: DE60515400370482176500
SWIFT-BIC: COBADEFF515

15.5 Accessories of the NORA Alu




Accessories of the European version

Options/accessories	Description	Art. n°
NORA stand-up/raising sling	Size S	921070050
NORA stand-up/raising sling	Size M	921070100
NORA stand-up/raising sling	Size L	921070200
NORA stand-up/raising sling	Size XL	921070300
NORA double knee pads	extra soft	921070400
Spare battery 24V	NORA ALU	921070602
Wall charger	NORA ALU	921070702

Accessories of the Canadian version

Optional accessories	Description	Art. N°
NORA stand-up/raising sling	Size S	921070053
NORA stand-up/raising sling	Size M	921070103
NORA stand-up/raising sling	Size L	921070203
NORA stand-up/raising sling	Size XL	921070303
NORA double knee pad	extra soft	921070408
Spare battery 24V	NORA ALU	921070602
External battery charger	NORA ALU	921070702

Guidelines for sling sizes

NORA stand-up/raising sling with clip /	Description	Guidelines for sling sizes		
	<p>Nylon material Arm rest and back part with anti-slip coating, with double safety belts for the belly part and additional padded chest strap. Sling attachment point with clip</p> <p>Washable to 60°C</p>	Size	Weight	Color
		S	40 – 60 kg	Red
		M	55 – 85 kg	Yellow
		L	75 – 125 kg	Blue
		XL	120 – 160 kg	Blue



Sizing/Colors NORA loop style slings (Only Canada / USA)



Size S (red straps, blue rim)



Size M (yellow straps, blue rim)



Size L (green straps, blue rim)



Size XL (blue straps, blue rim)

January 30, 2014 RD/zoe

15.6 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 NORA Alu has been designed for use in the hereafter listed ELECTROMAGNETIC ENVIRONMENTS. The customer or the user of the NORA Alu must ensure that the appliance is used in such environment.		
Emission measurements	Compliance	Electromagnetic environment - guidance
High-frequency (HF) emissions to CISPR 11	Group 1	The NORA Alu 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 NORA Alu 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 NORA Alu has been designed for use in the hereafter listed ELECTROMAGNETIC ENVIRONMENTS. The customer or the user of the NORA Alu 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 NORA Alu has been designed for use in the hereafter listed electromagnetic environments. The customer or the user of the NORA Alu 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	<p>Portable and mobile HF communications equipment should be used no closer to any part of the NORA Alu including cables, than the recommended separation distance calculated in accordance with the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance $d=0.35\sqrt{P}$</p> <p>$d=1.2\sqrt{P}$ 80 MHz up to 800 MHz $d=2.3\sqrt{P}$ 800 MHz up to 2.5 GHz</p> <p>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).</p> <p>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</p> <p>In the vicinity of equipment marked with the following symbol, interference may occur:</p>
Radiation HF IEC 61000-4-3	3 V/m 80 MHz up to 2.5 GHz	3 V/m	

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 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 NORA Alu is to be used, exceeds the applicable HF compliance level, special care should be taken that a normal operation of the NORA Alu 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 NORA Alu.

^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 NORA Alu. (Table 206)

The NORA Alu is intended for use in an electromagnetic environment with controlled HF interferences. The customer or the user of the NORA Alu can avoid electromagnetic interference by respecting and observing the minimum distance between portable and mobile HF telecommunication devices (transmitters) and the NORA Alu 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. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

16. Mounting instructions

16.1 Replacement of the rear Castors

Image 1:

Required tools:

1 hexagon screwdriver 8 mm with spherical head

1 Allen wrench 8 mm (shortened length)



Image 2:

Additional parts/tools:

1 x rear castor (Order number K0000770)

1 x thread lock fluid (medium tight)



Image 3:

Loosen the screw with the hexagon screwdriver.



Image 4:

Remove the screw by means of the screwdriver.



Image 5:

Prior to screwing a new castor, you must apply thread lock fluid (medium tight at least 21 Nm) to the thread of the screw.



Image 6:

Place the new castor in position and retighten the screw.



Caution: the thread lock fluid must dry at least 3 hours before the device can be loaded. Should you use thread lock fluid from another manufacturer, the drying times specified by this manufacturer must be observed!

Re-assemble in reversed order!

16.2 Replacement of the front Castors

Image 1:

Required tools:
1 Allen wrench
10 mm



Image 2:

Additional parts/tools:
1 x front castor
(Order number
K9200350)
1 x thread lock fluid
(medium tight)



Image 3:

Lay the device on one side. Make sure that the NORA Alu is not damaged. Loosen and remove the screw of the castor.



Prior to screwing a new castor, you must apply thread lock fluid (**medium tight at least 21 Nm**) to the thread of the screw.

Caution: the thread lock fluid must dry at least 3 hours before the device can be loaded. Should you use thread lock fluid from another manufacturer, the drying times specified by this manufacturer must be observed!

Re-assemble in reversed order!

16.3 Replacing the Handle

Image 1: Required tools:

- 1 combination wrench 17 mm
- 1 small flat-head screwdriver
- 1 ratchet
- 1 nut 17 mm



Image 2: Additional material:

- 1 handle

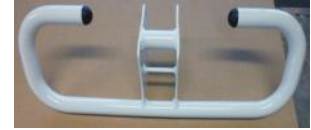


Image 3:

Loosen and remove the two left-hand cover caps by means of the flat-head screwdriver (displayed in green in the picture).

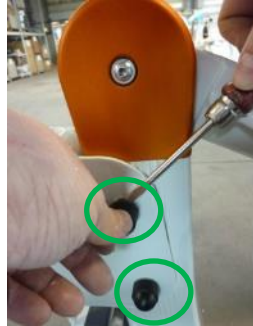


Image 4:

Loosen and remove the two right-hand cover caps by means of the flat-head screwdriver.



Image 5:

Use the ratchet and the combination wrench to loosen the bottom screw connection of the handle.



Image 6:

Use the ratchet and the combination wrench to loosen the top screw connection of the handle.



Image 7:

Now you can remove the two nuts as well as the washers.



Image 8:

Then remove the two screws and the washers.



Image 9:

Remove the handle.



Re-assemble in reversed order!

16.4 Replacing the Handset

Image 1:

Additional material:

1 handset
(Order number
K9200700)



Image 2:

Unplug the handset
from the control box.



Image 3:

Now you can remove
the handset and
replace it with a new
one.



**Please observe the coding nut when
placing the connector!**

Re-assemble in reversed order!

16.5 Replacing the Battery

Image 1:

The image shows the
inserted battery.



Image 2:

Unlock the battery by
means of the release
lever in the battery
handle.



Image 3:

You can lift the
battery up to remove
it.



Image 4:

The image shows the
removed battery.
When replacing the
battery, please check
that the release lever
engages audibly.



16.6 Replacing the control unit with holder for the battery unit

Image 1: Required tools:

- 1 screwdriver with bit holder
(connection width 25)
- 1 hexagon socket with T-
handle 3 x 150 mm



Image 2: Additional material:

- 1 mounting bracket
(Order number:
K9200400)
- 1 holder for the
battery unit
(Order number:
T9200450)



Image 3: Unplug all connectors from the control box.

- Handset
- Lifting motor
- Spreading motor
- if necessary
charging socket.

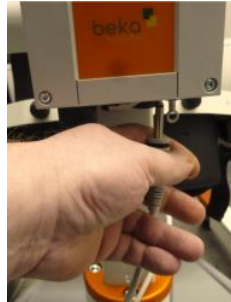


Image 4:

The image shows the
removed connectors.



Image 5:

Remove the battery
upwards.



Image 6:

Loosen and remove
the screw with the
Allen wrench (3 mm).

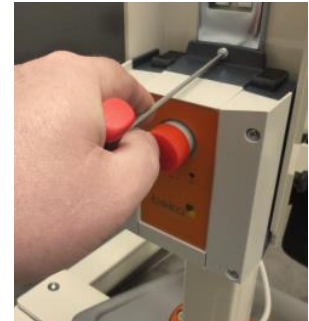


Image 7:

Remove the control
box.



Image 8:

Loosen and remove
the top and bottom
screw of the mounting
bracket with the
screwdriver
(connection width 25)

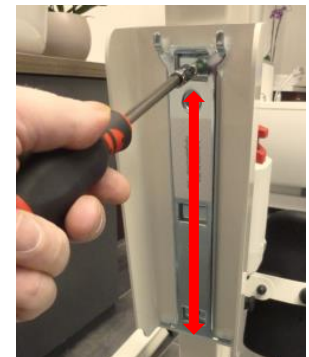


Image 9:

Now you can remove
the mounting bracket
and the holder plate.



Re-assemble in reversed order!

